

Prepared in Cooperation with the U.S. Bureau of Land Management

Site-Characteristic and Hydrologic Data for Selected Wells and Springs on Federal Land in Clark County, Nevada



Data Series 864

Cover photographs, clockwise from the top:

Abandoned Red Rock Wash Well (site 360809115252601). Photo by Michael Pavelko.

Collecting global positioning system data at Stump Spring Well (site 355941115490901). Photo by Jon Darnell.

Collecting water samples at Cactus Spring (site 363436115432201). Photo by Michael Pavelko.

Windmill and water tank at abandoned Deep Well (site 352217114511401). Photo by Michael Pavelko.

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By Michael T. Pavelko

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

U.S. Department of the Interior

SALLY JEWELL, Secretary

U.S. Geological Survey

Suzette M. Kimball, Acting Director

U.S. Geological Survey, Reston, Virginia: 2014

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Contents

Abstract	1
Introduction	1
Purpose and Scope	3
National Water Information System	3
Methods	3
Site-Characteristic Data Review and Collection	5
Hydrologic Data Review and Collection	7
Site-Characteristic and Hydrologic Data	7
References Cited	15
Appendix 1. Selected data stored in the U.S. Geological Survey National Water Information System for selected wells and springs on Federal land in Clark County, Nevada	17
Appendix 2. Publications reviewed for site-characteristic and hydrologic data for selected wells and springs on Federal land in Clark County, Nevada	17

Figures

1. Map showing location of selected wells and springs on Federal land in Clark County, Nevada 2
2. Schematic diagram showing components of the National Water Information System 3

Tables

1. Data fields in the National Water Information System Sitefile reviewed and updated for selected wells and springs on Federal land in Clark County, Nevada 4
2. Groundwater Site Inventory data tables reviewed and updated for selected wells and springs on Federal land in Clark County, Nevada 5
3. National Water Information System site-characteristic data determined from a geographic information system for selected wells and springs on Federal land in Clark County, Nevada 6
4. National Water Information System wells and springs on Federal land in Clark County, Nevada, surveyed by the U.S. Geological Survey with a global positioning system, 2007–2010 8
5. National Water Information System wells and springs on Federal land in Clark County, Nevada, for which water samples were collected and analyzed by the U.S. Geological Survey for this and other Southern Nevada Public Land Management Act projects, 2007–2010 13

Conversion Factors and Datums

Inch/Pound to SI

Multiply	By	To obtain
Length		
inch (in)	2.54	centimeter (cm)
foot (ft)	0.3048	meter (m)
Area		
square mile (mi ²)	2.590	square kilometer (km ²)

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

$$^{\circ}\text{C}=(^{\circ}\text{F}-32)/1.8$$

Vertical coordinate information is referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29).

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83).

GPS data were collected and referenced to the World Geodetic System of 1984 (WGS 84) and converted to NAD 83 for National Water Information System purposes.

Abbreviations and Acronyms

ADAPS	Automated Data-Processing System
BLM	U.S. Bureau of Land Management
DRI	University of Nevada Desert Research Institute
FWS	U.S. Fish and Wildlife Service
GIS	geographic information system
GPS	global positioning system
GWSI	Groundwater Site Inventory
MGPS	mapping-grade GPS
NDWR	Nevada Division of Water Resources
NHD	National Hydrography Dataset
NPS	National Park Service
NWIS	National Water Information System
NWISWeb	NWIS web interface
PLSS	Public Land Survey System
QWDATA	Water-Quality System
RGPS	recreational-grade GPS
SGPS	survey-grade GPS
SNPLMA	Southern Nevada Public Lands Management Act
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
WUDS	Water-Use Data System

Site-Characteristic and Hydrologic Data for Selected Wells and Springs on Federal Land in Clark County, Nevada

By Michael T. Pavelko

Abstract

Site-characteristic and hydrologic data for selected wells and springs on U.S. Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, and U.S. Forest Service land in Clark County, Nevada, were updated in the U.S. Geological Survey's National Water Information System (NWIS) to facilitate multi-agency research. Data were researched and reviewed, sites were visited, and NWIS data were updated for 231 wells and 198 springs, including 36 wells and 67 springs that were added to NWIS and 44 duplicate sites that were deleted. The site-characteristic and hydrologic data collected, reviewed, edited, and added to NWIS include locations, well water levels, spring discharges, and water chemistry. Site-characteristic and hydrologic data can be accessed from links to the NWIS web interface; data not available through the web interface are presented in appendixes to this report.

Introduction

Clark County, the southernmost county in Nevada (fig. 1), encompasses about 8,100 square miles and lies within the Great Basin and Sonoran Desert sections of the Basin and Range Physiographic Province (Fenneman and Johnson, 1946). In Clark County, altitudes range from about 480 to 11,920 feet (ft) above sea level, air temperatures range from about 20 to 120 degrees Fahrenheit, and annual precipitation ranges from about 3 to 20 inches. The large ranges of altitudes, air temperatures, and precipitation have resulted in diverse ecosystems, from barren desert playas to ponderosa pine forests, and diverse species, including the desert tortoise, bristlecone pine, Moapa dace, bald eagle, and bighorn sheep.

The population of Clark County, which includes Las Vegas, increased from 741,459 in 1990 to 1,375,765 in 2000 then to 1,951,269 in 2010 (U.S. Census Bureau, 2013). To meet the land-use demands of the growing population, the Southern Nevada Public Lands Management Act (SNPLMA) was passed in 1998 to allow "the Bureau of Land Management (BLM) to sell public land within a specific boundary around Las Vegas, Nevada. The revenue derived from land

sales is split among the State of Nevada General Education Fund (5 percent), the Southern Nevada Water Authority (10 percent), and a special account available to the Secretary of the Interior for "parks, trails, natural areas, conservation initiatives, capital improvements, and a multi-species habitat conservation plan, among other land-management goals (U.S. Bureau of Land Management, 2013a). A portion of the funds generated by land sales is available to the BLM, National Park Service (NPS), U.S. Fish and Wildlife Service (FWS), and U.S. Forest Service (USFS); combined, the agencies manage more than 85 percent of the land in Clark County (fig. 1).

The growing population and increasing demands on water resources, combined with the possible effects of climate change, have prompted local- and regional-scale hydrologic studies. A recurring impediment for cross-agency and regional hydrologic studies, including those in support of the conservation initiatives, capital improvements, and habitat conservation plans outlined in SNPLMA, has been the lack of a comprehensive and consistent hydrologic database that can be accessed by multiple agencies. The U.S. Geological Survey's (USGS) National Water Information System (NWIS) was identified as an existing and comprehensive hydrologic database that provides a consistent data structure for wells and springs, and much of the hydrologic data are accessible from the NWIS web interface (NWISWeb; U.S. Geological Survey, 2013b).

Data stored in NWIS are collected for a wide variety of studies over many decades and represent a combination of data collected by the USGS and Federal, state, and local agencies; well drillers; and private and public organizations. Consequently, the consistency and detail of NWIS data can be variable and may not be up to date. To provide the agencies and public with updated and more consistent data, the BLM entered into a cooperative agreement with the USGS to: (1) review and update site-characteristic and hydrologic data stored in NWIS for selected wells and springs on land managed by the BLM, NPS, FWS, and USFS in Clark County, Nevada; (2) improve latitude, longitude, and altitude data with global positioning system (GPS) surveys; and (3) collect and analyze water samples from selected sites. Data were collected for this project from July 1, 2007, to June 30, 2013.

