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Section I. Submittal Information (includes above information)

Submittal Description and Revision Summary for Entire Submittal:

This Phase 1 Water Resources Assessment Report, per task 3.5a of contract NN-HC4-00207, describes the hydrogeologic framework of each hydrographic basin included within the Mina Rail Corridor (MRC). The report includes a summary of relevant data and processes related to the development of new water resources for construction and operation of the proposed MRC. This information can be used for planning purposes in order to site new water wells and as baseline data by the EIS Contractor to aid in the evaluation of potential impacts to existing resources resulting from development of new groundwater sources along the MRC. The report includes Appendix data summaries for wells, springs, streams, and existing active water rights along the MRC (as summarized below). The report also includes Plates depicting relevant hydrogeologic information along the MRC (as summarized below). This report is the Draft (REV.0) submission, which is an update from Rev0B incorporating final review comments.

Special Instructions:

Section II. Data File Information (Add lines below if needed for additional files. Indicate "Last item" or "End of list" after last line used.)

Filename	Rev.	File Size	Description (File description and revision summary for file)	Application and Version/ Add-in or Extension and Version
043110 04 Converse Mina Rail Rev0 WRA 4-5-07 JMD 11-29DS.pdf	0	4,448kb	Phase 1 Water Resources Assessment Report for Mina Rail Corridor. Rev.0 includes final review comments from Rev0b submittal	Adobe Acrobat ~~6.0~~ 7.0 Standard / Version ~~6.0.6~~ 7.0 1/8/2007
Rev0 WRA Appendix 4-5-07.pdf	0	565kb	Appendices A thru D, which include various data details from USGS and NDWR as described in the report	Adobe Acrobat ~~6.0~~ 7.0 Standard / Version ~~6.0.6~~ 7.0 1/8/2007
Rev0 WRA Plates 4-5-07.pdf	0	29,443kb	Hydrographic basin maps depicting select hydrogeologic information described in the report.	Adobe Acrobat ~~6.0~~ 7.0 Standard / Version ~~6.0.6~~ 7.0 1/8/2007

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Water Resources Assessment
Mina Rail Corridor

Task 3.5a: Phase 1 Water Resources Assessment
REV. 0
04-33110-04

Prepared by:

Converse Consultants

Prepared for:

BECHTEL SAIC COMPANY, LLC

Nevada Rail Project Hydrologic Analysis

NN-HC4-00207

April 5, 2007

Water Resources Assessment Report
Mina Rail Corridor
REV.0

Nevada Rail Project Hydrologic Analysis

Subcontract No. NN-HCA 00207

Task 3.5a, Phase 1 Water Resources Assessment

April 5, 2007

Converse Consultants Project No. 04-33110-04

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Abbreviations and Acronyms

AFA	acre-feet per year (ac-ft/yr)
AMSL	Above Mean Sea Level
bgs	below ground surface
BLM	Bureau of Land Management (USDI)
BSC	Bechtel SAIC Company, LLC
cfs	cubic feet per second
CRC	Caliente Railroad Corridor
DOE	Department of Energy (U.S.)
DRI	Desert Research Institute (University of Nevada System, State of Nevada)
EIS	Environmental Impact Statement (NEPA/EPA)
EPA	U.S. Environmental Protection Agency
F	Fahrenheit (Temperature Scale)
ft	foot (feet)
GIS	Geographical Information System
gpd	gallons per day
GNIS	Geographical Names Information System
gpm	gallons per minute
GPS	Global Positioning System
GW	groundwater
ID	Identification
mg/l	milligrams per liter
MRC	Mina Railroad Corridor
mS/cm	microsiemens per centimeter
NAC	Nevada Administrative Code
NBMG	Nevada Bureau of Mines and Geology
NDCNR	Nevada Department of Conservation and Natural Resources
NDEP	Nevada Division of Environmental Protection
NDWR	Nevada Division of Water Resources
NED	National Elevation Dataset (USGS)
NOAA	National Oceanic and Atmospheric Administration
NRS	Nevada Revised Statutes
NTS	Nevada Test Site
NTTR	Nevada Test and Training Range
PLGR/PPS	Precise Positioning Service (GPS)
ppm	parts per million
ROW	Right-of-Way
SIR	Scientific Investigations Report
SPS	Standard Positioning Service (GPS)
TDS	Total Dissolved Solids
TNT	Trinitrotoluene
TRS	Township, Range, and Section
URL	Universal Resource Locations
USGS	U.S. Geological Survey
NWIS	National Water Information System (USGS)
UTM	Universal Transverse Mercator
UXO	Unexploded Ordnance
WRCC	Western Regional Climate Center

1.0 Introduction

1.1 Background

Construction of the proposed rail line, referred to in this report as the Mina Rail Corridor (MRC), would require the use of water during construction activities and rail system operations, which is expected to come from new groundwater resources. The water used during construction would primarily support construction activities, which include grade compaction, dust control, and concrete production. Potable water will also have to be supplied for workers during the construction process. The general goal of this project is to collect existing information on water resources within the hydrographic basins that may be influenced by the construction along the MRC. This information can be used during the planning stages of the project and during the development of preliminary strategies that would address the processes that could be involved with obtaining and development of new water resources to support construction of the proposed rail line.

The U.S. Department of Energy (DOE) is studying two corridors in Nevada for possible construction of a rail line to transport spent nuclear fuel and high-level radioactive waste to a proposed repository at Yucca Mountain, Nevada. The corridors, both 0.25 mile-wide, are referred to as the Caliente and Mina corridors. DOE may eventually select one alignment within one of these corridors for the rail line. This report references geographical areas and hydrographic basins, or basins, along the MRC according to the following convention:

1. The MRC consists of (1) a construction Right-of-Way (ROW) and (2) several identified alternative alignments of the MRC that are included for evaluation. The nominal width of the construction ROW would be 1,000 feet, 500 feet on either side of the centerline of the rail alignment. The construction ROW could be wider in some locations to accommodate, if practicable, certain deep cuts and fills and construction of drainage structures, or narrower in some loca-

tion to avoid, for example, sensitive environmental resources or private property.

2. Hydrographic basins (basins) in which any part of the MRC, as defined above, pass through are referenced as MRC Basins. There are 12 basins that meet these geographic criteria.

3. The 20-mile Study Corridor, which is broadly defined as the Study Corridor for purposes of water resources assessment, is a 20-mile wide area along the MRC that was drawn by extending a boundary 10 miles perpendicular to the centerline of the MRC in all directions around. Hydrographic basins that fall within the Study Corridor but outside of the MRC are referred to as Non-MRC Basins. There are 9 basins that meet these geographic criteria.

The information described above is shown graphically in Plate 1-1. Note that the Mina corridor originates at the terminus of the Union Pacific Railroad at the Fort Churchill siding near Wabuska, Nevada. From that point the corridor extends southeastward along various alternate alignments until it intersects with the Caliente corridor either along the Caliente Alternative Alignment GF4 at station 42710+00 or along Caliente Common Segment CS4 at station 14146+54. From these intersections, the segment, common to both the Caliente corridor and the Mina corridor, would continue southeastward where it would terminate at Yucca Mountain near the southwest corner of the Nevada Test Site (NTS). Water Resources and other studies of the segment common to both the Caliente corridor and the Mina corridor have already been completed and are contained the Water Resources Assessment Report for the Caliente Rail Corridor (CRC) (Converse, 2005).

1.2 Purpose and Scope

The objectives of the water resources assessment are as follows:

1. Collect, review, and present information regarding the quantity, quality and overall conditions of water resources within identified basins along the Study Corridor.

2. Support the preparation of an Environmental Impact Statement (EIS) by determining the location and quantity of existing water resources within the Study Corridor.

3. Support the preparation of an EIS by presenting a preliminary evaluation of water resources that could be used to site new groundwater wells to support temporary construction and operational demand along the MRC associated with the proposed rail line.

2.0 Literature and Data Review

Several previous studies have been published, which address water resources information in and around the MRC and Study Corridor. In order to support efforts to identify and review literature on existing studies that have occurred within the Study Corridor, Converse developed a digital database of reference material. This electronic database includes references that are generally categorized by the hydrographic basins described in each report. Each reference includes a bibliographic description and, when available, a link to download the report from an online source. In some cases, the references were scanned and archived electronically on a local server where they could be downloaded for viewing purposes.

Data used for this study was obtained from various government and public sources. A summary of pertinent data sources referenced in this report is provided in the following Sections.

2.1 Published References

Most of the initial (historical) water resources-related work within basins along the Study Corridor was performed by the U.S. Geological Survey (USGS) through a series of studies for the Nevada Department of Conservation and Natural Resources (NDCNR) and the State Engineer's office. The first in these series of studies, the results of which were reported in Water Resources Bulletins, was initiated in 1944 under a cooperative arrangement between the USGS and State Engineer that was expanded in 1945 by the Nevada Legislature. The next series of studies was initiated by Nevada Legislature in 1960, which resulted in Ground-Water Resources Reconnaissance Series. Both studies resulted from the need for appraisals of the State's water resources in response to increased interest and demand for development of these resources throughout Nevada.

Since the initial series of studies performed by the USGS, additional studies within basins along the Study Corridor have been published, which provided confirmation, and in some cases additional information, beyond the Water Resources Bulletins and Reconnaissance Series described above. These additional studies were generally performed by the USGS, Desert Research Institute (DRI), Nevada Bureau of Mines and Geology (NBMG), Nevada Division of Water Resources (NDWR), and private companies. In most cases water resources studies along the Study Corridor were performed for an agency of the Federal Government or the State of Nevada.

2.2 GIS Data

This project incorporates the use of a Geographical Information System (GIS) to display, organize, query and analyze water resources data within the Study Corridor. All GIS data used for this project is organized and stored digitally in a database structure. A summary of the GIS data most relevant to the assessment of water resources for this project includes, but is not be limited to the following:

1. **MRC, 1-Mile Corridor and Alternate Rail Alignments:** Provided by Bechtel SAIC Company, LLC (BSC).

2. **Political Map Data:** Locations for roads and legal boundaries for cities, towns, county and the states were provided by BSC. BSC also provided boundary information for the Nevada Test and Training Range (NTTR) and the Nevada Test Site (NTS).

3. **Hydrographic Basin Boundaries for Nevada:** This layer of information consists of polygon coverage of Nevada's hydrographic basins (basins) at 1:750,000-scale. These boundaries were originally delineated in 1968 in collaboration with the USGS (Rush, 1968a). The Rush (1974a) map, *Static Ground Water Levels of Nevada*, has become the defacto reference for the hydrographic basins. An update to basin boundary coverage was issued by the U.S. Bureau of Land Management (BLM) – Nevada State Office in 1999 based on data originating from NDWR – State Engineer's Office. The administrative boundaries published in the 1999 update provided by BLM were used for this project. Note that these basin boundary lines generally coincide with true topographic basin divides; however, some of the lines are arbitrary divisions (for administrative purposes in most cases) that have no topographic control.

4. **Nevada Groundwater Basin Flow Summary Data:** This data set provides summary estimates of natural recharge, artificial recharge, pumpage, and net groundwater flow for each basin where the information is available. This data was tabulated and published by Lopes and Evetts (2004)

5. **Geology:**
   State Geology: Provided by BSC, based on generalized aeromagnetic geology maps from the USGS as digitized from Turner, Bawiec and Russell (1991).

County Geology: County digital geologic maps were incorporated from existing 1:250,000-scale maps in county geologic and mineral resource bulletins published by the NBMG. This dataset includes mapped surficial and bedrock geologic coverage as well as fault coverage from the county maps.

6. **Hydrogeology and Hydrologic Landscape:** This data set was created as part of a USGS study (Scientific Investigations Report 2004-5131, Maurer, et al., 2004). The data is presented in the project GIS as hydrologic landscape areas based on analyses of hydrogeology, precipitation, soil permeability, land surface slope and aspect data layers. The hydrogeology data set is divided into two main units; consolidated rocks and unconsolidated sediments. Consolidated rocks are subdivided into 8 hydrogeologic units: (1) carbonate rocks, Quaternary to Tertiary-age; (2) basaltic, (3) rhyolitic, and (4) andesitic volcanic flows; (5) volcanic breccias, tuffs, and volcanic rocks older than Tertiary-age; (6) intrusive and metamorphic rocks; (7) consolidated and semi-consolidated tuffaceous rocks and sediments; and (8) clastic rocks consisting of sandstone and siltstone. Unconsolidated sediments are subdivided into 4 hydrogeologic units: (1) alluvial slopes, (2) valley floors, (3) fluvial deposits, and (4) playas. In addition, soil permeability is provided and grouped into five descriptive categories ranging from very high to very low, which generally correspond to mapped geomorphic features such as playas and alluvial slopes. The geologic map of Nevada (Stewart and Carlson, 1978), published at a scale of 1:500,000, is the primary source of lithology used to delineate hydrogeologic units, enhanced with elevation and hydrologic data, and supplemented with Landsat Thematic Mapper imagery (Maurer and others, 2004).

7. **Elevation Dataset:** This coverage is based on USGS National Elevation Dataset (NED), which was developed by merging digital elevation data with high-resolution images in raster format. The shaded relief display is derived from NED using a hill-shade technique.

8. **Topographic Information:** Digitized (geo-referenced) USGS 7.5 minute quadrangle raster graphics maps.

9. **Depth to Groundwater Data:** This information is a digitized depth to groundwater data set displayed as contours and constructed from static groundwater level data as reported by Rush (1974a). This data set was created as part of a USGS study and published in 2006 along with an update based on data collected from 1947 to 2004 as reported in Lopes, et al., 2006 (SIR 2006-5100). Note that this GIS data (SIR 2006-5100) was not available for the CRC project. As a result, Converse (2005) developed estimated depth to groundwater contours for each basin included in CRC assessment of water resources. In both cases (CRC and MRC), the depth to groundwater contours layers were generally derived from the same information that is documented in the USGS National Water Information System (NWIS) (2006).

10. **GNIS Springs:** The Geographical Names Information System (GNIS) layer used in this project included spring locations (spatial data) and names (if known). The GNIS data was intended to be used as a supplemental base layer to support planning efforts by the BLM Nevada. The original GNIS was developed by the USGS.

11. **Well Data:** Information on wells was obtained from NDWR Well Log Database (2006a) and USGS NWIS (2006). This data is explained in more detail in the Sections that follow.

12. **Surface Water Data:** Information on springs and streams was obtained from the USGS-NWIS. This data is explained in more detail in the Sections that follow.

13. **Nevada Water Rights Data:** Information on Nevada water rights permits, or appropriations, within the 19 Study Corridor Basins

was obtained from the State Engineer's Office in Carson City. This data is explained in more detail in Sections that follow.

2.3 Descriptions of Spatial Data

A database of water resources information was developed for this project, and is referenced in the report as the GIS Project Database. This information was incorporated in a GIS basemap for review and display purposes. As described in the following Sections, well and surface water (springs and streams) data were obtained from NDWR (2006a) and the USGS (2006). Information on water rights was also obtained from State Engineer's office and incorporated into the GIS Project Database described in the preceding Section.

2.3.1 NDWR Well Data

The Nevada Division of Water Resources (NDWR) well data was obtained in the form of a digital database known as the "Well Log Database," which is available in the public domain from NDWR (2006a). This database includes basic information (not including lithology) filed by licensed well drillers when a well is drilled anywhere in Nevada. Well log information includes, but is not limited to, a general and legal description of the well and location, borehole lithology (Well Log Database), well completion information, and well testing data (if available).

NDWR has added to the Well Log Database approximate coordinates for the well locations. Based on information provided by NDWR (2006a), the accuracy of well coordinates included in the Well Log Database can vary, in terms of reported latitude and longitude within the following ranges:

- 1-minute: approximately 6,060 feet
- 10-seconds: approximately 1,010 feet
- 5-seconds: approximately 505 feet
- GPS Data: "accuracy not yet defined"

Note that in some cases reported coordinate accuracy may be based on the legal description (Township, Range, and Section). The State does not require surveyed locations for wells that are filed with NDWR. As a result, some of the well logs have been filed at NDWR with incorrect legal descriptions that can cause the well coordinates to be off by as much as several thousand feet within a specific hydrographic basin. In some cases, the well logs include a legal, or location description that places them in the wrong basin altogether. For most of the wells within the 20-mile Study Corridor, the reported coordinates were based on the center of the 40-acre Quarter-Quarter Section descriptions provided on the well log file for each event. Note that a Section is 1-mile^2, or 640 acres, so a 40-acre Quarter-Quarter Section is actually 1/16th of a Section. Because of the criteria used by NDWR for determining approximate well event locations, the well could actually be located anywhere within the described 40-acre tract of land depending on the detail included with the legal description provided on the well log as filed. In some cases the well log location may be based on a description of only the 1/4-Section (160 acres) or even the Section (640 acres), in which case the corresponding spatial data could be hundreds or even thousands of feet different from actual locations. Table 2-1 includes a quantitative summary of the NDWR wells spatially referenced for this project and included in the GIS Project Database.

The NDWR (2006a) Well Log database provides entries for each event associated with a well. In addition to the construction of a new well, these events can also include the deepening, re-drilling and abandonment of an existing well. Therefore, all NDWR Well Log information cannot be treated as representative of well conditions at the time of first construction unless stated on the log. Each "Well Log Number" is actually a sequential identification of an event related to a well. Only logs of type "New" or "Replacement" have lithologic logs associated with them. Other event types such as abandonment do not have lithologic logs. Multiple "NDWR Well Numbers" may apply to a single well location, each describing a particular event at a site. Each event has a different number and it is sometimes not possible to match an activity such as abandonment to a specific well. A total of 8,938 logs were listed in the Well Log Database having coordinates within the MRC or adjoining basins. A total of 1,169 well logs were listed in the Well Log Database having coordinates within the 20-mile Study Corridor, or 10-miles from the center of MRC in all directions. Be-

cause one of the objectives for this project was to identify existing wells within the Study Corridor, wells were not included in the Project Database if the NDWR-designated "Work Type" on the log specified that the well was Plugged or Abandoned. Locations of NDWR wells (as referenced on the logs as filed) are shown graphically in Plates 4-1 thru 4-13 for each of the MRC basins, while additional relevant information pertaining to NDWR wells is provided in Appendix D.

Table 2-1: NDWR Wells Summary
(NDWR, 2006a)

Number of Wells	Criteria Description
8,938	Total number of NDWR wells with coordinate descriptions within the MRC and adjoining basins (includes all MRC and Non-MRC basins in entirety).
1,169	Number of NDWR wells included in the project database that lie within 10 miles of the MRC.
92	Number of NDWR wells included in the project database within 1-mile of the MRC.

2.3.2 Water Rights Data

Water rights abstract information was obtained from a public database that is maintained by the State Engineer's office at NDWR (2006b) in Carson City, Nevada. Water rights data included a summary of the information specified in each permit as filed with the State Engineer's office. An overview of the water rights data and how it was used within the context of this project is explained below. Section 4.2 of this report includes a detailed description of the information obtained from the State Engineer's office pertaining to water rights data.

The legal description on the water rights data was used to relate the permit to its corresponding 40-acre Quarter-Quarter legal Section within the GIS Project Database (described in the preceding Section). It should be noted that the legal Section locations for each point of diversion provided in the water rights permit abstracts are considered accurate to within the 40-acre Quarter-Quarter Section. In general, locations assigned to water right permits are considered to be

accurate to the described level because each application must be accompanied by a legal survey, which includes a correctly documented legal description provided by a certified State Water Right Surveyor. The water right applications and rulings are updated by the State Engineer's on a periodic basis and may have up to an 8 to 12 month lag (verbal communication, NDWR). The water right summaries obtained for this project were based upon information on file between August and October 2006. A more detailed discussion on specific numbers and types of water rights in various basins that were referenced in this project is included in Section 4.2 of this report. Locations (by legal description) displayed as townships, ranges and section grids containing underground, surface and geothermal water rights within the all of the MRC and Non-MRC basins are shown graphically in Plates 4-13 and 4-14. A summary of water rights abstract information for each of the Study Corridor basins is included in Appendix C.

2.3.3 USGS-NWIS Data

The USGS investigates the occurrence, quantity, quality, distribution, and movement of surface and underground waters and disseminates the data to the public; tribal, state, and local governments; public and private utilities; and other Federal agencies involved with managing Nevada's water resources.
The U.S. Geological Survey- National Water Information System (USGS-NWIS) is a large collection of data and information on the water resources of the United States. This data is shared with the public through the World Wide Web via NWISWeb. Within this Web site, data are displayed as graphs, in tables, or on maps. Complete data files can also be downloaded. The database contains current and historical water data from more than 1.5 million sites across the nation.

In 1889, the USGS established its first gauging station in Nevada for providing to the public data about Nevada's water resources. Currently, this database provides access to water resources data collected at approximately 20,000 sites in Nevada. Online access to this data is organized around the categories listed below in Table 2-2.

Table 2-2: USGS-NWIS Data Description

Data Type	Description
Site Information	Descriptive site information for all sites with links to all available water date for individual site. Site information generally includes (but is not limited to) coordinate location, elevation, date ranges for associated data, hydrographic units, aquifer codes, date of completion and well depth.
Real-Time	Current conditions data transmitted from selected surface water, groundwater and water quality sites.
Surface Water	Water flow and levels in streams, lakes, springs and meteorological.
Groundwater	Water levels in wells.
Water Quality	Chemical and physical data for streams, lakes, springs, and wells.

The GIS Project Database developed for this project includes spatial data and summary information included with each USGS site. Active hyperlinks were provided for each site (within the Project Database) so that all available site information and time series data (when available) can be retrieved from the NWIS online database. A quantitative summary of the USGS sites is included in Table 2-3 below and graphical locations of USGS sites within the MRC basins are depicted in Plates 4-1 thru 4-13. Appendix A includes a summary (with Universal Resource Locations (URL)) to USGS data obtained for this project. It should be noted that a USGS site constitutes a location where at least one discrete measurement was made and documented in the NWIS database. Some sites have dedicated gages or monitoring instruments that provide data logging capabilities over specific periods.

Table 2-3: USGS-NWIS Site Summary
(data from spatial query on GIS Project Database)

Sites Within 20-mile Study Corridor (All 19 Basins)	Sites Within 12 MRC Basins (Within 20-mile Study Corridor)
Total =539 Wells =427 Springs = 37 Streams = 55 Lakes/reservoirs=19 Unknown = 1	Total = 322 Wells = 409 Springs = 36 Streams = 46 Lakes/reservoirs=2 Unknown = 0
USGS-NWIS sites reporting Water Quality in MRC Basins (Within 20-mile Study Corridor)	
Total = 89 Wells = 61 Surface (springs, streams) = 28	

The USGS has documented the coordinate and elevation accuracy for sites included in the NWIS database. Reported spatial accuracy of the USGS data varies based on the information included in Table in 2-4 below. The site information for the USGS wells, springs and streams in the GIS Project Database and Appendix A (USGS Data) includes coordinate and elevation accuracy descriptions for each site.

Table 2-4: USGS-NWIS Spatial Accuracy

Code	Description
H	Accurate to +/- 0.01 second (differentially corrected GPS)
1	Accurate to +/- .1 second (differentially corrected GPS)
5	Accurate to +/- .5 second (Precise Positioning Service (PLGR/PPS GPS))
S	Accurate to +/- 1 second
R	Accurate to +/- 3 seconds (Standard Positioning Service (SPS GPS))
F	Accurate to +/- 5 seconds
T	Accurate to +/- 10 seconds
M	Accurate to +/- 1 minute
U	Unknown

3.0 Water Resources Framework

3.1 Regulatory Framework

In the state of Nevada all sources of water within the boundaries of the State whether above or below ground belong to the public as defined by Nevada Revised Statutes NRS 533.025. Individuals or entities within the State can apply for the right to use that water. Nevada Water Law is founded on the doctrine of prior appropriation – "first in time, first in right" (Shamberger, 1991). Nevada Water Law is set forth in NRS, Chapters 533 and 534. There are also numerous court decisions that have helped define Nevada Water Law through the years as well. The NDWR is responsible for the appropriation, adjudication, distribution, and management of water in the State. The appointed administrative head of this division is the State Engineer who serves as the water rights administrator of the State. To carry out these duties the State Engineer is vested with broad discretionary powers (NDWR, 1992)

All water rights are considered real property and thus are conveyed by deed. Water rights can be bought and sold, and the location and type of use changed. There are generally three main components of appropriative water rights in Nevada, which consist of the following:

1. Beneficial use, which is the measure and limit of the right to the actual water used.

2. Rights are stated in terms of definite quantity, manner of use, and period of use.

3. A water right can be lost by abandonment or forfeiture.

3.1.1 Appropriation of Public Waters

Subject to availability of unappropriated water, existing rights, and the public interest, water may be appropriated for any beneficial use. Where there is unappropriated water in the source, and where the proposed use or change does

not tend to impair the value of existing rights, or to be otherwise detrimental to the public interest, the State Engineer is required by statute to approve the application (NDWR, 2000). However, because the basis of the water law in Nevada is the prior appropriation doctrine, all rights are issued subject to prior rights on the source. The date of priority is the date the original application was received by the State Engineer at the NDWR office in Carson City. All permits bearing an earlier date are "senior" and all permits bearing a later date are "junior" (NDWR, 2000).

The general policy of the State Engineer is to limit groundwater withdrawals from a basin to the average annual recharge, or perennial yield, to the groundwater basin (also referred to as hydrographic basin). By definition, the perennial yield of a groundwater basin is the maximum amount of natural discharge that can be salvaged each year over the long term by pumping without bringing about some undesired result, such as static water level decline beyond a reasonable limit.

A permit to appropriate water grants the right to develop a certain amount of water from a particular source for a certain purpose and to be used at a definite location. This right can become a perfected appropriation only upon: (1) completion of the works of diversion; (2) the placing of the water to beneficial use; and (3) filing the proofs required. A right may be lost to the holder of the permit if he fails to meet the statutory requirements (NDWR, 2000 and NRS 533).

3.1.2 Application Process

In order to acquire a water permit, an application must be made in accordance with requirements described in NRS 533.325. Accordingly, no application shall be for the water of more than one source to be used for more than one purpose (NRS 533.330). Once an applicant submits the appropriate documentation describing the desired new water right according to statutory requirements, a notice must be published in a newspaper of general circulation in the area where the application was filed. This notice is published for approximately 30 days (NRS 533.360). Interested parties may file a formal protest up until 30 days after the last day of publication explaining their objections to the application

and requesting denial of the application or other appropriate action by the State Engineer (NRS 533.365).

After expiration of the protest period, the application is deemed "ready for action" by the State Engineer. By definition, "ready for action" implies that the period of waiting has passed for public recording and the application is ready for review by the State Engineer with the ultimate outcome of denial, modification or permitted as applied. When considering an application for approval or denial, the State Engineer must consider the following:

1. Is there unappropriated water at the source?

2. Will the specified use of the water under the proposed application conflict with existing rights?

3. Will the use of the water under the proposed application prove detrimental to the public interest?

4. Will the use of the water under the proposed application adversely impact domestic wells?

In addition to these items, other criteria within the NRS 533.370 deal with impacts within irrigation districts, the good faith intent of the applicant to construct the works of diversion and put the water to beneficial use. Furthermore, the State Engineer may require any additional information needed prior to approval or rejection of an application (NRS 533.375) in order to assist in determining the appropriate action on the application. The application process described above generally applies to applications for temporary appropriations as well.

3.1.2.1 Required Proofs

The application can either be approved as requested, reduced in rate of flow and volume and then approved or denied. If approved the application will become a permit, and it will be imposed with terms and conditions of performance. A "Proof of Completion" affidavit must be filed on or before the stipulated

due date. The proof of completion is a description of the improvements, which enable the permittee to divert water to the proposed place and proposed use, e.g., the construction and equipping of a groundwater well.

The "Proof of Beneficial Use" is the final proof required by the terms of the permit. The time requirements for filing this proof depend on the amount and type of work contemplated by the permit holder when the application was filed. The time may also be subject to what the State Engineer determines is a reasonable time to accomplish beneficial use. The State Engineer may also grant time extensions. In general, good faith and reasonable diligence are the statutory criteria guiding the State Engineer (NRS 533.395) in considering extensions of time.

A permit holder may place less water (on less land, for example, if for irrigation purposes) than granted on the permit. However, when this occurs, the water right is then limited to that which was actually put to beneficial use. If the permittee has filed a "Proof of Beneficial Use" and then wants to expand to the originally permitted acreage (in the case of permits for irrigation water), or use the water for it at a later date, the permittee must obtain another permit.

Once the proofs have all been filed and the other terms of the permit complied with, the State Engineer prepares a "Certificate of Appropriation" describing the use to be made of the water as shown on the "Proof of Beneficial Use." At this point the permit is designated as a certificated permit, which is subject to those terms and conditions on that specific permit. These terms and condition consist of general provisions stating that the permit is subject to all prior rights on the source, measuring device requirements and any special limitations or conditions that the State Engineer may impose. Diversion rates and annual duty of water that may be used are also set forth in the permit terms. Note that a certificated water right may be lost by forfeiture and/or abandonment. In addition, the State Engineer may grant an extension of time to work a forfeiture, provided a proper request to do so is submitted prior to the five (5) successive years of no use subject to conditions and limitations provided by NRS 534.090.

3.1.2.2 Diversion Rate and Annual Use

The amount of allowable diversion as a rate of flow in cubic feet per second (cfs) is provided in the permit terms. Annual duty may also be specified as the total amount of allowable diversion on an annualized or seasonal basis, which is also provided in the permit terms. This amount depends on what the applicant requests and what the State Engineer finds is reasonably necessary for the use sought in the application. Generally, the applicant is allowed the amount of diversion needed to provide a sufficient head of water for distribution, but is limited to a seasonal or annual duty of water. The amount of water the permit holder will be allowed to divert annually, or the duty, is the limitation noted. The State Engineer determines this duty from data and information showing the actual amounts needed in the same geographical area for existing permitted used of the same type. Or, if the permit is for water to be used on land subject to a court decree, the duty allowed by the court may be used (NDWR, 2000).

When the water appropriated from a source is going to be used to supplement water already supplied from other sources, the duty allowed will be limited to the amount necessary to reasonably fulfill the purpose of the use from all sources. For example, an owner has a parcel of land having an annual duty of four (4) acre-feet from each of two (2) or more sources for that parcel, will still be limited to a combined total duty of four (4) acre-feet from any and all sources.

3.1.2.3 Assigning and Conveyance of Water Rights

All water rights in Nevada are issued subject to prior rights on the source. Once a permit is granted, the water must be used on the land and for the purpose described in the permit. A water right can be severed from the land only with the consent of the owner of record as reflected in the permit record in the NDWR office.

It is possible to buy or sell water rights and change the water's point of diversion, manner of use and place of use by filing the appropriate application with the State Engineer. Water rights in Nevada have the standing of both real and

personal property, meaning they are conveyed as an appurtenance to real property unless they are specifically excluded in the deed of conveyance. When water rights are purchased or sold as personal property or treated as a separate appurtenance in a real-estate transaction, the water rights are conveyed specifically by a deed. Every water right conveyance document must be filed in the Office of the County Recorder in each county where the water is applied to beneficial use or diverted from its source. Upon transfer of a water right a "Report of Conveyance" must be filed with State Engineer. The State Engineer shall confirm the Report of Conveyance upon the proper filing of the report, the payment of the prescribed fees, provided no conflict exists in the chain of title, and the State Engineer is able to determine the rate of diversion and the amount of acre-feet or million gallons from the conveyance document. The water right number should be listed in each document.

3.1.3 Designated Underground Basins

In certain hydrographic basins where the State Engineer has determined that groundwater is being depleted, that basin may be declared as a "designated basin" as provided by NRS 534.120. This designation provides the State Engineer far-reaching administrative capacity to impose additional conditions and restrictions on water use originating from that basin. A Designated basin is not "closed" to additional appropriations; however, preferred uses are imposed. Preferred use generally includes water for domestic, municipal, quasi-municipal, industrial, mining and stock-watering uses, and any uses for which a county, city, town, public water district or public water company furnishes the water. It should be noted that temporary permits may be issued in Designated basins, but can be limited in time of use and may be revoked if and when water can be furnished by an entity such as a water district or municipality presently engaged in the area.

Prior to drilling a well in a Designated basin, a permit to appropriate water is required as provided in Subsection 1 of NRS 534.050. However, upon written application and a showing of *good cause,* the State Engineer may issue a waiver of the requirement of Subsection 1 (NRS 534.050): *(1) For exploratory wells to be drilled to determine the availability of water or the quality of available water; (2) To allow temporary use of the water in constructing a high-*

way...Subsection 3 (NRS 534.050) also specifies that in other basins or portions of basins which have not been designated by the State Engineer no application or permit to appropriate water is necessary until after the well is constructed and water developed, but a permit must be obtained prior to diversion of water from the constructed well, pursuant to the provisions of NRS 533. However, Subsection 4 (NRS 534.050) provides the State Engineer the authority to issue a written waiver of the requirements of Subsection 3 (NRS 534.050), to allow *temporary use of water in constructing a highway*...

3.1.4 Application to Change

The point of diversion and place and manner of use of an existing right or portion thereof (permitted, certified, vested) may be changed subject to statutory criteria and approval by the State Engineer (NRS 533.345). Permanent applications to change follow the same review process as an original application. The statutory criteria for approval is contingent upon the proposed change not impairing existing rights or be detrimental to the public interest. Changes in the manner of use are common; however, certain changes may be restricted due to their preferred status. For example, agricultural rights are frequently changed to municipal, commercial, industrial, and recreational uses. As described in the previous Section, preferred uses can be declared by the State Engineer and proposals to changes in the manner of use from a preferred use to a non-preferred use may not be approved (NRS 534.120). For example, municipal rights, mining, and milling rights may not be changed to irrigation. In addition, when two or more water rights cover the same place of use, an application to change must be filed to change all water rights. For example, if two irrigation water rights are approved to irrigate the same acreage, one right cannot be removed without removing the second right.

In some cases changes to permits are necessary and allowed while the right is still being perfected. In 1993, the Nevada legislature expressly provided that before water has been applied to its intended use under a permit, the ...*place of diversion, manner of use or place of use*... may be changed (White and Jankowski, 1999).

3.1.4.1 Temporary Changes and Transfers

The State Engineer may approve an application for a temporary change of point of diversion, manner of use, or place of use of water already appropriated without publication of a notice of the application, provided that the prescribed fees are paid and the temporary change is in the public interest and does not impair water rights held by other persons. A "temporary change" permit can be granted for any period not to exceed one year. NRS 533.345 further states that, *If the State Engineer determines that the temporary change may not be in the public interest, or may impair the water rights held by other persons, he shall give notice of the application as provided in NRS 533.360 and hold a hearing and render a decision as provided in this chapter.* However, even though public notice is not required for temporary permit changes, in accordance with NRS 533.363 the State Engineer is required to notify the county commission for applications to use water in the county other than that in which it is appropriated or currently diverted or used.

As provided by NAC 534.446 a waiver to use water for *construction of highway* can be issued by the State Engineer to allow the *temporary use of water from an existing well for the construction of a highway, or to drill a well and use the water from the well for the construction of a highway.*

3.1.5 Interbasin Transfers

Due to the state's arid climate and limited water resources, transferring water from one basin to another has been occurring in Nevada since 1873. Under NRS 533.370 the *Interbasin transfer of groundwater means a transfer of ground water from which the proposed point of diversion is in a different basin than the proposed place of beneficial use.* In determining whether an application for an Interbasin transfer of water should be approved or rejected, under NRS 533.370 the State Engineer must consider:

1. Whether the applicant has justified the need to import the water from another basin

2. Whether a conservation plan has been adopted and is being effectively carried out. If the State Engineer determines that such a plan is advisable for the basin into which water is to be imported.

3. Whether the proposed action is environmentally sound as it relates to the basin from which the water is exported.

4. Whether the proposed action is an appropriate long-term use that will not unduly limit the future growth and development in the basin from which the water is exported.

5. Any other factor(s) the State Engineer determines to be relevant.

The applicant may also work with the county from which the water is proposed to be transferred to develop a plan to mitigate adverse economic impacts of the transfer. If a plan cannot be agreed to, the county (with the approval of the State Engineer) has the option to impose an annual fee on the water transferred as defined in NRS 533.438.

3.2 Hydrogeologic Framework

3.2.1 Physiographic Setting

For hydrologic analysis and water planning and management purposes, the USGS and NDWR through various studies have divided the State of Nevada into fourteen (14) distinct and discrete hydrologic units called Hydrographic Regions (Rush, 1968a). A hydrographic region or watershed is broadly defined as a geographic area drained by a single major stream or an area consisting of a drainage system comprised of streams and often natural or man-made lakes. These principal hydrographic regions have been further disaggregated into 256 smaller areas, which the USGS commonly refers to as Hydrographic Areas and Sub-Areas. The NDWR has customarily referred to these sub-areas as Hydrographic Basins, or simply Basins (as used in this report). These smaller divisions into basins typically comprise a valley, a portion of a valley, or a terminal basin.

The MRC crosses three (3) Hydrographic Regions, which include Death Valley Basin (Region 14), Central (Region 10) and Walker River (Region 9). The MRC passes through four (4) counties in Nevada — Nye, Esmeralda, Mineral, Lyon. The 20-mile Study Corridor also passes through the southern tip of Churchill County. Nevada's 14 Hydrographic Regions and county boundaries are shown in Figure 3-1.

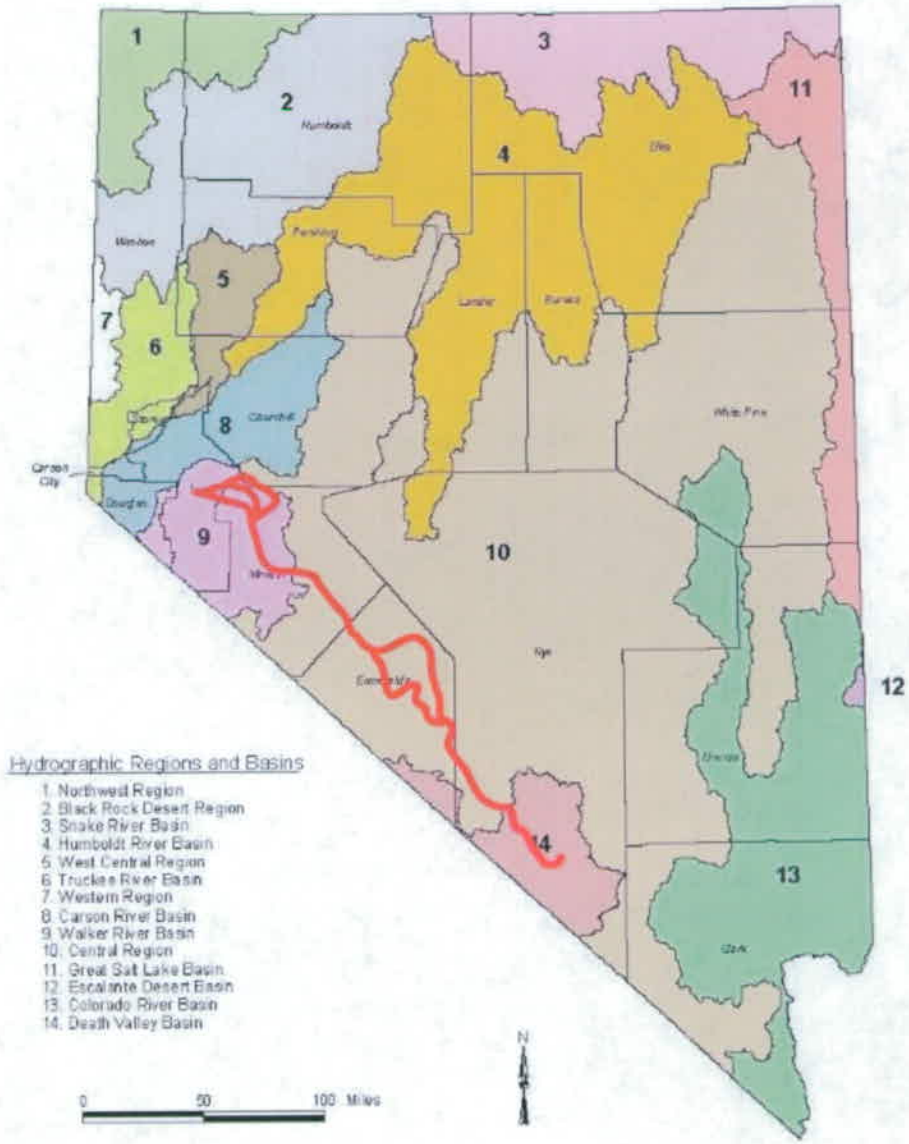

Figure 3-1 –**Map of Nevada's Hydrographic Regions** (modified after NDWR, 2001)

The MRC is situated within the Nevada portion of the Basin and Range Physiographic Province or topographic region (Fenneman, 1931). The Province is characterized by alternating structural basins forming long valleys that are separated by uplifted mountain ranges. Unconsolidated alluvial sediments fill in the basins and with consolidated rock cropping out in the mountains and underlying the alluvial deposits in the basins. This arid to semiarid region has low precipitation and high evaporation. Aquifers exist in the alluvial deposits filling the basins and are recharged through rainfall and snowmelt in the surrounding mountain ranges and flows towards the axes of the valleys through the alluvium.

3.2.2 Groundwater Occurrence

Most groundwater recharge in the hydrographic basins along the Study Corridor is derived from winter and spring precipitation. The moisture is typically stored in snow pack, at elevations of 7,000 feet and higher. A limited portion of the precipitation not lost through evapotranspiration reaches the groundwater reservoirs in the valley either by way of streams, which eventually discharge onto alluvial aprons or by infiltrating directly into fractured consolidated rock in the mountains and percolating vertically and laterally to the valley-fill aquifer. Additional inflow is received from localized intense storms and groundwater recharge through unconsolidated alluvium in the valleys. Natural discharge of groundwater occurs in most basins as a result of spring and seeps, evapotranspiration by phreatophytes, and interbasin flow. In the latter case, individual basins may be hydraulically linked into regional flow systems, while other basins may be hydraulically isolated.

Groundwater recharge, storage, and flow also depend on geologic conditions. Within the Study Corridor, groundwater occurs both in alluvium and bedrock aquifers in each of the Study Corridor basins. In the alluvium, groundwater recharge, flow, storage, and discharge are controlled by the permeability of the unconsolidated sediments. In the bedrock, porosity, permeability, and structure (i.e., faults and fractures) control the recharge, flow, storage, and discharge of the groundwater. In general, bedrock lithology (rock type) and struc-

ture is typically complex in the area making groundwater occurrence more difficult to understand and predict than in the alluvium.

Along the Study Corridor, groundwater typically occurs in one or more of the following regional hydrogeologic units (Waddell, et al., 1984):

1. Valley-fill deposits or alluvium
2. Volcanic rocks
3. Clastic sedimentary rocks
4. Carbonate rocks
5. Intrusive and metamorphic rocks

Generally the unconsolidated valley-fill deposits form major aquifers, with the potential for well yields that can vary from less than 100 to more than 2,000 gpm. Most of the consolidated hydrogeologic units listed above typically exhibit low permeability except for fracture zones and generally yield less than 25 gpm per well in the absence of favorable geologic structure, or conduits, that could support higher well yields. Although numerous springs are found in association with other rock layers, development of these aquifers is relatively difficult. It is also important to note that well yields for all units can increase significantly where highly fractured bedrock zones exist, especially in areas with higher proportions of carbonate rocks, which tend to increase with depth in the vicinity of Esmeralda County along the Study Corridor. The first hydrogeologic unit listed above (alluvium) is the principal unit of interest relative to the Study Corridor, since it can be found within all of the subject basins and is generally more accessible compared to carbonate and volcanic aquifers. Therefore, the most important water-bearing stratum in the Study Corridor is valley-fill alluvium.

3.2.3 Valley-Fill Alluvial Aquifers

The basins within the Study Corridor are typically a fault-bounded basin with adjoining mountain ranges common to the Basin and Range Province. These basins are filled with detritus derived from the ranges. The unconsolidated

sediment consists of silt, sand, gravel, cobbles, and boulders that are generally deposited within alluvial fans, intermittent streams, and ephemeral lakes. Coarse-grained alluvial fan deposits are typically located near the base of the mountains and grade into and interfinger with fine-grained sand, silt, and clay deposits in the central portion of the valleys. These deposits increase in thickness from the mountain fronts to the center of each valley, where they can be a thick as 5,000 feet or greater. The surficial deposits along the mountain fronts are generally referred to as alluvium even though they typically include the thin veneer of locally derived colluvium and alluvial and eolian (windblown) sediments in the gullies and major canyons extending up the mountain slopes. The thicker fine-grained alluvial sediments in the valley bottoms are also called playa (dry-lake) deposits. Playas are dry lake beds typically found at the bottom of undrained desert basins that are sometimes covered with water during wet periods. Over time, due to these periods of water accumulation followed by periods of evaporation, playa areas tend to accumulate fine-grained sediments and soluble salt deposits, which can impact shallow groundwater (when present).

Groundwater in the unconsolidated sediments generally flows from the recharge areas in the surrounding mountains to the axial center of the basins. The direction of groundwater flow in the near-surface unconfined aquifer generally follows the local topography. Eventually, the unconfined aquifers transition into deeper confined valley-fill aquifers especially where the alluvial fan deposits interfinger with the playa deposits. The low permeability interbeds of playa silts and clays serve as confining layers. A usually temporal and near-surface unconfined aquifer may also be present in the playa area itself which is recharged by lake-forming storm runoff events or occasionally discharges from nearby seeps and springs. Overall flow in the alluvial aquifers is usually restricted to individual hydrographic basins. Interbasin flow in the alluvial aquifers is generally limited (Winograd and Thordarson, 1975).

The areal extent, depth to, and thickness of the valley-fill aquifer is highly variable within the Study Corridor. This variability is found between basins and within each basin itself. Although the alluvium fills basins to significant thicknesses in the central portions of the valleys in many cases, the hydraulic prop-

erties of the coarse-grained alluvial fan aprons and deposits surrounding the fine-grained playas are of greater interest in siting wells. As a result, the depth to water combined with the thickness of saturated coarse-grained alluvium is the best criteria for siting production wells in the valley-fill deposits. The ideal well locations are generally located outside the margins of the playa where the alluvial fans begin to interface with the fine-grained deposits particularly in areas situated downgradient from the higher mountain ranges where recharge is the greatest. In some basins, the first wells drilled in these sites will have artesian flow.

3.2.4 Fault Zones

The Basin and Range Province by its very nature has numerous faults cutting both the mountain blocks and intervening basin fill of the region. Faults can act as either barriers or conduits to groundwater flow (Winograd and Thordarson, 1975). The faulting influence on groundwater flow is dependent on the physical and lithological characteristics of the rock or materials. Faulting of softer, less competent rocks can form crushed and pulverized rock (fault gouge), which would act as a barrier to groundwater flow. Mineralization along faults also can reduce or prevent the transmission of water. Barriers may also result from the fault juxtaposition of more permeable materials with less permeable ones along groundwater flow paths. Faulting of harder, more competent rock can create conduits that allow higher groundwater flow and storage than surrounding unfaulted rock. Fault zones are also the most common hydraulic links for regional flow systems between individual basins. Successful groundwater exploration programs should consider and incorporate, if relevant, the presence or relationship to faults along with the hydrogeologic units described previously.

3.2.5 Water Quality

The quality of groundwater varies throughout the Study Corridor. In general, groundwater in areas of recharge has low chemical concentrations, but as it moves through the groundwater system to discharge areas (i.e., valley bottoms), it dissolves sediments and rock materials. The extent to which chemical constituents are dissolved is largely determined by factors that include: (1) the

solubility, volume, and distribution of the materials; (2) the length of time that the water is in contact with the materials; (3) the distance that the water travels from the point of recharge; and (4) the temperature and pressure within the groundwater system.

In general, the water quality degrades dramatically in alluvial-fill aquifers in close proximity to the playa lakes along the central axis of the valleys (Winograd and Thordarson, 1975). In cases where there is downward leakage of the near-surface aquifers in the playa itself to deeper basin-fill aquifers, the water quality is strongly saline.

Water quality can vary from basin to basin and is not only impacted by hydrogeologic conditions described above, but also man-made surface conditions such as development, irrigation, and agricultural activities. In general, most of the basins within Study Corridor have limited water quality information available. However, a general discussion of specific water quality issues is included below in Section 4.1 for each MRC basin (where available). Additionally, the GIS Project Database includes references to over 71 sites within the Study Corridor and 31 sites in the MRC basins where water quality has been measured at least once by the USGS. These sites include direct links to the USGS NWIS database where field and laboratory analytical results can be reviewed. Links to this information can also be found in Appendix A.

4.0 Water Resources Overview

The following Section summarizes available data for each hydrographic basin traversed by the proposed MRC. The summaries include narrative descriptions of unique features within each basin, reconnaissance groundwater data including ranges in depths to groundwater, geology, subsurface flow characteristics, water quality, and other pertinent hydrogeologic information. In addition, a summary of existing water rights (Sections 4.2 and 4.3) in each basin was developed based on records from the State Engineer's office. The objective of the water rights summary was to provide a quantitative overview of the existing appropriations in each basin within the Study Corridor. The overview also includes details on the status, type of use and approximate quantity of water currently utilized in each basin.

Each basin described in Section 4.1 has an accompanying GIS basemap, which includes graphical representations of relevant information discussed in the following Sections and depicted on the accompanying Plates 4-1 through 4-13. Note that each well, spring or stream site displayed on these GIS-based plates is based on spatial information obtained from the NDWR Well Log Database (2006a) and the USGS NWIS database (2006). All USGS sites were assigned unique IDs specific to this project, and displayed on each accompanying basin map (referred to as "Project ID" in Appendix A. These USGS project IDs are also referenced in Figure captions for specific well hydrographs included in the following Sections.

The GIS maps (Plates) that correspond to each basin assessment (below) also include estimated depths to groundwater in each area within a basin where enough information was available to plot groundwater contour lines. These contour lines represent approximate depths to groundwater in feet below ground surface (bgs) based upon interpretation of spatial groundwater level data as reported in Lopes, et al., (SIR 2006-5100).

Also included in the following Section (4.1) for each basin is tables that provide a summary accounting (by type) of each NDWR well that was listed in the NDWR Well Log Database (2006a). There are also references (within each basin description) to the number of USGS wells in the basin. Note that generally, the number of USGS well sites does not always agree with NDWR wells listed in each basin. This is because the USGS only reports data on wells that it can access or are included in various projects that have taken place in the basin, while the NDWR Well Log Database (2006a) includes many (but probably not all) wells that have been drilled in the basin.

4.1 MRC Basin Assessments

The objectives for assessment of water resources along the MRC are to provide baseline data to support an EIS analysis and to support rail design efforts. It has been established that water resources for the construction and operation of the proposed MRC will be developed from new underground sources of water

from wells. In order to develop new water resources in each basin it is necessary to define and describe relevant hydrogeologic conditions and current resource conditions in each basin. This assessment of water resources was accomplished using only existing information from existing published resources.

4.1.1 Lida Valley (Basin 144)

The Lida Valley Basin (Basin 144) lies in the Central Hydrographic Region mostly in Esmeralda County with a small portion extending east into Nye County Nevada. It is a non-designated basin with a reported perennial yield of 350 ac-ft/yr (NDWR, 2006d) and active annual duty of 72 ac-ft/yr (NDWR, 2006d) from underground resources. Additional information pertaining to the basin geography, geology, hydrogeology, and relevant well data is depicted in the accompanying Plate 4-1.

4.1.1.1 Physical Setting

Lida Valley is a topographically closed basin that covers an area of 535 square miles extending 29 miles east-west and 28 miles north-south. The basin is bounded on the west by the Palmetto Mountains, on the north by the Montezuma Range, on the northeast by the Goldfield Hills, on the east by Stonewall Flat and Stonewall Mountain, and on the south by Slate Ridge. A low east-northeast trending bedrock ridge, Mount Jackson-Cuprite Hills partly separates the northern and southern parts of the valley. Elevations range from approximately 4,600 feet above mean sea level (AMSL) on the playa at the east end of the basin to 9,045 feet AMSL at Mount Magruder in the Sylvania Mountains at the west end of the basin. There are no perennial streams in Lida Valley, and ephemeral streams are limited to short periods of runoff after high intensity storms and/or snow melt. Surface drainage is internal to the playa in the eastern part of the basin.

4.1.1.2 Existing Conditions

The principal settlements for Lida Valley are the small mining towns of Lida and Gold Point. Lida is located near the western side of the basin and is served by Nevada State Highway 266 connecting to US 95 fourteen (14) miles south of Goldfield, Nevada. Gold Point located in the southwestern part of the basin is

served by Highway 774 that connects to Highway 266 east of Lida. Other parts of the basin are served on the east by US 95 and by gravel roads and unimproved trails.

4.1.1.3 Climate

Lida Valley is classified as having an arid to semi-arid climate with low precipitation/humidity and high rates of evaporation. According to Laczniak and others (2001) the average annual precipitation is approximately 5 to 6 inches. There are no climate stations monitored by the Western Regional Climate Center (WRCC) in Lida Valley; however from 1948 to 2005 precipitation and temperature have been monitored at Goldfield (2 miles north of Lida Valley Basin), and from 1948 to 1961 at Sarcobatus (7 miles south of Lida Valley Basin). The WRCC (2006) average annual precipitation and monthly temperature ranges for these stations are provided in Table 4-1.

Table 4-1 – Lida Valley Climate Data
(Western Regional Climate Center, 2006)

Station	Period of Record	Average Annual Precipitation (in)	Maximum Monthly Temperature (°F)	Minimum Monthly Temperature (°F)
Goldfield	1948-2005	6.45	89.0	21.4
Sarcobatus	1948-1961	3.34	98.4	19.9

Rush (1968b) estimated that the actual amount of evapotranspiration for Lida Valley was minor based upon the lack of phreatophytes in the basin. However, potential evaporation rates for the Lida Valley have been estimated to range from 48 to 72 inches per year (Shevenell, 1996).

4.1.1.4 Geology

Bedrock along the basin margins consists primarily of younger Precambrian and Lower Paleozoic hornfels, phyllite, quartzite, limestone and dolomite. Bedrock exposures are found in the Sylvania Mountains, Slate Ridge and the southern part of Goldfield Hills. These units are several thousands feet thick and have been folded and emplaced into multiple plates bounded by low-angle faults, some of which appear to be Mesozoic thrust faults and possible Tertiary detachment faults. Overall faulting in the valley trends north-northeast and

nearly east west as seen in the Sylvania Mountains. Jurassic granitic intrusions are widely exposed in the southwestern part of the basin. Tertiary rocks consisting of rhyolite-dacite flows and tuffs, volcanic sediments and relatively small areas of basalt flows cover much of the Montezuma Range, Goldfield Hills and Bare Mountain.

The valley fill is composed of alluvial sediments ranging from sands and gravels along the alluvial fans and washes to silts and clays believed to be hundreds of feet thick towards the axis of the valleys.

4.1.1.5 Groundwater Conditions

Groundwater within Lida Valley is concentrated in generally unconfined aquifers of the valley fill sediments. Consequently, most groundwater production has been from valley-fill wells. Groundwater depths generally range from 26 feet at Lida townsite to 360 feet (bgs) near Lida Junction. Although a few residents still depend upon springs, most water is limited to a few domestic wells, a municipal well at Lida and stock wells. The USGS NWIS database (USGS, 2006) lists only 8 wells located near Lida Junction. Water levels seem to be stable in the USGS Lida Valley well (Project ID U174L) but have declined slightly in the Ralston well (Figure 4-1) since the early 1990s.

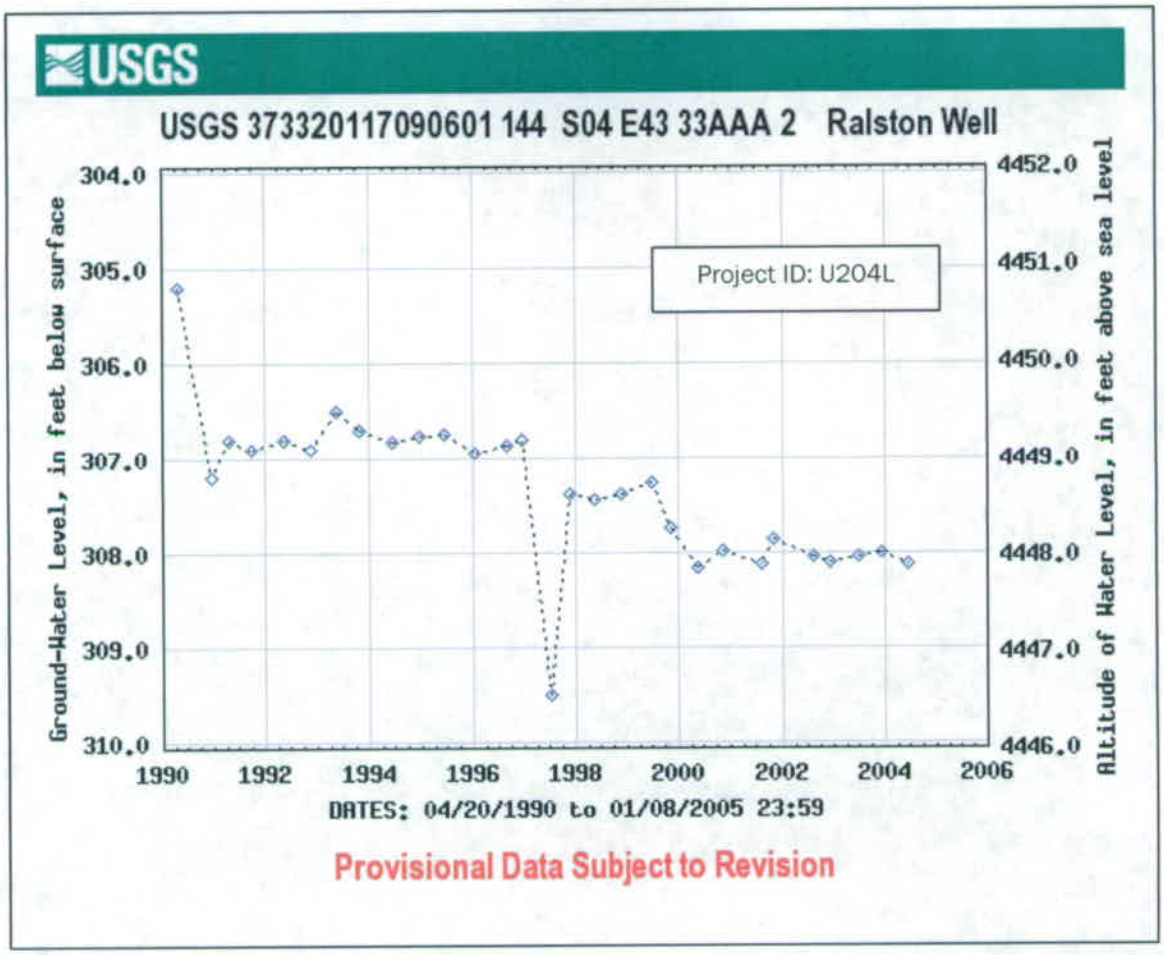

Figure 4-1 – Hydrograph for Ralston Well in eastern Lida Valley Basin (USGS-NWIS, 2006)

Groundwater in the Lida Valley Basin has four general flow paths:

1. Northeastwards from the main recharge area near Lida.
2. Southwestward from Stonewall Flat Basin.
3. Southwestward from the Montezuma Range, then eastward after passing through a narrow bedrock gap at Mount Jackson.
4. Southeastward from the eastern part of Lida basin into Sarcobatus Basin.

Anning and Konieczki (2005), and Rush (1968b) indicate that groundwater exits the south side the basin to Sarcobatus Flat Basin, presumably in the area where US 95 crosses the basin boundary.

Gold Point must acquire water from other locations due to the lack of springs or wells (Rush, 1968b). Historically springs near Lida provided 450 acre-feet per annum (AFA) of water for the town of Goldfield (Meinzer, 1917); however, in 1919 the pipeline was destroyed and not repaired (Rush, 1968b).

4.1.1.6 Water Quality

Rush (1968b) provides water quality data for 3 wells and 1 spring in the Lida Valley basin with total dissolved solids (TDS) values in the range of 400 mg/l to 1,100 mg/l. The well having the highest specific conductance (located near Lida townsite) also contained sulfate of 284 mg/l. Other wells in the basin and Carter Spring reflected lower sulfate values of 61 mg/l to 188 mg/l.

4.1.1.7 Water Balance Summary

Rush (1968b) estimated recharge from precipitation to be 500 AFA. Inflow from Stonewall Flat basin to the northeast was estimated at 200 AFA (Rush, 1968). Surface drainage within Lida Valley basin is mostly internal collecting in a playa in the south. Rush (1968) also concluded the possibility of periodic drainage into the Sarcobatus Flat playa during wet years. Losses through evapotranspiration are considered to be negligible since there are no areas of phreatophytes in the Lida Valley basin except for a few small springs near Lida (Rush, 1968b). Table 4-2 provides a water balance summary for the Lida Valley basin.

Table 4-2 – Lida Valley Basin (144) Water Balance Summary

Element	Quantity (AFA)	Notes
INFLOW		
Recharge from Precipitation	500 to 1,900	Rush (1968b) Lopes and Evetts (2004)
Subsurface Inflow from Stonewall Basin	200	Rush (1968b)
OUTFLOW		
Evapotranspiration	Minor	Rush (1968b)
Surface flow (springs)	10	Rush (1968b)
Subsurface Outflow to Sarcobatus Flat Basin	700	Rush (1968b)
Pumpage / Irrigation	40	Lopes and Evetts (2004)
ACTIVE ANNUAL DUTY	72	NDWR (2006b)
PERENNIAL YIELD	350	NDWR (2006d)
STORAGE	600,000	Rush et al. (1971)

4.1.1.8 Summary of Existing Wells and Water Rights

The NDWR Well Log Database (2006a) includes a total of 17 existing well entries in the basin of which 9 are production wells. NDWR (2006a) lists only two wells with pump tests, both are low yield wells of 30 to 40 gpm with transmissivities of 170 gpd/ ft to 400 gpd/ft. Table 4-3 provides a summary of wells and the associated proposed use for Lida Valley as reported by the NDWR Well Log Database (2006a).

Table 4-3 – Lida Valley Basin (144) Well Summary

Proposed Use	Number of Well Logs
Commercial	1
Domestic	2
Industrial	1
Other	7
Public Supply-municipal	4
Test well	2
Total Existing Wells	**17**

The current active annual duty (underground) of 72 AFA represents only a small portion of the estimated perennial yield of 350 AFA for Lida Valley. Active water rights, both surface and underground are concentrated in two parts

of the basin, the area near Lida and the central part of the basin near Lida Junction. Table 4-4 summarizes the current status of underground water rights within the Lida Valley Basin. Based on this information it appears that a large portion of the estimated perennial yield for the basin is currently unappropriated.

Table 4-4 – Lida Valley Basin (144) Water Rights

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Commercial (COM)		
Construction (CON)		
Domestic (DOM)		
Environmental (ENV)		
Industrial (IND)		
Irrigation-Carey Act (IRC)		
Irrigation-DLE (IRD)		
Irrigation (IRR)		
Mining and Milling (MM)	30	
Municipal (MUN)		
Power (PWR)		
Quasi-Municipal (QM)	14	
Recreational (REC)		
Stock (STK)	28	
Storage (STO)		
Wildlife (WLD)		
Other (OTH)		
Total	**72**	**0**
Status	**Annual Duty AFA**	**Other GW AFA**
Vested Right		
Reserved		
Application		
Ready for Action		
Permit	14	
Relinquish a Portion		
Revocable Permit		
Certificate	58	
Decreed		
Total	**72**	**0**

Note: NDWR Data as of October 21, 2006.

4.1.2 Alkali Spring Valley (Basin 142)

The Alkali Spring Valley Basin (Basin 142) lies in the Central Hydrographic Region in Esmeralda and Nye Counties, Nevada. It is a non-designated basin with a perennial yield of 3,000 ac-ft/yr (NDWR, 2006d) and active annual duty of 1,148 ac-ft/yr (NDWR, 2006d) from underground resources. Additional information pertaining to the basin geography, geology, hydrogeology, and relevant well data is depicted in the accompanying Plate 4-2.

4.1.2.1 Physical Setting

Alkali Spring is a topographically closed basin that extends about 24 miles long (north-south) and 15 miles wide (east-west) covering an area of 313 square miles. The valley is bordered on the west by the Weepah Hills, on the east by the Tonopah Hills and Goldfield Hills, on the north by the General Thomas Hills and on the south by the Montezuma Range. Elevations range from 4,800 feet at the Alkali Spring Valley playa to 8,373 feet at Montezuma Peak on the south side of the basin (Rush, 1968b).

4.1.2.2 Existing Conditions

The local economy principally consists of ranching and mining. The town of Goldfield lies in the southeastern part of the basin. Access to the valley is either by US Highway 95 on the east side or from Silver Peak Road to the south.

4.1.2.3 Climate

Climate data is available for the nearby towns of Goldfield, Silver Peak and Tonopah. Silver Peak is about 600 feet lower than the playa in Alkali Spring Basin and the Goldfield and Tonopah sites are at elevations similar to the upper parts of the Alkali Spring Basin. Since rainfall in the Great Basin is closely related to elevation, the estimated average for the basin is in the range of 4 to 6 inches per year. The WRCC (2006) average annual precipitation and monthly temperature ranges for these stations are provided in Table 4-5.

Table 4-5 – Alkali Spring Valley Climate Data
(Western Regional Climate Center, 2006)

Station	Period of Record	Average Annual Precipitation (in)	Maximum Monthly Temperature (°F)	Minimum Monthly Temperature (°F)
Goldfield	1948-2005	6.45	89.0	21.4
Silver Peak	1967-2005	4.40	97.3	18.9
Tonopah	1928-2000	4.95	87.8	22.4

The actual amount of evapotranspiration for Alkali Spring Valley was estimated to be 400 ac-ft/yr derived from approximate areas of influence from phreatophytes based on plant cover, density and consumptive use factors, as well as rough estimates of bare soil evaporation (Rush, 1968b). However, potential evaporation rates for the Alkali Spring Valley range from 48 to 72 inches per year (Shevenell, 1996).

4.1.2.4 Geology

Albers and Stewart (1972) indicate that the mountains on the western and southwestern sides of the basin are composed of mostly structurally deformed and somewhat metamorphosed Cambrian and Ordovician clastic and subordinate carbonate rocks intruded by a granitic pluton and many rhyolite dikes. To the north, east and southeast are mainly Tertiary and Quaternary volcanic rocks.

Pleistocene and Holocene alluvium fills the central part of the valley. It generally is unconsolidated and undeformed and is composed of gravel, sand, silt, and clay with playa evaporates present on the western side of the valley. The younger alluvium generally is more porous and more permeable than most of the underlying older alluvium (Pliocene and Pleistocene age). The older alluvium is similar in composition to the overlying material however is characteristically semi-consolidated to unconsolidated, dissected, and locally faulted and deformed.

Several north-northeast striking faults lie on the southwest edge of the basin and along the south side of the General Thomas Hills and include the Montezuma Range Fault, the Clayton-Montezuma Valley fault, the Clayton Ridge

fault, and the General Thomas fault. These faults are traceable in outcrop extending into the adjacent Clayton Valley Basin and may project beneath the valley fill in the playa area of Alkali Springs Valley.

4.1.2.5 Groundwater Conditions

Most groundwater in the Alkali Spring Valley Basin lies within the valley fill. Overall, rocks on the valley margins are of low permeability and poor hosts for groundwater except where fractured. Faults and fractures feed several small springs on the south side of the basin, but do not offer significant groundwater storage. Most groundwater production has been from valley-fill wells that are located in the central part of the valley fill area of the basin. The Alkali Spring lies on the strike projection of the Montezuma Range fault which may supply recharge water to the spring. The fault zone which originates in volcanic rocks may act as a conduit for groundwater flow extending into the valley fill sediments.

The earliest groundwater production in the Alkali Spring Valley basin seems to be from the hand-dug Ramsey and Klondyke wells located on the valley floor east of the playa (Ball, 1907). The earliest record of production was obtained from two former wells, referred to as the Neptune Wells, located on the south edge of the playa in T01S, R41E Section 9. Meinzer (1917) states, "The two drilled wells at the Neptune pumping plant are situated 700 feet apart and are cased with 10-inch pipe, without strainers or perforations, that ends a little more than 300 feet below the surface. According to Mr. C. G. Patrick, manager of the Goldfield Consolidated Water Co., double-acting cylinder pumps were installed in both wells 150 feet below the surface and were operated at 120 gallons per minute each. As much as 120,000 gallons a day has been pumped from one well for at least a month at a time.

The USGS NWIS database (USGS, 2006) lists 19 wells in the Alkali Spring Valley. Groundwater depths generally range from 7 to 480 feet (bgs). Groundwater characteristics are difficult to classify based on the limited data; of the USGS sites only a single water level measurement is reported.

4.1.2.6 Water Quality

Water quality ranges widely in Alkali Spring Valley. Water at Alkali Spring contains very high TDS sodium sulfate and has been described as unsuitable for irrigation (Rush, 1968b). The best water quality is in the northeastern part of the basin where TDS values of less than 1,000 mg/l are common, whereas less than favorable water quality has been reported in the playa area and extending to the vicinity of Alkali Hot Springs where TDS values are in the range of 1,000 to 3,000 mg/l. Water quality analyses from various wells show marginal to good quality (Table 4-6) (Rush, 1968b).

Table 4-6 – Alkali Spring Valley Water Quality

Source	Chloride (popm)	Sulfate (ppm)	Conductance (umhos)	Approximate TDS (ppm)
Well 1	44	120	–	–
Well 2	24	61	459	300
Well 3	–	–	1,730	1,200
Alkali Spring	68	492	1,840	1,300
Well 4	–	–	702	500

4.1.2.7 Water Balance Summary

Except for the Montezuma Peak area on the south side of the basin the mountains surrounding the basin are relatively low in altitude, providing little increase in precipitation above the average for the basin floor. For this reason recharge from precipitation is very small. Recharge through precipitation is estimated to be 100 AFA, and Rush (1968b) and Rush et al. (1971) estimated aquifer storage to be on the order of 30,000 ac-ft within the upper 100 feet of saturated material. Groundwater flow in the basin is to the southwest with estimated inflow from Ralston Valley of 5,500 AFA and 5,000 AFA of estimated outflow to Clayton Valley (Rush, 1968b). Losses through evapotranspiration are estimated at 400 AFA (Rush, 1968b). Pumpage in the basin is mostly for mining and municipal uses. Table 4-7 provides a water balance summary for the Alkali Spring Valley basin.

Table 4-7 – Alkali Spring Valley Basin (142) Water Balance Summary

Element	Quantity (AFA)	Notes
INFLOW		
Recharge from Precipitation	100	Rush (1968b)
Subsurface Inflow	5,500	Rush (1968b)
OUTFLOW		
Evapotranspiration	400	Rush (1968b)
Springs	Minor	Recharge to valley fill
Subsurface Outflow	5,000	Rush (1968b)
Pumpage / Irrigation	30	Lopes and Evetts (2004)
ACTIVE ANNUAL DUTY	1,148	NDWR (2006b)
PERENNIAL YIELD	3,000	NDWR (2006d)
STORAGE	30,000 ac-ft	Rush et al. (1971)

4.1.2.8 Summary of Existing Wells and Water Rights

The NDWR Well Log Database (2006a) includes a total of 20 existing well entries in the basin of which 9 are production wells, while the remainder is test or monitoring wells. Static water levels in the basin generally range from 28 to 215 feet (bgs). Only one well in Alkali Spring Basin has pump test data. This is a municipal well listed as having a transmissivity of 21,225 gpd/ft (NDWR, 2006a). Table 4-8 provides a summary of wells and the associated proposed use for Alkali Spring Valley as reported by the NDWR Well Log Database (2006a).

Table 4-8 – Alkali Spring Valley Basin (142) Well Summary

Proposed Use	Number of Well Logs
Industrial	1
Mining	4
Monitoring Well	6
Other	1
Public Supply-municipal	4
Test well	4
Total Existing Wells	**20**

Alkali Spring located on the south side of the basin is the only significant spring in the basin. Meinzer (1917) reports that the spring produced about 50 gpm at a temperature of 140 °F. Although this water was at one time used for a mill at Goldfield it is currently used for stock watering. Most of the flow is re-introduced into the valley fill aquifer by infiltration within the alluvium (Rush, 1968b).

The main uses of water in the basin are for mining and municipal supply. Currently, the active annual duty of 1,148 AFA is well within the perennial yield of 3,000 AFA. Table 4-9 summarizes the current status of water rights within the Alkali Spring Valley Basin.

Table 4-9 – Alkali Spring Valley Basin (142) Water Rights

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Commercial (COM)		
Construction (CON)		
Domestic (DOM)		
Environmental (ENV)		
Industrial (IND)		
Irrigation-Carey Act (IRC)		
Irrigation-DLE (IRD)		
Irrigation (IRR)	16	
Mining and Milling (MM)	777	
Municipal (MUN)	326	
Power (PWR)		
Quasi-Municipal (QM)		
Recreational (REC)		
Stock (STK)	29	
Storage (STO)		
Wildlife (WLD)		
Other (OTH)		
Total	**1,148**	**0**
Status	**Annual Duty AFA**	**Other GW AFA**
Vested Right		
Reserved		
Application		
Ready for Action		
Permit	863	

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Relinquish a Portion		
Revocable Permit		
Certificate	285	56
Decreed		
Total	1,148	56

Note: NDWR Data as of August 22, 2006.

4.1.3 Clayton Valley (Basin 143)

The Clayton Valley Basin (Basin 143) is situated in the Central Hydrographic Region in Esmeralda County, Nevada. It is a designated basin with a perennial yield of 20,000 ac-ft/yr and an active annual duty of 23,882 ac-ft/yr (NDWR, 2006b) from underground resources. Additional information pertaining to the basin geography, geology, hydrogeology, and relevant well data is depicted in the accompanying Plate 4-3.

4.1.3.1 Physical Setting

Clayton Valley Basin is a topographically closed basin that covers an area of 555 square miles extending 30 miles long (north-south) and 36 miles wide (east-west). The valley is bounded on the west by the Silver Peak Range, on the south by the Palmetto Mountains, on the east by the Clayton Ridge and Paymaster Ridge and on the north by the Weepah Hills. The valley topographically opens to the northwest beyond a low rise into the Big Smoky Valley. Elevations in the basin range from 4,266 feet AMSL at the playa to 9,450 feet AMSL at Piper Peak in the Silver Peak Range.

4.1.3.2 Existing Conditions

The principal settlement for Clayton Valley is the mining town of Silver Peak located at the foot of the Silver Peak Range on the west side of the basin. Silver Peak is served by Nevada State Highway 265 connecting to US 95 in the north. Silver Peak Road extends from Silver Peak to US 95 at Goldfield. Other parts of the basin are served by gravel roads and unimproved trails.

Considerable mining activity has occurred in the playa and along the margins of the basin. These include the currently active Chemetall Foote Corp. Mine

(lithium) and the Mineral Ridge Mine (gold-silver) (Dreisner and Coyner, 2006); and many former gold and silver mining operations in the Silver Peak Range and Weepah Hills. The largest operation is the Chemetall Foote Corp. solution-mining which produces several lithium compounds from brine that is pumped from aquifers beneath the Clayton Valley playa. As many as 50 production wells tap 6 stratigraphically and structurally controlled zones at depths as great at 1,000 ft-bgs (Dreisner and Coyner, 2006)

4.1.3.3 Climate

Clayton Valley is classified as having an arid to semi-arid climate with low precipitation/humidity and high rates of evaporation. There are no perennial streams in Clayton Valley, and ephemeral stream flows are limited to short periods of runoff after high intensity storms and/or snow melt. A weather station has been monitored by the WRCC in Silver Peak Valley since 1967. However, it should be noted that the annual precipitation rates for the higher areas of the Silver Peak Range are considerably more than at Silver Peak town site. The WRCC (2006) average annual precipitation and monthly temperature ranges are provided in Table 4-10.

Table 4-10 – Clayton Valley Climate Data
(Western Regional Climate Center, 2006)

Station	Period of Record	Average Annual Precipitation (in)	Maximum Monthly Temperature (°F)	Minimum Monthly Temperature (°F)
Silver Peak	1967-2005	4.40	97.3	18.9

The actual amount of evapotranspiration for Clayton Valley was estimated to be 24,000 ac-ft/yr (Rush, 1968b) derived from approximate areas of influence from phreatophytes based on plant cover, density and consumptive use factors as well rough estimates of bare soil evaporation. However, potential evaporation rates for the Clayton Valley range from 48 to 72 inches per year (Shevenell, 1996).

4.1.3.4 Geology

The mountains surrounding the valley consist of rocks ranging in age from Precambrian to Quaternary. Fine-grained clastic and carbonate rocks of the

Precambrian Wyman formation and Reed dolomite are exposed in the Silver Peak Range just west of Silver Peak townsite and on the south edge of the Weepah Hills (Albers and Stewart, 1972). Much of the Paymaster Ridge area on the east side of the basin is composed of the clastic Cambrian Harkless formation, the carbonate Poleta formation and the cherty to fine clastic rocks of the Ordovician Palmetto formation. Various Tertiary volcanic rocks ranging from rhyolite to andesite in composition underlie the remainder of the area surrounding the basin. Tertiary lakebeds of the Siebert and Esmeralda formations are exposed in the divide between Clayton and Big Smoky Valleys and in the east-central part of the Clayton Valley Basin (Albers and Stewart, 1972).

The valley fill is composed of alluvial sediments ranging from sands and gravels along the alluvial fans and washes, to silts and clays towards the center axis of the valley believed to be hundreds of feet thick. Lithium-bearing saline playa deposits and brines are found in the central part of the basin.

Faulting within the valley is characterized by north-northeast trending normal faults that are exposed along Clayton Ridge and the eastern and central parts of the valley. The west-northwest striking Weepah Hills fault bounds part of the south side of the Weepah Hills.

4.1.3.5 Groundwater Conditions

Most groundwater in the Clayton Valley Basin is concentrated in the valley fill sediments. The rocks of the surrounding mountains are generally of low hydraulic conductivity and contain little groundwater except where fractured. Most groundwater production has been from valley-fill wells located in the central part of the basin just east of the Silver Peak town site and is related to the extraction of lithium bearing brine.

The USGS NWIS database lists 12 wells in the Clayton Valley (USGS, 2006). Groundwater depths range from 2 to 237 feet bgs, with most in the range of 40 to 50 feet. Unfortunately, few wells have more than one reported water level reading. From the limited information available (one well in the central part of the basin with 28 water level readings) there is an apparent long-term water level decline (Figure 4-2).

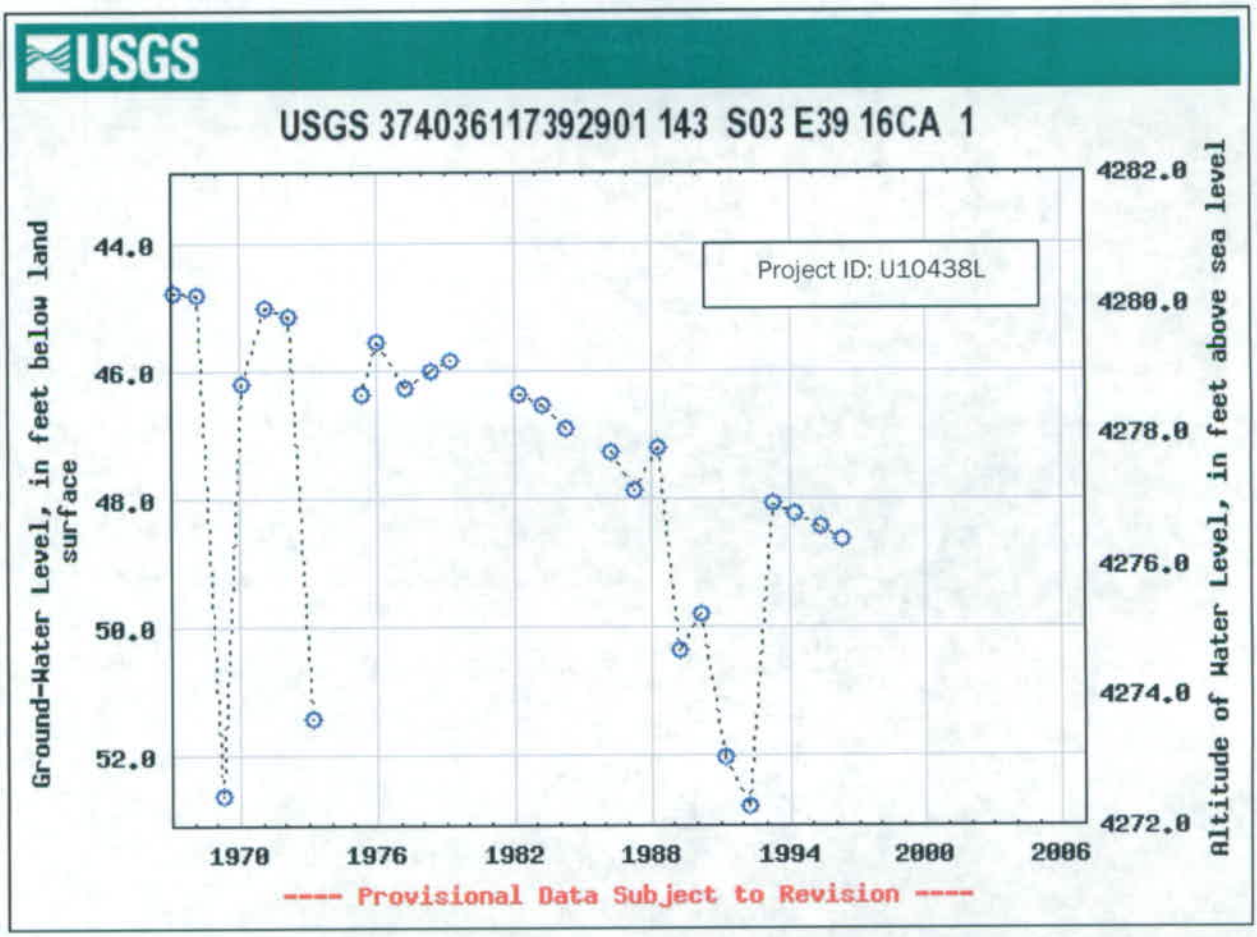

Figure 4-2 – Hydrograph for well in central Clayton Valley (USGS-NWIS, 2006).

