

Ground-Water Conditions in Amargosa Desert, Nevada-California, 1952-87

By Kathryn C. Kilroy

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CONVERSION FACTORS AND ABBREVIATIONS

<i>Multiply</i>	<i>By</i>	<i>To Obtain</i>
acre	0.4047	square hectometer
acre-foot per year (acre-ft/yr)	0.001233	cubic hectometer per year
foot (ft)	0.3048	meter
inch (in.)	25.40	millimeter
mile (mi)	1.609	kilometer
square mile (mi ²)	2.590	square kilometer

For temperature, degrees Celsius (°C) can be converted to degrees Fahrenheit (°F) by using the formula °F = [1.8(°C)] + 32.

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 both the United States and Canada.

GROUND-WATER CONDITIONS IN AMARGOSA DESERT, NEVADA-CALIFORNIA, 1952-87

By Kathryn C. Kilroy

ABSTRACT

Ground-water data collected in Amargosa Desert since 1952 are summarized and discussed with special attention to measurements made during 1986-87. Contour maps of predevelopment and current water tables, and a water-use map show the effects of long-term pumping, as well as the influence of subbasin structure and a regional flow system on water levels. Hydrographs for the Amargosa Farms area show significant water-level altitude declines during the 1970's and lesser declines during the 1980's. A vertical-gradient map shows areas of upward flow potential associated with freshwater limestone deposits, outcrops of carbonate bedrock, and subbasin structures. In addition to recharge by upward flow from the regional ground-water system, recharge is indicated along intermittent streams that drain hydrographic areas to the north of the study area because ground-water temperatures near these streams are close to the average annual air temperature. Maps showing hydrogeology, basin-fill lithology, Bouguer gravity anomalies, and depth to water are included.

INTRODUCTION

Purpose and Scope

The purpose of this report is to document the ground-water potentiometric surface in Amargosa Desert as of 1987, and to compile historical water-level data into a single document that will support ongoing and anticipated studies. Preliminary interpretation of water-level changes, vertical hydraulic gradients, and the effects of pumping on ground-water flow are also included.

Historical water-level measurements were compiled for wells that are part of four independent observation well networks. The networks include: (1) wells measured since 1955 by the Nevada Division of Water Resources in Amargosa Desert, (2) wells measured intermittently by the U.S. Geological Survey since 1962 in Amargosa Farms and Ash Meadows, (3) wells measured yearly since 1960 by the U.S. Geological Survey in Amargosa Desert, and (4) shallow wells constructed in 1983 at Franklin Lake playa by the U.S. Geological Survey. Additional water-level measurements from 19 deep (2,000 feet) boreholes recently drilled in sparsely populated areas of Amargosa Desert where water-level data were previously unavailable are also included. Water-level data collected during 1986-87 are presented in tabular form along with historical data from numerous sources.

Description of Hydrographic Area

Amargosa Desert hydrographic area (figure 1) is bounded by consolidated rocks of the surrounding mountain ranges, and an arbitrary boundary along State Highway 95. Basin-fill material slopes southward from a high alluvial fan at 5,000 feet in the Bullfrog Hills, to a low of 1,900 feet where Amargosa River crosses the basin boundary into Greenwater Valley.

Amargosa Desert hydrographic area is a subbasin of the larger Death Valley drainage basin in southwest Nevada and southeast California in the Great Basin physiographic province (figure 1). Intermittent streamflow from the surrounding mountain ranges and five subbasins to the northeast discharges into Amargosa Desert via Amargosa River, Crater Flat Wash, Fortymile Wash, Rock Creek, and Amargosa Flat Wash. Surface-water outflow from Amargosa Desert occurs at the southern boundary of the basin into Greenwater Valley through Amargosa River. The river, which traverses Amargosa Desert, is a dry wash most of the year. The study area conforms with the boundaries of Amargosa Desert hydrographic area designated by Rush (1968), which is based on surface-water drainage basins. It encompasses about 896 mi² in Nye County, Nev., and 468 mi² in Inyo County, Calif.

A regional ground-water flow system that includes part of Amargosa Desert discharges at Ash Meadows at the foot of the Resting Spring Range. The regional flow system includes a substantially larger area than Amargosa Desert. This regional system extends from Jackass Flats in the west to the Sheep Range in the east, and at least 60 miles to the north of Amargosa Desert (Winograd and Thordarson, 1975).

Previous Work

Studies of the hydrogeology of Amargosa Desert began in the mid 1950's, concurrent with the opening of Amargosa Farms to Desert Land Entry settlement. An extensive study by Walker and Eakin (1963) of the southeastern two-thirds of Amargosa Desert included the collection of water-level and geochemical data, an assessment of ground-water mass balance, and recognition of ground-water discharge at Ash Meadows in the context of a regional ground-water flow system. Water-level data were also presented by Thordarson and Robinson (1971), Larson (1973, 1974), Hanes (1976), Carson (1979, 1980), and Nichols and Akers (1985). Water-level data for basins adjacent to Amargosa Desert were presented by Harrill (1982) and Robison (1984).

Numerous interpretive studies, pertaining especially to Ash Meadows and the Nevada Test Site, have been published. Studies related to local aspects of ground-water flow were done by Johnston (1968) and Darryll Leap (Purdue University, written communication, 1987). Regional studies focusing on Amargosa Desert and contiguous basins have been done by Rush (1970), Naff (1973), Naff and others (1974), Winograd and Thordarson (1975), Dudley and Larson (1976), and Winograd and Doty (1980). Studies including simulation of ground-water flow beneath Amargosa Desert were done by Waddell (1982), Czarnecki and Waddell (1984), Czarnecki (1985), and Rojstaczer (1987). Hydrochemical studies were done by Eakin and others (1963), Winograd and Thordarson (1975), Winograd and Pearson (1976), and Claassen (1983).

Acknowledgments

The author thanks the people of Amargosa Desert who graciously permitted the use of their wells in the course of this investigation. Considerable information on historical water-level measurements, pumpage, and other well data was provided by the Nevada Division of Water Resources in Carson City, Nev. Additional information on historical water-level measurements, and well construction for deep, nested piezometers was provided by John B. Czarnecki of the U.S. Geological Survey. Rita Whitney and David H. Emme of the U.S. Geological Survey helped with water-level measurements; their assistance is greatly appreciated.

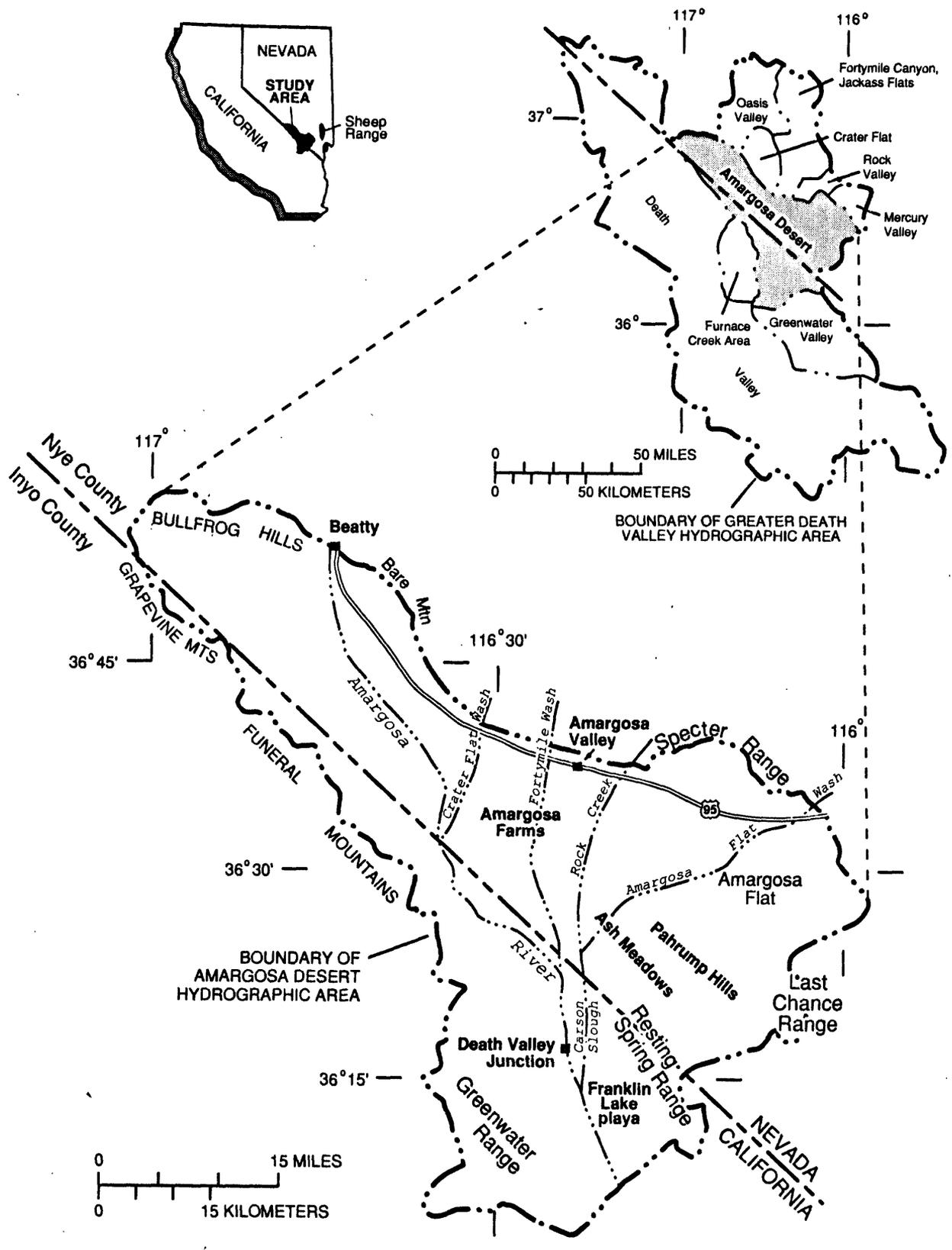


FIGURE 1.--Location of Amargosa Desert hydrographic area within the greater Death Valley drainage basin. Hydrographic areas after Rush (1968).

Numbering System for Wells and Springs

Amargosa Desert straddles the Nevada-California State line. A different well-numbering system is used in each State; both systems are used in this report to permit each well to be numbered compatibly for the State in which it is located. A discussion of each system is given below.

Nevada System

The numbering system used in Nevada is based on an index of hydrographic areas (Rush, 1968) and the rectangular subdivision of the public lands referenced to the Mount Diablo base line and meridian. Each site designation consists of four units separated by spaces: 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 (figure 2), site 230 S12 E47 19ADC1 is in Amargosa Desert (hydrographic area 230), and is the first site recorded in the southwest quarter of the southeast quarter of the northeast quarter of section 19, Township 12 South, Range 47 East, Mount Diablo base line and meridian.

California System

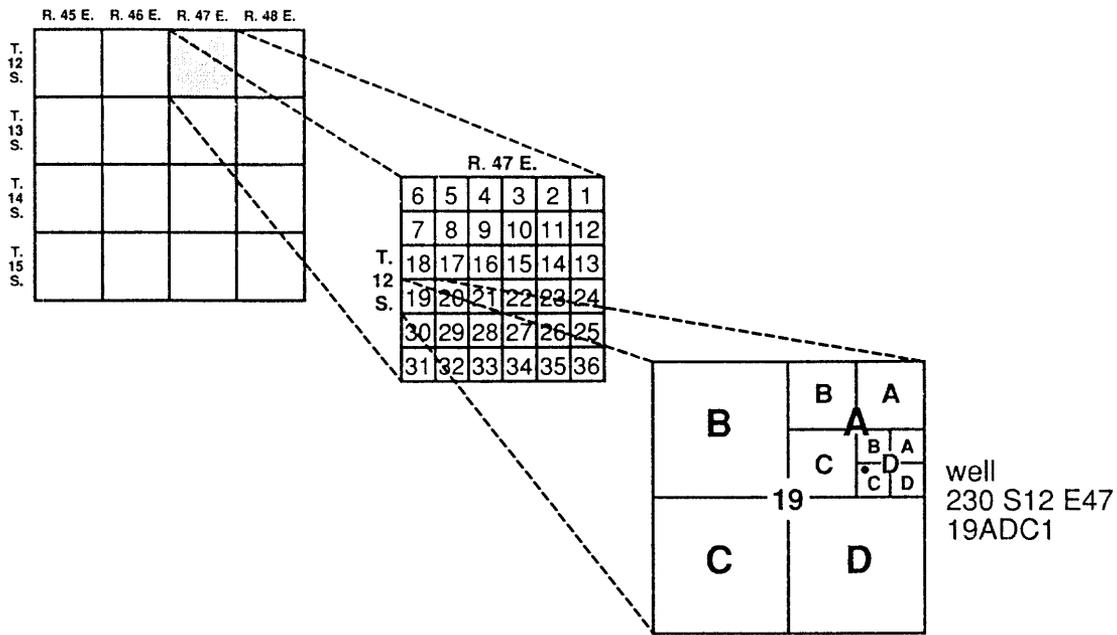
Wells in the California part of Amargosa Desert are numbered according to their location in the rectangular system for subdivision of public land, referenced to the San Bernardino base line and meridian. For example, the well 230 N24 E05 01R is in Amargosa Desert (hydrographic area 230), and is the first well recorded in the 40-acre subdivision designated R of section 1, Township 24 North, Range 05 East, San Bernardino base line and meridian (figure 2).

Basic Data

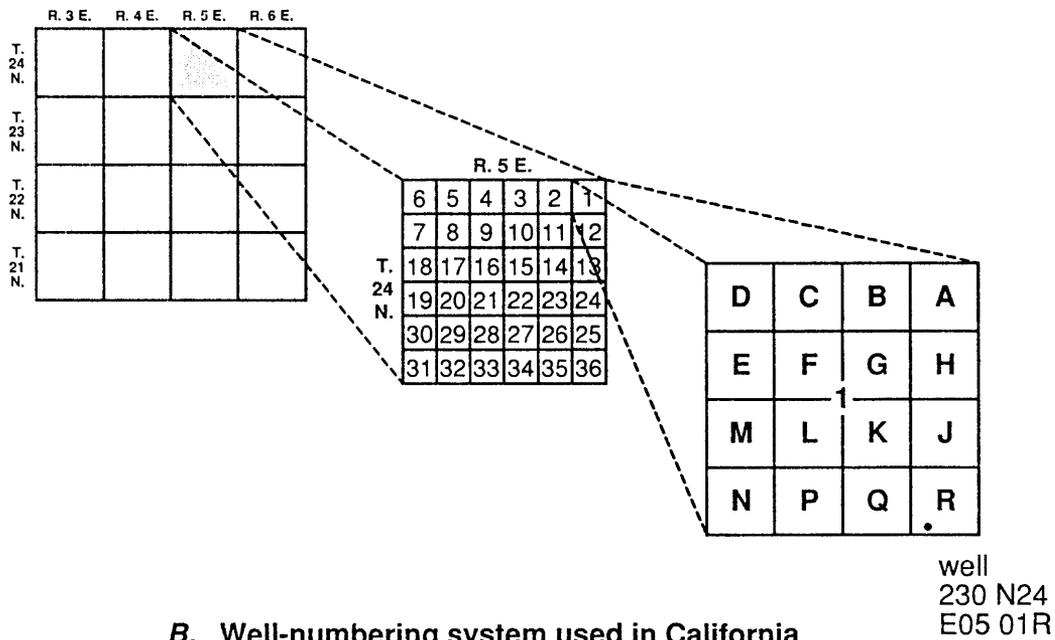
The basic data on water wells and ground-water levels collected during this study are stored in the ground-water site inventory files of the U.S. Geological Survey National Water Data Storage and Retrieval System (WATSTORE) data base. Retrievals of this information may be obtained through the U.S. Geological Survey District Office in Carson City, Nev., or through any designated National Water Data Exchange (NAWDEX) assistance center.

Method of Measurement

Water-level measurements were made during January-March 1987 in approximately 150 wells. New and historical data for these and other wells in the previously established networks are presented in table 1. Measurements were timed so that discharge due to pumping and evapotranspiration would be minimal and water-levels would be at their highest levels for the year.



A. Well-numbering system used in Nevada



B. Well-numbering system used in California

FIGURE 2.--Numbering system for wells and springs, Nevada and California.

Water-level measurements in wells and open boreholes were made primarily with a steel tape, but electric tapes occasionally were used. Measurements were recorded to the hundredth of a foot and rounded in table 1 to the nearest tenth due to the possibility of errors resulting from: (1) tape stretching, (2) settling of casing, (3) changes in barometric pressure, (4) evaporation of water on the tape while the tape was being removed from the well, and (5) human error in reading the tape marks. Water-level accuracy from previous studies by the U.S. Geological Survey and Nevada Division of Water Resources is also considered to be accurate to within ± 0.1 foot. Accuracy of water-levels recorded on drillers' logs is considered to be ± 1 foot.

For vertical gradients in nested piezometers and changes of water-level with time, the accuracy limit of measurements is considered to be ± 0.1 foot. For water-level contours, and vertical gradients at well clusters, accuracy is considerably less because of the inaccuracy of measuring land altitude. An accuracy limit of ± 0.1 foot for surveyed wells, ± 5 feet for wells in closely surveyed areas such as Amargosa Farms, where land-surface altitudes for each section corner appear on 15-minute maps, and ± 20 feet for all other wells is considered reasonable.

Inaccuracies may also be made in evaluating the height of the measuring point above land surface, but they are generally insignificant relative to the inaccuracies of measuring land-surface altitude. For all wells visited in 1987, the height of the measuring point was evaluated with a steel tape read to the nearest ± 0.1 foot. Measuring-point heights from older U.S. Geological Survey reports and the Nevada Division of Water Resources are also considered to be accurate within this limit.

Another source of inaccuracy is the depth and length of well screen or uncased interval in a borehole. Ideally, all wells measured for horizontal gradients would be screened at the same depth below the water table. No correction for this effect was made because most production wells are screened 50 to 200 feet below the water table. The greatest discrepancies occur where vertical gradients are steep causing a substantial vertical component of hydraulic head. No correction for this effect was made because of the paucity of vertical gradient information relative to the distribution of wells measured for horizontal gradients.

HYDROGEOLOGY

Geologic Framework

Rocks cropping out in the mountain ranges adjacent to Amargosa Desert range from Precambrian to Holocene in age and for the purposes of this report have been divided into four hydrogeologic units. From the oldest to youngest, these are: (1) Precambrian and Cambrian quartzite and dolomite; (2) Ordovician, Silurian, and Devonian dolomite and limestone; (3) Mississippian and Pennsylvanian limestone and interbedded shale; and (4) Tertiary and Quaternary rhyolitic and basaltic volcanics. Semiconsolidated and unconsolidated sediments of Tertiary and Quaternary age comprise a fifth hydrogeologic unit forming the basin fill. These units are shown in table 2. This division largely follows the classification of Winograd and Thordarson (1975), who identified the Lower Paleozoic sequence as an important aquifer of regional extent. Winograd and Thordarson identified Mississippian clastic units as a separate confining unit but they are lumped here with Pennsylvanian limestones because they crop out sparingly in the study area.

Several episodes of Mesozoic and Cenozoic tectonic deformation were important in the development of Amargosa Desert hydrographic area (Carr, 1984). During the Cretaceous Sevier Orogeny, east-northeast striking, northwest verging folding, and older-over-younger thrust faulting occurred in the Paleozoic section (Mesozoic rocks are largely absent from the study area). The Specter Range, Point of Rocks, and Montgomery Thrusts were formed during this stress regime (plates 1 and 2.)

Following shortly, and continuing possibly into Middle Tertiary time, northwest-striking tear faults were formed. Virtually the entire area of Amargosa Desert was affected by this tectonism. Transverse movement along these features is on the order of tens of miles. More recent northwest-southeast oriented strain related to this system has been accommodated by movement along the Furnace Creek Fault, in the southern part of Amargosa Desert hydrographic area.

A northeast-trending zone of folds, normal faults, and topographic trends bisects Amargosa Desert, extending from the southern Funeral Mountains to the Specter Range. This zone, termed the Spotted Range-Mine Mountain fault zone (Carr, 1984) may be structurally related to an older tectonic regime; however, left-lateral shear along it strongly suggests a conjugate relation with northwest-trending deformation of Late Cretaceous and Early Tertiary age. A fault near Amargosa Valley (formerly called Lathrop Wells) and faults in the southern Funeral Mountains may be related to this structural trend. Plate 2 shows the Bouguer gravity contours for Amargosa Basin. Continuations of high-angle faults (such as Ash Meadows fault) from bedrock into basin fill (Healey and Miller, 1971) are based largely upon these data.

Tertiary low-angle detachment faulting identified elsewhere in southeastern Nevada and in some places associated with metamorphic core complexes has been suggested as the mechanism of deformation of the Boundary Canyon fault in the Funeral Mountains (R.H. Moench, U.S. Geological Survey, written communication, 1965). Precambrian gneiss and schist in the footwall (core complex) are overlain by Cambrian dolomites and Tertiary volcanic rocks in the hanging wall. Eagle Mountain and parts of the adjacent Resting Springs Range have also been postulated as detachment faults (R.H. Moench, U.S. Geological Survey, written communication, 1965), but the evidence is less certain as the detachment surface is not exposed.

Block faulting related to Basin-and-Range deformation appears to have occurred along pre-existing structures of northeast and northwest orientation. A northwest-striking fault along the long axis of the basin that is uplifted to the southwest is suggested by the outcrop pattern of Tertiary conglomerates (figure 3), but is nowhere mapped in outcrop. Recent southward tilting of the basin is indicated by: (1) the tendency for topographic lows and playas to lie at the southern edge of their respective subbasins; and (2) the tendency of Amargosa River to traverse the southwest edge of Amargosa Desert.

The net effect of tectonism on ground-water flow is that intrabasin flow occurs along the boundaries of, or is constrained by, northeast and northwest-striking faults and fault blocks. The role of thrust faults is more subtle because this type of faulting can result in the duplication or deletion of aquifer units due to ramping of the thrust surface.