2 Site-Characteristic and Hydrologic Data for Selected Wells and Springs on Federal Land in Clark County, Nevada

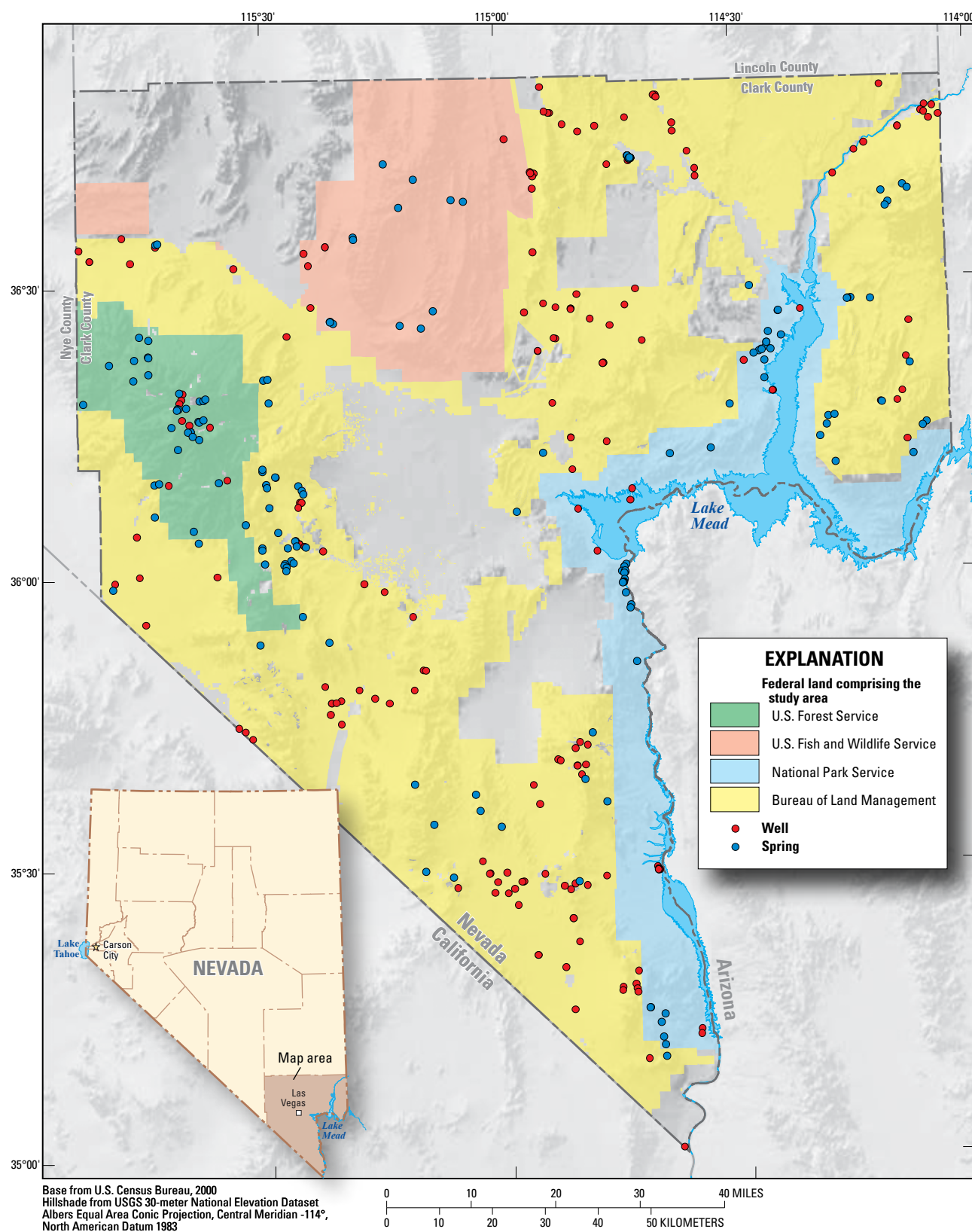


Figure 1. Location of selected wells and springs on Federal land in Clark County, Nevada.

Purpose and Scope

This report presents site-characteristic and hydrologic data for selected wells and springs on Federal land in Clark County, Nevada, up to June 30, 2013. All data within the report are stored in NWIS; methods used to update NWIS for this project are presented. Site-characteristic and hydrologic data can be accessed from NWISWeb using provided links (appendix 1-1). Data stored in NWIS that are not accessible from NWISWeb and publications and reports reviewed for this project are presented in appendixes. Data requests and inquiries about the data in this report or about NWIS can be directed to the USGS Nevada Water Science Center.

National Water Information System

The national repository for water-resources data is NWIS, which is a distributed database storing various types of data across multiple USGS Water Science Centers. Data for more than 1.5 million sites are stored and disseminated through NWISWeb to provide reliable water-resources data to resource-management agencies and the public. Hydrologic data stored in NWIS were collected and analyzed according to USGS data-collection guidelines and analytical methods (Buchanan and Somers, 1969; Cunningham and Schalk, 2011; Rantz and others, 1982; U.S. Geological Survey, variously dated).

Data in NWIS are stored in four primary subsystems that are linked to NWIS Sitefiles (fig. 2). Every site in NWIS has a Sitefile that primarily contains location information and other site-characteristic data, including the agency and site identification number, which are the composite keys used to relate site data to the NWIS subsystems (fig. 2; table 1). The Groundwater Site Inventory (GWSI) subsystem contains site-characteristic, discharge, and water-level data (table 2), however discharge data stored in GWSI are not accessible from NWISWeb. The Automated Data-Processing System (ADAPS)

contains periodic water-level and discharge measurements and time series data collected from automated recording equipment, such as water-level, discharge, and water-chemistry data; discharge data stored in ADAPS are accessible from NWISWeb. The Water-Quality System (QWDATA) contains water-chemistry data. The Water-Use Data System (WUDS), which was not reviewed for this project, contains aggregated and site-specific water-use (withdrawal) data.

Data accessible from NWISWeb for this report are: (1) selected site-characteristic data stored in the Sitefile (table 1); (2) well water levels stored in GWSI; (3) spring- and stream-discharge data stored in ADAPS; and (4) water-chemistry data stored in QWDATA. Additional information about NWIS can be found in USGS Fact Sheet FS-027-98, which provides links to additional resources (U.S. Geological Survey, 1998).

Methods

Project-area wells and springs documented in NWIS were researched and visited to document current conditions, verify or update existing site-characteristic and hydrologic data, and collect new data. For this project, site-characteristic data include general-description, location, geohydrologic, and well-construction data. Hydrologic data consist of well water levels, well and spring discharge, and water-chemistry data. Site-characteristic and hydrologic data for NWIS sites within the project area were compared to published or reported data (appendix 2-1) and Nevada Division of Water Resources (NDWR) well logs. Sites identified as duplicates were deleted from NWIS.