4.1.3.6 Water Quality

All the groundwater samples of Clayton Valley that were examined by Meinzer (1917) were highly mineralized. Those beneath the playa were saturated sodium chloride brines. The best quality water was from the large spring and wells in the village of Silver Peak, which supplied Silver Peak and the former town of Blair. Even these waters were highly mineralized with TDS having values up to about 1,700 mg/l. The lower parts of the basin have groundwater with TDS values of more than 10,000 mg/l (USGS, 2006). Sodium and chloride were in excess of other mineral constituents.

4.1.3.7 Water Balance Summary

Most of the recharge for the basin is derived from subsurface flow from the neighboring Big Smoky and Alkali Spring Valleys. The high salinity groundwater precludes any irrigation use in the valley. The dominant use of water is for solution mining of lithium from brines in the playa area. Table 4-11 provides a water balance summary for the Clayton Valley Basin.

Table 4-11 – Clayton Valley Basin (143) Water Balance Summary

Element	Quantity (AFA)	Notes
INFLOW		
Recharge from Precipitation	1,500	Rush (1968b)
Subsurface Inflow	18,000	Rush (1968b)
OUTFLOW		
Evapotranspiration	24,000	Rush (1968b)
Surface flow	0	
Subsurface Outflow	0	
Pumpage / Irrigation	13,740	Lopes and Evetts (2004)
Artificial recharge	1,420	Lopes and Evetts (2004)
ACTIVE ANNUAL DUTY	23,882	NDWR (2006b)
PERENNIAL YIELD	5,000	NDWR (2006d)
STORAGE	1,300,000	Rush et al. (1971)

4.1.3.8 Summary of Existing Wells and Water Rights

The NDWR Well Log Database (2006a) includes a total of 101 existing well log entries in the basin of which 78 are production wells, while the remainders are test or monitoring wells. Wells with available pump test data indicate production rates of 50 to 600 gpm. Estimates of transmissivities are in the range of 550 to 60,500 gpd/ft based on well logs with reported pumping and drawdown. Table 4-12 provides a summary of wells and the associated use in Clayton Valley as reported by the Well Log Database (2006a).

Table 4-12 – Clayton Valley Basin (143) Well Summary

Proposed Use	Number of Well Logs
Industrial	16
Mining	52
Monitoring Well	2
Other	2
Public Supply-municipal	5
Stock	5
Total Existing Wells	101

The main use of water in the basin is for mining, particularly within the vicinity of Clayton. Currently, the active annual duty of 23,883 AFA greatly exceeds the perennial yield of 5,000 AFA for Clayton Valley. Although there currently are no pending water appropriations, it should be noted that the amount appropriated does not directly reflect what is actually pumped, which may be highly variable considering that most developed groundwater services the mining industry in the basin. Table 4-13 summarizes the current status of water rights within the Clayton Valley Basin.

Table 4-13 – Clayton Valley Basin (143) Water Rights

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Commercial (COM)		
Construction (CON)		
Domestic (DOM)	24	
Environmental (ENV)		
Industrial (IND)		
Irrigation-Carey Act (IRC)		
Irrigation-DLE (IRD)		
Irrigation (IRR)		
Mining and Milling (MM)	23,231	
Municipal (MUN)	154	
Power (PWR)		
Quasi-Municipal (QM)	435	
Recreational (REC)		
Stock (STK)	39	
Storage (STO)		
Wildlife (WLD)		
Other (OTH)		
Total	23,883	0

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Status	Annual Duty AFA	Other GW AFA
Vested Right		
Reserved		
Application		
Ready for Action		
Permit	20,972	
Relinquish a Portion		
Revocable Permit		
Certificate	2,910	
Decreed		
Total	23,882	0

Note: NDWR Data as of August 18, 2006.

4.1.4 Big Smoky Valley – Tonopah Flat Basin (Basin 137A)

The Big Smoky Valley (Basin 137A) lies in the Central Hydrographic Region in Esmeralda County, Nevada. It is a designated basin with a reported perennial yield of 6,000 ac-ft/yr and active annual duty of 21,079 ac-ft/yr (NDWR, 2006b) from underground resources. This section will focus on the southern most region of the basin, the Tonopah Flat Subarea. Additional information pertaining to the basin geography, geology, hydrogeology, and relevant well data is depicted in the accompanying Plate 4-4.

4.1.4.1 Physical Setting

The Big Smoky Valley Basin is a topographically closed basin that occupies approximately 1,600 square miles extending 67 miles long (north-south) and approximately 17 miles wide (east-west) in the vicinity of the rail alignment in the southern portion of the basin. The valley is bounded on the north by the Toiyabe Range, on the west by the Cedar Mountains and the Monte Cristo Range, on the south by the Weepah Hills, and on the east by the San Antonio Mountains. The valley floor is generally flat lying with an average elevation of 5,260 feet AMSL. The elevations of the bounding mountains range from approximately 5,500 feet AMSL to the west to approximately 11,000 feet AMSL to the north.

4.1.4.2 Existing Conditions

The town of Tonopah, County Seat of Esmeralda County, is the only major settlement within the Tonopah Flat Basin. Approximately five (5) small, industrial and/or commercial entities are located near Tonopah that may have the potential to generate environmental pollutants including the mining operation (The Equatorial Tonopah Inc.) located approximately 20 miles north of Tonopah (USEPA, Enviromapper Website). State Highway 89 intersects Tonopah from the north while US Highway 95 enters from the south. Traversing the southern portion of the basin is Highway 6, which intercepts Silver Peak Road from the south approximately midway through the southern tip. The remainder of the basin is served by numerous unimproved desert trails.

4.1.4.3 Climate

Big Smoky Valley (Tonopah Flat Basin) is classified as having a semi-arid climate with low precipitation/humidity and high rates of evaporation. There are no perennial streams in the Tonopah Flat Basin, and ephemeral stream flows are limited to short periods of runoff after high intensity storms and/or snow melt (e.g., Slime Wash). A weather station has been monitored by the WRCC in Tonopah beginning in 1928. The WRCC (2006) average annual precipitation and monthly temperature ranges are provided in Table 4-14.

Table 4-14 – Big Smoky Valley Climate Data
(Western Regional Climate Center, 2006)

Station	Period of Record	Average Annual Precipitation (in)	Maximum Monthly Temperature (°F)	Minimum Monthly Temperature (°F)
Tonopah	1928-2000	4.95	87.8	22.4

The actual amount of evapotranspiration for Big Smoky Valley was estimated to be 6,000 ac-ft/yr (Rush, 1968b) derived from approximate areas of influence from phreatophytes based on plant cover, density and consumptive use factors as well rough estimates of bare soil evaporation. However, potential evaporation rates for the Big Smoky Valley-Tonopah Flat basin range from 48 to 72 inches per year (Shevenell, 1996).

4.1.4.4 Geology

Bedrock in the northern Toiyabe Range is generally composed of extrusive volcanic breccia and tuff rocks with minor carbonate units. Similarly to the east, the Toquima Range includes volcanics but also includes some intrusive and metamorphic rock units. The San Antonio Mountains are similar, with more basaltic character towards the south. To the south the Weepah Hills contain intrusive and metamorphic rock units and some clastic (sandstone) units. To the west, the Monte Cristo Range includes rhyolitic and andesitic volcanics.

Low-lying alluvial divides and mountain ranges separate the Tonopah Flat Basin from adjoining valleys. Near the center of the valley, the valley-fill deposit ranges from approximately 5,000 feet thick near the southern portion of the Basin to approximately 500 feet at the alluvial divide with the Ione Valley. The valley fill is composed of alluvial sediments ranging from sands and gravels along the alluvial fans and washes, to silts and clays along the valley floor. A playa occupies the southwest portion of the Tonopah Flat Basin.

Faulting is predominantly mapped on the eastern alluvial apron of the Basin. Normal faults generally parallel the bounding ranges (San Antonio Mountains and Toquima Range). Similar faults, although generally unmapped, likely exist along the western alluvial apron. Faults that are mapped at the northern nose of the Weepah Hills (Lone Mountain area) trend out into the valley fill near the locations of high-yield wells.

4.1.4.5 Groundwater Conditions

Groundwater within the Big Smoky Valley (Tonopah Flat Basin) is predominantly found in unconfined or semi-confined aquifers of the valley fill sediments. Early work characterized the basin as having no significant subsurface outflow. More recent work (Lopes and Evetts, 2004) assigns quantitative estimates of subsurface outflow to adjoining basins.

The USGS NWIS database lists 27 wells in the Big Smoky Valley (Tonopah Basin) (USGS, 2006). Depth to groundwater ranges from 2 feet at the lowest por-

tion of the valley to greater than 720 feet at some locations in the alluvial apron. Only a few wells have more than one reported water level reading.

4.1.4.6 Water Quality

In general, groundwater and surface water in higher elevations is relatively low in dissolved solids (i.e., on the order of less than 500 mg/l or less) and contain dominant ions of calcium and bicarbonate. Groundwater recharge along the alluvial apron gradually acquires a higher specific conductance and amounts of sodium, chloride, sulfate, and other ions, increasing in concentration towards the valley. In discharge areas (i.e., valley center locations), the reported TDS of the groundwater may exceed 6,500 mg/l (Rush and Schroer, 1970) in some areas. Overall, Rush and Schroer (1970) reported estimated TDS values based on 15 groundwater samples throughout the basin, which varied widely from 300 to 4,000 mg/l.

4.1.4.7 Water Balance Summary

Water balance data comes from multiple sources that focus heavily on water balance for the entire Big Smoky Valley Basin. Pumpage in particular must be estimated based on the studies conducted by Everett and Rush (1964) and Lopes and Evetts (2004). Table 4-15 provides a water balance summary for the Big Smoky Valley – Tonopah Flat Basin.

Table 4-15 – Big Smoky Valley – Tonopah Flat Basin (137A)
Water Balance Summary

Element	Quantity (AFA)	Notes
INFLOW		
Surface Inflow	300	Rush and Schroer (1970)
Recharge from Precipitation	12,000	Rush and Schroer (1970)
Subsurface Inflow	2,000 to 3,000	Everett and Rush (1964)
OUTFLOW		
Evapotranspiration	6,000	Rush and Schroer (1970)
Subsurface outflow to Clayton Valley	13,000	Rush (1968b)
Subsurface outflow to Columbus Salt Marsh (includes contribution from Fish Lake Basin)	3,000	Van Denburg and Glancy (1970)
Subsurface outflow to South, Hydrographic Area not specified.	2,700	Lopes and Evetts (2004)

Element	Quantity (AFA)	Notes
Pumpage / Irrigation	13,190	Lopes and Evetts (2004)
ACTIVE ANNUAL DUTY	21,079	NDWR (2006b)
PERENNIAL YIELD	6,000	NDWR (2006d)
STORAGE	7,000,000	Rush et al. (1971)

4.1.4.8 Summary of Existing Wells and Water Rights

The NDWR Well Log Database (2006a) includes a total of 105 existing well entries in the basin of which 52 included available pump test data which indicate average production rates 213 gpm, with the maximum yield of 2,100 gpm. Table 4-16 provides a summary of wells and the associated proposed use as reported by the NDWR Well Log Database (2006a).

Table 4-16 – Big Smoky Valley – Tonopah Flat Basin (137A) Well Summary

Proposed Use	Number of Well Logs
Domestic	22
Industrial/Commercial	11
Irrigation	30
Monitoring Well	0
Test Well	9
Public Supply-municipal	6
Stock	13
Mining	12
Unused	-2 (plugged)
Other	4
Total Existing Wells	105

The main use of water in the basin is for irrigation and mining purposes. Currently, active annual duty (underground) of 21,079 AFA is considerably more than the perennial yield of 6,000 AFA for Big Smoky Valley – Tonopah Flat Basin. Although there currently are no pending water appropriations, it should be noted that the amount appropriated does not directly reflect what is actually pumped. Table 4-17 summarizes the current status of water rights within the Big Smoky Valley – Tonopah Flat Basin.

Table 4-17 – Big Smoky Valley – Tonopah Flat Basin (137A)
Water Rights

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Commercial (COM)		
Construction (CON)		
Domestic (DOM)		
Environmental (ENV)		
Industrial (IND)		
Irrigation-Carey Act (IRC)		
Irrigation-DLE (IRD)	160	
Irrigation (IRR)	10,143	
Mining and Milling (MM)	8,331	
Municipal (MUN)	1,507	
Power (PWR)		
Quasi-Municipal (QM)	14	
Recreational (REC)		
Stock (STK)	924	
Storage (STO)		
Wildlife (WLD)		
Other (OTH)		
Total	21,079	0
Status	Annual Duty AFA	Other GW AFA
Vested Right		
Reserved		
Application*	216	
Ready for Action		
Permit	3,709	
Relinquish a Portion		
Revocable Permit		
Certificate	17,370	
Decreed		
Total	21,295	0

Note: NDWR Data as of August 18, 2006.

4.1.5 Columbus Salt Marsh Valley (Basin 118)

The Columbus Salt Marsh Valley Basin (118) lies in the Central Hydrographic Region in Esmeralda and Mineral Counties, Nevada. It is a non-designated basin with a reported perennial yield of 4,000 ac-ft/yr and active annual duty of 1,764 ac-ft/yr (NDWR, 2006b) for underground resources. Additional informa-

tion pertaining to the basin geography, geology, hydrogeology, and relevant well data is depicted in the accompanying Plate 4-5.

4.1.5.1 Physical Setting

Columbus Salt Marsh Valley is a topographically closed basin that covers an area of 370 square miles extending 33 miles long (northeast-southwest) and approximately 19 miles wide (northwest-southeast). The valley is bounded to the north by the Candelaria Hills to the north, the Monte Cristo Mountains on the east, the Volcanic Hills on the south, and the Silver Peak Range on the southeast. Elevations range from 4,506 feet along the playa up to 9,840 feet AMSL at Mustang Mountain in the White Mountains on the southwest side of the basin.

4.1.5.2 Existing Conditions

There are no major settlements in the Columbus Salt Marsh Valley. US Highway 95 traverses the eastern side of the basin and intersects the west bound US Highway 6 at Coaldale Junction in the southeastern part of the basin. The remainder of the basin is crossed by numerous unimproved desert trails.

Borate minerals were produced from Columbus Salt Marsh playa in the late 1800's and diatomite has been mined from Tertiary lake beds in the southwestern part of the basin near Basalt.

4.1.5.3 Climate

Columbus Salt Marsh Valley is classified as having an arid to semi-arid climate with low precipitation/humidity and high rates of evaporation. There are no perennial streams in Columbus Salt Marsh Valley, and ephemeral streams are limited to short periods of runoff after high intensity storms and/or snow melt. There are no climate stations monitored by the WRCC in Columbus Salt Marsh Valley, but data is available for Mina located only 12 miles to the north. Annual precipitation for the lower areas of the valley is likely similar to Mina (which sits at an elevation of 3,965 ft-AMSL) whereas at higher elevations in the surrounding mountains it is much higher. The WRCC (2006) average an-

nual precipitation and monthly temperature ranges for Mina are provided in Table 4-18.

Table 4-18 – Columbus Salt Marsh Valley Climate Data
(Western Regional Climate Center, 2006)

Station	Period of Record	Average Annual Precipitation (in)	Maximum Monthly Temperature (°F)	Minimum Monthly Temperature (°F)
Mina	1897-2005	4.50	95.6	20.6

The actual amount of evapotranspiration for Columbus Salt Marsh Valley was estimated to be 4,000 ac-ft/yr (Van Denburgh and Glancy, 1970) derived from approximate areas of influence from phreatophytes based on plant cover, density and consumptive use factors as well rough estimates of bare soil evaporation. However, potential evaporation rates for the Columbus Salt Marsh Valley range from 48 to 72 inches per year (Shevenell, 1996).

4.1.5.4 Geology

Bedrock along the Columbus Salt Marsh Valley basin margins consists mostly of Tertiary volcanics with a few areas of Mesozoic clastic rocks on the north edge, and Ordovician clastic rocks in the Monte Cristo Range. All of these are of low permeability (unless fractured) and would be poor hosts for groundwater development. The valley fill is composed of alluvial sediments ranging from sands and gravels along the alluvial fans and washes to silts and clays believed to be hundreds of feet thick towards the axis of the valleys. Saline playa deposits are found in the central part of the basin.

Faulting within the valley is characterized by northeast striking normal faults along the northern edge of the playa, north trending faults along the western front of the Monte Cristo Range and nearly east-west striking faults along the north edge of the Silver Peak Range. There is no obvious correlation between faulting and spring locations.

4.1.5.5 Groundwater Conditions

Groundwater within Columbus Salt Marsh Valley is generally concentrated in the alluvial aquifers of the valley fill sediments. Most groundwater develop-

ment has been from valley-fill wells located in the central part of the basin near US Highway 95. Natural discharge for this closed basin occurs by evaporation, which concentrates evaporite deposits within the fine silt and clay sediments restricting groundwater flow.

The USGS NWIS database lists 18 wells in the Columbus Salt Marsh Valley (USGS, 2006). Groundwater depths range from 0 to 111 feet bgs. One well, (Project ID U10673L) has water levels for more than 35 years and indicates that there is a slight long-term water level decline (Figure 4-3).

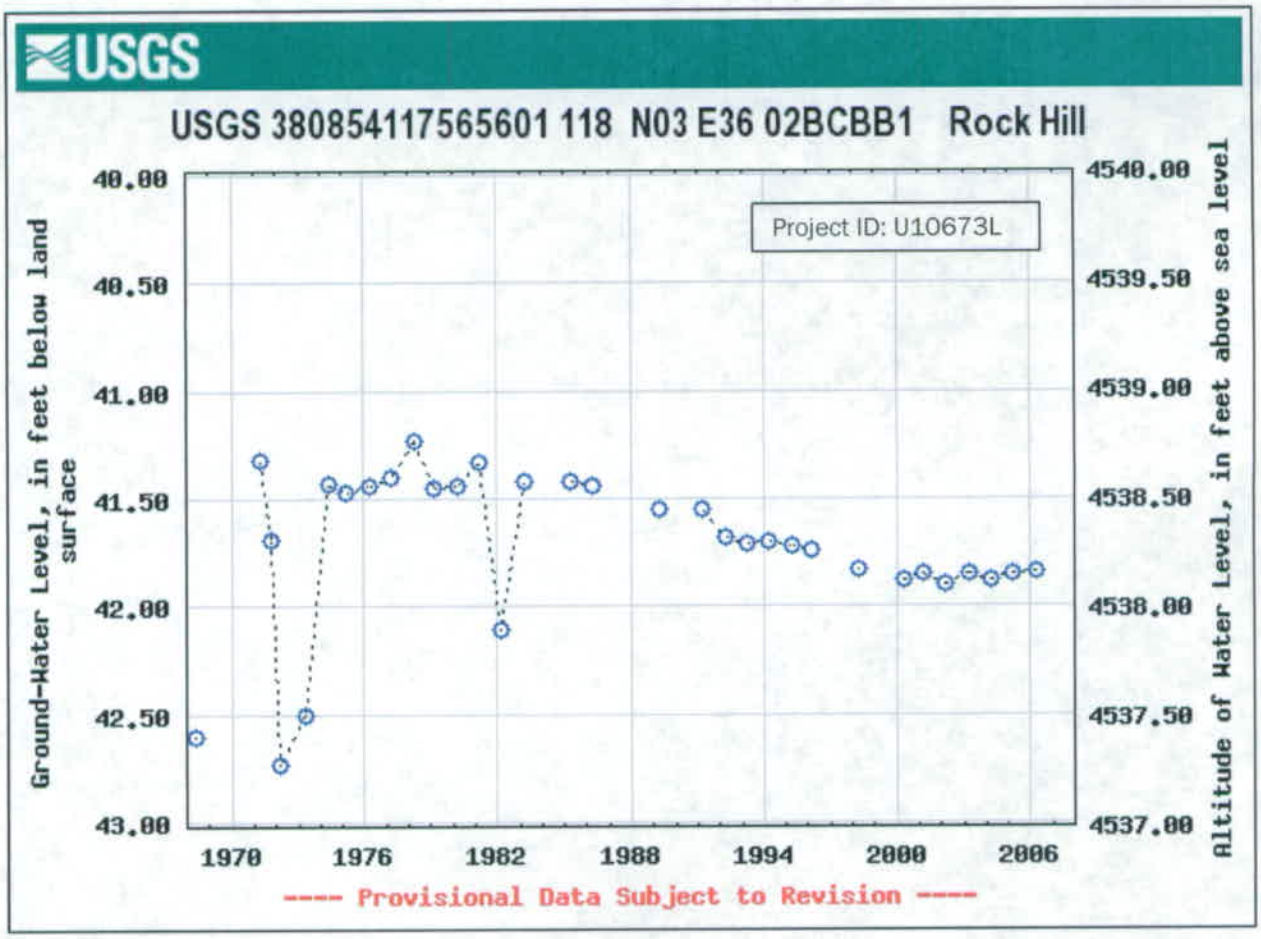

Figure 4-3 –Hydrograph for well in Columbus Salt Marsh Valley (USGS-NWIS, 2006)

4.1.5.6 Water Quality

In general groundwater quality is poor in the Columbus Salt Marsh Valley. Work by Van Denburgh and Glancy (1970) between 1957 and 1968 provides a

general insight into the groundwater chemistry. Results of the 1970's study for 8 wells and 1 spring in the Columbus Salt Marsh Valley include an average TDS of 5,556 mg/l and of particular significance are the reported sulfate values noted to be between 250 and 2,600 (mg/l). Generally, the playa area of the basin harbors large quantities of salts in the form of crystalline surficial deposits and interstitial brines (Van Denburgh and Glancy, 1970). Overall, however, water chemistry within the basin can be highly variable.

4.1.5.7 Water Balance Summary

Lopes and Evetts (2004) estimated recharge from precipitation to be 700 AFA while most of the recharge was derived from interbasin flow estimated at 3,200 AFA from Fish Lake Valley and to a lesser degree, Big Smoky Valley. Surface drainage is internal, with runoff and groundwater discharge collecting in a playa. Losses through evapotranspiration occurs from phreatophytes located adjacent to the salt marsh in the central part of the basin and are estimated to be 4,000 AFA by Van Denburgh and Glancy (1970). Table 4-19 provides a water balance summary for the Columbus Salt Marsh Valley Basin.

Table 4-19 – Columbus Salt Marsh Valley Basin (118) Water Balance Summary

Element	Quantity (AFA)	Notes
INFLOW		
Recharge from Precipitation	700	Lopes and Evetts (2004)
Subsurface Inflow	3,200	Lopes and Evetts (2004)
OUTFLOW		
Evapotranspiration	4,000	Van Denburgh and Glancy (1970)
Surface flow	None Reported	
Subsurface Outflow	0	
Pumpage / Irrigation	20	Lopes and Evetts (2004)
ACTIVE ANNUAL DUTY	1,764	NDWR (2006b)
PERENNIAL YIELD	4,000	Eakin (1962)
STORAGE	530,000	Rush et al. (1971)

4.1.5.8 Summary of Existing Wells and Water Rights

The NDWR Well Log Database (2006a) includes a total of 43 existing well entries in the basin of which 11 are production wells. The largest production

wells are for mines in the northwest part of the basin. No production rate data is available for wells in the Columbus Salt Marsh Valley. Table 4-20 provides a summary of wells and the associated proposed use for Columbus Salt Marsh Valley as reported by the NDWR Well Log Database (2006a).

Table 4-20 – Columbus Salt Marsh Valley Basin (118) Well Summary

Proposed Use	Number of Well Logs
Commercial	1
Domestic	4
Industrial	2
Irrigation	0
Mining	4
Monitoring Well	2
Test well	29
Total Existing Wells	42

The main water use in the basin is for irrigation and mining. The current active annual duty (underground) of 1,764 AFA is small compared to the perennial yield of 4,000 AFA for Columbus Salt Marsh Valley. Table 4-21 summarizes the current status of water rights within the Columbus Salt Marsh Valley Basin.

Table 4-21 – Columbus Salt Marsh Valley Basin (118) Water Rights

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Commercial (COM)		
Construction (CON)		
Domestic (DOM)		
Environmental (ENV)		
Industrial (IND)		
Irrigation-Carey Act (IRC)		
Irrigation-DLE (IRD)		
Irrigation (IRR)		
Mining and Milling (MM)	1,730	
Municipal (MUN)		
Power (PWR)		
Quasi-Municipal (QM)	32	
Recreational (REC)		
Stock (STK)	2	

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Storage (STO)		
Wildlife (WLD)		
Other (OTH)		
Total	1,764	0
Status	Annual Duty AFA`	Other GW AFA
Vested Right		
Reserved		
Application		
Ready for Action		
Permit	979	
Relinquish a Portion		
Revocable Permit		
Certificate	785	
Decreed		
Total	1,764	0

Note: NDWR Data as of August 18, 2006.

4.1.6 Rhodes Salt Marsh Valley (Basin 119)

The Rhodes Salt Marsh Valley Basin (119) lies in the Central Hydrographic Region in Mineral County, Nevada. It is a non-designated basin with a reported perennial yield of 1,000 ac-ft/yr and active annual duty of 49 ac-ft/yr (NDWR, 2006b) from underground resources. Additional information pertaining to the basin geography, geology, hydrogeology, and relevant well data is depicted in the accompanying Plate 4-6.

4.1.6.1 Physical Setting

Rhodes Salt Marsh Valley is a topographically closed basin that covers an area of 199 square miles extending 19.5 miles long (northeast-southwest) and 12.5 miles wide (northwest-southeast). The valley is bounded to the northeast by the Pilot Mountains, to the northwest by the Excelsior Range, to the southwest by the Candelaria Hills and to the southeast by the Monte Cristo Mountains. Elevations range from 4,366 feet AMSL along the playa up to 9,182 feet AMSL at Pilot Peak in the Pilot Mountains.

4.1.6.2 Existing Conditions

Sodaville located on US 95 at the north basin margin was a former settlement within Rhodes Salt Marsh Valley. Borax, sodium sulfate and sodium chloride were produced here in the late 1800's. The salt crust in the playa deposits are enriched with boron and sodium sulfate. Sodaville currently has no major settlements and the production of Borax has ceased. The basin is served by US Highway 95 that bisects the basin east and west, and by Nevada State Highway 360 that extends from US 95 southwestwardly in the central part of the basin. The remainder of the basin is crossed by numerous unimproved desert trails.

4.1.6.3 Climate

Rhodes Salt Marsh Valley is classified as having an arid to semi-arid climate with low precipitation/humidity and high rates of evaporation. There are no perennial streams in Rhodes Salt Marsh Valley, and ephemeral streams are limited to short periods of runoff after high intensity storms and/or snow melt. There are no climate stations monitored by the WRCC in Rhodes Salt Marsh Valley, but data is available for Mina located only 3 miles to the north. Annual precipitation for the lower areas of the valley is likely similar to Mina (which sits at an elevation of 3,965 ft-AMSL) whereas at higher elevations in the surrounding mountains it is much higher. The WRCC (2006) average annual precipitation and monthly temperature ranges for Mina are provided in Table 4-22.

Table 4-22 – Rhodes Salt Marsh Valley Climate Data

(Western Regional Climate Center, 2006)

Station	Period of Record	Average Annual Precipitation (in)	Maximum Monthly Temperature (°F)	Minimum Monthly Temperature (°F)
Mina	1897-2005	4.50	95.6	20.6

The actual amount of evapotranspiration for Rhodes Salt Marsh Valley was estimated to be 1,000 ac-ft/yr (Van Denburgh and Glancy, 1970) derived from approximate areas of influence from phreatophytes based on plant cover, density and consumptive use factors as well rough estimates of bare soil evaporation. However, potential evaporation rates for the Rhodes Salt Marsh Valley range from 48 to 72 inches per year (Shevenell, 1996).

4.1.6.4 Geology

Bedrock along the Rhodes Salt Marsh Valley basin margins consists of pre-Tertiary metavolcanics, chert, limestone and dolomite with interbedded zones of sandstone and conglomerates. These units are several thousands of feet thick and have been folded and emplaced into multiple plates bounded by low-angle faults, some of which appear to be Mesozoic thrust faults and Tertiary detachment faults. Granitic rocks (probable Cretaceous age) intrude these pre-Tertiary rocks in the Pilot Mountains and the Excelsior Range. Tertiary rocks consisting of andesitic flows and breccias, volcanic sediments and relatively small areas of basalt flows cover the Candelaria Hills on the southwest side of the basin, and the northeast end of the Excelsior Range. Except for possible secondary permeability along fault zones, rocks that form the valley margins are of low hydraulic conductivity and would not provide significant amounts of groundwater.

The valley fill is composed of alluvial sediments ranging from sands and gravels along the alluvial fans and washes to silts and clays believed to be hundreds of feet thick towards the axis of the valleys. Saline playa deposits and sand dunes are found in the central part of the basin.

Faulting within the valley is characterized by north-northeast trending normal faults and northwest striking normal faults, and northwest-striking strike slip faults. The large scale normal faults bound the Pilot Mountains, the Candelaria Hills and the Excelsior Mountains. Some of the northeast striking faults on the south side of the Excelsior may have some component of strike-slip offset. There is no obvious correlation between faulting and spring locations.

4.1.6.5 Groundwater Conditions

Groundwater within Rhodes Salt Marsh Valley is generally concentrated in confined aquifers of the valley fill sediments. Most groundwater production has been from valley-fill wells located in the central part of the basin just east of US Highway 95. Natural discharge for this closed basin occurs by evaporation, concentrating evaporite deposits within the fine silt and clay sediments further restricting groundwater flow. Confined groundwater conditions are indicated

by three flowing wells located on the south side of the playa (Van Denburgh and Glancy, 1970). One of these has been identified as well Project ID U10750L.

Soda Springs, which straddles the topographic divide between Rhodes and eastern Soda Spring Valleys, presumably represents the emergence of groundwater leakage from Garfield Flat (to the south). Van Denburgh and Glancy (1970) assumed Rhodes Salt Marsh Valley receives approximately 100 acre-feet per year from Garfield Flat. Low permeability bedrock forms the divide between Garfield Flat and the Rhodes Salt Marsh Valley with no fault zones identified in the area. Despite these conditions, Soda Springs at Sodaville is one of the largest and best-known spring systems in the area (Van Denburgh and Glancy, 1970) where 2 spring clusters yielded a measured flow of 75 gpm (120 acre-ft/yr) in May 1968.

The USGS NWIS database lists 7 wells in the Rhodes Salt Marsh Valley (USGS, 2006). Groundwater depths range from 12 to 110 feet bgs, with most in the range of 28 to 40 feet. Unfortunately, few wells have more than one reported water level reading. From the limited information available there is no apparent long-term water level trend.

4.1.6.6 Water Quality

In general groundwater quality is poor in the Rhodes Salt Marsh Valley. Work by Van Denburgh and Glancy (1970) between 1959 and 1968 provides a general insight into the groundwater chemistry however should not be applied directly to current conditions in the valley. Results of the 1970's study for 5 wells and 1 spring in the Rhodes Salt Marsh Valley include an average TDS of 2,370 mg/l and of particular significance are the reported sulfate values noted to be between 250 and 1,830 (mg/l). Generally, the playa area of the basin harbors large quantities of salts in the form of crystalline surficial deposits and interstitial brines (Van Denburgh and Glancy, 1970). Overall, however, water chemistry within the basin can be highly variable.

4.1.6.7 Water Balance Summary

Lopes and Evetts (2004) estimated recharge to be 500 AFA, which is generally derived from precipitation in the Pilot Mountains, the Candelaria Hills and the Excelsior Range. The remaining recharge was derived from interbasin flow estimated at 400 AFA. Surface drainage is internal, with runoff and groundwater discharge collecting in the playa. Table 4-23 provides a water balance summary for the Rhodes Salt Marsh Valley Basin.

Table 4-23 – Rhodes Salt Marsh Valley Basin (119) Water Balance Summary

Element	Quantity (AFA)	Notes
INFLOW		
Recharge from Precipitation	500	Lopes and Evetts (2004)
Subsurface Inflow	400	Lopes and Evetts (2004)
OUTFLOW		
Evapotranspiration	1,000	Van Denburgh and Glancy (1970)
Surface flow	None Reported	
Subsurface Outflow	0	
Pumpage / Irrigation	10	Lopes and Evetts (2004)
ACTIVE ANNUAL DUTY	49	NDWR (2006b)
PERENNIAL YIELD	1,000	Eakin (1962)
STORAGE	340,000	Rush et al. (1971)

4.1.6.8 Summary of Existing Wells and Water Rights

The NDWR Well Log Database (2006a) includes a total of 4 existing well entries in the basin, of which 3 are production wells. Most of groundwater production is for mining operations in the northwest, east and southeast parts of the basin as well as for irrigation in the south central part of the basin. No production rate data is available for wells in the Rhodes Salt Marsh Valley. Table 4-24 provides a summary of wells and the associated proposed use for Rhodes Salt Marsh Valley as reported by the NDWR Well Log Database (2006a).

Table 4-24 – Rhodes Salt Marsh Valley Basin (119) Well Summary

Proposed Use	Number of Well Logs
Industrial cooling	1
Irrigation	1
Mining	1
Test well	1
Total Existing Wells	4

The main use of water in the basin is for irrigation and mining. The current active annual duty (underground) of 49 AFA is minimal compared to the perennial yield of 1,000 AFA for Rhodes Salt Marsh Valley. There are currently no pending water appropriations. Table 4-25 summarizes the current status of water rights within the Rhodes Salt Marsh Valley Basin.

Table 4-25 – Rhodes Salt Marsh Valley Basin (119) Water Rights

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Commercial (COM)		
Construction (CON)		
Domestic (DOM)	1	
Environmental (ENV)		
Industrial (IND)		
Irrigation-Carey Act (IRC)		
Irrigation-DLE (IRD)		
Irrigation (IRR)	41	
Mining and Milling (MM)	7	
Municipal (MUN)		
Power (PWR)		
Quasi-Municipal (QM)		
Recreational (REC)		
Stock (STK)		
Storage (STO)		
Wildlife (WLD)		
Other (OTH)		
Total	49	0
Status	Annual Duty AFA	Other GW AFA
Vested Right		
Reserved		
Application		
Ready for Action		

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Permit		
Relinquish a Portion		
Revocable Permit		
Certificate	49	
Decreed		
Total	49	0

Note: NDWR Data as of August 18, 2006.

4.1.7 Soda Spring Valley - East Subarea (Basin 121A)

The Soda Springs Valley - East Subarea (Basin 121A) lies in the Central Hydrographic Basin in Mineral County, Nevada. It is a designated basin with a reported perennial yield of 600 ac-ft/yr and active annual duty of 3,169 ac-ft/yr (NDWR, 2006b) from underground resources. Additional information pertaining to the basin geography, geology, hydrogeology, and relevant well data is depicted in the accompanying Plate 4-7.

4.1.7.1 Physical Setting

The Soda Springs Valley - East Basin is a topographically closed basin which occupies approximately 246 square miles and is approximately 15 miles long (northwest-southeast) and approximately 15 miles wide (northeast-southwest). The valley is bounded on the west by the Black Dyke Mountains and Garfield Hills; on the south by the Excelsior Mountains and a low alluvial divide that leads to the Rhodes Salt Marsh Valley; on the east by the Pilot Mountains, including a prominent gap at the convergence of Cinnabar, Dunlap, and Volcano canyons northeast of the town if Mina; and on the north by the Gabbs Valley Range and a low alluvial divide that leads to the Soda Springs Valley – West Basin. The elevations of the bounding mountains range up to approximately 9,187 feet AMSL. The lowest valley floor elevation is approximately 4,440 feet AMSL, and the elevation of the lowest alluvial divide is approximately 4,550 feet AMSL.

4.1.7.2 Existing Conditions

The small towns of Mina and Luning located along US 95 are the only settlements within the basin. There have been no industrial or commercial entities

identified in Mina or Luning that have the potential to generate environmental pollutants (USEPA Enviromapper Website). A number of former and/or present mining facilities are located in the southwest corner of the basin at the head of Douglas Canyon, approximately 6 miles southwest of Mina. Additional former and/or present mining facilities are located in the Gabbs Valley Range to the east of Mina. The basin is served by US Highway 95 that enters the basin from the south and exits to the northwest. At Luning the US 95 and the Nevada State Highway 361 intersect with access to the north along the later. The remainder of the basin is crossed by numerous unimproved desert trails.

4.1.7.3 Climate

The Soda Springs Valley - East Basin has an arid to semi-arid climate with low precipitation/humidity and high rates of evaporation. There are no perennial streams in the valley, and ephemeral streams are limited to short periods of runoff after high intensity storms and/or snow melt. The WRCC reports climate data in Mina. Mina sits at an elevation of 3,965 ft-AMSL and on average receives 4.5 inches of precipitation a year (WRCC, 2006). The surrounding mountains generally receive much higher amounts of precipitation due to higher elevations. The WRCC (2006) average annual precipitation and monthly temperature ranges for Mina are provided in Table 4-26.

Table 4-26 – Soda Spring Valley – East Subarea Climate Data
(Western Regional Climate Center, 2006)

Station	Period of Record	Average Annual Precipitation (in)	Maximum Monthly Temperature (°F)	Minimum Monthly Temperature (°F)
Mina	1897-2005	4.50	95.6	20.6

The actual amount of evapotranspiration for Soda Spring Valley - East Basin was estimated to be 300 ac-ft/yr (Van Denburgh and Glancy, 1970) derived from approximate areas of influence from phreatophytes based on plant cover, density and consumptive use factors as well rough estimates of bare soil evaporation. However, potential evaporation rates for the Soda Springs Valley - East Basin range from 48 to 59 inches per year (Shevenell, 1996).

4.1.7.4 Geology

To the west, bedrock in the Garfield Hills consists of intrusive and metamorphic bedrock units (Garfield Hills) and clastic sandstone, intrusive, metamorphic bedrock units in the central and southern Black Dyke Mountains, with some carbonate bedrock units in the middle and northern extents of the Black Dyke Mountains. The Excelsior Mountains are mapped as andesitic volcanics and extrusives (tuffs and breccias). The Pilot Mountains, bounding the east of this Basin from south to north, consist of clastic sandstone and siltstones to andesitic volcanics and Tertiary semiconsolidated sediments. Carbonate bedrock units lie to the east of Luning along with intrusive and metamorphic rock. Except for possible secondary permeability along fault zones, rocks that form the valley margins are of low hydraulic conductivity and would not provide significant amounts of groundwater.

Low alluvial divides and mountain ranges separate the Soda Springs Valley - East Basin from adjoining valleys. Near the center of the valleys, the valley-fill deposit is reported to be over 600 feet thick; information from similar, nearby valleys suggests that the thickness may be up to 1,000 feet or more. The valley fill is composed of alluvial sediments derived from the surrounding bedrock and generally transition from coarse grained clasts to silts and clays towards the axis of the valley. The valley floor is generally flat lying with two playas, one at the town of Mina and the other centered approximately 5.5 miles to the north of Mina. Sand dunes are also present along the valley floor.

Faulting is predominantly mapped on the alluvial aprons of the Basin. These range front faults generally parallel the bounding ranges. An east-west-trending fault zone is found to the west of Luning; this fault zone truncates the carbonate bedrock units at the northern end of the Black Dyke Mountains and trends towards the valley fill sediments. There is no obvious correlation between faulting and spring locations.

4.1.7.5 Groundwater Conditions

Groundwater within the Soda Springs Valley - East Basin predominantly occurs in unconfined or semi-confined aquifers of the valley fill sediments. No

significant, perennial streams are present in the basin. A number of intermittent washes convey surface water onto the valley floor from the flanking mountains; recharge from these washes represents a significant percentage of the overall (annual) groundwater recharge in the basin. Van Denbergh and Glancy (1970) indicate that this basin may receive inter-basin flow from the Garfield Flat Area (approximately 200 AFA), and may discharge inter-basin flow to the Rhodes Salt Marsh Area (approximately 300 AFA) to the south and to the Soda Springs – West Basin (approximately 300 AFA) to the west.

The USGS NWIS database lists 21 wells in the Soda Springs Valley - East Basin (USGS, 2006). Depth to groundwater range from 22 to 600 feet bgs, with most between 100 to 300 feet bgs. Unfortunately, few wells have more than one reported water level reading. Although there is limited information available, one well in the southern part of the basin (Project ID U10815L) contains 13 water level readings which show no apparent long-term water level trends (Figure 4-4).

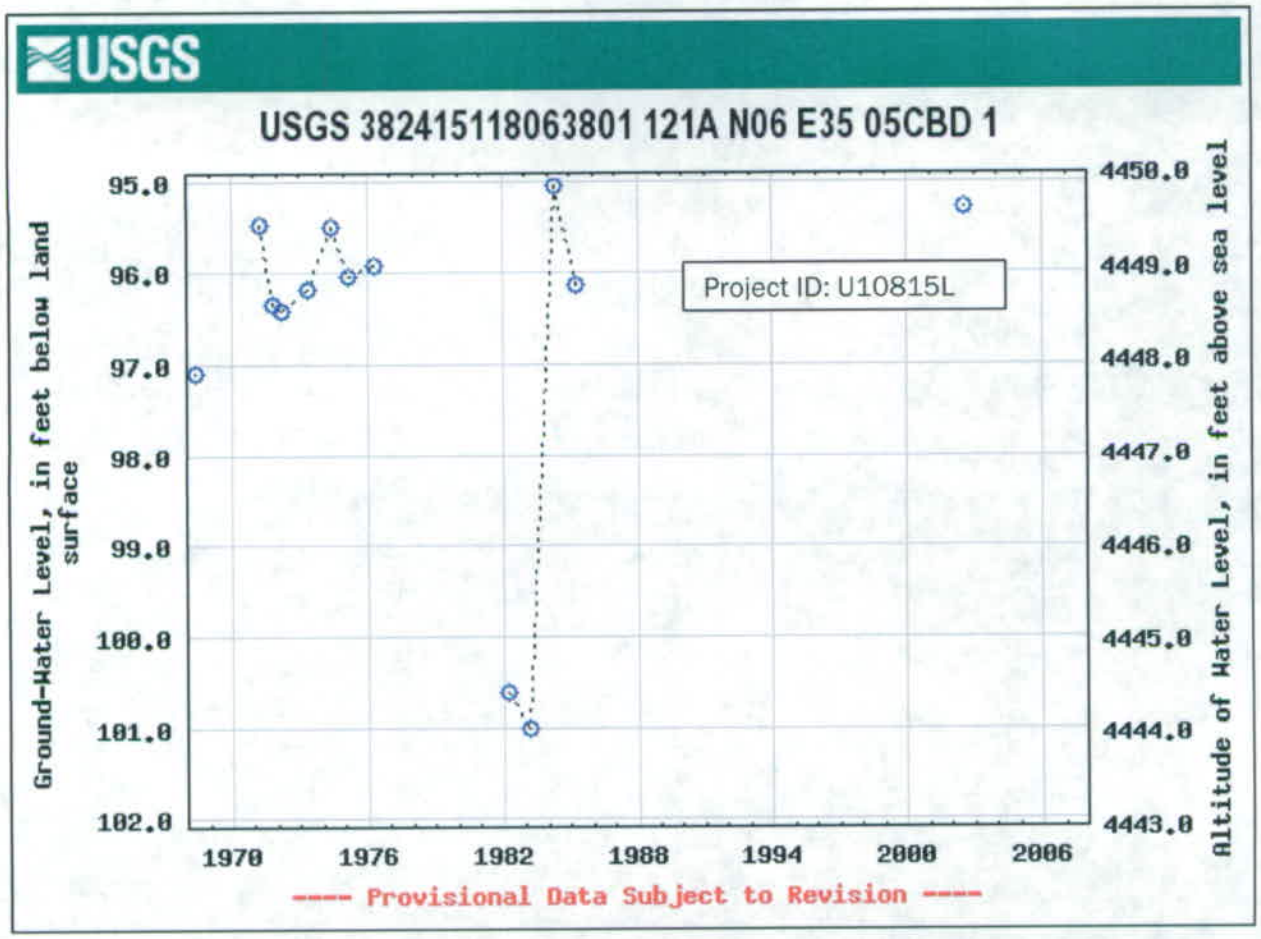

Figure 4-4 –Hydrograph for well located in Soda Springs Valley - East Subarea. (USGS-NWIS, 2006)

4.1.7.6 Water Quality

In general, groundwater and surface water is relatively low in dissolved solids (i.e., on the order of 500 mg/l or less) and dominant ions are calcium and bicarbonate. Groundwater recharge along the alluvial apron generally exhibits a lower specific conductance and lower concentrations of sodium, chloride, sulfate, and other ions, which gradually increase toward the center of the basin. In the groundwater discharge areas (i.e., valley center locations), the specific conductance may be greater than 10,000 mS/cm, which corresponds to a TDS on the order of 6,500 mg/l. Van Denburgh and Glancy (1970) provided chemical analyses from 9 wells in the basin that show sulfate levels ranging from 82 mg/l to 744 mg/l and TDS values (based on conductivity) of 270 mg/l to 1,250

mg/l. Overall, as noted in Van Denburgh and Glancy (1970), water chemistry within the basin can be highly variable.

4.1.7.7 Water Balance Summary

Van Denberg and Glancy (1970) estimated recharge to be 600 AFA derived from precipitation in the surrounding mountains while 200 AFA derived from subsurface inflow from Garfield Valley. Outflows consist of a combination of evapotranspiration and subsurface flow to Clayton Salt March and Soda Springs West. Table 4-27 provides a water balance summary for the Soda Spring Valley – East Basin.

Table 4-27 – Soda Spring Valley – East Subarea Basin (121 A) Water Balance Summary

Element	Quantity (AFA)	Notes
INFLOW		
Surface Inflow	Minor	Van Denburgh and Glancy (1970)
Recharge from Precipitation	600	Van Denburgh and Glancy (1970)
Subsurface inflow from Garfield Valley	200	Van Denburgh and Glancy (1970)
OUTFLOW		
Evapotranspiration	300	Van Denburgh and Glancy (1970)
Subsurface outflow to Clayton Salt Marsh Valley	300	Van Denburgh and Glancy (1970)
Subsurface outflow to Soda Springs West	300	Van Denburgh and Glancy (1970)
Pumpage / Irrigation		
ACTIVE ANNUAL DUTY	3,169	NDWR (2006b)
PERENNIAL YIELD	6,000	NDWR (2006d)
STORAGE	430,000	Rush et al. (1971)

4.1.7.8 Summary of Existing Wells and Water Rights

The NDWR Well Log Database (2006a) includes a total of 47 existing well entries in the basin of which 18 are production wells (NDWR, 2006a). Production rates for 16 of the wells include reported yields ranging from 8 to 350 gpm with an average yield of 90 gpm. Static water levels range from 14 to 850 feet (bgs) with the majority between 50 to 200 feet (bgs). Table 4-28 provides a

summary of wells and the associated proposed use for Soda Springs Valley - East Basin as reported by the NDWR Well Log Database (2006a).

Table 4-28 –Soda Spring Valley – East Subarea Basin (121A) Well Summary

Proposed Use	Number of Well Logs
Domestic	5
Industrial/Commercial	11
Monitoring Well	19
Test Well	7
Public Supply-municipal	2
Mining	3
Total Existing Wells	47

The main use of water in the basin is for domestic and municipal purposes. The current active annual duty (underground) of 3,169 AFA is significantly more than the perennial yield of 600 AFA for Soda Springs Valley - East Basin. There are currently no pending water appropriations in the basin. Table 4-29 summarizes the current status of water rights within the Basin.

Table 4-29 – Soda Spring Valley – East Subarea Basin (121A) Water Rights

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Commercial (COM)	2	
Construction (CON)		
Domestic (DOM)	23	
Environmental (ENV)	6	
Industrial (IND)		
Irrigation-Carey Act (IRC)		
Irrigation-DLE (IRD)		
Irrigation (IRR)		
Mining and Milling (MM)	1,843	
Municipal (MUN)	901	
Power (PWR)		
Quasi-Municipal (QM)		
Recreational (REC)		
Stock (STK)	30	
Storage (STO)		
Wildlife (WLD)		

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Other (OTH)	362	
Total	3,167	0
Status	Annual Duty AFA	Other GW AFA
Vested Right	30	
Reserved		
Application		
Ready for Action		
Permit	245	
Relinquish a Portion		
Revocable Permit		
Certificate	2,893	
Decreed		
Total	3,168	0

Note: NDWR Data as of August 18, 2006.

4.1.8 Soda Spring Valley – West Subarea (Basin 121B)

The Soda Springs Valley - West Subarea (Basin 121B) lies in the Central Hydrographic Basin in Mineral County, Nevada. It is a designated basin with a reported perennial yield of 200 ac-ft/yr and active annual duty of 354 ac-ft/yr (NDWR, 2006b) from underground resources. Additional information pertaining to the basin geography, geology, hydrogeology, and relevant well data is depicted in the accompanying Plate 4-8.

4.1.8.1 Physical Setting

The Soda Springs Valley - West Basin is a topographically closed basin that occupies 128 square miles and is approximately 11 miles long (north-south) and approximately 13 miles wide (east-west). The valley is bounded on the west by a low alluvial divide that leads to the Walker Lake Valley, on the south by the Garfield Hills, on the east by the Soda Springs Valley - East Basin, and on the north by the Gillis Range. Elevations range from 4,365 feet AMSL along the valley floor up to 8,014 feet AMSL along the basin margins.

4.1.8.2 Existing Conditions

The US Highway 95 bisects the basin from east to west but does not service any notable settlements within the basin. The remainder of the basin is served

by numerous unimproved desert trails. The USEPA Enviromapper Website indicates no industrial or commercial entity in the basin that may have the potential to generate environmental pollutants. However, there are a number of former and/or present mining prospects located primarily in the Gillis Range on the northern boundary of the basin.

4.1.8.3 Climate

The Soda Springs Valley - West Basin has an arid to semi-arid climate with low precipitation/humidity and high rates of evaporation. There are no perennial streams in the basin, and ephemeral streams are limited to short periods of runoff after high intensity storms and/or snow melt. There are no climate stations monitored by the WRCC in the basin, but data is available for the neighboring towns of Mina and Hawthorne. Annual precipitation for the lower areas of the valley is likely similar to Mina (which sits at an elevation of 3,965 ft-AMSL) whereas at higher elevations in the surrounding mountains it is much higher. The WRCC (2006) average annual precipitation and monthly temperature ranges for the nearby towns of Mina and Hawthorne are provided in Table 4-30.

Table 4-30 – Soda Spring Valley – West Subarea Climate Data
(Western Regional Climate Center, 2006)

Station	Period of Record	Average Annual Precipitation (in)	Maximum Monthly Temperature (°F)	Minimum Monthly Temperature (°F)
Mina	1897-2005	4.50	95.6	20.6
Hawthorne	1954-2005	4.54	96.1	24.3

The actual amount of evapotranspiration for the Soda Spring Valley – West Basin was estimated to be 30 ac-ft/yr (Van Denburgh and Glancy, 1970) derived from approximate areas of influence from phreatophytes based on plant cover, density and consumptive use factors as well rough estimates of bare soil evaporation. However, potential evaporation rates for the Soda Springs Valley - West Basin range from 48 to 59 inches per year (Shevenell, 1996).

4.1.8.4 Geology

Along the northern boundary of the Soda Spring Valley – West Basin, the Gillis Range consists of intrusive and metamorphic bedrock units, with minor clastic sandstones found near the middle of the alluvial apron. Bedrock margins consists of andesitic extrusive volcanics in the northernmost portion of the Garfield Hills while transitioning into clastic sedimentary sandstones and carbonates to the south. Except for possible secondary permeability along fault zones, rocks that form the valley margins are of low hydraulic conductivity and would not provide significant amounts of groundwater.

The valley floor contains two (2) small playa deposits in the western portion of basin, which is generally flat low-lying and approximately 6 miles in width. Valley fill is composed of alluvial sediments ranging from sands and gravels along the alluvial fans and washes, to silts and clays believed to be hundreds of feet thick towards the axis of the valley. The valley narrows towards the west, and the occurrence of bedrock pinnacles or outcrops in the valley suggests that the depth to bedrock may be relatively shallow in this area. This interpretation is supported by available gravity data.

Two dominant fault orientations are mapped with one fault trending northwest-southeast and the other trending east-west. Faults on the northern boundary of the basin (i.e., Gillis Range) tend to be oriented northwest-southeast, while the mapped faults in the southern Garfield Hills include both the northwest-southeast and east-west trending faults.

4.1.8.5 Groundwater Conditions

Groundwater within the Soda Springs Valley - West Basin is predominantly located in unconfined or semi-confined aquifers of the valley fill sediments. Depth to groundwater ranges from less than 50 feet at the lowest portion of the valleys to greater than 300 feet at some locations along the alluvial apron. Van Denburgh and Glancy (1970) speculate that the basin may have subsurface outflow on the order of 300 AFA towards the west (Walker Lake Valley-Basin 110C). However, this estimate was based on an imbalance in the basin water budget that resulted from estimated recharge plus groundwater inflow exceed-

ing the estimated evapotranspiration discharge by more than 10 times. The USGS NWIS database lists only 2 wells in the Soda Springs Valley - West Basin with groundwater depths of 55 and 58 feet bgs (USGS, 2006).

4.1.8.6 Water Quality

In general, groundwater and surface water is relatively low in TDS (i.e., on the order of less than 500 mg/l) with dominant ions of calcium and bicarbonate. Groundwater recharge along the alluvial apron gradually acquires a higher specific conductance and higher concentrations of sodium, chloride, sulfate, and other ions towards the valley floor. In the groundwater discharge areas (i.e., valley center locations), the specific conductance may be greater than 10,000 mS/cm, which corresponds to a TDS on the order of 6,500 mg/l.

Van Denburgh and Glancy (1970) provided chemical analyses from 2 wells in the basin that show sulfate levels of from 350 mg/l and 372 mg/l with associated TDS values (based on specific conductivity) of 1,050 mg/l and 1,170 mg/l, respectively. Overall, as noted in Van Denburgh and Glancy (1970), water chemistry within the basin can be highly variable.

4.1.8.7 Water Balance Summary

Van Denburgh and Glancy (1970) estimated recharge to be 100 AFA, derived from precipitation and 300 AFA from interbasin flow from the Soda Spring Valley – East Basin. Surface drainage is predominantly to Walker Lake Valley with an estimated 30 AFA lost to evapotranspiration. Table 4-31 provides a water balance summary for the Soda Spring Valley – West Basin.

Table 4-31 – Soda Spring Valley – West Subarea Basin (121B)
Water Balance Summary

Element	Quantity (AFA)	Notes
INFLOW		
Surface Inflow	Minor	
Recharge from Precipitation	100	Van Denburgh and Glancy (1970)
Subsurface Inflow from East Soda Springs Subarea	300	Van Denburgh and Glancy (1970)

Element	Quantity (AFA)	Notes
OUTFLOW		
Evapotranspiration	30	Van Denburgh and Glancy (1970)
Subsurface outflow to Walker Lake Valley	300 AFA	Van Denburgh and Glancy (1970)
ACTIVE ANNUAL DUTY	354	NDWR (2006b)
PERENNIAL YIELD	200	NDWR (2006d)
STORAGE	280,000	Rush et al. (1971)

4.1.8.8 Summary of Existing Wells and Water Rights

The NDWR Well Log Database (2006a) includes a total of 2 existing well entries in the basin. No production rate data is available for the wells in the basin. Table 4-32 provides a summary of wells and the associated proposed use as reported by the NDWR Well Log Database (2006a).

Table 4-32 – Soda Spring Valley – West Subarea Basin (121B)
Well Summary

Proposed Use	Number of Well Logs
Mining	1
Other	1
Total Existing Wells	2

The main use for water in the basin is for mining. The current active annual duty (underground) of 354 AFA is greater than the perennial yield of 200 AFA for the Soda Spring Valley – West. Although there currently are no pending water appropriations, it should be noted that the amount appropriated does not directly reflect what is actually pumped. Table 4-33 summarizes the current status of water rights within the basin.

Table 4-33 – Soda Spring Valley – West Basin (121B)
Water Rights

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Commercial (COM)		
Construction (CON)		
Domestic (DOM)		
Environmental (ENV)		
Industrial (IND)		
Irrigation-Carey Act (IRC)		
Irrigation-DLE (IRD)		
Irrigation (IRR)		
Mining and Milling (MM)	352	
Municipal (MUN)		
Power (PWR)		
Quasi-Municipal (QM)		
Recreational (REC)		
Stock (STK)	2	
Storage (STO)		
Wildlife (WLD)		
Other (OTH)		
Total	354	0
Status	Annual Duty AFA	Other GW AFA
Vested Right		
Reserved		
Application		
Ready for Action		
Permit		
Relinquish a Portion		
Revocable Permit		
Certificate	354	
Decreed		
Total	354	0

Note: NDWR Data as of August 18, 2006.

4.1.9 Walker Lake Valley – Hawthorne Subarea (Basin 110C)

The Walker Lake Valley - Hawthorne Subarea (Basin110C), referred to herein as the Whiskey Flat - Hawthorne Basin, lies in the Walker River Hydrographic Region in Mineral County, Nevada. It is a designated basin with a reported

perennial yield of 5,000 ac-ft/yr and active annual duty of 12,709 ac-ft/yr (NDWR, 2006b) from underground resources. Additional information pertaining to the basin geography, geology, hydrogeology, and relevant well data is depicted in the accompanying Plate 4-9.

4.1.9.1 Physical Setting

Whiskey Flat – Hawthorne, which drains to the Lake subbasin covers an area of 541 square miles extending 39 miles long (north-south) and 27 miles wide (east-west). The basin is bounded on the west by the Wassuk Range and Anchorite Hills, on the east by the Gillis Range and Garfield Hills, on the south by the Excelsior Mountains and on the north by the Lake Basin. Elevations range from approximately 3,950 feet AMSL near Walker Lake in the northern part of the basin to 10,600 feet AMSL in the Wassuk Range in the northwest part of the basin.

The only significant perennial streams are Cat Creek that drains from the higher part of the Wassuk Range near Mount Grant, and Corey Creek that drains from Corey Peak also in the Wassuk Range. Ephemeral streams are limited to short periods of runoff after high intensity storms and/or snow melt. Much of the perennial flow of Cat Creek is captured for municipal use at Hawthorne Army Depot.

4.1.9.2 Existing Conditions

The towns of Hawthorne and Babbitt are the only major settlements within the basin and are located near the intersection of US Highway 95 and State Highways 359 and 839. The remainder of the basin is served by numerous unimproved desert trails. The Hawthorne Army Deport is the primary employer for Hawthorne. Tourism, gaming, and ranching in the southern part of the basin outside of the Army Depot provide additional employment.

The Hawthorne Army Depot covers much of the northern part of the Whiskey Flat – Hawthorne basin. The Army depot is a government-owned, contractor-operated military industrial installation that has been in operation since 1940 (NDEP, 2006). The current mission of the depot is to, receive, issue, store,

renovate, inspect, demilitarize and dispose of conventional ammunition. The depot contains over 2,600 buildings or structures, of which 2,200 are explosive storage areas. It is considered the largest conventional munitions depot in the Western Hemisphere, if not the entire world.

The Army and the US Geological Survey have conducted site investigations and groundwater monitoring since 1974. The primary contaminants of concern are explosives (TNT) and Unexploded Ordnance (UXO). The individual contaminated sites vary in size and complexity, but generally contain the following categories: Burn Areas, Contaminated Fill, Disposal Pits, Dry Wells, Incinerator, Storage Areas, Spill Site Areas, Landfills, Firing Range, Fire Training Area, Surface Disposal Area, Waste Treatment plants, Explosive Ordnance Disposal Area, Surface Impoundments, Unexploded Munitions/Ordnance, and Storage Tanks.

As of June 2000, the Army, with concurrence from NDEP, defined a total of 123 sites in two general categories: 46 active sites and, 77 sites defined as "response complete", under the Installation Restoration Program (NDEP, 2006). Currently, localized contaminations by explosives and organic solvents have produced impacts to groundwater quality near the southern end of Walker Lake. Areas of potentially impacted groundwater lie entirely within the Hawthorne Army Depot.

4.1.9.3 Climate

Whiskey Flat - Hawthorne is classified as having an arid to semi-arid climate with low precipitation/humidity and high rates of evaporation. From 1948 to 1991 precipitation and temperature have been monitored at Hawthorne. The WRCC (2006) average annual precipitation and monthly temperature ranges for Hawthorne basin are provided in Table 4-34.

Table 4-34 – Walker Lake Valley – Hawthorne Subarea Climate Data (Western Regional Climate Center, 2006)

Station	Period of Record	Average Annual Precipitation (in)	Maximum Monthly Temperature (°F)	Minimum Monthly Temperature (°F)
Hawthorne	1948-1991	4.72	95.1	27.1

The actual amount of evapotranspiration for Whiskey Flat - Hawthorne was estimated to be 4,600 ac-ft/yr (Everett and Rush, 1967) derived from approximate areas of influence from phreatophytes based on plant cover. However, potential evaporation rates for the Whiskey Flat Subarea range from 35 to 59 inches per year (Shevenell, 1996).

4.1.9.4 Geology

Bedrock along the Whiskey Flat - Hawthorne basin margins consists mostly of Cretaceous granitic rocks in the Wassuk Range. In the Gillis Range on the east side of the basin Tertiary volcanics, Triassic (Excelsior formation) metavolcanics and chert, and Cretaceous granitic rocks comprise the bedrock. To the southeast, lie Tertiary volcanic rocks of the Garfield Hills; and to the south granitic rocks of the Excelsior Mountains. Except for possible secondary permeability along fault zones, rocks that form the valley margins are of low hydraulic conductivity and would not provide significant amounts of groundwater.

The valley fill is composed of alluvial sediments ranging from sands and gravels along the alluvial fans and washes, to silts and clays believed to be hundreds of feet thick towards the axis of the valley.

The dominant faulting in the basin consists of the large displacement normal fault on the east front of the Wassuk Range. This fault zone may serve as a conduit for deep bedrock thermal waters migrating into the valley fill near Hawthorne. Numerous northeast striking faults mapped in the southwestern part of the Garfield Hills project into the southern extension of the Wassuk Range Fault zone in the southern part of Whiskey Flat. Several high capacity wells have been developed in valley fill here.

4.1.9.5 Groundwater Conditions

Groundwater within Whiskey Flat - Hawthorne is concentrated in generally unconfined aquifers of the valley fill sediments. Several wells in the area have water temperatures in the range of 70 degrees to 200 degrees F. Geothermal De-

velopment Associates (1981) describe the hydrogeologic setting and thermal wells located in the area of Hawthorne and in valley fill to the west of Hawthorne. This high temperature groundwater is ascribed to migration of thermal water up along the rangefront fault of the Wassuk Range and related by northeast striking faults that offset alluvium in this area.

Approximately 7 miles south of Hawthorne a bedrock ridge crosses Whiskey Flat reducing the cross sectional area of the valley fill sediments. Groundwater appears to be dammed behind this ridge creating shallow groundwater conditions to the south. Several high capacity municipal and irrigation wells have been successfully developed in this area.

The USGS NWIS database lists 102 wells in the Whiskey Flat - Hawthorne basin (USGS, 2006). Groundwater depths range from 6 to 476 feet bgs, with most being less than 100 feet. In general, water levels have been declining over time; between 1942 and 1996 groundwater levels in the area east of downtown Hawthorne declined more than 20 feet. Figure 4-5 illustrates the groundwater trend as observed in Army Well 2, just east of Hawthorne.

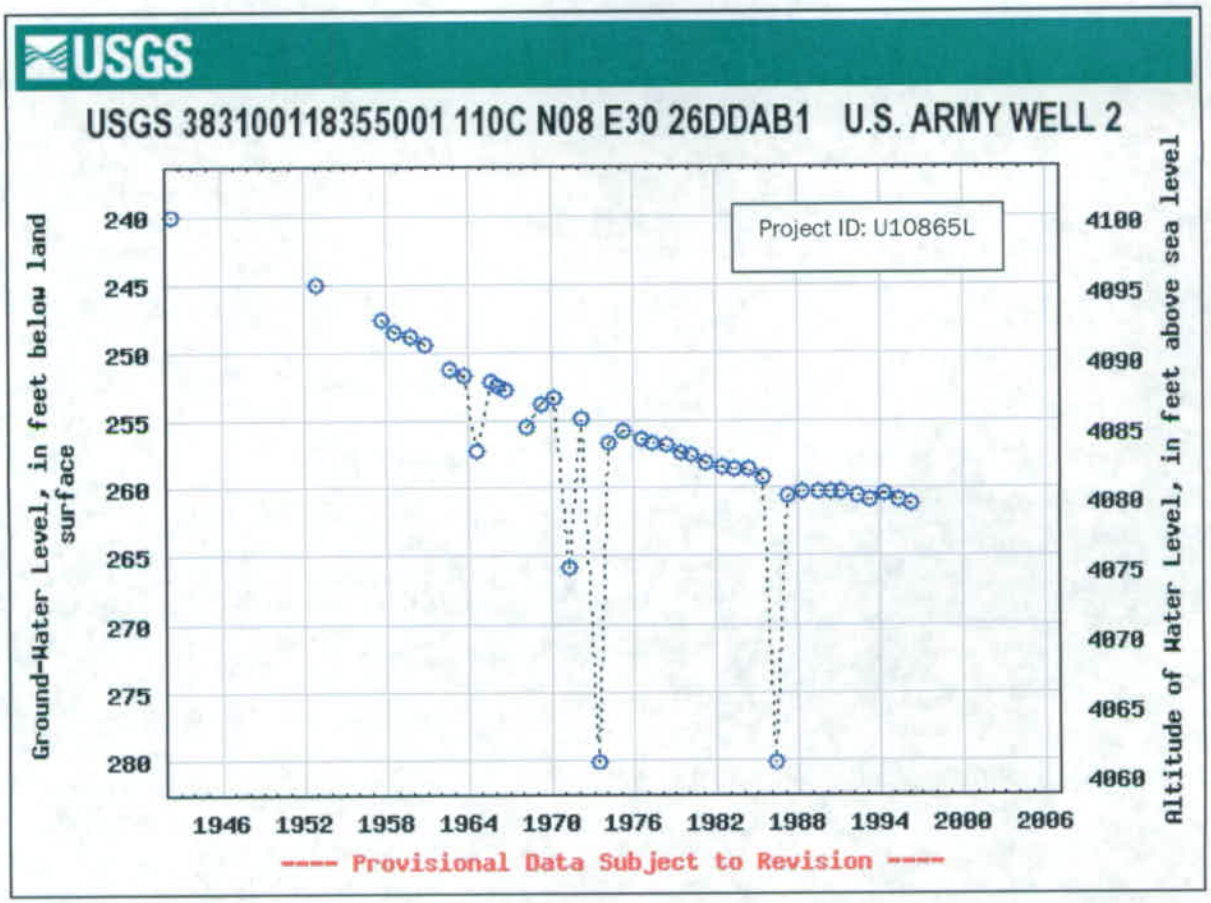

Figure 4-5 – Hydrograph for US Army Well 2 east of Hawthorne (USGS-NWIS, 2006)

4.1.9.6 Water Quality

Bohm and Jacobson (1977) provide chemistry for 16 wells in the part of the Basin near Hawthorne. Most of these are municipal wells. TDS values range between 191 mg/l and 1,033 mg/l (average 710 mg/l); sulfate between 19 mg/l and 502 mg/l (average 274 mg/l). Many wells in the basin have elevated fluoride but only one well (Project ID U10864L) with a value of 6.8 mg/l exceeds the 4-mg/l drinking water standard.

The USGS NWIS (2006) database lists water quality standard exceedances for nitrate and nitrite in 29 wells located at the boundary of the Lake Basin and Whiskey Flat - Hawthorne near the Hawthorne Army Depot. These data are

from reported observations in monitor wells installed as part of the remedial investigations for sites having explosive contamination.

4.1.9.7 Water Balance Summary

Water balance data comes from multiple sources that focus primarily on water balance for the entire Walker Lake Basin. Values for the Walker Lake Basin subareas are not available separately for some parameters. Pumpage in particular must be estimated based on Everett and Rush (1967) and Lopes and Evetts (2004).

Everett and Rush (1967) estimate recharge to be 5,400 AFA, which is generally derived from precipitation in the surrounding mountains. The remaining recharge was derived from interbasin flow estimated between 300 and 400 AFA from Huntoon Valley and an additional 300 AFA from the Soda Spring Valley – West Basin. Surface drainage is predominantly internal, with runoff and groundwater discharge through evapotranspiration. However, minor surface drainage occurs to the Lake Subarea as well as approximately 300 AFA of subsurface outflow estimated by Eakin and Robinson (1950). Table 4-23 includes pumpage estimates and provides a water balance summary for the Walker Lake Valley – Hawthorne.

Table 4-35– Walker Lake Valley – Hawthorne Subarea (110 C)
Water Balance Summary

Element	Quantity (AFA)	Notes
INFLOW		
Surface Inflow	0	Everett and Rush (1967)
Recharge from Precipitation	5,400	Everett and Rush (1967)
Subsurface Inflow from Huntoon Valley Basin	300 to 400	Lopes and Evetts (2004)
Subsurface Inflow from Soda Spring Valley West Basin	300	Lopes and Evetts (2004)
OUTFLOW		
Evapotranspiration	4,600	Everett and Rush (1967)
Surface flow to Lake Subarea	Minor	Rush et al. (1971)

Element	Quantity (AFA)	Notes
Subsurface Outflow to Lake Subarea	300	Eakin and Robinson (1950)
Pumpage / Irrigation	740 to 1,760	Lopes and Evetts (2004) provide value combined with Schurz and Lake subareas of 4,310 AFA
ACTIVE ANNUAL DUTY	12,709	NDWR (2006b)
PERENNIAL YIELD	5,000	NDWR (2006d)
STORAGE	900,000	Rush et al. (1971)

4.1.9.8 Summary of Existing Wells and Water Rights

The NDWR Well Log Database (2006a) includes a total of 185 existing well entries in the basin of which 56 are production wells (NDWR, 2006a). Available data includes pump test data for 32 wells and production rates for 14 wells with more than 100-gpm yields. Of these wells the overall production rates range from 100 gpm to 1,700 gpm with associated transmissivities ranging from 800 gpd/ft to 80,000 gpd/ft. Geothermal Development Associates (1981) indicate that the highest transmissivities are for wells located in the coarser valley fill along the front of the Wassuk Range. Table 4-36 provides a summary of wells and the associated proposed use for Whiskey Flat - Hawthorne as reported by the NDWR Well Log Database (2006a).

Table 4-36 – Walker Lake Valley – Hawthorne Subarea (110C) Well Summary

Proposed Use	Number of Well Logs
Domestic	18
Industrial	1
Industrial cooling	1
Irrigation	16
Monitoring Well	111
Public Supply-municipal	17
Stock	3
Test well	18
Total Existing Wells	185

The main use of water in the basin is for domestic and municipal purposes. The current active annual duty (underground) of 12,709 AFA is considerably

more than the perennial yield of 5,000 AFA for the Whiskey Flat - Hawthorne. There currently are no pending water appropriations; however, it should be noted that the amount appropriated does not directly reflect what is actually pumped. Table 4-37 summarizes the current status of water rights within the Whiskey Flat - Hawthorne.

Table 4-37 – Walker Lake Valley – Hawthorne Subarea (110C) Water Rights

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Commercial (COM)	41	
Construction (CON)		
Domestic (DOM)	2	
Environmental (ENV)	2	
Industrial (IND)	72	
Irrigation-Carey Act (IRC)		
Irrigation-DLE (IRD)		
Irrigation (IRR)	3,794	
Mining and Milling (MM)		
Municipal (MUN)	6,502	
Power (PWR)		
Quasi-Municipal (QM)	770	
Recreational (REC)		
Stock (STK)	6	
Storage (STO)		
Wildlife (WLD)		
Other (OTH)	1,520	
Total	12,709	0
Status	Annual Duty AFA	Other GW AFA
Vested Right		
Reserved		
Application		
Ready for Action		
Permit	4,343	
Relinquish a Portion		
Revocable Permit		
Certificate	8,366	
Decreed		
Total	12,709	0

Note: NDWR Data as of August 18, 2006.

4.1.10 Walker Lake Valley – Schurz Subarea (Basin 110A)

The Walker Lake Valley Basin – Schurz Subarea (110A), referred here as the Schurz Basin, lies in the Walker River Hydrographic Region in Mineral, Lyon and partly in Churchill Counties, Nevada. It is a non-designated basin with a reported perennial yield of 1,500 ac-ft/yr and active annual duty of 638 ac-ft/yr (NDWR, 2006b) from underground resources. Additional information pertaining to the basin geography, geology, hydrogeology, and relevant well data is depicted in the accompanying Plate 4-10.

4.1.10.1 Physical Setting

Schurz Basin is a topographically closed basin that covers an area of 502 square miles extending 45 miles long (northwest-southeast) and 20 miles wide (northeast-southwest). The basin is bounded on the southwest by the Wassuk Range, on the north by both the Desert Mountains and Terrill Mountains, on the east by the Rawhide Hills, on the southeast by the Gillis Range and on the south by the Walker Lake Subarea. Elevations range from approximately 4,000 feet AMSL on the Walker River at the south end of the basin to 8,102 feet AMSL on Black Mountain in the Wassuk Range.

The only perennial stream in the basin is the Walker River that flows from the northwest to the southeast. Weber Dam located approximately 7 miles northwest of the town of Schurz impounds water in the Walker River to form Weber Reservoir. Ephemeral streams are limited to short periods of runoff after high intensity storms and/or snow melt.

4.1.10.2 Existing Conditions

The principal settlement for Schurz Basin is the town of Schurz located at the intersection of US 95 and US 95Alt. Besides US 95 and 95Alt the basin is served by gravel roads and unimproved trails. Ranching and farming are the main sources of employment in the basin. Schurz is also the headquarters for the Walker River Paiute Indian Reservation which covers much of the basin.

The most significant environmental concern in the Schurz Basin is the long term decline of water levels and increasing salinity of Walker Lake. Walker

Lake is a deep-water terminal lake fed mainly by the Walker River where the only outlet for water is by evaporation. Salinity of the lake water would increase naturally with time, but upstream water diversion and groundwater pumping have greatly accelerated this process causing serious ecological problems with aquatic life (Tracy, 2004). For this reason permits for large amounts of additional groundwater pumpage may be difficult to obtain.

4.1.10.3 Climate

Schurz Basin is classified as having an arid to semi-arid climate with low precipitation/humidity and high rates of evaporation. The only perennial stream in Schurz Basin is the Walker River; all others are ephemeral streams that are limited to short periods of runoff after high intensity storms and/or snow melt. There are no climate stations monitored by the WRCC in the Schurz Basin. Precipitation and temperature records are available for the neighboring areas of Wabuska (24 miles northwest), Yerington (19 miles west) and Hawthorne (30 miles south). All three locations monitor conditions at elevations similar to Schurz. The WRCC (2006) average annual precipitation and monthly temperature ranges for these stations are provided in Table 4-38.

Table 4-38 – Walker Lake Valley – Schurz Subarea Climate Data (Western Regional Climate Center, 2006)

Station	Period of Record	Average Annual Precipitation (in)	Maximum Monthly Temperature (°F)	Minimum Monthly Temperature (°F)
Hawthorne	1948-1991	4.72	95.1	27.1
Wabuska	1972-2005	4.61	93.1	16.6
Yerington	1914-2005	5.14	92.2	17.6

The actual amount of evapotranspiration for the Schurz Basin was estimated to be 19,100 ac-ft/yr derived from approximate areas of influence from phreatophytes based on plant cover, density and consumptive use factors as well as rough estimates of bare soil evaporation in playa areas (Schaefer, 1980). However, potential evaporation rates for the Schurz Subarea range from 47 to 59 inches per year (Shevenell, 1996).

4.1.10.4 Geology

Bedrock along the Schurz basin margins consists mostly of Triassic metavolcanics (Excelsior formation) and Cretaceous granitic rocks with Tertiary volcanics (at the north end) in the Wassuk Range. Elsewhere Tertiary volcanics comprise the bedrock. Except for possible secondary permeability along fault zones, rocks that form the valley margins are of low hydraulic conductivity and would not provide significant amounts of groundwater.

The valley fill is composed of alluvial sediments ranging from sands and gravels along the alluvial fans and washes, to silts and clays believed to be hundreds of feet thick towards the axis of the valley.

The dominant faulting in the basin consists of the large displacement normal fault on the east front of the Wassuk Range. Faulting in this area creates a thick wedge of valley fill east of the Wassuk Range. Currently, the influence of this fault on groundwater flow is unknown however there is a possibility that similar conditions (conduit for groundwater) exist as seen in the Walker Lake Valley – Hawthorne basin.

4.1.10.5 Groundwater Conditions

Groundwater within Schurz Basin is generally concentrated in unconfined aquifers of the valley fill sediments. The USGS NWIS database (USGS, 2006) lists 54 wells in the Schurz Basin. Groundwater depths range from 0 to 459 feet bgs, with most being less than 100 feet. Unfortunately, few wells have more than one reported water level reading. From the limited information available there is no apparent long-term water level trend as depicted in the hydrograph below (Figure 4-6).

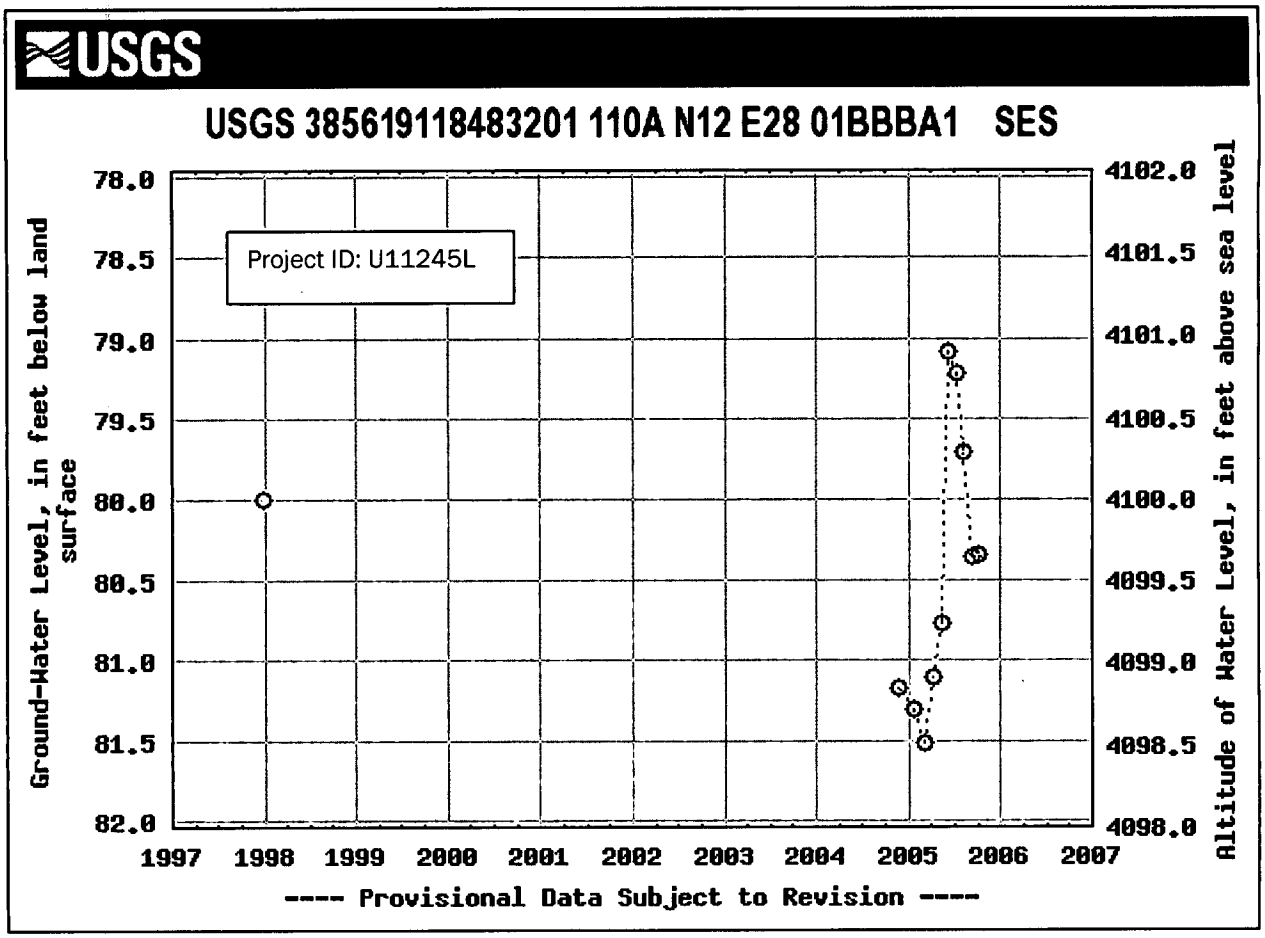

Figure 4-6– Hydrograph for well south of Schurz (USGS-NWIS, 2006)

4.1.10.6 Water Quality

Overall groundwater within the Schurz Basin contains elevated TDS levels, which tend to increase towards the southeast. Upstream water diversions from Walker River and groundwater pumping have increased salinity of Walker Lake from 2,600 mg/l in 1880 to 15,000 mg/l currently (Tracy, 2004). Similar impacts may be reflected in the basins groundwater system.