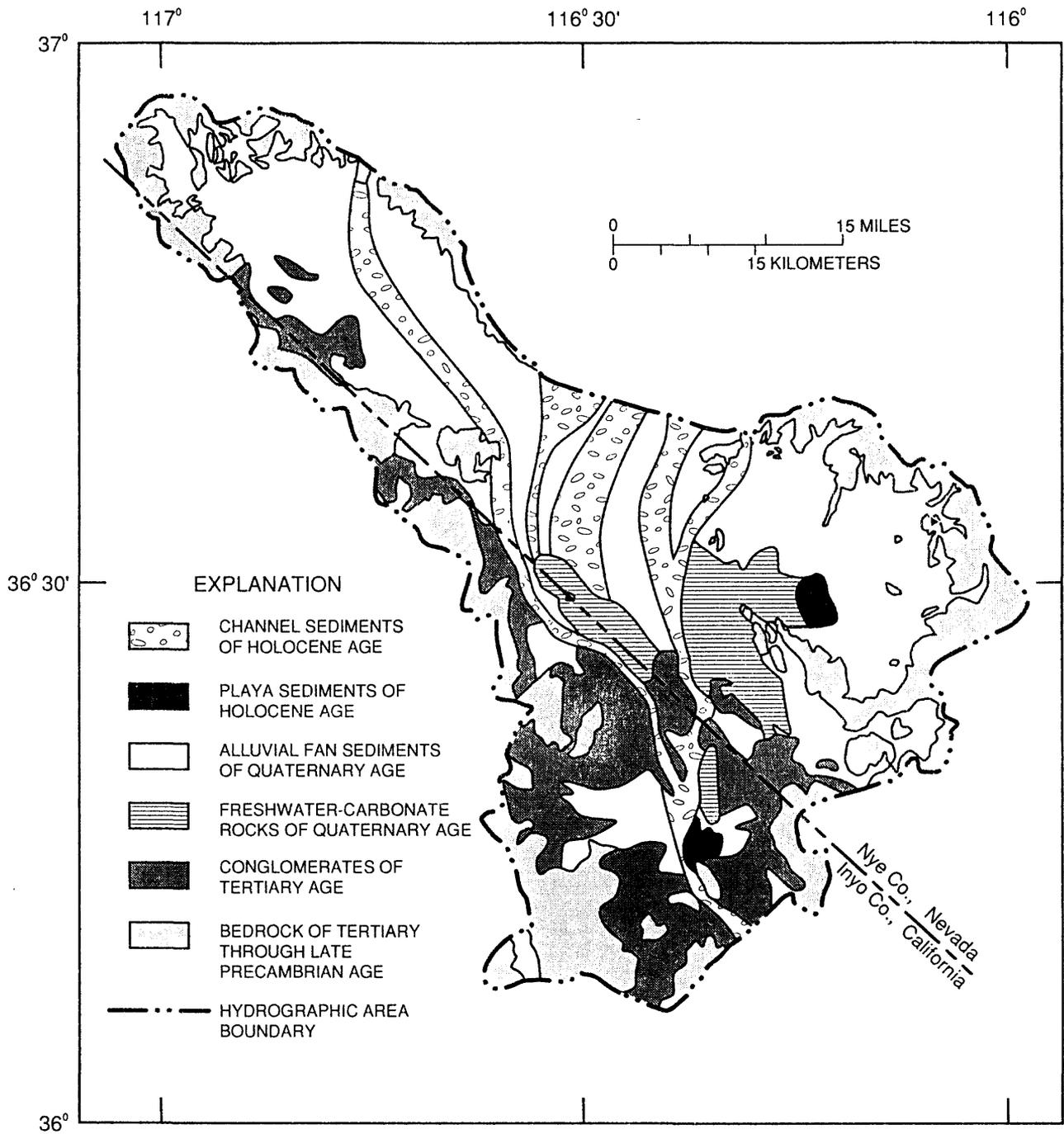


FIGURE 3.--Basin-fill deposits. After Chapman and others (1973) and Cornwall (1972).

Basin-fill lithologies have been subdivided into five units on the basis of rock type, mean particle size, degree of sorting, and induration (figure 3). These units are: (1) river-channel, (2) playa, and (3) alluvial-fan sediments, (4) freshwater limestones, and (5) Tertiary conglomerates. River-channel sediments are generally better sorted than alluvial-fan sediments, and grain size may range from clay to gravel. Playa sediments are fine grained, and poorly to well sorted. Alluvial-fan sediments are poorly sorted silt, sand, and gravel that are finer grained away from the mountain front. Freshwater limestones consist chiefly of fine-grained well-indurated, vuggy limestones that are relatively permeable. Tertiary conglomerates predominately are moderately indurated alluvial-fan sediments. Rhyolite flows and tuffs intercalated with basin-fill sediments are known from drilling records and outcrops adjacent to the basin. The interbedded volcanic rocks form leaky confining units (Winograd and Thordarson, 1975).

Water-Level Altitudes

Contours of water-level altitudes in basin-fill material are shown on plate 1. These contours were based on measurements in wells less than 500 feet deep although some other wells do penetrate up to 2,000 feet of basin-fill material. Contours indicate that the potentiometric surface in basin-fill material slopes southeastward, parallel to the surface gradient of Amargosa River. Contours cross Bare Mountain, which is mostly carbonate rock, at a right angle, suggesting that Bare Mountain does not act as a barrier to ground-water flow. In the Amargosa Flat area, flow is southwestward toward the main axis of Amargosa Desert.

Figure 4 is a map showing depth to water in Amargosa Desert. Figure 4 shows depth to water for the entire desert area. Areas with the greatest depth to water are at the north end of the basin near Bullfrog Hills, and at the south end adjacent to the Greenwater Range. Areas with the shallowest depths to ground water are in Amargosa Flat, Ash Meadows, and near Franklin Lake playa.

A map of the potentiometric surface of the developed area (outlined on plate 1), made by using water-level data collected in the 1950's, is shown in figure 5. This map shows conditions during the least-developed period for which a record exists. A potentiometric-surface map of the developed area for 1987 is shown in figure 6. In areas where water-level data are abundant, the potentiometric surface is somewhat convoluted. The convolutions may be a function of: (1) hydrogeology, including local variations in hydraulic conductivity or subbasin geologic structure; or (2) pumpage of ground water. Undulations common to both the 1950's and 1987 maps are probably related to local variations in hydrogeology, whereas differences between them may be related to water use.

The most prominent feature common to figures 5 and 6 is a northwest trending area of steep gradient that lies along strike of Ash Meadows Fault and is considered to be a direct consequence of the fault (Winograd and Thordarson, 1975). A ground-water high in the northwest corner of T. 16 S., R. 50 E. that is shown on both maps lies along strike of the Ash Meadows fault where it intersects both a ridge in the buried Paleozoic carbonate rocks and the trend of the Spotted Range-Mine Mountain fault zone. Another feature associated with the Spotted Range-Mine Mountain fault zone is a northeast trending zone of steep gradient in the northwest corner of T. 17 S., R. 49 E. These two features suggest that the Spotted Range-Mine Mountain fault zone is an important conduit for regional flow. In this area, the Ash Meadows fault appears to be a leaky dam to flow from the northeast along the Spotted Range-Mine Mountain fault zone.

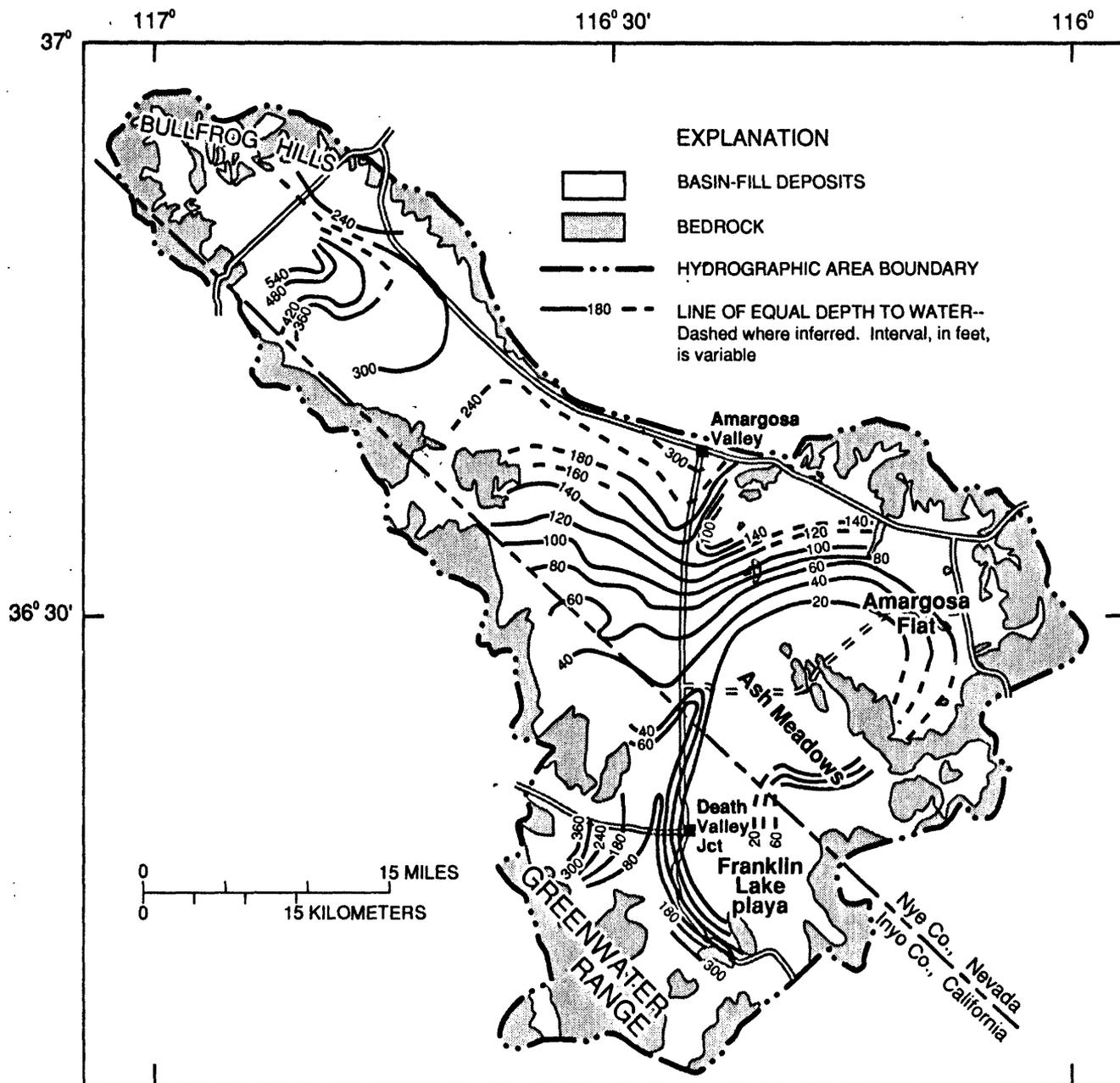


FIGURE 4.--Depth to water for 1987 conditions.

An east-northeast trending "ridge" in the potentiometric surface is located in the northern half of T. 16 S., R. 48 E. The "ridge" coincides with the subbasin extension of the Rock Valley normal fault mapped by Healey and others (1980, plate 1). This feature suggests that a weak connection between the regional flow system and basin-fill material occurs along the contact of the faulted carbonate rocks with overlying basin-fill material.

A northwestward deflection of the 2,260-foot contour in figure 6, creates a "trough" in the potentiometric surface near the current channel of Amargosa River. This deflection may reflect higher hydraulic conductivity of river channel sediments coupled with increased water use during the previous 30 years.

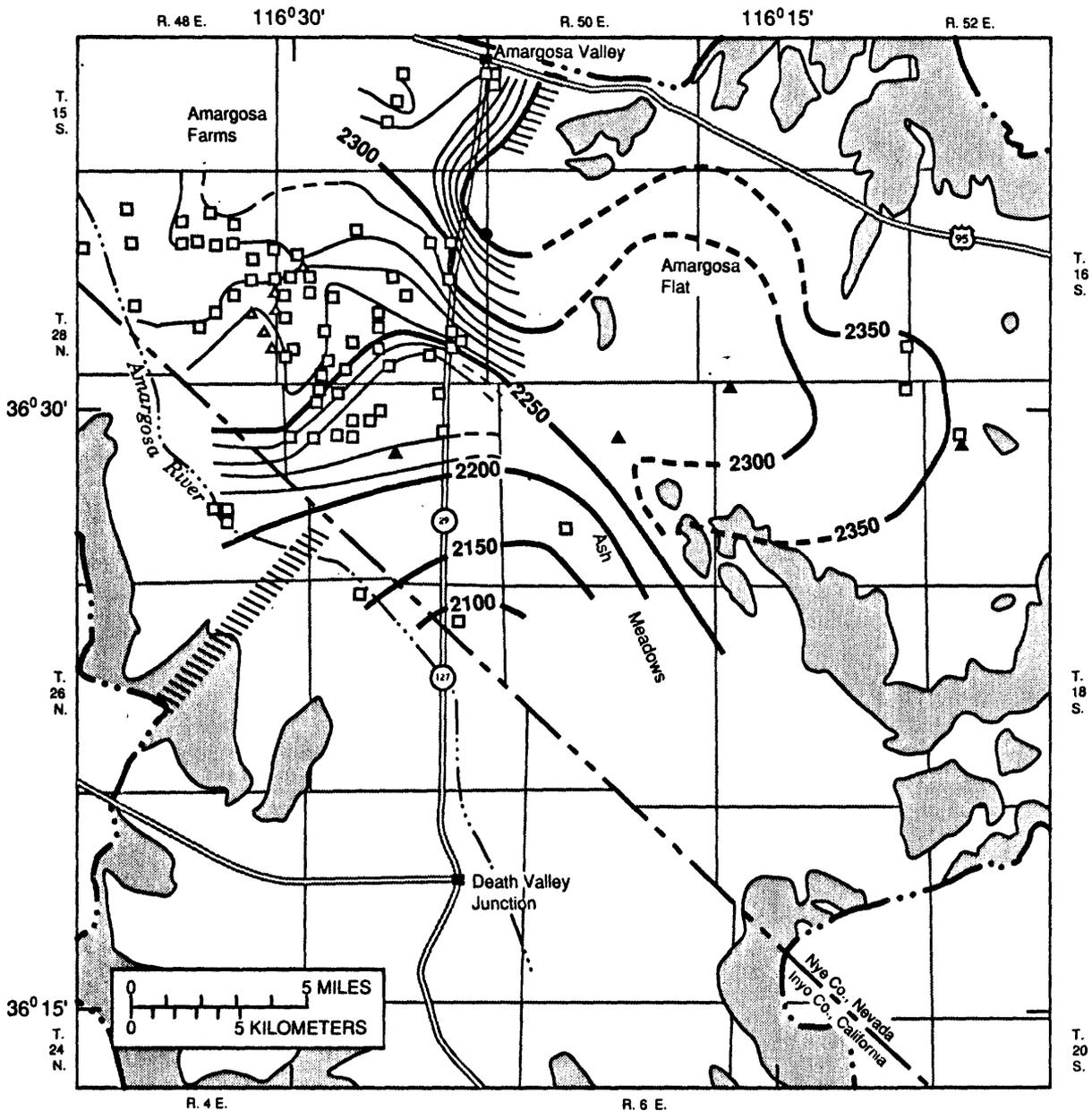
Figure 5, for the 1950's, shows a low in the potentiometric surface in the southeast corner of T. 16 S., R. 48 E. (about 10 feet below that of adjacent areas). The net change in altitude of the potentiometric surface between the 1950's and 1987 is shown in figure 7. The area of greatest change (greater than 30 feet) is in the area where the potentiometric surface was low in the 1950's. A net water-level change of less than 10 feet since the 1950's is indicated for the Ash Meadows area.

Hydrographs for 14 wells in Amargosa Desert developed area are shown in plate 3. The most rapid water-level declines occurred in the Amargosa Farms area. Areas distant from Amargosa Farms show little change with time. The hydrographs show that the period of most rapid water-level decline was the 1970's; the rate of decline decreased during the 1980's. This decrease may reflect establishment of a new steady-state condition, may be the result of decreased pumpage in Amargosa Farms and at Ash Meadows during the 1980's, or may be a result of several very wet years during the early 1980's. Probably all three factors contributed to this change in hydrograph shape.

Figure 8 is a generalized water-use map for Amargosa Desert developed area during the period 1985-87. Water withdrawal in irrigated areas was calculated by multiplying the acreage under cultivation by an annual allotment of ground water of 5 acre-ft/yr. This value is based on a survey by the Nevada Division of Water Resources during 1985 and field work by the author during 1986 and 1987. The accuracy of these calculations is estimated to be most affected by errors in calculating draft of water; the error may be significant in specific cases. Domestic wells are allowed to produce 1,800 gal/d or 2 acre-ft/yr. The density of domestic wells ranges from about 4 per square mile to 40 per square mile for the Amargosa Farms area. The water-use map agrees in a general way with hydrographs and water-table contour maps in that most areas of current maximum water use coincide with areas of greatest water-level decline.

Apparent Vertical Gradients

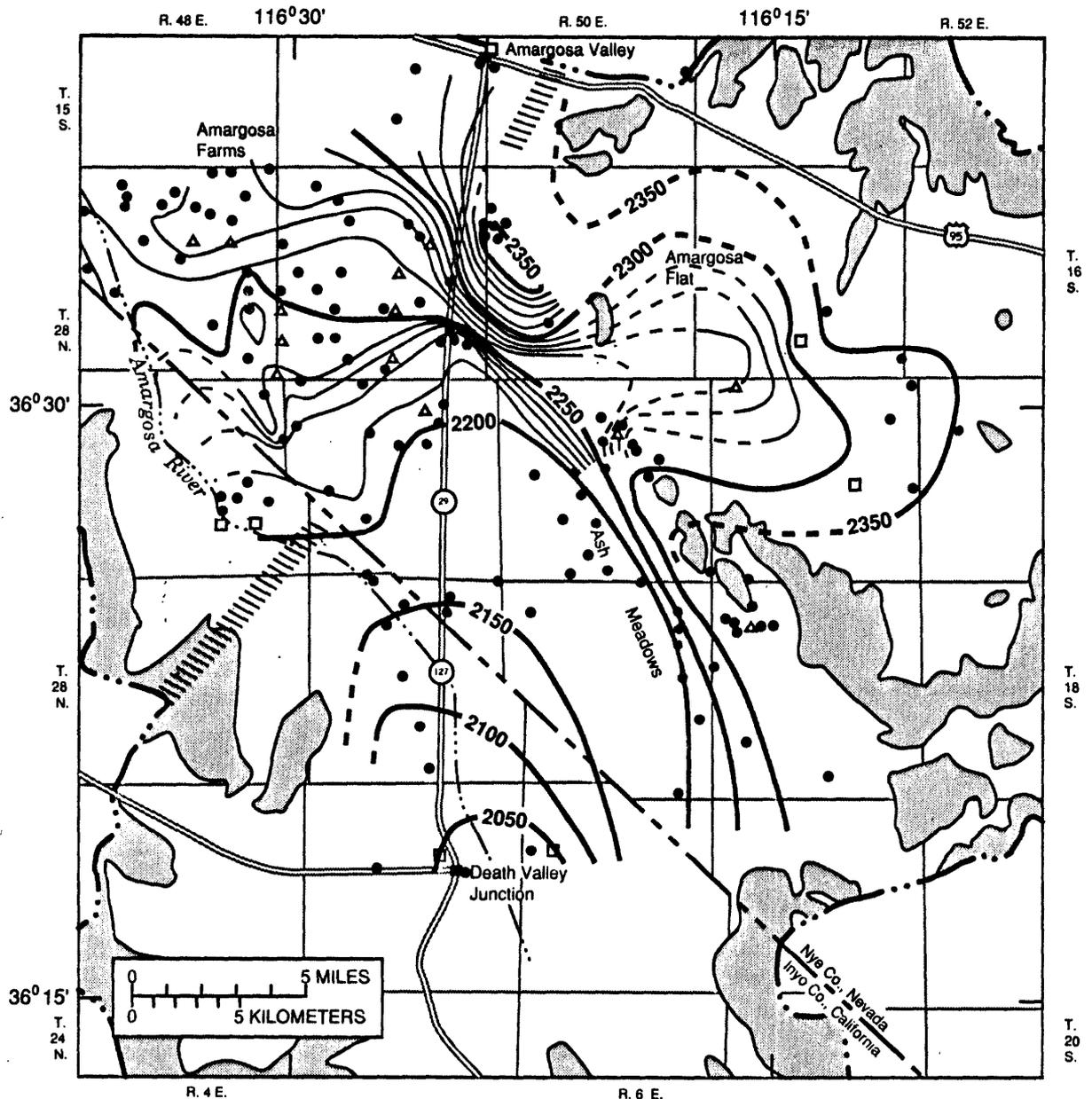
Vertical gradients were calculated for 21 nested piezometers, 1 well cluster, and 1 river and well pair. Vertical gradients are calculated using two closely spaced wells that penetrate to different depths in an aquifer. The difference in hydraulic head between the two wells divided by the difference in depth of the screened interval yields the vertical gradient. The data are shown in table 3 and plate 4. Table 3 includes two levels of data reliability depending on the accuracy of: (1) land-surface altitude, (2) distance of separation of wells, and (3) well-screen length. The most accurate vertical gradients are from nested piezometers. A nested piezometer is a well that has several small-diameter casings inserted in it that reach to different depths and are separated from one another by clay seals. For the 16 pairs in this category, water levels are known within ± 0.1 foot and well-screen lengths are generally less than 20 feet. This group can be identified in table 3 by the five-figure water-level measurements, and on plate 4 as sites with numerical values.