Sites in NWIS initially were reviewed and submitted to the BLM, NPS, FWS, and USFS to determine whether additional wells or springs should be added. Sites were visited from July 1, 2007, to June 30, 2013, to collect, verify, and update site-characteristic and hydrologic data. Hydrologic data were collected for the project according to USGS guidelines and

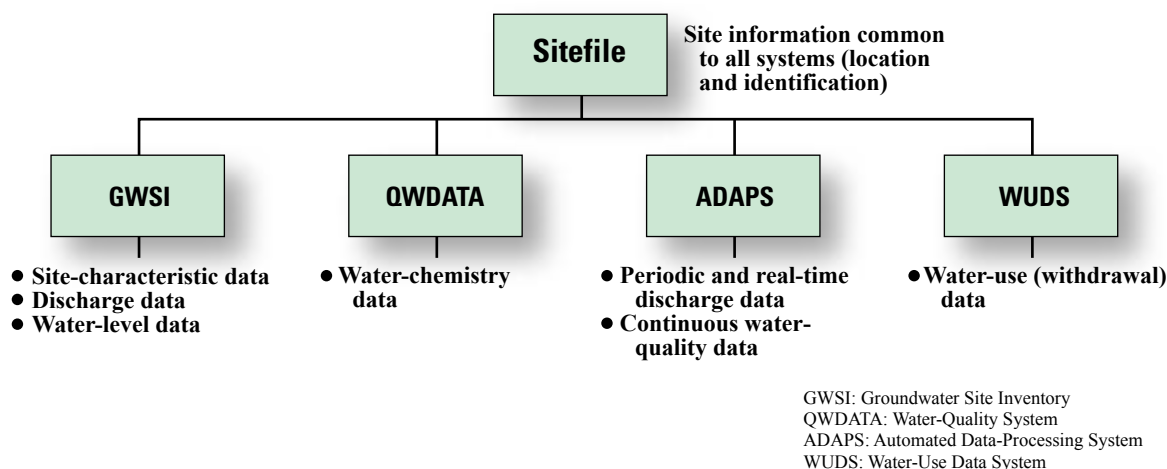


Figure 2. Components of the National Water Information System.

4 Site-Characteristic and Hydrologic Data for Selected Wells and Springs on Federal Land in Clark County, Nevada

Table 1. Data fields in the National Water Information System Sitefile reviewed and updated for selected wells and springs on Federal land in Clark County, Nevada.

[NWIS, National Water Information System; NWISWeb, web interface for NWIS; USGS, U.S. Geological Survey]

Field	Data type	Available from NWISWeb	Description
Agency	General description	Yes	The agency that was the source of the data when the sitefile was created. The agency and site identification number, together, make up the composite key that relate all other information in NWIS
Site identification number	General description	Yes	Site identification number. The agency and site identification number, together, make up the composite key that relate all other information in NWIS
Station name	General description	Yes	Name of site
Latitude	Location	Yes	Latitude of the site, in degrees-minutes-seconds
Longitude	Location	Yes	Longitude of the site, in degrees-minutes-seconds
Coordinate method	Location	Yes	Method by which latitude/longitude were determined
Coordinate accuracy	Location	Yes	Accuracy of the latitude/longitude
Coordinate datum	Location	Yes	Datum of the latitude/longitude
Latitude, decimal degrees	Location	Yes	Latitude, in decimal degrees, converted to the North American Datum of 1983
Longitude, decimal degrees	Location	Yes	Longitude, in decimal degrees, converted to the North American Datum of 1983
Altitude	Location	Yes	Altitude of land surface, in feet relative to altitude datum
Altitude method	Location	Yes	Method by which altitude was determined
Altitude accuracy	Location	Yes	Accuracy of the altitude
Altitude datum	Location	Yes	Datum of the altitude
District	General description	Yes	USGS Water Science Center (formerly called Districts) responsible for the site and data that appear on NWISWeb
Data reliability	General description	Yes	Reliability of the data
Land net	Location	Yes	Public Land Survey System subdivision
Map name	Location	Yes	USGS topographic quadrangle name
Map scale	Location	Yes	Scale of topographic quadrangle
Topographic setting	General description	Yes	Topographic setting
Hydrologic unit	Geohydrologic	Yes	Hydrologic unit
Construction date	Well construction	Yes	Date of construction, if applicable
Primary site use	General description	No	Primary use of site
Secondary site use	General description	No	Secondary use of site
Tertiary site use	General description	No	Tertiary use of site
Primary water use	General description	No	Primary use of water
Secondary water use	General description	No	Secondary use of water
Tertiary water use	General description	No	Tertiary use of water
National water use	General description	No	National water use, only for sites where water is withdrawn
Hole depth	Well construction	Yes	Depth of well borehole, in feet below land surface
Well depth	Well construction	Yes	Depth of well, in feet below land surface
Depth source	Well construction	Yes	Source of depth data
Country	Location	Yes	Country of the site
State	Location	Yes	State of the site
County	Location	Yes	County of the site
Inventory date	General description	Yes	Date site was initially inventoried by agency
Aquifer	Geohydrologic	Yes	Local aquifer code
Agency use	General description	No	Agency use code, which identifies whether the site is inactive, remediated, discontinued, or an inventory site
National aquifer	Geohydrologic	Yes	The principal aquifer or aquifer system from which water is obtained, defined as regionally extensive aquifers or aquifer systems that have the potential to be used as a source of potable water
Site remark	General description	No	Site remarks
Station type	General description	Yes	Type of site. For this project only wells, test holes, tunnels/shafts/mines, springs, and streams associated with springs were reviewed
Project number	General description	Yes	USGS project number that created the site

Table 2. Groundwater Site Inventory data tables reviewed and updated for selected wells and springs on Federal land in Clark County, Nevada.

[NDWR, Nevada Division of Water Resources]

Data table	Data type	Data available from NDWR well log	Description
Construction	Construction	Yes	Stores general construction information about the well, including date drilled, driller, and drilling methods
Borehole	Construction	Yes	Stores depth-specific well borehole diameter data
Casing	Construction	Yes	Stores depth-specific well casing material, diameter, and thickness
Open interval	Construction	Yes	Stores depth-specific well casing open-interval data, including type and size of opening
Measuring point	Construction	No	Stores information about the measuring point of a well, including a description and height of the measuring point and the dates the measuring point was used if the measuring point changed over time
Water level	Hydrologic	Yes	Stores well water-level data including date, method, and accuracy
Lift	Construction	No	Stores information about the type of device used to remove water from a well, if any, and includes the dates that device was used
Geohydrology	Geohydrologic	Yes	Stores lithologic and geohydrologic units. For wells these data are depth specific and for springs these data can describe the surface geology or the geologic unit from which the water originates at depth
Geophysical logs	Geohydrologic	Yes	Stores the depths and types of geophysical logs for a well, including NDWR well logs
Discharge	Geohydrologic	Yes	Stores well discharge data, including discharge rate, discharge duration, and water-level drawdown resulting from the discharge. This table automatically calculates the specific capacity of a well if the discharge is positive, static and production water levels are provided, and static water level is higher than production water level
Spring	Geohydrologic	No	Stores spring name, type, permanence, number of openings, improvements, sphere of discharge, and variability of discharge
Site visit	General description	No	Stores date and personnel of site visits
Remarks	General description	No	Stores general remarks about a site, such as site status and current conditions, and includes a date field
Other data	General description	No	Stores information about other data that are available for sites. For project sites, this table primarily was used to store references to publications with data or information about sites
Miscellaneous values	General description; location	No	Stores miscellaneous values. For sites in Clark County this table primarily is used to identify the hydrographic area (Rush, 1968; Cardinali and others, 1968) of a site
Other identifier	General description; location	Yes	Stores alternate names or identifiers for a site, such as names used by other agencies and names used in published reports. For project sites, this data table also is used to store NDWR well-log and permit numbers and the groundwater flow system and subbasin (Harrill and others, 1988 and Lacznia and others, 1996)

policies (Cunningham and Schalk, 2011; Rantz and others, 1982; U.S. Geological Survey, variously dated). For this project, wells are defined as NWIS sites that have a Sitefile Station Type of well, test hole not completed as a well, or tunnel, shaft, or mine. Springs are defined as NWIS sites that have a Sitefile Station Type of spring or stream, but only include streams that are associated with spring discharge (table 1, appendixes 1-1 and 1-2).

