

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

JASON KING, P.E.
STATE ENGINEER



COYOTE SPRING VALLEY
(HYDROGRAPHIC BASIN 13-210)

GROUNDWATER PUMPAGE INVENTORY

CALENDAR YEAR 2014

Field Investigations by: John Guillory, P.E. & Christi Cooper

Report Prepared by: John Guillory, P.E.

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ABSTRACT

This inventory represents the status and pumpage of all permitted, certificated and claims of vested right groundwater rights located within Coyote Spring Valley, Hydrographic Basin 13-210, for calendar year 2014 (January 1, 2014 through December 31, 2014). Also included is data associated with depth to groundwater.

The data presented are valid for the time period of this report, and may vary from previously published data as water rights within the basin are subject to administrative action, such as certification, cancellation, forfeiture, or withdrawal on a continuing basis.

For calendar year 2014 the permitted, certificated and claims of vested right groundwater rights totaled **16,443 acre-feet**. Estimated pumpage for the calendar year was **2,258 acre-feet**. For calendar year 2014, appropriations for municipal use (the largest manner of use in the basin) totaled 13,600 acre-feet and the pumpage was 1,643 acre-feet. The second largest manner of use was industrial, with appropriations totaling 2,500 acre-feet and pumpage of 0 acre-feet. The third largest manner of use was irrigation, with appropriations totaling 343 acre-feet and pumpage of 613 acre-feet. The fourth largest manner of use was pumping by exempt domestic wells, at 2 acre-feet. Exempt domestic wells are defined by Nevada Revised Statutes 534.013 and do not require a permit issued by the State Engineer.

HYDROGRAPHIC BASIN SUMMARY

HYDROGRAPHIC BASIN NUMBER..... 210, REGION 13

HYDROGRAPHIC BASIN NAME COYOTE SPRING VALLEY

COUNTIES..... CLARK, LINCOLN

NEARBY COMMUNITIES ALAMO, MOAPA

DESIGNATED YES

DENIALS BASED UPON WATER AVAILABILITY IRRIGATION

GROUNDWATER LEVEL MEASUREMENTS NDWR, SNWA, USGS

ESTIMATED PUMPAGE INVENTORY, ACRE-FEET IN 2014..... 2,258*

STATE ENGINEER’S ORDERS

905	- DESIGNATION	AUGUST 21, 1985
1169	- FURTHER STUDY.....	MARCH 8, 2002
1169a	- FURTHER STUDY.....	DECEMBER 21, 2012

COMMITTED GROUNDWATER RESOURCE: 16,443 ACRE-FEET..DATE: JUNE 2015

MUNICIPAL13,600 INDUSTRIAL2,500 IRRIGATION..... 343

NOTE: Committed groundwater resource data are accurate for June 2015. Manner of use category totals vary over time, as water rights (rights) are not necessarily static. Rights may be subject to change applications, certification, withdrawals, forfeiture and cancellations; each of these circumstances could impact the duty, diversion rate and acreage associated with a given right.

*Includes pumpage by exempt domestic wells, as defined by NRS 534.013. The domestic use estimate is based upon a count of the total domestic wells in the basin multiplied by 1 acre-foot per annum. The number of domestic wells in the basin, obtained by a query of the [Nevada Division of Water Resources Well Log Database](#), is estimated to be 2.

PURPOSE AND SCOPE

The purpose of this report is to inventory all of the groundwater resources allocated and described by the Office of the State Engineer, Nevada Division of Water Resources (NDWR), and to estimate the amount of groundwater pumped within Coyote Spring Valley (Hydrographic Basin 13-210), for the time period beginning January 1, 2014 and ending December 31, 2014 (hereafter referred to as calendar year 2014). This report estimates the amount of groundwater pumped under the permits and certificates issued by the State Engineer, claims of vested right, and the amount pumped by exempt domestic wells within the basin. Associated information, such as groundwater level measurements, is also presented.

DESCRIPTION OF THE STUDY AREA

Coyote Spring Valley is a basin located in southeastern Nevada. The basin lies within Clark and Lincoln Counties (Figure 1) approximately 60 miles north of Las Vegas, Nevada, and is within the Colorado River Hydrographic Region.