EXPLANATION

- | | |
|---|--|
| <ul style="list-style-type: none">  BASIN-FILL DEPOSITS  BEDROCK  SPOTTED RANGE - MINE MOUNTAIN FAULT ZONE  HYDROGRAPHIC AREA BOUNDARY  —2100— WATER-LEVEL CONTOUR -- Shows altitude of ground-water level. Dashed where inferred. Contour interval 10 and 50 feet. Datum is sea level | <p>WELLS FROM WHICH WATER-LEVEL DATA ARE USED TO CONSTRUCT CONTOURS</p> <ul style="list-style-type: none"> ● Water level estimated on basis of U.S. Geological Survey measurement made during 1960's ▲ Water level measured by Nevada Division of Water Resources (open symbol) or estimated on basis of Division of Water Resources measurement (solid symbol) made during 1960's □ Water level measured by driller |
|---|--|

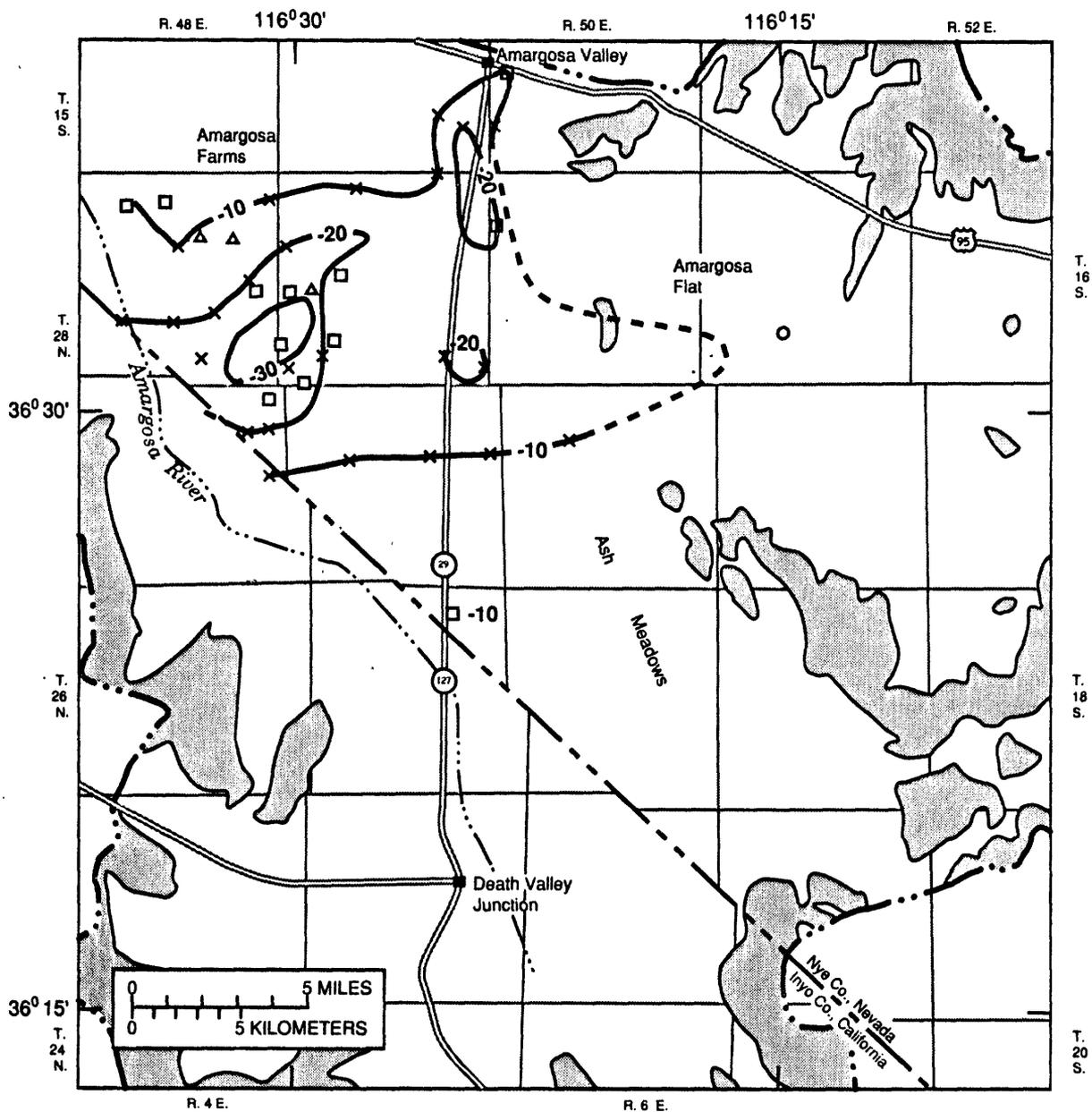
FIGURE 5.--Water-level altitude for predevelopment (1950's) conditions in Amargosa Desert developed area.



EXPLANATION

- | | | | |
|---|---|---|--|
|  | BASIN-FILL DEPOSITS |  | WELLS FROM WHICH WATER-LEVEL DATA ARE USED TO CONSTRUCT CONTOURS |
|  | BEDROCK |  | Water level measured by U.S. Geological Survey |
|  | SPOTTED RANGE - MINE MOUNTAIN FAULT ZONE |  | Water level measured by Nevada Division of Water Resources |
|  | HYDROGRAPHIC AREA BOUNDARY | | Water level measured by driller |
|  | WATER-LEVEL CONTOUR -- Shows altitude of ground-water level. Dashed where inferred. Contour interval 10 and 50 feet. Datum is sea level | | |

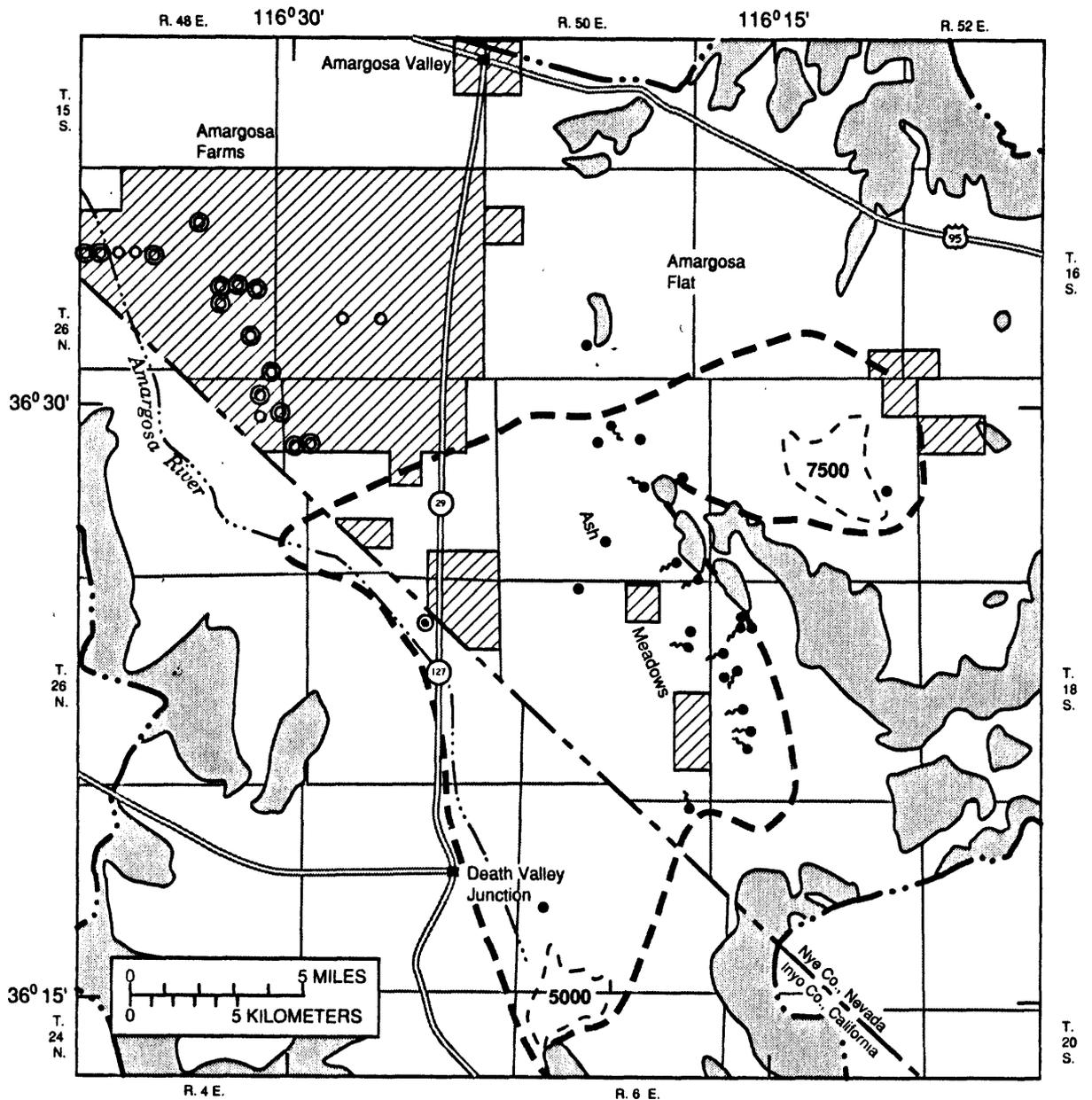
FIGURE 6.--Water-level altitude for 1987 conditions in Amargosa Desert developed area.



EXPLANATION

- | | |
|--|--|
| <ul style="list-style-type: none"> BASIN-FILL DEPOSITS BEDROCK HYDROGRAPHIC AREA BOUNDARY LINE OF EQUAL WATER-LEVEL CHANGE FROM 1950'S TO 1987 -- Dashed where inferred. Interval 10 feet | <p>WELLS FROM WHICH WATER-LEVEL DATA ARE USED TO CONSTRUCT CONTOURS</p> <ul style="list-style-type: none"> ○ Change based on water levels measured by U.S. Geological Survey ▲ Change based on water levels measured by Nevada Division of Water Resources □ Change based on water levels measured first by driller and later by U.S. Geological Survey × Change determined from intersection of 1950's and 1987 water-level contours |
|--|--|

FIGURE 7.--Net water-level change in Amargosa Desert developed area between 1950's and 1987.



EXPLANATION

- | | | | |
|---|--|---|--|
|  | BASIN-FILL DEPOSITS |  | IRRIGATION WELL -- Estimated use, 100-300 acre-feet per year |
|  | BEDROCK |  | IRRIGATION WELL -- Estimated use, 300-1,000 acre-feet per year |
|  | AREA WITH DOMESTIC WELLS -- Estimated use for each area, 30-300 acre-feet per year per square mile |  | MUNICIPAL WELL -- Discharge unknown |
|  | HYDROGRAPHIC AREA BOUNDARY |  | FLOWING WELL -- Discharge unknown |
|  | BOUNDARY OF PHREATOPHYTE VEGETATION |  | SPRING -- Discharge unknown |
|  | BOUNDARY OF BARE-SOIL EVAPORATION -- Number is estimate of yearly flux, in acre-feet | | |

FIGURE 8.--Water use in Amargosa Desert developed area. Bare-soil evaporation estimates from Czarniecki and Waddell (1984).

The second level of accuracy is represented by the well cluster and the river and well pair. The cluster of two wells is separated by no more than 300 feet, and the wells have screens open for most or all their saturated length. This group includes only those well pairs with a head difference greater than half the land surface accuracy limit for each site (± 5 feet for sites in Amargosa Farms, ± 20 feet for others). Several of the well pairs in this category are wells which later collapsed in their lower portions. Where water-level and depth measurements before and after collapse were known, a vertical gradient could be calculated.

Upward gradients in the central and southern part of Amargosa Desert are associated with: (1) freshwater limestones, (2) carbonate-rock outcrops, and (3) subbasin structures. The correlation with freshwater limestones suggests that areas of current upward gradient were the locus of springs during pluvial times. The relative proximity of upward gradients to carbonate outcrops suggests the area is underlain in part or in whole by bedrock that is in hydraulic connection with the regional flow system. Upward vertical gradients near the State line appear to be related to the subbasin Spotted Range-Mine Mountain fault zone that is a conduit from the carbonate aquifer to the basin fill. Upward gradients in Ash Meadows and around Franklin Lake playa have been identified by Winograd and Thordarson (1975) as related to the regional flow system. Upward gradients along the north flank of the Greenwater Range are uncommon. They may be related to a confining relation between Tertiary conglomerate and underlying or interlayered volcanic rocks. They may also be the result of interruption of the regional flow system where the Furnace Creek fault juxtaposes low permeability volcanic rocks against carbonate rocks that have significantly higher heads.

Downward gradients are strongly associated with consolidated Tertiary conglomerates, and crystalline and volcanic bedrock. Large downward gradients on the east flank of the Funeral Mountains appear related to recharge from Bullfrog Hills and the Funeral Mountains. Downward gradients near the Resting Spring Range may be related to recharge from the range and suggest that basin-fill material in this area is not connected to the regional flow system at depth. Downward gradients in southern Amargosa Desert occur near the channel of Amargosa River.

Two well pairs have little or no vertical gradient, and one well pair and the well-stream pair appear to be perched. For the perched data, an indication of direction but not magnitude of vertical gradient is given in table 3.

Ground-Water Temperatures

Water temperatures are shown in figure 9. Water temperatures were taken from Nevada State Drillers' Logs and a report by Winograd and Thordarson (1975). Numerous factors affect the temperature in wells. A few of the more important include: (1) volume of ground-water pumped prior to sampling, (2) presence or absence of a vertical thermal gradient, and (3) the direction of ground-water flow. At Amargosa Valley, the average annual air temperature is 20 °C. The data show some tendency towards northwest and north-northeast elongation of warm and cool areas. Cool water areas (less than or equal to 20 °C) coincide fairly well with areas where surface-water recharge is most likely--the channels of Amargosa River, Crater Flat Wash, Rock Creek, Amargosa Flat Wash, and Fortymile Wash. The warmest area (greater than 30 °C) coincides with the Pahrump Hills, where numerous springs discharge from Paleozoic carbonate rocks. An area of slightly warm (greater than 20 °C) water approximately coincides with the trace of the Spotted Range-Mine Mountain fault zone but water-temperature data for the northwest corner of T. 16 S., R. 50 E. are unavailable.

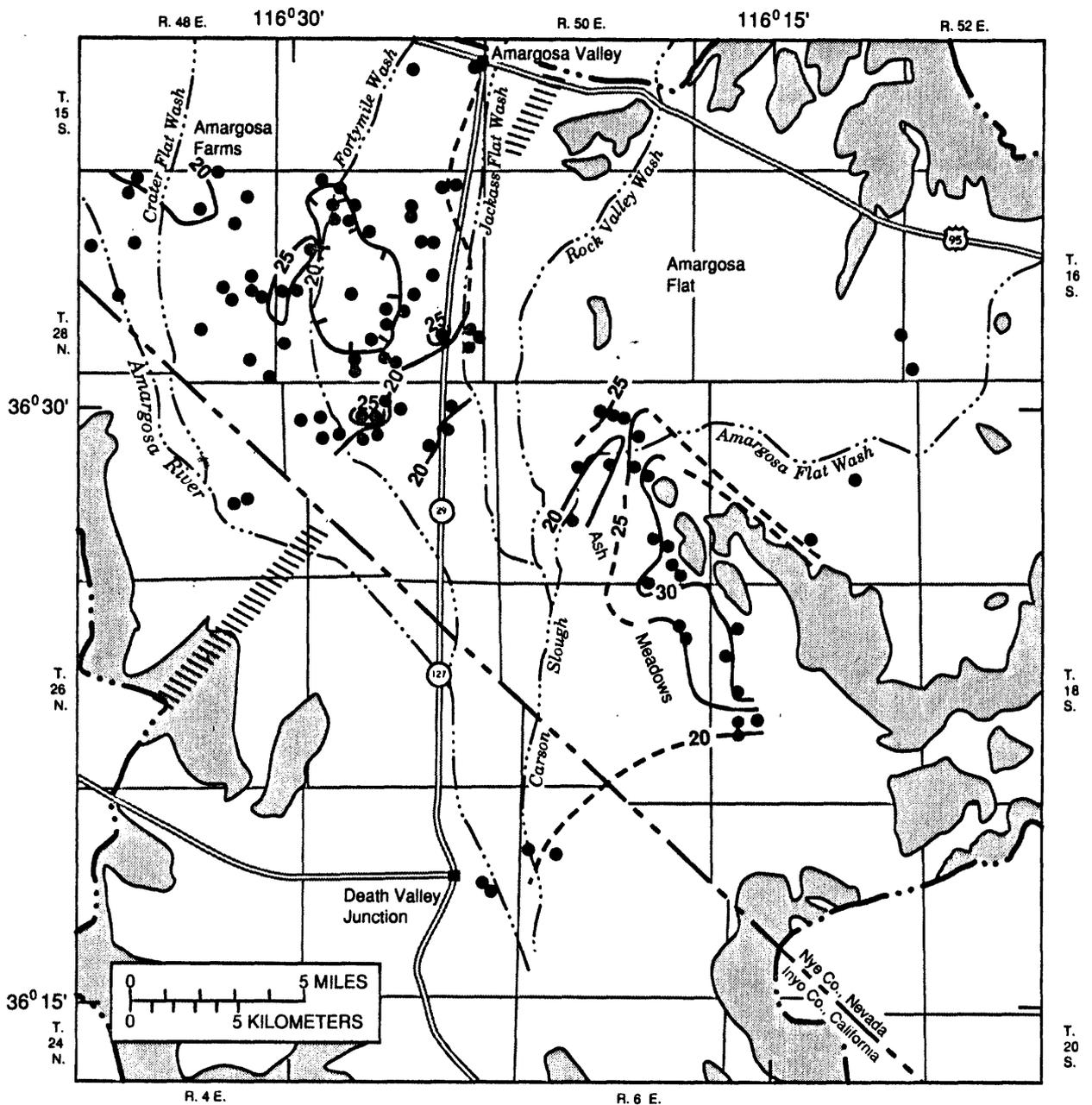


FIGURE 9.--Ground-water temperatures in selected wells in Amargosa Desert developed area.

SUMMARY AND CONCLUSIONS

Interpretation of the data presented in table 1 for approximately 340 wells leads to several broad conclusions about the nature of ground-water flow in Amargosa Desert hydrographic area:

(1) The potentiometric surface in basin-fill materials mimics the land surface except along the Ash Meadows fault and where other subbasin structures allow upward flow from the underlying regional carbonate aquifer. Specifically, upward leakage occurs along the Spotted Range-Mine Mountain fault zone, and to a lesser degree along the Rock Valley fault. This interpretation is also supported by the temperature and vertical-gradient data.

(2) Approximately 30 feet of drawdown in the potentiometric surface has occurred since the 1950's in the southcentral Amargosa Farms area. Hydrographs of wells in the area show a period of rapid decline during the 1970's, followed in the 1980's by less severe declines. The flattening of the hydrograph slope is probably related to changes in water use in the Amargosa Farms area and to unusually wet years during this period. Less than 10 feet of drawdown has occurred in the Ash Meadows area during the same period. Water levels near the edges of Amargosa Flat (where pumpage is minimal) have remained constant during this time.

(3) Steep vertical gradients are associated with wells that penetrate volcanic rocks and playa deposits. Smaller gradients occur in conglomerates, alluvial-fan deposits, and freshwater-limestone deposits. Upward vertical gradients are strongly associated with freshwater-limestone and playa deposits, and adjacent outcrops of carbonate rocks. Downward gradients are strongly associated with Tertiary conglomerates and adjacent outcrops of noncarbonate bedrock.

(4) A map of ground-water temperatures shows an approximate correspondence between warm waters and the Ash Meadows fault and Spotted Range-Mine Mountain fault zones, and between cool waters and the channels of major intermittent drainages in central Amargosa Desert. Temperature data suggest that recharge from the intermittent drainages occurs in this area.

Areas where more data would be helpful in defining the potentiometric surface are: (1) the north part of Amargosa Desert, particularly near Bare Mountain, where a connection to the regional flow system is implied by water-level contours that trend across the mountain front; (2) the area southwest of Amargosa Farms, where carbonate outcrops and the Spotted Range-Mine Mountain fault zone show evidence of regional flow towards Death Valley; and (3) the area near Furnace Creek fault at the south end of Amargosa Desert, where unexplainable upward gradients were encountered. Recent (1988) mining activity in northern Amargosa Desert may contribute to knowledge of ground-water conditions there.

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BASIC DATA

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California

Owner or well name: Former designations are indicated in parenthesis.
Site use: P, well pumping during measurement; R, well recently pumped; S, nearby well pumping during measurement; Z, measured well and nearby wells not pumped for at least 24 hours.
Data source: D, data from driller's log; E, measured by personnel of Nevada Division of Water Resources office; G, data derived from geophysical log; S, water level measured with steel tape; T, water level measured with electric tape; W, data from report by Walker and Eakin (1962).

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
NEVADA WELLS												
S12 E46 18DBC 1	365326116520201	Faragut	3,820	400	8.0			1.8	01-06-87	272.5	Z	S
S12 E47 19ADCB1	365247116451801	Ranchers E.	3,170	126	9.0	124	30-121	0.7	09-23-71 01-15-87	20 17.5	Z Z	R S
S13 E46 15DBBB1	364814116485401	USGS (NA-4)	3,130	1,500	2.0	500		2.0	01-11-87	544.4	Z	S
S13 E46 31BAD 1	364559116521901	(VS-11)	3,760	475	6.0			0.5	10-30-86	474.5	Z	T
S13 E46 33BDD 1	364600116512001	(VS-4)	3,320	418	8.0			0.0	01-11-87	DRY	Z	T
S13 E46 34ACCC1	364554116485501	USGS (NA-1)	3,230	1,500				0.0	02-12-86 10-30-86 01-11-87 01-11-87	350 305.0 244.3 244.1	Z Z Z Z	G T T S
S13 E46 35ADDD1	364550116472701	USGS (NA-3)	3,040	1,180				0.0	02-21-86 01-11-87 01-11-87	588 416.7 416.7	Z Z Z	G T S
S13 E47 33BACC1	364557116434501	USGS (MR-1)	2,820	402		402	382-402		06-09-83 06-22-83 07-13-83 08-21-83	342.9 338.5 338.6 338.1	Z Z Z Z	T T T T
S13 E47 35BAD 1	364600116413000	US Ecology	2,788.0	575	8.0	573	453-493	0.5	06-27-61 07-12-62 01-07-87	315 282.3 281.9	Z Z P	D S S
S13 E47 35BDB 1	364552116413301	USGS (MR-2)	2,775	414		414	285-295 394-414		07-13-83 08-21-83	359.4 358.9	Z Z	T T
S14 E46 08BBDD1	364514116482901	USGS (NA-2)	3,220	470	3.0	380	360-380	2.3	02-22-86 10-30-86 01-11-87	466 354.3 354.5	Z Z Z	G T T
S14 E46 25AA 1	364243116432401	USGS (BT-4)	2,705	1,860	2.0	1,751	1,830-1,850	2.7	05-22-86 10-29-86 01-11-87	341 304.9 304.5	Z Z Z	G T S

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S14 E46 26AA 1	364247116442301	USGS (BT-2)	2,710	1,960	2.0	1,950	1,880-1,900	0.9	05-07-86 05-22-86 10-28-86 01-11-87	317 310 303.5 303.3	Z Z Z Z	G G T S
S14 E46 26BA 1	364246116445701	USGS (BT-3)	2,720	1,880		1,380-1,400	0.0	10-29-86 01-11-87	281.7 281.7	Z Z	Z Z	T S
S14 E47 24DBC 1	364300116371401	Dale W.	2,608	484	24.0				07-12-62 01-11-87	253.1 DRY	Z	W
S14 E47 32DA 1	364141116351401	USGS (NA-6)	2,625	960	2.0	894-914	1.7	03-10-86 05-23-86 08-02-86 08-03-86 10-28-86 01-11-87	267 265 268.9 269.6 269.6 269.4	Z Z Z Z Z Z	Z Z Z Z Z Z	G G S S T S
S14 E47 32DA 2	364141116351402	USGS (NA-6)	2,625	323	1.3	317-320	1.6	08-03-86 10-28-86 01-11-87	269.6 269.6 269.4	Z Z Z	Z Z Z	T T S
S14 E48 32ABBB1	364052116374501	Rose's Sta.	2,542	178	42.0	10			03-15-87	DRY	Z	D
S15 E49 11CA 1	363857116260101	Washburn R.	2,679	243	12.0				01-25-58	815 DRY	Z Z	D
S15 E49 13DDCC1	363830116241401	Doing W.	2,650	482	10.0	482	355-480	0.8	12-05-64 01-15-87	350 324.5	Z Z	D S
S15 E49 14AABA1	363836116252501	Washburn R.	2,640	90					11-01-53	DRY	Z	D
S15 E49 22AABA1	363742116263201	Shaw J.	2,612	570	14.0	380	70-180 550-570	4.0	12-07-53 01-15-54 01-15-87	290.9 292 295.6	Z Z Z	D D S
S15 E49 22DCC 1	363711116263701	Washburn R.	2,572	500	14.0	498	0-500	0.4	05-29-58 07-12-62 01-15-87	245 255.8 DRY	Z Z Z	D S S
S15 E49 27BDD1	363709116264601	Washburn R.	2,545	442	16.0	433	300-420	1.2	01-15-87	235.2	Z	S
S15 E49 27DBB 1	363621116263201	Washburn R.	2,540	442	12.8	433			10-18-58 01-15-87	229.0 DRY	Z Z	D S
S15 E50 18BBCC1	363907116235701	Bossingham	2,690	471	5.0	471	104-122 168-271 293-314 451-471		05-20-61	333	Z	D