After a site visit, observed site-characteristic data were compared to NWIS, which was updated as needed, and measured hydrologic data were added to NWIS. When observed conditions differed from reported values, edits were made in NWIS and a descriptive comment was added to the GWSI Remarks data table (table 2; appendix 1-14). Published data for the project mainly came from USGS, NDWR, and University of Nevada Desert Research Institute (DRI) reports (appendix 2-1); additional data were obtained from NDWR well logs. Published hydrologic data that have documented collection methods meeting USGS data-collection guidelines were added to NWIS and an abbreviated citation was added to the GWSI Other Data data table (table 2; appendix 1-15).

Published hydrologic data that do not have documented collection methods or were collected with methods not meeting USGS data-collection guidelines (Cunningham and Schalk, 2011; Rantz and others, 1982; U.S. Geological Survey, variously dated) were not added to NWIS. For publications with undocumented data-collection methods or data-collection methods that do not meet USGS guidelines, an abbreviated citation was added to the GWSI Other Data data table and, when appropriate, descriptive comments describing the citation and data were added to the GWSI Remarks data table. For example, sample-filtration procedures are not documented for water-chemistry data reported in McKinley and others (1991), so the data were not added to QWDATA but remarks were added to the GWSI Remarks data table that reference the report and sampling dates for the sampled sites.

Site-Characteristic Data Review and Collection

Site-characteristic data reviewed for this project were general-description, well-construction, geohydrologic, and location data (tables 1, 2; appendixes 1-2 – 1-17).

General-description data include names and other identifiers, station type, site and water use, and other information that describes a well or spring. Well-construction data include drill dates, depth, measuring point, and pump information, and borehole, casing, and open-interval dimensions and information. Geohydrologic data include information regarding regional and national aquifers and hydrologic units, borehole lithology, geophysical logs, well discharge, and springs. Location data include latitude, longitude, and altitude values and other location-based information.

Site-characteristic data reviewed for this project primarily are from published reports (appendix 2-1), NDWR well logs, and site visits. A well log must be submitted to NDWR, according to Nevada Revised Statute 534.170, when a well is drilled, reconditioned, or plugged in Nevada. The well logs, available from the NDWR on-line well-log database (Nevada Division of Water Resources, 2013), provide information about the drilling and completion of wells and include site-characteristic (table 2) and hydrologic data. Site-characteristic data verified or collected during site visits include: (1) latitude, longitude, related location data, and topographic setting; (2) above-ground well casing diameter, thickness, and material; (3) well measuring-point height and description; (4) spring attributes and description; (5) site status and current conditions; and (6) site visit information.

Location data were reviewed for project-area sites and updated where appropriate. Initially, 195 wells and 131 springs within the project area were documented in NWIS. Of those sites, 24 duplicate wells and 20 duplicate springs were deleted. Twenty-one wells and 2 springs had incorrect latitude and longitude values stored in NWIS; when the values were updated, the wells and springs were not located on Federal lands.

Location data collected during site visits were latitude, longitude, and altitude. Values and associated meta-data such as datum, method, and accuracy of measurements are stored in the Sitefile (table 1). Other location-based information was determined from a geographic information system (GIS; table 3). GIS-derived data, including county, state, country, Public Land Survey System (PLSS) subdivision (U.S. Bureau

of Land Management, 2013b), hydrologic unit, aquifer, national aquifer, and USGS 1:24,000-scale topographic quadrangle name, are stored in the Sitefile. The hydrographic area of a site (Rush, 1968; Cardinalli and others, 1968) is stored in the GWSI Miscellaneous Values data table, and the groundwater flow system and subbasin of a site (Harrill and others, 1988; Lacznia and others, 1996) are stored in the GWSI Other Identifier data table (table 2).

Latitude, longitude, and altitude data were collected with recreational-grade, mapping-grade, or survey-grade GPS devices. Recreational-grade GPS (RGPS) surveys resulted in latitude and longitude values accurate to about one-third of a second, or about 35 ft. Altitude values from RGPS surveys were not used; instead, altitude values were derived from 1:24,000-scale topographic quadrangles, for which altitude values have an accuracy equivalent to one-half of the topographic contour interval. Contour intervals for 1:24,000-scale topographic quadrangles in the project area range from 3 ft (1 meter [m]) to 40 ft (12 m). Mapping-grade GPS (MGPS) surveys resulted in latitude and longitude values accurate to about one-hundredth of a second, or about 1 foot, and altitude values accurate to about 1 foot. Survey-grade GPS (SGPS) surveys resulted in latitude and longitude values accurate to about one-hundredth of a second, or about 1 foot, and altitude values ranging in accuracy from 0.1 foot to 1 foot. All GPS latitude and longitude values were referenced to the World Geodetic System of 1984 and were converted to North American Datum of 1983 for entry into NWIS. Altitude values from SGPS and MGPS were referenced to the North American Vertical Datum of 1988. Altitudes were interpolated from USGS 1:24,000-scale topographic quadrangles for sites for which latitude and longitude data were updated from PLSS locations, Esri digital imagery (Esri, 2013), reported values, NHD values, or USGS 1:24,000-scale topographic quadrangles.

Some NWIS sites initially could not be found in the field so additional location information was researched. Additional location information included reported latitude and longitude values from USGS reports, the National Hydrography Dataset (NHD; U.S. Geological Survey, 2013a), and Esri digital

Table 3. National Water Information System site-characteristic data determined from a geographic information system for selected wells and springs on Federal land in Clark County, Nevada.

Site characteristic	Data table	Reference or source
County, state, and country	Sitefil	U.S. Census Bureau, 2007
Public Land Survey System subdivision (land net)	Sitefil	U.S. Bureau of Land Management, 2013c
Hydrologic unit	Sitefil	Steeves and Nebert, 1994
Aquifer	Sitefil	Crafford, 2007
National aquifer	Sitefil	U.S. Geological Survey, 2005
Map name	Sitefil	Esri, 2008
Hydrographic area ¹	Miscellaneous values	Peltz and others, 2005
Groundwater flow system and subbasin	Other identifier	Harrill and others, 1988; Lacznia and others, 1996

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

imagery (Esri, 2013) and reported PLSS subdivisions from USGS reports, NDWR well logs, and NDWR Reconnaissance Reports. If the site could not be found using additional location information, NWIS latitude and longitude values either were left alone or were changed to reflect a reported location and a comment was added to the GWSI Remarks data table (table 2, appendix 1-14). For example, there is no well at the previous NWIS location for site 354724115163501 (165 S25 E60 08A 1 WELL (REPORT R46)) or at the PLSS Section 8AA of Township 25 South, Range 60 East, which is the reported location from the NDWR well log and Glancy (1968). Since the well could not be found, the latitude and longitude values stored in the NWIS Sitefile were adjusted to coincide with the reported PLSS location and comments were added to the GWSI Remarks data table that explain there is no well at the location, that the well could not be found, and that the coordinates were adjusted to coincide with the location documented on the well log (table 2, appendix 1-14).