Coyote Spring Valley is bounded on the west by the Sheep Range. This range rises to 9,920 feet (all elevations in this text are above mean sea level) at Hayford Peak at the south end of the range. The south end of Coyote Spring Valley is topographically closed by a bedrock and alluvial divide extending eastward from Hayford Peak to the Arrow Canyon Range. The Delamar Range borders the basin to the east and the Arrow Canyon Range bounds the southeast part of the basin. The north boundary is defined by a series of hills at the south end of the Pahranaagat Range that connects with the north end of the Sheep and Delamar Ranges.

The adjacent Nevada hydrographic basins are as follows: Pahranaagat Valley (13-209) and Delamar Valley (10-182) to the north; Kane Springs Valley (13-206) to the northeast; Lower Meadow Valley Wash (13-205) and Muddy River Springs Area (13-219) to the east; California Wash (13-218) to the southeast; Hidden Valley - North (13-217) to the south; Las Vegas Valley (13-212), Three Lakes Valley - Southern Part (13-211) and Three Lakes Valley - Northern Part (10-168) to the southwest; and Tikapoo Valley - Southern Part (10-169B) to the west. The exterior boundary of the Coyote Spring Valley Hydrographic Basin is described in Designation Order 905, issued by the Nevada State Engineer August 21, 1985.

GROUNDWATER LEVELS

Depths to groundwater are measured by multiple entities in the basin. Sites at which water level measurements are made by or reported to NDWR (see Figure 1) on a semi-annual basis include:

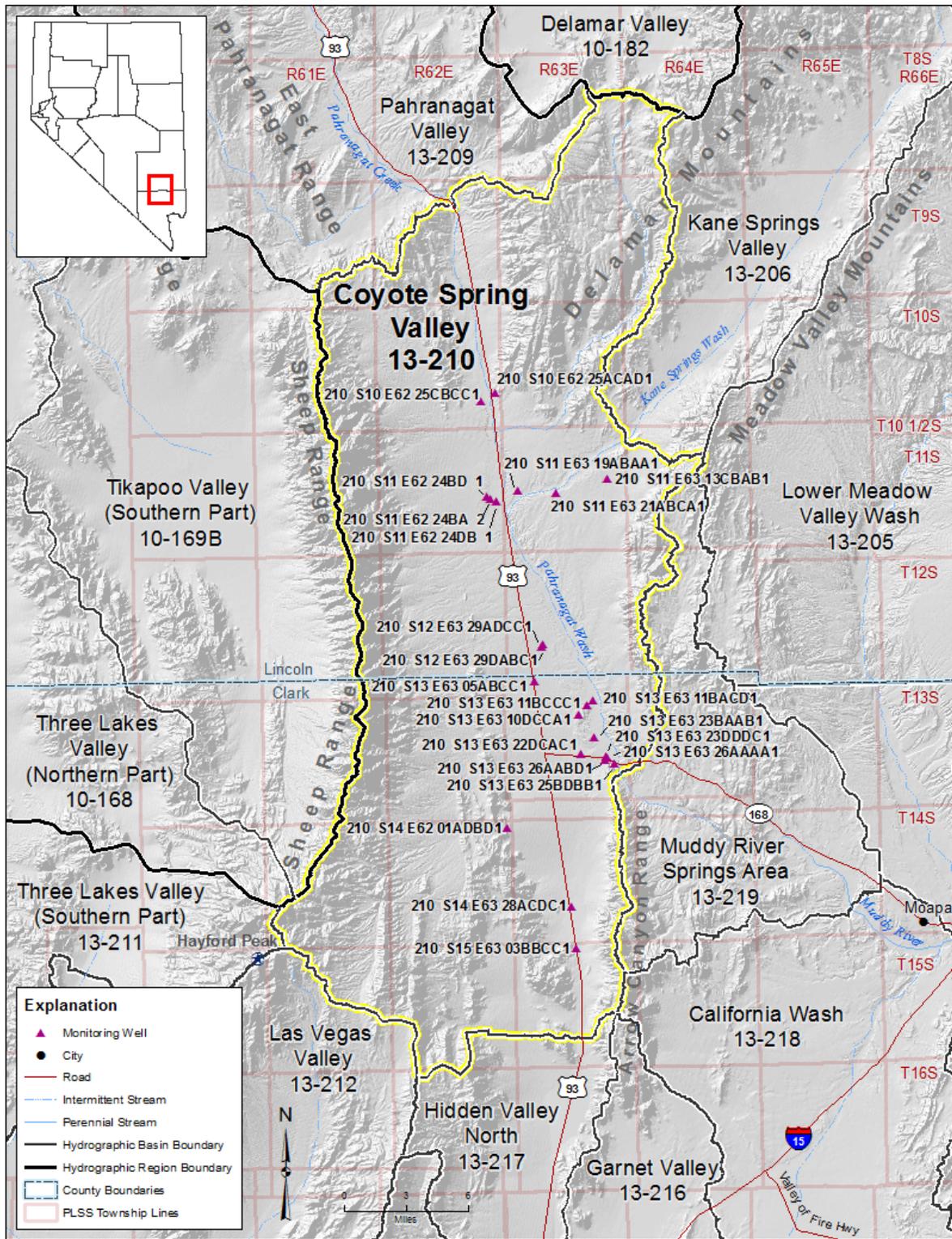
[210 S10 E62 25ACAD1](#)
[210 S11 E62 24BD 1](#)
[210 S11 E63 19ABAA1](#)
[210 S12 E63 29DABC1](#)
[210 S13 E63 11BACD1](#)
[210 S13 E63 23BAAB1](#)
[210 S13 E63 26AAAA1](#)
[210 S14 E63 28ACDC1](#)