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S15 E50 18C 1	363840116234001	Pereirda	2,664	395	8.0	395	335-395		05-03-52 01-15-87	345 DRY	Z	D
S15 E50 18C 2	363840116234101	Pereirda	2,665	373	8.0	353		0.9	06-12-62	351.3	Z	S
S15 E50 18CC 1	363835116234001	State Hwy		495	8.6	495	395-495		04-30-72	365	Z	D
S15 E50 18CC 2	363836116234001	Kay J.	2,665	535	9.0	535	359-485 511-535		01-03-64	365	Z	D
S15 E50 18CC 3	363837116234001	NV Hwy.	2,656	360					06-22-53	339	Z	D
S15 E50 18CD 1	363840116233501	Pereirda	2,665	507	10.0	500	380-507	0.8	06-12-62	358.8	P	S
S15 E50 18CDC 1	363840116235000	Whellock B.	2,665	505	10.0	505	360-505	1.8	02-28-55 06-12-62	360 365.6	Z P	D S
S15 E50 25BD 1	363715116244500	Nye Co.	2,800	105	14.0				12-20-66	DRY		
S15 E51 23BC 1	375017115572201		2,930		6.0	370			10-01-59	335.0		
S16 E48 01ABBB1	363549116305001	Nye Co.	2,435	815	14.0	523	155-523	0.9	06-07-63 01-20-84 02-13-86 01-07-87	167 150.8 152.0 152.2	Z Z Z Z	D S S S
S16 E48 02BAAB1	363519116322001	Nickels L.	2,423	400	14.8	400	200-400	1.8	07-02-62 01-20-84 02-13-86 01-08-87	135.9 142.6 141.5 141.9	Z Z Z Z	S S S S
S16 E48 02DDBB1	363454116314201	Heath D.	2,410	422	14.0	422	212-422	1.3	10-25-61 07-02-62 01-20-84 01-20-84 02-13-86 01-07-87	65 124.3 131.4 132.2 132.7	Z Z Z Z	D W S S
S16 E48 03AAAA1	363525116325601	Keefer F.	2,412	250	12.8	250	125-250	0.0	07-02-62 01-20-84 01-07-87	127.4 143.7 135.9	Z	T
S16 E48 04D 1	363456116335501	Mankinen E.	2,430	308	12.8	308	203-298	0.4	12-15-61 07-02-62	110 108.6	Z Z	D S
S16 E48 04DBBB1	363511116335101		2,393		8.0			0.9	01-07-87	126.6	Z	S
S16 E48 05BA 1	363523116353701	Wooldridge	2,406	250	12.8	250	130-250	1.3	01-05-60 07-02-62 01-20-84 02-13-86	124 127.6 142.5 DRY	Z Z Z	D S
S16 E48 05CAB 1	363521116352501	Circle 8 R.	2,394	250	16.0	256	120-250	1.3	03-01-63 01-07-87	125 128.8	Z Z	D S
S16 E48 05CDD 1	363503116351501	Kelley E.	2,388	165	8.6	165	140-160	1.1	05-07-84 01-07-87	120 122.7	Z R	D S

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E48 08BAAA1	363434116354001	Defir C.	2,384	250	12.0	250	100-250	0.6	04-30-75 09-26-75 07-20-76 07-28-78 12-28-78	115.8 117.0 119.2 120.1 118.3		E E E E E
									12-20-79 04-01-80 07-18-80 09-12-80 12-18-80	119.4 126.2 127.4 125.0 120.0		E E E E E
S16 E48 09BAAA1	363436116342301	Defir C.	2,386	250	12.0	250	100-250	0.1	09-03-81 12-09-81 01-10-87	124.7 132.9 121.8		E E T
S16 E48 09CA 1	363407116342501	Caldwell C.	2,373	350	14.0	347	105-347	0.4	02-14-59 07-03-62 01-20-84 01-07-87	114 105.2 116.0 115.5		D W S T
S16 E48 09DA 1	363405116355101	Bowline A.	2,385	410	12.0	410	144-410	0.4	05-05-58 07-03-62 01-20-84	105 100.4 109.0		D W W
S16 E48 10AACC1	363438116324601	Mankinen E.	2,388	320	12.8	320	150-320	0.6 0.9	03-07-61 07-02-62 01-07-87	98 107.8 116.2		D W S
S16 E48 10BAAA1	363436116333201	Monroe W.	2,398	300	12.8	300	200-300	0.2	11-30-58 07-03-62 01-20-84 02-13-86 01-07-87	38 116.6 131.3 124.1 124.1		D W W S S
S16 E48 11CA 1	363405116321501	Pierce J.	2,387	302	12.8	302	130-302	0.4	09-17-60 07-04-62	108 112.3		D W
S16 E48 11CAAA1	363429116315901	Pierce J.	2,392	300	16.0	300	176-257 278-300	1.1	05-25-65 01-07-87	130 121.2		D S
S16 E48 13AADD1	363344116304501	Phillips T.	2,387	250	14.0			0.8 1.8	04-28-58 07-04-62 01-20-84 02-13-86 01-08-87	110 116.8 121.9 122.2 122.0		D W S S S

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E48 14BAAA1	363346116322801	Gallagher	2,381	349	12.8	349	146-158 170-195 240-295	2.0	02-24-55 02-02-62 07-04-62 03-04-64 07-09-64	100 110 102.7 103.4 103.8	Z Z Z	D D W E E
									09-02-64 10-29-64 02-10-65 05-20-65 08-17-65	104.2 104.1 102.6 103.7 103.9		E E E E E
									11-23-65 03-15-66 06-11-66 09-22-66 01-31-67	102.9 103.2 103.8 103.5 103.2		E E E E E
									03-21-67 06-15-67 09-29-67 01-10-68 01-10-68	103.0 103.0 103.8 103.6 103.6		E E E E E
									04-16-68 09-24-68 01-14-69 06-09-70 10-30-70	103.2 103.8 103.2 103.3 103.5		E E E E E
									10-12-71 03-08-72 11-08-72 03-13-73 08-23-73	102.5 103.6 103.8 103.9 104.1		E E E E E
									02-26-74 11-14-74 04-03-75 09-26-75 01-08-76	104.8 104.0 104.9 105.4 111.4		E E E E Z
									07-20-76 07-28-78 12-28-78 12-20-79 04-01-80	107.1 106.7 106.9 107.9 107.8		E E E E E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E48 14BAAA1	363346116322801	Gallagher	2,381	349	12.8	349			07-18-80	108.7	E	E
									09-12-80	109.0	E	E
									12-18-80	108.9	E	E
									09-03-81	110.5	E	E
									12-09-81	110.0	E	E
									03-17-83	110.6	E	E
									06-22-83	111.5	E	E
									09-20-83	111.9	E	E
									01-20-84	109.5	E	E
									03-01-84	111.4	E	E
S16 E48 14DA 1	363338116303101	Perry P.	2,370	300	12.0			1.0	07-23-85	111.3	E	E
									12-10-85	111.2	E	E
									02-13-86	111.1	E	E
									03-21-86	111.1	E	E
									11-26-58	92	D	D
									05-18-63	112		
									01-13-87	DRY		
S16 E48 15AA 1	363342116325101	Mankinen	2,376	150	14.0	150		1.0	11-24-54	97	D	D
									02-14-55	97.1	E	E
									05-23-56	96.6	E	E
									11-21-57	98.0	E	E
									02-21-58	97.1	E	E
									11-20-58	97.4	E	E
									02-23-59	97.8	E	E
									05-22-59	99.7	E	E
									09-17-59	99.8	E	E
									01-07-60	97.9	E	E
S16 E48 15AA 1	363342116325101	Mankinen	2,376	150	14.0	150			04-20-60	98.0	E	E
									07-29-60	98.0	E	E
									10-21-60	97.8	E	E
									12-02-60	97.6	E	E
									02-08-61	97.5	E	E
									05-24-61	97.9	E	E
									07-27-61	98.1	E	E
									09-20-61	98.3	E	E
11-23-61	98.5	E	E									
01-24-62	98.3	E	E									

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E48 15AA 1	363342116325101	Mankinen	2,376	150	14.0	150		1.0	05-10-62	100.9		E
									08-09-62	100.2		E
									11-09-62	100.5		E
									12-21-62	99.2		E
									02-18-63	99.4		E
									06-19-63	100.4		E
									09-25-63	99.6		E
									12-11-63	99.7		E
									03-04-64	107.1	P	E
									07-09-64	107.6	P	E
									08-25-64	101.2		E
									10-29-64	100.9		E
									02-12-62	99.6		E
									05-26-65	103.8	P	E
									08-17-65	104.0	P	E
									11-23-65	99.6		E
									03-15-66	99.6		E
									06-16-66	107.5	P	E
									09-22-66	100.3		E
									01-31-67	99.6		E
									03-21-67	99.5		E
									06-15-67	100.4		E
									09-29-67	100.1		E
									01-10-68	99.7		E
									04-16-68	99.3		E
									09-24-68	116.0	P	E
									01-14-69	100.6		E
									06-09-70	101.2		E
									10-30-70	101.9		E
									10-12-71	100.5		E
									03-09-72	100.7		E
									11-08-72	100.6		E
									03-13-73	100.2		E
									08-23-73	102.1		E
									02-26-74	103.2		E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measure-ment date	Water level depth (feet)	Site use	Data source			
S16 E48 15BAAA1 (well deepened 10/22/62)	363340116332901	Dansby L.	2,374	149	14.0	149		0.0	12-21-54	92	Z	D			
				305		302	148-292	1.0	02-14-55	96.7	E	E			
												11-21-57	96.8		E
												02-21-58	96.7		E
												05-22-58	96.9		E
												08-25-58	96.9		E
												11-20-58	96.8		E
												02-23-59	96.8		E
												05-22-59	96.9		E
												09-17-59	97.0		E
												01-07-60	96.9		E
												04-20-60	97.0		E
												07-19-60	97.3		E
												10-21-60	97.0		E
												12-02-60	96.7		E
												02-08-61	97.3		E
												03-24-61	97.6		E
												07-27-61	97.7		E
												09-20-61	97.8		E
												11-26-61	97.9		E
								01-24-62	97.8		E				
								05-10-62	98.3		E				
								07-04-62	96.2		E				
								11-09-62	98.8		E				
								12-21-62	99.9		E				
								02-18-63	98.9		E				
								06-19-63	99.7		E				
								09-25-63	98.4		E				
								12-11-63	98.7		E				
								03-04-64	103.3	P	E				
								07-09-64	104.2	P	E				
								08-25-64	99.2	Z	E				
								10-29-64	103.1	P	E				
								02-12-65	98.5	Z	E				
								05-20-65	103.2	P	E				
								08-17-65	103.4	P	E				
								11-23-65	99.2	Z	E				
								03-15-66	103.7	P	E				
								06-16-66	104.8	P	E				

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E48 15BAAA1	363340116332901	Dansby L.	2,374	149	14.0	149		0.0	09-22-66	99.6	Z	E
	(well deepened 10/22/62)			305		302	148-292	1.0	01-31-67	99.1	Z	E
									03-21-67	98.9	Z	E
									06-15-67	104.7	P	E
									09-29-67	99.9	Z	E
									01-10-68	99.3	E	E
									04-16-68	104.2	P	E
									09-24-68	100.0	E	E
									01-14-69	101.7	E	E
									06-09-70	100.6	E	E
									10-30-70	99.8	E	E
									10-21-71	99.7	E	E
									03-08-72	104.5	E	E
									03-13-73	99.1	E	E
									02-26-74	102.2	E	E
								0.5	01-08-87	104.3	T	T
S16 E48 15DADD1	363332116323501	Spears I.	2,364	200		200	90-200	0.0	06-12-71	90	Z	D
									01-19-84	103	R	S
									01-08-87	93.4	R	T
S16 E48 16AA 1	363342116335701	Selbach E.	2,375	250	12.0	250	120-280	0.2	08-15-58	90	Z	D
S16 E48 17ABBB1	363342116345401	Overhaiser	2,370	280	12.0	280			09-30-59	99	Z	D
									08-18-62	100.6		
									01-20-84	109		
									01-07-87	DRY		
S16 E48 17AAAD1	363402116344201		2,367	175	8.6	175	100-175	1.1	01-07-87	104.5	Z	T
S16 E48 18B 1	363340116362801	Bell J.	2,363	380	16.0	380	140-218 258-380	0.6	08-09-61	90	Z	D
									07-03-62	90.0		W
									01-20-84	117.4		
S16 E48 18CDC 1	363316116362401	Tharp E.	2,360	175	8.6	175			09-26-80	101	Z	D
									01-07-87	98.9	R	S
S16 E48 20D 1	363223116345901	Downey J.	2,341	366	16.0	264	119-255	3.2	07-18-61	66		D
									07-04-62	65.6		W
S16 E48 20CBB 1	363243116354101	Holtz C.	2,344					1.8	01-08-87	87.5	Z	T
S16 E48 23AA 1	363244116320701	Gillespie	2,358	330	12.0	330	100-330		03-23-60	94.0		
S16 E48 23AAA1	363254116313901	Gillespie	2,358	330	14.0	330	80-330	0.5	04-01-60	84	Z	D
									01-10-87	108.6	Z	S
S16 E48 23BC 1	363217116320001	Gillespie	2,341	510	14.0	485	170-485	0.6	07-07-62	75.1		
S16 E48 23D 1	363221116313901	Gillespie	2,450	503	14.0	503	270-503	1.2	07-07-62	79.1		W

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E48 23DAAA1	363247116312901	Gillespie	2,348	300	14.0	300	90-300	1.1	04-21-60 01-10-87	81 105.5	Z Z	D S
S16 E48 24AAAA1	363248116303101	DeLee M.	2,367	421					05-24-56 12-06-56 01-19-84	94.4 95.4 115.1	Z Z	D E
S16 E48 24C 1	363225116310901	Records R.	2,347	306	12.8	306	110-306	0.2	07-09-62	84.1		W
S16 E48 24DAAA1	363223116303801	De Lee M.	2,357	421	14.0	421	140-421	0.3	02-14-55 05-24-56 08-05-56 11-21-57 08-26-58	89.1 88.6 89.1 89.3 90.4	Z Z Z Z Z	E E E E E
S16 E48 24DAAA2	363248116302801	DeLee M.	2,357	161	6.6	161		0.3	11-20-58 02-23-59 05-22-59 09-17-59 01-07-60	90.1 90.3 92.1 93.0 92.6	Z Z Z Z Z	E E E E E
S16 E48 25AAAD1	363200116304401	DeLee M.	2,343	170	16.0	165			04-20-60 07-29-60 10-21-60 10-02-60	92.9 92.8 92.7 92.5	Z Z Z Z	E E E E
									01-10-87	106.8	Z	S
									01-01-57 07-17-57 08-28-57 11-21-57	77.2 79.7 79.6 79.6	Z Z Z Z	E E E E
									02-21-58 08-28-58 11-20-58 02-23-59 05-22-59	81.7 80.3 80.2 80.2 80.7	Z Z Z Z Z	E E E E E
									09-17-59 01-07-60 04-20-60 07-29-60 10-21-60	81.0 81.1 81.2 81.8 81.0	Z Z Z Z Z	E E E E E
									12-02-60 02-08-61 05-24-61 09-20-61	80.9 82.4 83.0 83.7	Z Z Z Z	E E E E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E48 25AAD1	36320011630401	DeLee M.	2,343	170	16.0	165		0.4	11-23-61 01-24-62 05-10-62 07-08-62 08-09-62	83.6 83.5 84.0 84.6 85.1	Z Z Z Z Z	E E E E E
									11-09-62 12-21-62 02-18-63 06-19-63 09-25-63	85.2 84.9 84.6 84.5 84.1	Z Z Z Z Z	E E E E E
									12-11-63 03-04-64 06-18-64 08-25-64 11-04-64	83.7 84.5 84.7 85.1 85.0	Z Z Z Z Z	E E E E E
									02-12-64 05-20-65 08-17-65 11-23-65 06-16-66 01-08-67	84.5 86.2 86.4 84.3 85.0 101.4	Z Z Z Z Z R	E E E E E S
S16 E48 25C	1 363138116310101	Bettles G.	2,327		12.0				07-09-62	67.1	Z	W
S16 E48 25CA	1 363145116310601	Lealand	2,340	200	16.0			-0.3	01-01-52 07-17-57 08-28-57 11-21-57	65.3 64.9 65.7 63.9	Z Z Z Z	E E E E
									02-21-58 08-26-58 11-20-58 02-23-59 05-22-59	66.6 65.4 65.2 65.7 65.4	Z Z Z Z Z	E E E E E
									09-17-59 01-07-60 04-20-60 07-29-60 10-21-60	65.6 65.6 65.7 65.8 65.6	Z Z Z Z Z	E E E E E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E48 25CA 1	363145116310601	Lealand	2,340	200	16.0		-0.3		08-23-73 02-26-74 11-14-74 04-30-75 08-16-78	70.0 69.9 70.0 70.4 DRY	Z Z Z Z	E E E E
S16 E48 25CAB 1	363209116314001		2,328			198			09-15-59 02-18-64 02-15-65 02-14-66 02-16-67 02-13-68 02-24-69 02-15-70 02-10-71 03-20-73 01-31-74 02-24-75	72.1 75.8 75.8 75.7 75.7 76.1 75.5 75.3 75.4 80.1 79.4 76.4	Z Z Z Z Z Z Z Z Z Z Z Z	S S S S S S S S S S S
S16 E48 26AAAA1	363200116313401	Lealand	2,336		16.0		0.0		01-01-52 07-17-57 08-28-57 11-21-57 02-21-58 05-22-58 08-26-58 11-20-59 02-23-59 05-22-59 09-17-59 01-07-60 04-20-60 07-29-60 10-21-60 12-02-60 02-08-61 05-24-61 07-27-61 09-20-61	77.9 76.5 71.5 71.6 71.5 71.6 71.9 71.8 71.8 71.7 72.2 72.3 72.4 72.5 72.2 72.3 72.4 72.5 72.2 72.7 73.8 74.8 74.9 75.0	Z Z	E E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E48 26AAAA1	363200116313401	Lealand	2,336		16.0			0.0	11-23-61 01-24-62 05-10-62 07-04-62 08-09-62	75.0 74.8 75.2 75.7 75.9	Z Z Z Z Z	E E E W E
									11-09-62 12-21-62 02-18-63 06-19-63 02-25-63	75.7 75.7 75.3 75.0 74.8	Z Z Z Z Z	E E E E E
									12-11-63 03-04-64 06-18-64 08-25-64 11-04-64	74.2 76.9 77.0 76.9 76.3	Z Z Z Z Z	E E E E E
									02-12-65 05-20-65 08-17-65 11-23-65 03-15-66	76.2 76.5 76.9 76.2 76.3	Z Z Z Z Z	E E E E E
									06-16-66 09-22-66 01-31-67 01-19-84 02-13-86 01-13-87	76.8 76.4 76.0 100.3 96.5 98.6	Z Z Z Z Z Z	E E E S S
S16 E48 27AA 1	363200116323301	Delph M.	2,330	200	12.0	200	65-200	0.0	03-12-56	54	Z	D
S16 E48 27CA 1	363155116323301	Barr M.	2,325	200	12.0	200	106-236		01-27-60 07-04-62	60 57.0	Z Z	D W
S16 E48 27DAAA1	363138116323801	Delph M.	2,325	200	12.0	200	65-200	0.4	07-04-62 01-19-84 02-13-86 01-10-87	58.8 64 73.5 73.9	Z Z Z Z	W S S T
S16 E48 35AD 1	362105116312801	Barr C.	2,309	255	12.0	206	0-206		03-18-59	64	Z	D
S16 E48 35DA 1	363058116312801	Barr C.	2,309	300	16.0	300	70-300	0.6	09-26-63 01-10-87	50 65.4	Z Z	D T