Hydrologic Data Review and Collection

Hydrologic data reviewed or collected for this project were well water levels, spring discharges, and water-chemistry data. Well water levels measured for this project, documented in NDWR well logs, or published in reports were entered into the GWSI Water Level data table (table 2). Water levels collected for this project were measured with calibrated electronic tapes or steel tapes following USGS guidelines (Cunningham and Schalk, 2011). Spring discharges measured by the USGS and published discharge data with documented methods that meet USGS guidelines were entered into ADAPS. Spring discharges were measured volumetrically for this project. Water-chemistry data reviewed or collected for this project were entered into QWDATA. For this project, water samples were collected from sites selected by USGS and BLM personnel based on spatial and temporal gaps in water-chemistry data. For selected sites, field characteristics were measured and samples were collected. The samples were analyzed for major anions and cations, trace metals, nutrients, and isotopes; not every sampled site was analyzed for the same constituents. The water-chemistry data were analyzed at the USGS National Water-Quality Laboratory and the USGS Reston Stable Isotope Lab and are available from NWISWeb.

Site-Characteristic and Hydrologic Data

Site-characteristic and hydrologic data were researched, reviewed, and collected for 186 wells and 176 springs on Federal land in Clark County, Nevada (fig. 1), including 36 wells and 67 springs added for this project. Site-characteristic data for project sites are stored in NWIS Sitefiles (table 1, appendix 1-2) and GWSI Construction, Borehole, Casing,

Open Interval, Measuring Point, Lift, Geohydrology, Geophysical Logs, Discharge, Spring, Visit, Remarks, Other Data, Miscellaneous Values, and Other Identifier data tables (table 2, appendixes 1-3 – 1-17). Hydrologic data for project sites are stored in GWSI Water Level data tables, ADAPS (spring-discharge data), and QWDATA (water-chemistry data) and are accessible from NWISWeb using the links presented in appendix 1-1.

Location data, which includes latitude, longitude, and altitude values, horizontal and vertical datums, data-collection methods, and data-accuracy values, were updated in NWIS Sitefiles (table 1) for 129 wells and 141 springs. The USGS collected SGPS data for 13 wells and 2 springs, MGPS data for 9 wells and 18 springs, and RGPS data for 75 wells and 97 springs (table 4); the BLM collected RGPS data for 1 well and 1 spring. Latitude and longitude data were updated with published values for 1 well and 5 springs and with NHD values for 5 springs. Latitude and longitude data were estimated from reported PLSS locations for 19 wells and 1 spring, from Esri digital imagery (Esri, 2013) for 10 wells and 8 springs, and from USGS 1:24,000-scale topographic quadrangles for 1 well and 3 springs.

Historic and current water levels from 2,372 measurements made at 128 wells in the project area were added to GWSI. The water levels added to GWSI consist of 1,780 water levels measured by other agencies for 33 wells, 537 measured by the USGS for 89 wells, 52 measured by 52 well drillers, 1 measured by an unknown source for 1 well, 1 measured by 1 well owner, and 1 reported for 1 well. Of the 2,372 water levels added to NWIS for this project, 1,026 were measured at 73 wells from July 1, 2007, to June 30, 2013. The measured water levels consist of 377 measured by the USGS for 57 wells for this and other USGS projects, 644 measured by other agencies for 25 wells, and 5 measured by well drillers.

Historic and current spring discharges from 1,419 measurements made at 71 springs in the project area were added to ADAPS. The discharge values added to ADAPS consist of 334 values measured at 21 springs by the USGS for this and other USGS projects between July 1, 2007, and June 30, 2013, and 1,085 published values measured at 70 springs primarily by USGS, NDWR, and DRI personnel.

Water-chemistry data for 194 samples from 21 wells and 67 springs in the project area were added to QWDATA. The data include analytical results for 124 samples from 15 wells and 39 springs collected by the USGS for this and other SNPLMA projects from July 1, 2007, to June 30, 2013 (table 5) and published data for 70 samples from 7 wells and 38 springs. For SNPLMA projects, field parameters were measured and samples were analyzed for major anions and cations, trace metals, nutrients, and isotopes.

8 Site-Characteristic and Hydrologic Data for Selected Wells and Springs on Federal Land in Clark County, Nevada

Table 4. National Water Information System wells and springs on Federal land in Clark County, Nevada, surveyed by the U.S. Geological Survey (USGS) with a global positioning system, 2007–2010.

[Sites with latitude and longitude values from a recreational-grade global positioning system (GPS) survey had altitudes updated from USGS 1:24,000-scale topographic quadrangles]

Site identification number		Station name	Grade of GPS device
363422115433701	161 S16 E55H11DAAC1	Cactus Springs 3	Survey
363436115432201	161 S16 E55H12BCAB1	CACTUS SPRING	Mapping
362450115442001	161 S18 E55 01DAC1	COLD CREEK SPRING	Mapping
362500115464701	161 S18 E55 02ACAD1	WILLOW SPRING	Mapping
362258115444501	161 S18 E55 13DBDD1	WHISKY SPRING	Recreational
362254115444001	161 S18 E55 13DDBC1	MCFARLAND SPRING	Recreational
362211115494101	162 S18 E55 20CACB1	WHEELER WELL	Recreational
362238115462801	162 S18 E55 23BBAD1	TROUGH SPRING	Recreational
362108115444201	162 S18 E55 25DDCB1	WOOD SPRING	Recreational
362033115463201	162 S18 E55 35CBBD1	BUCK SPRING	Recreational
361541115415001	162 S19 E56 28DCCD1	PEAK SPRING	Mapping
390949115440101	162 S20 E56 31CDAA1		Recreational
360956115432801	162 S20 E56 31DADA1	KIUP SPRING	Recreational
360946115421401	162 S20 E56 33CCAA1	TROUT CANYON 01	Mapping
360429115462101	162 S21 E55 35CDBC1	USBLM NDOT 02	Recreational
360459115391101	162 S21 E56 36BCBB1	LOST CABIN SPRING	Recreational
360536115323401	162 S21 E57 25CBAC1	SOUTH SPRING	Recreational
360017115460401	162 S22 E55 26DBCA1	JEEP TRAIL	Mapping
355941115490901	162 S22 E55 32ACAD1	STUMP SPRING WELL	Mapping
355514115453201	162 S23 E55 25BACC1	WELL (REPORT R46)	Recreational
360016115361501	163 S22 E57 29DABC1	USBLM NDOT 01	Survey
360310115303201	163 S22 E58 07ADDA1	RAINBOW SPRING	Recreational
360255115303301	163 S22 E58 07DADA1	BOOTLEG SPRING	Recreational
360126115302201	163 S22 E58 20BCAC1	MOUNTAIN SPRINGS	Mapping
355310115305801	163 S24 E58 06CDBD1	CAVE SPRING	Recreational
354849115225001	164A S24 E59 32DACD1	IVPH-01	Recreational
354824115182701	164A S25 E59 01AADA1	IA JEAN-2	Recreational
354709115220001	164A S25 E59 09DBDA1	JGOLD	Recreational
354706115215901	164A S25 E59 09DBDA2	GOLDOBS	Recreational
354719115204601	164A S25 E59 10ADCA1	JSTATE	Recreational
354708115212501	164A S25 E59 10CBAD1	J4	Recreational
354557115221001	164A S25 E59 16DCCC1	J6E	Recreational
354454115205401	164A S25 E59 27AACA1	JAIRPORT	Recreational
352935115103001	164B S28 E61 20DBBD1	BULLION SPRING	Recreational
353835115114401	165 S26 E61 31ADBB1	NORTH RAILROAD SPRING	Mapping
355015115102601	166 S24 E61 20DDAC1	HIDDEN VALLEY	Recreational
355002115100501	166 S24 E61 21CCDB1	WELL (REPORT R46)	Recreational
354819115104401	166 S25 E61 06AADC1	COX	Recreational
353817114563701	167 S26 E63 33CADA1		Survey
353425115092301	167 S27 E61 28ABDA1	PINE SPRING	Recreational
353724115040501	167 S27 E62 05 1	ORA HANNA SPRING	Recreational
353547115033301	167 S27 E62 16CBAA1	HIGHLAND SPRING	Mapping
353404115005501	167 S27 E62 26DBDA1	COW SPRING	Recreational
353733114553401	167 S27 E63 10CCAD1	TENMILE	Recreational
364849114391401	205 S13 E66 18BBBB1	FARRIER	Recreational