The USGS NWIS (2006) database lists 6 wells in the Schurz Basin that have elevated TDS levels in the range of 500 to 1,800 mg/l. All of these lie in the lower part of the basin mostly south of the town of Schurz. One well (Project ID U11286Q) shows fluoride at 9.3 mg/l, which greatly exceeds the 4-mg/l drinking water standard.

4.1.10.7 Water Balance Summary

Water balance data comes from multiple sources that focus primarily on water balance for the entire Walker Lake Basin. Values for the Walker Lake Basin subarea are not available separately for some parameters. Pumpage in particular must be estimated based on Schaefer (1980).

Most of the recharge for the basin is derived from infiltration of surface water from the Walker River and excess irrigation water. Evapotranspiration mainly occurs from phreatophytes located along the Walker River and irrigated fields. Looking at actual inflows and outflows for the Schurz Subarea and ignoring the transfers between surface and groundwater allows for the estimation of a net loss of water from storage of about 16,000 AFA (Table 4-39). It should be noted however that there are several uncertainties in estimating these quantities.

Table 4-39– Walker Lake Valley – Schurz Subarea (110 A) Water Balance Summary

Element	Quantity (AFA)	Notes
INFLOW		
Recharge from Runoff of small streams	650	Schaefer (1980)
Surface flow	107,000	Rush et al. (1971)
Subsurface Inflow	1,400	Schaefer (1980)
Recharge from Walker River	14,000	Schaefer (1980)
Recharge from Excess Irrigation	14,000	Schaefer (1980)
OUTFLOW		
Evapotranspiration	19,100	Schaefer (1980)
Surface flow	85,000	Rush et al. (1971)
Subsurface Outflow	11,000	Schaefer (1980)
Pumpage / Irrigation	250	Schaefer (1980)
ACTIVE ANNUAL DUTY	637	**NDWR (2006b)**
PERENNIAL YIELD	1,500	**NDWR (2006d)**
STORAGE	1,500,000	**Rush et al. (1971)**

4.1.10.8 Summary of Existing Wells and Water Rights

The NDWR Well Log Database (2006a) includes a total of 93 existing well entries in the basin of which 76 are production wells (NDWR, 2006a). The larg-

est production wells are 6 irrigation wells, all of which have been developed with production rates of 2,500 gpm or more. A total of 8 well logs with pumping rates greater than 400 gpm and reported drawdown, were used to estimate transmissivities ranging from 28,000 to 600,000 gpd/ft. Table 4-40 provides a summary of wells and the associated proposed use for Schurz Basin as reported by the NDWR Well Log Database (2006a).

Table 4-40 – Walker Lake Valley – Schurz Subarea (110 A)
Well Summary

Proposed Use	Number of Well Logs
Domestic	56
Irrigation	6
Monitoring Well	15
Other	1
Public Supply-municipal	2
Stock	12
Test well	1
Total Existing Wells	**93**

The current active annual duty (underground) of 637 AFA is considerably less than the perennial yield of 1,500 AFA for the Schurz Basin. Although there currently are no pending water appropriations, it should be noted that the amount appropriated does not directly reflect what is actually pumped. Table 4-41 summarizes the current status of water rights within the Schurz Basin.

Table 4-41 – Walker Lake Valley – Schurz Subarea (110 A)
Water Rights

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Commercial (COM)		
Construction (CON)		
Domestic (DOM)	1	
Environmental (ENV)		
Industrial (IND)		
Irrigation-Carey Act (IRC)		
Irrigation-DLE (IRD)		
Irrigation (IRR)	612	
Mining and Milling (MM)		
Municipal (MUN)		

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Power (PWR)		
Quasi-Municipal (QM)	3	
Recreational (REC)		
Stock (STK)	21	
Storage (STO)		
Wildlife (WLD)		
Other (OTH)		
Total	637	0
Status	Annual Duty AFA	Other GW AFA
Vested Right		
Reserved		
Application		
Ready for Action		
Permit	603	
Relinquish a Portion		
Revocable Permit		
Certificate	34	
Decreed		
Total	637	0

Note: NDWR Data as of August 18, 2006.

4.1.11 Rawhide Flats – (Basin 123)

The Rawhide Flats Basin (123) lies in the Central Hydrographic Region in Churchill and Mineral Counties, Nevada. It is a non-designated basin with a reported perennial yield of 500 ac-ft/yr (NDWR, 2006d) and active annual duty of 116 ac-ft/yr (NDWR, 2006d) from underground resources. Additional information pertaining to the basin geography, geology, hydrogeology, and relevant well data is depicted in the accompanying Plate 4-11.

4.1.11.1 Physical Setting

Rawhide Flats is a topographically closed basin that covers an area of approximately 227 square miles, extending 25 miles northwest-southeast and 7.5 miles northeast-southwest. The basin is bounded on the southwest by the Terrill Mountains, on the north by the Blow Sand Mountains, on the west by the Desert Mountains and on the east by the Sand Springs Range. Elevations range from approximately 3,880 feet AMSL along the playa in the northwest

part of the basin to 7,170 feet AMSL in the Sand Springs Range at the east end of the basin. There are no perennial streams within Rawhide Flats, and ephemeral streams are limited to short periods of runoff after high intensity storms and/or snow melt. Surface drainage is internal to the playa in the northwest part of the basin.

4.1.11.2 Existing Conditions

Currently there are no permanent settlements within the basin however; remnants of the former mining town of Rawhide are located in the southeast part of the basin. Access to the basin is provided by US highway 95 extending between Schurz and Fallon which crosses through the western part of the basin. The basin is also served by a gravel road extending from US 95 to the former mining town of Rawhide and also several unimproved trails.

The most significant environmental concern in the Rawhide Flats basin is the considerable mining activity that has occurred on the east margin of the basin in the Rawhide mining district. Current mining operations include Denton-Rawhide Mine (silver-gold) (Dreisner and Coyner, 2006).

4.1.11.3 Climate

Rawhide Flats is classified as having an arid to semi-arid climate with low precipitation/humidity and high rates of evaporation. Currently, there are no climate stations monitored by the WRCC in Rawhide Flats; however precipitation and temperature have been monitored from 1920-1956 at Schurz, from 1903-2005 at Fallon and from 1897-2005 at Mina. All three locations monitor conditions at elevations similar to Rawhide Flats. The WRCC (2006) average annual precipitation and monthly temperature ranges for these stations are provided in Table 4-42.

Table 4-42 – Rawhide Flats Climate Data (Western Regional Climate Center, 2006)

Station	Period of Record	Average Annual Precipitation (in)	Maximum Monthly Temperature (°F)	Minimum Monthly Temperature (°F)
Schurz	1920-1956	5.33	-	-
Fallon	1903-2005	4.99	92.1	18.1
Mina	1897-2005	4.50	95.6	20.6

The actual amount of evapotranspiration for Rawhide Flats Basin was estimated to be 800 ac-ft/yr derived from approximate areas of influence from phreatophytes based on plant cover, density and consumptive use factors as well as rough estimates of bare soil evaporation in playa areas (Everett and Rush, 1967). However, potential evaporation rates for the Rawhide Flats Basin range from 47 to 59 inches per year (Shevenell, 1996).

4.1.11.4 Geology

Bedrock along the Rawhide Flats Basin margins consists mostly of Tertiary volcanic rocks ranging from rhyolite to basalt in composition. Elsewhere, in small areas along the eastern portion of the basin are Permo-Triassic volcanics.

The valley fill is composed of alluvial sediments ranging from sands and gravels along the alluvial fans and washes, to silts and clays towards the axis of the valley. Saline playa deposits occur in the northwestern part of the basin.

4.1.11.5 Groundwater Conditions

Groundwater within Rawhide Flats Basin is generally concentrated in the unconfined aquifers of the valley fill sediments. Natural discharge for this closed basin occurs by evaporation, which concentrates evaporite deposits (playa) within the fine silt and clay sediments. Groundwater data within the Rawhide Flats Basin is very sparse. The USGS NWIS database (USGS, 2006) lists 2 wells completed within the unconfined aquifer and are believed to be the same wells as referenced by Everett and Rush (1967) (well details discussed further in Section 4.1.11.8). Unfortunately, these existing wells have little to no re-

corded water level readings. From the limited information available it is not possible to discuss long-term water level trends.

Three (3) springs (with recorded observations) are located within the basin valley fill as reported by the USGS (2006). Lee Hot Springs, Allen Springs, and Stinking Springs are located in the northern part of the basin with Stinking Spring near the east side of highway US 95 (USGS,2006).

4.1.11.6 Water Quality

Water quality data for the Rawhide Flats Basin is also sparse. Everett and Rush (1967) provide water quality data for one well (14/31-21b1) sampled in 1966. The report indicates low sulfate of 52 ppm (mg/l) and a specific conductance on the order of 432 mS/cm, suggesting a TDS level of approximately 300 mg/l. The USGS provides water chemistry data for one spring located in the northwest part of the basin. Two analyses indicate TDS of 1,620 to 1,660 mg/l; and one sample shows fluoride of 7.9 mg/l. In addition the USGS Walker Lake 1 x 2-Degree topographic map shows Stinking Springs as "undrinkable". No USGS data is available for the two known wells in the basin.

4.1.11.7 Water Balance Summary

Water balance data comes from multiple sources including Everett and Rush (1967), Lopes and Evetts (2004), and NDWR (1971 & 2006). Most of the recharge for the basin is derived from infiltration of runoff. However, mountain ranges surrounding the Rawhide Flats Basin are relatively low and offer little precipitation. Everett and Rush (1967) estimate recharge to be approximately 150 ac-ft/yr. Evapotranspiration mainly occurs from phreatophytes located along the valley floor and is estimated at 800 ac-ft/yr (Everett and Rush, 1967) (Table 4-43). Recharge from the neighboring Carson Desert Basin may offset the amount of discharge occurring within the basin however it should be noted that there are several uncertainties in estimating these quantities.

Table 4-43- Rawhide Flats Basin (123)
Water Balance Summary

Element	Quantity (AFA)	Notes
INFLOW		
Recharge from Precipitation	150	Lopes and Evetts (2004)
Subsurface Inflow	Not quantified from Carson Desert Basin	Everett and Rush (1967) and Rush et al. (1971)
OUTFLOW		
Evapotranspiration	800	Everett and Rush (1967)
Subsurface Outflow	0	Everett and Rush (1967)
Pumpage / Irrigation	130	Lopes and Evetts (2004)
ACTIVE ANNUAL DUTY	116	NDWR (2006b)
PERENNIAL YIELD	500	NDWR (2006d)
STORAGE	60,000 - 540,000 ac-ft	Everett and Rush (1967) and Rush et al. (1971)

4.1.11.8 Summary of Existing Wells and Water Rights

The NDWR Well Log Database (NDWR, 2006a) does not include any wells for the Rawhide Flats Basin. Everett and Rush (1967) provided limited data for two stock wells (Table 4-44). Both wells are located in the Walker Indian Reservation, one in the central part of the basin and the other in the east. There is no production data available for either well.

Table 4-44 - Rawhide Flats Basin (123)
Well Summary

Well No.	Year drilled	Depth feet	Diameter inches	Water Level Date	Water level
14/30-4C1	—	162	6	—	145
14/31-21b1	1934	615	6	—	542

The current active annual duty (underground) of 116 ac-ft/yr is considerably less than the perennial yield of 500 ac-ft/yr for the Rawhide Flats Basin. Although there currently are no pending water appropriations, it should be noted that the amount appropriated (or the lack thereof) does not directly reflect what

is actually pumped. Table 4-45 summarizes the current status of water rights within the Rawhide Flats Basin.

Table 4-45 – Rawhide Flats Basin (123)
Water Rights

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Commercial (COM)		
Construction (CON)		
Domestic (DOM)		
Environmental (ENV)		
Industrial (IND)		
Irrigation-Carey Act (IRC)		
Irrigation-DLE (IRD)		
Irrigation (IRR)		
Mining and Milling (MM)		
Municipal (MUN)		
Power (PWR)		
Quasi-Municipal (QM)		
Recreational (REC)		
Stock (STK)	116	
Storage (STO)		
Wildlife (WLD)		
Other (OTH)		
Total	116	0
Status	Annual Duty AFA	Other GW AFA
Vested Right		
Reserved		
Application		
Ready for Action		
Permit		
Relinquish a Portion		
Revocable Permit		
Certificate	116	
Decreed		
Total	116	0

Note: NDWR Data as of August 18, 2006.

4.1.12 Mason Valley – (Basin 108)

The Mason Valley Basin (108) lies in the Walker River Hydrographic Region in Lyon and Mineral Counties, Nevada. It is a designated basin with a reported perennial yield of 25,000 ac-ft/yr (NDWR, 2006d) and active annual duty of 163,198 ac-ft/yr (NDWR, 2006d) from underground resources. Additional information pertaining to the basin geography, geology, hydrogeology, and relevant well data is depicted in the accompanying Plate 4-12.

4.1.12.1 Physical Setting

Mason Valley is topographically a topographically open basin that covers an area of approximately 516 square miles, extending 43 miles north-south and 20 miles east-west. The basin is bounded on the east by the Wassuk Range, on the north by the Desert Mountains, on the south by the Pine Grove Hills and on the west by the Singatse Range. Elevations range from approximately 8,600 feet AMSL in the Wassuk Range on the east to 4,290 feet AMSL as the Walker River drains the basin to the northeast. The Walker River is the dominant surface water body in the basin and is fed along its route by the perennial East and West Walker Rivers, as well as many ephemeral streams that fill during short periods of runoff after high intensity storms and/or snow melt.

4.1.12.2 Existing Conditions

The principal settlements within Mason Valley are Yerington and Mason. Access to the basin is provided by US highway 95 extending west of Schurz crosses through the western part of the basin before heading north at Yerington. State Highway 208 and 339 service Yerington from the south. The basin is also served by gravel roads and several unimproved trails. Ranching and farming are the main sources of employment in the basin with the closure of the Yerington Mine in 2000.

The main use of water in the basin is for irrigation although, the two most significant environmental concerns in the Mason Valley are the long-term decline of groundwater levels and the increase in concentration of metals in groundwater related to former mining operations. Seitz, Van Denburgh and La Camera (1982) described a localized groundwater plume of arsenic, cadmium, cobalt,

copper, iron, lead, manganese, mercury, molybdenum, selenium, and zinc downgradient from the former Yerington mine site. The shallow aquifer is contaminated with acidic process waters and metals from the evaporation ponds. It is possible that the intermediate and deep aquifers may be degraded as well. Brown and Caldwell (2005, 2006) conducted a more detailed characterization of the contamination and reported sulfate and high TDS levels that extend approximately 2 miles north-northwest of the evaporation ponds and tailings.

Also of major concern is the increasing salinity of Walker Lake, located downstream in Basin 110B. Walker Lake is a deep-water terminal lake where the only outlet is by evaporation. Salinity would increase naturally over the long term, but upstream water diversion and groundwater pumping (especially in Mason Valley and Smith Valley) have greatly accelerated this process (Tracy, 2004). Since 1880 TDS has increased from 2,600 mg/l to 15,000 mg/l causing serious ecological problems with aquatic life in the lake (Tracy, 2004).

4.1.12.3 Climate

The Mason Valley Basin is classified as having an arid to semi-arid climate with low precipitation/humidity and high rates of evaporation. The WRCC has monitored precipitation and temperature in Yerington since 1914. The WRCC (2006) average annual precipitation and monthly temperature ranges for this station is provided in Table 4-46.

Table 4-46 – Mason Valley Climate Data (Western Regional Climate Center, 2006)

Station	Period of Record	Average Annual Precipitation (in)	Maximum Monthly Temperature (°F)	Minimum Monthly Temperature (°F)
Yerington	1914-2005	5.14	92.2	17.6

The actual amount of evapotranspiration for Mason Valley Basin was estimated to be 57,000 ac-ft/yr derived from approximate areas of influence from phreatophytes based on plant cover, density and consumptive use factors (Huxel, 1969). However, potential evaporation rates for the Mason Valley Basin range from 35 to 59 inches per year (Shevenell, 1996).

4.1.12.4 Geology

Bedrock along the Mason Valley Basin margins consists mostly of highly deformed Triassic metasediments and metavolcanics that have been intruded by Jurassic granitic rocks. Volcanic rocks consisting mostly of Mid-Tertiary ash-flow tuffs and welded tuffs lie unconformably upon these older rocks in the Singatse and Wassuk Ranges. Mid-Tertiary extreme crustal extension has resulted in several low angle fault plates in which the volcanics and older rocks have been tilted westward and large blocks of terrain have been displaced thousands of feet eastward. Late Tertiary high angle normal faults in turn, offset the plates and have served as conduits for Quaternary basalt that is exposed in the Desert Mountains and on the west flank of the Wassuk Range.

The valley fill is composed of alluvial sediments ranging from sands and gravels along the alluvial fans and washes, to silts and clays towards the axis of the valley.

4.1.12.5 Groundwater Conditions

Groundwater within Mason Valley Basin is concentrated in both unconfined and confined aquifers of the valley fill sediments. Overall rocks that form the valley margins are of low hydraulic conductivity and offer little opportunity for well development. The USGS NWIS database (USGS, 2006) lists 320 wells in Mason Valley Basin. Groundwater depths range from 0 to 597 feet bgs, with most being less than 300 feet. Water level data is available for 266 wells, many with multiple readings. There is a long-term water level decline in the basin as illustrated in Figure 4-7.

Two (2) springs (with recorded observations) are located within the basin valley fill as reported by the USGS (2006). Wabuska Hot Springs and Black Point Springs are located in the northern part of the basin near Wabuska (USGS, 2006). Additional springs are located along the south and southeast margins of the basin near or within bedrock.

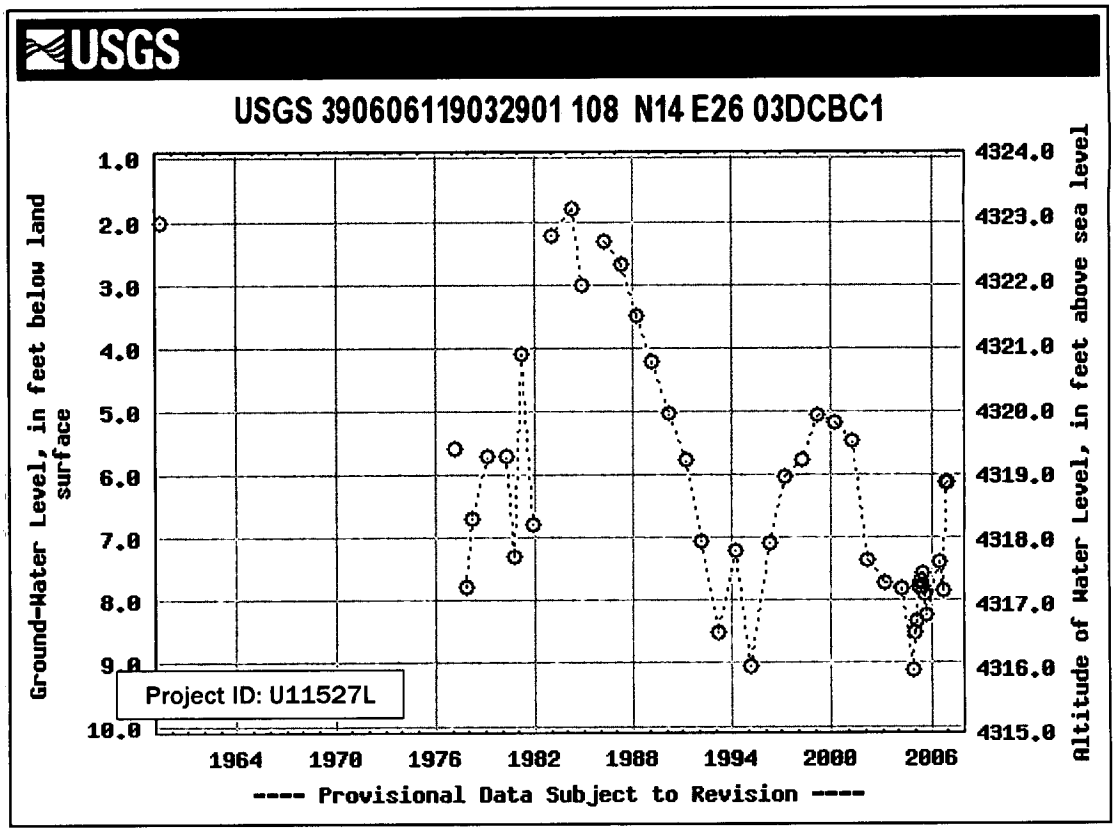

Figure 4-7 – Hydrograph for well in northeastern part of Mason Valley (USGS-NWIS, 2006)

4.1.11.6 Water Quality

The USGS NWIS (2006) database lists 14 wells in the Mason Valley Basin with elevated TDS levels in the range of 500 to 97,100 mg/l. All of the wells with TDS values greater than 1,100 mg/l are located adjacent to the Yerington Mine with the exception of one well that lies near the hot springs at Wabuska. Throughout the valley average TDS levels for groundwater are generally less than 500 mg/l with increasing concentrations downgradient from the Yerington mine and near hot spring areas north of Wabuska (Huxel, 1969). Huxel also reports elevated fluoride levels in wells near Wabuska up to 7.7 mg/l (Nevada drinking water standard is 4.0 mg/l). Near the Yerington mine, a plume of groundwater extends about 2 miles north-northwest with elevated sulfate, TDS and several metals adjacent to former leach pads and tailings piles (Brown and Caldwell, 2006).

4.1.12.7 Water Balance Summary

Water balance data comes from multiple sources including Lopes and Evetts (2004), Huxel (1969), and NDWR (1971 & 2006). Most of the recharge for the basin is derived from infiltration of surface water from the Walker River and/or irrigation derived from the river. Huxel (1969) estimates groundwater recharge to be approximately 5,900 ac-ft/yr. Evapotranspiration is estimated at 57,000 ac-ft/yr (Huxel, 1969) (Table 4-47) which, primarily occurs from phreatophytes along the Walker River. Looking at actual inflows and outflows for the Mason Valley Basin and ignoring the transfers between surface and groundwater shows a net gain of water from storage of about 14,500 AFA based on data from the 1960's by Huxel. More recently, water levels (and storage) have been declining, but uncertainties in estimating quantities for the water balance could account for most of this. Table 4-47 provides a water balance summary for the Mason Valley Basin.

Table 4-47– Mason Valley Basin (108)
Water Balance Summary

Element	Quantity (AFA)	Notes
INFLOW		
Recharge from Runoff of small streams	5,900	Huxel (1969)
Surface flow	216,500	Huxel (1969)
Subsurface Inflow	500	Huxel (1969)
OUTFLOW		
Evapotranspiration (exclusive of agriculture)	57,000	Huxel (1969)
Surface flow	108,200	Huxel (1969)
Subsurface Outflow	1,600	Huxel (1969)
Pumpage (other than irrigation)	2,950	Lopes and Evetts (2004)
Irrigation Consumption (agricultural)	41,000	Huxel (1969)
ACTIVE ANNUAL DUTY	163,198	NDWR (2006b)
PERENNIAL YIELD	25,000	NDWR (2006d)
STORAGE	2,900,000	Rush et al. (1971)

4.1.12.8 Summary of Existing Wells and Water Rights

The NDWR Well Log Database (NDWR, 2006a) includes a total of 1,177 existing well entries in the basin of which 1,055 are production wells. The largest production wells (208) are for irrigation of which, 135 have been developed with production rates of 1,000 gpm or more. Based on 120 well logs in the basin with reported draw down and a pumping rate greater than 400 gpm were used to estimate transmissivities ranging from 3,700 to 450,000 gpd/ft. Table 4-48 provides a summary of wells and associated proposed use for Mason Valley as reported by the NDWR Well Log Database (2006a).

Table 4-48 – Mason Valley Basin (108)
Well Summary

Proposed Use	Number of Well Logs
Aquaculture	5
Commercial	4
Domestic	793
Industrial	6
Industrial cooling	1
Irrigation	208
Monitoring Well	64
Other	22
Public Supply-municipal	12
Recreation	1
Stock	25
Test well	44
Unused	-8
Total Existing Wells	**1,177**

The current active annual duty (underground) of 163,198 AFA is considerably more than the perennial yield of 25,000 AFA for the Mason Valley Basin. There are currently 42,397 AFA of pending water appropriations. It should be noted that the amount appropriated does not directly reflect what is actually pumped. Table 4-49 summarizes the current status of water rights within the Mason Valley Basin.

Table 4-49 – Mason Valley Basin (108)
Water Rights

Manner of Use	Active Annual Duty AFA	Pending Annual Duty AFA
Commercial (COM)	354	
Construction (CON)		
Domestic (DOM)	19	
Environmental (ENV)	243	
Industrial (IND)	16,731	
Irrigation-Carey Act (IRC)		
Irrigation-DLE (IRD)		
Irrigation (IRR)	120,014	
Mining and Milling (MM)	9,820	
Municipal (MUN)	5,626	
Power (PWR)		
Quasi-Municipal (QM)	621	
Recreational (REC)	6,146	
Stock (STK)	356	
Storage (STO)		42,398
Wildlife (WLD)	3,258	
Other (OTH)		
Total	163,188	42,398
Status	Annual Duty AFA	Other GW AFA
Vested Right		
Reserved		
Application	540	
Ready for Action	2,641	51,086
Permit	40,782	3,258
Relinquish a Portion	65	
Revocable Permit		
Certificate	105,134	13,950
Decreed		
Total	149,162	68,294

Note: NDWR Data as of August 18, 2006.

4.2 Description of Water Rights Data

The State Engineer's office maintains water rights records in Carson City and a database that provides summary information about each application and permit on file. The water rights database was used to develop abstracts for each basin within the Study Corridor, which contained quantitative summaries of

water rights by status and use. Water rights abstracts for each basin within the Study Corridor are included in Appendix C.

Individual queries were also run on the database to provide a listing of basic information for all water rights meeting specific status criteria in each of the Study Corridor basins. Table 4-50 includes a summary of the fields included as "output" for each query and corresponding explanations for each field. Each basin-specific query included all surface and underground appropriations meeting the status criteria of Vested, Certificated, Decreed, and Permitted. It should be noted that these queries are subject to change (with time) and were run based on information that was queried from the State's water rights database between August and October 2006. According to the State Engineer's office, information contained in the water rights database may have an 8 to 12 month lag in the time the office receives permit correspondence to when the database is updated.

Table 4-50 – Explanation of Water Rights Database Fields

BASIN	Refers to the Nevada hydrographic basin location in which the appropriation is assigned.
APP	Sequential number assigned to each application upon endorsement by State Engineer, priority determination is based on date associated with application number
CERT	Sequential number assigned to each certified permit.
DATE	Date associated with application number, used to identify and establish priority
STAT[1]	Designation of appropriated permit status (4 types considered for this project: decreed, vested, certificated, permitted)
SRC[2]	Type of source at the point of diversion (underground, surface or geothermal)
QQ	40-acre 'Quarter-Quarter' Section in legal description
QTR	160-acre 'Quarter' Section in legal description
SEC	1-sq.mile (640-ac) Section designation in legal description
TWN	Township, legal description
RNG	Range, legal description
CFS	Cubic feet per second, allowable diversion rate set out in the permit terms
USE[3]	Principle use, Nevada allows one principle use for each permit (some overlaps occur)
SUP	Supplemental right, or water right that has a pending change, if it includes dividing original right into several the original duty may not be exceeded
ACRES	Number of irrigated acres, for Irrigation permit types
DUTY	Amount of water the permit holder is allowed to divert annually is the limitation noted or amount specified and subject to court decree
UNIT[4]	Unit of measurement applied to permit duty
CO	County of record

Owner_of_Record	Current owner of record for designated permit. NDWR generally has an 8-month to 1-year lag on updating Owners of Record changes when filed. Note that in some cases NDWR does not receive Deed of Sale (for land transactions with water rights).

Notes:

[1] STAT (Appropriation Status):

DEC - Decreed water rights are subject to a court decree.

VST - Vested rights to surface waters are those rights for which the work to establish beneficial use was initiated prior to march 1, 1905, the date of adoption of Nevada's Water Law. Vested rights from an underground source are those rights initiated prior to March 22, 1913 for artesian water and prior to March 22, 1939 for percolating water. The process that determines the extent of all vested rights on a water source is called adjudication. Vested rights have a leading 'V' placed on the application number.

CERT - A perfected appropriation becomes certified with a unique certification number designation. Certification is granted once the proofs have all been filed and the other terms of the permit complied with. State Engineer then prepares a Certificate of Appropriation describing the use to be made of the water as shown on the Proof of Beneficial Use and the appropriation becomes certified.

PER - Permitted water rights are those that have been appropriated for beneficial use but are subject to availability of unappropriated water, existing rights, and the public interest. A permit to appropriate water grants the right to develop a certain amount of water from a particular source for a certain purpose and to be used at a definite location. The permitted right can become a perfected appropriation, or certified, only upon: 1) completion of the works of diversion; 2) the placing of the water to beneficial use; and 3) filing the proofs required.

[2] SRC (Underground, Surface, or Geothermal):

UG - Underground:

UG- Underground (well)
OGW- Other groundwater

SURF - Surface:

EFF- Effluent
LAK- Lake
OSW- Other surface water
RES- Reservoir
SPR- Spring
STO- Storage
STR- Stream

GEO - Geothermal

[3] USE:

COM- Commercial
CON- Construction
DEC- As Decreed
DOM- Domestic
DWR- Dewatering
ENV- Environmental
IND- Industrial
IRC- Irrigation (Carey Act)
IRD- Irrigation (DLE-Desert Land Entry)
IRR- Irrigation
MM- Mining and Milling
MUN- Municipal

OTH- Other
PWR- Power
QM- Quasi-Municipal
REC- Recreation
STK- Stockwatering
STO- Storage
WLD- Wildlife

[4] UNIT:
AFA- Acre-feet annually
AFS- Acre-feet seasonally
MGA- Million gallons annually
MGS- Million gallons seasonally

4.3 Water Rights Summary

Appropriations, or water rights, were summarized for each of the 12 Study Corridor Basins and categorized based on distance from the MRC in three (3) groups: 0-2 miles, 2-5 miles, and 5-10 miles. These locations as well as the 2, 5, and 10-mile buffers are shown on Plates 4-13 and 4-14. Note that the 10-mile buffer is also defined as the 20-mile buffer (Study Corridor), or 10 miles in all directions of the MRC. The designated location for each water right is based on the location of the point-of-diversion (see Section 3) as specified on the permit. These locations are displayed by placing a highlighted boundary around the legal Section designated on the permit. Note that the distance relationship to the MRC is based only on the location of the legal Township, Range, and Section (TRS). As an example, if a water right was located in a legal Section where any part of that Section fell within 5 miles of the MRC, that water right was considered to be within 5 miles of the MRC.

These water rights were also identified by whether or not they were located within any of the 12 MRC basins (basins crossed by proposed MRC) or the 7 basins not crossed by the MRC, or Non-MRC basins. Note the Study Corridor (20-miles wide centered about the center of the MRC) includes all or parts of 19 total basins, while the MRC includes all or parts of 12 total basins (referred to as MRC basins). Based on queries that were run on the NDWR's Water Rights Database (2006b), see Appendix C, which included all active water rights, there were a total of 717 water rights within the 20-mile Study Corridor, of which 492 are underground and 225 are surface water rights. There are also 37 ac-

tive geothermal sources within the Study Corridor, most of which are in Basin 108 (Mason Valley) and located five to ten miles from the MRC.

A summary accounting of existing active water rights in MRC and Non-MRC basins is provided in Table 4-51. Table 4-52 includes a summary status for groundwater sources in each MRC basin, while Table 4-53 includes a summary status for groundwater sources in each Non-MRC basin. Appendix B provides more detailed summaries for groundwater sources by manner of use and current status for each of the Study Corridor Basins. Plates 4-13 and 4-14 include graphical information on the locations of identified surface and underground water rights throughout the 20-mile Study Corridor.

Table 4-51 – Existing Basin Appropriation Summary (NDWR Water Rights Database, 2006b)

	No. of Underground Sources[1]	No. of Surface Water Sources[2]
MRC Basins	465	180
Non-MRC Basins	27	45

Notes:

[1] Underground sources include active permits with a designated source of Underground (UG) or Other Groundwater (OGW).

[2] Surface water sources include active permits with a designated source of Spring (SPR), Stream (STR), Effluent (EFF), Lake (LAK), Reservoir (RES), and Other Surface Water (OSW).

Table 4-52 –Basin Status Summary- MRC Basins (Groundwater Sources)

Basin Number	Size sq. mi.	Perennial Yield[1], AFA	Committed Resources[2], AFA	Pending Annual Duty[2], AFA	Designated[1]
108	516	25,000	163,188	42,398	yes
110A	502	1,500	637	0	no
110C	541	5,000	12,709	0	yes
118	370	4,000	1,764	0	no
119	199	1,000	49	0	no
121A	246	600	3,169	0	yes
121B	130	200	354	0	yes
123	227	500	116	0	no
137A	1,603	6,000	21,079	0	yes
142	313	3,000	1,148	0	no
143	555	20,000	23,082	0	yes
144	535	350	72	0	no

Notes:

[1] Perennial Yield estimates based on NDWR- Division of Water Planning (2006d).

[2] Data subject to change, current as August 2006. Pending duties are based on the total applications for appropriations yet to be developed and/or permitted. Committed resources may not include Decreed and Adjudicated rights, which generally apply to surface water sources (NDWR Water Rights Database, 2006b).

Table 4-53 – Basin Status Summary- Non-MRC Basins (Groundwater Sources)

Basin Number	Size sq. mi.	Perennial Yield[1], AFA	Committed Resources[2], AFA	Pending Annual Duty[2], AFA	Designated[1]
101	2,022	2,500	21,464	30	yes
102	480	1,600	10,822	0	yes
110B	307	700	2,093	0	no
117	706	30,000	72,510	60	yes
120	92	150	0	0	no
122	1,277	5,000	19,108	0	yes
136	284	400	137	0	no

Notes:

[1] Perennial Yield estimates taken from NDWR- Division of Water Planning (2006d).

[2] Data subject to change, current as August 2006. Pending duties are based on the total applications for appropriations yet to be developed and/or permitted (NDWR Water Rights Database, 2006b).

5.0 Water Resource Development

5.1 Development Approach

The total volume of water that would be required for earthwork compaction, dust control, ballast production, and potable water supply during construction of the MRC is currently being developed. Once the total demand and construction schedule have been determined new wells would be sited at various locations along the MRC to meet the required construction and operational water demand. Because the planned approach for meeting the required water demand is to develop new water resources, each point-of-diversion, whether for temporary construction use or long-term operational use, would have to be developed under new water rights permits through the State of Nevada.

Construction water would be stored in temporary storage facilities, or reservoirs, that would be constructed as specified locations. During construction, water would be conveyed by temporary pipelines constructed along the MRC and/or transported by truck as needed.

5.2 Well Siting Process

There are three main objectives for siting new wells for the MRC project, 1) site wells as close as possible to portions of the proposed rail alignment requiring the highest projected construction water demand and within the MRC construction ROW if possible, 2) site wells in areas where groundwater production would most likely (based on existing groundwater conditions) to meet the required water demand with a minimum number of wells, and 3) site wells in areas where impacts to existing sources of water (underground and surface) are minimized. In order to meet these objectives scheme for development rating was developed and described in Table 5-1

Table 5-1 – Development Rating Criteria

Criteria	Relative Weighting Factor (by importance)	Status Rating and Description for Development Zones
Evidence of high production wells	3	3 – NDWR well logs indicate the presence of wells with high production capacity (i.e. greater than 100 gpm) 2 – Limited presence of wells producing more than 100 gpm or several wells yielding less than 50 gpm 1 – No information on groundwater production
Key Hydrogeologic Information	2	3 – Presence of unconsolidated material with favorable soils. Favorable location relative to springs, streams, lakes, phreatophytes or other features indicative of shallow and potentially favorable conditions for groundwater development 2 – Areas of predominantly consolidated formations with presence of favorable geologic structure (faults, springs in rock formations) 1 – Locations in rock formations with low permeability, limited structure, no evidence of springs, no existing water resource development in the area (based on topography, water rights, USGS data, NDWR wells) and any other referenced condition that indicates unfavorable conditions for groundwater development
Depth to Groundwater	1	4 – Depth to groundwater is less than 100 feet (bgs) 3 – Depth to groundwater is between 100 and 500 feet (bgs) 2 – Depth to groundwater is greater than 500 feet (bgs) 1 – Depth to groundwater is unknown

The procedure for rating each development zone (independent of distance from the alignment) consists of following steps:

1. Determine the appropriate number of development zones
2. Multiply each zone's *status rating* by the *relative weighting factor* (Table 5-1) for each criteria listed above to arrive at a criteria score
3. Add each criteria score together to arrive at a total score for each development zone
4. Adjust development zones and recalculate representative ratings as necessary

5.2.1 Well Site Description Requirements

The information pertaining to each proposed well site would be included in a summary table that would include, at a minimum, the following information:

1. Hydrographic Basin.
2. Rail Alignment Segment.
3. Nevada County.
4. Rail Alignment Station.
5. Required construction demand at that site. This demand should be the relative to the portion of the total basin demand at that location. This value is important as it will be used during the permitting process and for estimating impact.
6. Type of demand. For example, construction or construction / facility. If part of the required demand includes a facility, the type of facility should be listed (e.g. quarry, work camp, siding, etc).
7. Anticipated depth to groundwater in the ranges listed in Table 5-2.

Table 5-2 – Ranges of Depth to Groundwater (ft-bgs)

Depth to Water
0 to 10
10 to 50
50 to 100
100 to 200
200 to 500
500 to 1,000
> 1,000

8. Site ID description = Basin abbreviation and sequential well number.
9. Type of demand = permanent or temporary (associated with type)

10. UTM coordinate locations.

11. Anticipated well depth ranges listed by the following ranges:

Table 5-3 – Ranges for Well Depths (ft)

Total Well Depth
25 to 50
50 to 100
100 to 200
200 to 500
500 to 750
750 to 1,000
1,000 to 1,500
1,500 to 2,000

12. Well Site Notes (see following Section).

5.2.2 Well Site Notes

The notes associated with each well site would provide useful information that can be relied upon for the construction planning and impact analyses in each basin. The notes should be comprehensive and uniform in overall content that is covered for each site. It is important that a description including the following information (at a minimum) be placed in the notes for each well site, as described below:

1. Type of aquifer the proposed well may be screened in (if known). Options may include shallow alluvial, flood plain (near spring, stream or lake), consolidated rock aquifer (note type of rock formation(s), if known).

2. Generalized description of mapped geology with reference to cross-section information, if available.

3. Note the position relative to geologic structure that may be of interest, particularly faults that may act as barriers or conduits to flow.

4. Note lithology and production information from nearby wells (NDWR 2006a). Note direction and approximate distance (to nearest 1/2 mile). Also check well depths and aquifer completions for any nearby USGS Wells.

5. Note location of nearby springs, streams and lakes.

6. Note location relative to any nearby active water rights.

7. Note location relative to areas with water quality or other known environmental issues.

8. Note site access (minor roads), which is critical for well sites not within the ROW. Also make note of any visible terrain issues that would impact site access.

9. Note presence of a County boundary and potential for transporting water from its source to a place of use over a county line.

10. Note the presence of restrictive land status, which may include private land (see Land Status Constraints Layer in ArcReader)

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Appendix A

Project ID Description:

The data that follows in this Appendix was taken from the USGS NWIS database. The 'Project ID' field was created by Converse for use in the project GIS. The 'Project ID' field consists of the following:

U1234QL

U | 1234 | QL

Site Type Prefix	Site Number	Site Data Suffix
U = Underground (well)	Unique sequential site number	L = water level data
S = Surface (stream or spring)		Q = water quality data
		QL = water level and water quality data

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well_Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
101	U11669L	101 N16 E30 17BCA 1 USGS	39.246864	-118.644865	Accurate to +/- 1 minute	3930	5		43	0	10/13/1971	10/13/1971	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=391449118383801
107	U11584L	107 N15 E25 21CADD2 H-3	39.146638	-119.190388	Accurate to +/- .1 second (differentially corrected GPS)	4280	20		0	0	3/3/2004	2/24/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390848119112501
108	U11228L	108 N12 E27 04BC 1 USBLM	38.930196	-118.965148	Accurate to +/- 1 minute	5630	35		0	0	8/6/1965	8/6/1965	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385549118575101
108	U11333L	108 N13 E27 16AD 1	38.992141	-118.95126	Accurate to +/- 1 minute	5528	35		0	0	8/6/1965	8/6/1965	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385932118570101
108	U11334L	108 N13 E26 17AA 1	38.99214	-119.079874	Accurate to +/- 1 minute	4370	1		130	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385932119044401
108	U11340L	108 N13 E26 09CD 1	38.996029	-119.081263	Accurate to +/- 1 minute	4388	1		38	0	6/6/1966	6/6/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385946119044901
108	U11342L	108 N13 E26 08DD 1	38.99714	-119.09154	Accurate to +/- 1 minute	4370	1		0	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385950119052601
108	U11343L	108 N13 E26 09CA 1	38.998251	-119.080429	Accurate to +/- 1 minute	4388	1		41	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385954119044601
108	U11344L	108 N13 E26 07DA 1	38.998251	-119.109041	Accurate to +/- 1 minute	4365	1		300	0	6/23/1961	6/23/1961	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385954119062901
108	U11346L	108 N13 E27 08DA 1 USBLM	38.998808	-118.989039	Accurate to +/- 1 minute	4885	1		274	0	1/1/1942	1/1/1942	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385956118591701
108	U11347L	108 N13 E26 08AC 1	39.001029	-119.095152	Accurate to +/- 1 minute	4360	1		0	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390004119053901
108	U11350L	108 N13 E26 09AC 1	39.001585	-119.078207	Accurate to +/- 1 minute	4365	1		60	0	6/8/1965	6/8/1965	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390006119043801
108	U11351L	108 N13 E26 09DBCC1	39.001585	-119.078485	Accurate to +/- 1 second	4390	20		166	0	12/15/1956	3/1/2005	34	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390006119043901
108	U11354L	108 N13 E26 08CACA1	39.002973	-119.101541	Accurate to +/- 1 second	4372	20		130	0	3/1/1973	3/2/2005	32	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390011119060201
108	U11356L	108 N13 E26 09AB 1	39.004918	-119.075985	Accurate to +/- 1 minute	4355	1		160	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390018119043001
108	U11359L	108 N13 E25 01CC 1	39.009084	-119.141541	Accurate to +/- 1 minute	4366	1		0	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390033119082601
108	U11360L	108 N13 E25 01CB 1	39.010751	-119.132652	Accurate to +/- 1 minute	4363	1		100	0	11/1/1965	11/1/1965	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390039119075401
108	U11361L	108 N13 E26 05DB 1	39.011307	-119.093763	Accurate to +/- 1 minute	4356	1		333	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390041119053401
108	U11362	108 N13 E26 10BABB1	39.012696	-119.064318	Accurate to +/- 1 second	4390	10		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390046119034801
108	U11363	108 N13 E26 03CDCC1	39.012974	-119.064874	Accurate to +/- 1 second	4390	10		300	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390047119035001
108	U11367L	108 N13 E25 01DBCC1	39.015751	-119.134319	Accurate to +/- 5 seconds	4365	10		570	0	2/28/1991	3/1/2005	14	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390057119080001

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
108	U11368L	108 N13 E26 06DBDC1	39.016307	-119.11293	Accurate to +/- 1 second	4358	20		241	0	5/18/1961	3/2/2000	21	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390059119064301
108	U11369L	108 N13 E25 01DBDD1	39.016584	-119.132097	Accurate to +/- 5 seconds	4364	20		505	0	4/8/1977	2/25/1992	19	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390100119075201
108	U11373L	108 N13 E26 02AA 1	39.017696	-119.036262	Accurate to +/- 1 minute	4463	1		130	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390104119020701
108	U11374L	108 N13 E26 02BA 1	39.017696	-119.044318	Accurate to +/- 1 minute	4420	1		150	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390104119023601
108	U11393L	108 N14 E26 31CD 1	39.023251	-119.115708	Accurate to +/- 1 minute	4355	1		329	0	3/15/1966	3/15/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390124119065301
108	U11395L	108 N14 E26 34CD 1	39.023807	-119.062096	Accurate to +/- 1 minute	4380	1		120	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390126119034001
108	U11398L	108 N13 E26 02BBCC1	39.024085	-119.050985	Accurate to +/- 1 second	4408	20		203	0	11/4/1961	3/2/2005	31	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390127119030001
108	U11401L	108 N14 E26 34DC 1	39.024641	-119.057651	Accurate to +/- 1 minute	4380	1		190	0	1/1/1957	1/1/1957	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390129119032401
108	U11413L	108 N14 E26 34CA 1	39.026863	-119.062096	Accurate to +/- 1 minute	4370	1		48	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390137119034001
108	U11414L	108 N14 E26 32CA 1	39.026862	-119.098763	Accurate to +/- 1 minute	4350	1		140	0	3/15/1966	3/15/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390137119055201
108	U11415L	108 N14 E26 31DCCC1	39.026862	-119.115986	Accurate to +/- 1 second	4349	10		239	0	3/8/1977	2/24/1999	26	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390137119065401
108	U11416L	108 N14 E26 31DCCC2	39.026862	-119.115986	Accurate to +/- 1 second	4360	20		400	0	10/13/1981	3/1/2005	25	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390137119065402
108	U11420L	108 N14 E26 34AD 1	39.030196	-119.052374	Accurate to +/- 1 minute	4405	1		200	0	3/15/1966	3/15/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390149119030501
108	U11422L	108 N14 E26 35AD 1	39.030752	-119.034873	Accurate to +/- 1 minute	4475	1		262	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390151119020201
108	U11427L	108 N14 E25 34CB 1	39.031584	-119.178764	Accurate to +/- 1 second	4360	20		358	0	3/30/1961	3/2/2000	23	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390154119104001
108	U11428L	108 N14 E26 35BC 1	39.031863	-119.049596	Accurate to +/- 1 minute	4415	1		215	0	6/16/1966	6/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390155119025501
108	U11430L	108 N14 E26 32BCCC1	39.033529	-119.106541	Accurate to +/- 1 second	4355	20		120	0	7/3/1960	3/1/2005	32	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390201119062001
108	U11431L	108 N14 E26 32BCCC2	39.033529	-119.106541	Accurate to +/- 1 second	4355	20		249	0	8/1/1977	3/1/2005	24	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390201119062002
108	U11432L	108 N14 E26 32BDDD1	39.034085	-119.098486	Accurate to +/- 1 second	4356	20		104	0	7/16/1949	3/1/2005	27	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390203119055101
108	U11434L	108 N14 E26 32ADCA1	39.034363	-119.092097	Accurate to +/- 1 second	4350	10		308	0	4/4/1961	3/2/2000	21	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390204119052801
108	U11436L	108 N14 E26 35AA 1	39.035474	-119.036262	Accurate to +/- 1 minute	4480	1		330	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390208119020701

USGS Data - Wells (Within 10 miles of MRC)

Basin No	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
108	U11438L	108 N14 E25 27ACCD1	39.040195	-119.169876	Accurate to +/- 1 second	4357	20		320	0	7/14/1960	2/28/2005	31	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390225119100801
108	U11439L	108 N14 E25 26CA 1	39.040473	-119.154875	Accurate to +/- 1 minute	4350	1		0	0	3/15/1966	3/15/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390226119091401
108	U11440L	108 N14 E26 29DB 1	39.041307	-119.094319	Accurate to +/- 1 minute	4344	1		68	0	3/15/1966	3/15/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390229119053601
108	U11442L	108 N14 E26 26CCDD1	39.041863	-119.046818	Accurate to +/- 1 second	4415	20		250	0	6/11/1964	3/2/2005	22	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390231119024501
108	U11445L	108 N14 E25 25AC 1	39.050277	-119.135	Accurate to +/- 1 second	4340	1		417	0	10/28/1965	10/28/1965	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390237119075701
108	U11446L	108 N14 E26 26BD 1	39.044641	-119.045152	Accurate to +/- 1 minute	4390	1		160	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390241119023901
108	U11448L	108 N14 E26 26AC 1	39.045752	-119.04154	Accurate to +/- 1 minute	4395	1		151	0	10/28/1965	10/28/1965	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390245119022601
108	U11449L	108 N14 E25 27AB 1	39.047417	-119.167931	Accurate to +/- 1 minute	4348	1		0	0	3/15/1966	3/15/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390251119100101
108	U11450L	108 N14 E25 25BDCD1	39.048055	-119.137833	Accurate to +/- .1 second (differentially corrected GPS)	4355	20		510	0	8/2/2003	2/23/2005	4	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390253119081601
108	U11451L	108 N14 E26 26ADCC1	39.04853	-119.037374	Accurate to +/- 1 second	4400	20		157	0	8/10/1959	2/25/2002	22	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390255119021101
108	U11452L	108 N14 E26 30BCDD1	39.048583	-119.121333	Accurate to +/- .1 second (differentially corrected GPS)	4352	20		411	0	2/27/2004	2/23/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390255119071701
108	U11456L	108 N14 E26 23CC 1	39.052696	-119.04793	Accurate to +/- 1 minute	4342	1		135	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390310119024901
108	U11457L	108 N14 E26 22DD 1	39.053252	-119.056263	Accurate to +/- 1 minute	4340	1		96	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390312119031901
108	U11459L	108 N14 E25 22CB 1	39.054362	-119.17682	Accurate to +/- 1 minute	4340	1		80	0	3/15/1966	3/15/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390316119103301
108	U11460	108 N14 E26 23CB 1	39.054919	-119.049596	Accurate to +/- 1 minute	4350	1		75	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390318119025501
108	U11462L	108 N14 E25 27CDDC1	39.055305	-119.173361	Accurate to +/- .1 second (differentially corrected GPS)	4351	20		0	0	3/2/2004	2/23/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390319119102401
108	U11463L	108 N14 E26 22DA 1	39.055474	-119.053207	Accurate to +/- 1 minute	4338	1		112	0	10/28/1965	10/28/1965	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390320119030801
108	U11464L	108 N14 E25 25BAAA1 MVWMA B-01	39.055583	-119.135972	Accurate to +/- .1 second (differentially corrected GPS)	4350	5		19	0	4/7/2005	8/15/2005	4	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390320119081001
108	U11468L	108 N14 E25 22AC 1	39.058529	-119.167931	Accurate to +/- 1 minute	4345	1		0	0	11/1/1965	11/1/1965	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390331119100101
108	U11469L	108 N14 E26 23BC 1	39.059085	-119.049596	Accurate to +/- 1 minute	4336	1		140	0	3/30/1966	3/30/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390333119025501
108	U11470L	108 N14 E26 22BD 1	39.062777	-119.061944	Accurate to +/- 1 second	4337	10		176	0	3/30/1966	3/30/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390335119034001

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well_Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
108	U11471L	108 N14 E26 23CBCC1	39.060055	-119.050527	Accurate to +/- .1 second (differentially corrected GPS)	4340	20		60	0	2/27/2004	2/23/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390336119030201
108	U11472L	108 N14 E25 23CADB1	39.060111	-119.155333	Accurate to +/- .1 second (differentially corrected GPS)	4350	20		0	0	2/27/2004	11/16/2004	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390336119091901
108	U11473L	108 N14 E26 23CACA1	39.061308	-119.044596	Accurate to +/- 1 second	4340	10		90	0	11/22/1970	4/2/1984	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390341119023701
108	U11481L	108 N14 E26 13DC 1 USGS	39.06603	-119.022929	Accurate to +/- 1 minute	4400	1		95	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390358119011901
108	U11482L	108 N14 E25 16DD 1	39.066584	-119.184876	Accurate to +/- 1 minute	4343	1		225	0	3/14/1966	3/14/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390400119110201
108	U11485L	108 N14 E26 22AADA1	39.068305	-119.05175	Accurate to +/- .1 second (differentially corrected GPS)	4340	20		0	0	2/27/2004	2/23/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390406119030601
108	U11488L	108 N14 E26 14DD 1	39.068808	-119.03543	Accurate to +/- 1 minute	4350	1		63	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390408119020401
108	U11490L	108 N14 E25 15CDCC1	39.071029	-119.175709	Accurate to +/- 1 second	4325	10		286	0	6/16/1960	3/17/1998	21	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390416119102901
108	U11491L	108 N14 E25 16DCCB1 CMPBLL SHALLOW	39.070972	-119.190083	Accurate to +/- .1 second (differentially corrected GPS)	4337	20		25	0	1/10/2002	2/23/2005	4	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390416119112401
108	U11492L	108 N14 E25 16DCCB2 CMPBLL DEEP	39.071	-119.190083	Accurate to +/- .1 second (differentially corrected GPS)	4335	20		73	0	1/11/2002	2/23/2005	4	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390416119112402
108	U11493L	108 N14 E26 15ADBB1	39.076585	-119.05293	Accurate to +/- 1 second	4328	20		158	0	4/24/1961	2/24/2004	27	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390436119030701
108	U11494L	108 N14 E26 18BACA1 NVDW	39.081861	-119.118722	Accurate to +/- .1 second (differentially corrected GPS)	4330	20		550	0	3/15/1966	2/23/2005	4	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390437119065601
108	U11495	108 N14 E25 08DC 1	39.080751	-119.20571	Accurate to +/- 1 minute	4319	1		418	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390451119121701
108	U11496L	108 N14 E26 14BCAB1	39.081361	-119.048083	Accurate to +/- .1 second (differentially corrected GPS)	4330	20		0	0	2/27/2004	2/23/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390453119025301
108	U11497L	108 N14 E25 09DD 1	39.081306	-119.184876	Accurate to +/- 1 minute	4330	1		280	0	3/28/1966	3/28/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390453119110201
108	U11498L	108 N14 E25 11CA 1	39.083251	-119.156265	Accurate to +/- 1 minute	4335	1		0	0	10/27/1965	10/27/1965	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390500119091901
108	U11499L	108 N14 E25 08DA 1	39.084362	-119.201265	Accurate to +/- 1 minute	4320	1		75	0	3/14/1966	3/14/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390504119120101
108	U11500L	108 N14 E25 11DB 1	39.084918	-119.149598	Accurate to +/- 1 minute	4340	1		0	0	3/14/1966	3/14/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390506119085501
108	U11501L	108 N14 E25 08DCCC1	39.085195	-119.208765	Accurate to +/- 1 second	4320	20		348	0	8/18/1976	2/28/2005	26	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390507119122801
108	U11502L	108 N14 E25 10CCDA1	39.085751	-119.177098	Accurate to +/- 1 second	4332	10		460	0	4/10/1974	2/28/2005	25	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390509119103401
108	U11503L	108 N14 E25 08BD 1	39.086584	-119.209876	Accurate to +/- 1 minute	4318	1		40	0	3/15/1966	3/15/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390512119123201

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
108	U11510L	108 N14 E25 11BA 1	39.090751	-119.154876	Accurate to +/- 1 minute	4327	1		53	0	3/14/1966	3/14/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390527119091401
108	U11511L	108 N14 E25 10ADDD1	39.091777	-119.162611	Accurate to +/- .1 second (differentially corrected GPS)	4330	20		0	0	3/2/2004	2/23/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390530119094501
108	U11512L	108 N14 E25 10ACDD1	39.091888	-119.167055	Accurate to +/- .1 second (differentially corrected GPS)	4330	20		0	0	3/2/2004	2/23/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390531119100101
108	U11513L	108 N14 E25 08ADDC1	39.091862	-119.20071	Accurate to +/- 1 second	4320	20		523	0	3/23/1981	2/28/2005	27	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390531119115901
108	U11514L	108 N14 E25 11BDAC1	39.093807	-119.154598	Accurate to +/- 1 second	4330	20		60	0	4/21/1965	3/3/1997	19	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390538119091301
108	U11515L	108 N14 E25 03DC 1	39.09464	-119.169598	Accurate to +/- 1 minute	4322	1		120	0	10/26/1965	10/26/1965	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390541119100701
108	U11517L	108 N14 E25 03CC 1	39.095751	-119.178487	Accurate to +/- 1 minute	4300	1		60	0	6/9/1965	6/9/1965	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390545119103901
108	U11518L	108 N14 E25 04DD 1	39.095751	-119.184876	Accurate to +/- 1 minute	4320	1		100	0	3/14/1966	3/14/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390545119110201
108	U11520L	108 N14 E25 03DDDC1	39.099362	-119.164043	Accurate to +/- 1 second	4323	10		85	0	1/15/1968	2/21/2001	29	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390558119094701
108	U11521L	108 N14 E25 03DDDC2	39.099362	-119.164043	Accurate to +/- 1 second	4326	20		604	0	9/17/1981	2/25/2005	10	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390558119094702
108	U11522L	108 N14 E25 03AD 1	39.099918	-119.165709	Accurate to +/- 1 minute	4320	1		52	0	3/14/1966	3/14/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390600119095301
108	U11523L	108 N14 E25 04BD 1	39.099918	-119.190987	Accurate to +/- 1 minute	4316	1		438	0	3/14/1966	3/14/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390600119112401
108	U11524L	108 N14 E26 03DCDD1	39.100197	-119.055708	Accurate to +/- 1 second	4330	20		160	0	1/19/1983	3/2/2005	24	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390601119031701
108	U11525	108 N14 E25 01AD 1 Sierra Pacific Power Co	39.100474	-119.131265	Accurate to +/- 1 minute	4310	1		595	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390602119074901
108	U11526L	108 N14 E25 02AC 1	39.100473	-119.150987	Accurate to +/- 1 minute	4320	1		500	0	3/14/1966	3/14/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390602119090001
108	U11527L	108 N14 E26 03DCBC1	39.109222	-119.059666	Accurate to +/- .1 second (differentially corrected GPS)	4325	20		160	0	5/1/1959	9/29/2005	43	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390606119032901
108	U11528L	108 N14 E26 03AC 1	39.102141	-119.059875	Accurate to +/- 1 minute	4320	1		75	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390608119033201
108	U11532L	108 N14 E25 05BA 1	39.102695	-119.209877	Accurate to +/- 1 minute	4312	1		0	0	3/14/1966	3/14/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390610119123201
108	U11533L	108 N14 E25 04DACC1	39.102973	-119.185154	Accurate to +/- 1 second	4315	20		451	0	3/23/1981	2/28/2005	25	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390611119110301
108	U11534L	108 N14 E25 04BA 1	39.103251	-119.191543	Accurate to +/- 1 minute	4315	1		0	0	3/14/1966	3/14/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390612119112601
108	U11535L	108 N14 E25 02ACDC1 MVWMA B-11	39.106638	-119.150277	Accurate to +/- .1 second (differentially corrected GPS)	4320	5		500	0	3/26/1961	8/15/2005	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390624119090101

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
108	U11539	108 N15 E25 34CC 1	39.110751	-119.177654	Accurate to +/- 1 minute	4300	1		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390639119103601
108	U11551L	108 N15 E25 32AD 1	39.116584	-119.201821	Accurate to +/- 1 minute	4302	1		460	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390700119120301
108	U11556L	108 N15 E25 35AA 1	39.119362	-119.149598	Accurate to +/- 1 minute	4307	1		0	0	3/14/1966	3/14/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390710119085501
108	U11557	108 N15 E25 35AA 2	39.126307	-119.145987	Accurate to +/- 1 minute	4306	1		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390712119070101
108	U11558	108 N15 E25 32AA 1	39.119918	-119.201821	Accurate to +/- 1 minute	4300	1		180	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390712119120301
108	U11559L	108 N15 E25 34CBBB1	39.120611	-119.179944	Accurate to +/- .1 second (differentially corrected GPS)	4308	20		0	0	3/3/2004	2/24/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390714119104801
108	U11560L	108 N15 E25 34ACDD1	39.120751	-119.167376	Accurate to +/- 1 second	4310	20		370	0	11/12/1976	2/28/2005	36	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390715119095901
108	U11561L	108 N15 E25 32AADD1	39.124084	-119.199043	Accurate to +/- 1 second	4304	20		428	0	3/23/1981	2/23/1999	19	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390727119115301
108	U11563L	108 N15 E25 25DD 1	39.12464	-119.130432	Accurate to +/- 1 minute	4300	1		35	0	2/25/1966	2/25/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390729119074601
108	U11564L	108 N15 E25 25DC 1	39.12464	-119.13432	Accurate to +/- 1 minute	4300	1		18	0	2/25/1966	2/25/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390729119080001
108	U11565L	108 N15 E25 26CD 1	39.125196	-119.157098	Accurate to +/- 1 minute	4304	1		50	0	3/7/1966	3/7/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390731119092201
108	U11570	108 N15 E25 28AD 1	39.131584	-119.184877	Accurate to +/- 1 minute	4300	1		1000	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390754119110201
108	U11571L	108 N15 E25 26C 1	39.133251	-119.159321	Accurate to +/- 1 second	4304	1		49	0	10/13/1961	3/10/1967	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390800119093001
108	U11572L	108 N15 E25 27AB 1	39.133807	-119.170154	Accurate to +/- 1 minute	4299	1		10	0	2/24/1966	2/24/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390802119100901
108	U11577L	108 N15 E26 21CB 1 USGS	39.140196	-119.086265	Accurate to +/- 1 minute	4312	1		32	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390825119050701
108	U11578L	108 N15 E25 23CB 1	39.140751	-119.16071	Accurate to +/- 1 minute	4298	1		7	0	2/24/1966	2/24/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390827119093501
108	U11580L	108 N15 E25 21CADD1	39.146583	-119.190361	Accurate to +/- .1 second (differentially corrected GPS)	4289	20		212	0	3/3/2004	2/24/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390829119112901
108	U11583	108 N15 E26 20BD 1	39.145196	-119.098765	Accurate to +/- 1 minute	4370	1		84	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390843119055201
108	U11590L	108 N15 E26 18CD 1	39.151585	-119.118765	Accurate to +/- 1 minute	4308	1		5	0	2/24/1966	2/24/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390906119070401
108	U11593L	108 N15 E26 20BDBB1	39.154027	-119.101777	Accurate to +/- .1 second (differentially corrected GPS)	4347	20		150	0	9/8/1994	9/29/2005	11	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390914119060601
108	U11594L	108 N15 E26 18CC 1	39.153807	-119.121543	Accurate to +/- 1 minute	4300	1		13	0	2/24/1966	2/24/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390914119071401

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
108	U11595	108 N15 E25 16DD 1	39.153807	-119.183488	Accurate to +/- 1 minute	4300	1		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390914119105701
108	U11599	108 N15 E25 15CB 1	39.155474	-119.179043	Accurate to +/- 1 minute	4300	1		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390920119104101
108	U11600	108 N15 E25 15CB 2	39.156307	-119.179877	Accurate to +/- 1 minute	4300	1		2223	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390923119104401
108	U11611	108 N15 E25 14AB 2	39.162418	-119.150988	Accurate to +/- 1 minute	4315	1		118	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390945119090001
108	U11612	108 N15 E25 14AB 1	39.162974	-119.151821	Accurate to +/- 1 minute	4315	1		145	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390947119090301
108	U11613Q	108 N15 E25 15CB 3 Wabuska Well	39.162974	-119.178766	Unknown	4300	0		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390947119104001
108	U11614	108 N15 E25 14AB 3	39.165474	-119.151821	Accurate to +/- 1 minute	4315	1		145	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390956119090301
108	U11615	108 N15 E25 14AB 4	39.166029	-119.152654	Accurate to +/- 1 minute	4315	1		500	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390958119090601
108	U11616L	108 N15 E25 11DCAC1 USBLM	39.174944	-119.151444	Accurate to +/- .1 second (differentially corrected GPS)	4318	20		0	0	3/3/2004	9/29/2005	11	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=391004119093201
110A	U11118L	110A N11 E29 06AAAC1 TAMARISK RB	38.850888	-118.7745	Accurate to +/- .1 second (differentially corrected GPS)	4015	10		35	0	4/4/2005	9/27/2005	9	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385103118462801
110A	U11130L	110A N12 E29 29DDDA1 SOLAR STOCK	38.867472	-118.755583	Accurate to +/- .1 second (differentially corrected GPS)	4020	10		52	0	12/15/2004	9/28/2005	12	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385203118452001
110A	U11160L	110A N12 E29 20ACBC1 FEEDLOT WRPT	38.890166	-118.763916	Accurate to +/- .1 second (differentially corrected GPS)	4065	10		350	0	8/31/1977	9/28/2005	11	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385325118455001
110A	U11165L	110A N12 E29 20BBC 1 RABBIT BRUSH	38.892388	-118.771083	Accurate to +/- .1 second (differentially corrected GPS)	4065	16		44	0	4/5/2005	9/27/2005	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385333118461601
110A	U11168L	110A N12 E29 21ABAB1 AGAI PAH	38.895083	-118.742277	Accurate to +/- .1 second (differentially corrected GPS)	4080	10		500	0	4/5/1992	3/1/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385342118443201
110A	U11169L	110A N12 E29 19BBBB1 WELL #1 (POWERLINE RD)	38.895027	-118.791972	Accurate to +/- .1 second (differentially corrected GPS)	4080	10		375	0	10/7/1977	3/1/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385342118473101
110A	U11170L	110A N12 E29 19BBBB2 POWERLINE RD OBSERVATION 1	38.895166	-118.791944	Accurate to +/- .1 second (differentially corrected GPS)	4080	10		126	0	11/16/2004	9/28/2005	10	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385343118473101
110A	U11171L	110A N12 E29 18CDDC2 POWERLINE RB DS	38.8955	-118.784277	Accurate to +/- .1 second (differentially corrected GPS)	4063	20		20	0	1/26/2005	9/28/2005	9	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385344118470301
110A	U11172L	110A N12 E29 18CDDD1 POWERLINE LB	38.89575	-118.783333	Accurate to +/- .1 second (differentially corrected GPS)	4083	20		34	0	1/27/2005	9/28/2005	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385345118470001
110A	U11182L	110A N12 E29 15BBCC1 GREASEWOOD	38.906277	-118.735638	Accurate to +/- .1 second (differentially corrected GPS)	4100	5		34	0	4/6/2005	9/27/2005	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385423118440801
110A	U11184L	110A N12 E31 14ABCA1 KOEGEL HILLS	38.908194	-118.484416	Accurate to +/- .1 second (differentially corrected GPS)	4400	20		502	0	1/14/1966	3/2/2005	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385430118290401
110A	U11187	110A N12 E31 14A 1	38.908254	-118.480686	Accurate to +/- 1 minute	6000	1		502	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385444118264701

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well_Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
110A	U11194L	110A N12 E29 14ACAB1 OLD RR GRADE	38.905638	-118.705583	Accurate to +/- 1 minute	4130	10		66	0	12/16/2004	3/1/2005	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385450118425301
110A	U11207Q	110A N12 E29 08AC 1	38.91742	-118.763198	Unknown	0	0		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385503118454401
110A	U11212Q	110A N12 E29 09BC 1	38.919364	-118.754587	Unknown	0	0		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385510118451301
110A	U11214Q	110A N12 E29 08AA 1	38.920753	-118.760143	Unknown	0	0		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385515118453301
110A	U11217Q	110A N12 E29 08BA 1	38.922142	-118.769865	Unknown	0	0		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385520118460801
110A	U11224	110A N12 E29 08A 1	38.925475	-118.756254	Accurate to +/- 1 minute	4463	1		45	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385532118454201
110A	U11236L	110A N12 E28 04D 1	38.933808	-118.846534	Accurate to +/- 1 minute	4898	35		74	0	7/1/1964	7/1/1964	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385602118511501
110A	U11243Q	110A N12 E29 06BB 1	38.936586	-118.790421	Unknown	0	0		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385612118472201
110A	U11245L	110A N12 E28 01BBBA1 SES	38.938638	-118.809	Accurate to +/- .1 second (differentially corrected GPS)	4180	20		264	0	12/23/1997	9/29/2005	11	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385619118483201
110A	U11246Q	110A N12 E28 02AA 1	38.938531	-118.810978	Unknown	0	0		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385619118483601
110A	U11252L	110A N12 E28 02A 1	38.941308	-118.807644	Accurate to +/- 1 minute	4186	1		252	0	4/10/1963	4/10/1963	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385629118485101
110A	U11258QL	110A N12 E29 05BBBD1 HEARTFALLS WELL C	38.937972	-118.772444	Accurate to +/- 1 second	4140	20		114	1	11/16/2004	9/29/2005	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385637118463501
110A	U11273L	110A N13 E28 35A 1 Walker River Reservation	38.955475	-118.807922	Accurate to +/- 1 minute	4186	1		25	0	8/8/1950	8/8/1950	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385720118485601
110A	U11277L	110A N13 E28 36B 1 Southern Pacific Railroad	38.957698	-118.801255	Accurate to +/- 1 minute	4186	1		190	0	8/8/1950	8/8/1950	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385728118482901
110A	U11281L	110A N13 E28 27C 1	38.960197	-118.837923	Accurate to +/- 1 minute	4186	1		140	0	3/18/1966	3/18/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385737118504301
110A	U11286QL	110A N13 E29 25BADC2 DOUBLE SPRINGS WELL	38.964861	-118.6915	Accurate to +/- .1 second (differentially corrected GPS)	4070	10		102	1	11/16/2004	3/2/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385755118412701
110A	U11287L	110A N13 E28 26AACA1 WRPT WELL A SUNSET	38.965583	-118.81375	Accurate to +/- .1 second (differentially corrected GPS)	4170	10		124	0	8/15/1977	5/11/2005	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385756118485001
110A	U11291L	110A N13 E29 25B 1 Walker River Reservation	38.968254	-118.686251	Accurate to +/- 1 minute	4100	1		102	0	2/17/1966	2/17/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385815118413401
110A	U11297L	110A N13 E28 22C 1 Walker River Reservation	38.976031	-118.840145	Accurate to +/- 1 minute	4163	1		295	0	8/18/1954	8/18/1954	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385834118504801
110A	U11300L	110A N13 E28 22ADBC1 RED EARTH	38.977888	-118.833638	Accurate to +/- .1 second (differentially corrected GPS)	4130	10		60	0	9/1/1967	9/29/2005	11	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385840118500101
110A	U11301L	110A N13 E31 20ADBA1 PILOT CONE	38.977944	-118.535	Accurate to +/- .1 second (differentially corrected GPS)	4290	10		380	0	1/10/1978	3/2/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385841118320601

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well_Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
110A	U11331L	110A N13 E30 15BCBC1 AQUADUCT	38.991527	-118.625333	Accurate to +/- .1 second (differentially corrected GPS)	4070	10		84	0	12/13/2004	9/29/2005	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385930118373101
110A	U11364L	110A N13 E29 07ACCA1 CALICO HILLS	39.005972	-118.781222	Accurate to +/- .1 second (differentially corrected GPS)	4240	10		212	0	11/17/2004	3/2/2005	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390049118464801
110A	U11454L	110A N14 E28 28BDAB1 WEBER	39.050888	-118.8595	Accurate to +/- .1 second (differentially corrected GPS)	4260	10		85	0	11/16/2004	9/29/2005	10	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390303118513401
110A	U11475QL	110A N14 E29 19DCAA1 WELL B LONG VALLEY	39.058416	-118.778888	Accurate to +/- .1 second (differentially corrected GPS)	4650	10		464	1	11/17/2004	3/2/2005	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390343118465001
110A	U11480L	110A N14 E27 17DD 1 USBLM	39.06603	-118.980984	Accurate to +/- 1 minute	4505	1		260	0	5/11/1965	5/11/1965	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390358118584801
110A	U11507L	110A N14 E27 08CADA1 USGS	39.089416	-118.987822	Accurate to +/- 1 second	4355	1		52	0	3/16/1966	2/28/2005	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390518118585901
110A	U11509L	110A N14 E27 09BABB1 USGS	39.097638	-118.972416	Accurate to +/- 1 second	4280	1		62	0	3/16/1966	9/29/2005	11	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390527118581901
110A	U11529L	110A N14 E27 02DBCD3 COW CAMP RB	39.102444	-118.928916	Accurate to +/- .1 second (differentially corrected GPS)	4220	10		7	0	3/17/2005	9/27/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390609118554401
110A	U11530L	110A N14 E27 02DBCD2 COW CAMP LB DS	39.102666	-118.928444	Accurate to +/- .1 second (differentially corrected GPS)	4220	10		25	0	3/15/2005	9/27/2005	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390610118554201
110A	U11531L	110A N14 E27 02DBCD1 COW CAMP LB US	39.102694	-118.9285	Accurate to +/- .1 second (differentially corrected GPS)	4234	10		14	0	3/16/2005	9/27/2005	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390610118554301
110A	U11543L	110A N15 E27 32DDDD1 WILLOW ET RB	39.113972	-118.978083	Accurate to +/- .1 second (differentially corrected GPS)	4225	10		6	0	3/29/2005	9/27/2005	4	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390650118584101
110A	U11546L	110A N15 E27 32DDDA1 WILLOW ET LB PLATFORM	39.114666	-118.977694	Accurate to +/- .1 second (differentially corrected GPS)	4220	10		7	0	3/24/2005	9/8/2005	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390653118584001
110A	U11548L	110A N15 E27 33CCBB1 WILLOW ET LB DS	39.116027	-118.977333	Accurate to +/- .1 second (differentially corrected GPS)	4214	10		15	0	3/30/2005	9/27/2005	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390658118583801
110A	U11550L	110A N15 E27 32DADD1 WILLOW ET LB US	39.11675	-118.977916	Accurate to +/- .1 second (differentially corrected GPS)	4224	10		14	0	3/31/2005	9/27/2005	9	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390700118584001
110A	U11552L	110A N15 E26 35BC 1 USGS	39.117141	-119.042931	Accurate to +/- 1 minute	4315	1		42	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390702119023101
110A	U11562L	110A N15 E26 26DD 1 USGS	39.124641	-119.035431	Accurate to +/- 1 minute	4310	1		42	0	3/16/1966	3/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390729119020401
110A	U11568	110A N15 E28 28AD 2	39.136031	-118.849315	Accurate to +/- 1 minute	4300	1		350	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390751119110001
110A	U11589L	110A N15 E27 21ACAC1 USBLM - E JULIAN WELL	39.15175	-118.965944	Accurate to +/- .1 second (differentially corrected GPS)	4374	20		0	0	2/28/2005	2/28/2005	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390906118575701
110A	U11601L	110A N15 E27 21A 1	39.156586	-118.958207	Accurate to +/- 1 minute	4455	35		0	0	2/16/1966	2/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390924118580201
110A	U11618L	110A N15 E26 10BDCD2 USBLM - JULIAN WELL	39.18075	-119.061916	Accurate to +/- .1 second (differentially corrected GPS)	4340	20		0	0	4/27/2004	9/29/2005	11	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=391052119034101
110A	U11619L	110A N15 E26 10B 1	39.184086	-119.055987	Accurate to +/- 1 minute	4377	35		0	0	2/16/1966	2/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=391103119040001

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well_Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
110B	U10979L	110B N09 E29 16BBAA1 SND	38.645805	-118.7545	Accurate to +/- .1 second (differentially corrected GPS)	4065	20		245	0	3/16/2004	3/11/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383845118451601
110B	U10981QL	110B N09 E29 09CBDC1	38.650392	-118.754583	Accurate to +/- 1 second	4020	10		190	1	7/9/1984	9/15/2003	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383902118451301
110B	U10983	110B N09 E29 09CBCA1	38.651586	-118.757084	Accurate to +/- 1 second	4100	20		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383906118452201
110B	U11063L	110B N11 E29 5 MOUTH LB1	38.796805	-118.727333	Accurate to +/- .1 second (differentially corrected GPS)	3956	10		6	0	2/16/2005	5/11/2005	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=384748118433801
110B	U11064L	110B N11 E29 2 MOUTH RB DS1	38.796583	-118.728888	Accurate to +/- .1 second (differentially corrected GPS)	3956	10		24	0	2/8/2005	6/30/2005	4	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=384748118434401
110B	U11065L	110B N11 E29 1 MOUTH RB US1	38.796916	-118.728722	Accurate to +/- .1 second (differentially corrected GPS)	3950	10		20	0	2/15/2005	6/30/2005	4	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=384749118434301
110B	U11067L	110B N11 E29 4 MOUTH RB DS2	38.798833	-118.727388	Accurate to +/- .1 second (differentially corrected GPS)	3956	10		20	0	7/21/2005	9/27/2005	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=384756118433901
110B	U11068L	110B N11 E29 3 MOUTH RB US2	38.799111	-118.727388	Accurate to +/- .1 second (differentially corrected GPS)	3956	10		25	0	7/19/2005	9/27/2005	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=384757118433901
110B	U11248L	110B N13 E28 36CDCA1 LATERAL 2A RB	38.940388	-118.804083	Accurate to +/- .1 second (differentially corrected GPS)	4141	20		29	0	1/20/2005	9/28/2005	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385625118481501
110B	U11249L	110B N13 E28 36CDAC1 LATERAL 2A LB US S	38.941138	-118.803527	Accurate to +/- .1 second (differentially corrected GPS)	4119	20		19	0	1/18/2005	9/28/2005	11	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385628118481301
110B	U11250L	110B N13 E28 36CDAC2 LATERAL 2A LB DS D	38.941138	-118.803527	Accurate to +/- .1 second (differentially corrected GPS)	4119	20		50	0	1/19/2005	9/28/2005	11	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=385628118481302
110C	U10845QL	110C N07 E30 08CDDC1	38.473533	-118.661523	Accurate to +/- 1 second	5180	20		320	1	4/19/1989	4/19/1989	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382825118393801
110C	U10851L	110C N07 E30 08ACDC1	38.4805	-118.65675	Accurate to +/- .1 second (differentially corrected GPS)	4974	20		0	0	3/18/2004	3/11/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382850118392401
110C	U10854L	110C N07 E30 05DCDC1	38.488305	-118.656083	Accurate to +/- .1 second (differentially corrected GPS)	4849	20		480	0	3/16/2004	3/11/2005	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382918118392201
110C	U10858L	110C N07 E30 02CDBC1 U.S. ARMY WELL 4	38.493533	-118.609021	Accurate to +/- 1 minute	4562	1		722	0	11/21/1952	11/21/1952	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382937118363101
110C	U10860L	110C N08 E31 21ACD 1 U.S. ARMY WELL 10	38.54131	-118.526519	Accurate to +/- 1 minute	4340	10		257	0	3/6/1974	3/6/1974	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383000118312501
110C	U10864L	110C N08 E31 32BBAB1 U.S. ARMY WELL 3	38.517972	-118.554638	Accurate to +/- .1 second (differentially corrected GPS)	4383	20	110VLFL	452	0	11/21/1952	3/10/2005	43	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383100118330001
110C	U10865L	110C N08 E30 26DDAB1 U.S. ARMY WELL 2	38.521033	-118.597632	Accurate to +/- 5 seconds	4341	10	110VLFL	423	0	6/13/1942	3/17/2004	43	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383100118355001
110C	U10866QL	110C N08 E30 27DCDC1 City of Hawthorne Well 2	38.518255	-118.620966	Accurate to +/- 5 seconds	4370	20		600	1	9/13/1954	10/21/1957	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383107118375201
110C	U10869L	110C N08 E30 27CCDD1 City of Hawthorne Well 1	38.517977	-118.628744	Accurate to +/- 1 minute	4380	10		482	0	8/5/1942	8/5/1942	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383127118374201
110C	U10871L	110C N08 E30 21DCD 1 U.S. ARMY WELL 6	38.532611	-118.637888	Accurate to +/- .1 second (differentially corrected GPS)	4265	20	110VLFL	394	0	11/21/1952	3/11/2005	44	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383150118380001