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E48 36AAAA1	363117116303601	Bettles G.	2,324	200	14.0	165	55-161	0.3	02-15-56	46	Z	D
									01-01-57	71.1	Z	E
									07-17-57	72.4	Z	E
									08-28-57	67.4	Z	E
									11-21-57	63.9	Z	E
									02-21-58	63.7	Z	E
									05-22-58	64.2	Z	E
									08-26-58	65.1	Z	E
									11-20-58	64.6	Z	E
									02-23-59	64.2	Z	E
									05-22-59	64.7	Z	E
									09-17-59	64.8	Z	E
									01-07-60	64.8	Z	E
									04-20-60	65.0	Z	E
									07-29-60	64.9	Z	E
									08-25-60	65.1	Z	E
									10-21-60	64.9	Z	E
									12-02-60	64.8	Z	E
									02-08-61	65.8	Z	E
									05-24-61	66.0	Z	E
									07-27-61	66.1	Z	E
									09-20-61	66.5	Z	E
									11-23-61	66.5	Z	E
									01-24-62	66.5	Z	E
									05-10-62	66.9	Z	E
									07-05-62	67.5	Z	E
									08-09-62	67.2	Z	E
									12-21-62	67.5	Z	W
									11-09-63	67.5	Z	E
									02-18-63	67.5	Z	E
									06-18-63	67.6	Z	E
									09-25-63	67.8	Z	E
									12-11-63	67.9	Z	E
									03-04-64	67.8	Z	E
									06-18-64	67.9	Z	E
									08-25-64	68.1	Z	E
									11-25-64	68.0	Z	E
									02-12-65	67.7	Z	E
									05-20-65	68.1	Z	E
									05-17-65	68.5	Z	E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E48 36AAAA1	363117116303601	Bettles G.	2,324	200	14.0	165	55-161	0.3	11-23-65 03-15-66 06-16-66 09-22-66 01-31-67	67.8 67.8 68.3 68.0 67.1	Z Z Z Z Z	E E E E E
									03-21-67 06-15-67 09-29-67 01-10-68	68.3 68.4 72.4 68.7	Z Z R Z	E E E E
									04-16-68 10-30-70 10-12-71 03-08-72 03-13-73	68.4 83 70 69.3 69.6	Z R E Z Z	E E E E E
									08-23-73 02-26-74 04-01-80 09-12-80 12-18-80	69.4 69.3 75.4 78.4 84.0	Z Z Z Z Z	E E E E E
									01-18-84 02-13-86 01-10-87	82.7 83.5 83.2	Z Z Z	S S S
S16 E48 36DC 1	363044116303601	Watson H.	2,303	407	14.0	407	165-407	0.3	06-25-59 03-05-64 06-18-64 02-12-65 08-17-65	42.0 51.7 54.0 51.0 55.9	Z Z R Z R	D E E E E
									11-23-65 09-22-66 01-31-67 03-21-67 06-15-67	52.8 60.8 52.4 56.2 72.1	Z R Z R P	E E E E E
									01-10-68 01-14-69	52.6 54.4	Z Z	E E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E48 36DDDA1	363039116303501	Bettles G.	2,300		12.0		0.5		03-07-52	52.5	Z	E
									08-05-56	49.7	Z	E
									08-28-57	51.9	Z	E
									11-21-57	52.0	Z	E
									08-26-58	52.3	Z	E
									11-20-58	52.2	Z	E
									02-23-59	52.6	Z	E
									05-22-59	52.8	Z	E
									09-17-59	53.8	Z	E
									07-05-62	54.1	Z	W
									03-04-64	54.4	Z	E
									06-18-64	54.4	Z	E
									08-02-64	55.9	Z	E
									11-04-64	55.1	Z	E
									02-12-65	55.0	Z	E
									05-12-65	56.2	Z	E
									11-23-65	55.7	Z	E
									03-15-66	55.7	Z	E
									06-16-66	56.9	Z	E
									09-22-66	56.3	Z	E
									01-31-67	54.2	Z	E
									03-21-67	55.4	Z	E
									06-15-67	56.1	Z	E
									09-25-67	56.7	Z	E
									01-10-68	54.5	Z	E
									04-16-68	54.7	Z	E
									09-24-68	56.0	Z	E
									01-14-69	55.4	Z	E
									06-09-70	53.9	Z	E
									10-30-70	52.3	Z	E
									10-12-71	57.0	Z	E
									03-08-72	54.8	Z	E
									11-08-72	55.8	Z	E
									03-13-73	54.9	Z	E
									08-23-73	56.4	Z	E
									02-26-74	54.3	Z	E
									11-14-74	56.8	Z	E
									04-30-75	56.9	Z	E
									09-26-75	57.9	Z	E
									08-16-78	60.5	Z	E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E48 36DDDA1	3630399116303501	Bettles G.	2,300	12.0				0.5	12-28-78	59.4	Z	E
									04-01-80	61.7	Z	E
									07-18-80	64.4	Z	E
									09-12-80	66.1	Z	E
									12-18-80	65.1	Z	E
									09-01-81	69.4	Z	E
									12-09-81	67.7	Z	E
									03-17-83	67.6	Z	E
									06-22-83	71.1	Z	E
									09-20-83	73.8	Z	E
									03-01-84	69.1	Z	E
									03-20-85	69.0	Z	E
									07-23-85	72.9	Z	E
									12-10-85	71.9	Z	E
									03-21-86	71.3	Z	S
									01-12-87	69.4	Z	S
S16 E49 05CDDD1	363503116284001	Rudela M.	2,430	8.0	200	200	160-200	0.3	02-07-65	150	Z	D
									01-12-87	159.0	R	S
S16 E49 06ADD 1	363527116292501		2,441	14.0	350	350		0.8	10-12-62	148.8	Z	W
									01-16-87	154.5	Z	T
S16 E49 08A 1	363440116282401	Meese M.	2,400	14.0	200	200	170-300	0.3	06-29-62	148.4		W
S16 E49 08DAAA1	363428116281201	Nye Co.	2,422	20.0				0.6	01-12-87	156.9	Z	S
S16 E49 09CA 1	363415116275101	Selbach	2,434	12.0	300	300			07-15-58	150	Z	D
S16 E49 09DC 1	363417116271801	Nye Co.	2,430	6.3	300	300		0.9	06-29-62	160.8	Z	D
									01-20-84	171.8		
S16 E49 10CAAD1	363411116264701	Miller #1	2,444	14.0	186			0.7	01-20-84	181.8	Z	S
									02-13-87	182.9	Z	S
S16 E49 10DDDC1	363410116261101	Nye Co.	2,440	14.0	700	670	212-670	0.9	01-15-87	172.3	Z	S
S16 E49 12C 1	363407116243501		2,500	12.0	448				06-29-62	173.9		
S16 E49 14AA 1	363350116252101	Johns W.	2,450	12.0	300	300	50-290	0.4	07-10-59	152	Z	D
									06-29-62	158.7		W
S16 E49 14BA 1	363348116254901	Johns W.	2,440	12.8	390	390	150-390	0.4	08-24-60	150	Z	D
									06-29-62	156.9		W

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E49 14BB 1	363355116254901	Johns W.	2,435	457	14.0	457	202-357	0.8	10-28-63	170	Z	D
									03-05-64	159.7	Z	E
									06-18-64	159.7	Z	E
									09-02-64	160.2	Z	E
									10-29-64	160.1	Z	E
									02-12-65	160.0	Z	E
									05-20-65	160.1	Z	E
									08-17-65	160.2	Z	E
									11-23-65	159.5	Z	E
									03-15-66	159.8	Z	E
									06-16-66	160.1	Z	E
									09-22-66	159.8	Z	E
									01-31-67	159.7	Z	E
									03-21-67	164.5	R	E
									06-15-67	158.6	Z	E
									09-29-67	158.9	Z	E
									01-10-68	158.8	Z	E
									06-16-68	158.7	Z	E
									09-24-68	159.5	Z	E
									01-14-69	158.7	Z	E
									06-09-70	159.2	Z	E
									10-12-71	161.0	Z	E
									03-08-72	160.9	Z	E
									11-07-72	161.4	Z	E
									03-13-73	159.5	Z	E
									08-23-73	160.2	Z	E
									02-26-74	159.8	Z	E
									11-14-74	159.1	Z	E
									04-30-75	160.0	Z	E
									09-26-75	160.9	Z	E
									07-20-76	161.2	Z	E
									06-27-78	163.0	Z	E
									12-28-78	166.6	Z	E
									12-20-79	170.3	Z	E
									04-01-80	163.7	Z	E
									07-18-80	163.9	Z	E
									09-12-80	164.1	Z	E
									12-18-80	164.0	Z	E
									09-03-81	164.4	Z	E
									12-09-81	164.5	Z	E

well replaced

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E49 14BB 1	363355116254901	Johns W.	2,435	457	14.0	457	202-357	0.8	03-17-83 06-22-83 09-20-83 03-01-84 03-20-85	164.7 165.1 165.2 165.1 165.7	Z Z Z Z Z	E E E E E
S16 E49 15AA 1	363348116261701	Johns W.	2,430	420	12.8	420	150-420	0.1	06-29-62 01-20-84	168.8 163.4	Z	W
S16 E49 15AA 2	363540116240801	Mason L.	2,530	430	12.8	382	151-311		09-16-63 03-05-64 06-18-64 08-25-64 10-29-64	148 161.3 161.4 161.7 161.2	Z Z Z Z Z	D E E E E
S16 E49 18AC 1	363348116292701	Hanks W.	2,385	420	12.8	420	120-420	0.2	02-12-65 05-20-65 08-17-65 11-23-65 03-15-66 06-16-66 09-22-66 01-31-67 03-21-67 06-15-67	161.1 161.7 161.7 161.6 161.7 162.2 162.2 162.2 162.4 162.5	Z Z Z Z Z Z Z Z Z Z	E E E E E E E E E E
S16 E49 18D 1	363317116293001		2,383					0.5	09-29-67 01-10-68 04-16-68 10-12-71 03-08-72 11-07-72 03-13-73	162.7 162.6 161.7 160.0 160.1 160.0 160.4	Z Z Z Z Z Z Z	E E E E E E E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E49 18DCCA1	363310116294001	USBLM	2,375	480	12.0	348		0.0	02-12-55	103.1		E
									09-15-59	104.7		E
									03-07-61	104.4		E
									06-28-62	108.5	Z	W
									02-24-63	107.6		E
									02-15-65	107.0		E
									02-14-66	106.6		E
									02-16-67	107.2		E
									02-13-68	108.0		E
									02-24-69	108.0		E
									02-15-70	107.6		E
									02-10-71	108.1		E
									02-11-72	110.5		E
									03-20-73	110.9		E
									01-31-74	110.1		E
									02-24-75	110.4		E
									03-05-76	111.2		E
									03-08-77	111.1		E
									03-11-78	111.0		E
									03-07-79	111.2		E
									03-19-80	111.9		E
									03-04-81	113.3		E
									03-18-82	113.8		E
									03-24-83	114.6		E
									04-15-86	116.2		E
									03-16-87	116.5	Z	E
S16 E49 19AA 1	363252116292501	Meeter L.	2,374	480	14.0	480	130-480	3.0	09-15-59	104.6	Z	W /
									-60	CAVED		
S16 E49 19BAAA1	363254116295501	DeLee M.	2,371	725	14.0	725	100-725	1.0	02-15-55	107	Z	D
									07-09-62	106.0		W
									01-19-84	113.7		S
									02-13-86	113.3	Z	S
									01-10-87	114.2	Z	S
S16 E49 19CBAA1	363223116295501	Records M.	2,358	300	12.8	300	100-300	0.4	02-18-60	100	Z	D
									07-09-62	98.0	Z	W
									01-10-87	105.3	Z	T

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E49 19DA 1	363237116292901	DeLee M.	2,360	307	14.0	307	120-307	0.0	12-23-54	80	Z	D
								1.0	02-14-55	95.6	Z	E
									12-06-55	95.5	Z	E
									08-28-57	95.4	Z	E
									11-21-57	93.3	Z	E
									02-21-58	95.4	Z	E
									08-26-58	95.0	Z	E
									11-20-58	95.6	Z	E
									02-23-59	95.8	Z	E
									05-22-59	96.1	Z	E
									09-17-59	96.3	Z	E
									01-07-60	96.3	Z	E
									04-20-60	96.3	Z	E
									07-29-60	96.4	Z	E
									10-21-60	96.3	Z	E
									12-02-60	96.0	Z	E
									02-08-61	96.5	Z	E
									05-24-61	96.7	Z	E
									07-27-61	97.3	Z	E
									09-20-61	98.4	Z	E
									11-23-61	98.2	Z	E
									01-24-62	98.4	Z	E
									05-10-62	99.0	Z	E
									07-09-62	99.0	Z	W
									08-04-62	99.8	Z	E
									11-09-62	100.0	Z	E
									12-21-62	99.5	Z	E
									02-18-63	97.1	Z	E
									06-19-63	99.8	Z	E
									09-25-63	98.2	Z	E
									12-11-63	98.3	Z	E
									03-04-64	99.6	Z	E
									06-18-64	100.0	Z	E
									09-02-64	99.7	Z	E
									11-04-64	99.2	Z	E
									02-12-65	98.9	Z	E
									05-20-65	98.7	Z	E
									08-17-65	99.0	Z	E
									11-23-65	96.5	Z	E
									03-15-66	98.5	Z	E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E49 19DA 1	363237116292901	DeLee M.	2,360	307	14.0	307	120-307	1.0	06-16-66 06-15-67 09-29-67 01-10-68 04-16-68	100.2 109.5 100.8 100.4 99.8	Z S Z Z Z	E E E E E
									09-24-68 01-14-69 06-09-70 11-08-72 03-13-73	102.0 100.8 99.7 105.0 103.5	Z Z Z Z Z	E E E E E
									08-23-73 02-26-74 11-14-74 04-30-75 09-26-75	102.5 102.4 100.9 101.3 102.2	Z Z Z Z Z	E E E E E
									07-20-76 07-28-78 12-28-78 12-20-79 04-01-80	117.0 116.7 105.7 107.0 119.2	S S Z Z Z	E E E E E
									07-18-80 09-12-80 12-18-80 09-03-81 12-09-81	124.5 121.5 118.3 109.4 104.6		E E E E E
									03-17-83 06-22-83 09-20-83 03-01-84 03-20-85	106.9 107.2 105.9 105.8 106.4	Z Z Z Z Z	E E E E E
									07-23-85 12-10-85 03-21-86	106.6 108.2 106.8	Z Z Z	E E E
S16 E49 20AABB1	363256116282101	Travis M.	2,384	300	14.0	204	110-150 170-190 220-240 280-300	1.0 0.7	06-28-62 01-19-84 02-13-86 01-13-87	118.4 129.8 127.5 128.6	Z Z Z Z	W S S S
S16 E49 20DB 1	363225116282401		2,366	410	12.0	410	156-410		03-10-59	110	Z	D

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E49 22BBAA1	363252116265001		2,395	350	12.0	350	150-350		03-21-61	130	Z	D
								1.1	06-28-62	131.1	Z	W
									03-05-64	125.5	Z	E
									06-18-64	125.4	Z	E
									09-02-64	125.9	Z	E
									10-29-64	125.4	Z	E
									02-12-65	125.2	Z	E
									05-20-65	125.9	Z	E
									08-17-65	125.9	Z	E
									11-23-65	126.0	Z	E
									03-15-66	126.0	Z	E
									06-16-66	126.2	Z	E
									09-22-66	126.1	Z	E
									01-31-67	126.0	Z	E
									03-21-67	126.1	Z	E
									06-15-67	126.3	Z	E
									09-29-67	126.3	Z	E
									01-10-68	126.6	Z	E
									04-16-68	126.2	Z	E
									09-24-68	127.0	Z	E
									01-14-69	127.2	Z	E
									06-09-70	127.3	Z	E
									08-23-73	128.3	Z	E
									02-26-74	128.1	Z	E
									11-14-74	129.0	Z	E
									11-30-75	129.6	Z	E
									09-26-75	130.4	Z	E
									06-27-78	137.1	Z	E
									12-28-78	137.2	Z	E
									12-20-79	137.5	Z	E
									04-01-80	137.6	Z	E
									07-18-80	137.7	Z	E
									09-12-80	137.8	Z	E
									12-18-80	137.9	Z	E
									09-03-81	139.4	Z	E
									12-09-81	138.6	Z	E
									03-17-83	139.2	Z	E
									06-22-83	139.5	Z	E
									09-20-83	139.3	Z	E
									01-19-84	138.8	Z	E

Possibly a different well. See State Engineer for details.

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E49 22BBA1	363252116265001		2,395	350	12.0	350	150-350		03-01-84 03-20-85 07-23-85 12-10-85 03-13-86	139.9 139.3 140.8 141.1 139.7	Z Z Z Z Z	E E E E E
S16 E49 22D	1 363313116264801	Cypert K.	2,375	280				0.1	02-12-86	121.1	Z	S
S16 E49 22DB	1 363225116260901	Pinkerton	2,420	368	16.0	368	122-214 254-368	0.4	07-07-61 06-28-62 01-19-84	113 112.1 132.3	Z Z Z	D W S
S16 E49 22DDA1	363230116260501	Bright R.	2,373		8.0			1.4	01-13-87	120.8	Z	S
S16 E49 23ABDD1	363250116251301	Dalton	2,403	500	12.0	500	120-500	1.3	04-18-61 06-28-62 01-19-84 01-13-87	103 105.9 107.3 107.6	Z Z Z Z	D W S S
S16 E49 26D	1 363138116252101	Billsborough	2,351	300	14.0			0.5	02-30-60 06-26-62	78 82.7	Z Z	D W
S16 E49 26DAC	1 363148116251001	Newhouse	2,350	250	8.6	200	135-195	1.3	04-23-63 01-18-84 01-15-87	130 135.5 133.6	Z Z Z	D S S
S16 E49 26DD	1 363138116250501	Records M.	2,343	300	10.8	300	140-300	0.0	03-25-61 06-26-62	120 106.8	Z Z	D W
S16 E49 26DD	2 363138116251001	Weimer H.	2,343	200	10.8				06-20-62	112		W
S16 E49 26DDD	1 363133116250101	Good	2,340	160	8.0			0.5	01-12-87	124.5	Z	S
S16 E49 27BB	1 363212116270401		2,370	250		250			12-18-80 09-03-81 12-09-81	116.8 119.3 117.8		
S16 E49 27BBA1	363212116270401	Buddington	2,370	250	16.0	250	100-245	0.9	12-08-62 03-05-64 06-18-64 09-02-64 11-04-64	105 108.7 108.8 109.1 108.4	Z Z Z Z Z	D E E E E
									02-12-65 05-20-65 08-17-65 11-23-65 03-15-66	108.3 108.6 108.8 109.1 109.1	Z Z Z Z Z	E E E E E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E49 27BAA1	363212116270401	Buddington	2,370	250	16.0	250	100-245	0.9	06-16-66 09-22-66 01-31-67 03-21-67 06-15-67	109.6 109.4 108.8 109.2 109.2	Z Z Z Z Z	E E E E E
									09-29-67 01-10-68 04-16-68 09-24-68 01-14-69	109.4 109.9 109.3 110.3 110.0	Z Z Z Z Z	E E E E E
									06-09-70 10-29-70 10-12-71 03-08-72 11-07-72	110.5 110.9 109.0 111.0 111.0	Z Z Z Z Z	E E E E E
									03-13-73 08-23-73 02-26-74 11-14-74 04-30-75	109.9 111.2 111.6 109.8 110.3	Z Z Z Z Z	E E E E E
									09-26-75 06-27-78 12-28-78 12-20-79 04-01-80	111.0 115.6 115.9 116.0 113.8	Z Z Z Z Z	E E E E E
									07-18-80 09-12-80 01-13-87	116.2 116.3 118.5	Z Z Z	E E S
S16 E49 28AAAB1	363205116271801	Wichner	2,367	300	16.0	300	120-300	0.6	03-15-59 01-13-87	106 116.0	Z Z	D S
S16 E49 28CD 1	363140116275301	Mason E.	2,349	200	16.0	200	107-200	0.8	05-13-59 06-26-62 01-18-84	93 92.0 110.9	Z Z Z	D W W
S16 E49 28DA 1	363136116271501	Wichner M.	2,354	300	16.0	256	117-300	0.1	04-14-59 06-26-62	100 97.0	Z Z	D W

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E49 29BADA1	363214116284801	Brockett P.	2,355	200	6.63	200	175-200	0.8	06-19-75 01-14-87	90 104.0	Z Z	D S
S16 E49 29CD 1	363138116290201	Gamett L.	2,338	97		82.4		0.0	02-02-56 06-26-62	77 80.9	Z Z	D W
S16 E49 29CD1	363231116285201		2,332		8.0			1.0	01-14-87	83.6	Z	S
S16 E49 30B 1	363204116295701	Bettles G.	2,348	120	16.0	85		0.4	09-03-58	84.9	Z	W
S16 E49 30BA 1	363203116295801	Davis K.	2,348	315	14.0	296	190-268	0.4	04-11-66 01-14-87	90 DRY	Z Z	D S
S16 E49 30DDDD1	363134116292001	Owens J.	2,330	181	8.6	181	102-123 160-181	1.1	10-15-77 01-14-87	83 83.6	Z Z	D S
S16 E49 31B 1	363111116300001	Bettles G.	2,326	153	16.0			0.0	05-07-52 09-15-59 03-07-61 06-26-62 02-24-63	66.1 67.1 68.0 69.4 69.3		S S S S S
									02-18-64 02-15-65 02-14-66 02-16-67 02-13-68	70.4 70.2 69.3 70.6 71.0		S S S S S
									02-24-69 02-15-70 02-10-71 02-11-72 03-20-73	71.1 71.1 71.2 72.2 72.4		S S S S S
									01-31-74 02-26-75 03-05-76 03-08-77 03-11-78	71.7 72.1 73.3 73.5 73.8		S S S S S
									03-07-79 03-19-80 01-14-87	75.0 75.9 DRY	Z	S S S

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E49 31BAAD1	363120116300001	Bettles G.	2,326	200	16.0	162			07-17-57	66.5		E
									08-28-57	66.5		E
									11-21-57	66.5		E
									02-21-58	66.3		E
									05-22-58	66.6		E
									06-26-58	66.7		E
									11-22-58	66.7		E
									02-23-59	66.3		E
									05-22-59	67.0		E
									09-17-59	67.2		E
									01-07-60	67.1		E
									04-20-60	68.3		E
									07-29-60	68.0		E
									10-21-67	67.2		E
									12-02-60	67.3		E
									02-08-61	67.0		E
									05-24-61	68.3		E
									07-27-61	68.5		E
									09-20-61	68.8		E
									11-23-61	68.7		E
									01-24-62	69.1		E
									05-10-62	69.3		E
									08-09-62	68.7		E
									09-09-62	69.7		E
									12-21-62	70.0		E
									02-18-63	70.2		E
									06-19-63	69.7		E
									09-23-63	68.5		E
									12-11-63	68.1		E
									03-04-64	68.5		E
									01-10-68	70.1		E
									04-16-68	69.7		E
									09-24-68	71.6		E
									01-14-69	70.9		E
									06-09-70	71.0		E
									10-30-70	71.5		E
									10-12-71	72.3		E
									03-09-72	71.2		E
									11-07-72	73.0		E
									03-13-73	72.7		E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E49 31BAAD1	363120116300001	Bettles G.	2,326	200	16.0	162			08-23-73 02-27-74 11-14-74 11-30-74 08-16-78	73.0 72.2 72.2 72.8 78.6		E E E E E
S16 E49 32BD 1	363111116290201	Housell J.	2,328	88					01-30-56 06-26-62	69 DRY	Z Z	D W
S16 E49 32C 1	363046116285701	Housell J.	2,317	80	10.0		0.0	01-27-56 06-26-62	61 63.6		Z Z	D W
S16 E49 32DAAA1	363046116281401	Stephens M.	2,324	253	12.8	253	94-248	0.0 0.9	04-15-59 06-26-62 01-14-87	70 69.2 81.1	Z Z Z	D W S
S16 E49 33BA 1	363111116275601	Hodges M.	2,336	300	14.0	300	100-300	0.0 1.2	03-10-60 06-26-62	75 81.6	Z Z	D W
S16 E49 33DA 1	363044116271501	Honig P.	2,430	321	14.0		80-300	0.0 0.7	04-25-62 06-20-62	80 84.5	Z Z	D W
S16 E49 33DA 1	363053116272001	Nye Co.	2,320	302	14.0	302	160-292	0.0	08-09-63 03-05-64 06-18-64 08-25-64 11-04-64	80 81.9 81.7 81.8 81.7	Z Z Z Z Z	D E E E E
									02-05-65 05-20-65 08-17-65 11-23-65 03-15-66	81.4 81.8 81.9 82.3 82.3	Z Z Z Z Z	E E E E E
									06-06-66 09-22-66 01-31-67 03-21-67 06-15-67	82.4 82.5 81.7 81.8 81.4	Z Z Z Z Z	E E E E E
S16 E49 33DDAA1	363053116271001		2,312		12.0		1.2		09-29-67 01-10-68 04-16-68 01-14-87	81.8 82.7 82.0 90.84	Z Z Z Z	E E E S