Table 4. National Water Information System wells and springs on Federal land in Clark County, Nevada, surveyed by the U.S. Geological Survey (USGS) with a global positioning system, 2007–2010.—Continued

[Sites with latitude and longitude values from a recreational-grade global positioning system (GPS) survey had altitudes updated from USGS 1:24,000-scale topographic quadrangles]

Site identification number	Station name	Grade of GPS device
364128114343401	205 S14 E66 26BDAD1 MOAPA MW-01	Recreational
365008114541101	210 S13 E63 11BACD1 USBLM (Dutch Flat)	Survey
364726114525501	210 S13 E63 25BDAA1 WELL (REPORT R25)	Recreational
364728114531001	210 S13 E63 25BDBB1 CSVN-1	Mapping
364738114534001	210 S13 E63 26AABD1 CSV-RW-2	Recreational
364601114514301	210 S13 E64 31DADA1 USGS CSV-1	Survey
364050115103401	210 S14 E61 30DDDB1 SAWMILL SPRING	Mapping
364451114585001	210 S14 E62 01ADBD1 CSVN-5	Survey
364116114550301	210 S14 E63 27BDCC1 HIDDEN VALLEY - 1	Recreational
364127114553001	210 S14 E63 28AACD1 USGS CSV-3	Recreational
364119114553201	210 S14 E63 28ADCA1 HIDDEN VALLEY - 3	Recreational
363838115055201	210 S15 E61 12BDCD1 MORMON WELL	Recreational
363943114552301	210 S15 E63 03BBCC1 CSVN-2	Recreational
363800115122701	212 S15 E60 13BBCD1 WIREGRASS SPRING	Mapping
363332115244001	212 S16 E58 14A 1 USFWS DR-1	Mapping
363212115240301	212 S16 E58 23DDD 1 USFWS SBH-1	Mapping
363501115182601	212 S16 E59 02CDBC1 COW CAMP SPRING	Mapping
363407115215301	212 S16 E59 08 2 USGS - Cow Camp	Mapping
363447115182101	212 S16 E59 11B 1 RYE PATCH SPRING	Mapping
362750115244001	212 S17 E59 20BD 1 USBLM Corn Creek Well	Survey
362620115212601	212 S17 E59 34ABBD1 CORN CREEK SPRINGS - S	Survey
362621115212601	212 S17 E59 34ABBD2 CORN CREEK SPRINGS - N	Recreational
362610115210701	212 S17 E59 34ADAB1	Recreational
362549115123601	212 S17 E60 36DABD1 WHITE SPOT SPRING	Mapping
362706115083101	212 S17 E61 22DDBC1 QUAIL SPRING	Recreational
362530115095501	212 S17 E61 33CDCD1 GASS SPRING	Recreational
362454115270201	212 S18 E58 02BDC 1 LSC-01	Survey
362026115300501	212 S18 E58 32DBCC1 GRASSY SPRING	Recreational
362030115293501	212 S18 E58 33CBCB1 SHOEMAKER SPRING	Recreational
381913115404201	212 S19 E56 03DCCB1 EDNA GREY SPRING	Recreational
361811115404401	212 S19 E56 15ABBD1	Recreational
361617115382001	212 S19 E56 25ACAA1 STANLEY B SPRINGS	Recreational
361614115381801	212 S19 E56 25ADBD1	Recreational
361555115392901	212 S19 E56 26DBDD1 ECHO 3	Recreational
361827115373701	212 S19 E57 07CDAC1	Recreational
361833115372501	212 S19 E57 07D 1 DEER CREEK SPRING	Recreational
361626115373301	212 S19 E57 30BACA1 FLETCHER SPRING	Recreational
361804115292501	212 S19 E58 16BCAD1 GRAPEVINE SPRING	Recreational
360941115295101	212 S20 E58 32DDDA1 WILLOW SPRING	Recreational
360941115295301	212 S20 E58 32DDDA2 WILLOW SPRING WELL	Recreational
361027115284301	212 S20 E58 33AAAC1 WHITE ROCK SPRING	Recreational
361027115284001	212 S20 E58 33AAAD1 WRS	Recreational
360930115255101	212 S21 E58 01ABBA1 ASH CREEK SPRING	Recreational
360922115294901	212 S21 E58 04BCAB1	Recreational
360744115260301	212 S21 E58 12DDCC1 VISITORS CENTER	Recreational

Table 4. National Water Information System wells and springs on Federal land in Clark County, Nevada, surveyed by the U.S. Geological Survey (USGS) with a global positioning system, 2007–2010.—Continued

[Sites with latitude and longitude values from a recreational-grade global positioning system (GPS) survey had altitudes updated from USGS 1:24,000-scale topographic quadrangles]

Site identification number	Station name	Grade of GPS device
360809115252601	212 S21 E58 12DDDD1 RED ROCK WASH	Recreational
360720115255201	212 S21 E58 13DBBA1 BLUE DIAMOND HILL	Recreational
360717115293301	212 S21 E58 16BCBA1 PINE CREEK SPRING	Recreational
360445115283101	212 S21 E58 33ADDC1 FIRST CREEK SPRING	Recreational
360901115252501	212 S21 E59 06CBBC1 CALICO SPRING	Recreational
360840115251001	212 S21 E59 06CCDD1 RED SPRING	Recreational
360627114581001	212 S21 E63 20CABA1	Recreational
360350115262301	212 S22 E58 02ADDC1 LONE WILLOW SPRING	Recreational
360307115271701	212 S22 E58 11BCBB1	Recreational
360318115261001	212 S22 E58 12BBBD1 MORMON GREEN SPRINGS	Recreational
360149115265501	212 S22 E58 14CDBA1 MUD SPRING NO 1	Recreational
360130115274001	212 S22 E58 22ABAC1	Recreational
360122115274701	212 S22 E58 22ACBB1	Recreational
360109115273001	212 S22 E58 22DABB1 LONE GRAPEVINE SPRING	Recreational
360048115273101	212 S22 E58 22DDCB1	Recreational
360310115250201	212 S22 E59 07BBCD1 WHEELER CAMP SPRING	Recreational
360247115224401	212 S22 E59 09CBDB1 HUMANE	Recreational
355602115253201	212 S23 E58 24CABA1 WILSON TANK	Recreational
355829115150601	212 S23 E60 03DBCB1 TORTOISE CENTER	Recreational
355321115221401	212 S24 E59 04ACDA1 BIRD SPRING	Recreational
360036114444101	213 S22 E65 29CDA 1 PUFFISH COLD	Recreational
360036114444102	213 S22 E65 29CDA 2 PUFFISH HOT	Recreational
355956114444401	213 S22 E65 32CAAC1	Recreational
355919114444301	213 S23 E65 05BDAB1	Recreational
355621114440101	213 S23 E65 21CBC 1	Recreational
355050114432201	213 S24 E65 22BCBA1	Recreational
354337114490901	213 S25 E64 34DBAB1 BRIDGE SPRING	Recreational
352850114474301	213 S28 E64 26ADDC1 PHOENIX	Recreational
352818114511201	213 S28 E64 32ABAB1 BOAT TANK SPRINGS	Recreational
351741114442001	213 S30 E65 33BDAB1 JE-1	Recreational
352855115070201	214 S28 E61 26ADAC1 BURRO SPRINGS	Recreational
352805115061701	214 S28 E61 36CAAB1 CLARKS WELL	Recreational
353034115031901	214 S28 E62 16BDCB1 LITTLE	Recreational
352924115032101	214 S28 E62 22CCAD1 YKL 1	Recreational
352918115022901	214 S28 E62 22CCCA1 WALKING BOX	Recreational
352924115001701	214 S28 E62 24CCAB1 PVE-C II	Recreational
352825115012901	214 S28 E62 26CCCB1 PVE-G	Recreational
352919114551301	214 S28 E63 27ABAB1 S-1	Recreational
352825114581901	214 S28 E63 29CCC 1 BREWER	Recreational
352827114581101	214 S28 E63 29CCDB1 GEM-1	Recreational
352824114582401	214 S28 E63 30DDDC1 GEM-2	Recreational
352743114591901	214 S28 E63 31CBCC1 S-2	Recreational
352715115000801	214 S29 E62 01BDAA1 PVE-K	Recreational
352718115015001	214 S29 E62 03AADC1 PVE-HI	Recreational
352601114585601	214 S29 E63 07DBDB1 SIXMILE	Recreational