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
110C	U10874L	110C N08 E30 21CDB 1 U.S. ARMY WELL 9	38.535199	-118.644023	Accurate to +/- 1 minute	4230	1		423	0	2/27/1974	2/27/1974	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383209118385501
110C	U10881L	110C N08 E30 18DCCD1 U.S. ARMY WELL 5	38.544921	-118.675135	Accurate to +/- 1 minute	4254	1		312	0	2/16/1966	2/16/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383308118410901
110C	U10882L	110C N08 E30 18AADB1 U.S. ARMY WELL 1	38.556865	-118.668746	Accurate to +/- 5 seconds	4140	20	110VLFL	345	0	5/26/1942	4/24/1997	41	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383310118401001
110C	U10883L	110C N08 E30 17ACDA1 USGS Well NO3-10	38.553254	-118.654301	Accurate to +/- 1 second	4124	10		95	0	6/13/1974	5/18/2000	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383312118391001
110C	U10885L	110C N08 E30 17ABCA1 USGS Well NO3-6	38.556588	-118.656523	Accurate to +/- 1 second	4120	10		91	0	3/4/1974	6/13/1974	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383325118391901
110C	U10887L	110C N08 E30 08DCDD1 USGS Well NO3-2	38.559643	-118.654023	Accurate to +/- 1 second	4105	10		87	0	3/5/1974	6/11/1974	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383335118391001
110C	U10888L	110C N08 E30 08DCCC1 USGS Well NO3-7A	38.559365	-118.657634	Accurate to +/- 1 second	4111	10		144	0	3/4/1974	6/13/1974	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383335118392301
110C	U10889L	110C N08 E30 08DCCC2 USGS Well NO3-7B	38.559365	-118.657634	Accurate to +/- 1 second	4111	10		76	0	3/4/1974	6/13/1974	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383335118392302
110C	U10890L	110C N08 E30 08DCCC3 USGS Well NO3-7C	38.559365	-118.657634	Accurate to +/- 1 second	4111	10		37	0	11/12/1973	11/12/1973	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383335118392303
110C	U10891L	110C N08 E30 08DCCC4 USGS Well NO3-7D	38.559365	-118.657634	Accurate to +/- 1 second	4111	10		24	0	3/4/1974	6/13/1974	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383335118392304
110C	U10892L	110C N08 E30 08DDCB1 USGS Well NO3-1	38.560477	-118.652912	Accurate to +/- 1 minute	4106	10		86	0	3/5/1974	6/11/1974	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383339118390301
110C	U10893L	110C N08 E30 08DCCB1 USGS Well NO3-9	38.560754	-118.65819	Accurate to +/- 1 second	4102	10		83	0	3/4/1974	6/13/1974	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383339118392501
110C	U10894L	110C N08 E30 09DDAC1 USGS Well NO3-11	38.561588	-118.632356	Accurate to +/- 1 second	4125	10		105	0	6/11/1974	5/19/2000	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383343118374701
110C	U10895QL	110C N08 E30 10DBDD1 USGS Well 19	38.562976	-118.618744	Accurate to +/- 1 second	4138	0	110VLFL	125	5	7/28/1976	5/18/2000	10	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383345118370601
110C	U10896L	110C N08 E30 09CBCC1 USGS Well NO3-3	38.562699	-118.64819	Accurate to +/- 1 second	4105	10		82	0	3/4/1974	6/11/1974	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383345118384501
110C	U10897QL	110C N08 E30 10CAAD1 USGS Well 18	38.564643	-118.623467	Accurate to +/- 1 second	4131	0	110VLFL	118	4	7/28/1976	4/26/1979	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383352118372301
110C	U10898QL	110C N08 E30 10CAAC1 USGS Well 15	38.564643	-118.624856	Accurate to +/- 1 second	4129	0	110VLFL	114	4	7/28/1976	4/26/1979	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383353118372801
110C	U10899QL	110C N08 E30 10CABA1 USGS Well 16	38.565199	-118.625411	Accurate to +/- 1 second	4129	0	110VLFL	115	13	7/28/1976	4/26/1979	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383354118373001
110C	U10900QL	110C N08 E30 10CAAB2 USGS Well 20	38.565476	-118.624022	Accurate to +/- 1 second	4129	0	110VLFL	114	16	11/29/1976	4/26/1979	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383355118372501
110C	U10901QL	110C N08 E30 10CAAB1 USGS Well 17	38.565476	-118.624578	Accurate to +/- 1 second	4127	0	110VLFL	115	16	7/27/1976	4/26/1979	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383355118372801
110C	U10902QL	110C N08 E30 10CABB1 USGS Well 13	38.565476	-118.6268	Accurate to +/- 1 second	4123	0	110VLFL	114	4	7/28/1976	4/25/1995	9	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383356118373401

USGS Data - Wells (Within 10 miles of MRC)

Basin No	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy*	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
110C	U10903QL	110C N08 E30 10BDCD1 USGS Well 14	38.566032	-118.625967	Accurate to +/- 1 second	4124	10	110VLFL	115	4	7/28/1976	5/3/1990	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383357118373201
110C	U10904L	110C N08 E30 09DBAB1 USGS Well NO3-5	38.565476	-118.637356	Accurate to +/- 1 second	4107	10		82	0	3/5/1974	6/11/1974	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383357118380601
110C	U10905L	110C N08 E30 09ACCB1 USGS Well NO3-8A	38.567421	-118.639301	Accurate to +/- 1 second	4094	10		104	0	3/4/1974	6/11/1974	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383403118381201
110C	U10906L	110C N08 E30 09ACCB2 USGS Well NO3-8B	38.567421	-118.639301	Accurate to +/- 1 second	4094	10		47	0	11/13/1973	11/13/1973	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383403118381202
110C	U10907L	110C N08 E30 09ACCB3 USGS Well NO3-8C	38.567421	-118.639301	Accurate to +/- 1 second	4093	10		127	0	6/11/1974	6/11/1974	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383403118381203
110C	U10908L	110C N08 E30 09ACCB4 USGS Well NO3-8D	38.567421	-118.639301	Accurate to +/- 1 second	4093	10		63	0	6/11/1974	6/11/1974	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383403118381204
110C	U10909L	110C N08 E30 09BDAD1 USGS Well NO3-4	38.568532	-118.639856	Accurate to +/- 1 second	4089	10		75	0	3/4/1974	6/11/1974	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383406118381501
110C	U10910L	110C N08 E30 08DDB 1 U.S. ARMY WELL 8	38.561588	-118.652912	Accurate to +/- 1 minute	4108	1		494	0	11/19/1956	3/4/1974	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383412118395601
110C	U10912L	110C N08 E30 03DDA 1 U.S. ARMY WELL 7	38.578138	-118.613194	Accurate to +/- .1 second (differentially corrected GPS)	4131	20	110VLFL	850	0	12/9/1954	3/10/2005	48	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383440118365001
110C	U10913QL	110C N08 E30 06DAC 1 USA Site 22 USGS Well 50	38.579087	-118.670413	Accurate to +/- 1 second	4008	0	110VLFL	32	1	10/9/1978	4/25/1995	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383445118401001
110C	U10914QL	110C N08 E30 06DAA 1 USA Site 23 USGS Well 49	38.580476	-118.667635	Accurate to +/- 1 second	4005	0	110VLFL	36	1	10/6/1978	5/19/2000	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383450118400001
110C	U10915QL	110C N08 E30 05BCD 1 USA Site 24 USGS Well 48	38.582421	-118.665135	Accurate to +/- 1 second	4007	0	110VLFL	39	1	10/6/1978	4/25/1995	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383457118395101
110C	U10916QL	110C N08 E30 06BDD 1 USA Site 12 USGS Well 45	38.582421	-118.678191	Accurate to +/- 1 second	3988	0	110VLFL	33	1	9/25/1978	5/18/2000	13	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383457118403801
110C	U10917QL	110C N08 E30 05BDB 1 USA Site 30 USGS Well 51	38.582698	-118.661246	Accurate to +/- 1 second	4016	0	110VLFL	35	1	10/10/1978	4/25/1979	4	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383458118393701
110C	U10918QL	110C N08 E30 06ACB 1 USA Site 13 USGS Well 44	38.583532	-118.675135	Accurate to +/- 1 second	3989	0	110VLFL	31	1	9/23/1978	4/26/1995	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383501118402701
110C	U10919QL	110C N08 E30 05BDA 5 USGS Well 30	38.583254	-118.659024	Accurate to +/- 1 second	4019	0	110VLFL	44	5	9/20/1977	5/4/1990	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383502118392601
110C	U10920QL	110C N08 E30 05BCA 1 USA Site 25 USGS Well 47	38.58381	-118.664024	Accurate to +/- 1 second	4009	10	110VLFL	38	1	10/5/1978	5/19/2000	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383502118394701
110C	U10921QL	110C N08 E30 05ACB 4 USGS Well 31	38.583532	-118.65819	Accurate to +/- 1 second	4020	0	110VLFL	44	4	9/20/1977	5/4/1990	4	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383503118392301
110C	U10922QL	110C N08 E30 05BDA 2 USGS Well 26	38.583532	-118.66069	Accurate to +/- 1 second	4017	0	110VLFL	46	4	9/20/1977	5/4/1990	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383503118393201
110C	U10923L	110C N08 E30 05ACB 3 USGS Well 12	38.583532	-118.657357	Accurate to +/- 1 second	4021	0	110VLFL	44	0	11/22/1974	5/10/1985	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383504118391901
110C	U10924QL	110C N08 E30 05BDA 4 USGS Well 29	38.58381	-118.659857	Accurate to +/- 1 second	4019	0	110VLFL	44	4	9/20/1977	5/10/1985	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383504118392801

USGS Data - Wells (Within 10 miles of MRC)

Basin No	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
110C	U10925L	110C N08 E30 05BAD 1 USGS Well 9	38.584087	-118.659024	Accurate to +/- 1 second	4019	0	110VLFL	44	0	11/22/1974	4/26/1978	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383505118392601
110C	U10926QL	110C N08 E30 05BDA 6 USGS Well 32	38.584365	-118.658468	Accurate to +/- 1 second	4020	0	110VLFL	46	4	9/20/1977	4/27/1995	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383506118392301
110C	U10927QL	110C N08 E30 05BDA 3 USGS Well 27	38.584365	-118.66069	Accurate to +/- 1 second	4016	5	110VLFL	45	4	9/20/1977	4/26/1978	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383506118393201
110C	U10928QL	110C N08 E30 05BBD 1 USA Site 26 USGS Well 46	38.584921	-118.66319	Accurate to +/- 1 second	4009	0	110VLFL	40	1	10/3/1978	4/25/1995	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383506118394401
110C	U10929L	110C N08 E30 05ABC 1 USGS Well 4	38.584643	-118.656524	Accurate to +/- 1 second	4022	0	110VLFL	45	0	11/22/1974	6/16/1975	4	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383507118391701
110C	U10930L	110C N08 E30 05ABC 2 USGS Well 5	38.585476	-118.657357	Accurate to +/- 1 second	4021	0	110VLFL	45	0	11/22/1974	4/27/1995	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383507118392001
110C	U10931L	110C N08 E30 05ACB 1 USGS Well 10	38.584365	-118.657635	Accurate to +/- 1 second	4020	0	110VLFL	44	0	11/22/1974	5/3/1990	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383507118392101
110C	U10932L	110C N08 E30 05ACB 2 USGS Well 11	38.584365	-118.657913	Accurate to +/- 1 second	4020	0	110VLFL	44	0	11/22/1974	4/26/1978	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383507118392102
110C	U10933QL	110C N08 E30 05BAD 3 USGS Well 28	38.584643	-118.660135	Accurate to +/- 1 second	4017	0	110VLFL	46	4	9/20/1977	5/10/1985	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383507118393001
110C	U10934QL	110C N08 E30 06ABD 1 USA Site 14 USGS Well 43	38.585198	-118.672357	Accurate to +/- 1 second	3990	0	110VLFL	33	1	9/22/1978	5/18/2000	9	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383507118401701
110C	U10935QL	110C N08 E30 05BAD 4 USGS Well 33	38.584921	-118.659579	Accurate to +/- 1 second	4019	0	110VLFL	46	4	9/20/1977	5/4/1990	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383508118392802
110C	U10936QL	110C N08 E30 05BAD 1 USGS Well 8	38.584921	-118.659024	Accurate to +/- 1 second	4019	0	110VLFL	44	11	11/22/1974	5/10/1985	10	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383509118392501
110C	U10937QL	110C N08 E30 05BAC 2 USGS Well 24	38.585476	-118.660968	Accurate to +/- 1 second	4015	0	110VLFL	46	6	9/20/1977	4/27/1995	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383510118393401
110C	U10938QL	110C N08 E30 05BAC 1 USA Site 27 USGS Well 21A	38.586032	-118.662635	Accurate to +/- 1 second	4011	0	110VLFL	47	8	8/9/1977	6/10/1998	12	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383510118394201
110C	U10939QL	110C N08 E30 05BAC 3 USA Site 27 USGS Well 21B	38.586032	-118.662635	Accurate to +/- 1 second	4011	0	110VLFL	43	1	9/27/1978	6/10/1998	9	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383510118394202
110C	U10940L	110C N08 E30 05BAC 4 USA Site 27 USGS Well 21C	38.586032	-118.662635	Accurate to +/- 1 second	4011	5	110VLFL	43	0	9/29/1978	2/14/1979	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383510118394203
110C	U10941QL	110C N08 E30 05BAC 5 USA Site 27 USGS Well 21D	38.586032	-118.662635	Accurate to +/- 1 second	4011	0	110VLFL	39	1	11/6/1978	6/10/1998	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383510118394204
110C	U10942QL	110C N08 E30 06AAC 1 USA Site 15 USGS Well 42	38.586032	-118.670969	Accurate to +/- 1 second	3991	0	110VLFL	30	1	9/21/1978	4/26/1995	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383510118401201
110C	U10943L	110C N08 E30 06BBC 1 USA Site 1 USGS Well 66	38.586032	-118.68458	Accurate to +/- 1 second	3975	0	110VLFL	23	0	11/4/1978	5/18/2000	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383510118410101
110C	U10944L	110C N08 E30 05ABC 4 USGS Well 7	38.585476	-118.65819	Accurate to +/- 1 second	4020	0	110VLFL	45	0	11/22/1974	6/17/1975	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383511118382301
110C	U10945L	110C N08 E30 05ABC 3 USGS Well 6	38.585754	-118.65819	Accurate to +/- 1 second	4019	0	110VLFL	44	0	11/22/1974	6/16/1975	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383512118392401

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
110C	U10946QL	110C N08 E30 05BAD 5 USGS Well 34	38.585754	-118.659024	Accurate to +/- 1 second	4019	0	110VLFL	47	4	9/20/1977	4/27/1995	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383512118392601
110C	U10947QL	110C N08 E30 05BAD 6 USGS Well 35	38.585754	-118.659857	Accurate to +/- 1 second	4016	0	110VLFL	46	4	9/20/1977	4/27/1995	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383512118392801
110C	U10948QL	110C N08 E30 05BAD 2 USGS Well 25	38.585754	-118.660413	Accurate to +/- 1 second	4015	0	110VLFL	44	8	9/20/1977	5/4/1990	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383512118393201
110C	U10950L	110C N08 E30 06BBA 1 USA Site 2 USGS Well 65	38.586865	-118.681524	Accurate to +/- 1 second	3976	0	110VLFL	22	0	11/4/1978	4/26/1995	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383513118405001
110C	U10951QL	110C N08 E30 05BAA 2 USGS Well 37	38.586309	-118.659301	Accurate to +/- 1 second	4019	0	110VLFL	46	4	9/20/1977	5/10/1985	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383514118392601
110C	U10952QL	110C N08 E30 05BAA 1 USGS Well 36	38.586587	-118.660135	Accurate to +/- 1 second	4016	0	110VLFL	46	7	11/2/1977	5/4/1990	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383514118393001
110C	U10953QL	110C N08 E30 05BAB 1 USGS Well 22	38.586587	-118.661524	Accurate to +/- 1 second	4014	0	110VLFL	44	4	9/20/1977	5/10/1985	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383514118393401
110C	U10954QL	110C N08 E30 06AAB 1 USA Site 16 USGS Well 41	38.587143	-118.669857	Accurate to +/- 1 second	3993	0	110VLFL	36	1	9/20/1978	4/26/1995	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383514118400801
110C	U10955QL	110C N08 E30 05BAB 3 USA Site 28 USGS Well 52	38.587421	-118.661802	Accurate to +/- 1 second	4013	0	110VLFL	36	1	10/11/1978	2/14/1979	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383515118393901
110C	U10956L	110C N08 E30 06BAB 1 USA Site 3 USGS Well 64	38.587698	-118.679858	Accurate to +/- 1 second	3977	0	110VLFL	26	0	11/4/1978	4/26/1995	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383516118404401
110C	U10957QL	110C N08 E30 05BAB 2 USGS Well 23	38.587143	-118.66069	Accurate to +/- 1 second	4016	0	110VLFL	47	4	9/20/1977	5/4/1990	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383517118393101
110C	U10958QL	110C N08 E30 06AAA 2 USA Site 17 USGS Well 40	38.588254	-118.669024	Accurate to +/- 1 second	3994	0	110VLFL	35	1	9/19/1978	4/26/1995	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383518118400501
110C	U10959L	110C N08 E30 06BAA 2 USA Site 4 USGS Well 63	38.588254	-118.678191	Accurate to +/- 1 second	3978	0	110VLFL	28	0	11/2/1978	5/18/2000	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383518118403801
110C	U10960QL	110C N08 E30 05BAB 4 USA Site 29 USGS Well 53	38.588809	-118.661246	Accurate to +/- 1 second	4014	0	110VLFL	36	1	10/12/1978	6/11/1998	10	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383520118393701
110C	U10961QL	110C N08 E30 06BAA 1 USA Site 5 USGS Well 62	38.589365	-118.676802	Accurate to +/- 1 second	3977	0	110VLFL	27	1	11/7/1978	4/26/1995	4	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383522118403301
110C	U10962QL	110C N08 E30 06AAA 1 USA Site 18 USGS Well 39	38.589643	-118.668191	Accurate to +/- 1 second	3996	0	110VLFL	35	1	9/19/1978	5/18/2000	11	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383523118400201
110C	U10963L	110C N08 E30 04AAA 1 USGS WELL 3	38.590198	-118.631801	Accurate to +/- 1 second	4056	20	110VLFL	62	0	3/18/1968	3/10/2005	37	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383525118375101
110C	U10964L	110C N08 E30 06ABB 1 USA Site 6 USGS Well 61	38.590476	-118.675691	Accurate to +/- 1 second	3979	0	110VLFL	32	0	11/2/1978	4/26/1995	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383526118402901
110C	U10965QL	110C N08 E30 31DDD 1 USA Site 19 USGS Well 38	38.590754	-118.667357	Accurate to +/- 1 second	3996	0	110VLFL	34	1	9/19/1978	4/26/1995	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383527118395901
110C	U10966QL	110C N09 E30 31DCD 1 USA Site 7 USGS Well 60	38.591587	-118.674858	Accurate to +/- 1 second	3980	0	110VLFL	33	1	10/31/1978	5/18/2000	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383530118402601
110C	U10967QL	110C N09 E30 32CCC 1 USA Site 20 USGS Well 54	38.592143	-118.666802	Accurate to +/- 1 second	3996	0	110VLFL	36	1	10/25/1978	5/3/1990	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383532118395701

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well_Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
110C	U10968L	110C N09 E30 31DCA 1 USA Site 8 USGS Well 59	38.592698	-118.673746	Accurate to +/- 1 second	3980	0	110VLFL	33	0	10/31/1978	4/26/1995	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383534118402201
110C	U10969L	110C N09 E30 31DDB 1 USA Site 9 USGS Well 58	38.594087	-118.672913	Accurate to +/- 1 second	3980	0	110VLFL	33	0	10/30/1978	4/26/1995	5	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383539118401901
110C	U10970QL	110C N09 E30 32CBD 1 USA Site 21 USGS Well 55	38.594643	-118.665691	Accurate to +/- 1 second	3996	0	110VLFL	33	1	10/26/1978	5/18/2000	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383541118395301
110C	U10971L	110C N09 E30 31DAC 1 USA Site 10 USGS Well 57	38.595198	-118.672358	Accurate to +/- 1 second	3977	0	110VLFL	29	0	10/28/1978	4/26/1995	6	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383543118401701
110C	U10972L	110C N09 E30 33CAA 1 USGS WELL 2	38.5975	-118.640555	Accurate to +/- 1 second	4039	20	110VLFL	41	0	3/18/1968	4/5/2005	36	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383550118382201
110C	U10973L	110C N09 E30 31DAB 1 USA Site 11 USGS Well 56	38.597698	-118.670969	Accurate to +/- 1 second	3977	0	110VLFL	31	0	10/27/1978	5/18/2000	7	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383552118401201
110C	U10974L	110C N09 E30 29DDD 1 USGS WELL 1	38.606587	-118.650413	Accurate to +/- 1 second	4010	20	110VLFL	20	0	3/18/1968	4/5/2005	36	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383624118385801
117	U10589L	117 N01 E36 09CC 1	37.948541	-117.985383	Accurate to +/- 1 minute	4690	1		0	0	8/27/1970	8/27/1970	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375631117590401
118	U10354L	118 N03 E35 26AD 1	38.09104	-118.047055	Accurate to +/- 1 minute	4857	1		125	0	1/1/1954	1/1/1954	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=373845118030301
118	U10610L	118 N02 E37 21CDAB1	38.009653	-117.869825	Accurate to +/- 5 seconds	4808	2		292	0	11/11/1963	4/2/1984	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380035117520801
118	U10611L	118 N02 E37 21CDA 1	38.00993	-117.87038	Accurate to +/- 1 minute	4810	1		292	0	11/1/1963	5/23/1968	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380036117523701
118	U10614L	118 N02 E36 21AABA1	38.021319	-117.972606	Accurate to +/- 5 seconds	4533	2		5300	0	5/25/1968	4/2/1984	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380117117581801
118	U10615	118 N02 E36 13DDB 1 USGS	38.022152	-117.934549	Accurate to +/- 1 minute	4525	1		32	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380120117560101
118	U10616L	118 N02 E36 21AAB 1	38.025486	-117.974828	Accurate to +/- 1 minute	4535	1		5300	0	5/25/1968	5/25/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380132117585201
118	U10617L	118 N02 E37 17DBA 1	38.025486	-117.88677	Accurate to +/- 1 minute	4665	1		246	0	5/23/1968	5/23/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380145117533701
118	U10619L	118 N02 E37 08CBAB1	38.03493	-117.892881	Accurate to +/- 5 seconds	4592	2		112	0	5/23/1968	4/2/1984	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380206117533101
118	U10620	118 N02 E36 12DCB 1 USGS	38.036597	-117.922327	Accurate to +/- 1 minute	4525	1		50	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380212117554201
118	U10623L	118 N02 E36 08BCD 1 USGS	38.043541	-118.005941	Accurate to +/- 1 minute	4520	1		41	0	7/1/1912	7/1/1912	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380237118004901
118	U10624	118 N02 E36 09BBD 1 USGS	38.046319	-117.987051	Accurate to +/- 1 minute	4520	1		32	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380247117593801
118	U10625L	118 N02 E36 08ACAA1	38.046597	-117.991774	Accurate to +/- 5 seconds	4521	5		11	0	4/2/1984	4/2/1984	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380248117592701
118	U10626L	118 N02 E36 08ADB 1	38.047152	-117.990663	Accurate to +/- 1 minute	4520	1		56	0	5/24/1968	5/24/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380250117594701

USGS Data - Wells (Within 10 miles of MRC)

Basin No	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well_Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
118	U10628	118 N02 E36 05DCD 1 USGS - Well 800	38.04993	-117.996774	Accurate to +/- 1 minute	4520	1		82	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380300118001401
118	U10634L	118 N03 E35 35DA 1	38.067985	-118.047888	Accurate to +/- 1 minute	4538	1		54	0	5/24/1968	5/24/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380405118032101
118	U10636L	118 N03 E35 35DADC1	38.069652	-118.04511	Accurate to +/- 5 seconds	3538	2		54	0	5/24/1968	4/2/1984	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380411118023901
118	U10640	118 N03 E36 31AAD 1 USGS	38.077152	-118.012886	Accurate to +/- 1 minute	4510	1		49	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380438118011601
118	U10641	118 N03 E36 35AAB 1 USGS	38.078263	-117.936217	Accurate to +/- 1 minute	4510	1		50	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380442117563601
118	U10646L	118 N03 E36 18CDC 1	38.111596	-118.023999	Accurate to +/- 1 minute	4540	1		17	0	5/24/1968	5/24/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380642118015401
118	U10649	118 N03 E36 15CBC 1 USGS	38.113262	-117.970108	Accurate to +/- 1 minute	4515	1		49	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380648117583901
118	U10650L	118 N03 E36 17ACB 1	38.114929	-117.994831	Accurate to +/- 1 minute	4538	1		85	0	2/1/1951	2/1/1951	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380654118000601
118	U10653L	118 N03 E36 17AAC 1	38.120762	-117.991775	Accurate to +/- 1 minute	4569	1		95	0	8/1/1958	5/24/1968	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380715117595501
118	U10673L	118 N03 E36 02BCBB1 Rock Hill	38.148262	-117.94983	Accurate to +/- 5 seconds	4580	10	110VLFL	129	0	5/23/1968	2/28/2005	31	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380854117565601
118	U10674L	118 N03 E36 02BCBB2	38.148817	-117.94983	Accurate to +/- 5 seconds	4579	2		150	0	1/15/1957	4/2/1984	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380856117565601
118	U10684	118 N04 E35 25AA 1	38.181873	-118.030112	Accurate to +/- 1 minute	5200	1		190	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381052118025701
118	U10688L	118 N04 E36 28 1	38.176317	-117.98011	Accurate to +/- 1 minute	4510	1		600	0	1/1/1950	1/1/1950	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381136117590001
118	U10724L	118 N04 E36 01CAA 1	38.233816	-117.922886	Accurate to +/- 1 minute	5777	35		500	0	5/3/1968	5/3/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381350118231601
119	U10741L	119 N05 E35 26BCC 1	38.26076	-118.069004	Accurate to +/- 1 minute	4425	1		500	0	9/1/1950	9/1/1950	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381539118044601
119	U10743L	119 N05 E35 26BCDD1	38.261594	-118.064837	Accurate to +/- 5 seconds	4438	5		650	0	9/7/1950	4/2/1984	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381542118035001
119	U10745L	119 N05 E35 26BCCC1	38.261871	-118.069004	Accurate to +/- 5 seconds	4462	5		0	0	4/2/1984	4/2/1984	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381543118040501
119	U10746L	119 N05 E35 28ACC 1	38.261871	-118.098171	Accurate to +/- 1 minute	4410	1		65	0	6/8/1961	6/8/1961	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381543118062601
119	U10747L	119 N05 E34 24DDA 1	38.268815	-118.147062	Accurate to +/- 1 minute	4520	1		132	0	5/22/1968	5/22/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381608118092001
119	U10749L	119 N05 E34 24DDAA1 USBLM	38.271871	-118.144007	Accurate to +/- 5 seconds	4522	2		132	0	5/22/1968	4/2/1984	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381619118083501
119	U10750L	119 N05 E35 22ACA 1	38.276315	-118.076782	Accurate to +/- 1 minute	4375	1		450	0	5/22/1968	5/22/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381635118051601

USGS Data - Wells (Within 10 miles of MRC)

Basin No	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
119	U10751	119 N05 E35 21ACB 1	38.276315	-118.099283	Accurate to +/- 1 minute	4380	1		16	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381635118063501
119	U10752L	119 N05 E35 23BBB 1	38.282149	-118.068726	Accurate to +/- 1 minute	4375	1		420	0	5/22/1968	5/22/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381656118042701
119	U10754L	119 N05 E35 22BBB 1	38.284371	-118.089005	Accurate to +/- 1 minute	4370	1		0	0	5/22/1968	5/22/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381704118055901
119	U10762L	119 N05 E35 09CBAC1	38.303272	-118.103588	Accurate to +/- .1 second (differentially corrected GPS)	4438	2		68	0	5/23/1982	8/15/2002	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381813118060801
121A	U10786	121A N06 E35 28CCD 1	38.344925	-118.108173	Accurate to +/- 1 minute	4590	1		92	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382042118062601
121A	U10788L	121A N06 E35 29ACBB1	38.351036	-118.105673	Accurate to +/- 5 seconds	4650	5		250	0	11/23/1974	4/3/1984	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382104118061701
121A	U10796	121A N06 E34 23 1	38.36298	-118.170675	Accurate to +/- 1 minute	5420	1		235	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382147118105601
121A	U10808L	121A N06 E35 07DDC 1 Power System	38.387702	-118.12373	Accurate to +/- 1 minute	4655	1		304	0	5/26/1968	5/26/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382316118080201
121A	U10810	121A N06 E35 08CAD 1	38.393258	-118.109285	Accurate to +/- 1 minute	4545	1		135	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382327118065401
121A	U10811	121A N06 E35 08CAA 1	38.393258	-118.109285	Accurate to +/- 1 minute	4545	1		600	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382327118070201
121A	U10815L	121A N06 E35 05CBD 1	38.40418	-118.111544	Accurate to +/- .1 second (differentially corrected GPS)	4545	1	110VLFL	106	0	5/17/1968	8/5/2002	17	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382415118063801
121A	U10816L	121A N06 E35 05DBD 1	38.398813	-118.10234	Accurate to +/- 1 minute	4540	1		106	0	5/17/1968	5/17/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382415118072901
121A	U10826	121A N07 E35 27CBC 1	38.430202	-118.077062	Accurate to +/- 1 minute	4820	1		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382549118051601
121A	U10827L	121A N07 E35 27CDA 1 Power System	38.430758	-118.077062	Accurate to +/- 1 minute	4800	35		108	0	2/1/1958	2/1/1958	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382551118050201
121A	U10829L	121A N07 E34 25BDD 1	38.432979	-118.147342	Accurate to +/- 1 minute	4498	1		141	0	6/1/1961	6/1/1961	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382559118092301
121A	U10831L	121A N07 E34 25ACA 1	38.437702	-118.145675	Accurate to +/- 1 minute	4480	1		120	0	5/18/1968	5/18/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382616118091801
121A	U10839L	121A N07 E36 15AD 1	38.464368	-117.957892	Accurate to +/- 1 minute	6165	35		22	0	4/17/1968	4/17/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382752117575801
121A	U10856L	121A N07 E34 01DAA 1	38.492423	-118.142343	Accurate to +/- 1 minute	4444	1		0	0	5/18/1968	5/18/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382933118090701
121A	U10859L	121A N07 E34 03ABB 1 Power System	38.497423	-118.186233	Accurate to +/- 1 minute	4500	1		264	0	9/1/1963	9/1/1963	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382951118113901
121A	U10861L	121A N08 E34 34DC 1 Power System	38.504645	-118.180955	Accurate to +/- 1 minute	4460	1		229	0	8/1/1952	5/18/1968	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383017118112001
121A	U10862L	121A N08 E34 34DB 1 Power System	38.510478	-118.180955	Accurate to +/- 1 minute	4455	1		145	0	5/18/1968	5/18/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383027118112001

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well_Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
121A	U10863L	121A N08 E34 33A 1	38.5127	-118.200678	Accurate to +/- 1 minute	4506	1		255	0	11/28/1949	9/19/1966	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383046118123601
121A	U10867	121A N08 E35 27C 2 USBLM	38.51909	-118.079008	Accurate to +/- 1 minute	6800	1		255	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383109118051301
121A	U10868L	121A N08 E34 28C 1	38.522145	-118.203734	Accurate to +/- 1 second	4550	1		0	0	3/15/1954	9/19/1966	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383120118121001
121A	U10876	121A N08 E35 22A 2 USBLM	38.543534	-118.070674	Accurate to +/- 1 minute	6800	1		265	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383228118044301
121B	U10877L	121B N08 E32 22AA 1	38.545755	-118.395127	Accurate to +/- 1 minute	4368	1		90	0	5/19/1968	5/19/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383232118241801
121B	U10879L	121B N08 E32 14CD 1	38.547977	-118.387071	Accurate to +/- 1 minute	4368	1		55	0	5/19/1968	5/19/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=383241118234801
123	U11487	123 N14 E31 21B 1	39.068532	-118.528468	Accurate to +/- 1 minute	4651	1		615	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390407118313901
123	U11538	123 N14 E30 04C 1	39.108531	-118.638195	Accurate to +/- 1 minute	4000	1		162	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=390631118383101
136	U10727L	136 N04 E38 05BDA 1	38.232983	-117.777603	Accurate to +/- 5 seconds	5504	2		305	0	5/17/1968	4/3/1984	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381359117463601
136	U10730L	136 N04 E38 05BB 1	38.237427	-117.78427	Accurate to +/- 1 minute	5505	1		305	0	5/17/1968	5/17/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381415117472401
136	U10756L	136 N05 E37 13D 1	38.287982	-117.80705	Accurate to +/- 1 minute	5339	1		120	0	4/17/1968	4/17/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381717117485101
136	U10843L	136 N07 E36 13B 1 USBLM	38.471313	-117.927058	Accurate to +/- 1 minute	6401	35		283	0	5/17/1968	5/17/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=382817117535801
137A	U10573	137A S01 E39 05A 1 Fish Lake	37.876875	-117.678428	Accurate to +/- 1 minute	4900	1		320	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375237117403901
137A	U10576	137A S01 E39 05DD 1 Fish Lake	37.87993	-117.680651	Accurate to +/- 1 minute	4920	1		520	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375248117404701
137A	U10582	137A N01 E37 14B 1	37.942986	-117.8351	Accurate to +/- 1 minute	5234	1		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375358117525301
137A	U10585L	137A N01 E38 26C 1 Minnesota	37.906597	-117.723985	Accurate to +/- 1 minute	4982	1		0	0	9/17/1968	9/17/1968	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375430117444001
137A	U10592	137A N01 E38 09D 1 Salt Well	37.951875	-117.770099	Accurate to +/- 1 minute	4788	1		520	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375707117460901
137A	U10593L	137A N01 E39 07AD 1	37.958264	-117.67704	Accurate to +/- 1 minute	4780	1		0	0	7/29/1969	7/29/1969	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375736117423501
137A	U10594L	137A N02 E38 20D 1 Tonopah	38.009375	-117.757599	Accurate to +/- 1 minute	4815	1		114	0	10/11/1962	10/11/1962	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375736117465201
137A	U10595L	137A N01 E38 03C 1 USGS	37.972431	-117.73482	Accurate to +/- 1 minute	4742	1		97	0	7/29/1969	7/29/1969	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375821117440201
137A	U10596	137A N01 E38 06B 1 Emigrant	37.973542	-117.816767	Accurate to +/- 1 minute	4882	1		324	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375825117485701

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
137A	U10597	137A N01 E39 05A 1	37.975209	-117.661484	Accurate to +/- 1 minute	4777	1		59	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375831117410301
137A	U10599	137A N01 E39 03A 1 Power Line	37.976597	-117.641484	Accurate to +/- 1 minute	4983	1		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375836117382601
137A	U10609L	137A N02 E38 20DC 1 Tonopah & Goldfield	38.005486	-117.773155	Accurate to +/- 1 second	4800	1		114	0	3/20/1963	2/14/1970	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380020117462001
137A	U10613	137A N02 E38 17D 1 NDOT	38.024652	-117.757321	Accurate to +/- 1 minute	4879	1		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380104117470901
137A	U10621	137A N02 E39 11C 1 USGS	38.037708	-117.568149	Accurate to +/- 1 minute	4728	1		20	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380229117372301
137A	U10631	137A N02 E39 02A 1	38.059375	-117.558705	Accurate to +/- 1 minute	4740	1		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380347117365101
137A	U10637L	137A N03 E39 31D 1	38.073819	-117.643708	Accurate to +/- 1 minute	4823	35		0	0	7/24/1969	7/24/1969	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380426117383401
137A	U10644	137A N03 E41 21CD 1 Main Line Well	38.094931	-117.3862	Accurate to +/- 1 minute	5070	1		310	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380542117230701
137A	U10652	137A N03 E42 14DAA 1	38.119099	-117.225916	Accurate to +/- 5 seconds	6080	20		0	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380709117133001
137A	U10660	137A N03 E41 10CB 1	38.134376	-117.375644	Accurate to +/- 1 minute	5000	1		210	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380804117222901
137A	U10672	137A N03 E40 02DC 1	38.14743	-117.460648	Accurate to +/- 1 minute	4817	1		280	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=380851117273501
137A	U10681	137A N04 E41 30DB 1 Montezuma Well	38.17132	-117.417869	Accurate to +/- 1 minute	4830	1		47	0			0	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=381017117250101
142	U468L	142 S03 E42 11B 1 City of Goldfield	37.696321	-117.237022	Accurate to +/- 1 minute	5800	1		440	0	3/6/1965	1/18/1967	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=374209117135101
142	U469L	142 S03 E42 10A 1 City of Goldfield	37.695766	-117.242023	Accurate to +/- 1 minute	5900	1		440	0	3/6/1965	1/18/1967	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=374209117141501
142	U476L	142 S03 E42 02C 1 City of Goldfield	37.705766	-117.237023	Accurate to +/- 1 minute	5710	1		45	0	1/18/1967	1/18/1967	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=374243117135101
142	U497L	142 S02 E42 26CAA 1	37.733544	-117.235634	Accurate to +/- 5 seconds	5540	5		0	0	4/2/1984	4/2/1984	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=374401117140501
142	U553L	142 S01 E41 31AC 1 USGS-MX	37.804932	-117.41953	Accurate to +/- 1 minute	4960	10		200	0	1/1/1981	1/1/1981	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=374818117250701
142	U564L	142 S01 E41 22ABA 1 USGS-MX	37.844654	-117.357584	Accurate to +/- 5 seconds	4870	5		150	0	1/1/1981	11/19/1991	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375041117212401
142	U567L	142 S01 E41 18ACDB1 USGS	37.854098	-117.412586	Accurate to +/- 5 seconds	4805	5		73	0	1/19/1967	4/2/1984	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375115117244201
142	U569L	142 S01 E41 16BBA 1 USGS	37.858543	-117.385085	Accurate to +/- 5 seconds	4805	5		73	0	4/2/1984	4/2/1984	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375131117230301
142	U570L	142 S01 E41 18A 1 Well (Report R45)	37.855487	-117.411753	Accurate to +/- 1 minute	4825	1		72	0	1/19/1967	1/19/1967	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375147117241401

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
142	U571L	142 S01 E41 08ADBD1 USGS	37.869654	-117.391197	Accurate to +/- 5 seconds	4805	5		46	0	1/19/1967	4/2/1984	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375211117232501
142	U572QL	142 S01 E42 10ABAC1	37.873266	-117.249247	Accurate to +/- 1 second	4960	20		400	1	10/20/1992	10/20/1992	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375224117145401
142	U574L	142 S01 E41 05CB 1 USGS-MX	37.873265	-117.404253	Accurate to +/- 10 seconds	4922	80		201	0	1/1/1981	11/19/1991	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375244117235801
142	U575L	142 S01 E42 10A 1	37.872433	-117.241469	Accurate to +/- 1 minute	4990	1		310	0	5/29/1950	5/29/1950	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375247117140501
142	U577L	142 S01 E41 04C 1 Well (Report R45)	37.874932	-117.381196	Accurate to +/- 1 minute	4825	1		72	0	1/19/1967	1/19/1967	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375255117222101
142	U579L	142 S01 E42 10AAA 1	37.872988	-117.244525	Accurate to +/- 5 seconds	4960	10		443	0	2/1/1960	3/28/1991	8	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375300117150001
142	U580L	142 S01 E42 10AAAD2 Goldfield	37.873544	-117.24258	Accurate to +/- 5 seconds	4970	20		400	0	9/14/1969	4/10/1996	17	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375300117150002
142	U583L	142 N01 E42 34C 1	37.89271	-117.258692	Accurate to +/- 1 minute	4940	1		160	0	10/22/1913	1/19/1967	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375401117150801
142	U586L	142 N01 E41 26A 1	37.914932	-117.337029	Accurate to +/- 1 minute	4869	35		0	0	10/21/1913	10/21/1913	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375519117194001
142	U588L	142 N01 E42 18AD 1 USGS-MX	37.940488	-117.300639	Accurate to +/- 1 minute	5020	10		200	0	1/1/1981	1/1/1981	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=375626117175901
143	U10230L	143 S04 E38 11A 1	37.610208	-117.72537	Accurate to +/- 1 minute	5000	1		245	0	12/9/1958	12/9/1958	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=373659117425601
143	U10279L	143 S03 E39 34DB 1	37.631319	-117.633145	Accurate to +/- 10 seconds	4396	1		146	0	3/26/1978	4/4/1984	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=373753117375601
143	U10294L	143 S03 E39 35CC 1 Well (Report R45)	37.631042	-117.626479	Accurate to +/- 1 minute	4396	1		0	0	1/19/1967	1/19/1967	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=373809117370001
143	U10438L	143 S03 E39 16CA 1	37.677152	-117.65898	Accurate to +/- 1 second	4325	10	110VLFL	60	0	1/19/1967	4/10/1996	28	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=374036117392901
143	U10451L	143 S03 E39 16C 1 Well (Report R45)	37.678264	-117.657591	Accurate to +/- 1 minute	4325	1		0	0	1/19/1967	1/19/1967	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=374105117385401
143	U10463L	143 S03 E39 11ADD 1	37.694097	-117.609535	Accurate to +/- 5 seconds	4280	5		1820	0	5/28/1965	4/4/1984	2	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=374139117363101
143	U10473L	143 S03 E39 11A 1	37.699931	-117.613702	Accurate to +/- 1 minute	4280	1		1820	0	5/28/1965	5/28/1965	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=374221117361001
143	U10504L	143 S02 E39 28BDBB1	37.739319	-117.659343	Accurate to +/- 1 second	4500	10		400	1	3/8/2003	3/8/2003	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=374422117393001
143	U10505L	143 S02 E39 25B 1	37.741319	-117.607036	Accurate to +/- 1 minute	4290	1		400	0	5/28/1966	5/28/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=374452117354601
143	U10537L	143 S02 E39 14B 1	37.771875	-117.626481	Accurate to +/- 1 minute	4290	1		125	0	2/3/1965	2/3/1965	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=374638117365201
143	U10542L	143 S02 E39 12C 1	37.774653	-117.608981	Accurate to +/- 1 minute	4450	1		500	0	5/30/1966	5/30/1966	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=374649117355101

USGS Data - Wells (Within 10 miles of MRC)

Basin No.	Project ID	Site name	Latitude	Longitude	Coordinate Accuracy	Altitude (feet AMSL)	Altitude Accuracy (ft)	Aquifer Code	Well_Depth (ft)	Water Quality Data Count	Groundwater Begin Date	Groundwater End Date	Groundwater Data Count	Water Level Graph URL
144	U173L	144 S06 E43 05CAD 2	37.442153	-117.217852	Accurate to +/- 5 seconds	4622	5		325	0	4/3/1984	4/3/1984	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=372632117130101
144	U174L	144 S06 E43 05CAD 1 USGS - Lida Valley Well	37.44337	-117.180946	uncorrected (Standard Positioning Service (SPS) and Precise Positioning Service	4622	0			0	1/18/1967		26	
144	U187L	144 S05 E43 17CC 1	37.49771	-117.184519	Accurate to +/- 10 seconds	4690	40		604	0	8/10/1958	8/10/1958	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=373003117110101
144	U190L	144 S06 E43 20BBA 1	37.509932	-117.254243	Accurate to +/- 5 seconds	5463	35		604	0	9/10/1958	4/3/1984	3	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=373036117151201
144	U204L	144 S04 E43 33AAA 2 Ralston Well	37.555377	-117.152324	uncorrected (Standard Positioning Service (SPS) and Precise Positioning Service	4756	0			0	4/20/1990		33	
144	U205L	144 S05 E43 03 1	37.535488	-117.142296	Accurate to +/- 10 seconds	4745	20		102	0	7/24/1976	7/24/1976	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=373323117090801
144	U206L	144 S04 E43 33A 1 Ralston	37.554377	-117.15313	Accurate to +/- 1 minute	4780	1		0	0	1/18/1967	1/18/1967	1	http://nwis.waterdata.usgs.gov/nv/nwis/gwlevels?site_no=373338117085001

USGS Data Springs and Streams (within 10 miles of MRC)

Basin No.	Project ID	Site Name	Latitude	Longitude	Coordinate Accuracy	Altitude	Altitude Accuracy (ft)	Site Type	Daily Flow Start	Daily Flow End	Daily Flow Data Count	Peak Flow Data Count	Site Data
101	S10129Q	G-LINE EXTENSION ON DRAIN at US95 nr. FALLON, NV	39.27408642	-118.7748705	Accurate to +/- 1 second	3918	4	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10312171&referred_module=sw
108	S10088Q	EAST DRAIN ABV MASON VALLEY WMA NR YERINGTON	39.037141	-119.07931908	Unknown	4350	5	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301180&referred_module=sw
108	S10089Q	PERK SLOUGH AT MASON VALLEY WMA BOUNDRY NR WABUSKA	39.12158586	-119.07543142	Accurate to +/- 1 second	4310	20	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301280&referred_module=sw
108	S10090Q	EAST HONKER POND AT MASON VALLEY WMA NR WABUSKA	39.11075229	-119.0962648	Accurate to +/- 1 second	4320	20	Lake/Reservoir	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301375&referred_module=sw
108	S10091	WALKER R AB WABUSKA DRAIN CONFL NR WABUSKA NV	39.14575237	-119.1076543	Accurate to +/- 1 second	4290	10	Stream			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301400&referred_module=sw
108	S10092Q	W BRANCH SPRAGG-ALCORN-BEWLEY DITCH AT SIERRA WAY	39.12769648	-119.13543206	Accurate to +/- 1 second	4310	20	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301470&referred_module=sw
108	S10093Q	WABUSKA DRAIN AT SIERRA WAY NR WABUSKA, NV	39.12825159	-119.18793255	Accurate to +/- 1 second	4300	20	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301480&referred_module=sw
108	S10094Q	WALKER R NR WABUSKA, NV	39.1524611	-119.0988889	Accurate to +/- 1 second	4300	20	Stream			31070	85	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301500&referred_module=sw
108	S11327	108 N13 E27 16 1 Grant View Hot Sp (Wrm Sp)	38.9899195	-118.97709427	Unknown	0	0	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=385924118583400&referred_module=sw
108	S11544Q	WALKER RIVER MISC-WLKRVR19	39.11408658	-118.9640406	Accurate to +/- 1 second	4238	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390651118574701&referred_module=sw
108	S11547	WALKER RIVER MISC-WLKRVR18	39.11547546	-118.9690407	Accurate to +/- 1 second	4240	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390656118580501&referred_module=sw
108	S11549	WALKER RIVER MISC-WLKRVR17	39.1160032	-118.9790688	Accurate to +/- .1 second (differentially corrected GPS)	4243	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390658118584101&referred_module=sw
108	S11555	WALKER RIVER MISC-WLKRVR16	39.1193643	-118.9870969	Accurate to +/- 1 second	4245	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390710118591001&referred_module=sw
108	S11566	WALKER RIVER MISC-WLKRVR15	39.1254754	-118.9937639	Accurate to +/- 1 second	4247	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390732118593401&referred_module=sw
108	S11569Q	WALKER RIVER MISC-WLKRVR14	39.13158655	-118.9970975	Accurate to +/- 1 second	4249	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390754118594601&referred_module=sw
108	S11574	WALKER RIVER MISC-WLKRVR13	39.1363087	-119.0062644	Accurate to +/- 1 second	4252	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390811119001901&referred_module=sw
108	S11575Q	WALKER RIVER MISC-WLKRVR12	39.13741978	-119.0145978	Accurate to +/- 1 second	4254	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390815119004901&referred_module=sw
108	S11581	WALKER RIVER MISC-WLKRVR11	39.14380864	-119.020709	Accurate to +/- 1 second	4256	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390838119011101&referred_module=sw
108	S11585	WALKER RIVER MISC-WLKRVR10	39.1474197	-119.0268203	Accurate to +/- 1 second	4258	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390851119013301&referred_module=sw
108	S11586Q	WALKER RIVER MISC-WLKRVR9	39.1496419	-119.0323759	Accurate to +/- 1 second	4260	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390859119015301&referred_module=sw
108	S11591	108 N15 E26 19AD 1 Spring	39.15325238	-119.11015439	Unknown	4310	5	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390912119063301&referred_module=sw
108	S11592	WALKER RIVER MISC-WLKRVR8	39.1535307	-119.0404316	Accurate to +/- 1 second	4264	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390913119022201&referred_module=sw

USGS Data Springs and Streams (within 10 miles of MRC)

Basin No.	Project ID	Site Name	Latitude	Longitude	Coordinate Accuracy	Altitude	Altitude Accuracy (ft)	Site Type	Daily Flow Start	Daily Flow End	Daily Flow Data Count	Peak Flow Data Count	Site Data
108	S11597	WALKER RIVER MISC-WLKRVR1	39.1540859	-119.0870987	Accurate to +/- 1 second	4290	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390915119051001&referred_module=sw
108	S11603	WALKER RIVER MISC-WLKRVR2	39.1571415	-119.0832098	Accurate to +/- 1 second	4288	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390926119045601&referred_module=sw
108	S11604	WALKER RIVER MISC-WLKRVR7	39.1585307	-119.046265	Accurate to +/- 1 second	4268	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390931119024301&referred_module=sw
108	S11605Q	WALKER RIVER MISC-WLKRVR6	39.15853066	-119.0515429	Accurate to +/- 1 second	4270	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390931119030201&referred_module=sw
108	S11606	WALKER RIVER MISC-WLKRVR3	39.159086	-119.0757098	Accurate to +/- 1 second	4280	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390933119042901&referred_module=sw
108	S11607	WALKER RIVER MISC-WLKRVR5	39.1596417	-119.0604319	Accurate to +/- 1 second	4274	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390935119033401&referred_module=sw
108	S11608	WALKER RIVER MISC-WLKRVR4	39.15964165	-119.0676542	Accurate to +/- 1 second	4277	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390935119040001&referred_module=sw
108	S11609Q	108 N15 E25 16D 1 Spring	39.16019627	-119.18321058	Unknown	0	0	Spring	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=390937119105601&referred_module=sw
118	S10602	118 N02 E36 32DC 1 Gap Spring	37.97937528	-117.99177297	Accurate to +/- 5 seconds	4637	20	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=375846117592701&referred_module=sw
118	S10603	118 N02 E36 32 1 Gap Spring	37.97937528	-117.99288412	Unknown	0	0	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=375846117593100&referred_module=sw
118	S10606	118 N02 E36 28CCC 1 Spring (Report R52)	37.99326421	-117.98427293	Accurate to +/- 5 seconds	4600	20	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=375936117590001&referred_module=sw
118	S10627	118 N02 E37 08AAA 1 Spring (Report R52)	38.04909699	-117.878715	Accurate to +/- 5 seconds	4780	20	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=380257117524001&referred_module=sw
119	S10776	119 N06 E35 29DCC 1 Soda South Spring	38.34020372	-118.10706216	Accurate to +/- 5 seconds	4670	20	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=382025118062201&referred_module=sw
120	S10770	120 N05 E34 06BA 1 Pepper Spring	38.32381433	-118.24845594	Accurate to +/- 5 seconds	6500	20	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=381926118145101&referred_module=sw
122	S10993Q	122 N10 E33 36 1 Spring	38.6804783	-118.25651412	Unknown	0	0	Spring	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=384050118152000&referred_module=sw
123	S10001	RAWHIDE FLATS TR NR SCHURZ, NV	39.14436479	-118.74959003	Unknown	4180	0	Stream	0000-00-00	0000-00-00	0	16	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10244460&referred_module=sw
123	S11642	123 N16 E29 34BC 1 Lee Hot Springs	39.20603134	-118.72070079	Accurate to +/- 5 seconds	4020	20	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=391222118431101&referred_module=sw
123	S11647Q	123 N16 E29 33 1 Spring	39.20825354	-118.7237565	Unknown	0	0	Spring	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=391230118432201&referred_module=sw
136	S10694	136 N04 E38 15DD 1 Spring (Report R52)	38.19742854	-117.70037848	Accurate to +/- 5 seconds	6500	50	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=381204117400301&referred_module=sw
142	S557	142 S01 E41 26 1 Alkali Spring	37.82465475	-117.33786145	Unknown	0	0	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=374929117201300&referred_module=sw
142	S558	142 S01 E41 26A 1 Alkali Spring	37.82493255	-117.33369463	Accurate to +/- 5 seconds	5020	20	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=374930117195801&referred_module=sw
143	S10506	143 S02 E39 22A 1 Waterworks Spring	37.74798639	-117.63925929	Accurate to +/- 5 seconds	4280	20	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=374453117381801&referred_module=sw

USGS Data Springs and Streams (within 10 miles of MRC)

Basin No.	Project ID	Site Name	Latitude	Longitude	Coordinate Accuracy	Altitude	Altitude Accuracy (ft)	Site Type	Daily Flow Start	Daily Flow End	Daily Flow Data Count	Peak Flow Data Count	Site Data
143	S10514	143 S02 E39 22A 2 Waterworks Springs	37.75548647	-117.62870355	Unknown	4280	10	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=374520117374001&referred_module=sw
143	S10516	143 S02 E39 22 1 Hot Springs at Silverpeak	37.75770868	-117.63092586	Unknown	0	0	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=374528117374800&referred_module=sw
143	S10556	143 S01 E40 25A 1 Spring (Report R45)	37.8252097	-117.46536617	Accurate to +/- 5 seconds	4350	20	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=374927117291001&referred_module=sw
144	S175	144 S05 E41 35D 1 Lida Spring Supply			Unknown	5150	20	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=372719117240301&referred_module=sw
110A	S10095Q	WALKER RIVER AB WEBER RES NR SCHURZ, NV	39.1032533	-118.929317	Unknown	4215	0	Stream			6379	16	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301600&referred_module=sw
110A	S10096Q	WEBER RESERVOIR NEAR SCHURZ, NV	39.04464245	-118.8601474	Accurate to +/- 1 second	4218	10	Lake/Reservoir	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301700&referred_module=sw
110A	S10097Q	WALKER R BLW WEBER RES NR SCHURZ, NV	39.04297579	-118.85875849	Unknown	0	0	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301710&referred_module=sw
110A	S10098Q	WALKER R AT PT SITE BLW WEBER RES NR SCHURZ, NV	39.0338091	-118.8623696	Accurate to +/- 1 second	4170	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301720&referred_module=sw
110A	S10099Q	WALKER R ABV CANAL 1-2 DIV WEIR NR SCHURZ, NV	39.01686466	-118.86625828	Accurate to +/- 1 second	4170	20	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301740&referred_module=sw
110A	S10100	CANAL NO 2 ABV LITTLE DAM NR SCHURZ, NV	39.0140869	-118.8609803	Accurate to +/- 1 second	4160	10	Stream			3979	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301742&referred_module=sw
110A	S10101	WALKER R ABV LITTLE DAM NR SCHURZ, NV	39.01353135	-118.8609803	Accurate to +/- 1 second	4160	10	Stream			666	5	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301745&referred_module=sw
110A	S10102Q	WALKER R AT LITTLE DAM WEIR ABV SCHURZ, NV	39.01269802	-118.86098029	Accurate to +/- 1 second	4150	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301750&referred_module=sw
110A	S10103	CANAL NO 1 BLW LITTLE DAM NR SCHURZ, NV	39.01242024	-118.861258	Accurate to +/- 1 second	4160	10	Stream			3970	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301755&referred_module=sw
110A	S10104Q	LATERAL 1A ABV HWY 95 AT SCHURZ, NV	38.94686452	-118.81264487	Unknown	4120	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301765&referred_module=sw
110A	S10105Q	LATERAL 2A AT TAKEOUT NR SCHURZ, NV	38.95492021	-118.80125576	Accurate to +/- 1 second	4135	5	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301770&referred_module=sw
110A	S10106Q	LATERAL 2D BLW SCHURZ, NV	38.92186459	-118.76986567	Unknown	4100	20	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301780&referred_module=sw
110A	S10107	CANAL 2 AT END OF LINED DITCH BLW SCHURZ, NV	38.88880888	-118.7551427	Accurate to +/- 1 second	4070	10	Stream			1120	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10301900&referred_module=sw
110A	S10108Q	WALKER RIVER AT SCHURZ, NV	38.94908679	-118.80792255	Accurate to +/- 1 second	4120	10	Stream			7185	20	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302000&referred_module=sw
110A	S10109Q	WALKER R AT LATERAL 2-A SIPHON NR SCHURZ, NV	38.94019785	-118.8037557	Accurate to +/- 1 second	4140	10	Stream			4332	10	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302002&referred_module=sw
110A	S10110Q	WALKER R AT POWERLINE CROSSING NEAR SCHURZ, NV	38.89464207	-118.7826435	Accurate to +/- 1 second	4050	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302005&referred_module=sw
110A	S10111	REESE R CYN AT CYN MTH NR SCHURZ, NV	38.85408608	-118.7965323	Accurate to +/- 1 second	4320	20	Stream			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302009&referred_module=sw
110A	S10112	REESE R CANYON NR SCHURZ, NV	38.84991948	-118.78292083	Unknown	4200	0	Stream			4018	22	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302010&referred_module=sw

USGS Data Springs and Streams (within 10 miles of MRC)

Basin No.	Project ID	Site Name	Latitude	Longitude	Coordinate Accuracy	Altitude	Altitude Accuracy (ft)	Site Type	Daily Flow Start	Daily Flow End	Daily Flow Data Count	Peak Flow Data Count	Site Data
110A	S11205Q	110A N12 E29 09CB 1 Spring	38.91603132	-118.75347627	Unknown	0	0	Spring	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=385458118450901&referred_module=sw
110B	S10069Q	WALKER LAKE NEAR HAWTHORNE, NV	38.67658636	-118.7720849	Unknown	3900	10	Lake/Reservoir	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10288500&referred_module=sw
110B	S10113Q	WALKER R NR MOUTH AT WALKER LAKE	38.79103038	-118.727085	Accurate to +/- 1 second	3940	10	Stream	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302025&referred_module=sw
110B	S10114	WILDHORSE CYN NR WALKER LAKE, NV	38.7915859	-118.6390257	Accurate to +/- 1 second	4400	10	Stream			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302030&referred_module=sw
110B	S10120	HOUSE CK NR HAWTHORNE, NV	38.5707547	-118.7179147	Accurate to +/- 1 second	5010	20	Stream			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302140&referred_module=sw
110B	S10121	ROSE CK NR WALKER LAKE, NV	38.58353236	-118.750416	Accurate to +/- 1 second	6460	20	Stream			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302145&referred_module=sw
110B	S10122	SQUAW CK NR WALKER LAKE, NV	38.59825438	-118.7512496	Accurate to +/- 1 second	5520	20	Stream			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302150&referred_module=sw
110B	S10123	DUTCH CK NR WALKER LAKE, NV	38.6293649	-118.7598615	Accurate to +/- 1 second	4660	10	Stream			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302155&referred_module=sw
110B	S10125	COTTONWOOD LINE VALVE BOX 14 OTL NR HAWTHORNE, NV	38.61880964	-118.7390273	Accurate to +/- 1 second	4135	20	Outfall			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302170&referred_module=sw
110B	S10126	DRY CK NR WALKER LAKE, NV	38.69325276	-118.7770853	Accurate to +/- 1 second	4230	10	Stream			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302180&referred_module=sw
110B	S10127	COPPER CYN AT MTH NR WALKER LAKE, NV	38.73353	-118.7801416	Accurate to +/- 1 second	4370	10	Stream			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302185&referred_module=sw
110B	S10977	WALKER LAKE - SOUTH END	38.61402778	-118.7018889	Accurate to +/- .1 second (differentially corrected GPS)	0	0	Lake/Reservoir			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=383651118420701&referred_module=sw
110B	S10980	WALKER LAKE - TOWN OF WALKER LAKE	38.6484722	-118.7476389	Accurate to +/- .1 second (differentially corrected GPS)	0	0	Lake/Reservoir			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=383855118445201&referred_module=sw
110B	S10982	WALKER LAKE 2 SOUTH (NDOW)	38.6508333	-118.7146944	Accurate to +/- .1 second (differentially corrected GPS)	0	0	Lake/Reservoir			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=383903118425301&referred_module=sw
110B	S10985	WALKER LAKE - OBSERVATION POINT 2	38.66030556	-118.7228056	Accurate to +/- .1 second (differentially corrected GPS)	0	0	Lake/Reservoir			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=383937118432201&referred_module=sw
110B	S10987	WALKER LAKE - OBSERVATION POINT 1	38.6650833	-118.7262778	Accurate to +/- .1 second (differentially corrected GPS)	0	0	Lake/Reservoir			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=383954118433501&referred_module=sw
110B	S10989Q	WALKER LAKE NR HAWTHORNE,NV.	38.66658678	-118.750973	Unknown	0	0	Lake/Reservoir	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=384000118450000&referred_module=sw
110B	S10992	WALKER LAKE - WEST SIDE CLIFFS	38.67238889	-118.7679167	Accurate to +/- .1 second (differentially corrected GPS)	0	0	Lake/Reservoir			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=384021118460501&referred_module=sw
110B	S10994	WALKER LAKE AT SPORTSMANS BEACH (NDEP)	38.6878333	-118.7688333	Accurate to +/- .1 second (differentially corrected GPS)	0	0	Lake/Reservoir			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=384116118460801&referred_module=sw
110B	S10999	WALKER LAKE 3 CENTER (NDOW)	38.7	-118.7218056	Accurate to +/- .1 second (differentially corrected GPS)	0	0	Lake/Reservoir			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=384200118431901&referred_module=sw
110B	S11017Q	WALKER LAKE ET STATION (12 METER DEPTH)	38.74527778	-118.7191667	Accurate to +/- 1 second	3935	10	Lake/Reservoir	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=384443118430912&referred_module=sw
110B	S11019	WALKER LAKE 4 NORTH (NDOW)	38.75169444	-118.725	Accurate to +/- .1 second (differentially corrected GPS)	0	0	Lake/Reservoir			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=384506118433001&referred_module=sw

USGS Data Springs and Streams (within 10 miles of MRC)

Basin No.	Project ID	Site Name	Latitude	Longitude	Coordinate Accuracy	Altitude	Altitude Accuracy (ft)	Site Type	Daily Flow Start	Daily Flow End	Daily Flow Data Count	Peak Flow Data Count	Site Data
110C	S10119	CAT CK NR HAWTHORNE, NV	38.5440884	-118.7154142	Accurate to +/- 1 second	5020	20	Stream			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10302135&referred_module=sw
121A	S10779	121A N06 E35 29 1 Soda Springs nr Sodaville	38.34214815	-118.10400653	Unknown	0	0	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=382032118061100&referred_module=sw
121A	S10780Q	121A N06 E35 29D 1 Soda Springs	38.34214815	-118.10400653	Unknown	0	0	Spring	0000-00-00	0000-00-00	0	0	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=382032118061101&referred_module=sw
121A	S10783	121A N06 E36 27B 1 Spring (Report R52)	38.34381525	-117.96233485	Accurate to +/- 5 seconds	8100	100	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=382038117574101&referred_module=sw
121A	S10785	121A N06 E35 29CAA 1 Soda North Spring	38.34437031	-118.10845116	Accurate to +/- 5 seconds	4670	20	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=382040118062701&referred_module=sw
121A	S10787	121A N06 E36 28A 1 Spring (Report R52)	38.34520413	-117.97177966	Accurate to +/- 5 seconds	8800	152	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=382043117581501&referred_module=sw
121A	S10793	121A N06 E36 22A 1 Spring (Report R52)	38.35881499	-117.9542793	Accurate to +/- 5 seconds	8300	100	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=382132117571201&referred_module=sw
121A	S10800	121A N06 E35 23AAA 1 Spring	38.369648	-118.04650494	Accurate to +/- 5 seconds	5950	20	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=382211118024401&referred_module=sw
121A	S10809	121A N06 E36 07C 1 Spring (Report R52)	38.39048113	-118.01928215	Accurate to +/- 5 seconds	6600	100	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=382326118010601&referred_module=sw
121A	S10818	121A N06 E36 01BA 1 Spring	38.40659196	-117.9242792	Accurate to +/- 5 seconds	6400	50	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=382450117524701&referred_module=sw
121A	S10821	121A N07 E35 34ADD 1 Spring (Report R52)	38.42159154	-118.06178407	Unknown	5060	10	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=382518118033901&referred_module=sw
121A	S10886	121A N08 E34 13B 1 Cloverdale Spring	38.55797883	-118.14651033	Unknown	5700	40	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=383328117330001&referred_module=sw
137A	S10014	Big Smoky Valley tr nr Tonopah, NV	38.03104435	-117.23202644	Unknown	5940	0	Stream	0000-00-00	0000-00-00	0	23	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10249620&referred_module=sw
137A	S10015	Big Smoky Valley tr nr Blair Junction, NV	38.03104185	-117.71065385	Unknown	4950	0	Stream	0000-00-00	0000-00-00	0	25	http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=10249680&referred_module=sw
137A	S10565	137A S01 E38 16DD 1 Minnesota Spring	37.84770825	-117.76093063	Unknown	6080	5	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=375052117453601&referred_module=sw
137A	S10591	137A N01 E39 09D 1 Sheep Mountain Spring	37.94993123	-117.64953983	Unknown	5000	5	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=375700117385501&referred_module=sw
137A	S10612	137A N02 E40 19B 1 Chuckar Spring	38.01743148	-117.54481548	Unknown	6200	20	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=380103117323801&referred_module=sw
137A	S10622	137A N02 E39 13D 1 Spring	38.02326477	-117.5409266	Unknown	6060	10	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=380234117322401&referred_module=sw
137A	S10670	137A N03 E38 01CB 1 Spring	38.14159618	-117.66759894	Accurate to +/- 5 seconds	6800	20	Spring			0		http://nwis.waterdata.usgs.gov/nv/nwis/dv?cb_00060=on&format=html&begin_date=1855-02-20&end_date=2007-03-29&site_no=380835117423201&referred_module=sw

USGS Data - Water Quality (within 10 miles of MRC)

Basin No.	Project ID	Site Name	Latitude	Longitude	Coordinate Accuracy	Altitude (ft AMSL)	Altitude Accuracy (ft)	Site Type	Water Quality Begin	Water Quality End	Water Quality Data Count	Site Data WQ
101	S10129Q	G-LINE EXTENSION ON DRAIN at US95 nr. FALLON, NV	39.274086	-118.77487	Accurate to +/- 1 second	3918	4	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10312171&agency_cd=USGS&format=inventory
108	S10088Q	EAST DRAIN ABV MASON VALLEY WMA NR YERINGTON	39.037141	-119.079319	Unknown	4350	5	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301180&agency_cd=USGS&format=inventory
108	S10089Q	PERK SLOUGH AT MASON VALLEY WMA BOUNDRY NR WABUSKA	39.121585	-119.075431	Accurate to +/- 1 second	4310	20	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301280&agency_cd=USGS&format=inventory
108	S10090Q	EAST HONKER POND AT MASON VALLEY WMA NR WABUSKA	39.110752	-119.096264	Accurate to +/- 1 second	4320	20	Lake/Reservoir	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301375&agency_cd=USGS&format=inventory
108	S10092Q	W BRANCH SPRAGG-ALCORN-BEWLEY DITCH AT SIERRA WAY	39.127696	-119.135432	Accurate to +/- 1 second	4310	20	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301470&agency_cd=USGS&format=inventory
108	S10093Q	WABUSKA DRAIN AT SIERRA WAY NR WABUSKA, NV	39.128251	-119.187932	Accurate to +/- 1 second	4300	20	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301480&agency_cd=USGS&format=inventory
108	S10094Q	WALKER R NR WABUSKA, NV	39.152461	-119.098888	Accurate to +/- 1 second	4300	20	Stream			369	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301500&agency_cd=USGS&format=inventory
108	S11544Q	WALKER RIVER MISC-WLKRVR19	39.114086	-118.96404	Accurate to +/- 1 second	4238	10	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=390651118574701&agency_cd=USGS&format=inventory
108	S11569Q	WALKER RIVER MISC-WLKRVR14	39.131586	-118.997097	Accurate to +/- 1 second	4249	10	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=390754118594601&agency_cd=USGS&format=inventory
108	S11575Q	WALKER RIVER MISC-WLKRVR12	39.137419	-119.014597	Accurate to +/- 1 second	4254	10	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=390815119004901&agency_cd=USGS&format=inventory
108	S11586Q	WALKER RIVER MISC-WLKRVR9	39.149641	-119.032375	Accurate to +/- 1 second	4260	10	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=390859119015301&agency_cd=USGS&format=inventory
108	S11605Q	WALKER RIVER MISC-WLKRVR6	39.15853	-119.051542	Accurate to +/- 1 second	4270	10	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=390931119030201&agency_cd=USGS&format=inventory
108	S11609Q	108 N15 E25 16D 1 Spring	39.160196	-119.18321	Unknown	0	0	Spring	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=390937119105601&agency_cd=USGS&format=inventory
108	U11613Q	108 N15 E25 15CB 3 Wabuska Well	39.162974	-119.178766	Unknown	4300	0	Ground-water other than Spring	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=390947119104001&agency_cd=USGS&format=inventory
122	S10993Q	122 N10 E33 36 1 Spring	38.680478	-118.256514	Unknown	0	0	Spring	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=384050118152000&agency_cd=USGS&format=inventory
123	S11647Q	123 N16 E29 33 1 Spring	39.208253	-118.723756	Unknown	0	0	Spring	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=391230118432201&agency_cd=USGS&format=inventory
142	U572QL	142 S01 E42 10ABAC1	37.873266	-117.249247	Accurate to +/- 1 second	4960	20	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=375224117145401&agency_cd=USGS&format=inventory

USGS Data - Water Quality (within 10 miles of MRC)

Basin No.	Project ID	Site Name	Latitude	Longitude	Coordinate Accuracy	Altitude (ft AMSL)	Altitude Accuracy (ft)	Site Type	Water Quality Begin	Water Quality End	Water Quality Data Count	Site Data WQ
110A	S10095Q	WALKER RIVER AB WEBER RES NR SCHURZ, NV	39.103253	-118.929317	Unknown	4215	0	Stream			54	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301600&agency_cd=USGS&format=inventory
110A	S10096Q	WEBER RESERVOIR NEAR SCHURZ, NV	39.044642	-118.860147	Accurate to +/- 1 second	4218	10	Lake/Reservoir	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301700&agency_cd=USGS&format=inventory
110A	S10097Q	WALKER R BLW WEBER RES NR SCHURZ, NV	39.042975	-118.858758	Unknown	0	0	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301710&agency_cd=USGS&format=inventory
110A	S10098Q	WALKER R AT PT SITE BLW WEBER RES NR SCHURZ, NV	39.033809	-118.862369	Accurate to +/- 1 second	4170	10	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301720&agency_cd=USGS&format=inventory
110A	S10099Q	WALKER R ABV CANAL 1-2 DIV WEIR NR SCHURZ, NV	39.016864	-118.866258	Accurate to +/- 1 second	4170	20	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301740&agency_cd=USGS&format=inventory
110A	S10102Q	WALKER R AT LITTLE DAM WEIR ABV SCHURZ, NV	39.012698	-118.86098	Accurate to +/- 1 second	4150	10	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301750&agency_cd=USGS&format=inventory
110A	S10104Q	LATERAL 1A ABV HWY 95 AT SCHURZ, NV	38.946864	-118.812644	Unknown	4120	10	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301765&agency_cd=USGS&format=inventory
110A	S10105Q	LATERAL 2A AT TAKEOUT NR SCHURZ, NV	38.95492	-118.801255	Accurate to +/- 1 second	4135	5	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301770&agency_cd=USGS&format=inventory
110A	S10106Q	LATERAL 2D BLW SCHURZ, NV	38.921864	-118.769865	Unknown	4100	20	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10301780&agency_cd=USGS&format=inventory
110A	S10108Q	WALKER RIVER AT SCHURZ, NV	38.949086	-118.807922	Accurate to +/- 1 second	4120	10	Stream			2	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10302000&agency_cd=USGS&format=inventory
110A	S10109Q	WALKER R AT LATERAL 2-A SIPHON NR SCHURZ, NV	38.940197	-118.803755	Accurate to +/- 1 second	4140	10	Stream			13	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10302002&agency_cd=USGS&format=inventory
110A	S10110Q	WALKER R AT POWERLINE CROSSING NEAR SCHURZ, NV	38.894642	-118.782643	Accurate to +/- 1 second	4050	10	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10302005&agency_cd=USGS&format=inventory
110A	S11205Q	110A N12 E29 09CB 1 Spring	38.916031	-118.753476	Unknown	0	0	Spring	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=385458118450901&agency_cd=USGS&format=inventory
110A	U11207Q	110A N12 E29 08AC 1	38.91742	-118.763198	Unknown	0	0	Ground-water other than Spring	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=385503118454401&agency_cd=USGS&format=inventory
110A	U11212Q	110A N12 E29 09BC 1	38.919364	-118.754587	Unknown	0	0	Ground-water other than Spring	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=385510118451301&agency_cd=USGS&format=inventory
110A	U11214Q	110A N12 E29 08AA 1	38.920753	-118.760143	Unknown	0	0	Ground-water other than Spring	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=385515118453301&agency_cd=USGS&format=inventory
110A	U11217Q	110A N12 E29 08BA 1	38.922142	-118.769865	Unknown	0	0	Ground-water other than Spring	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=385520118460801&agency_cd=USGS&format=inventory

USGS Data - Water Quality (within 10 miles of MRC)

Basin No.	Project ID	Site Name	Latitude	Longitude	Coordinate Accuracy	Altitude (ft AMSL)	Altitude Accuracy (ft)	Site Type	Water Quality Begin	Water Quality End	Water Quality Data Count	Site Data WQ
110A	U11243Q	110A N12 E29 06BB 1	38.936586	-118.790421	Unknown	0	0	Ground-water other than Spring	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=385612118472201&agency_cd=USGS&format=inventory
110A	U11246Q	110A N12 E28 02AA 1	38.938531	-118.810978	Unknown	0	0	Ground-water other than Spring	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=385619118483601&agency_cd=USGS&format=inventory
110A	U11258QL	110A N12 E29 05BBBD1 HEARTFALLS WELL C	38.937972	-118.772444	Accurate to +/- 1 second	4140	20	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=385637118463501&agency_cd=USGS&format=inventory
110A	U11286QL	110A N13 E29 25BADC2 DOUBLE SPRINGS WELL	38.964861	-118.6915	Accurate to +/- .1 second (differentially corrected GPS)	4070	10	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=385755118412701&agency_cd=USGS&format=inventory
110A	U11475QL	110A N14 E29 19DCAA1 WELL B LONG VALLEY	39.058416	-118.778888	Accurate to +/- .1 second (differentially corrected GPS)	4650	10	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=390343118465001&agency_cd=USGS&format=inventory
110B	S10069Q	WALKER LAKE NEAR HAWTHORNE, NV	38.676586	-118.772084	Unknown	3900	10	Lake/Reservoir	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10288500&agency_cd=USGS&format=inventory
110B	S10113Q	WALKER R NR MOUTH AT WALKER LAKE	38.79103	-118.727085	Accurate to +/- 1 second	3940	10	Stream	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=10302025&agency_cd=USGS&format=inventory
110B	S10989Q	WALKER LAKE NR HAWTHORNE,NV.	38.666586	-118.750973	Unknown	0	0	Lake/Reservoir	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=384000118450000&agency_cd=USGS&format=inventory
110B	S11016Q	WALKER LAKE ET STATION	38.745222	-118.719166	Accurate to +/- .1 second (differentially corrected GPS)	3934	0	Lake/Reservoir +Meteorological	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=384443118430901&agency_cd=USGS&format=inventory
110B	S11017Q	WALKER LAKE ET STATION (12 METER DEPTH)	38.745277	-118.719166	Accurate to +/- 1 second	3935	10	Lake/Reservoir	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=384443118430912&agency_cd=USGS&format=inventory
110B	U10981QL	110B N09 E29 09CBDC1	38.650392	-118.754583	Accurate to +/- 1 second	4020	10	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383902118451301&agency_cd=USGS&format=inventory
110C	U10845QL	110C N07 E30 08CDDC1	38.473533	-118.661523	Accurate to +/- 1 second	5180	20	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=382825118393801&agency_cd=USGS&format=inventory
110C	U10866QL	110C N08 E30 27DCDC1 City of Hawthorne Well 2	38.518255	-118.620966	Accurate to +/- 5 seconds	4370	20	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383107118375201&agency_cd=USGS&format=inventory
110C	U10895QL	110C N08 E30 10DBDD1 USGS Well 19	38.562976	-118.618744	Accurate to +/- 1 second	4138	0	Ground-water other than Spring			5	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383345118370601&agency_cd=USGS&format=inventory
110C	U10897QL	110C N08 E30 10CAAD1 USGS Well 18	38.564643	-118.623467	Accurate to +/- 1 second	4131	0	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383352118372301&agency_cd=USGS&format=inventory
110C	U10898QL	110C N08 E30 10CAAC1 USGS Well 15	38.564643	-118.624856	Accurate to +/- 1 second	4129	0	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383353118372801&agency_cd=USGS&format=inventory
110C	U10899QL	110C N08 E30 10CABA1 USGS Well 16	38.565199	-118.625411	Accurate to +/- 1 second	4129	0	Ground-water other than Spring			13	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383354118373001&agency_cd=USGS&format=inventory

USGS Data - Water Quality (within 10 miles of MRC)

Basin No.	Project ID	Site Name	Latitude	Longitude	Coordinate Accuracy	Altitude (ft AMSL)	Altitude Accuracy (ft)	Site Type	Water Quality Begin	Water Quality End	Water Quality Data Count	Site Data WQ
110C	U10900QL	110C N08 E30 10CAAB2 USGS Well 20	38.565476	-118.624022	Accurate to +/- 1 second	4129	0	Ground-water other than Spring			16	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383355118372501&agency_cd=USGS&format=inventory
110C	U10901QL	110C N08 E30 10CAAB1 USGS Well 17	38.565476	-118.624578	Accurate to +/- 1 second	4127	0	Ground-water other than Spring			16	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383355118372801&agency_cd=USGS&format=inventory
110C	U10902QL	110C N08 E30 10CABB1 USGS Well 13	38.565476	-118.6268	Accurate to +/- 1 second	4123	0	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383356118373401&agency_cd=USGS&format=inventory
110C	U10903QL	110C N08 E30 10BDCD1 USGS Well 14	38.566032	-118.625967	Accurate to +/- 1 second	4124	10	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383357118373201&agency_cd=USGS&format=inventory
110C	U10913QL	110C N08 E30 06DAC 1 USA Site 22 USGS Well 50	38.579087	-118.670413	Accurate to +/- 1 second	4008	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383445118401001&agency_cd=USGS&format=inventory
110C	U10914QL	110C N08 E30 06DAA 1 USA Site 23 USGS Well 49	38.580476	-118.667635	Accurate to +/- 1 second	4005	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383450118400001&agency_cd=USGS&format=inventory
110C	U10915QL	110C N08 E30 05BCD 1 USA Site 24 USGS Well 48	38.582421	-118.665135	Accurate to +/- 1 second	4007	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383457118395101&agency_cd=USGS&format=inventory
110C	U10916QL	110C N08 E30 06BDD 1 USA Site 12 USGS Well 45	38.582421	-118.678191	Accurate to +/- 1 second	3988	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383457118403801&agency_cd=USGS&format=inventory
110C	U10917QL	110C N08 E30 05BDB 1 USA Site 30 USGS Well 51	38.582698	-118.661246	Accurate to +/- 1 second	4016	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383458118393701&agency_cd=USGS&format=inventory
110C	U10918QL	110C N08 E30 06ACB 1 USA Site 13 USGS Well 44	38.583532	-118.675135	Accurate to +/- 1 second	3989	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383501118402701&agency_cd=USGS&format=inventory
110C	U10919QL	110C N08 E30 05BDA 5 USGS Well 30	38.583254	-118.659024	Accurate to +/- 1 second	4019	0	Ground-water other than Spring			5	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383502118392601&agency_cd=USGS&format=inventory
110C	U10920QL	110C N08 E30 05BCA 1 USA Site 25 USGS Well 47	38.58381	-118.664024	Accurate to +/- 1 second	4009	10	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383502118394701&agency_cd=USGS&format=inventory
110C	U10921QL	110C N08 E30 05ACB 4 USGS Well 31	38.583532	-118.65819	Accurate to +/- 1 second	4020	0	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383503118392301&agency_cd=USGS&format=inventory
110C	U10922QL	110C N08 E30 05BDA 2 USGS Well 26	38.583532	-118.66069	Accurate to +/- 1 second	4017	0	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383503118393201&agency_cd=USGS&format=inventory
110C	U10924QL	110C N08 E30 05BDA 4 USGS Well 29	38.58381	-118.659857	Accurate to +/- 1 second	4019	0	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383504118392801&agency_cd=USGS&format=inventory
110C	U10926QL	110C N08 E30 05BDA 6 USGS Well 32	38.584365	-118.658468	Accurate to +/- 1 second	4020	0	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383506118392301&agency_cd=USGS&format=inventory
110C	U10927QL	110C N08 E30 05BDA 3 USGS Well 27	38.584365	-118.66069	Accurate to +/- 1 second	4016	5	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383506118393201&agency_cd=USGS&format=inventory