[210 S10 E62 25CBCC1](#)
[210 S11 E62 24DB 1](#)
[210 S11 E63 21ABCA1](#)
[210 S13 E63 05ABCC1](#)
[210 S13 E63 11BCCC1](#)
[210 S13 E63 23DDDC1](#)
[210 S13 E63 26AABD1](#)
[210 S15 E63 03BBCC1](#)

[210 S11 E62 24BA 2](#)
[210 S11 E63 13CBAB1](#)
[210 S12 E63 29ADCC1](#)
[210 S13 E63 10DCCA1](#)
[210 S13 E63 22DCAC1](#)
[210 S13 E63 25BDBB1](#)
[210 S14 E62 01ADBD1](#)

Additional water level and site data can be obtained on the NDWR website (<http://water.nv.gov>). Groundwater level data are also collected by the US Geological Survey (USGS) and can be accessed on their website (<http://nevada.usgs.gov/>).

FIGURE 1. PHYSIOGRAPHIC MAP OF COYOTE SPRING VALLEY, HYDROGRAPHIC BASIN 13-210.



METHODS TO ESTIMATE PUMPAGE

This report estimates the amount of groundwater pumped under the permits and certificates issued by the Nevada State Engineer as well as claims of vested right and exempt domestic wells in the Coyote Springs Valley Hydrographic Basin. The following methods were used to arrive at the estimated use:

- Where totalizing meters are in place, meter readings were taken and compared with previous data (if available).
- Where meters were not in place and the use was irrigation, pumpage was estimated by multiplying the number of hours the well was operated during the past year (determined from an hour meter reading or asking the water user) by the certificated diversion rate.
- Where there are no flow meters or other reliable options for estimating pumpage and the use was irrigation, pumpage was estimated by dividing the Net Irrigation Water Requirement (NIWR) for the crop grown by the efficiency of the irrigation method used, then multiplied by the number of acres irrigated. Irrigation efficiencies associated with three types of irrigation methods are: pivot at 85%; wheel line or other hand moved sprinklers at 75%; and flood at 60%. For places where the groundwater rights are supplemental to surface water, groundwater use is estimated using the NIWR method above, but is adjusted based on available surface water for the year. Evapotranspiration and NIWR data by basin can be found on the NDWR website at: http://water.nv.gov/mapping/et/et_general.cfm. This approach using the NIWR to estimate pumpage was not used in previous inventories, and pumpage estimates for 2014 may differ significantly from previous year's estimates.
- Where meters were not present, previous data were not available, and the manner of use was not irrigation, pumpage was estimated by applying the annual duty associated with the certificate (if the water right was perfected), permit or claim if the use was as described in the certificate, permit or claim. If the use was not as described in the certificate, permit or claim, a value was estimated based upon the circumstances of use for the subject year.
- Exempt domestic wells may be drilled and utilized where water service from a purveyor is not available. These types of wells do not require a permit from the State Engineer if they do not pump more than 2 acre-feet per year as provided by Nevada Revised Statutes (NRS) [534.180](#). [NRS 534.013](#) defines this category of domestic use as follows: *“Domestic use or domestic purposes extends to culinary and household purposes directly related to a single family dwelling, including, without limitation, the watering of a family garden and lawn and the watering of livestock and any other domestic animals or household pets.”* The number of exempt domestic wells in the basin was determined by a query of the NDWR Well Log Database. The amount of water pumped by exempt domestic wells is estimated to be 1.0 acre-foot per well in Coyote Spring Valley.