Table 4. National Water Information System wells and springs on Federal land in Clark County, Nevada, surveyed by the U.S. Geological Survey (USGS) with a global positioning system, 2007–2010.—Continued

[Sites with latitude and longitude values from a recreational-grade global positioning system (GPS) survey had altitudes updated from USGS 1:24,000-scale topographic quadrangles]

Site identification number	Station name	Grade of GPS device
352047114563302	214 S30 E63 09DADB1 TENMILE WELL	Recreational
352047114563301	214 S30 E63 09DADB2 YKL 2	Recreational
352217114511401	214 S30 E64 05AACA1 DEEP	Recreational
351726114454401	214 S30 E65 31DAAC1 THOMAS	Recreational
351508114520501	214 S31 E64 17BBCA1 NDOT	Recreational
351701114460001	214 S31 E65 06AABA1 BATTLE AXE	Recreational
362633114242101	215 S17 E68 20ADAD1	Recreational
362633114242001	215 S17 E68 21BCBB1 GETCHEL SPRING	Recreational
362428114254601	215 S17 E68 31DBDD1	Recreational
362239114263501	215 S18 E67 12DDAD1 ROGERS SPRING	Mapping
362230114265501	215 S18 E67 13ABAB1	Recreational
362135114285401	215 S18 E67 22AABC1 RB-01	Survey
362404114240101	215 S18 E68 04BACC1	Recreational
362321114252601	215 S18 E68 07ABBA1 BLUE POINT SPRING	Recreational
362259114255201	215 S18 E68 07ACCC1	Recreational
361707114304801	215 S19 E67 16BBCC1 BITTER SPRING	Recreational
361229114544001	215 S20 E63 14CADB1 GYPSUM SPRING	Mapping
361403114510001	215 S20 E64 05DDCA1	Recreational
361335114463001	215 S20 E65 07BCBC1 ROSEN OIL	Recreational
361158114383301	215 S20 E66 20BAAA1 COTTONWOOD SPRING	Recreational
361240114332001	215 S20 E66H18BDCC1 SANDSTONE SPRING	Mapping
360730114434401	215 S21 E65 16CDCB1 WBC	Recreational
360219114475901	215 S22 E64 14CDB 1	Recreational
362753114541001	216 S17 E63 14DDDC1 Dry Lake - 2	Recreational
362700114564401	216 S17 E63 21DCCC1 HV-1	Recreational
362846114495501	216 S17 E64 09DDCD1 CRYSTAL 2	Recreational
362726114523701	216 S17 E64 19BDCD1 Dry Lake - 1	Recreational
362814114505301	216 S17 E64 21CBDB1 SP, LA, & SL RR	Recreational
362717114504901	216 S17 E64 21CBDB2 DRY LAKE UPRR EAST	Recreational
362712114504501	216 S17 E64 21CCAB1 GARNET	Recreational
362258114550001	216 S18 E63 14CBAC2 GRACE WATER	Recreational
363308114553001	217 S16 E63 09DDAB1 USBLM SHV-1	Recreational
362912114422901	218 S17 E65 10ADCD1 EAGLE	Survey
362732114435301	218 S17 E65 21ACBC1 NV SR169	Survey
362529114455101	218 S17 E65 31DBDD1 WEST	Survey
362136114465001	218 S18 E64 25AACC1 MUDDY MOUNTAIN	Recreational
362352114414501	218 S18 E65 11DBBC1 BUFPKTS-01	Survey
362310114461601	218 S18 E65 18CC 1 WELL (REPORT R50)	Recreational
364604114471301	219 S13 E64 35ACAA1 USGS-MX CE-DT-6	Recreational
364650114432001	219 S13 E65 28BDAC1 USGS CSV-2	Recreational
364529114492401	219 S13HE64 33DBBC1 UMVM-1	Recreational
364253114430802	219 S14 E65 16DBCD1	Recreational
364251114430401	219 S14 E65 16DCB 2 MUDDY RIVER SPRINGS 17	Recreational
364234114425201	219 S14 E65 16DDDC1 USFWS WARM SPRINGS WEST	Recreational
364204114454501	219 S14 E65 19CBDB1 BW-1	Mapping

Table 4. National Water Information System wells and springs on Federal land in Clark County, Nevada, surveyed by the U.S. Geological Survey (USGS) with a global positioning system, 2007–2010.—Continued

[Sites with latitude and longitude values from a recreational-grade global positioning system (GPS) survey had altitudes updated from USGS 1:24,000-scale topographic quadrangles]

Site identification number		Station name	Grade of GPS device
364236114424301	219 S14 E65 21AAAA1	WARM SPRINGS EAST	Recreational
364238114424601	219 S14 E65 21AAAA4		Recreational
364237114424501	219 S14 E65 21AAAA5		Recreational
364237114424402	219 S14 E65 21AAAA6		Recreational
364236114424701	219 S14 E65 21AAAB2		Recreational
364235114425201	219 S14 E65 21AABB1	MUDDY RIVER SPRINGS 11	Recreational
364237114425401	219 S14 E65 21AABB4	MUDDY RIVER SPRINGS 12	Recreational
364235114425301	219 S14 E65 21AABB5	MUDDY RIVER SPRINGS 19	Recreational
364223114430101	219 S14 E65 21ACAA1	EH-4	Recreational
362910114280401	220 S17 E67 02ACAB1	SPRING (REPORT R50)	Recreational
364353114125501	222 S14 E70 07CB 1	NOBLE	Recreational
363842114105401	222 S15 E70 09BCDC1	GOVERNMENT SPRING	Recreational
363731114100401	222 S15 E70 16DDAC1	NORTH KEY WEST SPRING	Recreational
363707114102301	222 S15 E70 21ACBA1	SOUTH KEY WEST SPRING	Recreational
362738114123601	223 S17 E70 18AADB1	RED ROCK SPRINGS	Recreational
361544114181801	223 S19 E69 20DCB 1	MAYNARD SPRING	Recreational
361545114173301	223 S19 E69 21CDBB1	MOCKINGBIRD SPRING	Recreational
361447114183201	223 S19 E69 29CDBB1	AGUA CHIQUITA SPRING	Recreational
361658118112501	223 S19 E70 17ADDD1	GRANITE SPRING	Recreational
361342114190201	223 S20 E69 06ABCD1	CATARACT SPRING	Mapping
361056114173201	223 S20 E69 21BDC 1	WALKER SPRING	Recreational
361135114073701	223 S20 E70 13CADA1	COTTONWOOD SPRING	Recreational
362111114082501	224 S18 E70 23AAAD1	REDI	Recreational
362056114074501	224 S18 E70 24CDCA1	HORSE SPRING	Recreational
361804114084701	224 S19 E70 11BACA1	GARDEN SPRING WELL	Mapping
361448114055201	224 S19 E71 29CCDB1	NEW SPRING	Recreational
361428114062201	224 S19 E71 31ACAA1	CONNOLY SPRING	Recreational
09419547	Blue Point Spr nr Vly of Fire State Park, NV		Mapping
09419625	CORN CK SPGS AT NATIONAL FISH & WILDLIFE HDQRS, NV		Recreational
09415908	PEDERSON E SPGS NR MOAPA, NV		Recreational
09415910	PEDERSON SPGS NR MOAPA, NV		Survey
09419550	Rogers Spring nr Overton Beach, NV		Recreational
09419669	UNNAMED SEEPS ABV LA MADRE SPG NR BLUE DIAMOND, NV		Mapping
09415920	WARM SPGS W NR MOAPA, NV		Recreational