USGS Data - Water Quality (within 10 miles of MRC)

Basin No.	Project ID	Site Name	Latitude	Longitude	Coordinate Accuracy	Altitude (ft AMSL)	Altitude Accuracy (ft)	Site Type	Water Quality Begin	Water Quality End	Water Quality Data Count	Site Data WQ
110C	U10928QL	110C N08 E30 05BBD 1 USA Site 26 USGS Well 46	38.584921	-118.66319	Accurate to +/- 1 second	4009	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383506118394401&agency_cd=USGS&format=inventory
110C	U10933QL	110C N08 E30 05BAD 3 USGS Well 28	38.584643	-118.660135	Accurate to +/- 1 second	4017	0	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383507118393001&agency_cd=USGS&format=inventory
110C	U10934QL	110C N08 E30 06ABD 1 USA Site 14 USGS Well 43	38.585198	-118.672357	Accurate to +/- 1 second	3990	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383507118401701&agency_cd=USGS&format=inventory
110C	U10935QL	110C N08 E30 05BAD 4 USGS Well 33	38.584921	-118.659579	Accurate to +/- 1 second	4019	0	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383508118392802&agency_cd=USGS&format=inventory
110C	U10936QL	110C N08 E30 05BAD 1 USGS Well 8	38.584921	-118.659024	Accurate to +/- 1 second	4019	0	Ground-water other than Spring			11	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383509118392501&agency_cd=USGS&format=inventory
110C	U10937QL	110C N08 E30 05BAC 2 USGS Well 24	38.585476	-118.660968	Accurate to +/- 1 second	4015	0	Ground-water other than Spring			6	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383510118393401&agency_cd=USGS&format=inventory
110C	U10938QL	110C N08 E30 05BAC 1 USA Site 27 USGS Well 21A	38.586032	-118.662635	Accurate to +/- 1 second	4011	0	Ground-water other than Spring			8	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383510118394201&agency_cd=USGS&format=inventory
110C	U10939QL	110C N08 E30 05BAC 3 USA Site 27 USGS Well 21B	38.586032	-118.662635	Accurate to +/- 1 second	4011	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383510118394202&agency_cd=USGS&format=inventory
110C	U10941QL	110C N08 E30 05BAC 5 USA Site 27 USGS Well 21D	38.586032	-118.662635	Accurate to +/- 1 second	4011	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383510118394204&agency_cd=USGS&format=inventory
110C	U10942QL	110C N08 E30 06AAC 1 USA Site 15 USGS Well 42	38.586032	-118.670969	Accurate to +/- 1 second	3991	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383510118401201&agency_cd=USGS&format=inventory
110C	U10946QL	110C N08 E30 05BAD 5 USGS Well 34	38.585754	-118.659024	Accurate to +/- 1 second	4019	0	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383512118392601&agency_cd=USGS&format=inventory
110C	U10947QL	110C N08 E30 05BAD 6 USGS Well 35	38.585754	-118.659857	Accurate to +/- 1 second	4016	0	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383512118392801&agency_cd=USGS&format=inventory
110C	U10948QL	110C N08 E30 05BAD 2 USGS Well 25	38.585754	-118.660413	Accurate to +/- 1 second	4015	0	Ground-water other than Spring			8	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383512118393201&agency_cd=USGS&format=inventory
110C	U10951QL	110C N08 E30 05BAA 2 USGS Well 37	38.586309	-118.659301	Accurate to +/- 1 second	4019	0	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383514118392601&agency_cd=USGS&format=inventory
110C	U10952QL	110C N08 E30 05BAA 1 USGS Well 36	38.586587	-118.660135	Accurate to +/- 1 second	4016	0	Ground-water other than Spring			7	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383514118393001&agency_cd=USGS&format=inventory
110C	U10953QL	110C N08 E30 05BAB 1 USGS Well 22	38.586587	-118.661524	Accurate to +/- 1 second	4014	0	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383514118393401&agency_cd=USGS&format=inventory
110C	U10954QL	110C N08 E30 06AAB 1 USA Site 16 USGS Well 41	38.587143	-118.669857	Accurate to +/- 1 second	3993	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383514118400801&agency_cd=USGS&format=inventory

USGS Data - Water Quality (within 10 miles of MRC)

Basin No.	Project ID	Site Name	Latitude	Longitude	Coordinate Accuracy	Altitude (ft AMSL)	Altitude Accuracy (ft)	Site Type	Water Quality Begin	Water Quality End	Water Quality Data Count	Site Data WQ
110C	U10955QL	110C N08 E30 05BAB 3 USA Site 28 USGS Well 52	38.587421	-118.661802	Accurate to +/- 1 second	4013	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383515118393901&agency_cd=USGS&format=inventory
110C	U10957QL	110C N08 E30 05BAB 2 USGS Well 23	38.587143	-118.66069	Accurate to +/- 1 second	4016	0	Ground-water other than Spring			4	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383517118393101&agency_cd=USGS&format=inventory
110C	U10958QL	110C N08 E30 06AAA 2 USA Site 17 USGS Well 40	38.588254	-118.669024	Accurate to +/- 1 second	3994	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383518118400501&agency_cd=USGS&format=inventory
110C	U10960QL	110C N08 E30 05BAB 4 USA Site 29 USGS Well 53	38.588809	-118.661246	Accurate to +/- 1 second	4014	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383520118393701&agency_cd=USGS&format=inventory
110C	U10961QL	110C N08 E30 06BAA 1 USA Site 5 USGS Well 62	38.589365	-118.676802	Accurate to +/- 1 second	3977	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383522118403301&agency_cd=USGS&format=inventory
110C	U10962QL	110C N08 E30 06AAA 1 USA Site 18 USGS Well 39	38.589643	-118.668191	Accurate to +/- 1 second	3996	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383523118400201&agency_cd=USGS&format=inventory
110C	U10965QL	110C N08 E30 31DDD 1 USA Site 19 USGS Well 38	38.590754	-118.667357	Accurate to +/- 1 second	3996	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383527118395901&agency_cd=USGS&format=inventory
110C	U10966QL	110C N09 E30 31DCD 1 USA Site 7 USGS Well 60	38.591587	-118.674858	Accurate to +/- 1 second	3980	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383530118402601&agency_cd=USGS&format=inventory
110C	U10967QL	110C N09 E30 32CCC 1 USA Site 20 USGS Well 54	38.592143	-118.666802	Accurate to +/- 1 second	3996	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383532118395701&agency_cd=USGS&format=inventory
110C	U10970QL	110C N09 E30 32CBD 1 USA Site 21 USGS Well 55	38.594643	-118.665691	Accurate to +/- 1 second	3996	0	Ground-water other than Spring			1	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=383541118395301&agency_cd=USGS&format=inventory
121A	S10780Q	121A N06 E35 29D 1 Soda Springs	38.342148	-118.104006	Unknown	0	0	Spring	0000-00-00	0000-00-00	0	http://nwis.waterdata.usgs.gov/nv/nwis/qwdata?site_no=382032118061101&agency_cd=USGS&format=inventory

Hydrographic Basin Summary (Groundwater)

Appendix B

Hydrographic Basin Summary-
Underground Sources by Manner of Use
(ac-ft)

HA #	108**		110A**		110C**		118**		119**		121A**		121B**	
Manner of Use	Active Annual Duty	Pending Annual Duty	Active Annual Duty	Pending Annual Duty	Active Annual Duty	Pending Annual Duty	Active Annual Duty	Pending Annual Duty	Active Annual Duty	Pending Annual Duty	Active Annual Duty	Pending Annual Duty	Active Annual Duty	Pending Annual Duty
COM	354				41						2			
CON														
DOM	19		2		2				1		23			
ENV	243				2						6			
IND	16,731				72									
IRC														
IRD														
IRR	120,014				3,794				41					
MM	9,820						1,730		7		1,843		352	
MUN	5,626		612		6,502						901			
PWR														
QM	621		3		770		32				0			
REC	6,146													
STK	356		21		6		2				30		2	
STO	3,258	42,398												
WLD														
OTH					1,520						362			
Total	163,188	0	637	0	12,709	0	1,764	0	49	0	3,168	0	354	0
Status	Annual Duty	Other GW	Annual Duty	Other GW	Annual Duty	Other GW	Annual Duty	Other GW	Annual Duty	Other GW	Annual Duty	Other GW	Annual Duty	Other GW
VST											30			
RES														
APP	540													
RFA	2,461	51,086												
PER	40,782	3,258	603		2,883		979				245			
RLP	65													
RVP														
CER	105,134	13,950	34		8,364		785		49		2,893		354	
DEC														
Total	148,981	0	637	0	11,247	0	1,764	0	49	0	3,168	0	354	0

Notes:
Annual Duty may not include all Decreed and Adjudicated appropriations.
**Reproduced from NDWR Water Rights Database (Run 8-22-06)
***Reproduced from NDWR Water Rights Database (Run 10-21-06)

Hydrographic Basin Summary-
Underground Sources by Manner of Use
(ac-ft)

HA #	123**		137A**		142**		143**		144***	
Manner of Use	Active Annual Duty	Pending Annual Duty	Active Annual Duty	Pending Annual Duty	Active Annual Duty	Pending Annual Duty	Active Annual Duty	Pending Annual Duty	Active Annual Duty	Pending Annual Duty
COM										
CON										
DOM							24			
ENV										
IND										
IRC										
IRD			160							
IRR			10,143		16					
MM			8,331		777		23,231		30	
MUN			1,507		326		154			
PWR										
QM			14				435		14	
REC										
STK	116		924		29		39		28	
STO										
WLD										
OTH										
Total	116	0	21,079	0	1,148	0	23,882	0	72	0
Status	**Annual Duty**	**Other GW**	**Annual Duty**	**Other GW**	**Annual Duty**	**Other GW**	**Annual Duty**	**Other GW**	**Annual Duty**	**Other GW**
VST										
RES										
APP			216							
RFA										
PER			3,709		864		20,972		14	
RLP										
RVP										
CER	116		17,370		228	56	2,729	181	58	
DEC										
Total	116	0	21,295	0	1,092	56	23,701	181	72	0

Notes:
Annual Duty may not include all Decreed and Adjudicated appropriations.
**Reproduced from NDWR Water Rights Database (Run 8-22-06)
***Reproduced from NDWR Water Rights Database (Run 10-21-06)

Appendix C

Hydrographic Basin Abstracts by Distance from MRC

Selection Criteria: by PER,CER, VST, DEC, RSA, RES (Surface and Underground)

BASIN	DIST. RANGE	APP	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
101	2 to 5	46898			11463	5/11/1983	CER	UG	NW	NE	16N 27E 24	0.013	STK		0	2	MGS	CH	DAMONTE RANCH LLC
101	5 to 10	4922			923	2/19/1918	CER	UG	NW	SW	16N 30E 20	0.05	STK		0	12	MGA	CH	CLEMONS, JAY H.
101	5 to 10	4923			924	2/19/1918	CER	UG	SW	NW	16N 28E 05	0.05	STK		0	12	MGA	CH	CLEMONS, JAY H.
101	5 to 10	46899			11464	5/11/1983	CER	UG	NW	SE	16N 27E 01	0.004	STK		0	1	MGS	CH	DAMONTE RANCH LLC
101	5 to 10	46431			11460	12/16/1982	CER	UG	SW	SW	16N 30E 27	0.006	STK		0	1	MGA	CH	MARVEL, JOSEPH C.
101	5 to 10	46432			11461	12/16/1982	CER	UG	NW	NW	16N 30E 30	0.006	STK		0	1	MGA	CH	MARVEL, JOSEPH C.
101	5 to 10	46902			11467	5/11/1983	CER	UG	NW	NE	16N 28E 13	0.006	STK		0	1	MGS	CH	DAMONTE RANCH
101	5 to 10	48241			11989	7/27/1984	CER	SPR	NE	NE	15N 31E 17	0.001	STK		0	0	MGA	CH	MARVEL, JOSEPH C.
101	5 to 10	48242			14140	7/27/1984	CER	SPR	NE	NE	15N 30E 12	0.002	STK		0	0	MGA	CH	MARVEL, JOSEPH C.
102	5 to 10	9906			2818	10/24/1935	CER	UG	NE	SE	16N 26E 03	0.011	STK		0	3	MGA	LY	CASEY, BENJAMIN F.
102	5 to 10	46900			11465	5/11/1983	CER	UG	NW	NE	16N 27E 17	0.011	STK		0	1	MGS	LY	DAMONTE RANCH LLC
108	2 to 5	16034			5648	2/3/1955	CER	UG	NE	NE	14N 26E 22	1.9747	IRR	Y	40	158	AFA	LY	SUNRISE RANCH, LLC.
108	2 to 5	16580	changed by 47013				CER	UG	SE	SE	14N 26E 22	0			0	0			
108	2 to 5	16580	changed by 48290				CER	UG	SE	SE	14N 26E 22	0			0	0			
108	2 to 5	29299			9541	3/25/1975	CER	UG	SE	NW	14N 26E 22	1.94	IRR	Y	116	464	AFS	LY	L & M FAMILY LIMITED PARTNERSHIP
108	2 to 5	30447			9886	7/30/1976	CER	UG	NE	NE	14N 26E 22	1.45	IRR	Y	239	464	AFS	LY	L & M FAMILY LIMITED PARTNERSHIP
108	2 to 5	33521	changed by 50704				CER	UG	SE	SW	14N 26E 17	0			0	0			
108	2 to 5	33521	changed by 60562				CER	UG	SE	SW	14N 26E 17	0			0	0			
108	2 to 5	60562		33521	16263	10/4/1994	CER	UG	SE	SW	14N 26E 17	0.185	REC	Y	0	134	AFA	LY	WILDLIFE DIVISION-NEVADA
108	2 to 5	3830	changed by 58707				CER	OSW	NE	SW	15N 26E 29	0			0	0			
108	2 to 5	46709			11694	3/8/1983	CER	UG	SW	SW	14N 26E 13	0.019	STK		0	4	MGA	LY	CIRCLE BAR "N" RANCH
108	2 to 5	47116			12466	8/2/1983	CER	UG	SE	SW	14N 26E 23	0.02	QM		0	0	MGA	LY	HAMILTON, RUTH VIRGINIA
108	2 to 5	58707		3830	15496	4/9/1993	CER	STR	NE	SW	15N 26E 20	0.878	IRR		88	263	AFA	LY	STANLEY, JOHN DAVID SR.
108	2 to 5	16034	changed by 16034R01				PER	UG	NE	NE	14N 26E 22	0		Y	0	0			
108	2 to 5	16034	changed by 74229T				PER	UG	NE	NE	14N 26E 22	0		Y	0	0			
108	2 to 5	16580	changed by 47014				PER	UG	SE	SE	14N 26E 22	0			0	0			

Hydrographic Basin Abstracts by Distance from MRC

Selection Criteria: by PER,CER, VST, DEC, RSA, RES (Surface and Underground)

BASIN	DIST. RANGE	APP	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
108	2 to 5	28547	changed by 66112				PER	UG	SE	SW	14N 26E 23	0			0	0			
108	2 to 5	29299	changed by 65278				PER	UG	SE	NW	14N 26E 22	0		Y	0	0			
108	2 to 5	29299	changed by 68398				PER	UG	SE	NW	14N 26E 22	0		Y	0	0			
108	2 to 5	30447	changed by 68400				PER	UG	NE	NE	14N 26E 22	0		Y	0	0			
108	2 to 5	63179	changed by 64610				PER	UG	SW	NW	14N 26E 14	0			0	0			
108	2 to 5	63179	changed by 64611				PER	UG	SW	NW	14N 26E 14	0			0	0			
108	2 to 5	63181	changed by 64608				PER	UG	SW	NW	14N 26E 14	0			0	0			
108	2 to 5	63182	changed by 64606				PER	UG	SW	NW	14N 26E 14	0			0	0			
108	2 to 5	63182	changed by 64607				PER	UG	SW	NW	14N 26E 14	0			0	0			
108	2 to 5	64605		63183		11/12/1998	PER	UG	NW	SW	14N 26E 07	0.054	QM		0	10	AFA	LY	WILDLIFE DIVISION-NEVADA
108	2 to 5	64609		63180		11/12/1998	PER	UG	SE	SW	14N 26E 17	1.06	REC	Y	0	196	AFA	LY	WILDLIFE DIVISION-NEVADA
108	2 to 5	68715		28743		4/18/2002	PER	UG	NE	NE	14N 26E 22	0.5	IRR	Y	0	82	AFA	LY	SUNRISE RANCH, LLC
108	2 to 5	63180	changed by 64609				PER	UG	SE	NE	14N 26E 15	0			0	0			
108	2 to 5	63183	changed by 64604				PER	UG	SE	NE	14N 26E 15	0			0	0			
108	2 to 5	63183	changed by 64605				PER	UG	SE	NE	14N 26E 15	0			0	0			
108	2 to 5	63183	changed by 64646				PER	UG	SE	NE	14N 26E 15	0			0	0			
108	2 to 5	16034R01		16034		2/6/2006	PER	UG	NE	NE	14N 26E 22	0.0253	IRR		0	2	AFA	LY	CARPENTER, TOMMIE R.
108	2 to 5	74229T		16034		4/20/2006	PER	UG	NE	NE	14N 26E 22	0.018	IRR	Y	0	1	AFA	LY	SUNRISE RANCH LLC
108	2 to 5	74230T		66887		4/20/2006	PER	UG	NE	NE	14N 26E 22	0.895	IRR	Y	0	54	AFA	LY	SUNRISE RANCH LLC
108	2 to 5	74231T		66888		4/20/2006	PER	UG	NE	NE	14N 26E 22	1.7	IRR	Y	0	319	AFA	LY	SUNRISE RANCH LLC
108	5 to 10	14632	changed by 65001				PER	UG	NW	NE	13N 26E 09	0			0	0			
108	5 to 10	14632	changed by 67133				PER	UG	NW	NE	13N 26E 09	0			0	0			
108	5 to 10	15946			5473	1/7/1955	CER	UG	SE	NW	14N 26E 26	0.05	IRR	Y	30	3	AFA	LY	LAMBERT, VERNON & EVELYN
108	5 to 10	15946	changed by 15946R01				RLP	UG	SE	NW	14N 26E 26	0		Y	0	0			
108	5 to 10	15946	changed by 66887				PER	UG	SE	NW	14N 26E 26	0		Y	0	0			
108	5 to 10	15946	changed by 66889				PER	UG	SE	NW	14N 26E 26	0		Y	0	0			

Hydrographic Basin Abstracts by Distance from MRC

Selection Criteria: by PER,CER, VST, DEC, RSA, RES (Surface and Underground)

BASIN	DIST. RANGE	APP	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
108	5 to 10	15946	changed by 66896				PER	UG	SE	NW	14N 26E 26	0		Y	0	0			
108	5 to 10	15946	changed by 71069				PER	UG	SE	NW	14N 26E 26	0		Y	0	0			
108	5 to 10	15950	changed by 67035				PER	UG	NE	SW	14N 26E 34	0			0	0			
108	5 to 10	15975			4792	1/17/1955	CER	UG	SW	NW	13N 26E 02	0.002	DOM		0	2	AFA	LY	HASKINS, CARROL R.
108	5 to 10	17100			5715	11/26/1956	CER	UG	NW	SE	13N 26E 09	2	IRR	Y	5	21	AFA	LY	CIRCLE BAR N RANCH, LLC
108	5 to 10	17100	changed by 72134				RFA	UG	NW	SE	13N 26E 09	0		Y	0	0			
108	5 to 10	17100	changed by 73873				RFA	UG	NW	SE	13N 26E 09	0		Y	0	0			
108	5 to 10	17386			5857	9/3/1957	CER	UG	SE	NE	14N 26E 35	0.002	DOM		0	1	MGA	LY	MCKENZIE, JOHN A.
108	5 to 10	17687	changed by 35325				CER	UG	NW	NW	13N 26E 02	0			0	0			
108	5 to 10	18444	changed by 57254				CER	UG	SE	NE	14N 26E 34	0			0	0			
108	5 to 10	18633	changed by 57866				CER	UG	SW	NE	14N 25E 27	0			0	0			
108	5 to 10	18672			6003	3/24/1960	CER	UG	SE	SE	14N 25E 16	2.274	IRR		147	495	AFS	LY	BALAAM, DONALD A. & OLGA M.
108	5 to 10	18672	changed by 67947				PER	UG	SE	SE	14N 25E 16	0			0	0			
108	5 to 10	18672	changed by 68055				PER	UG	SE	SE	14N 25E 16	0			0	0			
108	5 to 10	18672	changed by 72637				RFA	UG	SE	SE	14N 25E 16	0			0	0			
108	5 to 10	18712			5858	4/11/1960	CER	UG	SW	NW	14N 26E 32	2.56	IRR		155	620	AFS	LY	GABLE, O. D.
108	5 to 10	18729			7236	4/18/1960	CER	UG	SE	NW	14N 25E 04	3.5	IRR	Y	238	952	AFA	LY	JASON CORPORATION
108	5 to 10	18729	changed by 74584T				RFA	UG	SE	NW	14N 25E 04	0		Y	0	0			
108	5 to 10	18735			6421	4/19/1960	CER	UG	SE	NE	14N 25E 08	4.01	IRR		265	1060	AFA	LY	CHICO, JAMES V., JR.
108	5 to 10	18806			5979	5/5/1960	CER	UG	SW	SE	14N 26E 31	4	IRR		390	1560	AFA	LY	RITTER, JOHN G. JR.
108	5 to 10	18872	changed by 68003				PER	UG	SW	SE	14N 25E 08	0		Y	0	0			
108	5 to 10	18872	changed by 68004				PER	UG	SW	SE	14N 25E 08	0		Y	0	0			
108	5 to 10	18925			5978	6/13/1960	CER	UG	SE	SW	14N 25E 15	3.256	IRR	Y	354	1325	AFA	LY	BARBER, HARRIET H.
108	5 to 10	18925	changed by 69185				PER	UG	SE	SW	14N 25E 15	0		Y	0	0			
108	5 to 10	18931			6074	6/14/1960	CER	UG	SW	NE	14N 25E 02	5.4	IRR		401	1603	AFS	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	18934			6075	6/14/1960	CER	UG	SW	NE	14N 25E 25	5.4	IRR		296	1183	AFS	LY	WILDLIFE DIVISION-NEVADA

Selection Criteria: by PER,CER, VST, DEC, RSA, RES (Surface and Underground)

BASIN	DIST RANGE	APP	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
108	5 to 10	18986			5277	7/7/1960	CER	UG	NW	SW	14N 25E 34	3.51	IRR		329	924	AFA	LY	ARSENIO FAMILY TRUST
108	5 to 10	18986	changed by 58757				PER	UG	NW	SW	14N 25E 34	0			0	0			
108	5 to 10	19056	changed by 57865				CER	UG	SW	NE	14N 25E 27	0			0	0			
108	5 to 10	19056	changed by 57867				PER	UG	SW	NE	14N 25E 27	0			0	0			
108	5 to 10	19062			5826	7/22/1960	CER	UG	SE	NW	14N 26E 32	2.4	IRR		116	464	AFA	LY	MANHA, JOSEPH
108	5 to 10	19516			6599	1/30/1961	CER	UG	NE	NE	15N 25E 32	5.2	IRR		424	1694	AFA	LY	PALMER, ALFRED W.
108	5 to 10	19599			5997	2/24/1961	CER	UG	SE	SW	14N 26E 31	4.68	IRR		367	1130	AFS	LY	AIAZZI, RENO GEORGE
108	5 to 10	19661			6658	3/13/1961	CER	UG	SE	NE	14N 26E 32	4.84	IRR		310	1240	AFA	LY	LANDOLT, JOSEPH G. & BEVERLY JANE
108	5 to 10	19750			5927	4/13/1961	CER	UG	SE	SE	13N 26E 06	2.28	IRR		117	426	AFA	LY	CIRCLE BAR N RANCH
108	5 to 10	19750	changed by 68309				PER	UG	SE	SE	13N 26E 06	0			0	0			
108	5 to 10	19838			5920	5/10/1961	CER	UG	SE	SE	14N 25E 09	1	IRR		37	148	AFA	LY	COMPSTON, F.M.JR.
108	5 to 10	19839			6063	5/10/1961	CER	UG	SE	SE	14N 25E 09	2.6	IRR		136	544	AFA	LY	CLARENCE J. MOREDA FAMILY TRUST
108	5 to 10	19840			5950	7/31/1961	CER	UG	SE	SE	14N 25E 09	1.5	IRR		57	228	AFA	LY	FITZ, GEORGE O. & SUSAN A.
108	5 to 10	20821			7579	10/30/1962	CER	UG	NE	NW	14N 26E 18	2.7	IRR		106	423	AFS	LY	NDOW
108	5 to 10	22091	changed by 58753				PER	UG	SW	SE	14N 25E 04	0			0	0			
108	5 to 10	22169	changed by 58166				CER	UG	SE	SE	14N 25E 03	0			0	0			
108	5 to 10	22169	changed by 65262				PER	UG	SE	SE	14N 25E 03	0			0	0			
108	5 to 10	23202	changed by 26311				CER	UG	NE	NE	14N 25E 12	0			0	0			
108	5 to 10	23203	changed by 26312				CER	UG	SE	NE	14N 25E 01	0			0	0			
108	5 to 10	24013			8286	7/20/1967	CER	UG	NW	SE	13N 26E 05	4.5	IRR	Y	365	1460	AFA	LY	CIRCLE BAR N RANCH
108	5 to 10	25201			8955	8/5/1969	CER	UG	SE	NW	14N 25E 04	3.5	IRR	Y	186	744	AFA	LY	JASON CORPORATION
108	5 to 10	25916			9246	1/22/1971	CER	UG	SW	SW	14N 26E 26	2.7	IRR		158	632	AFA	LY	HENRY, DALE E.
108	5 to 10	26311		23202	8148	9/14/1971	CER	UG	NE	NE	14N 25E 12	5	IND	Y	0	3620	AFA	LY	SPPC
108	5 to 10	26312		23203	8149	9/14/1971	CER	UG	SE	NE	14N 25E 01	5	IND	Y	0	2240	AFA	LY	SPPC
108	5 to 10	8471			2020	3/2/1928	CER	SPR	NW	NE	11N 28E 18	0.024	STK		0	6	MGA	MI	CHARLEBOIS, A.
108	5 to 10	1237			422	12/29/1908	CER	OSW		N2	15N 25E 20	1.5	MM		0	354	MGA	LY	MASON VALLEY MINES CO.

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BASIN	DIST. RANGE	APP	CHANGED BY	CHANGED FROM	CERT.	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
108	5 to 10	1253			423	1/16/1909	CER	SPR		SW	15N 25E 15	0.25	MM		0	181	AFA	LY	MASON VALLEY MINES CO.
108	5 to 10	1254			424	1/16/1909	CER	SPR		SE	15N 25E 16	0.25	MM		0	181	AFA	LY	MASON VALLEY MINES CO.
108	5 to 10	1396			422	7/17/1909	CER	OSW		N2	15N 25E 20	1.5	MM		0	0	MGA	LY	MASON VALLEY MINES CO.
108	5 to 10	5285			568	10/11/1918	CER	SPR	SE	SW	11N 28E 18	0.025	STK		0	6	MGA	MI	DREYER, HERMAN L.
108	5 to 10	16546			5397	6/2/1955	CER	UG	SE	NE	15N 25E 28	0.002	DOM		0	0	MGS	LY	LARSON, LARS
108	5 to 10	16895	changed by 21582				CER	UG	SW	SE	14N 26E 34	0			0	0			
108	5 to 10	18819	changed by 68308				PER	UG	NW	NE	13N 26E 06	0			0	0			
108	5 to 10	18820			5697	5/9/1960	CER	UG	NE	SW	14N 26E 31	0.008999	STK		0	2	MGA	LY	AIAZZI, ANGELO
108	5 to 10	20369			5932	3/15/1962	CER	UG	SE	SW	14N 26E 34	1.7	IRR		62	247	AFA	LY	EASTERBY, DAVID & CARMALETTA
108	5 to 10	21582		16895	5813	10/14/1963	CER	UG	SW	SE	14N 26E 34	0.366	IRR		14	21	AFA	LY	MICHAEL FARETTO FAMILY 1996 TRUST
108	5 to 10	21582	changed by 67599				PER	UG	SW	SE	14N 26E 34	0			0	0			
108	5 to 10	23753		DWR-125	9074	3/15/1967	CER	STR	SE	NW	13N 25E 02	9.444	IRR		787	2524	AFS	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	23753	changed by 70649				PER	STR	SE	NW	13N 25E 02	0			0	0			
108	5 to 10	27123			8963	11/8/1972	CER	UG	SE	NE	14N 26E 32	2.5	IRR		126	504	AFA	LY	LANDOLT, JOSEPH & BEVERLY
108	5 to 10	27302			8919	2/21/1973	CER	UG	SW	SW	13N 25E 01	1	IRR		13	52	AFA	LY	AIAZZI, ESTELLE M.
108	5 to 10	27556	changed by 41985				PER	UG	NE	NW	13N 26E 10	0			0	0			
108	5 to 10	27839			8755	10/16/1973	CER	UG	SW	SE	14N 26E 29	3.4	IRR		175	700	AFA	LY	RITTER, JOHN G. JR.
108	5 to 10	27929			9415	11/30/1973	CER	UG	SE	SW	14N 25E 16	6	IRR		270	1081	AFA	LY	ROGERS, JANE T.
108	5 to 10	27943			8971	12/4/1973	CER	UG	SE	NE	14N 25E 08	2.55	IRR		100	400	AFA	LY	CHICO, JAMES V. JR.
108	5 to 10	28066	changed by 58752				PER	UG	SW	SW	14N 25E 10	0			0	0			
108	5 to 10	28290			8679	4/24/1974	CER	UG	NW	NE	13N 26E 08	1	IRR		22	86	AFA	LY	PETERSON, ANGEL DE'ANNE
108	5 to 10	28323	changed by 58758				PER	UG	SW	NE	14N 25E 15	0			0	0			
108	5 to 10	28619	changed by 68005				PER	UG	SW	SE	14N 25E 08	0		Y	0	0			
108	5 to 10	28619	changed by 68006				PER	UG	SW	SE	14N 25E 08	0		Y	0	0			
108	5 to 10	28743	changed by 68715				PER	UG	NW	SW	14N 26E 35	0			0	0			
108	5 to 10	28994	changed by 31565				CER	UG	SE	NW	13N 26E 10	0			0	0			

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BASIN	DIST. RANGE	APP	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
108	5 to 10	30068			10419	3/8/1976	CER	UG	NW	NW	13N 26E 07	5.69	IRR		362	1373	AFA	LY	CIRCLE BAR N RANCH
108	5 to 10	30068	changed by 68310				PER	UG	NW	NW	13N 26E 07	0			0	0			
108	5 to 10	30169			10420	4/13/1976	CER	UG	NE	NW	14N 25E 27	1.969	IRR	Y	556	706	AFA	LY	BARBER, HARRIET
108	5 to 10	30169	changed by 60704				CER	UG	NE	NW	14N 25E 27	0		Y	0	0			
108	5 to 10	30169	changed by 69187				PER	UG	NE	NW	14N 25E 27	0		Y	0	0			
108	5 to 10	30191	changed by 68007				PER	UG	SW	SW	14N 25E 08	0		Y	0	0			
108	5 to 10	30191	changed by 68008				PER	UG	SW	SW	14N 25E 08	0		Y	0	0			
108	5 to 10	30192	changed by 58755				PER	UG	SW	NE	15N 25E 34	0			0	0			
108	5 to 10	30192	changed by 68399				PER	UG	SW	NE	15N 25E 34	0			0	0			
108	5 to 10	30259			10421	5/18/1976	CER	UG	NW	SE	13N 25E 01	6	IRR		337	1346	AFS	LY	DAVID M. LITTLE FAMILY TRUST 5/26/96
108	5 to 10	30263			10703	5/20/1976	CER	UG	SE	NE	13N 26E 07	2.662	IRR		145	572	AFA	LY	CIRCLE BAR N RANCH
108	5 to 10	30263	changed by 68311				PER	UG	SE	NE	13N 26E 07	0			0	0			
108	5 to 10	30265			10704	5/20/1976	CER	UG	SW	SE	13N 26E 05	0.5	IRR		20	80	AFA	LY	MACKAY, BONNIE BELLE
108	5 to 10	30383			11026	7/9/1976	CER	UG	NW	SE	13N 26E 09	3.3	IRR	Y	194	776	AFA	LY	CIRCLE BAR N RANCH, LLC
108	5 to 10	30383	changed by 72135				RFA	UG	NW	SE	13N 26E 09	0		Y	0	0			
108	5 to 10	30521			10423	8/13/1976	CER	UG	NE	SW	13N 26E 04	4.45	IRR	Y	386	1544	AFA	LY	CIRCLE BAR N RANCH
108	5 to 10	30830	changed by 51014				CER	UG	NE	NE	14N 25E 05	0			0	0			
108	5 to 10	30990			11027	1/12/1977	CER	UG	SW	SE	14N 26E 32	5.4	IRR		332	1328	AFA	LY	THOMPSON, CLIFFORD A.
108	5 to 10	31565		28994	9865	5/10/1977	CER	UG	SE	SW	13N 26E 03	0.4	QM	Y	0	7	MGA	LY	CRYSTAL CLEAR WATER CO INC
108	5 to 10	31826			10364	5/24/1977	CER	UG	SE	SE	14N 26E 19	0.011	STK		0	3	MGA	LY	AIAZZI, RENO
108	5 to 10	35325		17687	11424	4/21/1978	CER	UG	NW	NW	13N 26E 02	1	IRR		42	166	AFA	LY	CIRCLE BAR N RANCH, LLC
108	5 to 10	35325	changed by 74571				APP	UG	NW	NW	13N 26E 02	0			0	0			
108	5 to 10	35867			10794	9/11/1978	CER	UG	SE	SW	13N 25E 12	0.005	REC		0	1	MGA	LY	LYON COUNTY
108	5 to 10	41155			10737	4/23/1980	CER	UG	NE	NW	13N 26E 16	0.1	QM		0	0	MGA	LY	MOSS, JIM
108	5 to 10	41985		27556		8/8/1980	PER	UG	NE	NW	13N 26E 10	1	QM	Y	0	6	MGA	LY	CRYSTAL CLEAR WATER CO INC
108	5 to 10	45594		28326	11914	4/27/1982	CER	UG	NE	SW	15N 25E 21	1.604	IND	Y	0	1131	AFA	LY	BREAK-A-HEART, LLC

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108	5 to 10	47644			15165	2/2/1984	CER	GEO	NW	SW	15N 25E 15	1.516	IND	Y	0	1098	AFA	LY	HOMESTRETCH GEOTHERMAL, LLC
108	5 to 10	47644	changed by 74003				RFA	GEO	NW	SW	15N 25E 15	0		Y	0	0			
108	5 to 10	47644	changed by 74004				RFA	GEO	NW	SW	15N 25E 15	0		Y	0	0			
108	5 to 10	47645	changed by 62362				CER	GEO	NE	SE	15N 25E 16	0			0	0			
108	5 to 10	47650			12669	2/3/1984	CER	UG	NW	SE	13N 27E 08	0.011	STK		0	1	MGS	LY	HILTON, BARRON
108	5 to 10	48283			13035	8/8/1984	CER	UG	NW	NE	13N 26E 09	0.007	QM		0	0	MGA	LY	WERNER, KURT M & NANCY J
108	5 to 10	48283	changed by 72107				RFA	UG	NW	NE	13N 26E 09	0			0	0			
108	5 to 10	48636			13037	12/17/1984	CER	UG	SE	SE	13N 26E 04	0.035	QM		0	0	MGA	LY	TRINITY EVANGELICAL FREE CHURCH
108	5 to 10	48730	changed by 58756				PER	UG	NW	SW	14N 25E 10	0			0	0			
108	5 to 10	48730	changed by 58759				PER	UG	NW	SW	14N 25E 10	0			0	0			
108	5 to 10	49093			12468	5/30/1985	CER	UG	SE	SE	13N 26E 03	0.005	QM		0	0	MGA	LY	YEAGLEY, JUNE I.
108	5 to 10	50520	changed by 58168				CER	UG	SE	SE	14N 25E 03	0			0	0			
108	5 to 10	50520	changed by 58170				CER	UG	SE	SE	14N 25E 03	0			0	0			
108	5 to 10	50520	changed by 65263				PER	UG	SE	SE	14N 25E 03	0			0	0			
108	5 to 10	50702	changed by 60557				CER	UG	NE	SW	14N 26E 18	0			0	0			
108	5 to 10	50703	changed by 60558				CER	UG	NE	SW	14N 26E 18	0			0	0			
108	5 to 10	50704		33521	13649	3/19/1987	CER	UG	SE	NW	14N 26E 18	0.15	WLD	Y	0	109	AFA	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	50704	changed by 60559				CER	UG	SE	NW	14N 26E 18	0		Y	0	0			
108	5 to 10	50706	changed by 60560				CER	UG	NE	NW	14N 26E 18	0			0	0			
108	5 to 10	50707	changed by 60561				CER	UG	NE	NW	14N 26E 18	0			0	0			
108	5 to 10	54391				1/30/1990	PER	UG	SE	SW	13N 26E 03	0.25	QM	Y	0	1	MGA	LY	CRYSTAL CLEAR WATER CO., INC.
108	5 to 10	57254		18444	15083	3/2/1992	CER	UG	SE	NE	14N 26E 34	1.225	IRR		70	280	AFA	LY	AMMONS, JAMES T.
108	5 to 10	57254	changed by 72402				RFA	UG	SE	NE	14N 26E 34	0			0	0			
108	5 to 10	57865		19056	15423	7/17/1992	CER	UG	SW	NE	14N 25E 27	0.01	STK		0	4	AFS	LY	TWOMBLY, C. W.
108	5 to 10	57866		18633	14709	7/17/1992	CER	UG	SW	NE	14N 25E 27	2.7	IRR		138	553	AFS	LY	POLI, JOHN
108	5 to 10	58105			15281	9/18/1992	CER	UG	SW	SW	14N 25E 25	0.006	STK		0	1	MGA	LY	EWERT FAMILY 1995 TRUST

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108	5 to 10	58170		50520	14473	10/2/1992	CER	UG	SW	SW	14N 25E 03	0.026	COM		2	3	AFA	LY	SNODDY, MELVIN V.
108	5 to 10	28326	changed by 45594				CER	UG	NE	SW	15N 25E 21	0			0	0			
108	5 to 10	28326	changed by 51100				PER	UG	NE	SW	15N 25E 21	0			0	0			
108	5 to 10	30218			9432	5/4/1976	CER	UG	NW	SE	14N 26E 34	0.166	IRR		65	31	AFA	LY	MICHAEL FARETTO FAMILY 1996 TRUST
108	5 to 10	30218	changed by 67210				PER	UG	NW	SE	14N 26E 34	0			0	0			
108	5 to 10	30409			10422	7/21/1976	CER	UG	SW	SW	14N 25E 04	5.75	IRR		336	1346	AFA	LY	DESERT PEARL FARMS, LLC
108	5 to 10	30866	changed by 56007				CER	UG	NW	SW	15N 25E 15	0			0	0			
108	5 to 10	30867			11225	12/1/1976	CER	GEO	NE	SE	15N 25E 16	1	IND	Y	0	80	AFA	LY	BREAK-A-HEART, LLC
108	5 to 10	30868			11226	12/1/1976	CER	GEO	NE	SE	15N 25E 16	1.156	IND	Y	0	160	AFA	LY	BREAK-A-HEART, LLC
108	5 to 10	33522			10269	9/9/1977	CER	UG	SE	SE	13N 25E 01	0.018	STK		0	4	MGA	LY	TAMAGNI, JANICE
108	5 to 10	41524			16024	6/13/1980	CER	SPR	NW	NE	11N 28E 18	0.0062	STK		0	1	MGA	MI	ELW RANCHES, INC.
108	5 to 10	41525			16025	6/13/1980	CER	SPR	NE	SW	11N 28E 18	0.0062	STK		0	1	MGA	MI	ELW RANCHES, INC.
108	5 to 10	41526			16026	6/13/1980	CER	SPR	SE	SW	11N 28E 19	0.01114	STK		0	3	MGA	MI	ELW RANCHES
108	5 to 10	43168			11731	2/2/1981	CER	UG	SE	SE	13N 26E 08	0.09	QM		0	0	MGA	LY	BLEVINS, CCURTIS
108	5 to 10	44503			11016	9/25/1981	CER	UG	NE	NW	13N 26E 16	0.001	STK		0	0	MGA	LY	MOSS, JIM
108	5 to 10	45184			11853	1/7/1982	CER	GEO	NE	SE	15N 25E 16	1.12	IND	Y	0	808	AFA	LY	BREAK-A-HEART, LLC
108	5 to 10	45323				2/11/1982	PER	UG	SW	NW	14N 25E 03	0.5	COM		0	2	MGA	LY	MASINI INVESTMENTS
108	5 to 10	45595			11242	4/27/1982	CER	GEO	NE	SW	15N 25E 21	0.4	IND	Y	0	61	AFA	LY	BREAK-A-HEART, LLC
108	5 to 10	45718				5/25/1982	PER	UG	SE	SW	13N 26E 03	1	QM	Y	0	47	MGA	LY	CRYSTAL CLEAR WATER CO. INC.
108	5 to 10	45784	changed by 72578				PER	UG	SW	NW	14N 26E 35	0			0	0			
108	5 to 10	46884			12666	5/5/1983	CER	UG	NE	NE	13N 26E 09	0.005	QM		0	1	MGA	LY	SHATTUCK, LOREN F.
108	5 to 10	47111				8/1/1983	RFP	OSW	SW	SE	14N 25E 16	6	IRR		200	800	AFA	LY	YERINGTON PAIUTE TRIBE
108	5 to 10	47112				8/1/1983	RFP	OSW	NW	SE	14N 25E 16	6	IRR		200	800	AFA	LY	YERINGTON PAIUTE TRIBE
108	5 to 10	47672			12329	2/10/1984	CER	UG		LT03	13N 26E 02	0.018	STK		0	4	MGA	LY	CIRCLE BAR N RANCH
108	5 to 10	48290		16580	12671	8/13/1984	CER	UG	SW	NW	14N 26E 35	0.137	IRR		11	44	AFA	LY	MADDOCK, DOUGLAS W.
108	5 to 10	49413			11535	9/25/1985	CER	UG	NW	SW	12N 27E 04	0.008999	STK		0	1	MGS	MI	BLM

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108	5 to 10	49690				2/5/1986	PER	GEO	NW	SW	15N 25E 15	1	WLD		0	724	AFA	LY	BREAK-A-HEART, LLC
108	5 to 10	49836			12446	4/18/1986	CER	UG	NW	SE	13N 27E 32	0.01	STK		0	2	MGA	MI	BLM
108	5 to 10	50521	changed by 58174				CER	UG	SE	NE	14N 25E 10	0			0	0			
108	5 to 10	50668			12559	3/6/1987	CER	UG	NW	SW	13N 26E 17	0.004	STK		0	1	MGA	LY	FRADE RANCHES, INC.
108	5 to 10	51014		30830	12836	6/10/1987	CER	UG	NE	NE	14N 25E 05	5.1	IRR	Y	308	1234	AFA	LY	JASON CORP.
108	5 to 10	51014	changed by 74585T				RFA	UG	NE	NE	14N 25E 05	0		Y	0	0			
108	5 to 10	51100		28326		7/9/1987	PER	UG	NE	SW	15N 25E 21	0.33	IND	Y	0	239	AFA	LY	BREAK-A-HEART, LLC
108	5 to 10	51547			15166	11/9/1987	CER	GEO	NW	SW	15N 25E 15	1.53	IND	Y	0	1085	AFA	LY	HOMESTRETCH GEOTHERMAL, LLC
108	5 to 10	51547	changed by 73999				RFA	GEO	NW	SW	15N 25E 15	0		Y	0	0			
108	5 to 10	54278				12/28/1989	PER	EFF	SE	SW	14N 25E 28	1	OTH		0	6	AFA	LY	LYON COUNTY
108	5 to 10	56007		30866	15171	3/18/1991	CER	GEO	NW	SW	15N 25E 15	0.23	IND	Y	0	160	AFA	LY	HOMESTRETCH GEOTHERMAL, LLC
108	5 to 10	56007	changed by 74000				RFA	GEO	NW	SW	15N 25E 15	0		Y	0	0			
108	5 to 10	57867		19056		7/17/1992	PER	UG	SW	NE	14N 25E 27	2.99	IRR		402	1448	AFS	LY	TWOMBLY, C.W.
108	5 to 10	58174		50521	14255	10/2/1992	CER	UG	NW	SE	14N 25E 21	0.663	IRR		117	467	AFA	LY	CLIFF, DONALD A.
108	5 to 10	58752		28066		4/16/1993	PER	UG	SW	SW	14N 25E 10	5.24	IRR	Y	1237	2928	AFA	LY	LAWRENCE C. MASINI RANCH
108	5 to 10	58753		22091		4/16/1993	PER	UG	SW	SE	14N 25E 04	5.4	IRR	Y	662	2296	AFA	LY	LAWRENCE C. MASINI RANCH
108	5 to 10	58754	changed by 71553				PER	UG	SW	NE	14N 25E 15	0		Y	0	0			
108	5 to 10	59367				11/5/1993	PER	UG	SE	SW	13N 26E 03	2	QM	Y	0	1	MGA	LY	CRYSTAL CLEAR WATER CO. INC.
108	5 to 10	60557		50702	15336	10/4/1994	CER	UG	NE	SW	14N 26E 18	3	REC	Y	0	862	AFA	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	60558		50703	15337	10/4/1994	CER	UG	NE	SW	14N 26E 18	3	REC	Y	0	862	AFA	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	60559		50704	15338	10/4/1994	CER	UG	SE	NW	14N 26E 18	1.63	REC	Y	0	1180	AFA	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	60560		50706	15339	10/4/1994	CER	UG	NE	NW	14N 26E 18	3	REC	Y	0	845	AFA	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	60561		50707	15340	10/4/1994	CER	UG	NE	NW	14N 26E 18	3	REC	Y	0	845	AFA	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	60704		30169	15531	12/13/1994	CER	UG	SW	NW	14N 25E 27	3.937	IRR	Y	556	2188	AFA	LY	BARBER, HARRIET
108	5 to 10	60704	changed by 69186				PER	UG	SW	NW	14N 25E 27	0		Y	0	0			
108	5 to 10	61575				9/27/1995	PER	UG	NE	NE	14N 25E 12	3	WLD	Y	0	2000	AFA	LY	SPPC

Selection Criteria: by PER,CER, VST, DEC, RSA, RES (Surface and Underground)

BASIN	DIST. RANGE	APP	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
108	5 to 10	61575	changed by 69064				RFA	UG	NE	NE	14N 25E 12	0		Y	0	0			
108	5 to 10	62316				7/23/1996	PER	UG	NW	NE	13N 26E 17	0.1	COM		0	1	MGA	LY	FAIRBANKS, R.L.
108	5 to 10	62362		47645	15295	8/7/1996	CER	GEO	NW	SW	15N 25E 15	0.624	IND	Y	0	451	AFA	LY	HOMETRETCH GEOTHERMAL, LLC
108	5 to 10	62362	changed by 74005				RFA	GEO	NW	SW	15N 25E 15	0		Y	0	0			
108	5 to 10	62461				9/12/1996	PER	GEO	NW	SW	15N 25E 15	1.8	WLD		0	1303	AFA	LY	HOMESTRETCH GEOTHERMAL, LLC
108	5 to 10	62461	changed by 74006				RFA	GEO	NW	SW	15N 25E 15	0			0	0			
108	5 to 10	62495			16372	10/2/1996	CER	UG	NE	NW	13N 26E 09	0.0028	COM		0	2	AFA	LY	RUBERT, LOTUS R. & PEGGY J.
108	5 to 10	64604		63183		11/12/1998	PER	UG	NE	NW	14N 26E 18	0.98	REC	Y	0	182	AFA	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	64606		63182		11/12/1998	PER	UG	SE	NW	14N 26E 18	0.27	REC	Y	0	50	AFA	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	64607		63182		11/12/1998	PER	UG	NE	NW	14N 26E 18	0.98	REC	Y	0	182	AFA	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	64608		63181		11/12/1998	PER	UG	SE	NW	14N 26E 18	0.71	REC	Y	0	132	AFA	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	64610		63179		11/12/1998	PER	UG	NE	SW	14N 26E 18	0.865	REC	Y	0	160	AFA	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	64611		63179		11/12/1998	PER	UG	NE	SW	14N 26E 18	0.865	REC	Y	0	160	AFA	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	65001		14632		4/2/1999	PER	UG	SW	SE	13N 26E 08	0.048	IRR		0	17	AFA	LY	TISCARENO, JUAN & HOPE
108	5 to 10	65001	changed by 65001R01				RFA	UG	SW	SE	13N 26E 08	0			0	0			
108	5 to 10	65001	changed by 74255				RFA	UG	SW	SE	13N 26E 08	0			0	0			
108	5 to 10	65096	changed by 66303				PER	UG	SE	NE	14N 25E 10	0		Y	0	0			
108	5 to 10	65096	changed by 68401				PER	UG	SE	NE	14N 25E 10	0		Y	0	0			
108	5 to 10	65262		22169		7/1/1999	PER	UG	SE	SE	14N 25E 03	3.815	IRR	Y	85	874	AFA	LY	LAWRENCE C. MASINI RANCH
108	5 to 10	65263		50520		7/1/1999	PER	UG	SE	SE	14N 25E 03	1.134	IRR	Y	85	508	AFA	LY	LAWRENCE C. MASINI RANCH
108	5 to 10	65264		59760		7/1/1999	PER	UG	SW	NE	14N 25E 10	4	IRR	Y	85	720	AFA	LY	LAWRENCE C. MASINI RANCH
108	5 to 10	65265		59761		7/1/1999	PER	UG	SW	NE	14N 25E 10	1.117	IRR	Y	85	809	AFA	LY	LAWRENCE C. MASINI RANCH
108	5 to 10	65777		56798		1/6/2000	PER	UG	SW	NE	15N 25E 34	0.407	IRR		0	117	AFA	LY	DESERT PEARL FARMS
108	5 to 10	65777	changed by 71681				RFA	UG	SW	NE	15N 25E 34	0			0	0			
108	5 to 10	65778		61127		1/6/2000	PER	UG	SW	NE	15N 25E 34	0.875	IRR		0	149	AFA	LY	DESERT PEARL FARMS
108	5 to 10	65778	changed by 71682				RFA	UG	SW	NE	15N 25E 34	0			0	0			

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BASIN	DIST RANGE	APP	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
108	5 to 10	65779		61128		1/6/2000	PER	UG	SW	NE	15N 25E 34	0.136	IRR		0	34	AFA	LY	DESERT PEARL FARMS
108	5 to 10	65779	changed by 71683				RFA	UG	SW	NE	15N 25E 34	0			0	0			
108	5 to 10	66112		28547		2/29/2000	PER	UG	NW	SW	14N 26E 19	0.25	COM	Y	0	12	MGA	LY	SUNRISE RANCH LLC
108	5 to 10	66887		15946		10/17/2000	PER	UG	SW	NW	14N 26E 30	0.105	IRR	Y	0	6	AFA	LY	SUNRISE RANCH, LLC.
108	5 to 10	66887	changed by 73812				APP	UG	SW	NW	14N 26E 30	0		Y	0	0			
108	5 to 10	66887	changed by 74230T				PER	UG	SW	NW	14N 26E 30	0		Y	0	0			
108	5 to 10	66888	changed by 73811				APP	UG	SW	NW	14N 26E 30	0		Y	0	0			
108	5 to 10	66888	changed by 74231T				PER	UG	SW	NW	14N 26E 30	0		Y	0	0			
108	5 to 10	66889		15946		10/17/2000	PER	UG	NW	SW	14N 26E 19	0.33	COM	Y	0	20	AFA	LY	SUNRISE RANCH, LLC.
108	5 to 10	66896		15946		10/24/2000	PER	UG	SE	NW	14N 26E 26	0.4645	IRR	Y	30	28	AFA	LY	WIANT, JOHN M.
108	5 to 10	67133		14632		1/11/2001	PER	UG	NW	NW	13N 26E 02	0.171	IRR		10	28	AFA	LY	FRANCIS W. HANSON FAMILY TRUST
108	5 to 10	67133	changed by 67133R01				RFA	UG	NW	NW	13N 26E 02	0			0	0			
108	5 to 10	67133	changed by 68629				PER	UG	NW	NW	13N 26E 02	0			0	0			
108	5 to 10	67133	changed by 68630				PER	UG	NW	NW	13N 26E 02	0			0	0			
108	5 to 10	67947		18672		8/22/2001	PER	UG	SE	SE	14N 25E 16	0.334	IRR		0	73	AFA	LY	JOHN & LEONA HEIMERMAN F. TRUST
108	5 to 10	67947	changed by 73859				RFA	UG	SE	SE	14N 25E 16	0			0	0			
108	5 to 10	68003		18872		9/14/2001	PER	UG	SE	NE	14N 25E 10	0.25	IRR	Y	0	139	AFA	LY	MASINI INVESTMENTS
108	5 to 10	68004		18872		9/14/2001	PER	UG	SW	SE	14N 25E 08	3.75	IRR	Y	0	2101	AFA	LY	DESERT PEARL FARMS
108	5 to 10	68006		28619		9/14/2001	PER	UG	SW	SE	14N 25E 08	1.68	IRR	Y	0	308	AFA	LY	DESERT PEARL FARMS
108	5 to 10	68055		18672		10/1/2001	PER	UG	NE	SE	14N 25E 16	0.092	IRR		37	20	AFS	LY	CLARENCE J. MOREDA FAMILY TRUST
108	5 to 10	68308		18819		12/13/2001	PER	UG	NE	NE	13N 26E 05	0.0078	STK		0	6	AFA	LY	CIRCLE BAR "N" RANCH
108	5 to 10	68309		19750		12/13/2001	PER	UG	NW	SE	13N 26E 05	0.22	IRR	Y	0	42	AFA	LY	CIRCLE BAR "N" RANCH
108	5 to 10	68310		30068		12/13/2001	PER	UG	NW	SE	13N 26E 05	0.31	IRR	Y	0	76	AFA	LY	CIRCLE BAR "N" RANCH
108	5 to 10	68311		30263		12/13/2001	PER	UG	NW	SE	13N 26E 05	0.038	IRR	Y	0	8	AFA	LY	CIRCLE BAR "N" RANCH
108	5 to 10	68399		30192		1/22/2002	PER	UG	SE	NE	14N 25E 11	2.73	IRR	Y	0	612	AFA	LY	L & M FAMILY LIMITED PARTNERSHIP
108	5 to 10	68400		30447		1/22/2002	PER	UG	SE	SE	14N 25E 03	1.45	IRR	Y	0	457	AFA	LY	L & M FAMILY LIMITED PARTNERSHIP

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108	5 to 10	68401		65096		1/22/2002	PER	UG	SE	NE	14N 25E 11	1.32	IRR	Y	0	235	AFS	LY	L & M FAMILY LIMITED PARTNERSHIP
108	5 to 10	69185		18925		9/30/2002	PER	UG	NW	SE	13N 25E 01	0.224	IRR	Y	0	91	AFA	LY	BARBER, S. MORGAN & HARRIET
108	5 to 10	69186		60704		9/30/2002	PER	UG	NW	SW	13N 25E 01	0.063	IRR	Y	0	35	AFA	LY	BARBER, S. MORGAN & HARRIET
108	5 to 10	69187		30169		9/30/2002	PER	UG	NW	SE	13N 25E 01	0.031	IRR	Y	0	35	AFA	LY	BARBER, S. MORGAN & HARRIET
108	5 to 10	69190		66139		9/30/2002	PER	UG	NW	SE	13N 25E 01	0.474	IRR	Y	0	123	AFA	LY	DAVID M. LITTLE FAMILY TRUST AGMT.
108	5 to 10	69192		41363		9/30/2002	PER	UG	NW	SE	13N 25E 01	0.108	IRR	Y	0	43	AFA	LY	DAVID M. LITTLE FAMILY TRUST 5/2/96
108	5 to 10	70229		67906		7/16/2003	PER	UG	NE	SW	14N 25E 25	0.1	IRR	Y	0	48	AFA	LY	EWERT FAMILY 1995 TRUST
108	5 to 10	70230		67907		7/16/2003	PER	UG	NE	SW	14N 25E 25	1.34	IRR	Y	0	152	AFA	LY	EWERT FAMILY 1995 TRUST
108	5 to 10	71553		58754		8/10/2004	PER	UG	SW	SW	15N 25E 34	3	IRR	Y	0	301	AFA	LY	LAWRENCE C. MASINI RANCH
108	5 to 10	58755		30192		4/16/1993	PER	UG	SW	NE	15N 25E 34	2.67	IRR	Y	150	600	AFA	LY	LAWRENCE C. MASINI RANCH
108	5 to 10	58756		48730		4/16/1993	PER	UG	NW	SW	14N 25E 10	4.89	IRR	Y	946	1159	AFA	LY	LAWRENCE C. MASINI RANCH
108	5 to 10	58757		18986		4/16/1993	PER	UG	SW	NE	14N 25E 15	1.49	IRR	Y	1377	392	AFA	LY	LAWRENCE C. MASINI RANCH
108	5 to 10	58758		28323		4/16/1993	PER	UG	SW	NE	14N 25E 15	2.2	IRR	Y	0	219	AFA	LY	LAWRENCE C. MASINI RANCH
108	5 to 10	58759		48730		4/16/1993	PER	UG	SW	NE	14N 25E 15	0.51	IRR	Y	0	121	AFA	LY	LAWRENCE C. MASINI RANCH
108	5 to 10	59760	changed by 65264				PER	UG	SW	NE	14N 25E 10	0			0	0			
108	5 to 10	59761	changed by 65265				PER	UG	SW	NE	14N 25E 10	0			0	0			
108	5 to 10	61207			14927	5/5/1995	CER	UG	SW	SW	15N 25E 22	0.08	IND	Y	0	9	AFA	LY	O'SULLIVAN PLASTICS CORPORATION
108	5 to 10	61208			14928	5/5/1995	CER	UG	SW	SW	15N 25E 22	0.1	IND	Y	0	9	AFA	LY	O'SULLIVAN PLASTICS CORPORATION
108	5 to 10	61710				11/29/1995	PER	UG	SE	SE	15N 25E 21	0.022	COM		0	2	AFA	LY	MILLER, MITCHELL
108	5 to 10	62460				9/12/1996	PER	GEO	NW	SW	15N 25E 15	1.7	WLD		0	1231	AFA	LY	HOMESTRETCH GEOTHERMAL, LLC
108	5 to 10	62460	changed by 74001				RFA	GEO	NW	SW	15N 25E 15	0			0	0			
108	5 to 10	64646		63183		11/30/1998	PER	UG	SE	NW	14N 26E 18	0.216	QM		0	40	AFA	LY	WILDLIFE DIVISION-NEVADA
108	5 to 10	66139		38330		3/13/2000	PER	UG	NW	NE	14N 25E 22	0.096	COM		0	25	AFA	LY	DAVID M. LITTLE FAMILY TRUST AGMT.
108	5 to 10	66139	changed by 69190				PER	UG	NW	NE	14N 25E 22	0			0	0			
108	5 to 10	68398		29299		1/22/2002	PER	UG	SE	SE	14N 25E 03	1.91	IRR	Y	0	457	AFS	LY	L & M FAMILY LIMITED PARTNERSHIP
108	5 to 10	69064		61575		8/9/2002	RFA	UG	NE	NE	14N 25E 12	3	REC		0	0	AFA	LY	WILDLIFE DIVISION- NEVADA

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108	5 to 10	69390		18703		12/13/2002	RFA	UG	SE	NW	13N 25E 12	1.746	IRR		0	408	AFA	LY	CIRCLE BAR "N" RANCH
108	5 to 10	70402				9/12/2003	PER	GEO	NW	SW	15N 25E 15	6	IND	Y	0	3099	AFA	LY	HOMESTRETCH ENERGY
108	5 to 10	70402	changed by 74002				RFA	GEO	NW	SW	15N 25E 15	0		Y	0	0			
108	5 to 10	70403				9/12/2003	PER	GEO	NW	SW	15N 25E 15	6	IND	Y	0	2795	AFA	LY	HOMESTRETCH ENERGY
108	5 to 10	70403	changed by 74007				RFA	GEO	NW	SW	15N 25E 15	0		Y	0	0			
108	5 to 10	70649		23753		11/19/2003	PER	STR	SE	NW	13N 25E 02	50.957	WLD		0	13588	AFA	LY	WILDLIFE DEPARTMENT-NEVADA
108	5 to 10	70649		DWR-12		11/19/2003	PER	STR	SE	NW	13N 25E 02	50.957	WLD		0	13588	AFA	LY	WILDLIFE DEPARTMENT-NEVADA
108	5 to 10	70649		DWR-141		11/19/2003	PER	STR	SE	NW	13N 25E 02	50.957	WLD		0	13588	AFA	LY	WILDLIFE DEPARTMENT-NEVADA
108	5 to 10	70649		DWR-229		11/19/2003	PER	STR	SE	NW	13N 25E 02	50.957	WLD		0	13588	AFA	LY	WILDLIFE DEPARTMENT-NEVADA
108	5 to 10	70649		DWR-41		11/19/2003	PER	STR	SE	NW	13N 25E 02	50.957	WLD		0	13588	AFA	LY	WILDLIFE DEPARTMENT-NEVADA
108	5 to 10	70677				12/5/2003	RFA	GEO	NW	SW	15N 25E 15	12	STO		0	8688	AFA	LY	HOMESTRETCH ENERGY
108	5 to 10	70677	changed by 74008				RFA	GEO	NW	SW	15N 25E 15	0			0	0			
108	5 to 10	71092		30992		4/21/2004	PER	UG	NE	SW	14N 25E 25	0.5046	IRR		0	100	AFA	LY	HOLBROOK, RICHARD & CONSTANCE TRUST
108	5 to 10	71680		56798		9/10/2004	RFA	UG	SW	SW	14N 25E 04	0.333	IRR		0	95	AFA	LY	DESERT PEARL FARMS
108	5 to 10	71681		65777		9/10/2004	RFA	UG	SW	SW	14N 25E 04	0.407	IRR		0	117	AFA	LY	DESERT PEARL FARMS
108	5 to 10	71682		65778		9/10/2004	RFA	UG	SW	SW	14N 25E 04	0.875	IRR		0	149	AFA	LY	DESERT PEARL FARMS
108	5 to 10	71683		65779		9/10/2004	RFA	UG	SW	SW	14N 25E 04	0.136	IRR		0	34	AFA	LY	DESERT PEARL FARMS
108	5 to 10	71684		66303		9/10/2004	RFA	UG	SW	SW	14N 25E 04	0.56	IRR		0	100	AFA	LY	DESERT PEARL FARMS
108	5 to 10	71685		68007		9/10/2004	RFA	UG	SW	SW	14N 25E 04	0.073	IRR		0	53	AFA	LY	DESERT PEARL FARMS
108	5 to 10	72107		48283		1/6/2005	RFA	UG	NW	NE	13N 26E 09	0.0007	COM		0	0	MGA	LY	WERNER, KURT M & NANCY
108	5 to 10	72134		17100		1/20/2005	RFA	UG	SE	NW	13N 25E 12	2	IRR		0	21	AFA	LY	CIRCLE BAR N RANCH, A NEVADA LLC
108	5 to 10	72135		30383		1/20/2005	RFA	UG	SE	NW	13N 25E 12	3.3	IRR		0	776	AFA	LY	CIRCLE BAR N RANCH, A NEVADA LLC
108	5 to 10	72637		18672		4/19/2005	RFA	UG	SE	SE	14N 25E 16	0.15	IRR		0	33	AFA	LY	HISKETT, CARL WILLIAM & PHILLIS ANN
108	5 to 10	73873		17100		2/23/2006	RFA	UG	SW	SE	13N 26E 06	0.0139	IRR		0	10	AFA	LY	CIRCLE BAR N RANCH, LLC
108	5 to 10	73999		51547		3/16/2006	RFA	GEO	NW	SW	15N 25E 15	1.53	IND		0	1085	AFA	LY	HOMESTRETCH GEOTHERMAL, LLC
108	5 to 10	74000		56007		3/16/2006	RFA	GEO	NW	SW	15N 25E 15	0.23	IND		0	160	AFA	LY	HOMESTRETCH GEOTHERMAL, LLC

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BASIN	DIST. RANGE	APP.	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
108	5 to 10	74001		62460		3/16/2006	RFA	GEO	NW	SW	15N 25E 15	1.7	WLD		0	0	AFA	LY	HOMESTRETCH GEOTHERMAL, LLC
108	5 to 10	74002		70402		3/16/2006	RFA	GEO	NW	SW	15N 25E 15	6	IND		0	3099	AFA	LY	HOMESTRETCH ENERGY
108	5 to 10	74003		47644		3/16/2006	RFA	GEO	NW	SW	15N 25E 15	0.6906	MUN		0	500	AFA	LY	HOMESTRETCH GEOTHERMAL, LLC
108	5 to 10	74004		47644		3/16/2006	RFA	GEO	NW	SW	15N 25E 15	0.8254	IND		0	598	AFA	LY	HOMESTRETCH GEOTHERMAL, LLC
108	5 to 10	74005		62362		3/16/2006	RFA	GEO	NW	SW	15N 25E 15	0.624	IND		0	147	MGA	LY	HOMESTRETCH GEOTHERMAL, LLC
108	5 to 10	74006		62461		3/16/2006	RFA	GEO	NW	SW	15N 25E 15	1.8	WLD		0	0	MGA	LY	HOMESTRETCH GEOTHERMAL, LLC
108	5 to 10	74007		70403		3/16/2006	RFA	GEO	NW	SW	15N 25E 15	6	IND		0	2795	AFA	LY	HOMESTRETCH ENERGY
108	5 to 10	74008		70677		3/16/2006	RFA	GEO	NW	SW	15N 25E 15	12	STO		0	8710	AFA	LY	HOMESTRETCH ENERGY
108	5 to 10	74228		19077		4/20/2006	RFA	UG	SW	NW	14N 26E 30	0.442	IRR		0	320	AFA	LY	SUNRISE RANCH LLC
108	5 to 10	74255		65001		4/28/2006	RFA	UG	SE	SE	14N 26E 34	0.0223	IRR		0	8	AFA	LY	TPKW FAMILY LIMITED PARTNERSHIP
108	5 to 10	74571		35325		7/28/2006	APP	UG	SE	NW	13N 25E 12	1	IRR		0	166	AFA	LY	CIRCLE BAR N RANCH, A NEVADA LLC
108	5 to 10	15946R01		15946		5/17/2001	RLP	UG	SE	NW	14N 26E 26	0.034	IRR		0	2	AFA	LY	WIANT, JOHN M.& MARGARET H.
108	5 to 10	65001R01		65001		7/7/2006	RFA	UG	SW	SE	13N 26E 08	0.0113	IRR		0	4	AFA	LY	WESTERMAN, THEODORE N. & PAULA S.
108	5 to 10	67133R01		67133		3/7/2006	RFA	UG	NW	NW	13N 26E 02	0.01234	IRR		0	2	AFA	LY	HANSON, GARY AND BEVERLY
108	5 to 10	72173T		15425		1/28/2005	RFA	UG	SE	NW	13N 25E 12	1	IRR		0	0	AFA	LY	TIBBALS FAMILY TRUST AGREEMENT
108	5 to 10	V01629				6/27/1919	VST	SPR	SE	SW	11N 28E 18	0.025	STK		0	0		MI	SORENSON,MARTIN AND IRENE SORENSON
110A	0 to 1	182			98	8/12/1906	CER	STR	SE	SW	13N 28E 04	0.32	IRR		32	0		MI	WALKER RIVER INDIAN RESERVATION
110A	2 to 5	49722	changed by 49923				CER	UG	NW	SE	15N 26E 12	0			0	0			
110A	2 to 5	49923		49722	12448	6/13/1986	CER	UG	NE	NE	15N 26E 14	0.005	STK		0	1	MGA	LY	STANLEY, JOHN DAVID SR.
110A	2 to 5	9929			2536	1/15/1936	CER	UG	SE	SE	15N 26E 09	0.006	STK		0	1	MGA	MI	PARKER, GEORGE
110A	2 to 5	15316			4540	9/22/1953	CER	UG	NE	SE	13N 28E 35	0.014	DOM		0	1	MGA	MI	TRANSPORTATION DEPARTMENT-NEVADA
110A	2 to 5	18328			5681	9/16/1959	CER	UG	NW	SW	13N 28E 36	1	IRR		3	12	AFA	MI	OLIVER, OPAL L.
110A	2 to 5	46708			11693	3/8/1983	CER	UG	SE	SE	14N 27E 17	0.019	STK		0	4	MGA	LY	CIRCLE BAR "N" RANCH
110A	2 to 5	54631				4/3/1990	PER	UG	NW	SE	15N 26E 20	3	IRR		200	600	AFA	LY	STANLEY, JOHN DAVID SR.
110A	5 to 10	8809			2015	1/7/1929	CER	SPR	SW	SE	11N 28E 03	0.015	STK		0	4	MGA	MI	CHARLEBOIS, FRANK
110A	5 to 10	63563				11/13/1997	PER	UG	NW	NW	12N 28E 01	0.45	QM		0	3	AFA	MI	MINERAL COUNTY SCHOOL DISTRICT

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BASIN	DIST. RANGE	APP	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
110B	0 to 1	25792			10860	9/17/1970	CER	STR	SE	SE	11N 29E 16	795.2	REC		0	575870	AFA	MI	WILDLIFE DIVISION-NEVADA
110B	5 to 10	20668			6946	8/27/1962	CER	UG	NE	NW	9N 29E 16	1	DOM		0	1	MGA	MI	MALLET, WILFRED
110B	5 to 10	26639				3/30/1972	PER	UG		LT01	9N 29E 16	3.723	QM	Y	0	610	MGA	MI	WALKER LAKE G.I.D.
110B	5 to 10	26714				5/11/1972	PER	UG		LT01	9N 29E 16	3.723	QM	Y	0	610	MGA	MI	WALKER LAKE G.I.D.
110B	5 to 10	7430			1874	7/8/1925	CER	STR	SW	SW	9N 29E 08	0.027	IRR		3	14	AFS	MI	NAVY (HAWTHORNE DEPOT)
110B	5 to 10	1020			412	6/19/1908	CER	STR		SE	9N 29E 34	0.105	IRR		10	42	AFS	MI	NAVY (HAWTHORNE DEPOT)
110B	5 to 10	4221	changed by 6270				CER	STR	NE	SW	9N 29E 08	0			0	0			
110B	5 to 10	4705			1583	11/17/1917	CER	STR	SW	SW	9N 29E 16	0.126	IRR		13	50	AFS	MI	BARLOW, HOLMAN F. AND
110B	5 to 10	5086			832	5/25/1918	CER	STR	SE	SE	9N 28E 22	0.37	IRR		37	111	AFS	MI	NAVY (HAWTHORNE DEPOT)
110B	5 to 10	5397			1081	2/24/1919	CER	STR	NE	SW	9N 29E 34	0.311	IRR		31	93	AFS	MI	ARMY AMMUNITION DEPOT, HAWTHORNE
110B	5 to 10	5596			1076	7/8/1919	CER	STR	SW	SW	9N 29E 08	0.219	IRR		22	66	AFS	MI	USA NAVAL AMMUNITION DEPOT
110B	5 to 10	6270		4221	1265	9/27/1920	CER	STR	SW	SW	9N 29E 08	0.176	IRR		15	81	AFS	MI	ARMY AMMUNITION DEPOT, HAWTHORNE
110B	5 to 10	12711			4938	11/4/1948	CER	STR	NE	NE	9N 29E 20	0.43	PWR		0	10	MGA	MI	BARLOW DANIELS, JESSICA
110B	5 to 10	16688			4472	8/2/1955	CER	STR	NE	NW	9N 29E 18	3.81	MUN		0	899	MGA	MI	NAVAL AMMUNITION DEPOT-U.S.
110B	5 to 10	16956			4939	6/7/1956	CER	STR	SE	NW	9N 29E 33	0.5	MUN		0	362	AFA	MI	NAVAL AMMUNITION DEPOT-U.S.
110B	5 to 10	18012			5509	5/22/1959	CER	STR	NE	NE	9N 29E 20	0.39	IRR		5	20	AFA	MI	BARLOW, HOLMAN F.
110B	5 to 10	20824			5725	11/1/1962	CER	STR	NE	NE	9N 29E 20	0.2	IRR		14	55	AFA	MI	BARLOW, HOLMAN F.
110B	5 to 10	27894			9928	11/14/1973	CER	UG	SE	NE	9N 29E 08	0.045	COM		0	8	MGA	MI	CORNELLA, DELBERT K.
110B	5 to 10	50467			14090	12/31/1986	CER	UG		LT02	9N 29E 09	0.006	IRR		2	4	AFA	MI	JONES, ARTHUR L. JR.
110B	5 to 10	46594				1/31/1983	PER	UG	NW	SW	9N 29E 09	0.5	QM		0	187	AFA	MI	EIERMAN, CONRAD R.
110B	5 to 10	50152			13454	9/10/1986	CER	SPR	NE	SE	10N 28E 25	0.004	REC		0	1	MGA	MI	BLM
110B	5 to 10	53023		26639		3/15/1989	PER	UG		LT01	9N 29E 16	0.007	QM	Y	0	1	MGA	MI	WALKER LAKE G.I.D.
110B	5 to 10	53024		26714		3/15/1989	PER	UG		LT01	9N 29E 16	0.007	QM	Y	0	1	MGA	MI	WALKER LAKE G.I.D.
110B	5 to 10	63530		26639		10/24/1997	RFA	UG	SW	SE	9N 29E 08	3.723	QM		0	0		MI	WALKER LAKE WATER DISTRICT
110B	5 to 10	74588				8/2/2006	APP	UG	NW	SW	9N 29E 09	0.1	QM		0	0	AFA	MI	COSTA, DONNA M.
110C	0 to 1	70523				10/21/2003	PER	UG	NW	SW	8N 32E 18	0.5	COM	Y	0	41	AFA	MI	TRI-STATE MOTOR TRANSIT CO.

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BASIN	DIST RANGE	APP	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
110C	0 to 1	70524				10/21/2003	PER	UG	NE	SW	8N 32E 17	0.5	COM	Y	0	41	AFA	MI	TRI-STATE MOTOR TRANSIT CO.
110C	2 to 5	70992E				3/30/2004	PER	UG	NW	NW	8N 31E 18	0.003	ENV		0	2	AFA	MI	HAWTHORNE ARMY DEPOT
110C	2 to 5	71730E				9/30/2004	PER	UG	NW	NW	8N 31E 18	0.047	ENV		0	0	AFA	MI	HAWTHORNE ARMY DEPOT
110C	5 to 10	10898	changed by 62876				PER	UG	SW	SW	8N 30E 27	0			0	0			
110C	5 to 10	15750			4802	7/30/1954	CER	UG	SW	SE	8N 30E 27	0.31	MUN		0	73	MGA	MI	HAWTHORNE-CITY
110C	5 to 10	26663			9192	4/11/1972	CER	UG	SE	NE	7N 30E 08	0.1	MUN		0	24	MGA	MI	MINERAL COUNTY COMMISSIONERS
110C	5 to 10	26854			9194	7/28/1972	CER	UG	SE	NE	8N 30E 33	2.5	MUN		0	590	MGA	MI	MINERAL COUNTY COMMISSIONERS
110C	5 to 10	2092			464	6/7/1911	CER	STR	SW	SE	8N 29E 13	0.384	IRR		38	154	AFS	MI	ARMY AMMUNITION DEPOT HAWTHORNE
110C	5 to 10	3394			1380	5/12/1915	CER	STR	SW	NW	8N 30E 18	0.532	IRR		53	170	AFS	MI	ARMY AMMUNITION DEPOT, HAWTHORNE
110C	5 to 10	48043			13945	5/16/1984	CER	UG	SW	SE	8N 30E 18	1.337	IND		0	24	MGA	MI	ARMY AMMUNITION DEPOT-U.S.
110C	5 to 10	41534	changed by 48897				PER	GEO	NW	SW	8N 30E 33	0			0	0			
110C	5 to 10	41867			12981	7/23/1980	CER	UG	SW	NE	7N 30E 08	0.043	QM		0	1	MGA	MI	JACOBS, BILLIE A.
110C	5 to 10	48897		41534		3/7/1985	PER	GEO	NW	SW	8N 30E 33	2.1	OTH		0	1520	AFA	MI	MINERAL COUNTY (HAWTHORNE UTILITIES)
110C	5 to 10	V02231				2/3/1931	VST	SPR	SW	NE	7N 30E 08	0.5	MUN		0	0		MI	HAWTHORNE-TOWN
117	5 to 10	10877			3562	10/8/1942	CER	SPR	SE	SE	1S 38E 30	0.003	STK		0	0	MGS	ES	CHIATOVICH, S. M.
117	5 to 10	11261			3542	4/4/1945	CER	SPR	SE	SE	1S 38E 30	0.003	STK		0	0	MGA	ES	CHIATOVICH, S.M.
117	5 to 10	12438			3553	5/8/1948	CER	SPR	SE	NW	2S 38E 31	0.005	STK		0	1	MGS	ES	CHIATOVICH, S.M.
117	5 to 10	13023			4197	8/10/1949	CER	SPR	NE	SE	2S 38E 08	0.008999	STK		0	2	MGA	ES	CHIATOVICH
117	5 to 10	40966				3/28/1980	RFP	SPR	SW	SW	1S 38E 29	1	STK		0	0		ES	BOYCE, CHRISTINE D.
117	5 to 10	V03197				7/30/1979	VST	SPR	NW	NW	1S 37E 36	0.002	STK		0	0		ES	BLM
118	0 to 1	14828			5394	2/4/1953	CER	UG	SW	NE	2N 37E 17	0.044	QM		0	10	MGA	ES	SERENDIPITY EQUIP. MNG CO (SEMCO)
118	1 to 2	17560			5249	6/16/1958	CER	UG	SW	NW	3N 36E 02	0.003	STK		0	1	MGA	ES	MCNETT, IVAN
118	2 to 5	6595			1058	12/3/1921	CER	SPR	SW	NE	3N 37E 03	0.008999	STK		0	7	AFA	NY	HAGE, JEAN N.
118	2 to 5	6596			1059	12/3/1921	CER	SPR	SE	SW	4N 37E 35	0.008999	STK		0	6	AFA	NY	HAGE, JEAN N.
118	2 to 5	10975			2971	8/7/1943	CER	SPR	NE	SE	3N 37E 23	0.004	STK		0	1	MGA	ES	BOYCE, JAMES & CHRISTINE
118	2 to 5	10976			3082	8/7/1943	CER	SPR	SW	SE	4N 37E 34	0.004	STK		0	1	MGA	ES	BOYCE, JAMES & CHRISTINE

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118	2 to 5	13739			3875	6/5/1951	CER	UG	SW	NE	3N 36E 17	0.5	MM		0	181	AFA	ES	ARGENTUM MINING CO. OF NEVADA
118	2 to 5	64852				2/16/1999	PER	UG	NE	NE	3N 36E 17	1	MM		0	299	AFA	ES	COLUMBUS S.M., LLC
118	2 to 5	64852	changed by 70359				PER	UG	NE	NE	3N 36E 17	0			0	0			
118	2 to 5	67829				7/20/2001	PER	UG	SW	NW	2N 36E 03	6	MM		620	381	AFA	ES	COLUMBUS S.M. LLC
118	2 to 5	70359		64852		8/27/2003	PER	UG	SW	NE	3N 36E 17	1	MM		0	299	AFA	ES	COLUMBUS S.M. LLC
118	2 to 5	V02312				3/11/1942	VST	SPR	SE	NE	5N 36E 11	0.025	STK		0	4	MGA	MI	HOLMGREN, DAVID G.
118	2 to 5	V05512				11/18/1991	VST	SPR	NW	SE	4N 37E 34	0.2	STK		0	0		ES	BOYCE, JAMES R. & CHRISTINE D.
118	5 to 10	11966			3628	8/14/1947	CER	SPR	SW	SE	2N 36E 32	0.033	STK		0	24	AFA	ES	EADE, BARBARA A.
118	5 to 10	12913			3710	5/10/1949	CER	SPR	SW	SW	2N 36E 28	0.016	STK		0	12	AFA	ES	EADE, BARBARA A.
118	5 to 10	34089			15755	10/12/1977	CER	UG	SW	SE	3N 35E 15	1.1	MM	Y	0	76	MGA	ES	CANDELARIA MINING COMPANY
118	5 to 10	39716	changed by 62528				CER	UG	SE	SE	3N 35E 15	0			0	0			
118	5 to 10	62528		39716	15758	10/22/1996	CER	UG	SE	SE	3N 35E 15	3.9	MM	Y	0	159	MGA	ES	CANDELARIA MINING COMPANY
118	5 to 10	V02296				7/1/1939	VST	SPR	NW	SE	5N 36E 02	0.025	STK		0	0	MGA	MI	HOLMGREN, DAVID G.
119	1 to 2	16420		13276	4803	4/22/1955	CER	UG	SW	NW	5N 35E 26	1	IRR		8	41	AFS	MI	JOHNS, ERNEST
119	2 to 5	13276	changed by 16420				CER	UG	SE	NE	5N 35E 27	0			0	0			
119	2 to 5	12243			3681	1/30/1948	CER	UG	SW	NW	5N 35E 28	0.002	DOM		0	0	MGA	MI	FORD, W. J.
119	2 to 5	45901			11282	7/8/1982	CER	UG	SW	NE	5N 35E 22	0.3	MM		0	0	MGA	MI	DELGADO, LEO
119	5 to 10	4054			552	7/10/1916	CER	SPR	SE	NE	5N 34E 09	0.01	MM		0	2	MGA	MI	WAGNER, EDWARD
119	5 to 10	4094			1065	8/10/1916	CER	SPR	NE	NE	5N 34E 09	0.075	MM		0	18	MGA	MI	SILVER DYKE
119	5 to 10	4178			553	10/9/1916	CER	UG	NE	NW	5N 34E 10	0.01	MM		0	7	AFA	MI	WAGNER, EDWARD
119	5 to 10	V04571				7/7/1986	VST	SPR	NW	NW	5N 34E 06	0.02	STK		0	0		MI	SWEETWATER RANCH COMPANY
119	5 to 10	V05518				10/18/1991	VST	SPR	SE	NW	5N 36E 12	0.2	STK		0	0		MI	BOYCE, JAMES R. & CHRISTINE D.
120	5 to 10	10038			2591	10/13/1936	CER	SPR	SE	NW	5N 34E 05	0.00223	MM		0	0	MGA	MI	HEGGLAND, E. T.
120	5 to 10	14711			10010	12/22/1952	CER	SPR	NW	NW	5N 34E 06	0.018	STK		0	6	MGA	MI	WILLIAM M. WEAVER, JR. REV TR AGRMNT
120	5 to 10	24648			9737	8/21/1968	CER	SPR		LT04	5N 34E 06	0.018	STK		0	3	MGS	MI	SWEETWATER RANCH COMPANY
120	5 to 10	48611				12/3/1984	RFA	SPR	NW	NW	5N 34E 06	0.1	MM		0	5	MGA	MI	PAULEY, JAMES B.