PUMPAGE BY MANNER OF USE

Note that all data herein are estimates and are subject to revision. The total estimated groundwater pumpage for calendar year 2014 was **2,258 acre-feet**. The annual duties of the certificates, permits and claims of vested right within the Coyote Spring Valley Hydrographic Basin totaled **16,443 acre-feet**. For calendar year 2014, the appropriated and actual pumped totals are categorized by manner of use, as follows:

A. Municipal (MUN)

Appropriations for municipal purposes totaled 13,600 acre-feet, with pumpage estimated at 1,643 acre-feet.

B. Industrial (IND)

Appropriations for industrial purposes totaled 2,500 acre-feet, with estimated groundwater pumpage of 0 acre-feet.

C. Irrigation (IRR)

Appropriations for irrigation purposes totaled 343 acre-feet, with estimated groundwater pumpage of 613 acre-feet.

D. Domestic (DOM)

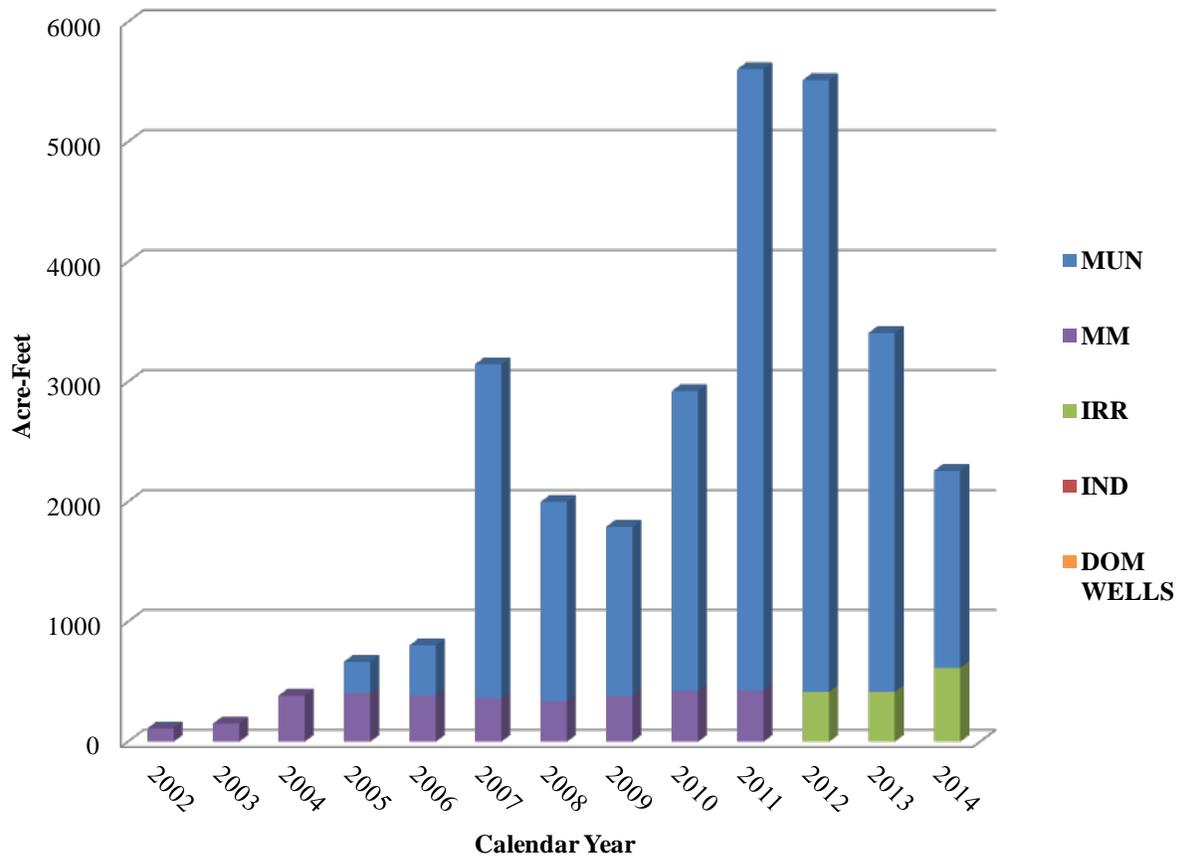
Appropriations for domestic purposes totaled 0 acre-feet in the basin. However, records of the State Engineer indicate an estimated 2 exempt domestic wells existed in the basin during water year 2014. The amount of water pumped for domestic use as described under NRS 534.013 is estimated at 2 acre-feet.