Table 5. National Water Information System wells and springs on Federal land in Clark County, Nevada, for which water samples were collected and analyzed by the U.S. Geological Survey for this and other Southern Nevada Public Land Management Act projects, 2007–2010.

Site identification number	Station name	Number of analyses
363238115464601	161 S16 E55 22 1 Army 3	1
363436115432201	161 S16 E55H12BCAB1 CACTUS SPRING	3
362450115442001	161 S18 E55 01DACC1 COLD CREEK SPRING	1
362500115464701	161 S18 E55 02ACAD1 WILLOW SPRING	3
362108115444201	162 S18 E55 25DDCB1 WOOD SPRING	1
361541115415001	162 S19 E56 28DCCD1 PEAK SPRING	3
360956115432801	162 S20 E56 31DADA1 KIUP SPRING	3
360459115391101	162 S21 E56 36BCBB1 LOST CABIN SPRING	3
355941115490901	162 S22 E55 32ACAD1 STUMP SPRING WELL	2
360126115302201	163 S22 E58 20BCAC1 MOUNTAIN SPRINGS	2
354719115204601	164A S25 E59 10ADCA1 JSTATE	1
353835115114401	165 S26 E61 31ADBB1 NORTH RAILROAD SPRING	3
353817114563701	167 S26 E63 33CADA1	2
353547115033301	167 S27 E62 16CBAA1 HIGHLAND SPRING	3
364728114531001	210 S13 E63 25BDBB1 CSVN-1	2
364050115103401	210 S14 E61 30DDDB1 SAWMILL SPRING	2
364127114553001	210 S14 E63 28AACD1 USGS CSV-3	2
363800115122701	212 S15 E60 13BBCD1 WIREGRASS SPRING	3
363332115244001	212 S16 E58 14A 1 USFWS DR-1	1
362750115244001	212 S17 E59 20BD 1 USBLM Corn Creek Well	1
362549115123601	212 S17 E60 36DABD1 WHITE SPOT SPRING	3
362454115270201	212 S18 E58 02BDC 1 LSC-01	1
360332115254501	212 S22 E58 01CDAD1 OLIVER RANCH 2	2
355321115221401	212 S24 E59 04ACDA1 BIRD SPRING	2
360036114444101	213 S22 E65 29CDA 1 PUPFISH COLD	1
360036114444102	213 S22 E65 29CDA 2 PUPFISH HOT	2
360051114442801	213 S22 E65 29DBA 1 DAM SEEP	2
360002114443201	213 S22 E65 32ACC 1	2
360010114443301	213 S22 E65 32BDA 1	1
355956114444401	213 S22 E65 32CAAC1	2
355919114444301	213 S23 E65 05BDAB1	1
355902114444801	213 S23 E65 05CAB 1	2
355902114444802	213 S23 E65 05CAB 2	2
355756114443401	213 S23 E65 08CDD 1	2
355621114440101	213 S23 E65 21CBC 1	2
355050114432201	213 S24 E65 22BCBA1	2
351712114441201	213 S30 E65 33CDAD1 JE-2	2
351009114404201	213 S32 E65 12DDCB1 HIKO SPRINGS	3
352918115022901	214 S28 E62 22CCCA1 WALKING BOX	2
352743114591901	214 S28 E63 31CBCC1 S-2	2
362239114263501	215 S18 E67 12DDAD1 ROGERS SPRING	3
361229114544001	215 S20 E63 14CADB1 GYPSUM SPRING	3
361240114332001	215 S20 E66H18BDCC1 SANDSTONE SPRING	3
364253114430802	219 S14 E65 16DBCD1	3
364204114454501	219 S14 E65 19CBDB1 BW-1	1
364236114424701	219 S14 E65 21AAAB2	3

14 Site-Characteristic and Hydrologic Data for Selected Wells and Springs on Federal Land in Clark County, Nevada

Table 5. National Water Information System wells and springs on Federal land in Clark County, Nevada, for which water samples were collected and analyzed by the U.S. Geological Survey for this and other Southern Nevada Public Land Management Act projects, 2007–2010.—Continued

Site identification number	Station name	Number of analyses
363842114105401	222 S15 E70 09BCDC1 GOVERNMENT SPRING	2
362735114154501	223 S17 E69 14ABB 1 RED BLUFF SPRING	3
361342114190201	223 S20 E69 06ABCD1 CATARACT SPRING	3
361804114084701	224 S19 E70 11BACA1 GARDEN SPRING WELL	2
361448114055201	224 S19 E71 29CCDB1 NEW SPRING	2
09419625	CORN CK SPGS AT NATIONAL FISH & WILDLIFE HDQRS, NV	4
09415910	PEDERSON SPGS NR MOAPA, NV	3
09419669	UNNAMED SEEPS ABV LA MADRE SPG NR BLUE DIAMOND, NV	3

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Appendix 1. Selected data stored in the U.S. Geological Survey National Water Information System for selected wells and springs on Federal Land in Clark County, Nevada.

The Microsoft Excel workbook (<http://pubs.usgs.gov/ds/864>) presents National Water Information System (NWIS) data and links to NWIS data for project area sites. Appendix 1-1 presents NWIS site identification numbers, station names, and links to the NWIS web interface (NWISWeb) for project-area sites.

Water-level, spring-discharge, and water-chemistry data are available from NWISWeb. Appendixes 1-2 – 1-17 present NWIS site-characteristic data reviewed for this project that are not available from NWISWeb; the data were retrieved from June 28 to July 1, 2013.

Appendix 2. Publications reviewed for site-characteristic and hydrologic data for selected wells and springs on Federal Land in Clark County, Nevada.

The Microsoft Excel workbook (<http://pubs.usgs.gov/ds/864>) presents citations for publications and reports reviewed for this project. Appendix 2-1 presents citations for publications and reports that have site-characteristic or hydrologic data stored

in National Water Information System (NWIS) for project-area sites. Appendix 2-2 presents citations for publications and reports that were researched but do not have site-characteristic or hydrologic data for sites in the project area.