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120	5 to 10	48794			12144	1/29/1985	CER	OSW	NW	NE	6N 33E 24	0.008	STK		0	2	MGA	MI	WILLIAM M. WEAVER, JR. REV. TR. AGR.
121A	0 to 1	14573			4401	10/6/1952	CER	UG	SW	SE	6N 35E 08	0.15	MM		0	35	MGA	MI	FLOREY, CHAUNCEY
121A	0 to 1	25143			9210	7/7/1969	CER	UG	NE	SW	6N 35E 05	0.67	MM		0	131	MGA	MI	MADDEN, JAMES H.
121A	0 to 1	11119			11208	5/12/1944	CER	UG	SW	SW	6N 35E 08	0.031	DOM		0	7	MGA	MI	SINNOTT, M. C.
121A	1 to 2	14755			5306	1/2/1953	CER	UG	NW	SE	8N 34E 34	0.267	MUN		0	63	MGA	MI	(HARRISON, LEONARD)
121A	1 to 2	17510			5241	3/19/1958	CER	UG	SE	SW	7N 35E 27	0.145	MUN		0	34	MGA	MI	MINA WATER WORKS
121A	1 to 2	23740			7639	3/8/1967	CER	UG	SE	SE	6N 35E 07	0.2	MUN		0	47	MGA	MI	MINA WATER SYSTEM
121A	1 to 2	28633			9223	8/23/1974	CER	UG	SW	NE	6N 35E 29	0.025	COM		0	0	MGA	MI	RADCLIFFE, OPAL
121A	1 to 2	7295			1591	1/29/1925	CER	UG	SW	SE	8N 34E 34	0.001	DOM		0	0	MGA	MI	BROWN, ADDISON
121A	1 to 2	9662			2953	5/9/1933	CER	SPR	NW	NW	7N 35E 34	0.052	OTH		0	0		MI	CENTRAL PACIFIC RAILWAY COMPANY
121A	1 to 2	9727			2940	3/2/1934	CER	SPR	NW	SW	7N 35E 27	0.207	MUN		0	0		MI	MINA-TOWN
121A	1 to 2	9898	changed by 11521				CER	SPR	NW	NE	6N 35E 23	0			0	0			
121A	1 to 2	10562			2904	9/25/1940	CER	UG	NW	NE	8N 34E 33	0.5	MM		0	118	MGA	MI	BASIC, INC.
121A	1 to 2	10918			3302	2/1/1943	CER	SPR	NE	SE	7N 35E 34	0.1	DOM		0	24	MGA	MI	HOLMGREN, DAVID G. & JACKIE A.
121A	1 to 2	11114			2905	5/2/1944	CER	UG	NE	NE	8N 34E 33	0.5	OTH		0	118	MGA	MI	BASIC, INC.
121A	1 to 2	11521		9898	3422	3/22/1946	CER	SPR	NW	NE	6N 35E 23	0.083	MUN		0	20	MGA	MI	MINA TOWN OF
121A	1 to 2	19765			5600	4/25/1961	CER	UG	SW	SW	7N 35E 27	0.168	MUN		0	40	MGA	MI	MINA WATER SYSTEM
121A	1 to 2	22074			6042	6/26/1964	CER	UG	SW	SE	8N 34E 34	0.134	MUN		0	32	MGA	MI	LUNING WATER SYSTEM
121A	1 to 2	38486			11631	7/5/1979	CER	SPR	SW	SW	7N 35E 27	0.056	MUN		0	13	MGA	MI	MINA WATER SYSTEM
121A	1 to 2	38486	changed by 46506				CER	SPR	SW	SW	7N 35E 27	0			0	0			
121A	1 to 2	46506		38486	12664	1/5/1983	CER	SPR	SW	SW	7N 35E 27	0.015	MUN		0	4	MGA	MI	MINERAL COUNTY
121A	1 to 2	62300		61072		7/12/1996	PER	UG	SW	NW	6N 35E 03	0.33	MUN	Y	0	239	AFA	MI	MINA/LUNING WATER SYSTEM
121A	1 to 2	61072	changed by 62300				PER	UG	SE	SW	7N 35E 27	0			0	0			
121A	1 to 2	61073	changed by 62301				PER	UG	SE	SW	7N 35E 27	0			0	0			
121A	1 to 2	62301		61073		7/12/1996	PER	UG	SW	NW	6N 35E 03	0.33	MUN	Y	0	239	AFA	MI	MINA/LUNING WATER SYSTEM
121A	1 to 2	70967				3/19/2004	PER	UG	SW	NE	6N 35E 29	0.0056	COM		0	0	AFA	MI	TIPTON, TONY & JERRIE

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121A	1 to 2	61281E				6/6/1995	PER	UG	NW	SE	8N 34E 34	0.008999	ENV		0	6	AFA	MI	WELLS CARGO FREIGHT COMPANY
121A	1 to 2	V01495				1/13/1917	VST	STR	NW	NE	6N 35E 23	0	MM		0	0		MI	MIOCENE MINES
121A	1 to 2	V01586				9/9/1918	VST	SPR	NW	NW	7N 35E 34	0.02	OTH		0	0		MI	CENTRAL PACIFIC RAILWAY CO
121A	1 to 2	V05812				9/23/1992	VST	SPR	SW	SE	6N 35E 29	0.25	IRR		70	0		MI	HRH NEVADA RESOURCES LTD.
121A	1 to 2	V06208				11/24/1993	VST	OSW	NE	SE	8N 34E 35	0	STK		0	3	MGA	MI	HOLMGREN, DAVID G.
121A	1 to 2	V06209				11/24/1993	VST	OSW	NE	SE	6N 35E 03	0.01	STK		0	3	MGA	MI	HOLMGREN, DAVID G.
121A	1 to 2	V06215				11/24/1993	VST	SPR	SE	NE	7N 35E 34	0.04	STK		0	3	MGA	MI	HOLMGREN, DAVID G.
121A	1 to 2	V09478				10/22/2004	VST	SPR	SW	SE	6N 35E 29	0	STK		0	0	MGA	MI	HOLMGREN, DAVID G.
121A	2 to 5	48163			13142	7/2/1984	CER	UG	NE	NE	8N 34E 03	0.283	MM	Y	0	38	MGA	MI	HOMESTAKE MINING COMPANY OF CALIF.
121A	2 to 5	48660			13144	12/27/1984	CER	UG	SW	NW	9N 34E 36	0.609	MM	Y	0	72	MGA	MI	HOMESTAKE MINING COMPANY OF CALIF.
121A	2 to 5	48663			13145	12/27/1984	CER	UG	SE	NE	9N 34E 36	0.0044	MM	Y	0	0	MGA	MI	HOMESTAKE MINING COMPANY OF CALIF.
121A	2 to 5	53187			13847	4/27/1989	CER	UG	NW	NW	8N 34E 03	0.256	MM	Y	0	28	MGA	MI	HOMESTAKE MINING COMPANY OF CALIF.
121A	2 to 5	53187	changed by 55001				CER	UG	NW	NW	8N 34E 03	0		Y	0	0			
121A	2 to 5	55001		53187	13864	6/27/1990	CER	UG	NE	NW	8N 34E 03	0.314	MM	Y	0	41	MGA	MI	HOMESTAKE MINING COMPANY OF CALIF.
121A	2 to 5	41641			11415	7/7/1980	CER	UG	SW	NE	7N 34E 25	0.1	COM		0	0	MGA	MI	MARCHAND, RUSSELL
121A	2 to 5	43865			13118	6/10/1981	CER	UG	SW	NE	7N 34E 25	0.1	QM		0	0	MGA	MI	MARCHAND, RUSSELL
121A	2 to 5	V02297				7/1/1939	VST	SPR	NW	SE	6N 36E 28	0.025	STK		0	0	MGA	MI	HOLMGREN, DAVID G.
121A	2 to 5	V02298				7/1/1939	VST	SPR	NE	SW	6N 36E 17	0.025	STK		0	0	MGA	MI	HOLMGREN, DAVID G.
121A	2 to 5	V06219				11/24/1993	VST	OSW	NE	NE	8N 35E 27	0	STK		0	3	MGA	MI	HOLMGREN, DAVID G.
121A	2 to 5	V09271				6/27/2000	VST	UG	NW	SE	7N 34E 25	0.13	IRR		0	0		MI	BUFFINGTON, WILFRED
121A	5 to 10	4319			1573	2/17/1917	CER	SPR	NW	SE	7N 36E 25	0.025	STK		0	5	MGS	MI	YOMBA TRIBE OF SHOSHONE INDIANS
121A	5 to 10	48413			13179	9/19/1984	CER	UG	NE	SW	6N 34E 33	0.07	MM		0	0	MGA	MI	PAULEY, JAMES B.
121A	5 to 10	48412			13178	9/19/1984	CER	SPR	NW	SE	6N 34E 33	0.003	MM		0	1	MGA	MI	PAULEY, JAMES B.
121A	5 to 10	V02300				7/1/1939	VST	SPR	SE	NW	6N 36E 14	0.025	STK		0	0	MGA	MI	HOLMGREN, DAVID G.
121A	5 to 10	V02313				3/11/1942	VST	SPR	NE	NE	6N 36E 04	0.025	STK		0	4	MGA	MI	HOLMGREN, DAVID G.
121A	5 to 10	V02314				3/11/1942	VST	SPR	SW	NE	6N 36E 10	0.025	STK		0	4	MGA	MI	HOLMGREN, DAVID G.

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121A	5 to 10	V02315				3/11/1942	VST	SPR	NE	NW	6N 36E 15	0.025	STK		0	4	MGA	MI	HOLMGREN, DAVID G.
121A	5 to 10	V06207				11/24/1993	VST	SPR	SW	SW	6N 36E 10	0.02	STK		0	3	MGA	MI	HOLMGREN, DAVID G.
121A	5 to 10	V06214				11/24/1993	VST	UG	NE	SE	7N 36E 15	0.008	STK		0	10	MGA	MI	HOLMGREN, DAVID G.
121B	0 to 1	13789			3952	8/3/1951	CER	UG	NW	NW	8N 32E 23	0.46	MM		0	18	MGA	MI	DOW METALS INC.
121B	0 to 1	50343			13052	11/12/1986	CER	UG	NW	SW	8N 32E 23	0.1	MM		0	0	MGA	MI	MEDLOCK, PAUL J.
121B	0 to 1	15007			4457	4/29/1953	CER	UG	SW	SE	8N 32E 15	0.25	MM		0	59	MGA	MI	SETTERGREN, RUBY
121B	0 to 1	15926			4706	12/29/1954	CER	UG	NW	NW	8N 32E 23	0.16	MM		0	38	MGA	MI	HOLLOWAY, H. H.
121B	0 to 1	45776			11356	6/11/1982	CER	UG	SW	SE	8N 32E 14	0.003	STK		0	1	MGA	MI	HOLMGREN, DAVID G.
121B	1 to 2	V06216				11/24/1993	VST	OSW	SW	SW	8N 33E 16	0	STK		0	3	MGA	MI	HOLMGREN, DAVID G.
121B	5 to 10	V06199				11/24/1993	VST	SPR	NE	NE	9N 34E 28	0.006	STK		0	0		MI	HOLMGREN, DAVID G.
122	2 to 5	14102			4262	3/7/1952	CER	SPR	NE	NE	8N 35E 09	0.001	DOM		0	0	MGA	MI	PILKINGTON, HAROLD W.
122	2 to 5	V02299				7/1/1939	VST	SPR	NE	SW	6N 36E 17	0.025	STK		0	0	MGA	MI	HOLMGREN, DAVID G.
122	5 to 10	7673			7810	3/27/1926	CER	SPR	NW	SW	9N 34E 06	0.001	STK		0	0	MGA	MI	HOLMGREN, DAVID G.
122	5 to 10	7674			2864	3/27/1926	CER	SPR	NE	NE	9N 34E 13	0.019	STK		0	4	MGA	MI	HOLMGREN, DAVID G.
122	5 to 10	4217			1574	11/13/1916	CER	SPR	SE	SE	9N 34E 12	0.05	STK		0	12	MGA	MI	YOMBA TRIBE OF SHOSHONE INDIANS
122	5 to 10	5335			586	12/16/1918	CER	SPR	SW	SW	8N 36E 35	0.013	STK		0	0	MGS	MI	YOMBA TRIBE OF SHOSHONE INDIANS
122	5 to 10	5501				5/16/1919	PER	SPR	NW	SW	9N 34E 06	0.4	STK		0	3	MGA	MI	MCCAFFERTY, C.E.
122	5 to 10	12468			3322	5/27/1948	CER	SPR	SE	NE	9N 35E 18	0.008999	STK		0	2	MGA	MI	HOLMGREN, DAVID G.
122	5 to 10	47961	changed by 58686				PER	UG	SE	SW	9N 35E 27	0			0	0			
122	5 to 10	58686		47961		4/1/1993	PER	UG	NE	NW	9N 35E 33	1.5	MM	Y	0	236	MGA	MI	HOMESTAKE MINING COMPANY OF CALIF.
122	5 to 10	V02301				7/1/1939	VST	SPR	NE	SE	6N 37E 17	0.025	STK		0	0	MGA	MI	HOLMGREN, DAVID G.
122	5 to 10	V06218				11/24/1993	VST	OSW	NW	SW	9N 33E 04	0	STK		0	3	MGA	MI	HOLMGREN, DAVID G.
122	5 to 10	V06220				11/24/1993	VST	SPR		LT04	7N 36E 02	0.002	STK		0	3	MGA	MI	HOLMGREN, DAVID G.
122	5 to 10	V06221				11/24/1993	VST	SPR	NW	NE	8N 36E 20	0.004	STK		0	3	MGA	MI	HOLMGREN, DAVID G.
123	2 to 5	43948			11440	6/25/1981	CER	UG	NE	NW	15N 29E 09	0.006	STK		0	1	MGA	CH	DAMONTE RANCH LLC
123	2 to 5	46901			11466	5/11/1983	CER	UG	NE	SE	15N 29E 09	0.006	STK		0	1	MGS	CH	DAMONTE RANCH LLC

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123	5 to 10	4924			925	2/19/1918	CER	UG	SE	SE	15N 30E 09	0.05	STK		0	12	MGA	CH	CLEMONS, JAY H.
123	5 to 10	4925			926	2/19/1918	CER	UG	SE	SW	15N 31E 20	0.05	STK		0	12	MGA	CH	CLEMONS, JAY H.
123	5 to 10	4926			927	2/19/1918	CER	UG	SW	NW	14N 31E 14	0.05	STK		0	12	MGA	CH	CLEMONS, JAY H.
123	5 to 10	17118			5353	12/18/1956	CER	SPR	SE	NE	16N 29E 33	0.026	MM		0	19	AFA	CH	AX, TED G.
123	5 to 10	44599			12823	10/7/1981	CER	SPR	SE	NE	16N 29E 33	0.004	STK		0	1	MGA	CH	DAMONTE RANCH LLC
136	5 to 10	5334			585	12/16/1918	CER	SPR	SE	SW	7N 36E 24	0.025	STK		0	0		MI	YOMBA TRIBE OF SHOSHONE INDIANS
136	5 to 10	5847			661	11/8/1919	CER	SPR	SE	SE	7N 36E 24	0.013	STK		0	1	MGA	MI	TERRY, GUY M.
136	5 to 10	30269			10065	5/24/1976	CER	UG	NE	NW	6N 36E 25	0.3	MM		0	8	MGA	MI	LOVING, EVERETT L.
136	5 to 10	38040			10961	4/30/1979	CER	SPR	NW	SW	3N 38E 01	0.016	MM		0	0	MGA	ES	HILL, LOUIS F.
136	5 to 10	42029			11873	8/14/1980	CER	UG	SE	NE	4N 38E 24	0.001	STK		0	0	MGA	ES	BOYCE, JAMES & CHRISTINE
136	5 to 10	42038			10935	8/14/1980	CER	UG	SE	SE	5N 37E 13	0.006	STK		0	1	MGS	ES	BOYCE, JAMES & CHRISTINE
136	5 to 10	42042			10919	8/14/1980	CER	UG	SE	NW	4N 38E 05	0.006	STK		0	1	MGA	ES	BOYCE, JAMES & CHRISTINE
136	5 to 10	58996			15090	7/13/1993	CER	UG	SE	NW	5N 37E 05	0.022	WLD		0	1	AFA	MI	BLM
136	5 to 10	58997				7/13/1993	PER	UG	SE	NW	5N 37E 05	0.005	STK		0	1	MGA	ES	BLM
136	5 to 10	V02316				3/11/1942	VST	SPR	NE	SE	7N 36E 25	0.025	STK		0	4	MGA	MI	HOLMGREN, DAVID G.
136	5 to 10	V06217				11/24/1993	VST	SPR	SW	NW	6N 36E 25	0.006	STK		0	3	MGA	MI	HOLMGREN, DAVID G.
137A	0 to 1	22690			6201	7/15/1965	CER	UG	SE	SE	3S 42E 03	2	MUN		0	1448	AFA	ES	GOLDFIELD, TOWN OF
137A	0 to 1	33058			12744	8/8/1977	CER	UG	SW	NE	2N 38E 20	0.223	QM		0	1	MGA	ES	COALDALE INN INC
137A	0 to 1	6671			1073	5/1/1922	CER	SPR	SW	SW	3N 39E 26	0.01	STK		0	1	MGS	ES	ARCULARIUS, FRANK G.
137A	0 to 1	6670			1072	5/1/1922	CER	SPR	NW	NE	3N 39E 32	0.01	STK		0	4	AFS	NY	HAGE, JEAN N.
137A	0 to 1	12032			3566	10/6/1947	CER	UG	NW	SE	3N 39E 31	0.003	STK		0	1	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	0 to 1	12870			3874	3/30/1949	CER	UG	SE	NW	3N 39E 27	0.002	STK		0	1	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	0 to 1	13191			4266	12/15/1949	CER	UG	NW	NW	3N 41E 28	0.007	STK		0	1	MGS	ES	BOYCE, JAMES & CHRISTINE
137A	0 to 1	17559			5248	5/16/1958	CER	UG	SW	SE	2N 38E 20	0.003	STK		0	1	MGA	ES	MC NETT, IVAN
137A	0 to 1	30086			10021	3/17/1976	CER	UG	NW	NW	3N 40E 11	0.089	MM		0	21	MGA	ES	ESMERALDA EXTRACTION CORPORATION
137A	0 to 1	30804			10032	11/8/1976	CER	UG	SE	NE	3N 40E 10	0.85	MM		0	105	MGA	ES	ESMERALDA EXTRACTION CORP.

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137A	0 to 1	40038			11402	12/20/1979	CER	UG	NW	SE	3N 39E 31	0.001	STK		0	0	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	0 to 1	40039			11403	12/20/1979	CER	UG	SW	NE	3N 39E 31	0.001	STK		0	0	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	0 to 1	40054			11404	12/20/1979	CER	UG	NE	SW	3N 39E 24	0.001	STK		0	0	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	0 to 1	40068			10933	12/20/1979	CER	UG	NE	NW	3N 40E 09	0.003	STK		0	0	MGS	ES	BOYCE, JAMES & CHRISTINE
137A	0 to 1	40075			11407	12/20/1979	CER	UG	NW	NW	3N 41E 28	0.006	STK		0	1	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	0 to 1	V05505				11/18/1991	VST	SPR	NE	NE	2N 37E 08	0.1	STK		0	0		ES	BOYCE, JAMES R. & CHRISTINE D.
137A	1 to 2	29233			9656	2/20/1975	CER	UG	NE	SE	1N 38E 12	0.005	STK		0	4	MGA	ES	BERG, KENNETH
137A	1 to 2	40055			10932	12/20/1979	CER	UG	NW	NW	3N 40E 21	0.004	STK		0	1	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	2 to 5	5584			959	6/28/1919	CER	SPR	NW	NW	1S 38E 23	0.01	MM		0	2		ES	WESTERN CHEMICALS INCORPORATED
137A	2 to 5	11603			3501	6/12/1946	CER	SPR	SW	NW	3N 39E 09	0.003	STK		0	0		ES	BOYCE, JAMES & CHRISTINE
137A	2 to 5	12004			3565	9/10/1947	CER	UG	NW	SE	3N 40E 31	0.004	STK		0	1	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	2 to 5	29234			9657	2/20/1975	CER	UG	SW	SE	1N 39E 06	0.004	STK		0	1	MGA	ES	I.C. CATTLE CO., INC.
137A	2 to 5	40037			11401	12/20/1979	CER	UG	NE	NW	2N 39E 01	0.001	STK		0	0	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	2 to 5	40050			11428	12/20/1979	CER	UG	SW	SW	4N 41E 32	0.001	STK		0	0	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	2 to 5	40057			11952	12/20/1979	CER	UG	NW	NE	3N 40E 31	0.004	STK		0	1	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	2 to 5	V05500				11/18/1991	VST	SPR	NE	SE	3N 40E 33	0.1	STK		0	0		ES	BOYCE, JAMES R. & CHRISTINE D.
137A	2 to 5	V05503				11/18/1991	VST	SPR	NW	SE	2N 39E 13	0.1	STK		0	0		ES	BOYCE, JAMES R. & CHRISTINE D.
137A	2 to 5	V05504				11/18/1991	VST	SPR	SE	NE	2N 40E 04	0.1	STK		0	0		ES	BOYCE, JAMES R. & CHRISTINE D.
137A	2 to 5	V05506				11/18/1991	VST	SPR	SW	SW	3N 37E 25	0.1	STK		0	0		ES	BOYCE, JAMES R. & CHRISTINE D.
137A	2 to 5	V05510				11/18/1991	VST	SPR	NE	SE	3N 37E 23	0.2	STK		0	0		ES	BOYCE, JAMES R. & CHRISTINE D.
137A	5 to 10	7267			1152	12/8/1924	CER	SPR	SE	NE	3N 42E 14	0.011	COM		0	3	MGA	NY	TONOPAH LAUNDRY CO.
137A	5 to 10	8008			1901	2/17/1927	CER	SPR	SE	NE	4N 42E 35	0.02	STK		0	15	AFA	NY	HAGE, JEAN N.
137A	5 to 10	9864			2520	6/3/1935	CER	SPR	SW	NW	2N 40E 14	0.004	STK		0	1	MGA	ES	COLVIN CATTLE CO., INC.
137A	5 to 10	10493			4794	4/10/1940	CER	UG	NE	NE	3N 42E 15	0.15	IRR	Y	15	60	AFA	NY	LAMBERTUCCI, DOMENICO
137A	5 to 10	10501			4795	5/9/1940	CER	UG	SE	NE	3N 42E 14	0.15	IRR	Y	0	60	AFA	NY	LAMBERTUCCI, DOMENICO
137A	5 to 10	10502			4796	5/9/1940	CER	UG	NE	NW	3N 42E 13	0.12	IRR	Y	15	60	AFA	NY	LAMBERTUCCI, DOMENICO

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137A	5 to 10	5585			960	6/28/1919	CER	SPR	SE	NE	1S 38E 21	0.01	MM		0	2		ES	WESTERN CHEMICALS INCORPORATED
137A	5 to 10	5586			961	6/28/1919	CER	SPR	NE	NE	1S 38E 21	0.01	MM		0	2		ES	WESTERN CHEMICALS INCORPORATED
137A	5 to 10	5587			962	6/28/1919	CER	SPR	SE	SE	1S 38E 16	0.01	MM		0	2		ES	WESTERN CHEMICALS INCORPORATED
137A	5 to 10	5588			963	6/28/1919	CER	SPR	N2	NE	1S 38E 21	0.01	MM		0	2		ES	WESTERN CHEMICALS INCORPORATED
137A	5 to 10	11321			4797	6/29/1945	CER	UG	NE	NE	3N 42E 14	0.02	IRR	Y	15	60	AFA	NY	LAMBERTUCCI, DOMENICO
137A	5 to 10	11604			3502	6/12/1946	CER	SPR	NW	NW	4N 38E 23	0.003	STK		0	0	AFA	ES	BOYCE, JAMES & CHRISTINE
137A	5 to 10	11732			3768	12/7/1946	CER	SPR	SW	SE	1S 38E 16	0.015	STK		0	4	MGA	ES	CHIATOVICH, S.M.
137A	5 to 10	11733			3563	12/7/1946	CER	SPR	NW	SW	1N 37E 16	0.011	STK		0	3	MGA	ES	CHIATOVICH, S.M.
137A	5 to 10	12003			3564	9/10/1947	CER	SPR	SW	SE	2N 40E 19	0.003	STK		0	1	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	5 to 10	12871			3842	3/30/1949	CER	UG	NW	NW	5N 40E 27	0.003	STK		0	1	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	5 to 10	13115			5284	10/18/1949	CER	STR	SE	NW	3N 42E 34	1	IRR		10	40	AFA	ES	LAMBERTUCCI BROTHERS
137A	5 to 10	44454			11789	9/21/1981	CER	UG	SE	NW	3N 42E 13	0.18	MUN		0	19	MGA	NY	TONOPAH PUBLIC UTILITIES
137A	5 to 10	50174			14264	9/22/1986	CER	UG	NW	NE	4N 41E 24	0.016	STK		0	2	MGS	NY	BOYCE, JAMES & CHRISTINE
137A	5 to 10	29236			9659	2/20/1975	CER	SPR	NE	SE	1N 39E 09	0.004	STK		0	1	MGA	ES	I.C. CATTLE CO., INC.
137A	5 to 10	40029			11951	12/20/1979	CER	UG	NW	NW	3N 38E 23	0.001	STK		0	0	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	5 to 10	40072			11406	12/20/1979	CER	SPR	SE	NW	2N 40E 19	0.006	STK		0	1	MGA	ES	BOYCE, JAMES & CHRISTINE
137A	5 to 10	40088			10756	12/20/1979	CER	UG	NW	SE	4N 41E 16	0.006	STK		0	1	MGA	NY	BOYCE, JAMES & CHRISTINE
137A	5 to 10	40106			11409	12/20/1979	CER	LAK	SW	SW	5N 41E 33	0.006	STK		0	1	MGA	NY	BOYCE, JAMES & CHRISTINE
137A	5 to 10	41987				8/8/1980	PER	EFF	SE	NW	3N 42E 34	0.7	STO		0	0		ES	NYE COUNTY
137A	5 to 10	49619			12104	1/7/1986	CER	STR	NW	NE	2N 40E 15	0.223	STK		0	236	MGA	ES	COLVIN CATTLE CO. INC.
137A	5 to 10	49620			12153	1/7/1986	CER	UG	NW	SE	2N 40E 15	0.001	STK		0	236	MGA	ES	COLVIN CATTLE CO. INC.
137A	5 to 10	R05877				2/17/1993	RES	SPR	NW	SE	2N 40E 15	0.002	OTH		0	1	MGA	ES	BLM
137A	5 to 10	R05882				2/17/1993	RES	SPR	SE	SE	1S 38E 16	0.008	OTH		0	2	MGA	ES	BLM
137A	5 to 10	R06042				11/3/1993	RES	SPR	SE	NW	4N 42E 34	0.01	stk		0	2	MGA	NY	BLM
137A	5 to 10	R06043				11/3/1993	RES	SPR	SE	NW	4N 42E 35	0.01	stk		0	2	MGA	NY	BLM
137A	5 to 10	R06044				11/3/1993	RES	SPR	SE	NE	4N 42E 35	0.01	stk		0	2	MGA	NY	BLM

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BASIN	DIST. RANGE	APP	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO.	OWNER OF RECORD
137A	5 to 10	V01383				4/28/1915	VST	SPR	NE	NW	2N 40E 15	0.5	STK		0	0		ES	SUCCETTI, B.
137A	5 to 10	V02384				2/26/1951	VST	RES	SW	SW	5N 41E 33	0.032	STK		0	0		NY	CASEY, JOHN J.
137A	5 to 10	V03163				6/5/1979	VST	SPR	NW	SE	1S 38E 18	0.001	STK		0	0		ES	BLM
137A	5 to 10	V05499				11/18/1991	VST	SPR	NE	NE	2N 40E 15	0.1	STK		0	0		ES	BOYCE, JAMES R. & CHRISTINE D.
137A	5 to 10	V05501				11/18/1991	VST	SPR	NW	NW	2N 40E 10	0.1	STK		0	0		ES	BOYCE, JAMES R. & CHRISTINE D.
137A	5 to 10	V05502				11/18/1991	VST	SPR	SW	SW	2N 40E 20	0.1	STK		0	0		ES	BOYCE, JAMES R. & CHRISTINE D.
137A	5 to 10	V05507				11/18/1991	VST	SPR	SE	NE	3N 38E 14	0.1	STK		0	0		ES	BOYCE, JAMES R. & CHRISTINE D.
137A	5 to 10	V05508				11/18/1991	VST	SPR	SW	SW	3N 38E 12	0.2	STK		0	0		ES	BOYCE, JAMES R. & CHRISTINE D.
137A	5 to 10	V05511				11/18/1991	VST	SPR	NE	NE	3N 38E 14	0.2	STK		0	0		ES	BOYCE, JAMES R. & CHRISTINE D.
137A	5 to 10	V05517				10/18/1991	VST	SPR	NW	SW	3N 38E 01	0.2	STK		0	0		ES	BOYCE, JAMES R. & CHRISTINE D.
142	0 to 1	17450			5160	12/24/1957	CER	UG	NE	NE	1S 42E 10	0.003	STK		0	1	MGA	ES	ESMERALDA, COUNTY OF
142	0 to 1	41861		36697	13195	7/22/1980	CER	UG	NE	NE	1S 42E 10	0.188	QM	Y	0	44	MGA	ES	ESMERALDA COUNTY
142	0 to 1	10150			2795	8/10/1937	CER	UG	NW	SW	3S 42E 02	0.25	MUN		0	0	MGA	ES	CITIZENS COMMITTEE OF GOLDFIELD
142	0 to 1	10237			2443	4/7/1938	CER	UG	NW	SW	2S 42E 35	0.046	MM		0	9	MGA	ES	BRADSHAW, MARK
142	0 to 1	2395			126	4/1/1912	CER	SPR	SW	SW	3S 42E 02	0.005	QM		0	1	MGA	ES	FOSTER, ROBERT L.
142	0 to 1	11112			3049	4/25/1944	CER	SPR	SE	NW	3S 42E 03	0.002	STK		0	0	MGA	ES	DANIELS, JAMES M.
142	0 to 1	12607			3873	9/2/1948	CER	OGW	NW	SE	2S 42E 23	0.078	MM		0	18	MGA	ES	DAVIS, RALPH E.
142	0 to 1	13113			4036	10/18/1949	CER	UG	SE	NE	3S 42E 03	0.007	STK		0	2	MGA	ES	COLVIN CATTLE CO.
142	0 to 1	13414			3580	6/13/1950	CER	UG	NE	SW	2S 42E 26	0.008	STK		0	2	MGA	ES	COLVIN CATTLE CO.
142	0 to 1	20552			6982	7/9/1962	CER	UG	SW	SW	3S 42E 02	0.25	MUN		0	0	MGA	ES	GOLDFIELD-TOWN
142	0 to 1	20553			6216	7/9/1962	CER	UG	SE	SE	3S 42E 03	2	MUN		0	1	MGA	ES	GOLDFIELD-TOWN
142	0 to 1	20554			6199	7/9/1962	CER	UG	SW	SW	3S 42E 02	0.25	MUN		0	0	MGA	ES	GOLDFIELD-TOWN
142	0 to 1	20555			6217	7/9/1962	CER	UG	SW	NW	3S 42E 02	4	MUN		0	3	MGA	ES	GOLDFIELD-TOWN
142	0 to 1	21157			6218	3/25/1963	CER	UG	SE	SW	3S 42E 02	0.25	MUN		0	0	MGA	ES	TOWNSITE OF GOLDFIELD
142	0 to 1	21158			6219	3/25/1963	CER	UG	SE	SW	3S 42E 02	0.35	MUN		0	0	MGA	ES	TOWNSITE OF GOLDFIELD
142	0 to 1	21159			6220	3/25/1963	CER	UG	SW	SW	3S 42E 02	0.11	MUN		0	0	MGA	ES	TOWNSITE OF GOLDFIELD

Hydrographic Basin Abstracts by Distance from MRC

Selection Criteria: by PER,CER, VST, DEC, RSA, RES (Surface and Underground)																				
BASIN	DIST. RANGE	APP	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
142	0 to 1	21160			6221	3/25/1963	CER	UG	NW	SW	3S 42E 02	0.3	MUN		0	0	MGA	ES	TOWNSITE OF GOLDFIELD
142	0 to 1	21162			6222	3/25/1963	CER	UG	SE	NW	3S 42E 11	4	MUN		0	3	MGA	ES	TOWNSITE OF GOLDFIELD
142	0 to 1	21314			6200	6/3/1963	CER	UG	SE	SW	3S 42E 02	0.3	MUN		0	0	MGA	ES	TOWN OF GOLDFIELD
142	0 to 1	22691			7670	7/15/1965	CER	UG	SE	SW	2S 42E 34	0.023	IRR		40	16	AFA	ES	GOLDFIELD, TOWN OF
142	0 to 1	36697	changed by 41861				CER	UG	NE	NE	1S 42E 10	0			0	0			
142	0 to 1	44219			11583	7/31/1981	CER	UG	NW	SW	2S 42E 35	0.015	STK		0	4	MGA	ES	COLVIN CATTLE CO INC
142	0 to 1	44439			13629	9/17/1981	CER	UG	NW	SW	2S 42E 35	0.022	MM		0	2	MGA	ES	BLACKHAWK MINES CORPORATION AND
142	0 to 1	48262			12103	8/1/1984	CER	UG	SE	NE	3S 42E 10	0.006	STK		0	1	MGA	ES	COLVIN CATTLE CO. INC.
142	0 to 1	55627				1/11/1991	PER	UG	NE	NW	1S 42E 10	1.5	QM	Y	0	49	MGA	ES	ESMERALDA COUNTY
142	0 to 1	60963				2/21/1995	PER	UG	NE	NE	1S 42E 10	1.5	MUN	Y	0	300	AFA	ES	ESMERALDA COUNTY
142	0 to 1	64822				1/29/1999	PER	UG	NE	SW	2S 42E 26	1	MM		0	202	AFA	ES	METALLIC GOLDFIELD INC.
142	0 to 1	V01207				1/17/1913	VST	SPR	SE	SE	3S 42E 03	0.01	DOM		0	0		ES	GOLDFIELD MAY QUEEN MINING COMPANY
142	1 to 2	10124			2442	6/1/1937	CER	UG	NW	NW	2S 42E 24	0.046	MM		0	9	MGA	ES	TECHNICAL OPERATORS, INC.
142	1 to 2	10187	changed by 13604				CER	SPR	SE	SE	2S 42E 28	0			0	0			
142	1 to 2	13604		10187	7095	1/16/1951	CER	SPR	NE	SW	2S 42E 33	0.005	STK		0	1	MGA	ES	COLVIN CATTLE CO.
142	1 to 2	42606			11265	10/9/1980	CER	UG	NE	NE	1N 42E 30	0.475	MM		0	13	MGA	ES	COLVIN CATTLE CO. INC.
142	2 to 5	7730			1542	4/26/1926	CER	SPR	SW	NE	2S 43E 28	0.005	STK		0	1	MGA	NY	UNITED STATES OF AMERICA
142	2 to 5	9700			2439	10/2/1933	CER	UG	SE	SE	1N 41E 26	0.001	STK		0	0	MGS	ES	COLVIN CATTLE CO., INC.
142	2 to 5	10049			2444	11/4/1936	CER	UG	NE	SE	2S 42E 20	0.077	MM		0	18	MGA	ES	BRADSHAW, MARK G.
142	2 to 5	1147			46	10/16/1908	CER	SPR	SE	NE	2S 43E 28	0.025	MM		0	6	MGA	ES	TOGNONI, JOSEPH C.
142	2 to 5	4309			3128	2/17/1917	CER	SPR	NW	SW	2S 41E 36	0.001	STK		0	0		ES	DANIELS, JAMES M.
142	2 to 5	27309			8754	2/23/1973	CER	SPR	NE	NW	2S 42E 30	0.25	MUN		0	59	MGA	ES	GOLDFIELD TOWNSITE
142	2 to 5	V01208				1/17/1913	VST	SPR	S2	NE	1S 41E 26	0.1	MM		0	0		ES	DEES, DANIEL W.
142	5 to 10	12365			3579	3/25/1948	CER	SPR	SE	NW	2N 42E 35	0.005	STK		0	1	MGA	ES	COLVIN CATTLE CO.
142	5 to 10	52292	changed by 52749				PER	UG	NW	NW	2N 42E 35	0			0	0			
142	5 to 10	52749		52292		12/1/1988	PER	UG	NE	NW	2N 42E 35	0.5	MM		0	118	MGA	ES	TONOPAH DIVIDE MINING COMPANY

Hydrographic Basin Abstracts by Distance from MRC

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BASIN	DIST. RANGE	APP	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
143	0 to 1	10036			2627	10/10/1936	CER	SPR	NE	NE	2S 39E 22	0.334	MM		0	0		ES	CHEMETALL FOOTE CORPORATION
143	0 to 1	13027			3595	8/15/1949	CER	SPR	SW	NE	2S 39E 22	0.013	STK		0	3	MGA	ES	CHIATOVICH
143	0 to 1	15847			4838	11/16/1954	CER	SPR	NE	NE	2S 39E 22	0.53	MM		0	0		ES	CHEMETALL FOOTE CORPORATION
143	0 to 1	30399			9902	7/15/1976	CER	UG	SE	NW	2S 39E 22	0.1	MUN		0	14	MGA	ES	SILVERPEAK-CITY
143	0 to 1	44250			11268	8/10/1981	CER	UG	SW	NE	2S 40E 32	0.003	STK		0	2	MGA	ES	CHEMETALL FOOTE CORPORATION
143	0 to 1	44252			12771	8/10/1981	CER	UG	SW	NE	2S 39E 10	0.43	MM	Y	0	101	MGA	ES	CHEMETALL FOOTE CORPORATION
143	0 to 1	52921				2/9/1989	PER	UG	SW	NE	2S 39E 10	5	MM	Y	0	3620	AFA	ES	CHEMETALL FOOTE CORPORATION
143	1 to 2	24382			7234	2/26/1968	CER	UG	SW	NE	2S 39E 28	1	MM		0	236	MGA	ES	CHEMETALL FOOTE CORPORATION
143	1 to 2	29728			9894	10/17/1975	CER	UG	SW	NW	2S 39E 28	0.3	MUN		0	36	MGA	ES	ESMERALDA COUNTY
143	1 to 2	44249	changed by 49805				CER	UG	SE	NE	2S 39E 28	0			0	0			
143	1 to 2	49805		44249	14655	3/31/1986	CER	UG	SW	NE	2S 39E 28	0.13	QM	Y	0	7	MGA	ES	CYPRUS FOOTE MINERAL COMPANY
143	1 to 2	20310			5568	2/22/1962	CER	UG	SE	SW	3N 40E 02	0.033	DOM		0	8	MGA	ES	NEVADA - DEPT OF HIGHWAYS
143	1 to 2	29176			12155	1/30/1975	CER	UG	SE	SE	3S 41E 03	0.032	STK		0	8	MGA	ES	COLVIN CATTLE CO.
143	1 to 2	44251			12770	8/10/1981	CER	UG	SW	NE	2S 39E 01	1	MM	Y	0	236	MGA	ES	CHEMETALL FOOTE CORPORATION
143	1 to 2	44253			12772	8/10/1981	CER	UG	SW	NE	2S 39E 13	0.84	MM	Y	0	198	MGA	ES	CHEMETALL FOOTE CORPORATION
143	1 to 2	44270			12782	8/10/1981	CER	UG	SW	NE	2S 40E 20	1	MM	Y	0	236	MGA	ES	CHEMETALL FOOTE CORPORATION
143	1 to 2	44248				8/10/1981	PER	UG	SW	NE	2S 39E 28	1	QM	Y	0	7	MGA	ES	CHEMETALL FOOTE CORPORATION
143	1 to 2	52917				2/9/1989	PER	UG	SW	NE	2S 39E 28	1	QM	Y	0	7	MGA	ES	CHEMETALL FOOTE CORPORATION
143	1 to 2	52919				2/9/1989	PER	UG	SW	NE	2S 39E 13	5	MM	Y	0	3620	AFA	ES	CHEMETALL FOOTE CORPORATION
143	1 to 2	69220				10/7/2002	PER	UG	SE	NW	2S 39E 28	1	QM		0	128	MGA	ES	ESMERALDA COUNTY
143	2 to 5	49988			14295	7/15/1986	CER	UG	SE	SW	1S 40E 34	2	MM	Y	0	1448	AFA	ES	CYPRUS FOOTE MINERAL CO.
143	2 to 5	11689			3550	9/14/1946	CER	UG	NE	SW	3S 39E 16	0.004	STK		0	1	MGS	ES	CHIATOVICH, STANLEY
143	2 to 5	29463			9643	6/24/1975	CER	SPR	SW	NE	2S 38E 12	0.001	IRR		5	1	AFA	ES	GUGGENHEIM, SOLOMON A
143	2 to 5	44255			12773	8/10/1981	CER	UG	SW	NE	2S 40E 03	0.39	MM	Y	0	92	MGA	ES	CHEMETALL FOOTE CORPORATION
143	2 to 5	44256			12774	8/10/1981	CER	UG	SW	NE	2S 40E 04	0.22	MM	Y	0	52	MGA	ES	CHEMETALL FOOTE CORPORATION
143	2 to 5	44257			12775	8/10/1981	CER	UG	SW	NE	2S 40E 07	0.35	MM	Y	0	83	MGA	ES	CHEMETALL FOOTE CORPORATION

Hydrographic Basin Abstracts by Distance from MRC

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BASIN	DIST RANGE	APP	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
143	2 to 5	44258			12776	8/10/1981	CER	UG	SW	NE	2S 40E 08	0.27	MM	Y	0	64	MGA	ES	CHEMETALL FOOTE CORPORATION
143	2 to 5	44260			12777	8/10/1981	CER	UG	SW	NE	2S 40E 17	0.2	MM	Y	0	47	MGA	ES	CHEMETALL FOOTE CORPORATION
143	2 to 5	44261			12778	8/10/1981	CER	UG	SW	NE	2S 40E 19	0.22	MM	Y	0	159	MGA	ES	CHEMETALL FOOTE CORPORATION
143	2 to 5	44267			12779	8/10/1981	CER	UG	SW	NE	1S 40E 33	0.44	MM	Y	0	104	MGA	ES	CHEMETALL FOOTE CORPORATION
143	2 to 5	44268			12780	8/10/1981	CER	UG	SW	NE	1S 40E 26	0.462	MM	Y	0	109	MGA	ES	CHEMETALL FOOTE CORPORATION
143	2 to 5	44269			12781	8/10/1981	CER	UG	SW	NE	1S 40E 29	0.26	MM	Y	0	61	MGA	ES	CHEMETALL FOOTE CORPORATION
143	2 to 5	60036				5/3/1994	PER	UG	SE	SW	2S 38E 01	1	MM	Y	0	537	AFA	ES	GOLDEN PHOENIX MINERALS, INC.
143	2 to 5	52918				2/9/1989	PER	UG	NW	SE	1S 40E 19	5	MM	Y	0	3620	AFA	ES	CHEMETALL FOOTE CORPORATION
143	2 to 5	52920				2/9/1989	PER	UG	SW	NE	1S 40E 23	5	MM	Y	0	3620	AFA	ES	CHEMETALL FOOTE CORPORATION
143	2 to 5	60034				5/3/1994	PER	UG	NE	NW	1S 39E 32	1	MM	Y	0	537	AFA	ES	GOLDEN PHOENIX MINERALS, INC.
143	2 to 5	60035				5/3/1994	PER	UG	NE	NE	1S 39E 29	1	MM	Y	0	537	AFA	ES	GOLDEN PHOENIX MINERALS, INC.
143	2 to 5	V03198				7/30/1979	VST	SPR	NW	NE	3N 37E 23	0.002	STK		0	0		ES	BLM
143	2 to 5	V03199				7/30/1979	VST	SPR	NW	SW	3N 37E 25	0.001	STK		0	0		ES	BLM
143	5 to 10	6733			1625	8/9/1922	CER	OSW	SE	SE	2S 38E 32	0.13	MM		0	0		ES	NIVLOC MINES INC
143	5 to 10	9656			2404	4/26/1933	CER	SPR	NE	NE	2S 38E 17	0.034	MM		0	0		ES	GORDON, R.H.
143	5 to 10	9900			2600	9/16/1935	CER	SPR	SW	SE	2S 38E 32	0.12	MM		0	0		ES	NIVLOC MINES INC
143	5 to 10	11386			3544	10/13/1945	CER	UG	NE	SW	3S 38E 34	0.004	STK		0	1	MGS	ES	CHIATOVICH, S. M.
143	5 to 10	11687			3549	9/14/1946	CER	UG	NW	SE	3S 39E 34	0.004	STK		0	1	MGS	ES	CHIATOVICH, STANLEY
143	5 to 10	11923			3551	7/23/1947	CER	SPR	NE	SW	2S 38E 14	0.003	STK		0	1	MGA	ES	CHIATOVICH, STANLEY
143	5 to 10	12048			4191	10/14/1947	CER	SPR	SW	SW	2S 38E 33	0.003	STK		0	1	MGA	ES	CHIATOVICH, S.M.
143	5 to 10	12451			4193	5/19/1948	CER	SPR	NE	NE	2S 38E 17	0.008	STK		0	2	MGA	ES	CHIATOVICH, S.M.
143	5 to 10	21485			7808	8/26/1963	CER	OGW	SW	SE	2S 38E 32	0.25	MM		0	181	AFA	ES	MID-CONTINENT URANIUM CORP.
143	5 to 10	21773	changed by 26340				CER	SPR	NW	NE	3S 38E 04	0			0	0			
143	5 to 10	26340		21773	8048	10/1/1971	CER	OSW	NE	NE	3S 38E 04	0	WLD		0	30	AFA	ES	NDOW
143	5 to 10	29235			9658	2/20/1975	CER	UG	NE	NW	1S 40E 13	0.004	STK		0	1	MGA	ES	I. C. CATTLE CO. INC.
143	5 to 10	42563			11604	9/30/1980	CER	UG	SE	NE	3S 38E 02	0.03	MM		0	6	MGA	ES	DIVERSIFIED MACHINE TECHNOLOGY

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BASIN	DIST. RANGE	APP.	CHANGED BY	CHANGED FROM	CERT	DATE	STAT	SRC	QQ	QTR	TRS	CFS	USE	SUP	ACRES	DUTY	UNIT	CO	OWNER OF RECORD
143	5 to 10	44411			13631	9/9/1981	CER	UG	NW	NE	3S 38E 05	3	MM		0	577	MGA	ES	ROBERT E. MORI
143	5 to 10	45539			10537	4/15/1982	CER	SPR	NE	SE	2S 38E 03	0.001	DOM		0	0	MGA	ES	GUGGENHEIM, SOLOMON A.
143	5 to 10	V03200				7/30/1979	VST	SPR	SE	SE	4N 38E 34	0.002	STK		0	0		ES	BLM
144	0 to 1	15885			4919	12/8/1954	CER	UG	SW	SW	5S 43E 17	0.005	DOM		0	0		ES	GUYOTT, MARGIE
144	0 to 1	29847	Changed by 48008				CER	UG	NW	NW	5S 43E 20	0			0	0			
144	0 to 1	44375			13750	8/28/1981	CER	UG	NE	NE	4S 43E 33	0.067	MM		0	0	MGA	NY	NEVADA WESTER SILICA CORPORATION
144	0 to 1	48008		29847	12005	4/30/1984	CER	UG	NW	NW	5S 43E 20	0.016	STK		0	4	MGA	ES	VOGT, JACK
144	0 to 1	12414	Changed by 25976				CER	UG	NE	NE	4S 43E 33	0			0	0			
144	0 to 1	25976		12414	8043	2/26/1971	CER	UG	NE	NE	4S 43E 33	0.01	STK		0	2	MGA	NY	COLVIN CATTLE COMPANY
144	2 to 5	11765			4034	2/4/1947	CER	UG	NW	SE	6S 43E 05	0.008999	STK		0	2	MGA	ES	VOGT, JACK N.
144	2 to 5	29674			8849	9/25/1975	CER	UG	NE	SW	6S 43E 05	0.01	STK		0	2		ES	VOGT, JACK N. AND JOAN
144	5 to 10	V04522				8/26/1985	VST	SPR	SE	SE	5S 41E 08	0.005	STK		0	0		ES	VOGT, JACK N.
144	5 to 10	V09399				7/30/2003	VST	UG	NW	NE	5S 41E 26	0	STK		0	0	AFA	ES	VOGT, JOAN
144	5 to 10	9657			2379	5/4/1933	CER	SPR	NW	SW	4S 41E 31	0.025	MM		0	0		ES	IMPERIAL DEVELOPMENT COMPANY, LTD
144	5 to 10	29566			8847	8/8/1975	CER	SPR	NE	NW	5S 41E 06	0.016	STK		0	0		ES	VOGT, JACK N. AND JOAN

NDWR Well Log Data – Mina Study Corridor

Appendix D

Basin No.	Well Log No.	APP	Proposed Use	TRS	Quarters	Well Completion Date	Depth Drilled (ft bgs)	Casing Depth (ft bgs)	Casing Diameter (inches)	Static Water Level (ft bgs)	Yield (gpm)
101	3096		Industrial	17N 28E 36	NE SE	7/25/1955	116	116	6	0	30
101	3097		Domestic	17N 28E 27	SW NE	4/18/1955	80	80	6	16	0
101	7119		Stock	17N 28E 25		4/8/1963	26	26	8	0	0
101	8360		Stock	15N 30E 04	SW SW	1/18/1965	162	162	8.62	145	10
101	10545		Stock	16N 28E 18		5/2/1969	333	0	0	0	0
101	29182	46899	Stock	16N 27E 01	NW SE	10/21/1987	400	400	6.62	340	0
101	29778	51876	Industrial	16N 28E 13	SE NW	2/27/1988	660	660	8.62	87	50
101	43973		Domestic	16N 29E 07	SW SE	1/15/1994	320	320	6.62	150	0
101	46733	9906	Stock	16N 28E 03	NE SE	11/4/1994	92	92	6	35	50
101	61244		Other	16N 27E 10	SE NW	11/12/1984	300	300	1	0	0
101	61246		Other	16N 27E 27	NE NW	11/13/1984	300	300	1	0	0
101	61247		Other	16N 28E 06	SW SW	11/9/1984	300	300	1	0	0
101	64443		Other	16N 27E 10	NE NW	11/12/1984	300	300	1	0	0
102	61242		Other	16N 26E 10	SW NE	11/14/1984	300	300	1	0	0
102	61243		Other	16N 27E 06	SW NW	11/15/1984	300	300	1	0	0
102	61245		Other	16N 27E 17	NW NE	11/8/1984	300	300	1	0	0
108	811		Domestic	14N 25E 16	NW NE	1/29/1949	50	50	6	6	1800
108	1031		Domestic	14N 26E 32	NW NW	7/16/1949	104	103	6	4	20
108	1032		Other	14N 26E 32	NW NW	7/21/1949	57	31	6	4	86
108	3885		Irrigation	14N 26E 34			48	0	0	0	0
108	1883		Domestic	13N 25E 12	SE NE	3/24/1952	92	92	6.25	3	0
108	1996		Stock	13N 26E 05		7/9/1951	88	88	6	7	12
108	2005		Other	14N 25E 04	NE NE	8/7/1952	60	58	6.62	0	0
108	2306		Domestic	14N 26E 06	SE SE	7/21/1953	46	46	6	3	0
108	2353		Domestic	14N 25E 35	NW NE	8/4/1953	49	49	6	8	0
108	2541		Domestic	13N 26E 05	NW	4/10/1954	60	60	6	18	0
108	5098		Domestic	14N 25E 09	SE NE	5/19/1959	97	97	6	65	12
108	5230	18550	Irrigation	14N 25E 04	SW SE	5/16/1960	451	451	16	0	2400
108	5286	18925	Irrigation	14N 25E 15	SE SW	6/16/1960	286	286	14.38	75	1800
108	3983	15560	Irrigation	14N 26E 14	SE SE		63	0	0	0	0
108	4026	16034	Irrigation	14N 26E 22	NE NE	9/15/1957	130	135	12	6	900
108	4086	15975	Domestic	13N 26E 02	SW		107	107	6	70	10
108	4088	15946	Irrigation	14N 26E 26	SE NW		160	160	14	0	0
108	4136	15950	Irrigation	14N 26E 34	NE SW	5/22/1958	120	120	12	38	520
108	4217	17011	Irrigation	14N 26E 35	SW NW	7/25/1958	215	215	10.38	80	150

Basin No.	Well Log No.	APP	Proposed Use	TRS	Quarters	Well Completion Date	Depth Drilled (ft bgs)	Casing Depth (ft bgs)	Casing Diameter (inches)	Static Water Level (ft bgs)	Yield (gpm)
108	4234	16580	Irrigation	14N 26E 22	SE	8/23/1958	96	96	12	10.67	550
108	4358	17100	Irrigation	13N 26E 09	NE NW	12/15/1956	166	160	12	43	1050
108	5474	18444	Irrigation	14N 26E 34	SE NE	10/14/1960	200	200	12	72	0
108	5521	18735	Irrigation	14N 25E 08	SE NE	7/25/1960	523	0	16.25	0	2300
108	5561	14632	Irrigation	13N 26E 09	NE NE		160	130	12	17	900
108	5634	16895	Domestic	14N 26E 34	SW SE		190	180	10	67	350
108	5793	18633	Irrigation	14N 25E 27	SW NE	7/14/1960	320	0	16.25	11	2200
108	5804	18934	Irrigation	14N 25E 25	SW NE	3/29/1961	417	417	14	7	1000
108	5805	18931	Irrigation	14N 25E 02	SW NE	3/26/1961	500	500	14	7	1200
108	5822	19661	Irrigation	14N 26E 32	SE NE	4/4/1961	308	308	14	8	1200
108	5838	19599	Irrigation	14N 26E 31	SE SW	4/6/1961	329	329	14	13	1200
108	5867	18688	Irrigation	14N 26E 22	NW	3/17/1961	176	176	12	7	0
108	5868	17364	Irrigation	14N 26E 15	SE NE	4/24/1961	158	158	12	3	0
108	6138	19839	Irrigation	14N 25E 09	SE SE	6/23/1961	280	280	16.25	0	0
108	6292	17687	Irrigation	13N 26E 02	NW NW	11/4/1961	203	203	12	65	126
108	6394	18672	Irrigation	14N 25E 16		7/2/1960	225	225	16	9	1785
108	8005	22153	Irrigation	14N 26E 35	NE NE	6/12/1964	330	312	14	122	0
108	6597	18600	Irrigation	14N 26E 35	NW SW	8/20/1958	157	157	8	60	210
108	6650	19705	Irrigation	14N 26E 14	NW SW	6/25/1962	140	140	10	10	229
108	6819	19516	Irrigation	15N 25E 32	NE NE	7/13/1962	428	428	16	0	1974
108	7126	18957	Irrigation	14N 25E 04	SE SE	4/10/1963	100	100	12	8	0
108	7265		Domestic	15N 26E 05	SE	6/15/1963	78	78	6	6	30
108	7297	18512	Irrigation	14N 25E 23	NW NW	9/23/1962	180	180	16	13	0
108	7456	21537	Irrigation	14N 25E 33	NE NE	4/26/1963	60	60	6	6	0
108	7457	21536	Irrigation	14N 25E 33	SE NE	4/23/1963	60	60	6	7	0
108	7458	21535	Irrigation	14N 25E 33	NE NE	4/9/1963	60	60	6	8	0
108	7459	21534	Irrigation	14N 25E 33	NE NE	4/6/1963	80	80	8	10	0
108	7460	21533	Irrigation	14N 25E 33	SE NE	3/15/1963	80	80	8	12	0
108	7550	18729	Stock	14N 25E 04	SE NW	11/19/1963	80	80	6	8	0
108	4750	17660	Irrigation	14N 26E 03	NW SE	5/1/1959	160	123	12	2	500
108	4786	17403	Irrigation	14N 26E 26	SE NE	8/10/1959	157	157	12	75	0
108	4991	25070	Irrigation	14N 26E 35	SE NE	9/1/1959	262	262	12	141	300
108	4992	17065	Irrigation	14N 26E 23	SW SW	6/15/1959	136	0	12	30	0
108	5315	18806	Irrigation	14N 26E 31	SW SE	6/12/1960	241	241	16	0	2250
108	5319	18712	Irrigation	14N 26E 32	SW NW	7/3/1960	120	120	12	4	0

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108	6857	18872	Irrigation	14N 25E 08	SW SE	6/17/1960	418	0	16	0	0
108	5940	19750	Irrigation	13N 26E 06	SE SE	5/18/1961	241	241	14	8	1500
108	5944	18986	Irrigation	14N 25E 34	NW SW	3/30/1961	358	0	16.25	10	2500
108	6024		Stock	14N 25E 12	NE NE	7/20/1961	24	24	6	9	0
108	5357	19018	Irrigation	13N 26E 05	NW SE	7/26/1960	333	333	14.38	9	1600
108	5392	16377	Irrigation	14N 26E 26	SE SW	8/15/1960	260	212	6	155	650
108	9979		Domestic	13N 26E 08	SE NW	2/10/1968	61	61	6.62	5	0
108	9980		Domestic	13N 26E 08		2/24/1968	104	104	6.62	40	0
108	9982		Domestic	13N 26E 09		3/25/1968	66	66	6.62	12	0
108	9983		Domestic	13N 26E 09		3/27/1968	80	80	6.62	12	0
108	9984		Domestic	13N 26E 09		2/19/1968	103	103	6.62	40	0
108	9997		Domestic	14N 25E 16		4/4/1968	79	79	6	12	32
108	9998		Stock	14N 25E 04	SW NE	3/5/1968	75	75	8	8	70
108	10984		Other	13N 25E 12		11/19/1969	102	102	6.62	4	25
108	10989		Domestic	14N 26E 34	SE	4/9/1970	120	120	6.62	58	0
108	13911		Domestic	14N 26E 19	NE	2/11/1974	90	90	8.62	8	0
108	13912		Domestic	14N 26E 23	NW SW	2/3/1974	125	125	6.62	10	0
108	13914		Domestic	14N 25E 09	SE SE	10/3/1973	124	124	6.62	4	0
108	13924		Domestic	14N 25E 10	NW NE	4/26/1972	136	136	8.62	12	0
108	13943		Domestic	14N 25E 16		3/27/1974	100	100	8.62	34	40
108	13944		Domestic	14N 25E 04	SW NE	3/25/1974	84	84	8.62	8	40
108	13945		Domestic	14N 25E 04		3/19/1974	156	156	8.62	26	40
108	13967	28066	Irrigation	14N 25E 10	SW SW	4/10/1974	460	460	16	12	3000
108	14028		Domestic	13N 26E 08	SE NW	5/4/1974	81	81	6.62	8	0
108	14029		Domestic	14N 26E 35	SE NE	5/20/1974	195	195	8	130	0
108	14031	26556	Domestic	13N 26E 10	NE NW	8/23/1973	169	169	12.625	0	0
108	14032	26596	Domestic	13N 26E 10	SE NW	8/13/1973	167	167	12.625	0	0
108	14651		Domestic	14N 25E 16			101	101	8.62	0	40
108	14652		Domestic	14N 25E 16			100	100	8.62	0	40
108	7552		Domestic	13N 26E 09	NW SE	11/14/1963	60	60	6	25	0
108	7762	18729	Irrigation	14N 25E 04	SE NW	7/10/1960	438	430	16	0	0
108	7907	25916	Irrigation	14N 26E 26	SW SW	6/11/1964	250	250	12.24	64	0
108	7965		Domestic	13N 26E 09	NE NW	6/27/1964	69	69	8	12	50
108	7966		Domestic	14N 26E 28	SW	6/29/1964	73	73	8	6	50
108	8103	20180	Irrigation	14N 26E 23	NW SW	8/20/1964	140	140	16	4	0

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108	8104	17659	Irrigation	14N 26E 03	SW NE	7/14/1964	75	75	11	4	0
108	8214		Domestic	13N 26E 02		10/24/1964	130	130	8	123	15
108	8463		Irrigation	14N 26E 03	SE NW	1/15/1965	152	0	16	4	0
108	9011		Domestic	14N 25E 03	SW SW	6/5/1966	120	120	6.62	12	20
108	9089	23356	Domestic	14N 25E 20	NE SE	7/14/1966	120	120	8.62	20	0
108	8748		Domestic	14N 25E 34	NW SW	10/23/1965	100	100	6.62	12	0
108	8774	20821	Other	14N 26E 18	NE NW		525	525	16	14	3080
108	9974	22169	Irrigation	14N 25E 03	SE SE	1/15/1968	258	258	16	11	2100
108	9976		Domestic	15N 25E 27		1/18/1968	102	102	6.62	0	0
108	9977		Domestic	14N 26E 23	SE SW	1/25/1968	102	102	6.62	20	0
108	9978		Domestic	13N 26E 08	SE NW	2/15/1968	71	71	6.62	5	0
108	9266		Domestic	14N 26E 34	NE SW	10/28/1966	85	85	6.62	41	0
108	9401		Domestic	14N 26E 07		2/14/1967	200	200	6.62	38	60
108	9442		Domestic	13N 26E 04	SW SE	2/14/1967	85	85	8.62	11	0
108	9526		Domestic	14N 25E 21	NW NE	5/13/1967	100	100	6.62	11	100
108	10056		Domestic	14N 25E 16	SE	5/11/1968	79	79	6	12	32
108	10083		Domestic	14N 25E 16	NE	5/28/1968	83	83	6	0	48
108	10086		Domestic	14N 25E 10	NE	5/15/1968	83	83	6	0	32
108	10090		Domestic	13N 26E 08	NW NW	5/11/1968	99	99	6.62	6	100
108	10109	16580	Irrigation	14N 26E 22	SE SE	5/21/1968	214	214	14	10	0
108	10110		Domestic	14N 26E 23	SW SW	4/30/1968	78	78	6.62	8	0
108	10111		Domestic	14N 26E 23	SW SW	6/22/1968	90	90	6.62	8	0
108	10197		Domestic	13N 26E 08	SE SE	7/20/1968	67	67	6.62	15	0
108	10229		Domestic	14N 25E 16		8/28/1968	75	75	6	0	50
108	10238		Domestic	14N 26E 35	SW SW	8/12/1968	133	133	6.62	70	22
108	9610	23202	Domestic	14N 25E 12	NE NE	9/29/1966	649	649	18	9.9	2513
108	9611	23203	Other	14N 25E 01		8/3/1966	611	611	18	9.55	1500
108	9654		Domestic	14N 26E 15	NE	8/21/1967	190	190	6.62	4	25
108	9749	23752	Irrigation	14N 26E 17	SE SW	10/18/1967	600	600	18	10.5	4290
108	9887		Domestic	14N 25E 03	SW SW	1/2/1968	77	77	6.62	7	40
108	9941		Domestic	14N 25E 28	NE	2/8/1968	87	88	6	12	32
108	9944		Domestic	14N 26E 32	SW SW		100	100	6.62	7	0
108	10000		Domestic	14N 25E 09	NE	3/15/1968	95	95	8	12	48
108	10018		Stock	14N 25E 20	NE SE	3/25/1968	60	60	6.62	0	60
108	10026		Domestic	14N 25E 16	NE	4/24/1968	79	79	6	10	32

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108	10027		Domestic	14N 25E 16		4/23/1968	79	79	6	10	32
108	10028		Domestic	14N 25E 10	NE	4/20/1968	83	83	6	10	32
108	10029		Domestic	14N 25E 16		4/17/1968	79	79	6	13	32
108	10037		Domestic	13N 25E 11	NE NE	4/2/1968	100	100	6.62	6	100
108	10052		Domestic	14N 25E 16	SE	5/2/1968	79	79	6	12	32
108	10053		Domestic	14N 25E 16	SE	5/6/1968	79	79	6	12	48
108	10054		Domestic	14N 25E 16	SE	4/30/1968	79	79	6	12	48
108	10383		Domestic	14N 26E 03	SE SE	10/1/1968	157	157	6.62	10	0
108	10384		Domestic	13N 26E 04	NW SE	7/15/1968	112	112	6.62	19	0
108	10482		Domestic	14N 25E 04	SE SE	3/8/1969	101	101	6.62	11	0
108	10483		Domestic	14N 26E 35	NW NW	3/15/1969	170	170	6.62	0	0
108	10520		Domestic	13N 26E 04	SE SE	4/21/1969	102	102	6.62	15	30
108	10569		Domestic	13N 26E 08	SW NE	4/26/1969	80	80	6.62	10	40
108	10662		Domestic	13N 26E 09		6/26/1969	80	80	8	9	0
108	10667		Domestic	13N 26E 03	SE NE	7/19/1969	133	133	6.62	70	0
108	10699		Domestic	14N 26E 22	SE SE	5/7/1967	105	105	16	10	1100
108	10807		Domestic	13N 26E 08	NW SE	10/28/1969	92	92	6	20	40
108	10836		Domestic	13N 26E 12	NW	9/15/1969	106	106	6.625	3	50
108	10845		Irrigation	13N 26E 09	SE	3/24/1969	69	69	6.62	20	0
108	11080		Domestic	13N 26E 09	SE SE	6/16/1970	99	99	6.62	14	33
108	11081		Domestic	13N 26E 17	NW NE	5/20/1970	106	106	10.625	14	20
108	11401		Domestic	13N 26E 09	NW NW		107	107	6.62	7	60
108	11402		Domestic	13N 26E 08	SW SE	11/14/1970	90	90	6.62	6	35
108	11403		Domestic	13N 26E 10	NE NE	10/1/1970	273	250	6.625	135	8
108	11404		Domestic	13N 26E 09		11/20/1970	106	106	6.62	6	40
108	11430		Domestic	14N 26E 23	NE SW	11/22/1970	90	90	6.62	10	0
108	11432		Domestic	14N 26E 23	NW SW	1/23/1971	93	93	6.62	18	0
108	11453		Domestic	14N 25E 16	SE	3/11/1971	96	96	6	0	40
108	14073	26447	Irrigation	14N 25E 04	SW SW	4/18/1974	456	465	16	10	0
108	14103		Other	14N 25E 16		4/26/1974	86	86	8.62	10	60
108	14112	27929	Irrigation	14N 25E 16	SE SW	6/4/1974	315	315	16	0	0
108	14178		Domestic	14N 25E 10	NE SW	11/6/1973	102	102	10.75	7	60
108	14233	27300	Irrigation	14N 25E 15	NW SE	5/31/1974	299	299	6	6.5	2250
108	14234	28823	Domestic	14N 25E 15	NW SE	5/30/1974	218	150	8.62	8	30
108	12299	26773	Irrigation	14N 26E 35	NE NE	4/22/1972	300	300	8.62	135	50

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108	12353		Domestic	14N 25E 10	NE NW	5/21/1972	95	90	6.62	8	48
108	12638		Domestic	14N 26E 34		4/11/1972	100	100	6.62	45	0
108	12639		Domestic	14N 25E 10	NE NW	6/26/1971	120	120	6.62	12	0
108	12640		Domestic	14N 26E 23	NE SW	9/23/1971	90	90	6.62	15	0
108	12644		Domestic	14N 26E 34		10/2/1970	135	135	6.62	70	0
108	12645		Domestic	14N 26E 23	SW SW	8/9/1971	124	124	8.62	15	0
108	12646		Domestic	14N 26E 23	SW SW	5/15/1971	91	91	6.62	6	0
108	12647		Domestic	14N 25E 04	SE SE	2/4/1972	80	80	6.62	30	0
108	12648		Domestic	13N 26E 04	SW SE	3/4/1972	80	80	6.62	15	0
108	12649		Domestic	13N 26E 04	SW SE	3/7/1972	80	80	6.62	15	0
108	12650		Domestic	13N 26E 04	SW SE	3/10/1972	80	80	6.62	15	0
108	12651		Domestic	13N 26E 04	SW SE	3/12/1972	80	80	6.62	15	0
108	12652	26629	Domestic	15N 25E 16	NW SW	3/23/1972	180	180	8.62	70	0
108	13136		Domestic	13N 26E 08	SW NE	10/15/1970	80	80	6.62	16	0
108	13137		Domestic	13N 26E 10	NE NE	12/20/1971	261	261	6.625	50	0
108	13140		Domestic	14N 26E 23	NW SW	5/12/1973	80	80	6.62	12	0
108	13551		Domestic	15N 25E 35	SW NE	10/20/1972	200	200	6.62	0	60
108	13868	28743	Domestic	14N 26E 35	NW SW	3/7/1974	181	181	10.75	88	40
108	13909		Stock	14N 26E 15	SE SE	4/1/1974	92	92	6.62	10	0
108	14567		Domestic	14N 25E 10	NE NW	2/8/1975	115	115	6.62	8	200
108	14568		Domestic	14N 25E 09	SE SE	2/2/1975	94	94	6	8	20
108	14577		Domestic	14N 25E 10	NE NW	2/11/1975	113	113	6.62	8	200
108	14584	27839	Irrigation	14N 26E 29	SW SE	9/25/1974	288	288	14	5	0
108	14585	28290	Irrigation	13N 26E 08	NW NE		130	130	12.75	8	650
108	14588	27302	Irrigation	13N 25E 01	SW SW		80	80	10.62	10	0
108	14842	26717	Public Supply-municipal	13N 26E 08	NE SW	6/23/1975	144	144	12.75	9	0
108	15665	28324	Irrigation	14N 25E 10	SE NE	6/19/1976	410	410	16	8	0
108	15711	30447	Irrigation	14N 26E 22	NE NE	7/13/1976	250	250	16	10	0
108	14904	27558	Irrigation	13N 26E 08	NW SW	7/12/1975	153	153	12.75	7	0
108	14917		Irrigation	13N 26E 14	NW	8/8/1952	60	60	8.625	5	100
108	15080		Domestic	13N 26E 09	SE SW	8/28/1975	119	119	6.62	50	22
108	15081		Domestic	14N 25E 04	SE SE	8/23/1975	106	106	6.62	8	20
108	15082		Stock	14N 25E 04	SE SE	8/21/1975	92	92	8.62	7	20
108	15336		Domestic	14N 25E 28	SE SE	12/24/1975	105	105	6.62	9	34
108	15464		Domestic	14N 26E 23	SE SW	3/5/1976	101	101	6.62	0	0

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108	14719		Domestic	13N 26E 05	SW SW	4/19/1975	106	106	6.62	8	25
108	17403		Domestic	14N 25E 16	SE SE	12/28/1977	112	112	6.62	15	60
108	17537		Domestic	14N 26E 35	SW NE	2/3/1978	193	193	8	130	22
108	14332		Domestic	14N 26E 25	NE NE	8/12/1972	160	155	6.62	125	0
108	14333		Domestic	13N 26E 03	SE SW	6/15/1974	263	263	6.62	100	0
108	14334		Domestic	14N 26E 35	SE NE	4/26/1973	202	202	6.62	130	0
108	14376		Domestic	13N 26E 09		10/12/1974	92	92	6	20	50
108	14377		Domestic	13N 26E 09		10/11/1974	92	92	6	20	5
108	14378		Domestic	13N 26E 09		9/27/1974	106	106	6	20	50
108	19536		Domestic	14N 26E 35	SW NW	3/29/1979	178	178	6	80	30
108	19579		Domestic	13N 26E 02	NW	3/29/1979	165	165	6.62	95	0
108	19638		Domestic	13N 26E 09	SW NE	3/30/1979	103	102	8.62	22	60
108	19663		Domestic	14N 26E 35	SW NW	4/9/1979	164	164	6	70	30
108	20792		Domestic	14N 25E 16	NE NE	3/15/1980	105	104	6.62	11.5	50
108	20801		Domestic	13N 26E 14	SE SE		105	105	8	20	100
108	20929		Domestic	13N 26E 08	NW SE	3/25/1980	100	99	6.62	14	30
108	19769		Domestic	13N 26E 08	SW NE	5/9/1979	141	141	8	14	30
108	19794		Domestic	13N 26E 09	NE NW	5/15/1979	102	101	6.62	16	20
108	19795		Domestic	13N 26E 03	SW NW	5/7/1979	105	105	6.62	24	21
108	19811		Domestic	13N 26E 08	SW NE	5/14/1979	125	125	8	17	20
108	20047		Domestic	13N 26E 08	SE	5/22/1979	102	101	8.62	22	35
108	20122		Domestic	14N 26E 10	SE	6/13/1979	94	94	8.625	15	25
108	20157		Domestic	13N 26E 08	SE SE	6/29/1979	80	80	6	22	40
108	20158		Domestic	14N 26E 25	NE NE	7/11/1979	200	199	6.62	138	30
108	20159		Domestic	14N 26E 25	NE NE	7/21/1979	189	188	6.62	138	15
108	20213		Domestic	14N 26E 26	SE NW	7/26/1979	144	143	6.62	56	20
108	20226		Domestic	13N 26E 09	NW SW	8/10/1979	162	162	8	30	50
108	20426		Domestic	13N 26E 09	NE NE	10/10/1979	103	103	8	53	30
108	20505		Domestic	14N 26E 23	NW NW	11/12/1979	147	147	6.62	0	60
108	20506		Domestic	14N 26E 23	NE SW	11/17/1979	97	97	6.62	10.5	40
108	20553		Domestic	13N 26E 04	NE SE	12/8/1979	99	99	8.62	20	37
108	20554		Domestic	14N 26E 25	SE NE	12/1/1979	203	203	8.62	160	30
108	20651		Other	14N 25E 16		12/7/1979	115	115	8.62	12	20
108	20697	32826	Stock	14N 26E 19	SE SE	10/15/1977	55	0	0	5	60
108	20962		Domestic	13N 26E 03	SW NW		132	132	6.62	14	50

Basin No.	Well Log No.	APP	Proposed Use	TRS	Quarters	Well Completion Date	Depth Drilled (ft bgs)	Casing Depth (ft bgs)	Casing Diameter (inches)	Static Water Level (ft bgs)	Yield (gpm)
108	20987		Domestic	14N 25E 16	NE SE	4/12/1980	105	104	6	9	80
108	15465		Domestic	14N 26E 23	SE SW	4/12/1976	118	118	8.62	9	0
108	15467	28547	Irrigation	14N 26E 23	SE SW	4/5/1976	147	147	10	12	0
108	15580		Domestic	14N 25E 20	NW NE	5/13/1976	125	125	8.62	15	20
108	15616	28743	Irrigation	14N 26E 35	NW SW	11/27/1974	200	200	12.75	0	0
108	15824		Domestic	16N 26E 23	NW NW	7/9/1976	112	112	6	10	30
108	15826		Domestic	13N 26E 03	SW SW	7/13/1976	105	105	6	30	22
108	15995	30192	Irrigation	15N 25E 34	SW NE	11/12/1976	370	370	16	10	0
108	16171		Domestic	14N 25E 05	SW SE	2/11/1977	108	108	8	9	25
108	16266		Domestic	13N 26E 10	SW NW	10/28/1976	104	104	6	18	22
108	16375		Domestic	14N 25E 28		4/21/1977	117	117	6	65	22
108	16376	30265	Irrigation	13N 26E 05	SW SE	3/24/1977	101	101	8	8	22
108	16414	30259	Irrigation	13N 25E 01	NW SE	4/8/1977	303	303	16	8	0
108	16447	30263	Irrigation	13N 26E 07	SE NE	4/21/1977	317	317	16	0	0
108	16448	30068	Irrigation	13N 26E 07	SE NW	4/16/1977	400	400	16	251	0
108	16506		Domestic	14N 26E 35	SE NE	4/16/1977	194	194	8	128	22
108	16507		Domestic	14N 25E 09	NW SE	4/8/1977	100	100	8	12	22
108	16508		Domestic	13N 26E 08	SE	4/2/1977	100	100	8	21	22
108	16828		Domestic	14N 26E 10	SE SE	7/14/1977	141	141	8.62	0	20
108	16903	30830	Irrigation	14N 25E 05	NE NE	8/21/1977	500	500	16	25	0
108	16533	30169	Irrigation	14N 25E 27	NE NW	5/4/1977	300	289	16	0	0
108	16534	30521	Irrigation	13N 26E 04	NE SW	4/14/1977	355	355	16	16	0
108	16929		Domestic	14N 26E 23	NW SW	8/17/1977	101	101	6.62	14	40
108	16930		Domestic	14N 26E 23	NE SW	8/19/1977	102	102	6.62	14	40
108	16933	18712	Irrigation	14N 26E 32	SW NW	8/1/1977	249	249	14	23	1500
108	17243		Domestic	14N 25E 21	NW NE	10/27/1977	98	98	6	18	22
108	17402	30990	Irrigation	14N 26E 32	SW SE		330	330	16	12	2000
108	17650		Domestic	14N 25E 11	NE SW	2/20/1978	109	109	6	10	30
108	17845		Domestic	14N 25E 16	SE SE	3/29/1978	119	119	10.75	15	60
108	18424		Domestic	13N 26E 03	SW NW	6/19/1978	136	136	10	20	60
108	18534		Domestic	14N 25E 28	SE NE	6/23/1972	96	96	6.625	10	22
108	18538		Domestic	13N 26E 04	NE SE	6/20/1978	100	100	6	12	22
108	18784	31565	Public Supply-municipal	13N 26E 03	SE SW	8/24/1978	300	300	12.75	0	0
108	19180	41155	Domestic	13N 26E 16	NE NW	11/28/1978	122	122	8.625	66	22
108	19344		Domestic	14N 26E 35	NW NW	1/26/1979	170	170	6	87	20