APPENDIX A. COYOTE SPRING VALLEY HISTORICAL PUMPAGE.

HISTORICAL GROUNDWATER PUMPAGE BY MANNER OF USE

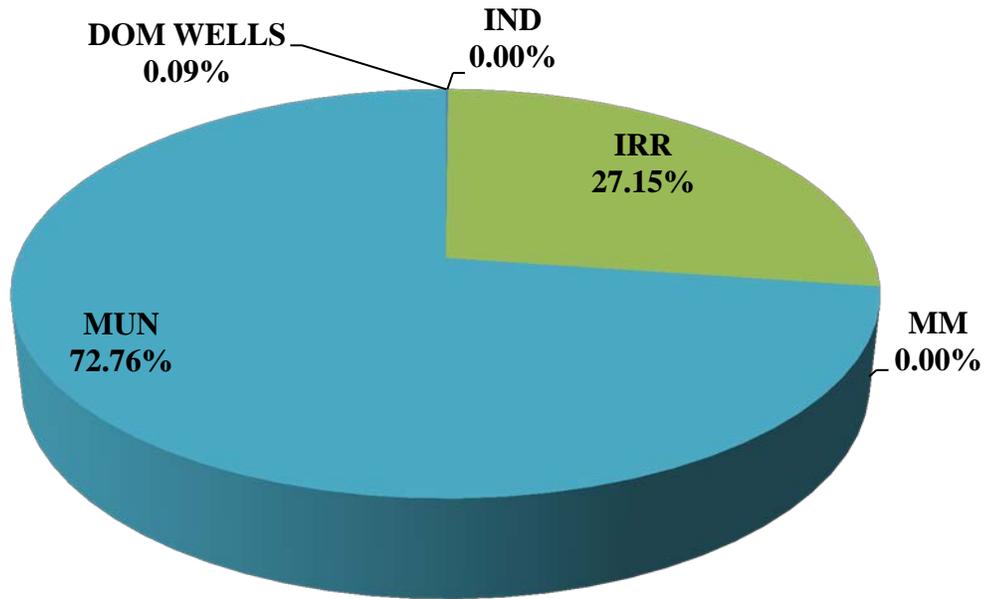
YEAR	DOM WELLS	IND	IRR	MM	MUN	TOTAL
2002	1	0	0	110	0	111
2003	2	0	0	149	0	151
2004	2	0	0	382	0	384
2005	2	0	0	406	259	667
2006	2	0	0	386	416	804
2007	2	0	0	364	2781	3147
2008	2	0	0	338	1660	2000
2009*	2	0	0	377	1413	1792
2010*	2	0	0	423	2498	2923
2011*	2	0	0	427	5177	5606
2012	2	0	413	0	5101	5516
2013	2	0	413	0	2992	3407
2014	2	0	613	0	1643	2258

* IND and MUN uses figures edited from previous reports. All values are in acre-feet.