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E49 34CB 1	363054116270401	Honig M.	2,320	300	14.0	300	105-300	0.0	07-06-62 10-24-62	91 88.2	Z Z	D W
S16 E49 34CBBB1	363058116270501	Honig M.	2,320	372	14.0	372	160-372	0.5	03-30-63 03-05-64 06-18-64 08-25-64 11-04-64	71 82.0 82.1 82.3 82.3	Z Z Z Z Z	D E E E E
S16 E49 35A	363109116252001	Berry, N.	2,323	200	16.0	200	110-200	0.2	06-27-62	99.3	Z	W
S16 E49 35AB 1	363109116252601	McCoy E.	2,323	325	16.0	223	100-223	0.0	03-15-59	85	Z	D
S16 E49 35BAAA1	363129116252901	Leis L.	2,340	200	8.6	200	175-200	0.5	10-05-65 01-12-87	115 120.7	Z Z	D S
S16 E49 36A 1	363115116242001	Bradley	2,430		12.0				01-18-84	120.4		S
S16 E49 36ABAA1	363129116241701	Nickel J.	2,340	200	12.0	200	100-200	0.8	04-18-80 03-18-87	118 118.7	Z Z	D S
S16 E49 36BAAA1	363129116242501	Mills J.	2,338	200	8.0	200	150-200	0.0 0.4	06-19-64 01-15-87	125 122.3	Z Z	D S
S16 E50 07C 1	363409116233701		2,480	200	6.0	200	120-200		07-31-62	140.0	Z	W
S16 E50 07CAAA1	363429116233401	Cook L.	2,478	335	10.0			0.0 1.1	08-18-62 03-16-87	112.8 129.9	Z Z	W S
S16 E50 07CABB1	363428116234701	Cook L.	2,480	255	10.0	255	194-255	0.0	09-26-70 03-16-87	155 117.9	Z Z	D S
S16 E50 07CBBB1	363428116240301	Cook L.	2,475	614	12.8	447	178-299 378-447	1.2	06-20-63 03-18-87	150 113.9	Z R	D S

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S16 E50 07CCAD1	363410116240001	Cook I.	2,460	300	12.0	286		0.7	03-16-87	85.9	Z	S
S16 E50 07CCBC1	363410116240301	Cook I.	2,456	200	6.6	200	165-190	0.8	06-09-66 03-16-87	91 113.5	Z R	D S
S16 E50 29ACD 1	363157116221201		2,380		8.0			1.1	03-15-87	100.5	Z	S
S16 E51 27BAA 1	363211116133951	USGS										
S16 E51 27BAA 2	363213116133700	USGS (SH-1)	2,405	664	7.6	664		0.9	11-21-66 03-15-87	43.3 44.5	Z Z	S S
S16 E51 27BAA 3	363213116133800	USGS (TRACER 3)	2,402	807	7.6	665		0.4	11-21-66 03-15-87	40.9 41.8	Z Z	S S
S16 E51 27BAA 4	363213116133901	USGS (TRACER 2)	2,400	828	14.0	818		1.2	11-21-66 03-15-87	39.1 39.6	Z Z	S S
S16 E51 27BAA 5	363213116134001	USGS (EXPL. 3)	2,405	665	4.5	619		1.4	09-21-66 03-15-87	42.4 43.9	Z Z	S S
S16 E51 28D 1	363138116142701	Miller #2	2,371	29	6.0				01-01-07 01-18-87	70.0 DRY	Z	S
S16 E51 36AA 1	363121116112301	Dooley W.	2,444	150	8.0	150	95-150	0.0	08-10-62 08-30-62	96 99.5	Z Z	D W
S16 E52 08C 1	363415116094301	LV&T RR	2,777		2.4				08-30-62	DRY		W
S16 E53 04B 1	363600116014001	US ARMY	3,154	1,946	13.8	1,360	800-1,050	0.0	07- -62	786	P	W
S16 E53 04BBC 1	363600116015001	US ARMY	3,154	1,253	18.0	1,200	1,050-1,150 1,200-1,253	0.0	03- -56	1052	Z	D
S17 E48 01AB 1	363028116302501	Hallowell	2,303	135	16.0	135	73-131	0.2	11-17-57 07-05-62 03-04-64 07-09-64 09-02-64	48 51.6 50.8 50.9 50.5	Z Z Z Z Z	D W E E E
									10-29-64 02-12-65 05-20-65 08-17-65 11-23-65	51.3 50.9 51.3 52.8 51.6	Z Z Z Z Z	E E E E E
									03-15-66 06-16-66 09-22-66 01-31-67 03-21-67	52.5 53.0 53.4 51.3 52.8	Z Z Z Z Z	E E E E E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S17 E48 01AB 1	363028116302501	Hallowell	2,303	135	16.0	135	73-131	0.2	06-15-67	53.1	Z	E
									09-29-67	53.5	Z	E
									01-10-68	51.7	Z	E
									04-16-68	51.4	Z	E
									09-24-68	52.9	Z	E
									01-14-69	52.5	Z	E
									06-09-70	52.6	Z	E
									10-12-71	53.6	Z	E
									03-08-72	50.9	Z	E
									11-08-72	52.4	Z	E
									02-26-73	52.7	Z	E
									03-13-73	51.5	Z	E
									08-23-73	52.6	Z	E
									11-14-74	52.9	Z	E
									04-30-75	53.3	Z	E
									09-26-75	53.6	Z	E
									08-17-78	57.5	Z	E
									12-28-78	59.7	Z	E
									04-01-80	59.3	Z	E
									07-18-80	61.5	Z	E
									09-12-80	63.3	Z	E
									12-18-80	62.0	Z	E
									09-01-81	66.9	Z	E
									12-09-81	64.3	Z	E
									03-17-83	64.2	Z	E
									06-22-83	68.9	Z	E
									07-20-83	70.7	Z	E
									03-01-84	65.4	Z	E
									03-20-85	68.4	Z	E
									07-23-85	69.5	Z	E
									10-10-85	68.6	Z	E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S17 E48 01CAB 1	363002116310701	Hoyle W.	2,296	214	14.0	92-205	0.5		02-14-55	43.5	Z	E
									02-23-59	43.9	Z	E
									05-22-59	44.1	Z	E
									09-17-59	43.1	Z	E
									01-07-60	43.1	Z	E
									04-26-60	43.7	Z	E
									07-29-60	43.6	Z	E
									08-25-60	43.0	Z	E
									10-21-60	43.0	Z	E
									12-02-60	43.5	Z	E
									02-08-61	44.7	Z	E
									05-23-61	45.7	Z	E
									07-27-61	45.8	Z	E
									09-20-61	45.8	Z	E
									11-24-61	45.8	Z	E
									01-24-62	43.2	Z	E
									05-10-62	43.7	Z	E
									07-05-62	45.2	Z	W
									08-09-62	45.7	Z	E
									11-09-62	46.1	Z	E
									12-21-62	45.5	Z	E
									02-18-63	45.7	Z	E
									06-18-63	44.6	Z	E
									09-25-63	44.1	Z	E
									12-11-63	44.2	Z	E
									03-04-64	44.3	Z	E
									06-18-64	45.2	Z	E
									08-02-64	46.3	Z	E
									11-04-64	45.2	Z	E
									02-12-65	45.2	Z	E
									05-20-65	45.9	Z	E
									08-17-65	45.9	Z	E
									11-23-65	44.5	Z	E
									03-15-66	44.9	Z	E
									06-16-66	45.3	Z	E
									01-31-67	44.7	Z	E
									03-21-67	46.4	Z	E
									06-15-67	46.8	Z	E
									09-25-67	47.2	Z	E
									01-10-68	45.6	Z	E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S17 E48 01CAB 1	363002116310701	Hoyle W.	2,296	214	14.0		92-205	0.5	04-16-68 09-24-68 01-14-69 06-09-70 10-12-71	45.3 46.4 46.1 46.4 47.6	Z Z Z Z Z	E E E E E
S17 E48 01CABB1	363002116304801	Hoyle W.	2,290		14.0			0.5	01-12-87	57.1	Z	S
S17 E48 01DA 1	362946116302201	Bettles A.	2,300	203	12.0	203	60-202	0.8	07-05-62 01-19-84	43.8 55.9	Z Z	W S
S17 E48 01DA 2	362946116302301	Bettles A.		105	14.0	105	43-105	0.2	07-05-62	45.6	Z	W
S17 E48 01DA 3	362946116302301	Bettles A.	2,293	215	14.0	197	30-197	0.5	07-05-62	43.7	Z	W
S17 E48 12AB 1	362921116302501	Bettles A.	2,300	85	14.0			0.8	12-06-55	42	Z	D
S17 E48 12AB 2	362921116302502	Bettles A.	2,284	85	12.0			0.8	06-25-62	55.0	Z	W
S17 E48 12BDBB1	362917116304701	Siefertsen	2,290		6.0			0.3	01-12-87	47.6	R	S
S17 E48 12DBB1	362920116311000		2,282	205	14.0	205	60-205		10-31-62 01-12-87	51.0 71.0	Z R	W S
S17 E49 02BB 1	363017116253001	Berry N.O.	2,301	200	16.0	200	90-200	0.0	12-23-57 06-26-62	85 81.6	Z Z	D W
WELL DEEPENED 4-09-59												
S17 E49 02BB 2	363017116253002	Berry H.	2,305	200	12.0	200	120-200	0.0	05-07-57	60	Z	D
S17 E49 02BCCC1	362957116254901	Martinson J.	2,290		14.0			0.4	01-12-87	79.6	Z	S
S17 E49 02C 1	362946116254101		2,292	191	12.0			.9	06-26-62	71.8	Z	W
S17 E49 02CDBB1	362947116252001	Mtn. View	2,277	210	8.6	210	105-210	0.0	08-06-82 01-12-87	64 69.0	Z Z	D S
S17 E49 04AA 1	363028116270201	Nye Co.	2,300	600	14.0	350	160-350	0.0	04-16-63 03-05-64 06-18-64 09-02-64 11-04-64	71 80.7 81.4 82.1 81.7	Z Z Z Z Z	D E E E E
									02-12-65 05-20-65 08-17-65 11-23-65 03-15-66	81.6 81.7 81.6 81.9 81.8	Z Z Z Z Z	E E E E E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S17 E49 04AA 1	363028116270201	Nye Co.	2,300	600	14.0	350	160-350	0.0	06-16-66	82.0	Z	E
									09-22-66	82.4	Z	E
									01-31-67	81.4	Z	E
									03-21-67	82.1	Z	E
									06-15-67	81.9	Z	E
									09-29-67	81.9	Z	E
									01-10-68	82.1	Z	E
									04-16-68	82.1	Z	E
									09-24-68	82.7	Z	E
									01-14-69	82.2	Z	E
									06-09-70	82.1	Z	E
									10-29-70	82.2	Z	E
									03-09-72	82.1	Z	E
									11-08-72	82.9	Z	E
									03-13-73	82.6	Z	E
									08-23-73	82.8	Z	E
									02-26-74	82.5	Z	E
									11-14-74	81.5	Z	E
									04-30-75	81.8	Z	E
									09-26-75	82.1	Z	E
									08-16-78	82.7	Z	E
									12-28-78	86.2	Z	E
									12-29-79	83.2	Z	E
									04-01-80	83.9	Z	E
									07-18-80	85.5	Z	E
									09-12-80	86.4	Z	E
									12-18-80	86.7	Z	E
									03-01-81	88.8	Z	E
									12-09-81	88.7	Z	E
									03-17-83	88.0	Z	E
									06-22-83	86.7	Z	E
									09-20-83	88.1	Z	E
									03-01-84	86.8	Z	E
									03-20-85	86.0	Z	E
									07-23-85	86.1	Z	E
									12-10-85	87.2	Z	E
									03-21-86	87.9	Z	E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S17 E49 04AA	1 363027116270001	Nye Co.	2,305	630	14.0	590	220-590	0.0	10-17-62 10-30-62	82 80.7	Z Z	D W
S17 E49 04BBBB1	363026116275601	Strauss H.	2,315	264	14.0	264	166-254	0.0	04-01-66 01-08-84 01-12-87	88 92.0 92.7	Z Z Z	D S S
S17 E49 04DC	1 362946116270301	Nye Co.	2,290	554	16.0	0		0.0	09-07-62 09-14-62	64 69.4	Z Z	D W
S17 E49 05AA	1 363011116280401	Moore W.	2,317	94		0		0.0 0.0	01-23-56 06-26-62	79 84.3	Z Z	D W
S17 E49 05AD	1 363030116280001	Moore W.	2,302	83		0		0.0	01-20-56 62	68 DRY	Z Z	D W
S17 E49 05BA	1 363020116290001	Moore P.	2,300	80		52		0.0	01-17-56 62	52 DRY	Z Z	D W
S17 E49 06AA	1 363009116291101	Cleveland	2,310	68		0			12-22-55 62	59 DRY	Z Z	D W
S17 E49 06BAA1	363027116295201	Tynan J.	2,305	155	12.7	155	66-155		12-20-55 06-26-62 01-18-84 01-12-87	44 50.1 66.6 65.8	Z Z Z Z	D W S S
S17 E49 06DA	1 363005116291001	Cleveland	2,298	80				0.0 0.0	01-10-56 06-26-62	57 66.4	Z Z	D W
S17 E49 07AB	1 362923116291101	Davis T.	2,300	210	14.0	210	30-210	1.8	06-26-60	50	Z	D
S17 E49 07B	1 362938116310101			500	16.0	390	56-385		06-25-62 06-25-62	40.8 56.7	Z Z	W W
S17 E49 07BB	1 362938116300101	Davis H.	2,300		16.0			0.0	09-20-60	38	Z	D
S17 E49 07CB	1 362852116294901	Davis H.	2,385	61	10.0	61		0.0	12-03-55	44	Z	D
S17 E49 07CBBB1	362930116295901		2,290		9.0			1.6	01-12-87	71.6	Z	S
S17 E49 07D	1 362848116291101	Davis T.	2,280	400	16.0	361	54-360	0.0 0.2	09-21-60 06-25-62 01-19-84	54 57.5 67.4	Z Z Z	D W S
S17 E49 08AA	1 362921116280401	Cleveland	2,285	78		0		0.0 0.4	01-11-56 05-11-56	63 57.7	Z Z	D W
S17 E49 08CA	1 362856116284201	Cleveland	2,275	65		0		0.0 0.4	01-13-56 06-25-62	51 49.3	Z Z	D W
S17 E49 08DA	1 362852116281401	Cleveland	2,275	60		0		0.0 0.5	01-12-56 06-25-62 01-19-84	47 48.1 58.0	Z Z Z	D W S

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S17 E49 09AAAA1	362938116270001	Amargosa F.	2,280	380	14.0	300	0.0		03-12-64 08-17-65 11-23-65 03-15-66 06-16-66	60 71.7 71.1 72.7 77.6	Z Z Z Z Z	D E E E E
									09-22-66 01-31-67 03-21-67 06-18-67 09-29-67	74.2 71.4 72.6 72.4 72.6	Z Z Z Z Z	E E E E E
									01-10-68 04-16-68 09-24-68 01-14-69 06-09-70	71.6 72.3 89.5 75.6 72.0	Z Z Z Z Z	E E E E E
									10-29-70 10-12-71 03-09-72 11-08-72 03-13-73	71.0 75.2 71.1 71.5 71.2	Z Z Z Z Z	E E E E E
									08-23-73 02-26-74 11-14-74 04-30-75 09-26-75	72.9 72.6 71.3 73.1 73.9	Z Z Z Z Z	E E E E E
									08-16-78 12-28-78 12-29-79 04-01-80 07-18-80	78.5 73.2 72.5 73.7 105.6	Z Z Z Z P	E E E E E
									12-18-80 01-12-87	82.4 76.1	R Z	E S
S17 E49 09BA 1	362923116274101	Geers R.	2,286	500	12.0	480	150-480	0.0 1.5	07-14-59 06-20-62	80 157.1	Z P	D W
S17 E49 09CCAA1	362905116274001		2,273		14.0			0.3	01-12-87	63.4	Z	S
S17 E49 11BC 1	362936116251500	Siegel L.	2,285	300	14.0	300	80-300	0.0	03-20-62 06-20-62	59 59.4	Z Z	D W

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S17 E49 11BCAA1	362925116253301	Bettles G.	2,275	185	10.0	160	45-160	0.0	03-11-55	45	Z	D
								0.6	06-20-62	61.6	Z	W
									01-19-84	65.0	Z	S
S17 E49 15AABB1	362939116265401		2,260		12.0			0.5	01-12-87	69.2	Z	S
S17 E49 15BBBB1	362848116264201	Steelman J.	2,270	245	12.8	245	60-90 154-245	0.0	03-16-67	62	Z	D
								0.5	01-12-87	66.3	Z	S
S17 E49 15BC 1	362835116264101	Steelman J.	2,267	515	10.0	200	55-200	0.0	06-19-62	52.0	Z	W
									03-05-64	54.4	Z	E
									06-18-64	54.8	Z	E
									09-02-64	55.3	Z	E
									11-04-64	54.8	Z	E
									02-10-65	54.7	Z	E
									05-20-65	56.7	S	E
									08-17-65	56.8	S	E
									11-23-65	56.6	Z	E
									03-15-66	56.7	S	E
									06-16-66	56.8	S	E
									09-22-66	57.8	R	E
									01-31-67	56.0	Z	E
									03-21-67	56.0	Z	E
									06-15-67	56.0	S	E
									09-29-67	56.4	Z	E
									01-10-68	55.9	Z	E
									04-16-68	56.2	Z	E
									09-24-68	54.9	Z	E
									01-69-69	55.8	Z	E
									06-09-70	61.5	Z	E
									10-29-70	65.2	Z	E
									03-09-72	64.7	Z	E
									03-13-73	64.8	Z	E
									08-23-73	64.3	Z	E
									02-26-74	64.1	Z	E
									08-16-78	62.6	Z	E
									12-28-78	62.5	Z	E
									12-20-79	73.1	Z	E
									04-01-80	66.6	Z	E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S17 E49 15BC 1	362835116264101	Steelman J.	2,267	515	10.0	200	55-200	0.0	07-18-80 09-12-80 09-01-81 12-09-81 03-17-83	77.9 75.3 82.1 69.6 66.9	Z Z Z Z Z	E E E E E
									06-22-83 09-20-83 03-04-84 03-20-85 07-23-85	66.8 68.4 66.4 66.2 70.2	Z Z Z Z Z	E E E E E
									12-10-85 03-21-86	66.6 66.9	Z Z	E E
S17 E49 20BCAC1	362736116285701	USGS (NA-10)	2,270	1,970	2.0	1,970	1,939-1,949	0.8	08-02-86 10-27-86 01-11-87	56.8 56.8 55.9	Z Z Z	T T S
S17 E49 20BCAC2	362736116285702	USGS (NA-10)	2,270	1,970	1.3	100	97-100	0.8	10-27-86 08-02-86 01-11-87	55.1 56.5 51.6	Z Z Z	T T S
S17 E49 28BC 1	362648116274601	IMV	2,260	151	6.0	151	109-151	0.2	12-09-74 01-15-87	42 51.2	Z P	D S
S17 E50 10CD 1	362858116195301	Spr. Meadow	2,280	420	12.8	240	100-240		04-22-70 05-07-70 06-10-70 07-02-70 08-06-70	0.8 0.8 0.8 0.8 125.0	Z Z Z Z P	E E E E E
									09-03-70 10-29-70 03-25-71 03-09-72	5.3 122.0 3.0 215.0	Z P Z P	E E E E
S17 E50 10CD 2	362858116195302	Spr. Meadow	2,280						04-22-70 05-02-70 05-14-70 05-21-70 05-28-70	3.6 3.6 3.6 3.6 3.6	Z Z Z Z Z	E E E E E
									06-10-70 07-02-70 07-09-70 07-23-70 08-06-70	3.6 3.6 3.6 27.6 28.6	Z Z Z Z Z	E E E E E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S17 E50 10CD 2	362858116195302	Spr. Meadow	2,280	420	12.8	240	100-240		08-27-70 09-03-70 09-10-70 09-24-70 10-29-70	9.8 8.0 7.1 6.1 45.1		E E E E E
S17 E50 14CAC 1	362822116193801	Spr. Meadow	2,340	92	6.6	92	0-92	0.0	06-22-68	Flows	Z	D
S17 E50 15AD 1	362840116193701	Nye Co. L.	2,290	497	14.0	480	100-475	0.0 1.4	03-31-62 06-14-62	Flows Flows	Z Z	D W
S17 E50 19AAB 1	362505116223001	Trenary D.	2,180	100	16.0	100	15-100	0.0 2.4	03-21-64 03-17-87	15 14.2	Z Z	D S
S17 E50 23BBCA1	362755116190401	Spr. Meadow	2,340	140	14.0	100	0-100	0.0 0.0	07-03-70 03-17-87	Flows Flows	Z Z	D D
S17 E50 28ABBB1	362715116210001		2,205					1.5	03-17-87	Flows	Z	S
S17 E50 29AD 1	362627116213501	Nye Co. L.	2,171	530	16.0	514	150-500	0.0	01-20-62 06-16-62	9 0.0	Z Z	D W
S17 E50 33CAAB1	362555116205301		2,165		10.0			1.0	03-17-87	7.6	Z	S
S17 E50 33DD 1	362554116204001	Mercury F.	2,180	120	8.63	120	60-120	0.0	05-25-67	6	Z	D
S17 E50 36DD 1	362531116171201	Nye Co. L.	2,400	248	16.0	248	48-248	0.9	01-15-87	48.1	Z	S
S17 E51 01AA 1	363050116105001	White	2,403	135	8.0	135	48-135	0.0	02-01-61 06-09-62	58 59.8	Z Z	D W
S17 E51 01AAAB1	363030116104501	White W.	2,403	103	8.0	103		0.0 1.0	06-09-62 01-16-87	60.0 61.4	Z R	W S
S17 E51 06AA 1	363026116160401	Spr. Meadow	2,350					1.0	04-22-70 05-21-70 06-03-70 06-10-70 07-02-70	76.5 76.8 76.7 76.9 72.5	Z Z Z Z Z	E E E E E
									07-09-70 07-23-70 07-30-70 08-06-70 08-27-70	77.1 77.1 77.3 77.4 77.7	Z Z Z Z Z	E E E E E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S17 E51 06AA 1	363026116160401	Spr. Meadow	2,350					1.0	09-05-70	82.4	Z	E
									09-10-70	77.7	Z	E
									09-14-70	77.7	Z	E
									10-29-70	77.8	Z	E
									11-23-70	77.6	Z	E
									03-25-71	77.4	Z	E
									03-08-72	80.4	Z	E
									04-22-70	96.6	Z	E
									05-21-70	95.3	Z	E
									05-28-70	95.3	Z	E
									06-03-70	95.4	Z	E
									06-10-70	95.8	Z	E
									07-02-70	96.1	Z	E
									07-09-70	96.1	Z	E
									07-23-70	96.0	Z	E
									07-30-70	96.2	Z	E
									08-06-70	96.4	Z	E
									08-27-70	96.6	Z	E
									08-03-70	96.6	Z	E
									09-10-70	96.4	Z	E
									09-24-70	96.7	Z	E
									10-29-70	96.9	Z	E
									11-23-70	96.6	Z	E
									03-25-70	97.5	Z	E
									03-09-72	100.7	Z	E
									06-09-62	FLWS	Z	W
									06-09-62	15.9	Z	W
									01-16-87	19.1	P	S
									10-12-84	35	Z	D
									10-30-61	33	Z	D
									06-09-62	36.8	P	W
									10-27-84	35	Z	D
									01-16-87	38.7	P	S
S17 E51 23B 1	362736116121001		2,328	23	6.0			0.0	06-09-62	FLWS	Z	W
S17 E51 24ADDC1	362740116112601	Buck Mining	2,400	22					06-09-62	15.9	Z	W
									01-16-87	19.1	P	S
S17 E52 07BCAA1	362927116102601	Morrell	2,380	125	8.6	125	75-125	1.0	10-12-84	35	Z	D
S17 E52 08C 1	362858116091501	Daniels J.	2,393	400	16.0	400	39-139		10-30-61	33	Z	D
S17 E52 08C 2	362858116091502	Daniels J.	2,397	85	16.0			0.0	06-09-62	36.8	P	W
S17 E52 08CBDC1	362905116092301	Butler M.	2,395	135	8.0	135	91-135	0.0	10-27-84	35	Z	D
								2.2	01-16-87	38.7	P	S