Basin No.	Well Log No.	APP	Proposed Use	TRS	Quarters	Well Completion Date	Depth Drilled (ft bgs)	Casing Depth (ft bgs)	Casing Diameter (inches)	Static Water Level (ft bgs)	Yield (gpm)
108	19488		Domestic	14N 26E 35	NE SW	2/19/1979	170	170	8	108	22
108	19489		Domestic	13N 26E 09	NE SE	3/2/1979	103	102	6.62	32	20
108	21062		Domestic	13N 26E 16	NW NW	4/15/1980	82	82	8.625	35	15
108	21243		Domestic	13N 26E 16	NW NW	6/22/1980	105	105	8.625	58	35
108	21295		Domestic	13N 25E 11	NE NE	6/24/1980	125	125	6	6	50
108	21350		Domestic	13N 26E 04	SW	7/22/1980	99	99	6.62	10	40
108	21351		Domestic	14N 26E 35	SW SW	7/10/1980	180	179	6.62	87	14
108	21484		Domestic	13N 26E 16	NW NW	6/22/1980	105	105	8.625	58	0
108	21547		Domestic	14N 25E 05	NW NE	7/25/1980	103	102	6.62	4.5	40
108	21634		Domestic	13N 26E 08	SE SE	9/10/1980	100	99	8.62	20	20
108	22156		Domestic	13N 26E 09	SW NE	11/23/1980	98	97	8.62	27	30
108	22158		Domestic	14N 26E 35	SW SW	11/15/1980	168	163	6.62	80	30
108	22271		Domestic	14N 25E 26	NE SW	12/21/1980	115	115	8	0	30
108	22292		Domestic	14N 25E 04	SE SE	12/23/1980	100	99	6.62	7	100
108	23008		Domestic	13N 26E 04	NE SE	6/6/1981	99	99	6.62	17.5	37
108	23046		Domestic	13N 26E 03	SW NE		232	232	6.62	62	30
108	23199		Domestic	13N 26E 09	NW NW	8/22/1981	110	110	8	29	25
108	23269		Domestic	13N 26E 05	SE	8/26/1981	118	118	9.88	15	0
108	23303	50520	Irrigation	14N 25E 03	SE SE	9/17/1981	604	604	16	24.75	0
108	23360	18806	Irrigation	14N 26E 31	SW SE	10/13/1981	400	400	16	17	0
108	23382		Domestic	14N 26E 35	SE NE	9/23/1981	200	199	6.62	145.5	25
108	23383		Domestic	14N 26E 35	SW NW	10/23/1981	194	193	8.62	87	30
108	24759		Domestic	14N 26E 23	SW SW	7/14/1983	103	103	6.62	12	35
108	24884		Domestic	13N 26E 05	NW NW	9/10/1983	96	96	6.62	6	60
108	23496		Domestic	13N 26E 04	SE SE	12/19/1981	102	101	6.62	19	20
108	23497	89447	Domestic	13N 26E 10	NE NE	12/11/1981	301	300	8.625	126	20
108	23500	45594	Irrigation	15N 25E 21	NE SW	12/27/1981	320	320	14	0	850
108	23501	43572	Industrial	15N 25E 22	SW SW	11/15/1981	293	293	12.75	7	900
108	23600		Domestic	13N 26E 06	NW NW	3/10/1982	108	108	6.62	7.17	60
108	23609		Domestic	14N 26E 23	SW SW	3/20/1982	122	122	6.62	12	60
108	23610		Domestic	14N 26E 26	SW SE	3/27/1982	192	192	6.62	93	22
108	23707	25916	Irrigation	14N 26E 26	SW SW	5/1/1982	275	264	16	0	2000
108	23742		Domestic	13N 26E 09	NE SW	10/17/1981	85	85	0	21	0
108	23744		Other	13N 26E 04	NW NW	12/31/1981	97	97	6.62	18	0
108	23745		Domestic	13N 26E 04	NW NW	12/28/1981	100	100	6.62	19	0

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108	23788		Domestic	14N 26E 02	NE NE	7/24/1981	100	100	6.62	0	-3
108	23852		Domestic	14N 25E 16	SE SE	6/27/1982	150	150	8	17	20
108	24097		Domestic	14N 26E 35	NW NW	9/3/1982	151	150	6.62	83	20
108	24098		Domestic	15N 25E 34	NW SE	9/23/1982	193	192	8.62	4	100
108	24232		Domestic	14N 25E 10	NW NE	11/8/1982	126	126	6.62	4.6	65
108	24348		Domestic	15N 25E 28	SE NE	1/17/1983	73	73	0	5	25
108	24540		Domestic	13N 26E 09	NE NW	4/6/1983	116	116	6.62	19	30
108	24545		Domestic	14N 25E 04	SW NW	4/10/1983	170	169	6.62	6.25	60
108	25167		Domestic	13N 26E 09	NW NE	2/16/1984	104	104	6.63	20	22
108	25231		Domestic	14N 26E 23	SW SW	3/8/1984	119	119	6.62	10	20
108	24562	30383	Irrigation	13N 26E 09	NW SE	4/15/1983	210	210	16	0	0
108	24944		Domestic	13N 26E 08	SE NW	9/25/1983	99	99	6.62	6	75
108	25010		Domestic	14N 25E 03	SW SW	10/13/1983	124	124	6.62	4	37
108	25082		Domestic	13N 26E 09	SW SE	1/4/1984	194	194	8.63	65	45
108	25150		Domestic	13N 26E 02	SW NW	2/4/1984	148	148	6.62	83	20
108	25582		Domestic	13N 26E 09	NW NE	7/22/1984	103	104	6.62	21	35
108	25689		Domestic	14N 25E 03	SW SW	8/23/1984	112	112	6	18	20
108	25702		Domestic	14N 25E 16	SE SE	8/29/1984	159	158	6.62	10	20
108	25749		Domestic	14N 26E 33	SE SE	9/8/1984	100	100	6	20	22
108	26676		Domestic	13N 26E 02	SW SW	1/14/1986	201	203	8	135	4
108	26677		Domestic	13N 26E 02	SW SW	1/29/1986	178	180	8	138	5
108	26678		Domestic	13N 26E 02	SW SW	11/21/1985	170	172	8	130	20
108	26679		Domestic	13N 26E 02	SW SW	9/28/1985	221	223	6	154	0
108	26680		Domestic	13N 26E 02	SW SW	4/24/1986	180	0	0	0	0
108	26681		Domestic	13N 26E 03	SW NW	2/24/1984	99	100	6	25	22
108	26682		Domestic	13N 26E 04	NE SE	8/20/1985	100	102	6.62	20	20
108	26683	48636	Public Supply-municipal	13N 26E 04	SE SE	5/9/1985	100	101	6.62	18	20
108	26684		Domestic	13N 26E 09	NE NE	10/27/1984	118	119	8.62	22	37
108	26685	48283	Public Supply-municipal	13N 26E 09	NW NE	5/16/1986	99	100	6.62	24	25
108	26686		Domestic	13N 26E 09	SW NW	12/27/1984	100	101	6.62	0	22
108	26687	41985	Domestic	13N 26E 10	SE NW	8/22/1983	167	169	12.62	0	0
108	26688	48730	Irrigation	14N 25E 10	NW SW	3/28/1986	500	501	16	12	3000
108	26695		Domestic	14N 26E 19	NW SW	5/11/1985	99	100	8.62	5	100
108	26696		Domestic	14N 26E 26	SW NE	5/19/1986	148	148	6.62	69	20
108	26697		Domestic	15N 25E 34	NW SE	12/15/1984	209	210	8.62	5	75

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108	27729		Test well	14N 26E 18	SE NW	8/18/1986	380	380	6	6	400
108	27730		Test well	14N 26E 18	NE SW	8/11/1986	540	540	4	6	35
108	27780		Domestic	14N 26E 35	NE NW	9/5/1986	157	157	8	95	20
108	27904		Domestic	15N 25E 29	SE SE	10/22/1986	95	95	6.62	3	70
108	28568		Domestic	13N 26E 10	NE NE	6/12/1987	276	276	6.62	112	22
108	28569		Domestic	15N 25E 11	SW SW	4/25/1987	170	170	8.62	20	40
108	28908		Domestic	13N 26E 08		8/16/1987	115	115	8	30	30
108	28962		Domestic	14N 25E 16		6/28/1987	130	130	8	18	30
108	29347		Domestic	14N 26E 35	SE SW	8/25/1987	185	185	6.62	113	20
108	29574		Domestic	14N 25E 04	SW NE	1/27/1988	111	111	8.62	9	70
108	29980		Domestic	14N 25E 10	NE NW	5/20/1988	125	125	8	20	35
108	30007	47644	Industrial	15N 25E 15	NW SW	12/9/1986	500	500	12.75	26	0
108	31426	52506	Stock	15N 25E 31	NE NE	3/31/1989	97	97	6.62	7.8	60
108	30269	50704	Aquaculture	14N 26E 18	SE NW	5/24/1988	375	375	26	13	0
108	30270	50703	Aquaculture	14N 26E 18	NE SW	7/15/1988	415	415	26	14.2	0
108	30271	50707	Aquaculture	14N 26E 18	NE NW	6/7/1988	400	400	26	12.4	0
108	30272	50706	Aquaculture	14N 26E 18	NE NW	6/28/1988	410	410	26	13.6	0
108	30471		Domestic	13N 26E 04	SE SE	7/30/1988	115	115	6.62	26	20
108	30475		Domestic	14N 25E 04	SW NE	10/4/1988	111	111	8.62	15.5	60
108	30476		Domestic	14N 25E 09	SW SE	9/17/1988	97	97	6.62	20.7	38
108	30621		Domestic	13N 26E 05	NW NW	10/16/1988	101	101	6.62	15	40
108	30624	50702	Aquaculture	14N 26E 18	NE SW	8/16/1988	415	415	26	20.5	0
108	30630		Domestic	15N 25E 01	NE SW	11/10/1988	98	98	6.62	12	60
108	31221		Domestic	14N 25E 10	NW NW	2/27/1989	123	123	6.62	12	35
108	31222		Domestic	14N 25E 20	NW NE	1/11/1989	200	190	8	24	625
108	31622	27302	Irrigation	13N 25E 01	SW SW	4/24/1989	352	352	16	15	0
108	31754		Domestic	13N 26E 04	SE SW	6/9/1989	102	102	8	30	20
108	32415	51939	Irrigation	13N 25E 03	NE NE	7/26/1988	405	405	16	18.5	0
108	32416		Domestic	13N 26E 08	SW NE	10/12/1989	117	117	8	17	0
108	32702		Domestic	13N 26E 03	NE SE	11/10/1989	307	306	6.62	105	10
108	32703		Domestic	13N 26E 09	NW SW	11/25/1989	102	102	6.62	33	20
108	33082		Domestic	13N 26E 04	NW SE	12/23/1989	99	99	8.62	17	20
108	33087		Domestic	14N 25E 04	SE SE	2/13/1990	101	101	6.62	13	60
108	34160		Domestic	13N 26E 09	SW NE	8/16/1990	140	140	6	40	50
108	34719		Domestic	14N 26E 34	SE SE	9/28/1990	150	150	6.62	81	22

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108	34890		Domestic	14N 26E 33	SE	6/1/1985	87	87	6.62	20	60
108	35809	30259	Irrigation	13N 25E 01	NW SE	2/28/1991	580	570	16	14	4500
108	35814		Domestic	14N 25E 16	NE SE	2/9/1991	160	160	6	20	50
108	35815		Domestic	14N 26E 22	NE NW	2/15/1991	258	258	6.62	16	100
108	35816	18712	Irrigation	14N 26E 32	SW NW	2/22/1991	400	100	30	10	3500
108	35947		Domestic	14N 25E 15	NW SE	3/6/1991	197	197	8	24	30
108	36180	24013	Irrigation	13N 26E 05	NW SE	4/12/1991	333	332	16	22	0
108	36755		Domestic	14N 25E 05	SE SW	6/25/1991	241	240	6.62	55	20
108	36756		Domestic	14N 25E 16	SE SE	5/7/1991	150	150	8.62	36	15
108	36758		Domestic	14N 26E 34	SE SE	6/12/1991	160	160	6	80	30
108	36765		Domestic	13N 26E 03	NW SE	6/15/1991	320	320	6	80	25
108	51161		Other	14N 26E 34	NE NE	10/24/1995	181	180	6.62	92	50
108	51425		Domestic	13N 26E 10	SW SE	5/31/1996	337	337	6.62	92	15
108	52000		Domestic	14N 26E 25	NE	1/20/1996	200	200	6.62	111	65
108	54954		Domestic	14N 26E 26	NW NW	9/2/1996	120	120	6.62	26	20
108	54966		Monitoring Well	15N 25E 35	SW NE	10/20/1995	15	15	2	6	0
108	55090		Domestic	14N 26E 26	SW NW	9/2/1994	179	179	6.62	56	30
108	71280		Domestic	14N 25E 16	SE NE	1/7/1998	140	140	6.62	83	25
108	71616		Domestic	13N 26E 06	NE NE	5/22/1998	240	240	8.62	13	20
108	71984		Domestic	14N 25E 09	SE SE	2/17/1998	155	155	6.62	10	35
108	72026		Domestic	14N 25E 04	NE SE	4/23/1998	120	120	8.62	30	20
108	37350		Domestic	14N 26E 22	NE SE	8/7/1991	143	142	6.62	20	30
108	37384	63179	Irrigation	14N 26E 14	SW NW	7/3/1991	400	400	16	35	0
108	37385		Domestic	14N 26E 35	NE NE	7/10/1991	264	263	6.62	173	20
108	37795		Domestic	13N 26E 04	SE SE	9/19/1991	150	150	6.62	31	30
108	37796		Domestic	13N 26E 08	NE SE	9/27/1991	160	160	6.62	34	20
108	37797		Domestic	13N 26E 08	NE SE	9/21/1991	170	170	6.62	29	35
108	37798		Domestic	13N 26E 09	SE SW	9/23/1991	155	154	6.62	76	40
108	37799		Domestic	14N 25E 10	NW NE	9/6/1991	140	139	6.62	28	40
108	37800		Domestic	14N 25E 16	SE SE	12/14/1991	149	150	6.62	21	30
108	37803		Domestic	14N 26E 35	SW SW	12/2/1991	166	166	6.62	84	25
108	37964		Domestic	14N 26E 35	NW NW	12/31/1991	179	179	6.62	83	30
108	38197		Domestic	13N 26E 02	SE SE	3/31/1992	300	300	6.62	140	12
108	38198		Domestic	13N 26E 09	SE SE	3/29/1992	100	100	6.62	35	60
108	38199		Irrigation	14N 25E 15	SW NE	3/28/1992	440	430	16	23	5000

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108	38200	57866	Irrigation	14N 25E 27	SE SW	3/31/1992	500	500	16	24	5000
108	38592		Domestic	13N 26E 03	SW NW	2/10/1992	110	110	6	55	10
108	38593		Domestic	13N 26E 09	NE NE	1/17/1992	150	150	6.62	36	30
108	38594		Domestic	13N 26E 09	SW NE	1/23/1992	160	159	8.62	37	30
108	39436		Domestic	13N 26E 09	NW NW	10/1/1992	120	120	8	30	35
108	39521		Domestic	14N 25E 16	SE SE	7/13/1992	159	159	6.62	39	30
108	40004	18986	Irrigation	14N 25E 34	NW SW	10/30/1992	430	415	16	50	0
108	40149		Domestic	14N 25E 03	SW SW	12/11/1992	126	126	6.62	26	35
108	42091		Domestic	13N 26E 02	NW SW	9/19/1992	190	190	6.62	90	25
108	42092		Domestic	13N 26E 03	NW SW	9/28/1992	140	140	6.62	45	35
108	42093		Domestic	13N 26E 04	NE SE	4/4/1993	128	128	6.62	30	25
108	42094	58170	Domestic	14N 25E 03	SW SW	2/28/1993	381	381	8.62	20	30
108	42095		Domestic	14N 25E 10	NW NE	10/23/1992	139	139	6.62	28	25
108	42096		Domestic	14N 25E 21	SW SE	10/17/1992	200	200	6.62	23	35
108	42097		Domestic	14N 26E 34	NE SE	2/14/1993	177	177	6.62	82	25
108	42098		Domestic	14N 26E 35	SE SW	8/10/1992	185	185	6.62	115	20
108	42099		Domestic	14N 26E 35	SE SW	8/13/1992	180	180	6.62	114	20
108	42573		Domestic	14N 25E 16	SE SE	7/24/1993	140	140	6.62	22	35
108	42574		Domestic	14N 25E 16	SE SE	7/25/1993	140	140	6.62	22	35
108	42792		Domestic	13N 26E 08	NE SE	8/27/1993	158	158	6.62	0	65
108	42793		Domestic	13N 26E 09	SW SW	8/27/1993	158	158	6.62	43	70
108	42795		Domestic	13N 26E 17	NE NE	7/30/1993	139	139	6.62	43	65
108	42797		Domestic	14N 25E 09	NE NE	9/20/1993	100	100	6.62	20	100
108	42799		Domestic	14N 26E 34	SE SE	6/18/1993	201	201	6.62	88	25
108	43258		Domestic	13N 26E 08	SE	11/18/1993	155	155	6.62	32	90
108	43259		Domestic	13N 26E 08	SE	11/16/1993	156	156	6.62	32	70
108	43260		Domestic	13N 26E 09	SE NW	11/21/1993	136	136	6.62	35	100
108	43810	54631	Test well	15N 26E 20	NW SE	10/7/1993	400	0	0	60	0
108	44122		Domestic	13N 26E 02	NE NE	3/27/1994	200	185	8.62	134	18
108	44123		Domestic	13N 26E 09	SE NE	3/1/1994	140	140	6	40	20
108	44125		Domestic	15N 25E 15	NW	3/16/1994	160	160	6	43	20
108	44350	27123	Irrigation	14N 26E 32	SE NE	7/2/1992	410	400	16	37	4500
108	45069	25201	Irrigation	14N 25E 04	SE NW	4/30/1994	555	530	16	0	2640
108	45070		Domestic	14N 25E 10	NW NE	4/1/1994	224	224	6.62	51	60
108	45071		Domestic	14N 25E 11	NW SE	5/3/1994	116	116	6.62	32	60

Basin No.	Well Log No.	APP	Proposed Use	TRS	Quarters	Well Completion Date	Depth Drilled (ft bgs)	Casing Depth (ft bgs)	Casing Diameter (inches)	Static Water Level (ft bgs)	Yield (gpm)
108	45072		Domestic	14N 26E 35	SW SW	2/16/1994	208	208	6.62	100	25
108	45073		Domestic	14N 26E 35	SW SW	2/23/1994	209	209	6.62	102	25
108	45074		Domestic	14N 26E 35	SW SW	3/2/1994	209	209	6.62	103	25
108	46247		Domestic	13N 26E 09	SW SW	9/15/1994	160	160	6.62	45	50
108	46248		Domestic	13N 26E 09	SW SW	9/5/1994	181	181	6.62	60	50
108	46254	58174	Irrigation	14N 25E 21	NW SE	7/21/1994	425	420	16	70	2700
108	46259		Domestic	15N 26E 20	NE SW	9/8/1994	220	150	6.62	60	60
108	46261		Domestic	15N 26E 29	NE SE	9/5/1994	222	187	6.62	12	30
108	46457	60013T	Irrigation	14N 25E 27	SW NW	6/26/1994	425	425	16	25	3000
108	46460	19750	Irrigation	13N 26E 06	SE SE	7/15/1994	480	460	16	35	4040
108	46660		Domestic	13N 26E 03	SW NW	2/8/1994	152	152	6.62	42	20
108	46661		Domestic	13N 26E 04	SE SE	1/18/1994	123	123	6.62	33	20
108	46663		Domestic	13N 26E 04	SW SW	11/8/1993	159	159	6.62	32	25
108	46736		Domestic	14N 26E 35	SE SW	9/19/1994	279	279	6.62	120.6	60
108	46737		Domestic	14N 26E 35	NE NE	10/14/1994	396	395	6.62	181.6	20
108	46738		Domestic	14N 26E 34	SE NE	11/29/1994	199	199	6.62	93	20
108	47192	49093	Public Supply-municipal	13N 26E 03	SE SE	7/15/1993	357	357	6.62	127	40
108	47230		Monitoring Well	15N 25E 16	NE SE	3/2/1995	15	15	2	14	0
108	47231	47231	Monitoring Well	15N 25E 16	NE SE	3/2/1995	20	20	2	3	0
108	47546		Domestic	14N 26E 23	SW NW	9/13/1994	279	279	6.62	25	100
108	47910	54631	Irrigation	15N 26E 20	NW SE	3/16/1995	522	522	16	24	757
108	48582	59762T	Irrigation	14N 25E 10	SW NE	4/15/1994	620	600	16	40	4000
108	48583	58105	Stock	14N 25E 25	SW SW	4/6/1995	130	130	8.62	20	30
108	48804	51939	Irrigation	13N 25E 03	NE NE	4/8/1994	450	440	16	35	3000
108	49501		Domestic	14N 26E 34	NE SE	1/13/1995	239	239	6.62	96	40
108	49502		Domestic	14N 26E 34	SW SE	4/14/1995	199	199	6.62	69	20
108	56926		Domestic	13N 26E 09	NW SW	1/27/1995	160	160	6.62	48	100
108	56974		Domestic	14N 26E 26	NW NW	9/5/1996	160	160	6.62	40	100
108	56976		Domestic	14N 26E 26	NW NW	9/3/1996	160	160	6.62	40	100
108	56978		Domestic	14N 26E 26	NW NW	9/4/1996	160	160	6.62	40	100
108	58934		Domestic	13N 26E 04	NE SE	6/26/1996	125	125	6.62	30	0
108	59258		Domestic	13N 26E 03	SW	9/27/1996	140	140	6.62	55	50
108	61233	47645	Other	15N 25E 16	NE SE	2/18/1985	500	500	8	0	0
108	64855		Domestic	13N 26E 06	NW NE	1/17/1997	220	220	8.62	10	30
108	64856		Domestic	13N 26E 06	NE NE	2/10/1997	135	135	6.62	15	20

Basin No.	Well Log No.	APP	Proposed Use	TRS	Quarters	Well Completion Date	Depth Drilled (ft bgs)	Casing Depth (ft bgs)	Casing Diameter (Inches)	Static Water Level (ft bgs)	Yield (gpm)
108	65910		Domestic	14N 25E 16	SE SE SE	2/26/1997	200	200	6.62	15	30
108	67342		Domestic	14N 25E 04	SE SE	6/17/1996	119	119	6.62	18	20
108	67349		Domestic	13N 26E 08	SW NE	6/9/1995	139	139	10.62	25	100
108	67394		Domestic	13N 26E 02	NW NW	2/12/1997	198	198	6.62	90	25
108	68598	62316	Commercial	13N 26E 17	NW NE	4/25/1997	120	120	6.62	22	200
108	69822		Domestic	14N 26E 35	NW	2/16/1997	180	180	6.62	90	30
108	78906		Domestic	13N 25E 01	SW SW	12/23/1999	110	110	6.62	8	35
108	81108		Domestic	13N 26E 02	NW SW	5/19/2000	260	260	6.62	110	40
108	81114	18925	Irrigation	14N 25E 15	SE SW	5/12/2000	396	396	16	10	3900
108	82149		Domestic	14N 25E 02	SW	8/19/2000	100	100	6.62	18	30
108	82210		Domestic	13N 26E 08		1/6/2001	140	140	6.62	15	50
108	82218		Domestic	14N 26E 35		10/17/2000	260	260	6	95	20
108	85722		Monitoring Well	14N 25E 16	SW SE	1/11/2002	75	73	6.62	14	10.3
108	85732		Monitoring Well	14N 25E 16	SW SE	1/10/2002	25	25	6.62	12	1
108	85870		Monitoring Well	14N 25E 16	SW SE	1/11/2002	75	75	2	14	10.3
108	85873		Monitoring Well	14N 25E 16	SW SE	1/10/2002	25	25	2	12	1
108	85990	66889	Irrigation	14N 26E 19	NW SW	3/28/2002	320	312	24	18.8	1280
108	85991	68055	Irrigation	14N 25E 16	NE SE	3/1/2002	240	240	8.62	30	500
108	86032		Irrigation	14N 25E 09	SE SE	4/8/2002	502	502	16	60	2500
108	87251		Domestic	13N 26E 09	SW SW	10/12/2002	137	137	6.62	50	50
108	87254		Domestic	13N 26E 02	NW SW	8/19/2002	360	360	6.62	160	15
108	74843	29299	Irrigation	14N 26E 22	SE NW	2/22/1999	480	460	17.4	12.1	5000
108	76571		Domestic	14N 25E 10	NW NE	3/24/1999	118	118	6	21	0
108	76576		Domestic	14N 26E 35	NW SW	4/17/1999	260	260	6.62	102	30
108	76657	19516	Irrigation	15N 25E 32	NE NE	1/28/1999	425	400	16	2	4000
108	76904		Domestic	14N 25E 03	SW SW	2/12/1995	119	119	6.62	16.6	20
108	76905		Domestic	14N 25E 04	NE NW	8/13/1999	100	100	6	6	60
108	76906		Domestic	14N 26E 34	SW SE	3/16/1998	179	179	6.62	61	50
108	77010		Domestic	13N 26E 02	NW NW	12/20/1994	199	199	6.62	97.6	20
108	77011		Domestic	13N 26E 03	NW SW	8/8/1995	126	126	6.62	43	40
108	77012		Domestic	13N 26E 08	SW SE	1/3/1995	139	139	6.62	33	50
108	77013	62495	Commercial	13N 26E 09	NE NW	6/20/1997	179	179	8.62	35	50
108	77014		Domestic	13N 26E 09	SW NW	12/26/1994	179	179	6.62	34	40
108	77015		Domestic	13N 26E 09	SE NW	9/11/1995	159	159	6.62	40	25
108	77016		Domestic	13N 26E 09	SE NW	12/9/1994	139	139	6.62	41.6	20

Basin No.	Well Log No.	APP.	Proposed Use	TRS	Quarters	Well Completion Date	Depth Drilled (ft.bgs)	Casing Depth (ft. bgs)	Casing Diameter (inches)	Static Water Level (ft.bgs)	Yield (gpm)
108	77017		Domestic	13N 26E 09	SW NE	5/24/1995	159	159	6.62	47	25
108	77018		Domestic	13N 26E 16	NE NE	8/20/1995	159	159	6.62	38	20
108	77109		Domestic	14N 26E 09	SW NW	10/13/1995	249	249	6.62	99	20
108	77124	19516	Irrigation	15N 25E 32	NE NE	1/28/1999	425	400	16	2	4000
108	77217		Domestic	14N 26E 35	SW NW	9/30/1995	219	219	6.62	98	20
108	77218		Domestic	14N 26E 35	SW NW	2/24/1995	223	222	6.62	93.6	25
108	77227		Domestic	13N 26E 02	NW SW	6/21/1999	273	273	6.62	145	45
108	78224		Domestic	14N 26E 35	NW	8/21/1999	240	240	6.62	110	100
108	78225		Domestic	14N 26E 35	NW	8/27/1999	217	240	6.62	110	25
108	82236		Domestic	14N 25E 10	NW NE	12/27/2000	160	160	6.62	10	100
108	83479		Irrigation	14N 25E 16	SW SW	3/28/2001	438	437	30	20	4200
108	83786	66888	Irrigation	14N 26E 30	SW NW	5/31/2001	453	411	16	10.45	4000
108	84225		Domestic	14N 25E 10	NW NE	7/26/2001	131	131	6.62	30	50
108	84226		Domestic	14N 26E 30	SE NW	8/9/2001	140	140	8.62	9	75
108	84227		Domestic	14N 25E 04	SE SE	7/24/2001	130	130	6.62	47	60
108	84228	67647T	Domestic	14N 25E 16	SE SE	7/28/2001	243	243	8.62	37	198
108	85067		Domestic	14N 25E 26	NE SW	12/17/2001	240	235	6.62	15	606
108	85716		Domestic	13N 26E 09	NW	2/8/2002	140	140	6.62	48	30
108	85720		Domestic	14N 26E 34	NE SE	3/9/2002	160	160	6.62	80	25
108	85721		Domestic	14N 25E 25	SW SE	3/7/2002	240	240	8.62	10	300
108	88696		Domestic	14N 26E 32	SW SW	1/14/2003	140	140	6.62	31	25
108	90342	69814T	Irrigation	14N 25E 25	NE SW	8/2/2003	511	510	16	15.86	4000
108	90551		Monitoring Well	14N 25E 23	NE SW	9/23/2003	25	25	2	13.25	20
108	90561		Domestic	14N 26E 35		8/28/2003	360	360	6.62	153	30
108	90563		Domestic	14N 26E 28	NE NE	11/11/2002	160	160	6.62	15	50
108	90873		Domestic	14N 25E 04	SE SE	12/20/1996	114	114	6.62	18	20
108	90894	70222T	Irrigation	15N 25E 34	SW SW	10/2/2003	605	605	16	52	1700
108	91043		Domestic	13N 25E 11	NE NE	10/6/2003	120	120	6.62	10	40
108	91500		Domestic	14N 25E 27	NW NW	11/12/2003	300	300	8.62	45	100
108	92210		Domestic	14N 25E 16	NE SE	1/27/2004	200	200	6.62	35	50
108	92211		Domestic	13N 26E 04	SW SE	1/15/2004	160	160	6.62	45	30
108	92771		Domestic	13N 26E 03	NW SW	2/25/2004	160	160	6.62	45	50
108	87835	68399	Irrigation	14N 25E 11	SE NE	9/24/2002	380	380	16	41	800
108	93612		Domestic	13N 26E 03	NW NW	6/30/2004	140	140	6.62	43	50
108	93613		Domestic	14N 25E 04	SW SW	5/18/2004	158	155	8.62	22	30

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108	93712	19516	Irrigation	15N 25E 32	NE NE	7/29/2004	425	400	16	20	3000
108	93721		Domestic	14N 25E 03	SW SW	6/15/2004	240	240	6.62	49	60
108	95798		Domestic	15N 25E 28	SE NE	10/22/2004	140	140	8.44	20	50
108	96017		Monitoring Well	14N 25E 20	SE NE	7/20/2004	75	75	2	40	0
108	96018		Monitoring Well	14N 25E 20	SE NE	7/21/2004	100	100	2	40	0
108	96116		Monitoring Well	14N 25E 25	NE NW	4/7/2005	20	19	2	4.52	0
108	97107		Domestic	14N 26E 34	SW NE	4/5/2005	160	160	6.625	62	25
110A	636		Stock	13N 29E 29			98	98	6	0	0
110A	637		Stock	13N 29E 24			102	50	7.125	0	0
110A	1433		Other	13N 28E 36	SW NW	4/19/1945	190	190	12	0	0
110A	1949		Domestic	12N 28E 20	NE	6/16/1942	88	88	4	6	0
110A	1950		Stock	12N 29E 08	SW NW	6/19/1952	58	58	4	22	10
110A	1951		Domestic	13N 28E 27	NW SE	6/23/1952	43	43	4	5	900
110A	1986		Domestic	13N 28E 25		6/28/1952	62	62	6	6	2000
110A	1987		Domestic	13N 28E 25		7/3/1952	60	54	4	9	700
110A	1988		Domestic	12N 28E 36	NE	7/18/1952	38	38	0	21	0
110A	1989		Domestic	13N 28E 25		7/27/1952	35	35	4	7	700
110A	1990		Domestic	13N 28E 25		8/1/1952	30	30	4	7	400
110A	2407		Domestic	13N 28E 35		2/26/1953	107	107	6	42	0
110A	2717		Domestic	13N 28E 35		8/19/1954	295	295	8	41	75
110A	3094		Domestic	12N 29E 09	SW NW	7/31/1955	42	42	6	30	13
110A	3379		Stock	15N 26E 09	SE NE	12/16/1955	103	98	6	64	5
110A	3702		Domestic	13N 28E 35		3/29/1957	34	34	6	12	1500
110A	3789		Domestic	13N 28E 36	NW NW	6/23/1957	37	37	6	9	1400
110A	8011		Domestic	12N 28E 09	NW	7/2/1964	60	60	6	16	0
110A	8012		Domestic	12N 28E 04	SE	7/1/1964	74	74	6	17	0
110A	8013		Domestic	13N 28E 23	NW	6/26/1964	60	60	6	10	0
110A	7113		Domestic	12N 28E 02	NE NE	4/10/1963	252	252	10.75	105	40
110A	14696		Domestic	13N 28E 35		3/29/1975	370	370	10	56	130
110A	7964		Domestic	13N 28E 36	SW	6/5/1964	38	38	6	10	0
110A	8015		Domestic	13N 28E 36	NW SW	6/18/1964	35	35	6.62	30	0
110A	8016		Domestic	13N 28E 35	SE SE	6/11/1964	79	79	6	37	0
110A	8472		Domestic	13N 28E 30	NE NE	4/1/1965	65	65	6.62	30	20
110A	9170		Domestic	13N 28E 36	SW	8/30/1966	70	70	6.62	13	0
110A	9171		Domestic	13N 28E 35	NE NE	9/3/1966	78	78	6.62	9	0

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110A	9174		Domestic	13N 28E 26	SE SE	8/26/1966	97	97	6.62	11	0
110A	8891		Stock	13N 29E 07	NW NE	1/10/1966	212	212	8.62	150	15
110A	10078		Domestic	13N 28E 36	SE NW	6/1/1968	135	129	10.62	17	22
110A	10094		Domestic	13N 28E 25	SW SW	6/14/1968	65	65	10.62	9	20
110A	10113		Domestic	13N 30E 29	NW NW	4/30/1968	67	67	6.62	5	0
110A	9714		Domestic	13N 28E 22		9/1/1967	60	60	6.62	7	100
110A	10035		Domestic	13N 28E 36	NW SW	4/25/1968	100	100	6.62	34	22
110A	10315		Domestic	13N 29E 18	NE NW	11/4/1968	28	28	8	7	15
110A	10574		Domestic	13N 29E 18	NE NW	5/7/1969	28	28	8	7	15
110A	11431		Domestic	13N 28E 26		11/27/1970	80	80	6.62	5	0
110A	11440		Domestic	13N 28E 36	NW SW	3/17/1971	48	48	8	29	20
110A	11441		Domestic	13N 28E 36	NW SW	3/20/1971	57	56	8	37	11
110A	14413		Domestic	13N 28E 27		3/10/1974	56	53	6	22	10
110A	14414		Domestic	13N 28E 15		9/9/1974	56	53	6	12	10
110A	14415		Domestic	13N 28E 25		9/10/1974	56	56	6	12	10
110A	14416		Domestic	13N 28E 36		9/6/1974	56	56	6	12	10
110A	14417		Domestic	13N 28E 36		9/12/1974	70	56	6	40	10
110A	14418		Domestic	13N 28E 36		9/8/1974	56	56	6	10	10
110A	14419		Domestic	12N 29E 06		9/5/1974	56	0	6	18	10
110A	14420		Domestic	12N 29E 06		9/2/1974	110	0	6	60	10
110A	14421		Domestic	13N 28E 36		9/24/1974	56	56	6	50	10
110A	14422		Domestic	13N 28E 36		7/24/1974	56	56	6	16	10
110A	14423		Domestic	13N 28E 25		8/15/1974	56	53	6	40	10
110A	15375		Domestic	13N 28E 35		2/17/1976	103	103	6.62	30	22
110A	14720		Domestic	13N 28E 15	SW SE	4/5/1975	129	129	6.62	19	20
110A	14412		Domestic	13N 28E 36		8/26/1974	80	56	6	50	10
110A	16902		Irrigation	12N 29E 30	NE NW	8/31/1977	360	350	16	13	2500
110A	16986		Irrigation	12N 28E 24	NE NE	10/7/1977	375	375	16	35.5	2500
110A	16987		Irrigation	12N 29E 20	SW NW	9/19/1977	500	470	16	32	2500
110A	16989		Irrigation	12N 29E 20	SE NE	9/29/1977	460	460	16	33	2500
110A	16990		Irrigation	12N 29E 20		9/20/1977	460	460	16	33	0
110A	17697		Domestic	13N 28E 36	NE NW	1/7/1978	85	85	6.62	12	50
110A	17698		Stock	14N 29E 19	SW NE	12/15/1977	464	464	8.62	320	50
110A	17699		Stock	13N 29E 32		11/17/1977	114	114	8.62	55	50
110A	17700		Stock	13N 29E 26		8/15/1977	124	124	8.62	55	40

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110A	17701		Stock	12N 29E 08		11/11/1977	77	77	6.625	21	40
110A	17702		Domestic	13N 28E 26		11/5/1977	80	80	6.62	26	40
110A	17703		Stock	12N 29E 09		11/8/1977	77	77	6.625	22	40
110A	17760		Domestic	12N 29E 08	NE NW	1/5/1978	105	105	6.625	26	50
110A	18956		Domestic	13N 28E 15	SW SE	10/5/1978	101	101	6	12	25
110A	26720		Domestic	14N 29E 29	NE SW	2/28/1985	149	150	6.62	70	20
110A	27328		Stock	15N 26E 14	NW NE	5/21/1986	257	257	6.62	140	0
110A	28665	49540	Test well	14N 27E 28	SE NW	4/20/1987	463	142	6.62	0	0
110A	37804		Public Supply-municipal	12N 28E 01	NE NW	12/15/1991	240	240	10	120	100
110A	39050		Irrigation	12N 29E 16	SE SE	4/5/1992	500	500	16	27	3000
110A	42575		Domestic	13N 29E 02	SW NE	8/31/1993	107	107	6.62	13	20
110A	48379		Domestic	12N 29E 05	SW SE	7/17/1995	120	120	6.62	43	0
110A	70396	63563	Public Supply-municipal	12N 28E 01	NW NW	12/23/1997	264	264	8.62	80	50
110A	95638		Monitoring Well	14N 27E 02	NW SE	3/15/2005	25	25	2	5.64	0
110A	95639		Monitoring Well	14N 27E 02	NW SE	3/17/2005	7	7	1	3.29	0
110A	95640		Monitoring Well	14N 27E 02	NW SE	3/16/2005	14	14	2	5.73	0
110A	95641		Monitoring Well	15N 27E 32	SE SE	3/29/2005	6	6	1	2.51	0
110A	95642		Monitoring Well	15N 27E 32	SW SE	3/24/2005	7	7	1	2.03	0
110A	95652		Monitoring Well	15N 27E 32	NE SE	3/30/2005	15	15	2	2.49	0
110A	95653		Monitoring Well	15N 27E 32	NE SE	3/31/2005	15	14	2	4.48	0
110A	96113		Monitoring Well	12N 29E 15	NW NW	4/6/2005	35	35	2	26.02	0
110A	96114		Monitoring Well	12N 29E 20	NW NW	4/5/2005	45	44	2	29.55	0
110A	96420		Monitoring Well	12N 29E 19	NW NE	1/27/2005	35	34	2	19.99	0
110A	96421		Monitoring Well	12N 29E 19	NE NW	1/26/2005	30	20	2	13.3	0
110A	96422		Monitoring Well	12N 29E 19	NE NW	1/24/2005	25	24	2	14	0
110A	96423		Monitoring Well	13N 28E 36	SW NW	1/18/2005	20	18	2	10.39	0
110A	96424		Monitoring Well	13N 28E 36	SW NW	1/19/2005	50	50	2	10.8	0
110A	96425		Monitoring Well	13N 28E 36	SW NW	1/20/2005	30	29	2	19.98	0
110B	8467	20668	Irrigation	9N 29E 16	NE NW	8/22/1962	140	140	10.75	88	400
110B	11145	25694	Domestic	9N 29E 16	SW	7/20/1970	132	132	8	75	20
110B	11166	25527	Domestic	9N 29E 09	SW SW	8/29/1970	131	131	8.62	50	0
110B	13216	27894	Domestic	9N 29E 08	SE NE	5/30/1973	150	145	6.625	105	20
110B	20819		Domestic	9N 29E 08	SW NE	9/3/1979	230	230	8	50	15
110B	24358	46594	Public Supply-municipal	9N 29E 09	NW SW	1/11/1983	175	175	6.62	0	30
110B	25521		Domestic	9N 29E 09		7/9/1984	210	190	6.62	79	75

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110B	94510		Test well	9N 29E 08	SE SW	7/9/2004	800	0	0	0	0
110B	95629	26639	Public Supply-municipal	9N 29E 16	SW	2/1/2005	174	129	8	109	500
110B	95665		Monitoring Well	11N 29E 22		2/16/2005	6	6	1	4.08	0
110B	95666		Monitoring Well	11N 29E 22		2/15/2005	20	20	2	5.83	0
110B	95667		Monitoring Well	11N 29E 22		2/8/2005	25	24	2	4.42	0
110B	96115		Monitoring Well	11N 29E 06	NE NE	4/4/2005	35	35	2	7.43	0
110C	1712	10898	Public Supply-municipal	8N 30E 27	NE	8/7/1942	482	482	16	305	640
110C	2189	12992	Public Supply-municipal	8N 30E 18	SW SE	12/12/1952	312	312	18	182	300
110C	2190	12991	Other	7N 30E 02	SE SW	9/11/1942	722	722	16	0	0
110C	2191	12990	Public Supply-municipal	8N 30E 32	NW NW	7/9/1942	452	452	16	240	0
110C	2192	12989	Public Supply-municipal	8N 30E 26	SE SE	6/13/1942	423	423	18	240	620
110C	2193	12988	Public Supply-municipal	8N 30E 18	NE NE	5/26/1942	345	345	18	87.4	870
110C	2620		Other	7N 30E 15		11/24/1953	310	306	8	190	35
110C	2761	15750	Public Supply-municipal	8N 30E 27	SW SE	9/13/1954	600	600	16	287	16
110C	3560		Public Supply-municipal	8N 30E 21	SE SE	1/1/1945	394	350	0	0	0
110C	3561		Public Supply-municipal	8N 30E 03	NE SE	1/1/1956	542	0	0	0	0
110C	3562		Public Supply-municipal	8N 30E 05			500	0	0	70	0
110C	10259		Public Supply-municipal	7N 29E 12	NE NE	9/6/1968	126	126	12	94	5
110C	13494	26663	Public Supply-municipal	8N 30E 33	SE NE	3/16/1972	491	0	0	0	0
110C	13495		Public Supply-municipal	8N 30E 33	SE NE	10/1/1973	1012	0	0	0	0
110C	15007		Test well	7N 30E 08	NW SE	10/29/1971	1013	0	0	0	0
110C	18794	30614	Irrigation	8N 30E 33	NW SW	6/26/1978	720	685	14	480	0
110C	21059	30614	Irrigation	8N 30E 33	NW SW	5/2/1980	1000	1000	12.75	585	800
110C	22511		Domestic	8N 32E 20	SE NE	2/3/1981	337	337	8	270	40
110C	22933		Test well	7N 31E 04	SW SE	4/17/1981	401	400	3	0	0
110C	22934		Test well	8N 30E 20	NW NE SE	4/15/1981	801	800	3	0	0
110C	24727		Test well	8N 30E 20		6/22/1983	828	828	8.62	150	0
110C	23529		Test well	7N 30E 07	NE NW	1/3/1982	680	86	6.625	38	120
110C	24912		Domestic	7N 30E 08	NW	9/15/1983	200	199	8.62	113	0
110C	25496	48043	Public Supply-municipal	8N 30E 18	SW SE	6/8/1984	500	500	12.75	225	0
110C	27453	47996	Industrial	7N 32E 18	NE SW	5/19/1986	915	915	7	650	56
110C	30755		Domestic	7N 30E 08	SW	12/23/1988	260	196	6	85	22
110C	31599		Domestic	7N 30E 08	SW	4/19/1989	320	320	6	156	0
110C	31600		Other	7N 30E 08	NW NW	5/11/1989	200	200	6	57	0
110C	31601		Domestic	7N 30E 08	NW NW	5/3/1989	438	0	0	0	0

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110C	31733		Monitoring Well	8N 30E 12	NE SW	5/16/1989	125	125	4	97.3	0
110C	31734		Monitoring Well	8N 30E 12	NE SW	5/15/1989	160	155	4	97.4	0
110C	31735		Monitoring Well	8N 30E 12	NE SW	5/18/1989	120	118	4	95.5	0
110C	31736		Monitoring Well	8N 30E 12	NE SW	5/17/1989	118	118	4	95.8	0
110C	31737		Monitoring Well	8N 30E 12	NW SE	5/23/1989	140	140	4	111.3	0
110C	31738		Monitoring Well	8N 31E 15	NW NW	5/19/1989	156	156	4	142.8	0
110C	31739		Monitoring Well	8N 31E 18	NW NW	5/20/1989	157	155	4	139	0
110C	31740		Monitoring Well	8N 31E 18	NW NW	5/21/1989	157	155	4	138.4	0
110C	31869	51905	Stock	7N 30E 04	NW NW	7/12/1989	1020	1020	8.62	645	120
110C	31870		Domestic	7N 30E 05	SE NE	6/16/1989	290	290	6.62	0	0
110C	31871		Domestic	7N 30E 05	NE NE	6/1/1989	500	260	6.62	0	0
110C	31872		Domestic	7N 30E 08	SW SW	6/30/1989	375	375	6.62	150	8
110C	31873		Domestic	7N 30E 08	SE NE	6/7/1989	200	200	6.62	0	0
110C	32122		Test well	8N 31E 06	NW	2/17/1988	121	114	4	108	0
110C	32123		Test well	8N 31E 06	NW	2/16/1988	129	129	4	117	0
110C	32124		Test well	8N 31E 06	NW	2/21/1988	128	124	4	119	0
110C	32125		Test well	8N 31E 34	SW	3/12/1988	101	101	4	72	0
110C	32127		Test well	9N 31E 31	SW	2/20/1988	160	158	4	140	0
110C	33057	50644	Monitoring Well	9N 30E 32	NE SE	2/11/1989	30	30	2	18	0
110C	33058	50644	Monitoring Well	9N 30E 32	NE SE	2/11/1989	30	30	2	20	0
110C	33059	50644	Monitoring Well	9N 30E 32	NE SE	2/11/1989	30	30	2	18	0
110C	33060	50644	Monitoring Well	9N 30E 32	NE SE	2/11/1989	30	30	2	18	0
110C	33061	50644	Monitoring Well	9N 30E 32	NE SE	2/11/1989	30	30	10	18	0
110C	33062	50644	Monitoring Well	9N 30E 32	NE SE	2/11/1989	30	30	2	20	0
110C	33063	50644	Monitoring Well	9N 30E 32	NE SE	2/11/1989	30	30	2	17	0
110C	33064	50644	Monitoring Well	9N 30E 32	NE SE	2/11/1989	30	30	2	17	0
110C	33065	50644	Monitoring Well	9N 30E 32	NE SE	2/11/1989	30	30	2	18	0
110C	34106		Domestic	7N 30E 05	NE SE	8/1/1990	480	480	6.62	349	0
110C	34107		Domestic	7N 30E 05	SE SE	8/6/1990	440	440	6.62	347	0
110C	36696		Monitoring Well	8N 30E 32	NW NW	6/20/1991	35	35	2	15	0
110C	36767		Monitoring Well	8N 30E 32	NW NW	6/19/1991	35	35	2	15	0
110C	36768		Monitoring Well	8N 30E 32	NW NW	6/19/1991	35	35	2	15	0
110C	36769		Monitoring Well	8N 30E 32	NW NW	6/20/1991	34	34	2	14	0
110C	73414		Monitoring Well	8N 30E 10	NE NW	5/19/1998	83	82	2	0	0
110C	73416		Monitoring Well	8N 30E 10	NE NW	5/18/1998	83	82	2	0	0

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110C	73417		Monitoring Well	8N 30E 10	NE NW	5/20/1998	83	82	2	0	0
110C	73418		Monitoring Well	8N 30E 10	NE NW	5/19/1998	83	82	2	0	0
110C	73419		Monitoring Well	8N 30E 10	NE NW	5/19/1998	53	52	2	0	0
110C	73420		Monitoring Well	8N 30E 10	NE NW	5/20/1998	56	55	0.25	0	0
110C	73421		Monitoring Well	8N 30E 10	NE NW	5/20/1998	56	55	0.25	0	0
110C	73437		Monitoring Well	8N 30E 10	NE NW	5/20/1998	56	55	0.25	0	0
110C	36770		Monitoring Well	8N 30E 32	NW NW	6/20/1991	35	35	2	15	0
110C	37386		Domestic	7N 30E 08	SW SW	7/31/1991	250	250	6.62	63	0
110C	42101		Domestic	7N 30E 08	SW NW	6/6/1993	440	440	6.62	349	0
110C	45269		Test well	9N 30E 31	NE SW	7/18/1994	22	22	2	17	0
110C	61529		Monitoring Well	8N 30E 05	SW NE	11/23/1996	78	78	4	4	0
110C	61531		Monitoring Well	8N 30E 05	NW NE	11/6/1996	87	82	4	5	0
110C	61534		Monitoring Well	8N 30E 06	SE NE	11/8/1996	27	25	4	12	0
110C	61537		Monitoring Well	8N 30E 06	SE NE	11/7/1996	77	73	4	3	0
110C	61540		Monitoring Well	8N 30E 07	NE SW	11/25/1996	117	117	4	102	0
110C	61541		Monitoring Well	8N 30E 07	NW SE	11/26/1996	77	75	4	67	0
110C	61542		Monitoring Well	8N 30E 07	SE SE	11/27/1996	117	116	4	109	0
110C	61543		Monitoring Well	8N 30E 08	NE SW	10/16/1996	58	56	4	47	0
110C	61545		Monitoring Well	8N 30E 08	NE SW	10/15/1996	97	93	4	45	0
110C	61547		Monitoring Well	8N 30E 08	SE SW	10/14/1996	56	55	4	47	0
110C	61548		Monitoring Well	8N 30E 08	SE SW	10/13/1996	97	91	4	46	0
110C	61549		Monitoring Well	8N 30E 09	NW NW	11/9/1996	79	73	4	67	0
110C	61550		Monitoring Well	8N 30E 09	NW NW	11/9/1996	118	115	4	67	0
110C	61551		Monitoring Well	8N 30E 09	SE NW	10/12/1996	71	70	4	64	0
110C	61552		Monitoring Well	8N 30E 09	SE NW	10/11/1996	112	107	4	50	0
110C	61553		Monitoring Well	8N 30E 10	SW NE	10/27/1996	117	114	4	76	0
110C	61639		Monitoring Well	8N 30E 10	NE SE	10/26/1996	88	84	4	77	0
110C	61642		Monitoring Well	8N 30E 10	NE SE	10/25/1996	147	144	4	63	0
110C	61644		Monitoring Well	8N 30E 10	NW NE	11/8/1996	111	111	4	69	0
110C	61649		Monitoring Well	8N 30E 10	NE NE	11/9/1996	101	98	4	90	0
110C	61651		Monitoring Well	8N 30E 10	SW NE	11/7/1996	157	152	4	76	0
110C	61653		Monitoring Well	8N 30E 10	SE NW	11/5/1996	99	91	4	83	0
110C	61654		Monitoring Well	8N 30E 11	SE NE	11/10/1996	93	88	4	82	0
110C	61655		Monitoring Well	8N 30E 11	SE NE	10/17/1996	179	176	4	86	0
110C	61656		Monitoring Well	8N 30E 11	SE NE	10/23/1996	168	166	4	80	0

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110C	61657		Monitoring Well	8N 30E 11	SE NE	11/11/1996	102	95	4	88	0
110C	61658		Monitoring Well	8N 30E 12	SW SW	11/12/1996	104	102	4	96	0
110C	61659		Monitoring Well	8N 30E 12	SW SW	11/11/1996	146	140	4	96	0
110C	62378		Monitoring Well	8N 30E 12	SW SE	11/13/1996	138	137	4	33	0
110C	62384		Monitoring Well	8N 30E 12	SW SE	11/20/1996	191	190	4	132	0
110C	62392		Monitoring Well	8N 30E 16	SE NE	12/4/1996	157	155	4	114	0
110C	62396		Monitoring Well	8N 30E 16	SE NE	12/5/1996	122	121	4	114	0
110C	62399		Monitoring Well	8N 30E 17	SW NE	11/12/1996	102	99	4	94	0
110C	62401		Monitoring Well	8N 31E 17	SW NW	11/21/1996	191	188	4	181	0
110C	62402		Monitoring Well	8N 30E 17	NW NE	11/11/1996	108	107	4	98	0
110C	62404		Monitoring Well	8N 30E 17	SE NW	11/11/1996	106	103	4	94	0
110C	62405		Monitoring Well	8N 30E 17	NE SE	12/6/1996	116	113	4	106	0
110C	62406		Monitoring Well	8N 30E 23	NE SW	11/13/1996	237	235	4	177	0
110C	62408		Monitoring Well	8N 30E 23	NE SW	11/19/1996	187	185	4	177	0
110C	62437		Monitoring Well	8N 30E 23	SE SW	11/21/1996	247	245	4	198	0
110C	62438		Monitoring Well	8N 30E 23	SE SW	11/22/1996	208	205	4	198	0
110C	62440		Monitoring Well	8N 30E 29	NE NE	11/24/1996	267	254	4	248	0
110C	62892		Monitoring Well	8N 30E 05	NW NW	10/28/1996	32	29	4	22	0
110C	62895		Monitoring Well	8N 30E 05	NW NE	10/29/1996	33	30	4	25	0
110C	62897		Monitoring Well	8N 30E 05	NW NE	10/29/1996	33	30	4	24	0
110C	62898		Monitoring Well	8N 30E 05	SW NE	10/30/1996	32	30	4	24	0
110C	62899		Monitoring Well	8N 30E 05	NW NE	10/31/1996	82	75	4	5	0
110C	62900		Monitoring Well	8N 30E 05	NW NW	10/28/1996	66	60	4	5	0
110C	62908		Monitoring Well	8N 30E 10	SE NW	10/31/1996	144	139	4	82	0
110C	62909		Monitoring Well	8N 30E 17	NE SE	10/28/1996	111	108	4	106	0
110C	62910		Monitoring Well	8N 30E 16	NW SW	10/28/1996	117	113	4	106	0
110C	62911		Monitoring Well	8N 30E 17	NE SE	10/29/1996	121	119	4	113	0
110C	62913		Monitoring Well	8N 30E 20	NE SE	11/25/1996	218	213	4	205	0
110C	62915		Monitoring Well	8N 31E 17	SW NW	12/10/1996	250	235	4	180	0
110C	67922		Monitoring Well	8N 30E 14	NW NW	7/12/1997	89	15	0.25	0	0
110C	67923		Monitoring Well	8N 30E 14	NW NW	7/13/1997	60	15	0.25	0	0
110C	67924		Monitoring Well	8N 30E 14	NW NW	7/12/1997	60	60	2	0	0
110C	67925		Monitoring Well	8N 30E 14	NW NW	7/8/1997	75	70	2	0	0
110C	67926		Monitoring Well	8N 30E 14	NW NW	7/13/1997	75	75	2	0	0
110C	67927		Monitoring Well	8N 30E 14	NW NW	7/11/1997	100	95	2	0	0

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110C	67933		Monitoring Well	8N 30E 14	NW NW	7/11/1997	65	15	0.25	0	0
110C	68599		Monitoring Well	8N 30E 14	NW NW	7/11/1997	100	95	2	0	0
110C	69439		Monitoring Well	8N 31E 17	SW NW	11/21/1996	191	188	4	181	0
110C	69441		Monitoring Well	8N 30E 21	SW SW	12/8/1996	230	219	4	212	0
110C	70258		Monitoring Well	8N 30E 14	NW NW	7/11/1997	65	28	0.25	0	0
110C	70261		Monitoring Well	8N 30E 14	NW NW	7/11/1997	65	61	0.25	0	0
110C	70262		Monitoring Well	8N 30E 14	NW NW	7/12/1997	89	32	0.25	0	0
110C	70263		Monitoring Well	8N 30E 14	NW NW	7/23/1997	89	88	0.25	0	0
110C	70264		Monitoring Well	8N 30E 14	NW NW	7/13/1997	60	36	0.25	0	0
110C	70265		Monitoring Well	8N 30E 14	NW NW	7/13/1997	60	60	0.25	0	0
110C	73439		Monitoring Well	8N 30E 10	NE NW	5/20/1998	26	25	2	0	0
110C	73441		Monitoring Well	8N 30E 12	SE SW	5/18/1998	26	25	2	0	0
110C	73444		Monitoring Well	8N 30E 10	NE NW	5/20/1998	26	25	2	0	0
110C	73446		Monitoring Well	8N 30E 12	SE SW	5/17/1998	26	25	2	0	0
110C	73476		Monitoring Well	8N 30E 12	SE SW	5/17/1998	45	43	2	0	0
110C	73477		Monitoring Well	8N 30E 12	SE SW	5/17/1998	45	43	2	0	0
110C	73479		Monitoring Well	8N 30E 10	NE NW	5/20/1998	56	55	0.25	0	0
110C	73480		Monitoring Well	8N 30E 10	NE NW	5/20/1998	56	55	0.25	0	0
110C	73481		Monitoring Well	8N 30E 10	NE NW	5/20/1998	56	55	0.25	0	0
110C	73482		Monitoring Well	8N 30E 12	SE SW	5/18/1998	31	30	0.25	0	0
110C	73483		Monitoring Well	8N 30E 12	SE SW	5/18/1998	31	30	0.25	0	0
110C	73484		Monitoring Well	8N 30E 12	SE SW	5/18/1998	31	30	0.25	0	0
110C	73485		Monitoring Well	8N 30E 12	SE SW	5/18/1998	31	30	0.25	0	0
110C	73486		Monitoring Well	8N 30E 12	SE SW	5/18/1998	31	30	0.25	0	0
110C	73487		Monitoring Well	8N 30E 12	SE SW	5/18/1998	31	30	0.25	0	0
110C	74294		Domestic	9N 29E 09	SW NW	7/31/1998	190	190	6.62	100	0
110C	77119		Public Supply-municipal	8N 30E 21		5/2/1999	620	600	14	483	140
110C	77793		Domestic	7N 30E 01	NW SE	6/25/1999	790	790	6.625	690	3
110C	78854		Monitoring Well	8N 30E 12	SW SE	1/28/2000	100	100	2	0	0
110C	78855		Monitoring Well	8N 30E 12	SW SE	1/27/2000	100	100	2	0	0
110C	78856		Monitoring Well	8N 30E 12	SW SE	1/29/2000	100	100	2	0	0
110C	78857		Monitoring Well	8N 30E 12	SW SE	1/30/2000	100	100	2	0	0
110C	83381		Monitoring Well	8N 30E 11	NW	2/1/2001	100	90	4.5	75	2
110C	83382		Monitoring Well	8N 30E 11	NW	2/2/2001	100	92	4.5	78	2.5
110C	83383		Monitoring Well	8N 30E 11	NW	1/31/2001	100	97	4.5	84	2

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110C	83384		Monitoring Well	8N 30E 11	NW	2/11/2001	75	73	2.5	0	0
110C	83385		Monitoring Well	8N 30E 11	NW	2/10/2001	75	74	4.5	0	0
110C	83386		Monitoring Well	8N 30E 11	NW	2/7/2001	85	75	2.5	0	0
110C	83387		Monitoring Well	8N 30E 11	NW	2/7/2001	75	75	2.5	0	0
110C	83388		Monitoring Well	8N 30E 11	NW	1/28/2001	100	95	4.5	85	1.5
110C	83389		Monitoring Well	8N 30E 11	SW NW	2/6/2001	100	95	4.5	84	1.5
110C	83390		Monitoring Well	8N 30E 11	SW NW	2/8/2001	100	96	4.5	85	1.5
110C	88334		Monitoring Well	8N 30E 11	NE NW	6/25/2002	90	90	4	78	0
110C	88335		Monitoring Well	8N 30E 11	NE NW	6/22/2002	90	90	4	83.33	0
110C	88566		Public Supply-municipal	8N 30E 18	SE NE	7/18/2002	370	370	16	117	1700
110C	89428		Monitoring Well	8N 30E 11	NW	10/11/2002	90	90	4	72	0
110C	89429		Monitoring Well	8N 30E 11	NW	10/8/2002	102	0	0.75	0	0
110C	89430		Monitoring Well	8N 30E 11	NW	10/9/2002	101	100	0.75	0	0
110C	89431		Monitoring Well	8N 30E 11	NW	10/9/2002	101	100	0.75	0	0
110C	89432		Monitoring Well	8N 30E 11	NW	10/10/2002	101	100	0.75	0	0
110C	89433		Monitoring Well	8N 30E 11	NW	10/10/2002	101	100	0.75	0	0
110C	90418		Monitoring Well	8N 30E 26	NW NE	8/23/2002	155	150	2	0	0
110C	90420		Monitoring Well	8N 30E 23	SW SE	8/23/2002	195	190	2	0	0
110C	90421		Monitoring Well	8N 30E 12	SW SE	8/23/2002	197	195	2	0	0
110C	91780		Monitoring Well	8N 30E 08	NW NW	8/23/2002	180	180	4	145	0
110C	92008		Monitoring Well	9N 30E 32	SW NE	10/22/2003	45	45	2	20	30
110C	92171		Monitoring Well	19N 30E 32	SW NE	10/20/2003	45	45	2	21	30
110C	93281		Monitoring Well	8N 30E 11	NW	12/3/2003	87	86	4	70	10
110C	93282		Monitoring Well	8N 30E 11	NW NW	12/4/2003	90	88	4	77	10
110C	93283		Monitoring Well	8N 30E 11	NW NW	12/2/2003	87	85	4	69	10
110C	93284		Monitoring Well	8N 30E 11	NW NW	12/1/2003	88	87	4	77	10
110C	93286		Monitoring Well	8N 30E 11	NW NW	11/21/2003	84	84	4	69	10
110C	93287		Monitoring Well	8N 30E 11	NW NW	11/20/2003	87	87	4	69	10
110C	93288		Monitoring Well	8N 30E 11	NW NW	11/23/2003	89	89	4	78	10
110C	88088		Monitoring Well	9N 30E 32	NE NW	3/21/2002	24	0	2.5	15.68	0
110C	88092		Monitoring Well	9N 30E 32	NE NW	3/20/2002	26	0	2.5	15.25	0
110C	88330		Monitoring Well	8N 30E 11	NE NW	6/24/2002	100	100	0.75	82	0
110C	88331		Monitoring Well	8N 30E 11	NE NW	6/19/2002	95	95	4	79	0
110C	88332		Monitoring Well	8N 30E 11	NE NW	6/19/2002	95	95	4	81.58	0
110C	88333		Monitoring Well	8N 30E 11	NE NW	6/20/2002	95	95	4	80.17	0

Basin No.	Well Log No.	APP	Proposed Use	TRS	Quarters	Well Completion Date	Depth Drilled (ft bgs)	Casing Depth (ft bgs)	Casing Diameter (inches)	Static Water Level (ft bgs)	Yield (gpm)
110C	93289		Monitoring Well	8N 30E 11	NW NW	11/22/2003	90	90	4	73	10
110C	93290		Monitoring Well	8N 30E 11	NW NW	12/10/2003	90	90	4	82	10
110C	93291		Monitoring Well	8N 30E 11	NW NW	12/9/2003	90	90	4	78	10
110C	93292		Monitoring Well	8N 30E 11	NW NW	12/5/2003	87	87	4	77	10
110C	93957		Monitoring Well	8N 30E 11	NE NW	3/23/2004	78	78	4	0	0
110C	93958		Monitoring Well	8N 30E 11	NE NW	3/24/2004	100	100	0.75	90	0
110C	93959		Monitoring Well	8N 30E 11	NE NW	3/25/2004	100	100	0.75	90	0
110C	93960		Monitoring Well	8N 30E 11	NE NW	3/25/2004	78	78	4	0	0
110C	94680	70992	Industrial cooling	8N 31E 18	NW NW	6/11/2004	200	198	6	0	0
110C	95388		Monitoring Well	8N 30E 11	NW	3/29/2004	100	99	0.75	90	0
110C	95401		Monitoring Well	8N 30E 11	NW	3/30/2004	100	98	0.75	90	0
110C	95402		Monitoring Well	8N 30E 11	NW	3/26/2004	100	98	0.75	90	0
110C	95409		Monitoring Well	8N 30E 05	SW SE	7/13/2004	35	35	4	27	5
117	4261		Stock	41N 42E 32	SE NW	9/10/1958	80	48	8	8	44
117	17973		Stock	1S 38E 27	SE SE	3/22/1978	351	351	6	265	0
117	64413	47029	Test well	1N 38EH29		10/8/1984	775	775	6	610	0
118	1157		Other	4N 36E 28		1/11/1950	600	0	0	0	0
118	1570	13739	Mining	3N 36E 17	SW NE	2/12/1951	85	85	6	8	200
118	3680	17196	Industrial	3N 36E 02	SW NW		187	150	16.5	43.5	200
118	4334		Mining	3N 36E 17	SE NW	8/9/1958	103	100	12	40	440
118	7483	21624	Domestic	2N 37E 21	SE SW	11/11/1963	292	292	8.625	110	20
118	6031	14828	Domestic	2N 37E 17	SE NW		246	246	6	80	0
118	15664		Test well	2N 37E 17		6/7/1976	1000	0	0	0	0
118	18634	34089	Mining	3N 35E 15	SW SE	8/5/1978	1000	1000	20	350	458
118	21025	34089	Mining	3N 35E 15	SW SE	5/5/1980	920	920	12.75	310	1000
118	22886		Test well	4N 37E 31	SW NW	3/28/1981	500	500	1	0	0
118	22887		Test well	3N 36E 08	SE NE	4/1/1981	200	200	1	0	0
118	22888		Test well	3N 37E 05	NW NE	3/30/1981	300	300	1	0	0
118	22889		Test well	4N 36E 26	SE NE	4/11/1981	500	500	1	0	0
118	22890		Test well	4N 36E 27	SW SE	4/3/1981	500	500	1	0	0
118	22891		Test well	4N 36E 28	SW NE	4/9/1981	300	300	1	0	0
118	22892		Test well	4N 36E 33	NW NW	4/10/1981	200	200	1	0	0
118	22893		Test well	4N 36E 33	SW NE	4/8/1981	300	300	1	0	0
118	22894		Test well	4N 36E 34	SW NE	4/16/1981	200	200	1	0	0
118	22895		Test well	4N 37E 29	SW NE	3/29/1981	300	300	1	0	0

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118	22896		Test well	3N 36E 03	SW NW	3/31/1981	300	300	1	0	0
118	22897		Test well	3N 36E 04	SW SW	4/1/1981	200	200	1	0	0
118	22898		Test well	3N 36E 02	SE SE	3/31/1981	500	500	1	0	0
118	22899		Test well	4N 36E 22	SW SE	4/12/1981	300	300	1	0	0
118	22900		Test well	4N 36E 20	SE SW	4/15/1981	200	200	1	0	0
118	22901		Test well	4N 36E 24	SE NW	4/12/1981	200	200	1	0	0
118	22902		Test well	4N 36E 29	NW NE	4/10/1981	200	200	1	0	0
118	22903		Test well	4N 36E 21	NE NW	4/14/1981	200	200	1	0	0
118	22904		Test well	4N 36E 11	NW NE	4/13/1981	200	200	1	0	0
118	22905		Test well	4N 36E 17	NE SW	4/14/1981	200	200	1	0	0
118	22906		Test well	4N 36E 15	SW SE	4/13/1981	200	200	1	0	0
118	23395		Domestic	2N 37E 07	NW NW	10/13/1981	76	70	8.625	48	0
118	23479		Commercial	2N 37E 07	NE NW	11/7/1981	110	90	8.625	65	0
118	25286		Test well	3N 36E 07	NE NE	3/29/1984	300	300	1	0	0
118	25287		Test well	3N 36E 06	NE NE	3/27/1984	300	300	1	0	0
118	25288		Test well	3N 36E 22	NW NW	4/4/1984	300	300	1	0	0
118	25289		Test well	3N 37E 07	SW NE	3/25/1984	300	300	1	0	0
118	25290		Test well	3N 36E 12	SW SE	3/25/1984	300	300	1	0	0
118	25291		Test well	3N 36E 24	NE NE	3/26/1984	300	300	1	0	0
118	25292		Test well	3N 36E 17	SW NW	4/2/1984	300	300	1	0	0
118	25293		Test well	3N 36E 19	NW SE	4/3/1984	300	300	1	0	0
118	26700	47926	Monitoring Well	3N 35E 07	NW NE	12/10/1985	925	0	0	0	0
118	49087		Domestic	4N 36E 22	NW	6/23/1994	160	160	6.62	55	20
118	88516		Monitoring Well	3N 36E 17	SW NE	12/3/2001	50	50	2	6	0
119	1426	13276	Irrigation	5N 35E 26	SE NE	9/7/1950	650	650	8	32	0
119	22351	40786	Test well	4N 34E 27	SW NW		700	20	6.625	0	0
119	22352	40767	Mining	5N 35E 20	NW NW	9/28/1980	625	20	6	0	0
119	24109		Industrial cooling	5N 35E 09	NW SW	5/23/1982	68	68	8.625	32	0
121A	2028	14755	Public Supply-municipal	8N 34E 34		8/5/1952	229	229	6	91	70
121A	2170	14573	Industrial	6N 35E 08	SW SE	1/17/1953	303	303	8	120	103
121A	5158		Domestic	7N 34E 25	SW NE	12/27/1959	125	110	8	40	0
121A	4513	17510	Public Supply-municipal	7N 35E 27	SE SW	2/15/1958	108	108	10	64	60
121A	8595	22074	Public Supply-municipal	8N 34E 34	SW SE	9/9/1963	264	263	10	135	60
121A	9630	23740	Public Supply-municipal	6N 35E 07	SE SE	7/7/1967	258	0	0	0	0
121A	10839	25143	Mining	6N 35E 05		9/2/1969	248	248	12	100	60

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121A	14810	28633	Commercial	6N 35E 29	NE	11/23/1974	250	250	6	185	8
121A	20896	40339	Industrial cooling	6N 35E 29	NW NW	2/12/1980	200	200	8.625	98	25
121A	21586		Mining	6N 36E 17		7/15/1980	250	250	8.625	220	30
121A	21588		Domestic	7N 34E 25	SW NE	8/28/1980	88	88	8	46	25
121A	23519		Test well	8N 34E 34	SW SE	1/12/1982	600	230	2	0	0
121A	23760		Test well	8N 34E 34	SW SE	12/29/1981	600	310	2	129	0
121A	23942		Domestic	6N 35E 05	NE SW	7/23/1982	265	265	8.625	46	50
121A	26709	48413	Industrial	6N 34E 33	NE SW	9/17/1985	300	300	0	0	0
121A	26710	41681	Industrial	6N 35E 05	NW SW	4/11/1985	240	0	0	0	0
121A	26711	49163	Industrial	6N 35E 07	NW NE	12/27/1985	362	362	8	14	0
121A	26712	47082	Industrial	7N 34E 25	NW SE	6/1/1985	250	227	14	96	100
121A	27291		Mining	6N 35E 06	SE	1/2/1986	300	300	8	120	0
121A	29054	48660	Industrial	9N 34E 36	SW NW	8/8/1987	960	960	8.62	52	350
121A	29055	48663	Test well	9N 34E 36	SE NE	6/10/1987	1200	0	0	0	0
121A	29960	48663	Industrial	9N 34E 36	SE NE	4/15/1988	1100	1100	16	305	100
121A	31976	48163	Test well	8N 34E 03	NE NE	4/11/1989	1370	0	0	0	0
121A	31977	53048	Test well	8N 34E 10	NE NE	4/19/1989	1403	0	0	0	0
121A	33056	53187	Industrial cooling	8N 34E 03	NW NW	1/8/1990	1117	1117	12.75	825	0
121A	34371	55001	Industrial	8N 34E 03	NE NW	9/9/1990	1425	1394	12	850	0
121A	40323		Monitoring Well	8N 34E 34	NW SE	2/4/1993	120	120	4	87	0
121A	40324		Monitoring Well	8N 34E 34	NW SE	2/4/1993	115	115	4	87	0
121A	40325		Monitoring Well	8N 34E 34	NW SE	2/4/1993	115	115	4	88	0
121A	40326		Monitoring Well	8N 34E 34	NW SE	2/4/1993	115	115	4	89	0
121A	40327		Monitoring Well	8N 34E 34	NW SE	2/5/1993	110	110	2	86	0
121A	40328		Monitoring Well	8N 34E 34	NW SE	2/5/1993	110	110	2	88	0
121A	40329		Monitoring Well	8N 34E 34	NW SE	2/5/1993	110	110	2	86	0
121A	40597		Monitoring Well	8N 34E 33	NE NE	11/2/1992	60	60	2	0	0
121A	40598		Monitoring Well	8N 34E 33	NE NE	11/3/1992	60	60	2	0	0
121A	40599		Monitoring Well	8N 34E 33	NE NE	11/3/1992	100	100	2	0	0
121A	40600		Monitoring Well	8N 34E 33	NE NE	11/4/1992	120	120	2	0	0
121A	40601		Monitoring Well	8N 34E 34	NW SE	10/29/1992	80	80	2	0	0
121A	40602		Monitoring Well	8N 34E 34	NW SE	10/28/1992	60	60	2	0	0
121A	40603		Monitoring Well	8N 34E 34	NW SE	10/28/1992	40	40	2	0	0
121A	40604		Monitoring Well	8N 34E 34	NW SE	10/27/1992	40	40	2	0	0
121A	40605		Monitoring Well	8N 34E 34	NW SE	10/27/1992	40	40	2	0	0

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121A	40606		Monitoring Well	8N 34E 34	NW SE	10/30/1992	120	120	2	0	0
121A	42576		Monitoring Well	8N 34E 34	NW SE		120	120	4	92	0
121A	42577		Monitoring Well	8N 34E 34	NW SE		120	120	4	92	0
121A	58766	62300	Public Supply-municipal	6N 35E 03	SW NW	6/4/1996	310	300	8.62	84	200
121A	58937		Domestic	7N 34E 34	NW SW		400	400	8.62	343	15
121A	74734		Domestic	6N 35E 06	NW	3/27/1999	360	360	8.62	76	300
121A	89440		Test well	8N 34E 34	SW SE	1/12/1982	600	310	2	0	0
121A	89441		Test well	8N 34E 34	SW SE	12/29/1981	600	310	2	129	0
121B	1717	13789	Mining	8N 32E 23	NW NW	7/31/1951	100	80	8	60	30
121B	31975		Other	8N 33E 20	SE SW	4/17/1989	195	195	8.62	0	0
121B	32844	50343	Industrial	8N 32E 23	NW SW	2/1/1990	80	80	6.62	60	0
122	29910		Test well	9N 35E 31	SW NW	1/28/1988	1040	0	0	0	0
122	31394	48664	Test well	9N 35E 31	SW SW	3/7/1989	1000	0	0	0	0
122	31395	48664	Test well	9N 35E 31	SW SW	3/10/1989	1020	0	0	0	0
122	31875	48664	Industrial	9N 35E 31	SW SW	5/5/1989	1302	1302	12	865	100
122	31980	48664	Test well	9N 35E 31	SW SW	3/20/1989	1032	0	0	0	0
122	38552		Industrial	9N 35E 33	NE NW	6/5/1992	435	435	8.62	118	0
122	74193		Monitoring Well	9N 35E 28	SE SW	1/22/1999	482	452	11	255	30
122	74194		Monitoring Well	9N 35E 28	SE SW	11/23/1998	7	7	1	0	0
122	74195		Monitoring Well	9N 35E 28	SW SW	11/23/1998	10	10	1	0	0
122	74196		Monitoring Well	9N 35E 28	SW SW	11/23/1998	8	8	1	0	0
122	74197		Monitoring Well	9N 35E 28	SW SW	11/23/1998	7	7	1	0	0
136	1102	13048	Mining	6N 37E 29	NW	9/26/1949	300	300	8	70	425
136	25584		Other	6N 36E 25	NE SW	7/6/1984	1785	1785	8.75	0	0
136	27858		Test well	7N 36E 01	SE SW	10/20/1986	500	0	0	0	0
136	29391	50771	Industrial	4N 38E 13	NW SW	7/15/1987	540	540	8	330	180
137A	1016		Domestic	3N 42E 11		7/31/1949	35	20	8	13	0
137A	1158		Other	3N 42E 04		8/5/1949	330	0	0	140	2
137A	1159		Other	3N 42E 04		8/6/1949	30	30	8	15	25
137A	1160		Other	3N 42E 04		8/7/1949	30	30	8	0	0
137A	1212		Stock	3N 41E 28			310	310	6	240	10
137A	7164		Stock	2N 38E 13		4/20/1963	324	324	8.625	190	0
137A	7446		Public Supply-municipal	3N 42E 09		10/24/1963	179	0	8	20	0
137A	7499		Public Supply-municipal	3N 41E 21		11/20/1963	312	150	8	9	0
137A	7682		Public Supply-municipal	3N 41E 26		10/24/1963	179	179	8	20	0

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137A	7683		Public Supply-municipal	3N 41E 26		10/20/1963	312	150	8	9	0
137A	9972		Public Supply-municipal	3N 40E 02	SW SE		280	0	6	50	30
137A	16826		Industrial	2N 38E 20	SW NE	7/12/1977	220	220	8.625	0	200
137A	23307	43282	Public Supply-municipal	3N 40E 02	NW SW	9/28/1981	350	300	12.75	38	1000
137A	23321	40525	Industrial	3N 39E 31	NE NE	9/27/1981	105	105	8	36	250
137A	23583	30086	Mining	3N 40E 11	NW	2/12/1982	100	100	10	40	0
137A	23853		Test well	3N 42E 13	SW NE	4/1/1982	610	220	6	29.5	160
137A	23854		Test well	3N 42E 13	SW SW	4/1/1982	605	220	6	105	132
137A	23856		Test well	3N 42E 13	NW SW	4/1/1982	620	0	0	0	0
137A	23858		Test well	3N 42E 24	NW NW	4/1/1982	600	0	6	0	0
137A	24582		Test well	1N 38EH32	NE NW	3/28/1983	1986	1986	1.5	636	0
137A	24583		Test well	1N 38EH29	NW NE	3/21/1983	1906	1906	2	666	60
137A	26732	47029	Test well	1N 38EH29	SW SE	3/17/1986	760	0	0	0	0
137A	32278		Monitoring Well	3N 42E 35	SW NW	9/14/1988	31	29	4	26	0
137A	32279		Monitoring Well	3N 42E 35	SW NW	9/13/1988	30	25	4	13	0
137A	32280		Monitoring Well	3N 42E 35	SW NW	9/14/1988	20	19	4	10.5	0
137A	32281		Monitoring Well	3N 42E 35	SW NW	9/14/1988	20	19	4	10	0
137A	32282		Monitoring Well	3N 42E 35	SW NW	9/14/1988	20	19	4	10	0
137A	41053		Public Supply-municipal	3N 2 4 13	SE NW	12/11/1984	305	305	10.75	28	0
137A	51155	50174	Stock	4N 41E 24	NW NE	1/27/1996	220	220	6	104	0
137A	65464		Stock	1N 38E 27	SE SE	3/22/1978	351	351	6	265	0
141	1004		Other	2N 42E 12		7/21/1949	225	0	0	0	0
141	1005		Other	2N 42E 12		7/23/1949	65	0	0	0	0
142	1345	17450	Industrial	1S 42E 10	NE NE	5/29/1950	310	308	6	210	300
142	8817	22690	Mining	3S 42E 10		3/6/1965	440	440	8.62	31	50
142	11027		Other	1S 42E 10	NE NE	9/14/1969	400	400	10	120	100
142	21123		Test well	2N 42E 36	NW	4/30/1980	325	0	0	0	0
142	21124		Test well	1N 42E 04	SE SW	5/9/1980	600	0	0	0	0
142	22771	42606	Mining	1N 42E 30	NE NE	12/10/1980	500	500	8	122.3	900
142	23148	41861	Public Supply-municipal	1S 42E 10	NE NE	7/24/1981	411	411	12.75	197	354
142	25123		Test well	2S 42E 26	NE SW	1/20/1984	560	18	8	70	75
142	31018		Test well	1S 43E 18	SW SW	10/15/1988	345	345	6.62	215	0
142	55111		Monitoring Well	2S 42E 35	NE NW	1/28/1993	100	100	2	30	5
142	40163	55627	Public Supply-municipal	1S 42E 10	NW NW	10/20/1992	410	400	12.75	136	0
142	43276	53031	Public Supply-municipal	2S 42E 26	NE SW	11/12/1993	550	550	6	36	112