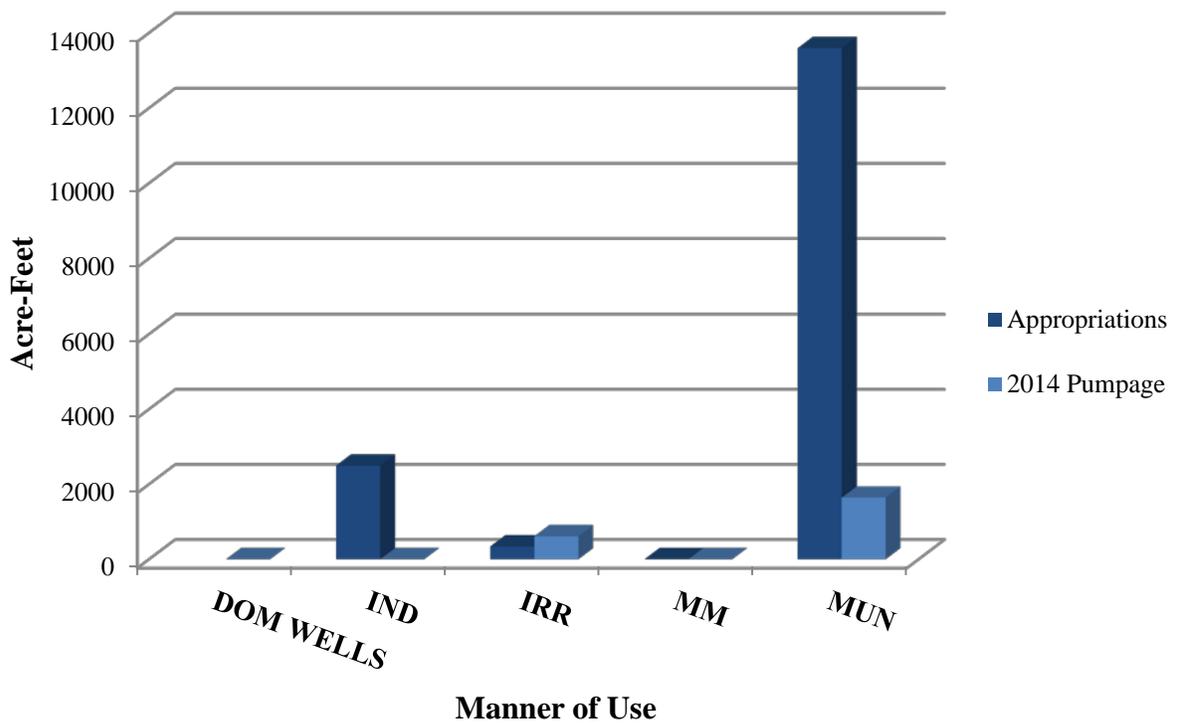


**APPENDIX B. COYOTE SPRING VALLEY GROUNDWATER PUMPAGE FOR
CALENDAR YEAR 2014 BY MANNER OF USE.**

**PERCENTAGE OF GROUNDWATER PUMPAGE FOR CALENDAR YEAR 2014
BY MANNER OF USE**



**GROUNDWATER PUMPAGE FOR CALENDAR YEAR 2014 APPROPRIATIONS
VS. ACTUAL PUMPAGE**



**APPENDIX C. COYOTE SPRING VALLEY GROUNDWATER PUMPAGE
INVENTORY FOR CALENDAR YEAR 2014.**

EXPLANATION OF COLUMN HEADINGS FOR GROUNDWATER PUMPAGE INVENTORY

APP NUMBER	The file number of the Application or the Vested Claim of Right.																
STATUS	Indicates if the application is a Vested Claim of Right (VST), a Permit (Permit), or a Certificate (Cert).																
OWNER OF RECORD	The owner of the water right as recorded in the files of the State Engineer. A water right may have more than one owner of record.																
QQ	The quarter quarter of the Section in which the point of diversion is located.																
QTR	The quarter of the Section in which the point of diversion is located.																
Sec	The Section in which the point of diversion is located.																
T	The Township in which the point of diversion is located.																
R	The Range in which the point of diversion is located.																
ACRES OR DUTY	The number of acres that are permitted to be irrigated or the duty if the manner of use is anything other than irrigation.																
ACRES IRR OR USE	<p>The number of acres irrigated or the manner of use of the appropriated water. The types of manner of use may include:</p> <table border="0" style="width: 100%;"> <tr> <td>COM - Commercial</td> <td>CON - Construction</td> </tr> <tr> <td>DOM - Domestic</td> <td>ENV - Environmental</td> </tr> <tr> <td>IND - Industrial</td> <td>IRR - Irrigation</td> </tr> <tr> <td>MM - Mining & Milling</td> <td>MUN - Municipal</td> </tr> <tr> <td>OTH - Other</td> <td>PWR - Power</td> </tr> <tr> <td>QM - Quasi-Municipal</td> <td>REC - Recreation</td> </tr> <tr> <td>STK - Stockwater</td> <td>STO - Storage</td> </tr> <tr> <td>WLD - Wildlife</td> <td></td> </tr> </table>	COM - Commercial	CON - Construction	DOM - Domestic	ENV - Environmental	IND - Industrial	IRR - Irrigation	MM - Mining & Milling	MUN - Municipal	OTH - Other	PWR - Power	QM - Quasi-Municipal	REC - Recreation	STK - Stockwater	STO - Storage	WLD - Wildlife	
COM - Commercial	CON - Construction																
DOM - Domestic	ENV - Environmental																
IND - Industrial	IRR - Irrigation																
MM - Mining & Milling	MUN - Municipal																
OTH - Other	PWR - Power																
QM - Quasi-Municipal	REC - Recreation																
STK - Stockwater	STO - Storage																
WLD - Wildlife																	
USED (AF)	The amount of water used during the calendar year, in acre-feet, as determined by review of records and/or field investigation.																
REMARKS	Notes pertaining to field investigation and/or review of records.																