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S17 E52 08CDB 1	362929116085701	Clark H.	2,395	246	12.0	246		0.6	02-04-60 03-11-61 03-24-63 02-21-64 02-16-65	36.7 36.7 37.0 37.6 33.2	Z Z Z Z Z	S S S S S
S18 E49 01A 1	362517116234001		2,400	21	48.0				02-14-66 02-16-67 02-17-68 02-24-69 02-15-70	33.8 33.7 34.0 33.5 33.7	Z Z Z Z Z	S S S S S
S18 E49 02CDCB1	362444116251001	Embry B.	2,183	402	12.8	402	303-402		02-10-71 02-11-72 03-20-73 01-31-74 03-05-76	34.0 34.9 35.0 34.7 34.4	Z Z Z Z Z	S S S S S
S18 E49 11BB 1	362434116251401	Jones W.	2,170	137	8.6	137	60-100		03-08-77 03-11-78 03-07-79 03-19-80 03-04-81	57.3 35.2 35.1 35.2 35.0	P Z Z Z Z	S S S S S
S18 E50 03ADB 1	362514116192001		2,198		5.0				03-18-82 03-24-83 04-15-86 03-15-87	35.2 37.8 35.6 35.5	Z Z Z Z	S S S S
S18 E50 05AAB 1	362528116212501		2,140		24.0				06-16-62 07-15-62 07-31-62 01-18-84 11-30-81 03-18-87 01-15-87	15.1 84 71.6 77.1 60 2.7 0.5	Z Z Z Z Z P Z	W D W S D S S

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S18 E50 11AA 1	362433116181301	Spr. Meadow	2,245	280	14.0	280	82-280	0.0	09-26-69 04-22-70 07-02-70 07-23-70 07-30-70	18 21.7 25.1 24.5 24.4	Z Z Z Z Z	D E E E E
S18 E50 11DDAA1	362356116180701	Nye Co. L.	2,245	960	14.0	852	210-840	0.0	08-06-70 08-27-70 09-03-70 09-10-70 09-24-70	24.8 24.9 24.5 30.0 25.1	Z Z Z Z Z	E E E E E
S18 E50 13CCCD1	362250116175301	Hale D.	2,215	100	6.6	100	36-60 86-100	0.0 0.0	10-29-70 11-23-70 03-25-71 03-09-72 03-17-87	24.8 25.1 22.5 22.7 20.2	Z Z Z Z Z	E E E E S
S18 E50 13DA 1	362314116160101	Harris J.	2,250	150	12.0	148	50-148	0.0	03-17-87 03-17-87	20.2 FLOWS	Z Z	S D
S18 E50 25AB 1	362154116162001	E. W. Min.	2,207	267	8.6	267	80-267	0.0	03-17-87 10-14-66	FLOWS 7	Z Z	D D
S18 E51 06AA 1	362529116160501	Spr. Meadow	2,440	265	12.8	265		1.1	09-03-72 03-17-87	28 5.4	Z R	D S
									09-22-79 01-17-87	-3 FLOWS	Z Z	D D
									06-19-65 01-14-87	6 2.9	Z R	D S
									07- -77 08- -77 09- -77 10- -77 11- -77	75.7 75.7 75.5 75.3 75.2	E E E E E	E E E E E
									12- -77 02- -78 03- -78 04- -78 05- -78	75.1 75.0 75.0 74.9 75.0	E E E E E	E E E E E
									06- -78 07- -78 08- -78 09- -78 10- -78	75.0 75.0 74.9 75.0 75.0	E E E E E	E E E E E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S18 E51 06AA 1	362529116160501	Spr. Meadow	2,440	265	12.8	265		1.1	11-78 12-78 01-79 02-79 03-79	74.9 75.2 74.8 74.8 75.0		E E E E E
S18 E51 07BB 1	362432116165501	Spr. Meadow	2,310	203		203	4-203		04-79 05-79 01-15-87	74.8 74.8 74.3	Z	E E S
S18 E51 07BBBB1	362432116165701	Spr. Meadow	2,320	500	16.0	500	139-500	0.0	02-13-70 04-22-70 05-21-70 06-03-70	24 26.0 60.4 185.0	Z Z R P	D E E E
									06-10-70 07-02-70 07-09-70 07-23-70 07-30-70	32.5 110.0 138.0 71.0 145.0	R P P P P	E E E E E
									08-06-70 08-27-70 09-03-70 09-24-70 10-29-70	148.0 140.0 138.0 136.0 30.0	P P P P P	E E E E E
									11-23-70 03-25-71 03-09-72 07-77 08-77	36.4 136.7 30.0 23.8 23.9	P P Z Z Z	E E E E E
									09-77 10-77 11-77 12-77 01-78	23.8 23.8 23.7 22.7 21.8	Z Z Z Z Z	E E E E E
									02-78 03-78 04-78 05-78 06-78	22.2 22.2 22.2 22.2 22.2	Z Z Z Z Z	E E E E E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S18 E51 07BBBB1	362432116165701	Spr. Meadow	2,320	500	16.0	500	139-500	0.0	07-78	22.2	Z	E
									08-78	22.6	Z	E
									09-78	21.9	Z	E
									10-78	21.7	Z	E
									11-78	21.8	Z	E
									12-78	21.7	Z	E
									01-79	21.8	Z	E
									02-79	21.7	Z	E
									03-79	21.8	Z	E
									05-79	21.9	Z	E
									06-79	21.6	Z	E
									10-14-85	22.5	Z	S
									12-15-85	22.6	Z	S
									02-15-86	22.3	Z	S
									03-04-86	22.6	Z	S
									05-14-86	22.6	Z	S
									05-18-86	22.5	Z	S
									08-07-86	22.6	Z	S
									09-24-86	22.6	Z	S
									11-04-86	22.4	Z	S
									01-12-87	22.2	Z	S
									03-05-87	22.5	Z	S
									03-17-87	22.0	Z	S
									04-21-87	22.5	Z	S
									06-17-87	22.5	Z	S
									08-04-87	22.5	Z	S
									11-04-87	22.0	Z	S
									01-21-88	21.1	Z	S
									03-10-88	21.2	Z	S
									06-14-88	21.8	Z	S
									07-26-88	21.8	Z	S
									09-01-88	21.8	Z	S
									10-05-88	21.8	Z	S
									12-01-88	21.7	Z	S

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S18 E51 07BDB 1	362417116163601	Spr. Meadow	2,310	818	14.0	468	132-467	0.2	04-22-70	68.5		E
									05-14-70	43.4		E
									05-21-70	82.7		E
									05-28-70	72.4		E
									06-03-70	48.2		E
									06-10-70	35.3		E
									07-02-70	100.0		E
									07-04-70	97.0		E
									07-23-70	97.7		E
									07-30-70	92.9		E
									08-06-70	102.8		E
									08-27-70	110.0		E
									09-03-70	112.4		E
									09-10-70	103.8		E
									09-24-70	103.8		E
									09-24-70	104.2		E
									10-29-70	49.9		E
									03-25-71	58.2	Z	E
									03-09-72	25.7	Z	E
									03-17-87	13.8	Z	S
S18 E51 07CA 1	362358116163301	Spr. Meadow	2,300	500	16.0	500	100-500	0.0	08-27-69	6	Z	D
									04-22-70	100.4	P	E
									05-21-70	155	P	E
									06-10-70	24.0	Z	E
									07-09-70	110	P	E
									09-03-70	95	P	E
									10-29-70	21.7	Z	E
									12-02-70	13.3	Z	E
									03-09-72	12.0	Z	E
									03-17-87	FLOWS		
S18 E51 07DA 1	362358116160101	Spr. Meadow (#3)	2,310	780	16.0	780	10-780		12-20-69	FLOWS	Z	D
									04-22-70	17.3	Z	E
									05-21-70	74.1	P	E
									06-03-70	63	P	E
									06-10-70	52.5	P	E
									07-02-70	29.0	Z	E
									07-09-70	24.3	Z	E
									07-23-70	75	P	E
									07-30-70	70	P	E
									08-06-70	69	P	E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring Point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S18 E51 07DA 1	362358116160101	Spr. Meadow	2,310	780	16.0	780	10-780		08-27-70	70	P	E
									09-03-70	68	P	E
									09-10-70	70	P	E
									09-24-70	65	P	E
									03-25-71	11.0	Z	E
									03-09-72	80	P	E
S18 E51 07DA 2	362358116160102	Spr. Meadow	2,310	415	16.0	415	295-415	0.0	02-03-71	15	Z	D
S18 E51 07DA 3	362358116160103	Spr. Meadow	2,310						04-22-70	67	P	E
									05-21-70	32	Z	E
									05-28-70	13.3	Z	E
									06-03-70	13	P	E
									06-10-70	13	P	E
									07-09-70	44	P	E
									12-02-70	22.1	Z	E
									03-09-72	80	P	E
S18 E51 07DAA 1	362410116160901	Spr. Meadow (#1)	2,320	395	16.0	395	155-395	0.0	07-25-69	15	Z	D
									01-15-87	6.4	Z	S
S18 E51 07DAC 1	362409116155601	Spr. Meadow	2,350	300	16.0	300	60-300	0.0	05-03-69	16	Z	D
	WELL DEEPENED 2-03-71			415	16.0	415	60-415		03-17-87	2.1	Z	S
S18 E51 07DB 1	362403116160801	Spr. Meadow	2,315	282	14.8	282	40-282		04-17-69	10	Z	D
									05-14-70	20.6		E
									05-21-70	19.1		E
									05-28-70	17.5		E
									06-03-70	19.3		E
									06-10-70	15.9		E
									07-02-70	28.3		E
									07-09-70	22.5		E
									07-23-70	20.0		E
									07-30-70	23.1		E
									08-06-70	25.9		E
									08-27-70	30.8		E
									09-03-70	25.8		E
									09-10-70	23.2		E
									09-24-70	25.4		E
									09-29-70	18.5		E
									03-25-71	5.0		E
									03-09-72	11.5		E

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measure-ment date	Water level depth (feet)	Site use	Data source
S18 E51 08BC 1	362412116254501	Spr. Meadow	2,340						04-22-70	90.0	P	E
									05-21-70	71.0	P	E
									06-03-70	83.5	P	E
									06-10-70	86.0	P	E
									07-02-70	110.0	P	E
									07-09-70	92.0	P	E
									07-23-70	88.5	P	E
									07-30-70	43.0	Z	E
									08-06-70	110.0	P	E
									08-27-70	110.0	P	E
									09-03-70	95.0	P	E
									09-10-70	95.0	P	E
									09-24-70	96.5	P	E
									10-29-70	95.0	P	E
									11-23-70	93.5	P	E
									03-25-71	52.0	P	E
									03-09-72	67.2	Z	E
									03-17-87	9.5	Z	S
S18 E51 08CAA 1	362406116154001	Spr. Meadow (#17)	2,350	500	16.0	500	100-500	0.7	03-30-72	12	Z	D
S18 E51 08CBA 1	362408116154001	Spr. Meadow (#16)	2,330	655	16.0	642	0-642	0.1	03-17-87	15.3	Z	S
S18 E51 30DD 1	362113116160101	USGS (GS-2)	2,270	1,197	2.0	1,197	1,166-1,176	0.0	07-10-86	13	Z	G
								1.5	08-01-86	15.9	Z	T
									10-29-86	13.4	Z	T
									01-14-87	14.4	Z	S
S18 E51 30DD 2	362113116160101	USGS (GS-2)	2,270	1,197	1.3	40	37-40	1.5	08-01-86	14.8	Z	T
									10-29-86	13.0	Z	T
									01-14-87	12.7	Z	S
S18 E51 34CB 1	362014116134901	USGS (GS-1)	2,430	1,580	2.0	1,580	1,549-1,559	0.0	05-03-86	130	Z	G
									05-31-86	130	Z	G
									06-12-86	80.5	Z	G
									07-31-86	83	Z	T
								2.0	10-29-86	87.7	Z	T
									01-14-87	88.0	Z	S
S18 E51 34CB 2	362014116134902	USGS (GS-1)	2,430	1,580	1.3	120	117-120	2.2	08-01-86	83	Z	T
									10-29-86	81.6	Z	T
									01-14-87	81.4	Z	S

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
S19 E50 02AA 1	361954116181201	USGS (GS-3)	2,285	2,000	2.0	2,000	1,969-1,979	0.0 1.1	06-27-86 10-29-86 10-31-86 01-14-87	112 212.3 216.1 209.8	Z Z Z Z	G T T S
S19 E50 02AA 2	361954116181202	USGS (GS-3)	2,285	2,000	1.25	160	157-160	1.1	10-29-86 10-31-86 01-14-87	84.7 72.5 83.7	Z Z Z	T T S
CALIFORNIA WELLS												
N24 E04 03A 1	361513116313101	Am. Borates (JC-5)	2,720		10.5			1.3	01-09-86	102.6	Z	T
N24 E04 03C 1	361517116322401	Am. Borates (KJ-2)	2,800		6.5			0.8	01-09-87	65.5	Z	T
N24 E05 01C 1	361457116183400	USGS (#13)	2,007.6	15	10.0			3.1	10-08-83 10-15-83 11-13-83 11-17-83 01-25-84 03-08-84 04-17-84 05-17-84 06-18-84 07-17-84 09-01-84 01-11-85 03-07-85 06-14-85 07-24-85 03-18-86 07-10-86	9.8 9.8 9.8 9.8 9.9 9.9 9.9 9.9 9.9 10.0 10.0 9.9 9.9 9.9 9.9 9.9 10.0 10.1 10.2	Z Z R R Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	T T T T T T T T T T T T T T T T T T T T

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N24 E05 12A	1	361627116221201 USGS (#14)	2,002.3	59	10.0			1.0	03-08-84 04-17-84 05-17-84 06-18-84 09-01-84	4.7 4.7 4.7 4.7 4.7	Z Z Z Z Z	T T T T T
N24 E05 23R	1	361158116240501 USGS (AM-2)	2,210	1,412	2.0	1,401	1,369-1,379	0.0	07-01-86 07-11-86 08-03-86 10-31-86 01-14-87	206 303 296.4 294.2 293.9	Z Z Z Z Z	G G T T S
N24 E05 23R	2	361158116240502 USGS (AM-2)	2,210	1,400	1.3	340	110-120	2.5	10-31-86 01-14-87	306.6 308.5	Z Z	T S
N24 E05 24J	1	361210116225701 USGS (AM-1)	2,070	1,400	2.0	1,400	1,369-1,379	0.0 1.5	07-01-86 08-02-86 10-30-86 01-14-87	172 76.5 78.6 78.6	Z Z Z Z	G T T S
N24 E05 24J	2	361210116225702 USGS (AM-1)	2,070		1.3			1.5	08-02-86 10-30-86 01-14-87	75.7 76.9 76.8	Z Z Z	T T S
N24 E06 06J	1	361444116170800 USGS (GS-18)	2,002.6	27	2.0			3.1	06-16-83 06-22-83 10-04-83 10-06-83 10-14-83	12.9 12.9 11.9 11.9 11.8	Z Z Z Z Z	T T T T T
									10-15-83 11-12-83 11-18-83 01-25-84 03-07-84	11.8 11.8 11.6 11.4 11.3	Z Z Z Z Z	T T T T T

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N24 E06 06J 1	361444116170800	USGS (GS-18)	2,002.6	27	2.0			3.1	04-20-84	11.3	Z	T
									05-17-84	11.2	Z	T
									06-19-84	11.2	Z	T
									07-17-84	11.2	Z	T
									09-03-84	9.5	Z	T
N24 E06 07A 1	361413116221201	USGS (#6)	2,000.3	20	6.0	20		3.4	01-02-85	9.7	Z	T
									03-07-85	9.8	Z	T
									06-15-86	9.7	Z	T
									07-30-85	9.5	Z	T
									11-07-85	9.6	Z	T
									03-16-86	9.5	Z	T
									07-10-86	9.1	Z	T
									05-17-83	12.0	Z	T
									06-24-83	12.0	Z	T
									10-04-83	11.4	Z	T
01-25-84	11.2	Z	T									
03-07-84	11.2	Z	T									
04-21-84	11.3	Z	T									
05-17-84	11.3	Z	T									
06-18-84	11.2	Z	T									
07-17-84	11.2	Z	T									
08-31-84	10.9	Z	T									
01-11-85	10.8	Z	T									
03-07-85	10.7	Z	T									
06-14-85	10.5	Z	T									
N24 E06 07A 2	361413116221202	USGS (#7)	2,000.3	20				2.0	05-17-83	11.9	Z	T
									06-24-83	11.9	Z	T
									10-04-83	11.3	Z	T
									11-05-83	11.3	Z	T
									11-06-83	11.3	Z	T
									01-25-84	11.1	Z	T
03-07-84	11.2	Z	T									
04-21-84	11.2	Z	T									
05-17-84	11.2	Z	T									
06-18-84	11.2	Z	T									

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N24 E06 07B 2	361415116222102	USGS (#3)	2,000.2	15	15			0.3	05-18-83	11.8	Z	T
									06-24-83	12.0	Z	T
									10-04-83	1.5	Z	T
									10-05-83	1.6	R	T
									01-25-84	11.5	Z	T
									03-07-84	11.5	Z	T
									04-21-84	11.5	Z	T
									05-07-84	11.5	Z	T
									06-18-84	11.5	Z	T
									07-17-84	11.5	Z	T
N24 E06 07B 3	361415116222103	USGS (#5)	1,999.9	35	8.0	35		1.0	08-31-84	0.0	Z	T
									01-11-85	2.3	Z	T
									03-07-85	2.8	Z	T
									06-14-85	4.7	Z	T
									05-18-83	6.5	Z	T
									06-24-83	6.2	Z	T
									10-04-83	6.3	Z	T
									10-05-83	6.2	Z	T
									10-06-83	6.7	T	T
									10-14-83	6.3	Z	T
11-12-83	6.2	Z	T									
11-21-83	6.1	Z	T									
01-25-84	6.3	Z	T									
03-07-84	6.3	Z	T									
04-07-84	6.2	Z	T									
05-17-84	6.3	Z	T									
06-18-84	6.3	Z	T									
07-17-84	6.3	Z	T									
08-31-84	6.3	Z	T									
01-11-85	5.9	Z	T									
03-07-85	5.8	Z	T									
06-14-85	5.8	Z	T									
07-23-85	5.8	Z	T									
10-27-85	6.1	Z	T									
01-10-86	6.1	Z	T									
02-08-86	6.0	Z	T									
03-14-86	6.0	Z	T									
07-10-86	6.2	Z	T									

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N24 E06 07D	1 361417116224001	USGS (#11)	2,000.1	40	0.9	40		1.2	05-17-83 06-24-83 10-04-83 01-25-84 03-07-84	12.1 12.1 11.2 11.0 11.0	Z Z Z Z Z	T T T T T
N24 E06 07F	1 361406116173900	USGS (#10)	1,997.9	40	0.9	40		2.1	03-08-85 06-14-85 11-07-85 03-13-86	10.3 10.2 10.2 10.4	Z Z Z Z	T T T T
									05-17-83 06-24-83 10-04-83 10-07-83 10-14-83	7.8 7.4 7.6 7.5 7.5	Z Z Z Z Z	T T T T T
									11-12-83 11-21-83 01-25-84 03-07-84 04-17-84	7.4 7.5 7.6 7.6 10.0	Z Z Z Z Z	T T T T T
									04-21-84 05-17-84 06-18-84 07-17-84 08-31-84	7.7 7.7 7.7 7.7 3.9	Z Z Z Z Z	T T T T T
									01-11-85 03-07-85 06-14-85 07-24-85 11-07-85	7.1 7.2 7.2 7.2 7.3	Z Z Z Z Z	T T T T T
									02-08-86 03-15-86 07-10-86	7.2 7.2 7.4	Z Z Z	T T T

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N24 E06 18D	1	361327116224900 USGS (GS-20)	1,996.6	15	2.0	15		4.2	06-22-83 14-04-83 11-07-83 01-25-84 03-07-84	14.0 13.7 13.7 13.4 13.3	Z Z Z Z Z	T T T T T
N25 E04 21M	1	361724116324201 USGS (S-1)	2,690	2,000	2.0	2,000	1,969-1,979	0.0	07-12-86 07-13-86 08-04-86 10-31-86 01-13-87	219 230 381.7 384.6 374.2	Z Z Z Z Z	G G T T S
N25 E04 21M	2	361724116324202 USGS (S-1)	2,690	2,000	1.3	440	430-440	1.6	08-04-86 10-31-86 01-13-87	390 398.5 397.5	Z Z Z	T T S
N25 E05 14M	1	361800116245001	2,036.7	139	12.0	139	65-70	2.3	06-19-62	2.4		W
N25 E05 14N	1	361800116244301	2 038	128	12.0	128	125-128	0.0	06-18-62 01-14-87	0.9 3.6		W S
N25 E05 15A	1	361820116251301 CA Div Hwy	2,049	160	8.0	160		0.9	07-31-62 03-18-87	5.2 8.7	Z Z	W S
N25 E05 17N	1	361808116273501	2,192	1,800	10.0	1,800	1,769-1,779	0.0	08-05-86 03-18-87	128.0 129.6	Z Z	T S
N25 E06 15A	1	361840116184001 USGS (GA-8K)	2,309		4.5			0.1	05-18-84	96.3	Z	T
N25 E06 15A	2	361840116184002 USGS (GA-8B)	2,309		4.0			1.6	05-18-84	91.5	Z	T
N25 E06 15A	3	361840116184003 USGS (GA-8C)	2,309		4.5			0.3	05-18-84	97.0	Z	T
N25 E06 15A	4	361840116184004 USGS (GA-8D)	2,309		2.0			0.5	05-18-87	97.7	Z	T
N25 E06 15A	5	361840116184005 USGS (GA-8E)	2,309		8.5			1.3	05-18-84	102.2	Z	T
N25 E06 15A	6	361840116184006 USGS (GA-8F)	2,309		2.0			1.0	05-18-84	109.0	Z	T