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142	43666		Monitoring Well	2S 42E 35	NW SW	11/15/1992	100	100	2	57	3
142	43667		Monitoring Well	2S 42E 35	NW SW	11/15/1992	100	100	2	56	2
142	46854	59089	Mining	2S 42E 26	NW NW	11/14/1994	620	620	10.75	101	0
142	65001		Monitoring Well	2S 42E 35	NW NW	3/24/1997	59	59	2.37	34	0
142	65002		Monitoring Well	2S 42E 35	NW NW	3/26/1997	85	85	2.37	67	0
142	65003		Monitoring Well	2S 42E 35	NE NW	3/25/1997	77	77	2.37	55	0
142	65351	44454	Public Supply-municipal	3S 42E 13	SE NW	12/11/1984	305	305	10.75	28	0
142	65724	50384	Mining	2S 42E 23	NE SW	1/31/1996	205	200	8.62	79	40
143	4362		Other	1S 39E 05	SE SE	11/11/1958	520	520	8	0	0
143	4519		Stock	1S 39E 05		12/17/1958	320	320	6	260	15
143	8717		Stock	3S 40E 07	NW	10/4/1965	90	90	8	0	0
143	8732		Test well	2S 40E 34		10/18/1965	100	92	8.62	9	3000
143	11023		Mining	2S 40E 17	SE NE	4/15/1970	511	511	12	38	235
143	11025		Mining	2S 40E 08	SE SE	4/20/1970	505	503	12	14	0
143	14635		Mining	2S 39E 14		2/14/1975	665	665	12.75	40	0
143	14636		Mining	2S 39E 14		3/27/1975	630	610	12.75	40	0
143	8333		Mining	2S 39E 18	NW SE	6/19/1964	500	500	10.62	4	800
143	8334		Mining	2S 39E 18	NE SE	8/26/1964	700	700	10.62	4	600
143	8363	19870	Mining	2S 39E 22	SE NE	2/6/1965	55	55	6	10	0
143	8364	19869	Mining	2S 39E 14	NW NW	2/3/1965	125	125	6	18	0
143	8365	19871	Mining	2S 39E 15	SE SE	2/5/1965	50	50	6	14	0
143	8529	22610	Mining	3S 39E 11	NE NE	5/28/1965	575	200	12.75	4	0
143	9092		Mining	2S 40E 17	SW	7/14/1966	400	400	12.75	8	0
143	9160		Mining	2S 40E 18	SE	9/3/1966	540	540	12.75	8	0
143	9161		Mining	2S 40E 14	SW	8/6/1966	500	500	12.75	8	0
143	9162		Mining	2S 40E 17	SW	8/18/1966	500	500	12.75	8	0
143	11029		Mining	2S 40E 20	SE SW	5/17/1970	571	571	12	57	0
143	11053		Mining	2S 40E 17	SW NE	5/25/1970	511	509	12	45	0
143	8985		Mining	2S 40E 19	NW	5/16/1966	355	355	12.62	8	0
143	9000		Test well	2S 39E 25	NW	5/28/1966	400	300	6	2	0
143	9001		Mining	2S 39E 12	SW	5/30/1966	500	500	12.62	8	0
143	9267		Test well	2S 40E 18	SW	11/15/1966	500	500	8	180	0
143	9386		Mining	2S 40E 16	SE	8/8/1966	518	518	12.75	185	0
143	9387		Mining	2S 40E 18	SE	1/25/1967	610	610	12.75	185	0
143	9388		Mining	2S 40E 08	SW	12/21/1966	710	710	12.75	185	0

Basin No.	Well Log No.	APP	Proposed Use	TRS	Quarters	Well Completion Date	Depth Drilled (ft bgs)	Casing Depth (ft bgs)	Casing Diameter (inches)	Static Water Level (ft bgs)	Yield (gpm)
143	9413		Mining	2S 40E 16	SE	2/16/1967	585	585	12.75	180	0
143	9436		Mining	2S 40E 20	NW	3/5/1967	630	630	12.75	0	0
143	9437		Mining	2S 40E 17	NW	3/15/1967	535	535	12.75	90	0
143	9494		Mining	2S 40E 18	SE	4/12/1967	630	630	12.75	80	0
143	9504		Mining	2S 40E 17	NW	5/1/1967	630	625	12.75	20	0
143	10541	24382	Industrial	2S 39E 28	SW NE	3/15/1969	300	300	12	150	80
143	10615		Industrial	2S 40E 17	NE NW	6/1/1969	600	575	12.75	52	100
143	10717		Industrial	2S 40E 17	SW SW	8/10/1969	450	450	12	15	140
143	10875		Mining	2S 40E 18	NE SE	12/19/1969	458	458	12	103	0
143	10876		Mining	2S 40E 08	SE SW	1/19/1970	458	458	12	46	0
143	10879		Mining	2S 40E 18	SE NE	10/17/1969	459	459	12	80	0
143	11074		Mining	2S 40E 17	NE SW	6/9/1970	505	505	12	67	0
143	11092		Mining	2S 40E 08	NW SW	6/15/1970	511	505	0	11	0
143	11100		Mining	2S 40E 18	NW SW	6/19/1970	510	487	12	100	0
143	11122		Mining	2S 40E 17	NE NE	5/7/1970	511	506	12	46	0
143	11126		Mining	2S 40E 18	NE SW	4/24/1970	511	511	12	85	0
143	11216		Industrial	2S 40E 08	SW NW	8/29/1970	500	491	12	118	0
143	11217		Industrial	2S 40E 09	NW SW	8/7/1970	0	511	12	10	0
143	11218		Mining	2S 40E 18	NE SE	7/2/1970	670	670	12	0	0
143	11220		Industrial	2S 40E 20	NE NW	9/18/1970	511	481	12	11	0
143	11221		Industrial	2S 40E 20	NW SW	9/1/1970	510	503	12	137	0
143	11225		Industrial	2S 40E 17	SW NW	9/24/1970	510	508	12	18	0
143	11505		Industrial	2S 40E 07	NW SE	4/22/1971	511	511	12	38	0
143	11525		Mining	2S 40E 04	SE SW	4/28/1971	511	511	12	65	0
143	11526		Mining	2S 40E 07	NW SE	4/21/1971	502	502	12	38	50
143	11527		Mining	2S 40E 04	SW SE	5/10/1971	507	507	12	95	0
143	12008	25826	Mining	2S 39E 10		5/20/1971	100	100	8	0	0
143	11704		Industrial	2S 40E	NE NE	6/17/1971	511	511	24	98	0
143	12227		Industrial	2S 40E 09	NE NE	2/28/1972	595	594	12	31	0
143	12228		Industrial	2S 40E 08	SE SE	3/24/1972	620	599	12	26	0
143	12229		Industrial	2S 40E 07	NE NE	3/14/1972	610	590	0	115	0
143	13761		Industrial	2S 40E 09		9/21/1973	515	510	12.75	8	0
143	14622		Mining	2S 39E 14		3/17/1975	741	741	12.75	40	0
143	14950	29728	Public Supply-municipal	2S 39E 28	SW NW	7/19/1975	400	400	10.75	280	480
143	17974		Industrial	3S 39E 34	SW SE	3/26/1978	146	146	6	117	0

Basin No.	Well Log No.	APP	Proposed Use	TRS	Quarters	Well Completion Date	Depth Drilled (ft bgs)	Casing Depth (ft bgs)	Casing Diameter (inches)	Static Water Level (ft bgs)	Yield (gpm)
143	22467	42563	Mining	3S 38E 02	NE SE	11/14/1980	1345	1345	7	750	100
143	25218		Test well	3S 39E 17	SE SW	3/9/1984	300	300	1	0	0
143	25219		Test well	3S 39E 31	NE NE	3/10/1984	300	300	1	0	0
143	25220		Test well	3N 39E 13	SW NE	3/11/1984	300	300	1	0	0
143	25222		Test well	3N 39E 02	NW NW	3/11/1984	300	300	1	0	0
143	25223		Test well	2N 39E 31	SW NE	3/12/1984	300	300	1	185	0
143	25224		Test well	2N 40E 10	SW NE	3/13/1984	300	300	1	0	0
143	25225		Other	2N 40E 01	NE SW	3/13/1984	300	300	1	0	0
143	25226		Test well	1N 40E 13	SE SW	3/14/1984	300	300	1	0	0
143	25227		Test well	1N 40E 15	NE SE	3/15/1984	300	300	1	0	0
143	25228		Test well	1N 40E 20	NW NE	3/15/1984	300	300	1	0	0
143	25229		Test well	1N 40E 17	NW NW	3/16/1984	140	133	1	0	0
143	25251		Test well	1N 40E 05	NE NE	3/19/1984	300	300	1	0	0
143	25252		Test well	1N 40E 19	NE NE	3/20/1984	300	300	1	0	0
143	25253		Test well	1N 41E 12	SW SE	3/22/1984	220	220	1	0	0
143	25254		Test well	2N 38E 13	SE SW	3/24/1984	300	300	1	0	0
143	26756		Monitoring Well	2S 39E 28	SW NE	1/22/1986	458	458	3	165	0
143	29411	44249	Public Supply-municipal	2S 39E 28	SW NE	3/12/1986	382	360	12	169	440
143	32283	49988	Industrial	1S 40E 34	SE SW	11/10/1986	790	760	10	188.3	0
143	50884	29235	Stock	1S 40E 13	SE SW	9/25/1995	140	140	6	41	0
143	65680		Test well	1S 40E 17	SW NW	1/26/1966	592	530	10.75	5	0
143	65681		Test well	1S 40E 29	NW SE	11/10/1965	273	270	10.75	3	15
143	65706		Mining	2S 40E 03	SW SW	2/14/1973	420	420	12	0	0
143	65707		Mining	2S 40E 06	SE SE	11/16/1972	590	590	12	0	0
143	65708		Mining	2S 40E 09	NE NW	11/9/1972	560	560	12	0	0
143	65709		Mining	2S 40E 09	NE SW	12/4/1972	600	600	12.75	0	0
143	65710		Mining	2S 40E 09	SW NE	1/5/1973	564	564	12	0	0
143	65721		Mining	2S 40E 09	SW NE	1/13/1973	600	600	12	0	0
143	65722		Mining	2S 40E 09	NE NE	1/17/1973	600	600	12	0	0
143	65723		Mining	2S 40E 20	SW SW	12/13/1972	554	554	12.75	0	0
143	66213	60034A	Mining	1S 39E 32	NE NW	10/5/1994	1340	1338	1.5	720	30
143	66214	60034A	Mining	1S 39E 32	NE NW	10/7/1994	1225	1070	2	818	10
143	70840	60036	Mining	2S 38E 01	SE SW	8/17/1996	1855	1855	10	1280	130
143	86079		Monitoring Well	2S 39E 21	SE SE	3/12/2002	119	116	4.5	73.83	0
143	88447	69220	Public Supply-municipal	2S 39E 28	SE NW	3/8/2003	400	400	8.625	237	300

Basin No.	Well Log No.	APP	Proposed Use	TRS	Quarters	Well Completion Date	Depth Drilled (ft bgs)	Casing Depth (ft bgs)	Casing Diameter (inches)	Static Water Level (ft bgs)	Yield (gpm)
143	93080	52919	Public Supply-municipal	2S 40E 08	NW SW	4/6/2004	1583	1486	12	184.5	506
143	93122	52919	Public Supply-municipal	2S 40E 16	NW NW	4/22/2004	1623	1605	14.5	156	0
144	4270	15885	Public Supply-municipal	5S 43E 17	SW SW	9/10/1958	604	600	6	365	25
144	15804		Industrial	5S 43E 03		7/24/1976	102	100	12.75	30	20
144	25570		Other	4S 42E 11	NE NE	6/19/1984	230	0	0	0	0
144	25571		Other	4S 42E 25	SE NE	6/18/1984	220	0	0	0	0
144	25572		Test well	5S 43E 05	NW NW	6/17/1984	300	270	1	0	0
144	25573		Other	4S 43E 36	NE NW	6/14/1984	100	0	0	0	0
144	25574		Test well	5S 43E 10	SW NW	6/14/1984	300	300	1	0	0
144	25575		Other	4S 43E 22	NE NE	6/12/1984	300	0	0	0	0
144	25576		Other	4S 43E 32	NE NE	6/11/1984	396	0	0	0	0
144	25577		Other	4S 43E 32	SE SE	6/9/1984	500	0	0	0	0
144	25578		Other	4S 43E 31	SW NW	6/7/1984	500	0	0	0	0
144	61854		Commercial	5S 43E 17		9/3/1970	500	500	8.62	340	40

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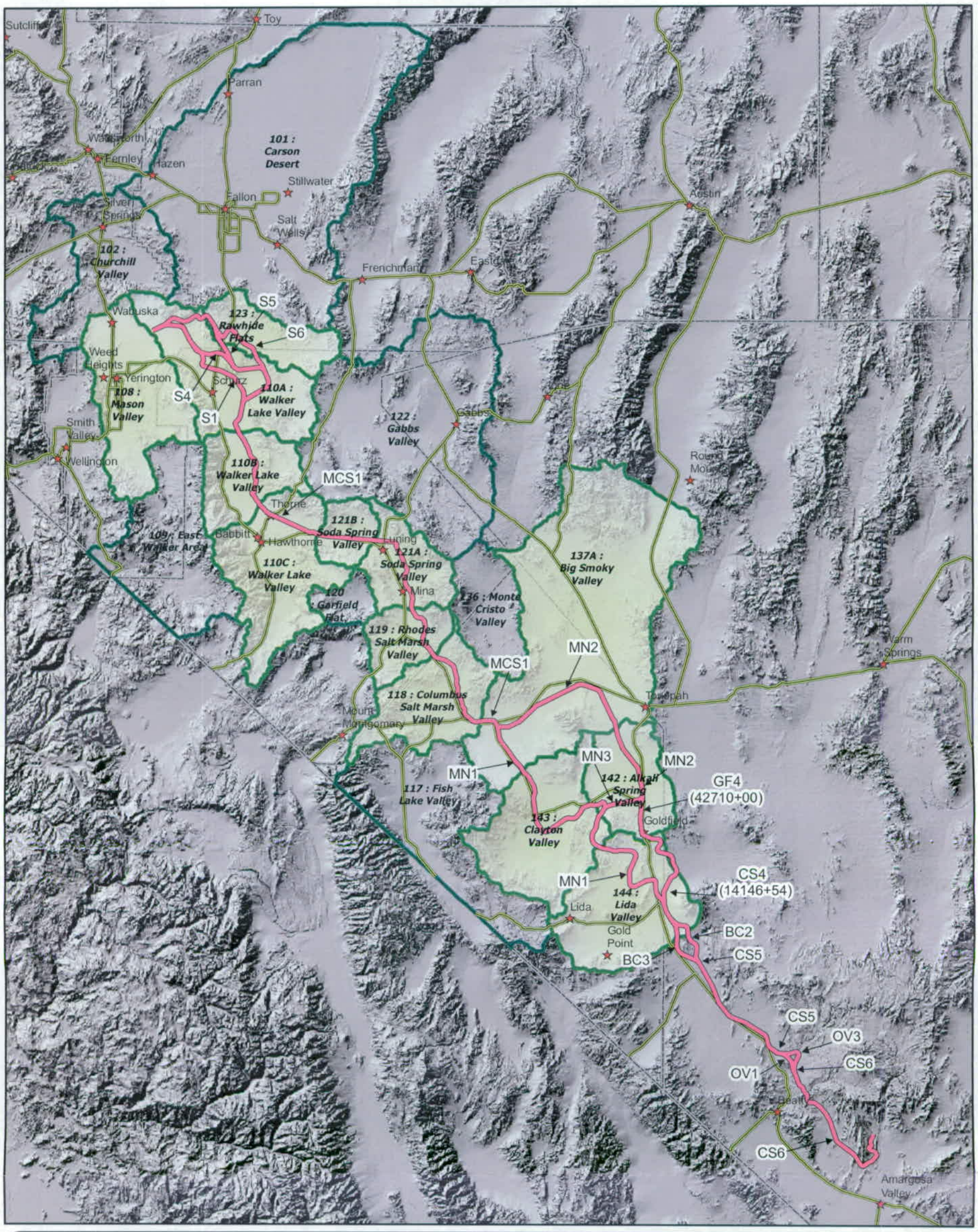

Legend

- Mina Rail Alignment
- Mina Rail Corridor Basins
- Study Corridor Basins
- Towns
- Major Roads
- County Boundary

N W E S

1 inch equals 20 miles

0 5 10 20 30 40 50 Miles

Plate 1-1: Basin Boundaries & Proposed Rail Corridor

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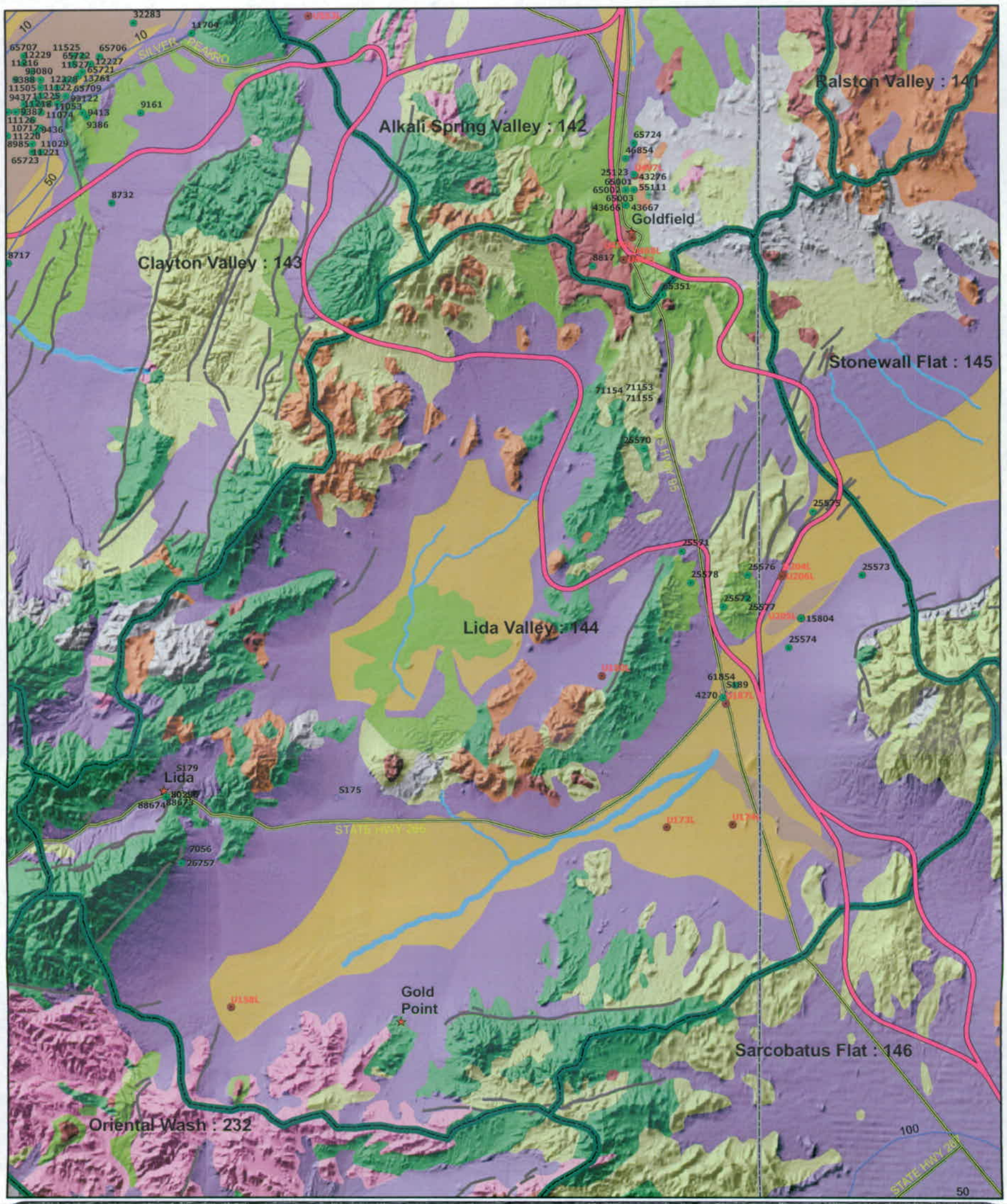

Legend

NDWR Wells

- Wells (NDWR Log No.)

USGS Sites

- NWIS Well Sites (U497L)
- GNIS Springs
- Depth to Groundwater[2]
- Faults

Hydrogeology[1]

- Alluvial Slope
- Andesitic Volcanic Flows
- Basaltic Volcanic Flows
- Clastic/Carbonate
- Clastic Sandstones and Siltstones
- Fluvial Deposits
- Intrusive and Metamorphic Rocks
- Playa
- Rhyolitic Volcanic Flows
- Tertiary Fine-Grained Semiconsolidated Sediments
- Valley Floor
- Volcanic Breccias/Welded Tuffs/Old Volcanics
- Water

- Mina Rail Alignment
- Basin Boundary
- County Boundary
- Towns
- Major Roads

N W E S

Notes:
(1) Mauer, et al., 2004
(2) Lopes, et al., 2006 and Rush, 1974a

Plate 4-1: Lida Valley (144)

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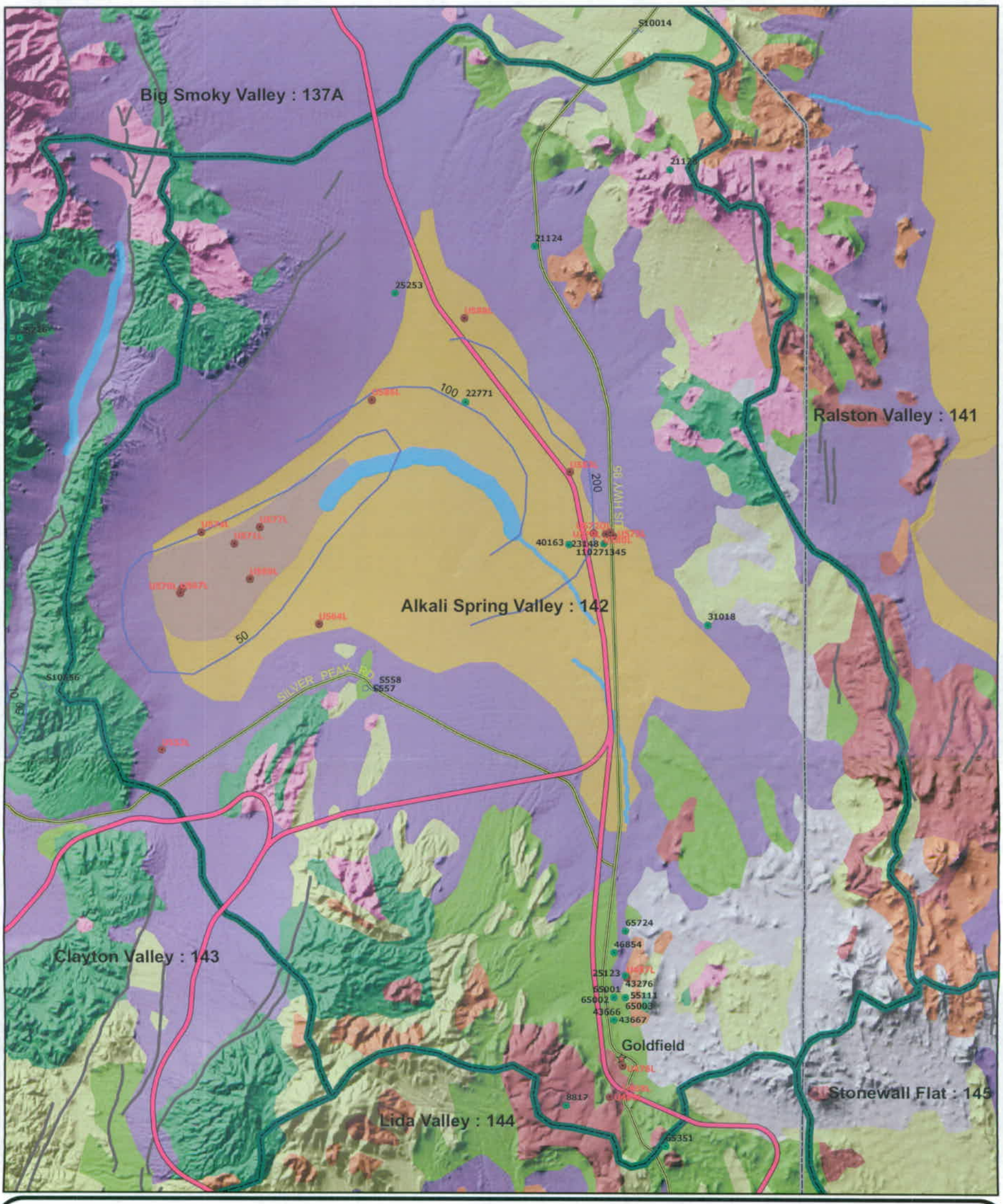

Legend

NDWR Wells

- Wells (NDWR Log No.)

USGS Sites

- NWIS Well Sites (U497L)
- GNIS Springs
- Depth to Groundwater[2]
- Faults

Hydrogeology[1]

- Alluvial Slope
- Andesitic Volcanic Flows
- Basaltic Volcanic Flows
- Clastic/Carbonate
- Clastic Sandstones and Siltstones
- Fluvial Deposits
- Intrusive and Metamorphic Rocks
- Playa
- Rhyolitic Volcanic Flows
- Tertiary Fine-Grained Semiconsolidated Sediments
- Valley Floor
- Volcanic Breccias/Welded Tuffs/Old Volcanics
- Water

- Mina Rail Alignment
- Basin Boundary
- County Boundary
- Towns
- Major Roads

N W E S

0 1 2 4 Miles

Notes:
(1) Mauer, et al., 2004
(2) Lopes, et al., 2006 and Rush, 1974a

Plate 4-2: Alkali Spring Valley (142)

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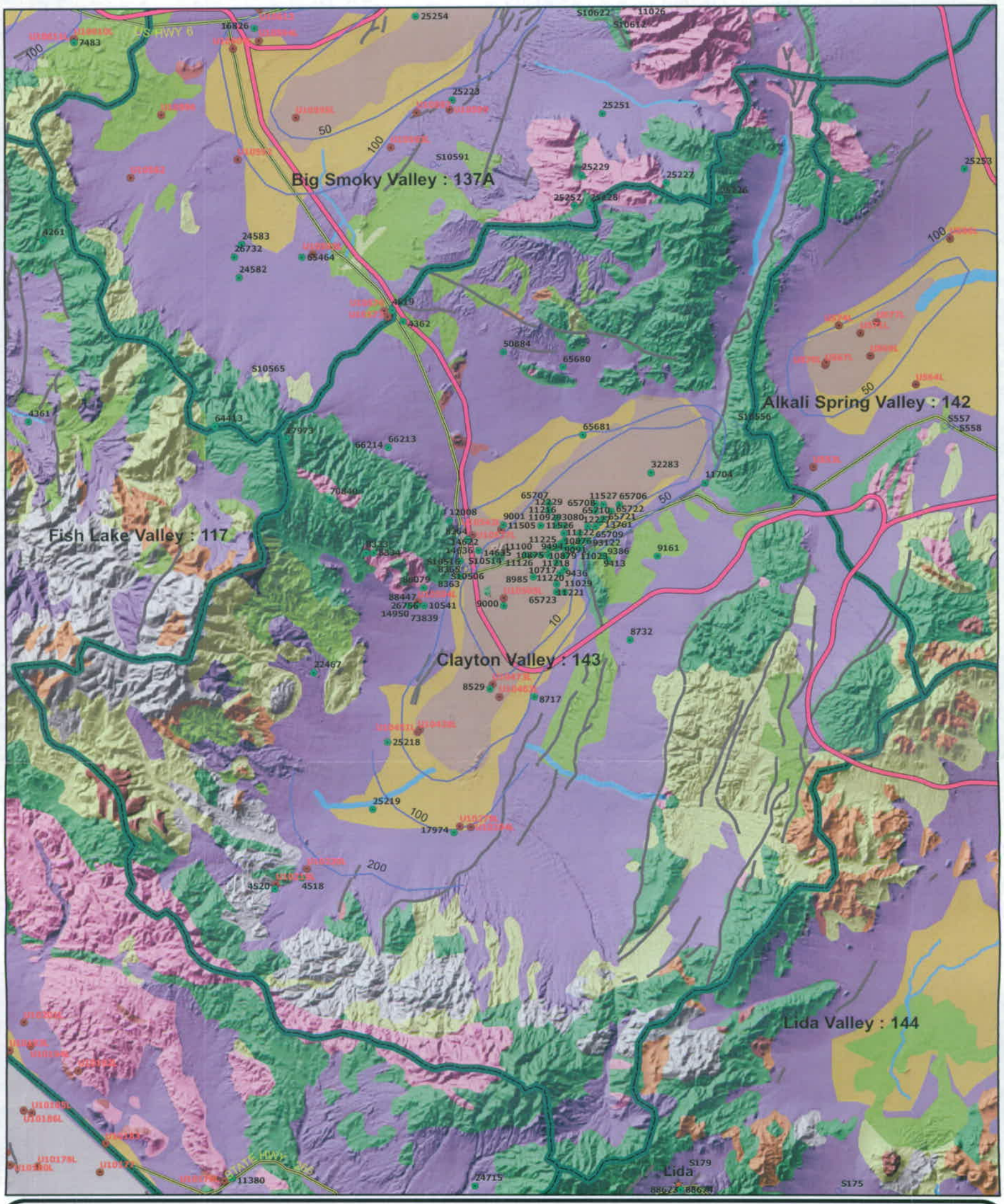

Legend

NDWR Wells

- Wells (NDWR Log No.)

USGS Sites

- NWIS Well Sites (U497L)
- GNIS Springs
- Depth to Groundwater[2]
- Faults

Hydrogeology[1]

- Alluvial Slope
- Andesitic Volcanic Flows
- Basaltic Volcanic Flows
- Clastic/Carbonate
- Clastic Sandstones and Siltstones
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- Intrusive and Metamorphic Rocks
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- Volcanic Breccias/Welded Tuffs/Old Volcanics
- Water
- Mina Rail Alignment
- Basin Boundary
- County Boundary
- Towns
- Major Roads

N W E S

Notes:
(1) Mauer, et al., 2004
(2) Lopes, et al., 2006 and Rush, 1974a

Plate 4-3: Clayton Valley (143)

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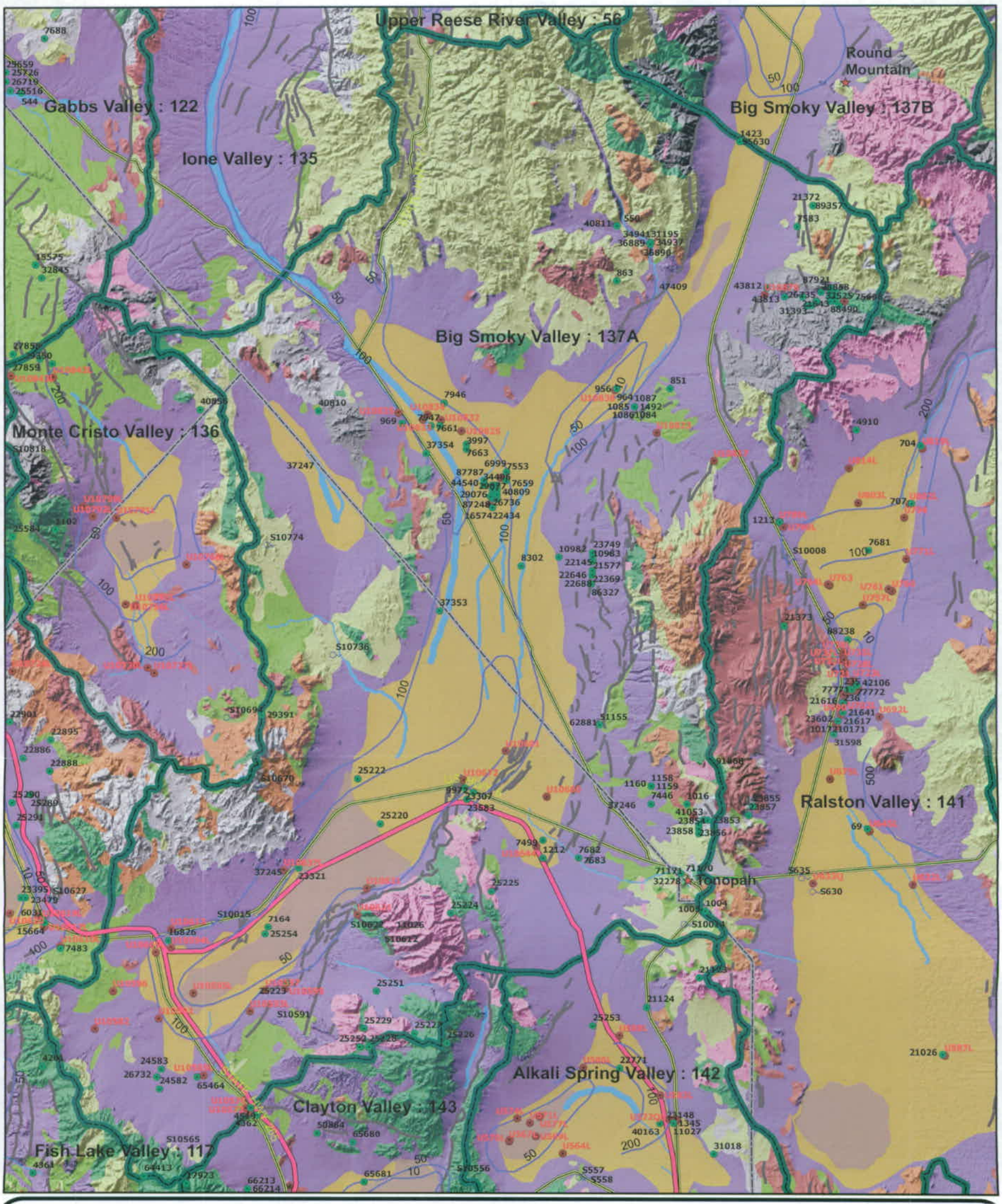

Legend

NDWR Wells

- Wells (NDWR Log No.)

USGS Sites

- NWIS Well Sites (U497L)
- GNIS Springs
- Depth to Groundwater[2]
- Faults

Hydrogeology[1]

- Alluvial Slope
- Andesitic Volcanic Flows
- Basaltic Volcanic Flows
- Clastic/Carbonate
- Clastic Sandstones and Siltstones
- Fluvial Deposits
- Intrusive and Metamorphic Rocks
- Playa
- Rhyolitic Volcanic Flows
- Tertiary Fine-Grained Semiconsolidated Sediments
- Valley Floor
- Volcanic Breccias/Welded Tuffs/Old Volcanics
- Water
- Mina Rail Alignment
- Basin Boundary
- County Boundary
- Towns
- Major Roads

N W E S

Miles 0 3 6 12

Notes:
(1) Mauer, et al., 2004
(2) Lopes, et al., 2006 and Rush, 1974a

Plate 4-4: Big Smokey Valley (137A)

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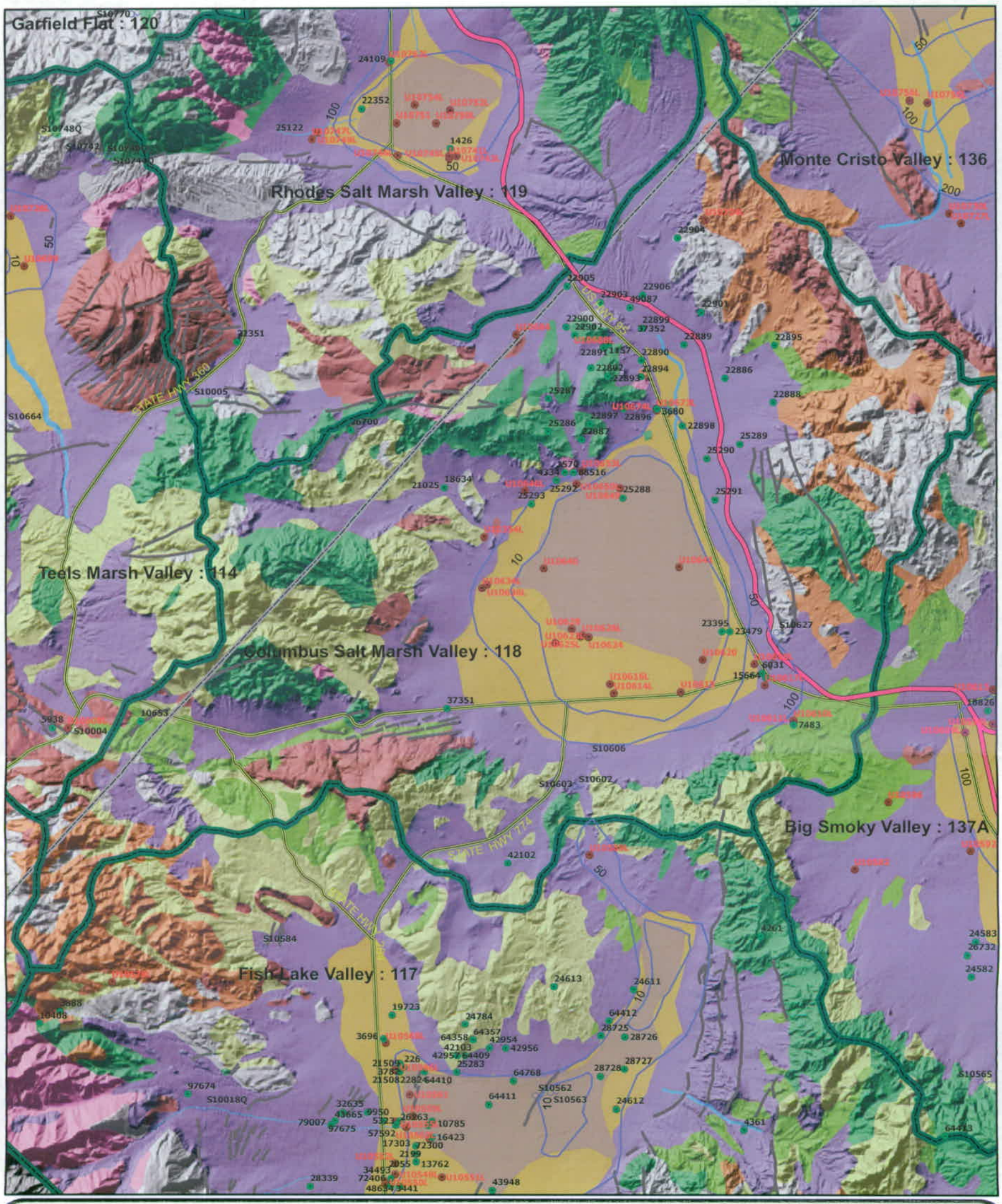

Legend

NDWR Wells

- Wells (NDWR Log No.)

USGS Sites

- NWIS Well Sites (U497L)
- GNIS Springs
- Depth to Groundwater[2]
- Faults

Hydrogeology[1]

- Alluvial Slope
- Andesitic Volcanic Flows
- Basaltic Volcanic Flows
- Clastic/Carbonate
- Clastic Sandstones and Siltstones
- Fluvial Deposits
- Intrusive and Metamorphic Rocks
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- Rhyolitic Volcanic Flows
- Tertiary Fine-Grained Semiconsolidated Sediments
- Valley Floor
- Volcanic Breccias/Welded Tuffs/Old Volcanics
- Water

- Mina Rail Alignment
- Basin Boundary
- County Boundary
- Towns
- Major Roads

N W E S

0 2 4 8 Miles

Notes:
(1) Mauer, et al., 2004
(2) Lopes, et al., 2006 and Rush, 1974a

Plate 4-5: Columbus Salt Marsh (118)

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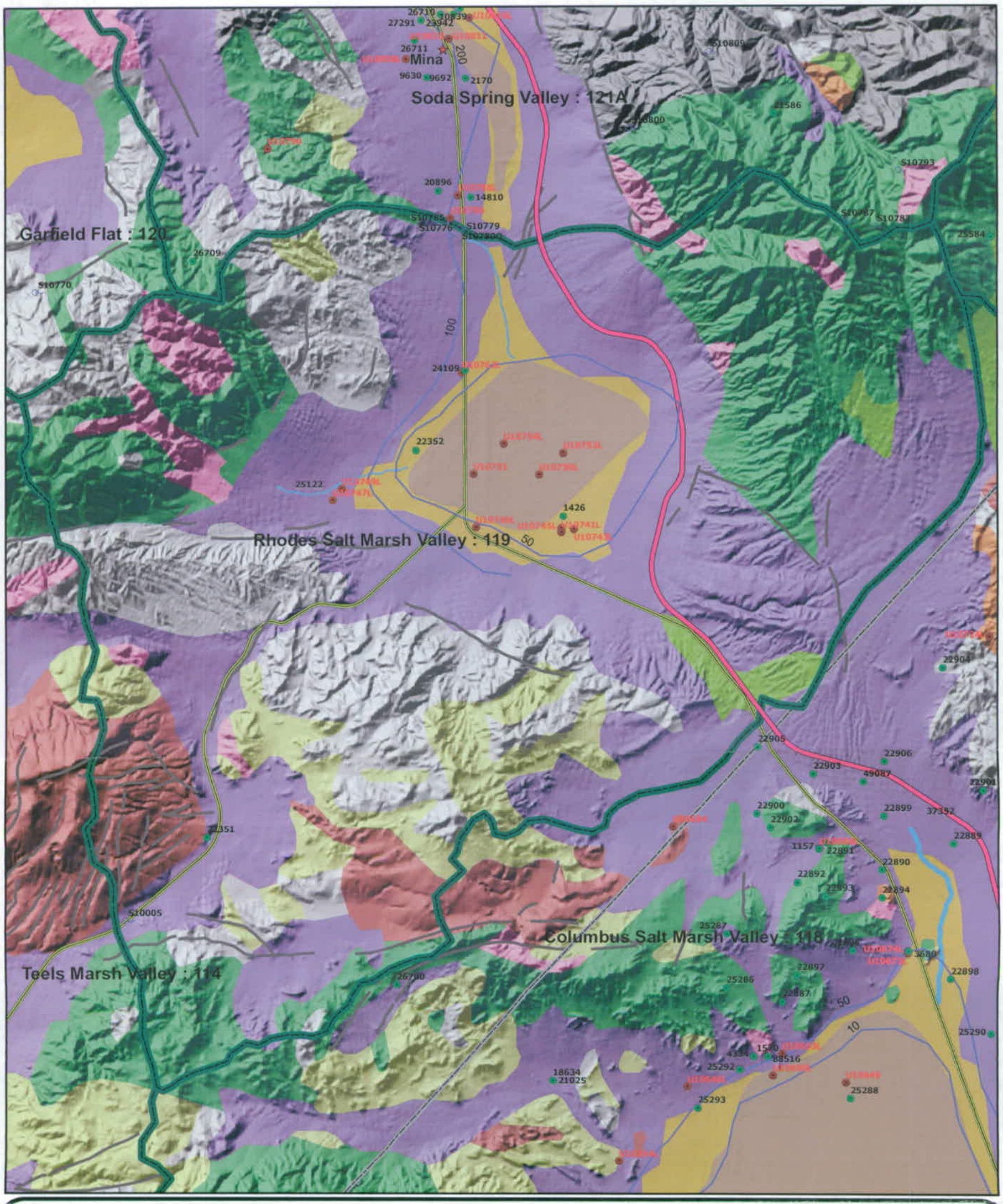

Legend

NDWR Wells

- Wells (NDWR Log No.)

USGS Sites

- NWIS Well Sites (U497L)
- GNIS Springs
- Depth to Groundwater(2)
- Faults

Hydrogeology(1)

- Alluvial Slope
- Andesitic Volcanic Flows
- Basaltic Volcanic Flows
- Clastic/Carbonate
- Clastic Sandstones and Siltstones
- Fluvial Deposits
- Intrusive and Metamorphic Rocks
- Playa
- Rhyolitic Volcanic Flows
- Tertiary Fine-Grained Semiconsolidated Sediments
- Valley Floor
- Volcanic Breccias/Welded Tuffs/Old Volcanics
- Water

- Mina Rail Alignment
- Basin Boundary
- County Boundary
- Towns
- Major Roads

N W E S

0 1 2 4 Miles

Notes:
(1) Mauer, et al., 2004
(2) Lopes, et al., 2006 and Rush, 1974a

Plate 4-6: Rhodes Salt Marsh (119)

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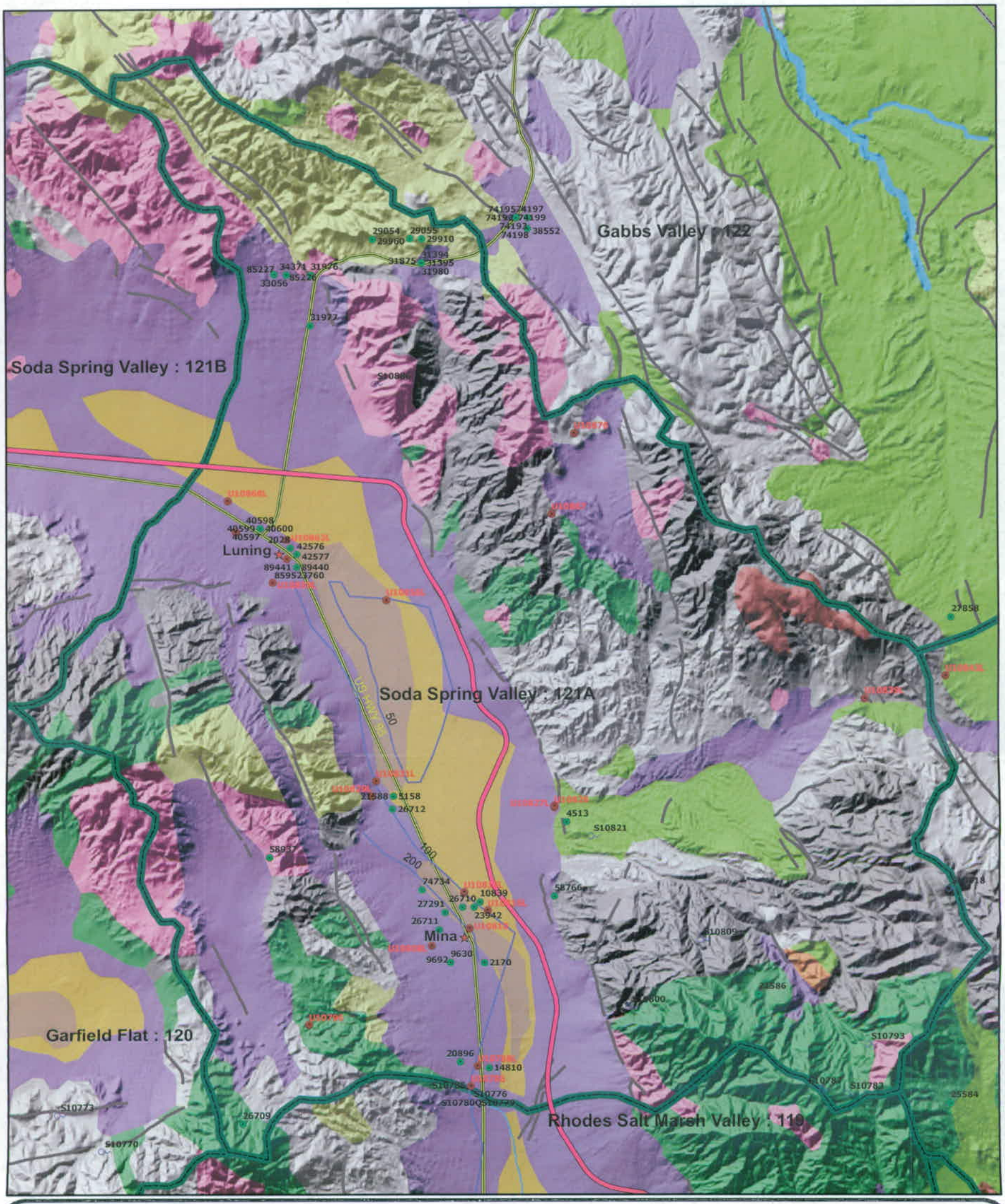

Legend

NDWR Wells

- Wells (NDWR Log No.)

USGS Sites

- NWIS Well Sites (U497L)
- GNIS Springs
- Depth to Groundwater[2]
- Faults

Hydrogeology[1]

- Alluvial Slope
- Andesitic Volcanic Flows
- Basaltic Volcanic Flows
- Clastic/Carbonate
- Clastic Sandstones and Siltstones
- Fluvial Deposits
- Intrusive and Metamorphic Rocks
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- Valley Floor
- Volcanic Breccias/Welded Tuffs/Old Volcanics
- Water
- Mina Rail Alignment
- Basin Boundary
- County Boundary
- Towns
- Major Roads

N W E S

0 1 2 4 Miles

Notes:
(1) Mauer, et al., 2004
(2) Lopes, et al., 2006 and Rush, 1974a

Plate 4-7: Soda Spring Valley (121A)

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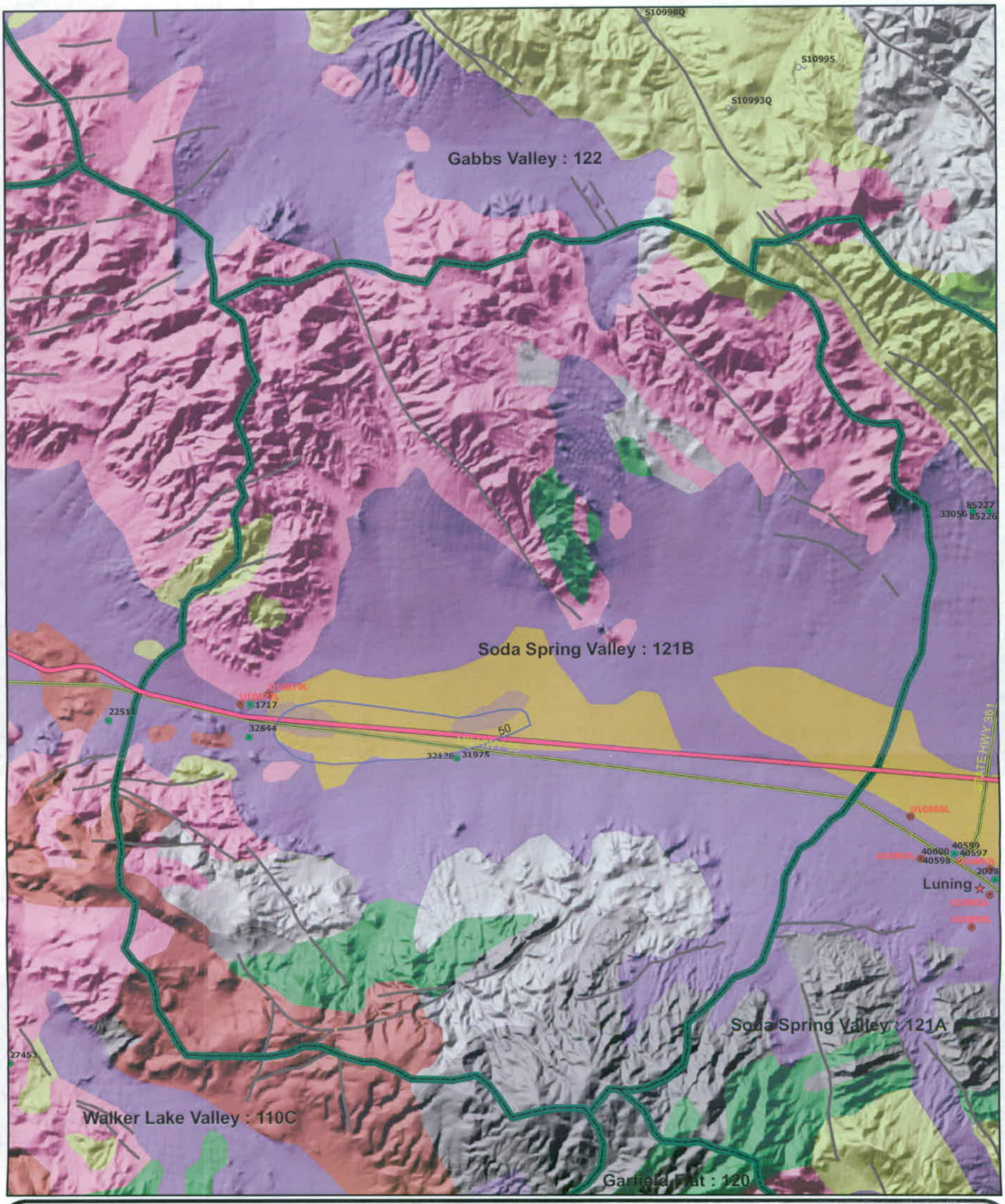

Legend

NDWR Wells

- Wells (NDWR Log No.)

USGS Sites

- NWIS Well Sites (U497L)
- GNIS Springs
- Depth to Groundwater(2)
- Faults

Hydrogeology(1)

- Alluvial Slope
- Andesitic Volcanic Flows
- Basaltic Volcanic Flows
- Clastic/Carbonate
- Clastic Sandstones and Siltstones
- Fluvial Deposits
- Intrusive and Metamorphic Rocks
- Playa
- Rhyolitic Volcanic Flows
- Tertiary Fine-Grained Semiconsolidated Sediments
- Valley Floor
- Volcanic Breccias/Welded Tuffs/Old Volcanics
- Water

- Mina Rail Alignment
- Basin Boundary
- County Boundary
- Towns
- Major Roads

N W E S

Notes:
(1) Mauer, et al., 2004
(2) Lopes, et al., 2006 and Rush, 1974a

Plate 4-8: Soda Spring Valley (121B)

WATER RESOURCES ASSESSMENT
MINA RAIL CORRIDOR
REV 0 April 5, 2007

0 1 2 4 Miles

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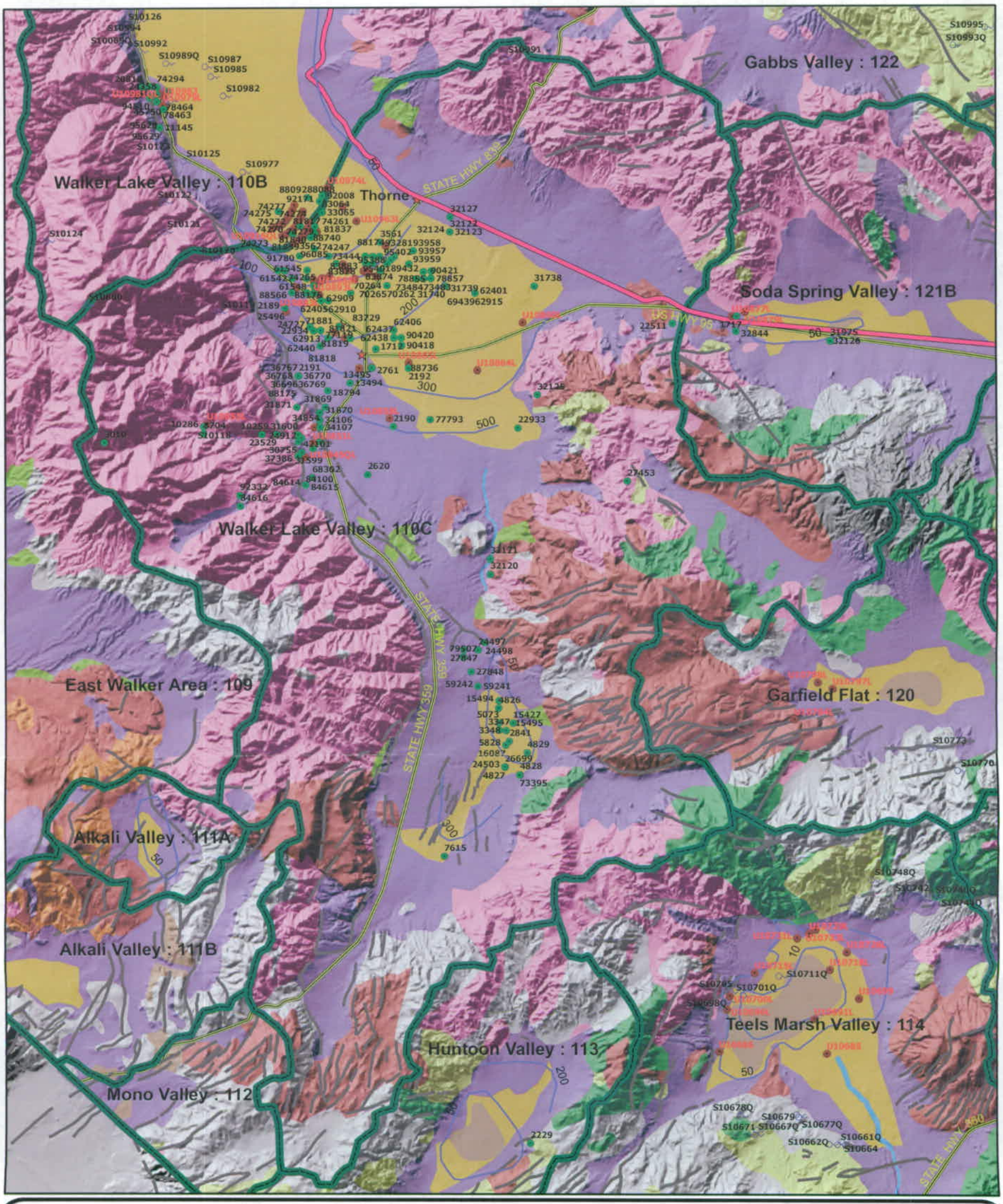

Legend

NDWR Wells

- Wells (NDWR Log No.)

USGS Sites

- NWIS Well Sites (U497L)
- GNIS Springs
- Depth to Groundwater[2]
- Faults

Hydrogeology[1]

- Alluvial Slope
- Andesitic Volcanic Flows
- Basaltic Volcanic Flows
- Clastic/Carbonate
- Clastic Sandstones and Siltstones
- Fluvial Deposits
- Intrusive and Metamorphic Rocks
- Playa
- Rhyolitic Volcanic Flows
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- Valley Floor
- Volcanic Breccias/Welded Tuffs/Old Volcanics
- Water
- Mina Rail Alignment
- Basin Boundary
- County Boundary
- Towns
- Major Roads

N W E S

Notes:
(1) Mauer, et al., 2004
(2) Lopes, et al., 2006 and Rush, 1974a

Plate 4-9: Walker Lake Valley (110C)

WATER RESOURCES ASSESSMENT
MINA RAIL CORRIDOR
REV 0 April 5, 2007

0 2 4 8 Miles

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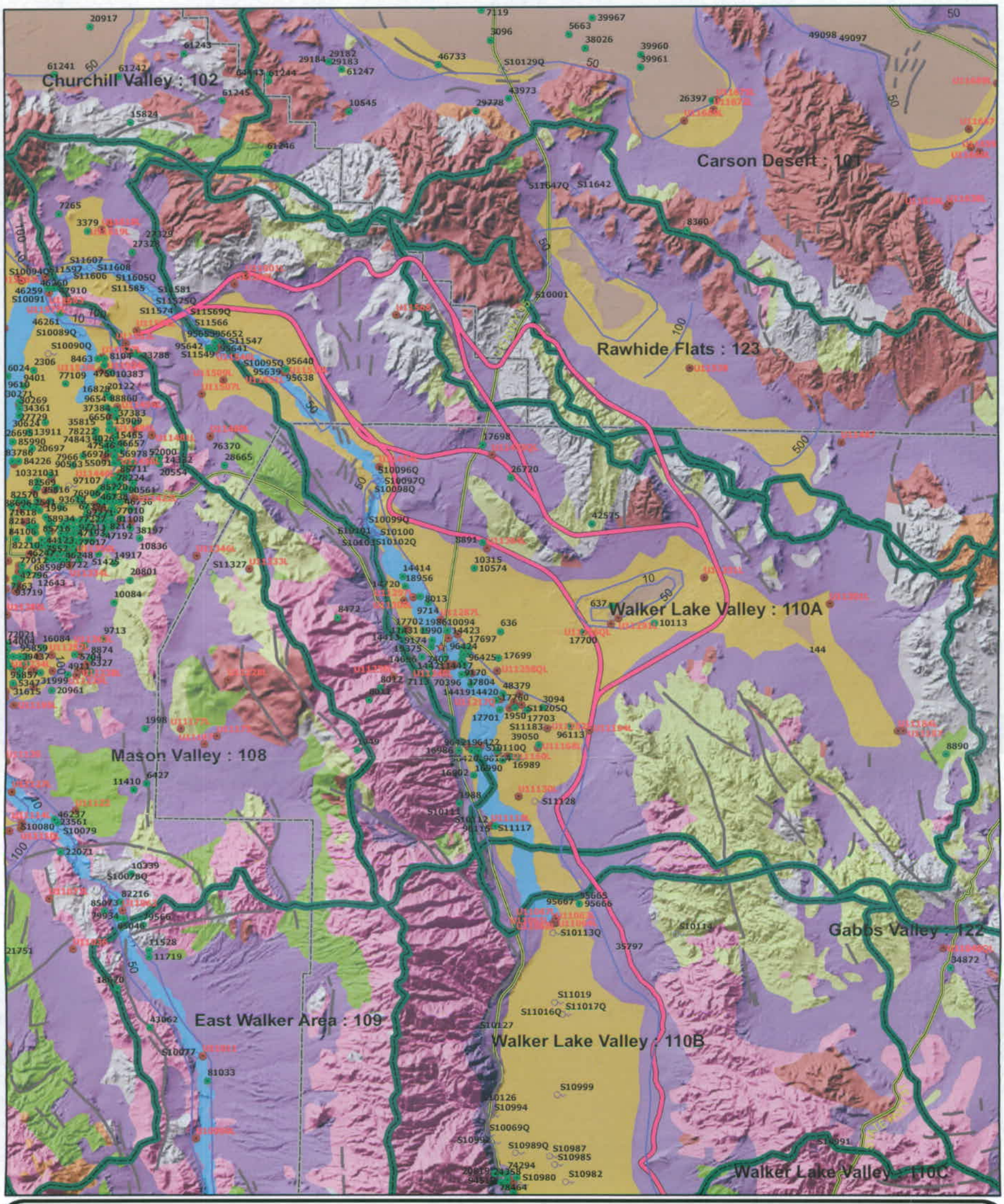

Legend

NDWR Wells

- Wells (NDWR Log No.)

USGS Sites

- NWIS Well Sites (U497L)
- GNIS Springs
- Depth to Groundwater(2)
- Faults

Hydrogeology(1)

- Alluvial Slope
- Andesitic Volcanic Flows
- Basaltic Volcanic Flows
- Clastic/Carbonate
- Clastic Sandstones and Siltstones
- Fluvial Deposits
- Intrusive and Metamorphic Rocks
- Playa
- Rhyolitic Volcanic Flows
- Tertiary Fine-Grained Semiconsolidated Sediments
- Valley Floor
- Volcanic Breccias/Welded Tuffs/Old Volcanics
- Water
- Mina Rail Alignment
- Basin Boundary
- County Boundary
- Towns
- Major Roads

N W E S

0 2 4 8 Miles

Notes:
(1) Mauer, et al., 2004
(2) Lopes, et al., 2006 and Rush, 1974a

Plate 4-10: Walker Lake Valley (110A)

WATER RESOURCES ASSESSMENT
MINA RAIL CORRIDOR
REV 0 April 5, 2007

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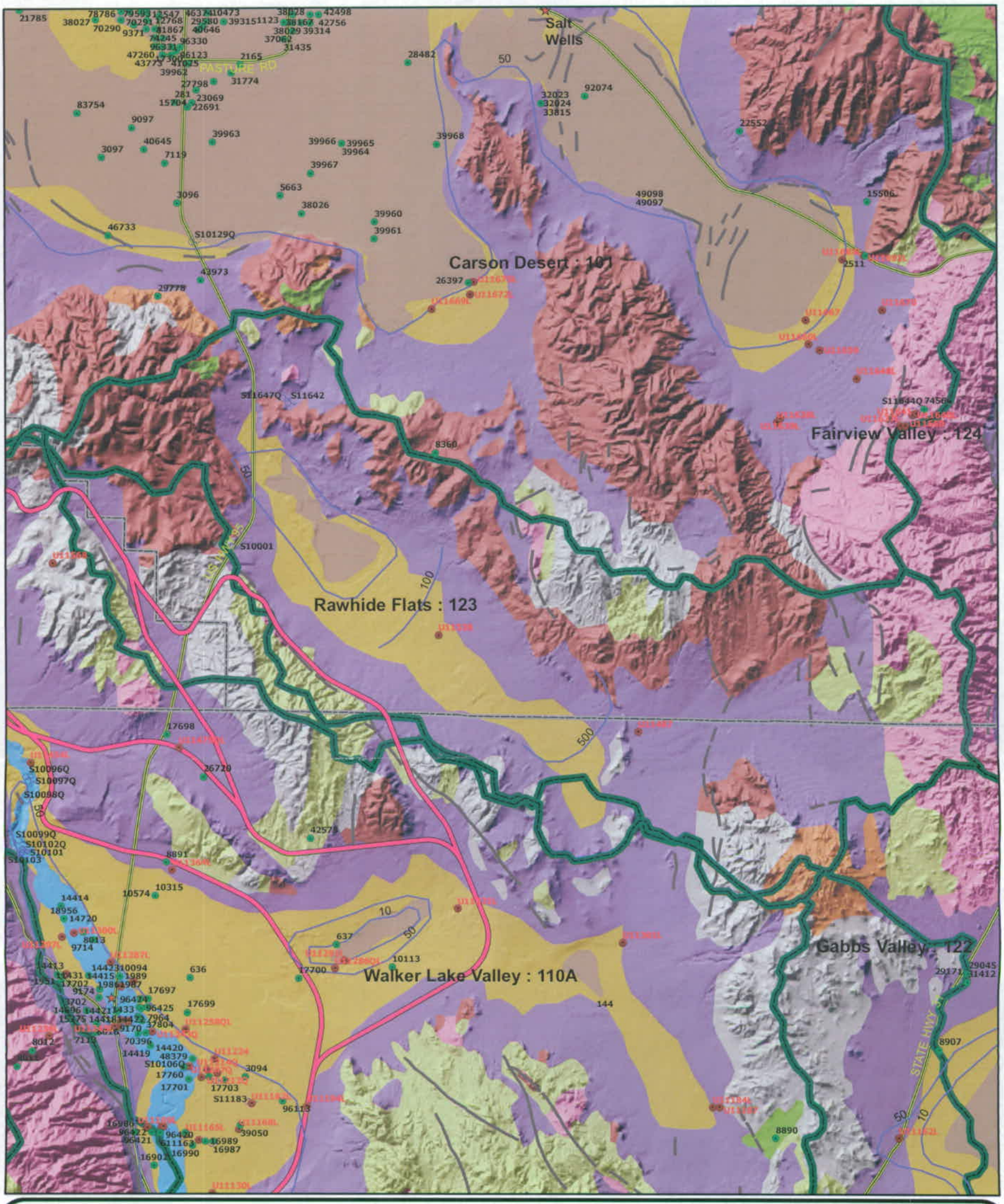

Legend

NDWR Wells

- Wells (NDWR Log No.)

USGS Sites

- NWIS Well Sites (U497L)
- GNIS Springs
- Depth to Groundwater(2)
- Faults

Hydrogeology(1)

- Alluvial Slope
- Andesitic Volcanic Flows
- Basaltic Volcanic Flows
- Clastic/Carbonate
- Clastic Sandstones and Siltstones
- Fluvial Deposits
- Intrusive and Metamorphic Rocks
- Playa
- Rhyolitic Volcanic Flows
- Tertiary Fine-Grained Semiconsolidated Sediments
- Valley Floor
- Volcanic Breccias/Welded Tuffs/Old Volcanics
- Water
- Mina Rail Alignment
- Basin Boundary
- County Boundary
- Towns
- Major Roads

N W E S

Notes:
(1) Mauer, et al., 2004
(2) Lopes, et al., 2006 and Rush, 1974a

Plate 4-11: Rawhide Flats (123)

WATER RESOURCES ASSESSMENT
MINA RAIL CORRIDOR
REV 0 April 5, 2007

0 2 4 8 Miles

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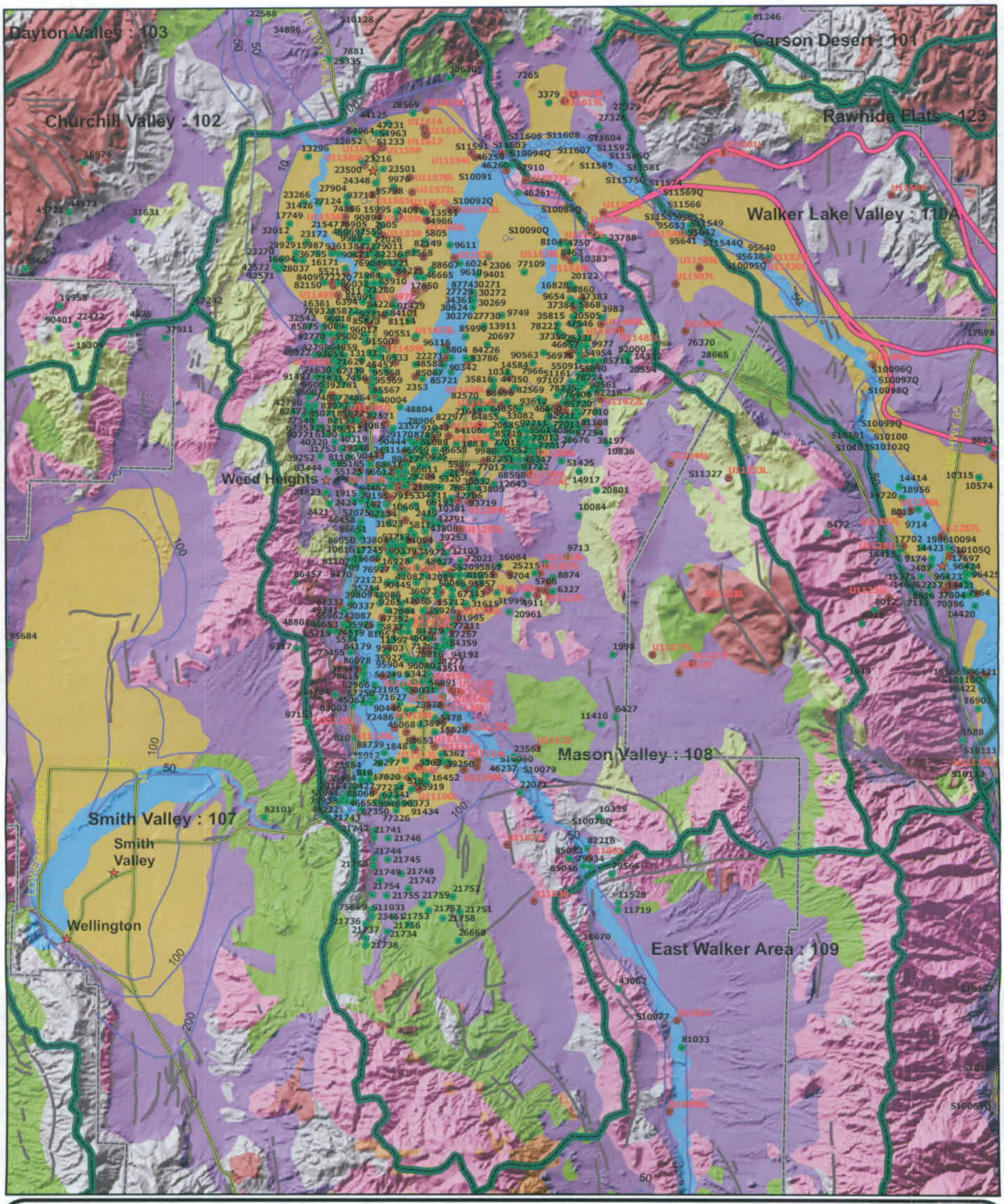

Legend

NDWR Wells

- Wells (NDWR Log No.)

USGS Sites

- NWIS Well Sites (U497L)
- GNIS Springs
- Depth to Groundwater[2]
- Faults

Hydrogeology[1]

- Alluvial Slope
- Andesitic Volcanic Flows
- Basaltic Volcanic Flows
- Clastic/Carbonate
- Clastic Sandstones and Siltstones
- Fluvial Deposits
- Intrusive and Metamorphic Rocks
- Playa
- Rhyolitic Volcanic Flows
- Tertiary Fine-Grained Semiconsolidated Sediments
- Valley Floor
- Volcanic Breccias/Welded Tuffs/Old Volcanics
- Water

- Mina Rail Alignment
- Basin Boundary
- County Boundary
- Towns
- Major Roads

N W E S

0 2 4 8 Miles

Notes:
(1) Mauer, et al., 2004
(2) Lopes, et al., 2006 and Rush, 1974a

Plate 4-12: Mason Valley (108)

WATER RESOURCES ASSESSMENT
MINA RAIL CORRIDOR
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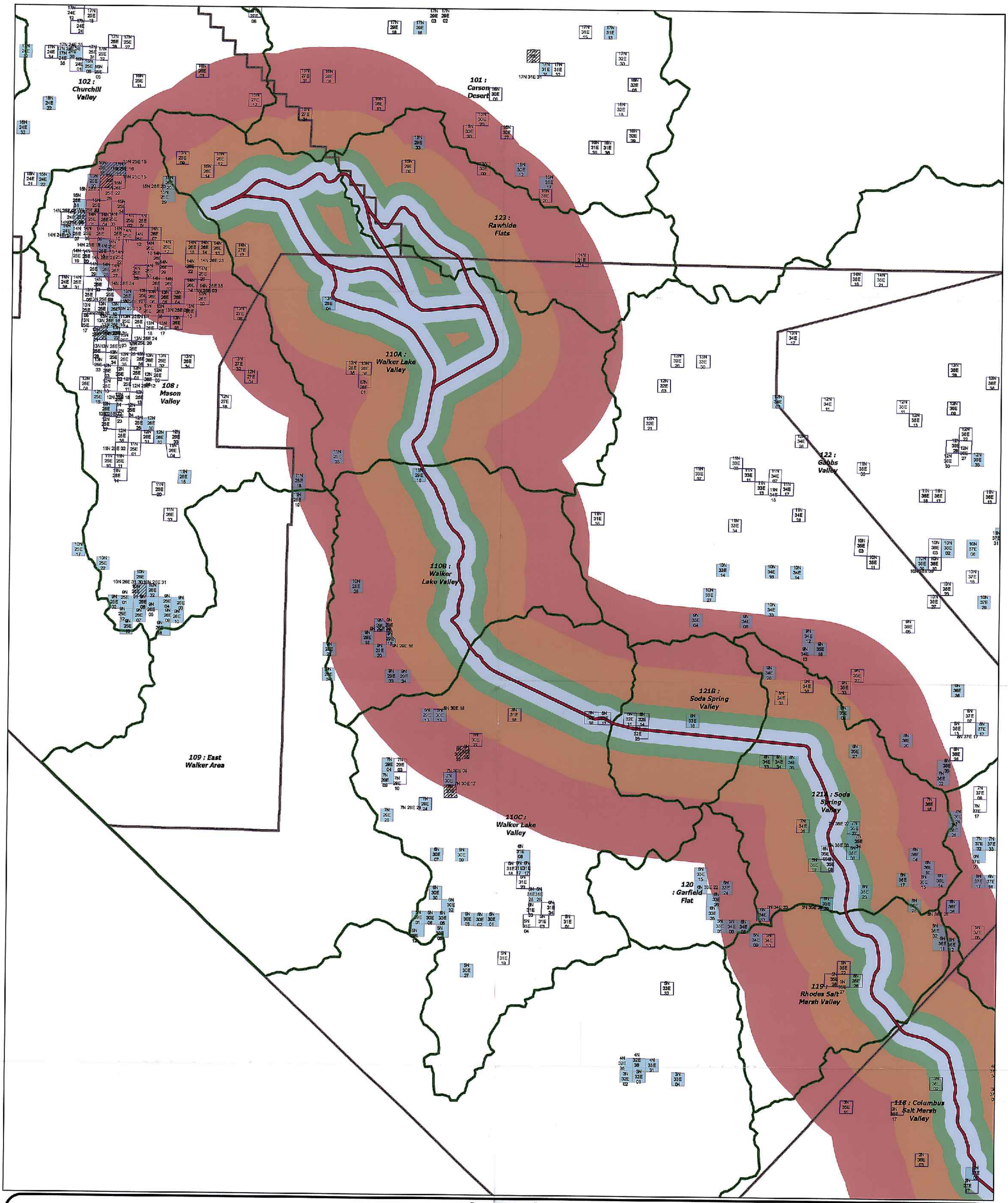

Legend

Water Rights Location-Source

- 2N 36E 18 — Township, Range, Section-Underground
- 5N 30E 24 — Township, Range, Section-Surface
- 9N 25E 03 — Township, Range, Section-Geothermal

- Mina Rail Alignment
- Basin Boundary
- County Boundary

Rail Corridor Buffers

- 0-1 Mile Zone
- 1-2 Mile Zone
- 2-5 Mile Zone
- 5-10 Mile Zone

N W E S

0 2 4 8 12 16 Miles

Plate 4-14: Water Rights Locations (North)

WATER RESOURCES ASSESSMENT
MINA RAIL CORRIDOR
REV 0 April 5, 2007

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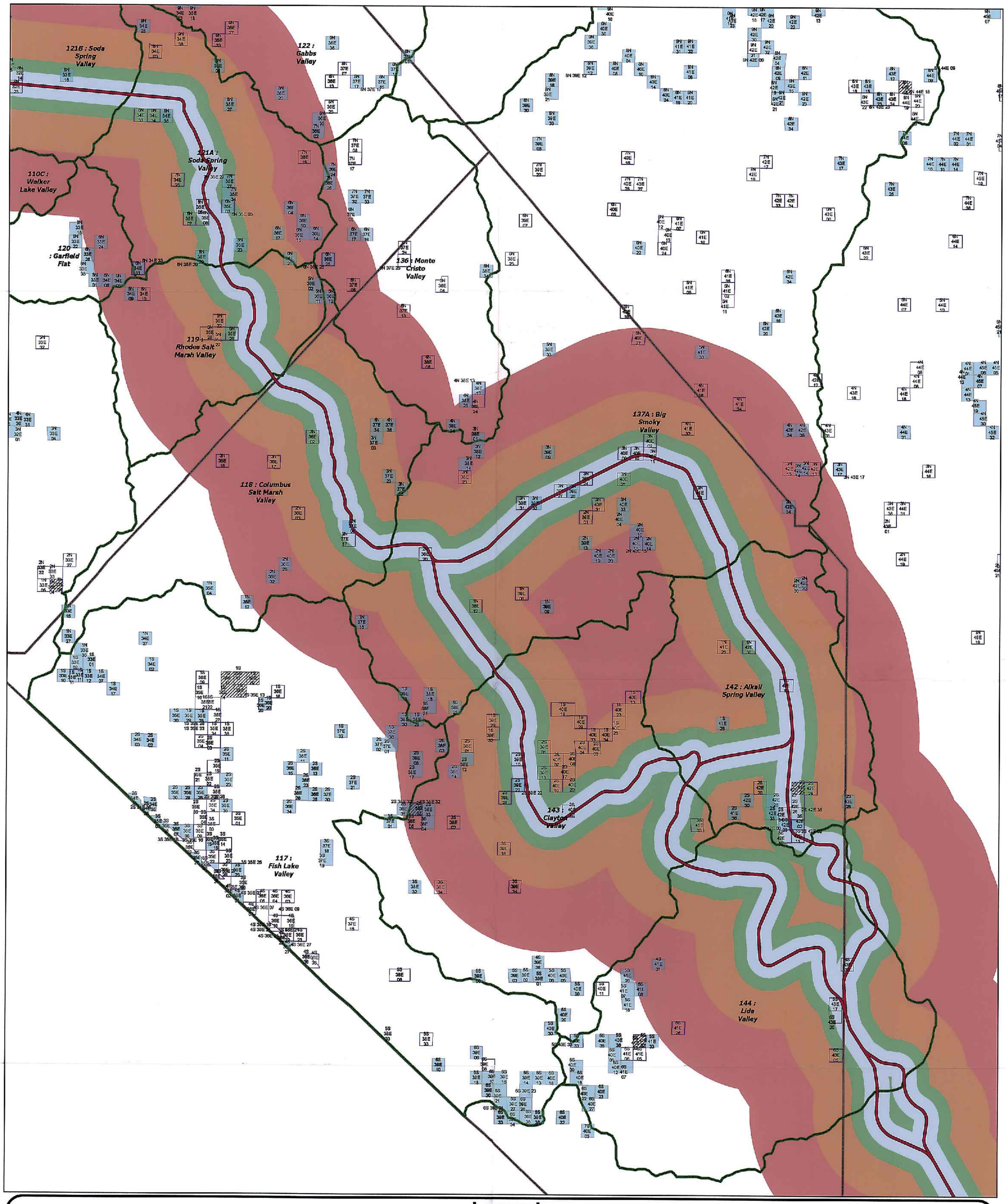

Legend

Water Rights Location-Source

- 2N 36E 18 — Township, Range, Section-Underground
- 5N 30E 24 — Township, Range, Section-Surface
- 9N 35E 03 — Township, Range, Section-Geothermal

- Mina Rail Alignment
- Basin Boundary
- County Boundary

Rail Corridor Buffers

- 0-1 Mile Zone
- 1-2 Mile Zone
- 2-5 Mile Zone
- 5-10 Mile Zone

N W E S

0 2 4 8 12 16 Miles

Plate 4-13: Water Rights Locations (South)

WATER RESOURCES ASSESSMENT
MINA RAIL CORRIDOR
REV 0 April 5, 2007

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OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
SPECIAL INSTRUCTION SHEET

1. QA: N/A

This is a placeholder page for records that cannot be scanned.

2. Record Date 04/05/07	3. Accession Number ATTN to: ENG.20070507.0003
4. Author Name(s) N/A	5. Authorization Organization Nevada Rail Partners

6. Title/Description
Water Resources Assessment Mina Rail Corridor

7. Document Number(s) V0-HX00-NHC4-00239-00027-001	8. Version Designator 003
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N/A

12. Traceability Designator
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13. Comments
CD's: 1 Original & 1 copy

Validation of complete file transferred. All files copied. Software used: PDF, MXD, MDB

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14. RPC Electronic Media Verification

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MD5 Verification

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 Volume Serial Number is 1E7B-9069

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