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N25 E06 15A	7	361840116184007	USGS (GA-8M) 2,309		6.4			0.1	05-18-84	106.6	Z	T
N25 E06 18B	1	361835116220301	CA Div Hwy 2,033	28	12.0	28		0.6	08-24-62	-1.1		W
N25 E06 18D	1	361835116224501	CA Div Hwy 2,037	7	30.0	7		0.3	06-19-62	4.6		W
N25 E06 19A	1	361745116215501	CA Div Hwy 2,037	7	6.0	7		2.2	06-21-62	1.6		W
N25 E06 19A	2	361745116215001	CA Div Hwy 2,037	7	6.0	7			06-21-62	1.6		W
N25 E06 19M	1	361720116224501	CA Div Hwy 2,024	56	9.0	56		3.6	01-14-87	Flows		
N25 E06 19R	1	361703116215001	CA Div Hwy 2,013.7		9.0	3		0.0	06-21-62	Flows		W
N25 E06 20N	1	361705116213501	CA Div Hwy 2,015	8	12.0	8		0.4	08-24-62	-4.1		W
N25 E06 30H	1	361640116315501	CA Div Hwy 2,011.7	9	12.0	9		1.0	08-24-62	-0.5		W
N25 E06 30K	1	361627116221201	USGS (GS-12) 2,011	29	2.0	29		1.3	06-18-83	4.5	Z	T
									06-22-83	5.1	Z	T
									10-04-83	2.5	Z	T
									10-06-83	2.5	Z	T
									10-15-83	2.6	Z	T
									10-17-83	4.4	R	T
									11-12-83	3.1	R	T
									11-14-83	3.2	R	T
									01-25-84	3.7	Z	T
									03-07-84	3.7	Z	T
									04-19-84	3.5	Z	T
									05-16-84	3.6	Z	T
									06-19-84	3.5	Z	T
									07-17-84	3.4	Z	T
									09-01-84	1.0	Z	T
									10-16-84	1.6	Z	T
									11-12-85	1.2	Z	T
									03-07-85	2.6	Z	T
									06-14-85	1.9	Z	T
									11-07-85	2.8	Z	T
									03-17-86	3.2	Z	T
									07-09-86	3.1	Z	T

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N25 E06 30K 2	361627116221202	USGS (GS-13)	2,011	27	1.0	27		6.8	06-18-83	2.9	Z	T
									06-22-83	1.5	Z	T
									10-04-83	-3.8	Z	T
									10-15-83	-3.8	Z	T
									11-12-83	-4.4	Z	T
									01-25-84	-4.6	Z	T
									03-07-84	-4.7	Z	T
									04-19-84	-4.6	Z	T
									05-16-84	-4.6	Z	T
									06-19-84	-4.4	Z	T
									07-17-84	-4.3	Z	T
N25 E06 30K 3	361627116221202	USGS (GS-14)	2,011	21	1.0	21	3.0	06-18-83	3.3	Z	T	
								06-22-83	3.5	Z	T	
								10-04-83	0.2	Z	T	
								11-12-83	-0.4	Z	T	
								01-25-84	-0.7	Z	T	
								03-07-84	-0.4	Z	T	
								04-19-84	-0.0	Z	T	
								05-16-84	0.1	Z	T	
								06-19-84	0.2	Z	T	
								07-17-84	0.2	Z	T	
								09-01-84	-0.1	Z	T	
10-16-84	-0.6	Z	T									
01-12-85	0.6	Z	T									
03-04-85	-0.1	Z	T									
06-14-85	0.0	Z	T									
11-07-85	-1.7	Z	T									
03-17-86	-0.8	Z	T									
07-09-86	-0.3	Z	T									

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N25 E06 30P 1	361610116223701	USGS (GS-19)	2,006.8	24	2.0	24		3.0	06-19-83 06-24-83 10-04-83 01-28-84 03-07-84	13.2 13.1 13.3 13.1 13.3	Z Z Z Z Z	T T T T T
N25 E06 30Q 1	361700116220201	USGS (GS-8)	2,020	33	2.0	33		3.4	01-12-85 03-08-85 03-22-86	13.1 13.2 13.1	Z Z Z	T T T
N25 E06 30Q 2	361700116220202	USGS (GS-9)	2,019.8	8	2.0	8		3.7	06-24-83 10-04-83 01-23-84 03-07-84	2.5 2.2 2.0 1.9	Z Z Z Z	T T T T
									04-20-84 05-17-84 01-19-84 07-18-84 09-01-84	2.7 2.9 3.1 2.6 2.0	Z Z Z Z Z	T T T T T
									10-31-84 01-12-85 06-14-85 07-23-85 03-22-86 01-09-86	2.0 1.2 3.0 3.2 2.5 3.3	Z Z Z Z Z Z	T T T T T T

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N25 E06 30Q 3	361700116220203	USGS (GS-10)	2,024.1	16	1.0	16		3.7	06-24-83	2.3	Z	T
									10-04-83	-3.7	Z	T
									01-25-84	-3.7	Z	T
									03-07-84	-3.7	Z	T
									05-17-84	-1.5	Z	T
									06-19-84	-1.7	Z	T
									07-18-84	-1.6	Z	T
									09-01-84	-2.2	Z	T
									10-31-84	-2.0	Z	T
									01-12-85	-2.1	Z	T
N25 E06 30Q 4	361700116220204	USGS (GS-11)	2,020.3	6	1.0	6	4.4	06-24-83	2.6	Z	T	
								10-04-83	1.0	Z	T	
								01-25-84	1.9	Z	T	
								03-07-84	2.1	Z	T	
								04-20-84	2.4	Z	T	
								05-07-84	2.6	Z	T	
								06-19-84	2.9	Z	T	
								07-18-84	2.6	Z	T	
								09-01-84	1.8	Z	T	
								10-31-84	1.8	Z	T	
N25 E06 31Q 1	361516116220101	USGS (GS-15)	2,003.4	23	2.0		3.1	01-12-85	0.9	Z	T	
								06-14-85	2.7	Z	T	
								07-23-85	3.0	Z	T	
								03-22-86	2.1	Z	T	
								07-09-86	2.8	Z	T	
								06-18-83	8.7	Z	T	
								06-19-83	9.3	Z	T	
								06-22-83	9.3	Z	T	
								10-04-83	8.1	Z	T	
								10-06-83	8.1	Z	T	
N25 E06 31Q 2	361516116220102	USGS (GS-15)	2,003.4	23	2.0		3.1	10-15-83	7.9	Z	T	
								10-17-83	7.8	Z	T	
								11-12-83	7.7	Z	T	
								11-14-83	7.8	Z	T	
								01-25-84	7.8	Z	T	

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N25 E06 31Q 1	361516116220101	USGS (GS-15)	2,003.4	23	2.0			3.1	03-07-84	7.8	Z	T
									04-19-84	7.8	Z	T
									05-16-84	7.8	Z	T
									06-19-84	7.7	Z	T
									07-17-84	7.7	Z	T
									09-03-84	7.4	Z	T
									10-13-84	7.1	Z	T
N25 E06 31Q 2	361516116220101	USGS (GS-16)	2,003.6	11.8	1.0	11.8	3.9	06-18-83	8.7	Z	T	
								06-19-83	8.9	Z	T	
								06-22-83	8.8	Z	T	
								10-04-83	7.7	Z	T	
								11-12-83	7.9	Z	T	
								01-25-84	8.0	Z	T	
								03-07-84	8.0	Z	T	
									04-19-84	8.0	Z	T
									05-16-84	8.0	Z	T
									06-19-84	7.9	Z	T
									07-17-84	7.9	Z	T
									09-03-84	7.4	Z	T
									10-13-84	7.4	Z	T
									11-12-85	7.3	Z	T
									03-07-85	7.0	Z	T
									06-14-85	6.6	Z	T
									11-07-85	6.5	Z	T
									03-16-86	6.7	Z	T
									07-10-86	6.7	Z	T

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N25 E06 31Q 3	3615161162203	USGS (GS-17)	2,003.4	32.0	1.0	32.0	3.0		06-24-83	9.3	Z	T
									10-04-83	8.4	Z	T
									11-12-83	8.2	Z	T
									01-25-84	8.3	Z	T
									03-07-84	8.3	Z	T
									04-19-84	8.3	Z	T
									05-16-84	8.3	Z	T
									06-19-84	8.2	Z	T
									07-17-84	8.2	Z	T
									09-03-84	7.8	Z	T
N25 E06 32C 1	361605116212701	USGS (GS-1)	2,008.0	7.2	1.0	7.2	4.0		03-07-84	1.6	Z	T
									04-19-84	1.6	Z	T
									05-16-84	1.7	Z	T
									06-18-84	1.9	Z	T
									07-17-84	1.8	Z	T
									09-04-84	1.1	Z	T
									01-12-85	0.5	Z	T
									11-07-85	2.1	Z	T
									03-21-86	1.8	Z	T
									N25 E06 32C 2	361606116212701	USGS (GS-2)	2,007.1
06-19-83	1.6	Z	T									
01-25-84	1.3	Z	T									
03-07-84	1.4	Z	T									
04-19-84	1.4	Z	T									
05-16-84	1.5	Z	T									
06-19-84	1.7	Z	T									
09-04-84	0.9	Z	T									
01-12-85	0.4	Z	T									
11-07-85	1.9	Z	T									
03-21-86	1.6	Z	T									

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N25 E06 32C 1	361553116212101	USGS (GS-3)	2,006.1	31.7	1.0	31.7		3.3	06-19-83	4.2	Z	T
									06-22-83	0.6	Z	T
									10-04-83	-0.8	Z	T
									11-12-83	-0.5	Z	T
									01-25-84	-1.2	Z	T
									03-07-84	-1.3	Z	T
									04-09-84	-1.2	Z	T
									05-16-84	-1.2	Z	T
									06-19-84	-1.0	Z	T
									09-04-84	-1.0	Z	T
									10-12-84	-0.9	Z	T
									01-12-85	0.2	Z	T
									03-07-85	-0.2	Z	T
									06-14-85	0.0	Z	T
10-27-85	0.0	Z	T									
N25 E06 32C 2	361553116212102	USGS (GS-4)	2,009.7	22.4	2.0	22.4	3.6	06-19-83	17.1	Z	T	
								06-22-83	4.2	Z	T	
								10-04-83	3.3	Z	T	
								10-07-83	3.3	Z	T	
								10-06-83	3.4	Z	T	
								06-19-83	17.1	Z	T	
								06-22-83	4.2	Z	T	
								10-04-83	3.3	Z	T	
								10-07-83	3.3	Z	T	
								10-06-83	3.4	Z	T	
								10-17-83	3.3	Z	T	
								11-12-83	3.5	Z	T	
								11-16-83	3.5	Z	T	
								01-25-84	3.7	Z	T	
03-07-84	3.8	Z	T									
04-19-84	3.8	Z	T									
05-16-84	3.8	Z	T									
06-19-84	3.9	Z	T									
09-04-84	2.6	Z	T									
10-12-84	3.1	Z	T									

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N25 E06 32C 2	361553116212102	USGS (GS-4)	2,009.7	22.4	2.0	22.4	3.6	01-12-85	1.8	Z	T	
								03-07-85	2.8	Z	T	
								06-14-85	3.4	Z	T	
								10-27-85	3.9	Z	T	
								11-07-85	4.0	Z	T	
N25 E06 32C 3	361553116212103	USGS (GS-5)	2,008.9	21.3	2.0	21.3	2.7	06-19-83	7.7	Z	T	
								06-22-83	4.7	Z	T	
								10-04-83	2.9	Z	T	
								10-07-83	3.0	Z	T	
								10-16-83	2.9	Z	T	
								10-17-83	18.7	R	T	
								11-12-83	14.2	R	T	
								01-25-84	7.8	R	T	
								03-07-84	5.9	Z	T	
								04-19-84	4.8	Z	T	
N25 E06 32C 4	361553116212104	USGS (GS-6)	2,006.0	5.2	2.0	5.2	4.8	05-16-84	4.3	Z	T	
								06-19-84	3.8	Z	T	
								09-04-84	3.0	Z	T	
								10-12-84	2.7	Z	T	
								01-12-85	9.1	Z	T	
								03-07-85	6.0	Z	T	
								06-14-85	3.8	Z	T	
								10-27-85	2.7	Z	T	
								11-07-85	2.6	Z	T	
								03-11-86	2.0	Z	T	
07-09-86	0.7	Z	T									
N25 E06 32C 4	361553116212104	USGS (GS-6)	2,006.0	5.2	2.0	5.2	4.8	06-24-83	4.2	Z	T	
								10-04-83	3.2	Z	T	
								10-07-83	3.2	Z	T	
								10-16-83	3.3	Z	T	
								11-12-83	3.5	Z	T	
								01-25-84	3.7	Z	T	
03-07-84	3.8	Z	T									
04-19-84	3.7	Z	T									
05-16-84	3.9	Z	T									
06-19-84	3.8	Z	T									

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N25 E06 32C	4	361553116212104 USGS (GS-6)	2,006.0	5.2	2.0	5.2		4.8	09-04-84 10-12-84 01-12-85 03-07-85 06-14-85	2.5 3.1 1.8 2.7 3.4	Z Z Z Z Z	T T T T T
N25 E06 32C	5	361553116212105 USGS (GS-7)	2,009.6	26.7	1.0	26.7	3.4		10-27-85 11-07-85 03-11-86 04-09-86	4.0 4.0 4.1 4.0	Z Z Z Z	T T T T
N26 E05 05C	1	362525116274501 Franklin	2,182	10					06-24-83 10-04-83 11-12-83 01-25-84 03-07-84	22.2 4.0 1.8 -0.2 -0.7	Z Z Z Z Z	T T T T T
N26 E05 05E	1	362525116274301 USGS (NA-9)	2,185	1,090	2.0	1,063-1,066	0.0		04-19-84 05-16-84 06-19-84 09-04-84 10-12-84	-0.9 -1.0 -1.0 -1.0 -1.1	Z Z Z Z Z	T T T T T
N26 E05 05E	2	362525116274302 USGS (NA-9)	2,185	1,090	1.3	20-23	1.3		01-12-84 03-07-85 06-14-85 10-27-85 11-07-85	7.3 2.5 -0.3 -0.9 -1.0	Z Z Z Z Z	T T T T T
N26 E05 08R	1	362415116270501	2,165		6.6				03-11-86 07-09-86	-1.8 -1.6	Z Z	T T
N26 E05 09F	1	362443116263601	2,160		14.0				06-18-62	9.2	Z	W
									04-03-86 04-12-86 08-01-86 10-28-86 01-13-87	48 12 7.0 7.3 7.3	Z Z Z Z Z	G C T T S
									08-01-86 10-28-86 01-13-87	17.4 17.6 12.7	Z Z Z	T T S
									01-13-87	30.2	Z	S
									01-13-87	24.9	R	S

TABLE 1.--Record of selected wells in Amargosa Desert, Nevada-California--Continued

Well number	Site identification	Original owner or well name	Land-surface altitude (feet)	Well depth (feet)	Casing diameter (inches)	Casing depth (feet)	Screened interval (feet)	Measuring point (feet)	Measurement date	Water level depth (feet)	Site use	Data source
N26 E05 21C	1 362250116265101	USGS (NA-7)	2,180	1,680	2.0	1,680	1,653-1,657	0.0	03-19-86 03-27-86 08-04-86 08-05-86 08-07-86	89 68 76.8 74.8 76.8	Z Z Z Z Z	G G T T T
								1.9				
N26 E05 21C	2 362250116265102	USGS (NA-7)	2,180	1,680	1.3	103	100-103	1.9	08-07-86 10-31-86 01-13-87	74.4 72.4 72.6	Z Z Z	S T S
N26 E05 28J	1 362140116261001	USGS (NA-8)	2,120	1,980	2.0	1,980	1,953-1,957	0.0	03-25-86 04-05-86 08-07-86 10-29-86 01-13-87	59 58 83.8 68.6 69.5	Z Z Z Z Z	G G T T S
N26 E05 34N	1 362033116255201		2,098		6.6			0.8	01-13-87	37.2	Z	S
N27 E04 22N	1 362743116313401		2,244						11-04-86	37.9	Z	T
N27 E04 25	1 362710116300001	Scranton	2,231	27	6.0		OPEN	0.0	01-15-86	27	Z	S
N27 E04 25D	1 362710116300401	Scranton	2,231	23	60.0		OPEN	2.0	06-18-62 01-19-84 03-17-87	20.7 23.0 DRY	Z Z	W S
N27 E04 26C	1 362725116305901		2,237.2	393	14.0	393		0.2	06-19-62 01-13-87	25.2 32.9	Z Z	S
N27 E04 26N	1 362650116311501	Morris	2,234.6	300	14.0	300		0.0	06-19-62	32.0	Z	W
N27 E04 27	1 362705116315001	(North Discovery well)	2,240					0.6	01-11-86	30.9	Z	T
N27 E04 27B	1 362726116314401	Morris	2,241.9	300	14.0	300		1.2	01-13-87	36.6	Z	S
N27 E04 27C	1 362727116322201	Morris	2,243.8	124	14.0	124		0.0	06-19-62	42.6	Z	W
N27 E04 27D	1 362715116322301	Morris	2,247.4	300	14.0	300			06-19-62 08-03-86	45 32	Z Z	W T
N27 E04 27E	1 362705116322301		2,245		14.0			0.0	08-03-86	24.9	Z	T
N27 E04 27L	1 362702116322201	Morris	2,244.8	284	14.0	284		0.9	06-19-62 08-03-86	40.6 45.1	Z Z	W T

TABLE 2.--Hydrostratigraphic units of the ranges surrounding Amargosa Desert hydrographic area. After Winograd and Thordarson (1975)

Age	Lithologic description	Hydrologic characteristics	Thickness (feet)
Quaternary and Tertiary	Basin fill.--Playa and freshwater limestone deposits, dune sand, stream-channel deposits, alluvial fan deposits, interbedded sandstone, limestone, siltstone, and tuff. Includes Titus Canyon Formation.	Local aquifer	0-5,000
Tertiary	Volcanics.--Rhyolitic to basaltic flows and intrusions.	Local confining bed	0-20,000
Permian, Pennsylvanian, Mississippian, and Devonian	Limestone and shale.--Minor chert, conglomerate, and quartzite. Includes Tippipah Limestone, Monte Cristo Limestone, and Eleana Formation.	Regional confining bed	7,800-12,300
Devonian, Silurian, and Ordovician	Dolomite and limestone.--Minor quartzite and sandstone. Includes Devils Gate Limestone, Nevada Formation (of former usage), Lone Mountain Dolomite, Roberts Mountain Formation, Ely Springs Dolomite, Eureka Quartzite, and Pogonip Group.	Regional aquifer	4,700-5,100
Late Precambrian and Cambrian	Quartzite and dolomite.--Minor schist, marble, limestone, and shale. Includes Nopah Formation, Emigrant Formation, Bonanza King Formation, Carrara Formation, Zabriskie Quartzite, and Wood Canton Formation.	Regional confining bed	13,500-16,500

TABLE 3.--Vertical gradient calculations

Vertical gradient: U, upward potential gradient; D, downward potential gradient.

[All measurements in feet]

Local well number	Total well depth	Well screen length	Well screen midpoint depth	Water level altitude	Difference in head (dH)	Difference in screen midpoint depth (dZ)	Vertical gradient (dH/dZ)
Nevada Wells							
S12 E47 19ADCB1	126	91	76	3,152	28	75	0.37 D
Amargosa River	1	1	1	3,180			
S13 E46 34ACCC1	1,500	^a 1,150	925	2,880	106	642	0.17 D
S13 E46 34ACCC1	321	^a 77	283	2,986			
S13 E46 35ADDD1	^b 1,180	^a 592	884	2,452	171	441	0.39 D
S13 E46 35ADDD1	^b 470	^a 53	444	2,623			
S14 E46 08BBDD1	^b 750	^a 284	608	2,754	112	241	0.46 D
S14 E46 08BBDD1	^b 380	^a 26	367	2,866			
S14 E47 32DA1	960	10	935	2,355.4	0.0	614	0.00 D
S14 E47 32DA2	323	3	321	2,355.4			
S16 E51 27BAA4	828	178	739	2,360.4	2.2	119	0.02 D
S16 E51 27BAA5	665	90	620	2,362.6			
S17 E49 20BCAC1	1,970	10	1,944	2,214.1	4.4	1,846	0.002U
S17 E49 20BCAC2	100	3	98	2,218.5			
S17 E52 08CDB1	246	198	141	2,360	4	28	0.14 U
S17 E52 08CBDC1	135	44	113	2,356			
S18 E51 07DA1	780	770	395	2,299	4	40	0.10 U
S18 E51 07DA2	415	120	355	2,295			
S18 E51 30DD1	1,197	10	1,171	2,255.6	1.7	1,130	0.002D
S18 E51 30DD2	43	3	41	2,257.3			
S18 E51 34CB1	1,580	10	1,554	2,342.0	6.6	1,433	0.005D
S18 E51 34CB2	123	3	121	2,348.6			
S19 E50 02AA1	2,000	10	1,974	2,075.2	126.1	1,814	0.07 D
S19 E50 02AA2	163	3	162	2,201.3			

TABLE 3.--Vertical gradient calculations--Continued

Local well number	Total well depth	Well screen length	Well screen midpoint depth	Water level altitude	Difference in head (dH)	Difference in screen midpoint depth (dZ)	Vertical gradient (dH/dZ)
California Wells							
N24 E05 23R1	1,412	10	1,383	1,916.1	14.6	1,045	0.01 U
N24 E05 23R2	340	3	338	1,901.5			
N24 E05 24J1	1,400	10	1,374	1,991.4	1.9	1,256	0.002D
N24 E05 24J2	120	3	118	1,993.3			
N24 E06 07A3	31	0	31	1,990.5	0.7	11	0.06 U
N24 E06 07A1	20	0	20	1,989.8			
N24 E06 07B3	35	0	35	1,994.1	1.4	20	0.07 D
N24 E06 07B2	15	0	15	1,995.5			
N25 E04 21M1	2,000	10	1,974	2,316	24	1,539	0.02 U
N25 E04 21M2	440	10	435	2,292			
N25 E06 30K1	29	0	29	2,007.9	3.4	8	0.43 D
N25 E06 30K3	21	0	21	2,011.3			
N25 E06 30Q1	33	0	33	2,027.5	9.8	27	0.36 U
N25 E06 30Q4	6	0	6	2,017.7			
N25 E06 31Q3	16	0	16	2,026.6	9.6	8	1.20 U
N25 E06 31Q2	8	0	8	2,016.5			
N25 E06 32C5	32	0	32	2,006.1	4.0	27	0.15 U
N25 E06 32C3	5	0	5	2,002.0			
N26 E05 05E1	1,090	10	1,065	2,177.7	5.4	1,044	0.005U
N26 E05 05E2	23	3	21	2,172.3			
N26 E05 21C1	1,680	3	1,655	2,105.1	2.3	1,554	0.001D
N26 E05 21C1	1C3	3	101	2,107.4			

^a Unscreened well-screened interval taken as saturated length of well.

^b Water level and well depth taken from geophysical logs. Bottom of well later collapsed and new water level and well depth were recorded. No correction for change in head with time (dH/dT) was made because of short time intervals involved.