**GROUNDWATER PUMPAGE INVENTORY
COYOTE SPRING VALLEY, NO. 210
2014**

APP NUMBER	STATUS	OWNER OF RECORD	PLACE OF USE					ACRES OR DUTY	ACRES IRR OR USE	USED (A/F)	REMARKS
			QQ	Qtr	Sec	T	R				
70429	Cert	Coyote Springs Invest.	SE	SW	14	13	63	4600.00	MUN	1216.30	
70430	Permit		SW	SE	22						
74094	Permit										
74095	Permit										
82051-T	Exp										
77164	Permit	Nevada Power Co.	NE	NE	26	13	63	2500.00	IND	0.00	
77291	Permit	SNWA	SE	SE	23	13	63	9000.00	MUN	426.28	
77292	Permit		SW	NW	13	11	63				
77293	Permit		SE	NE	10	12	63				
77294	Permit		SE	NE	10	13	63				
77295	Permit		SW	NW	13	11	63				
77296	Permit		SE	SE	28						
77297	Permit		NE	NE	3	12	63				
77298	Permit		SE	NE	10						
77299	Permit		NW	SE	29						
77300	Permit		NW	NW	3	13	63				
77301	Permit		SE	NE	10	13	63				
77302	Permit		NE	NE	20						
77303	Permit		NE	NE	21						
77304	Permit		NE	NE	1						
77305	Permit										
77306	Permit										
77707-T	Exp										
77708-T	Exp										
77709-T	Exp										

**GROUNDWATER PUMPAGE INVENTORY
COYOTE SPRING VALLEY, NO. 210
2014**

APP NUMBER	STATUS	OWNER OF RECORD	PLACE OF USE					ACRES OR DUTY	ACRES IRR OR USE	USED (A/F)	REMARKS
			QQ	Qtr	Sec	T	R				
83044	Permit	Bedrock Inc.		NE	24	11	62	68.60	100.00	613.33	Alfalfa, wheel line, NIWR = 4.6 Well 1: S/N 61792164 RD - 02866300 - 10-08-13 RD - 40722400 - 10-24-14 Well 3: S/N 1546592 RD - 79293500 - 10-08-13 RD - (1)20993300 - 10-14-14 Meters installed in 2015: Well 2: S/N 97707924 RD - 34428700 - 03-17-15 Well 4: S/N 14-018685 RD - 01559100 - 03-17-15 Well 5: S/N 14-016496 RD - 05196000 - 03-17-15 Well 6: S/N 62683157 RD - 04592500 - 03-17-15

Verified with field notes: _____

 , P.E.

TOTAL 2255.91 Permitted rights

**APPENDIX D. COYOTE SPRING VALLEY GROUNDWATER PUMPAGE
INVENTORY FIELD NOTES FOR CALENDAR YEAR 2014.**

2014

Coyote Spring Valley
No. 210

Inventory Field Notes

compiled by
John Guillory, P.E. and Christi Cooper

State of Nevada
Division of Water Resources
Southern Nevada Branch Office

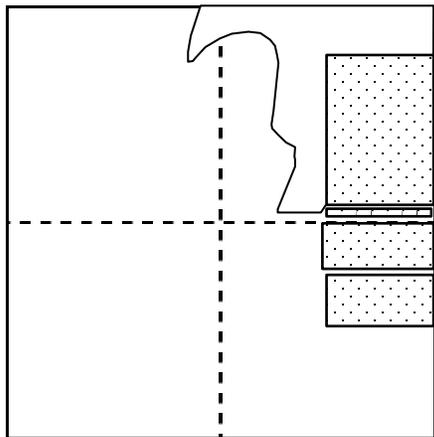
PUMPAGE INVENTORY FIELD REPORT

BASIN NO: 210 PERMIT NO: 83044
 WELL: YES NO **X** METER SER NO: 1278659
 PUMP: YES **X** NO PUMP TYPE: Sump pump
 MOTOR: YES NO **X** MOTOR TYPE:
 METER: YES **X** NO METER READ: 55761700
 PHOTO: YES NO **X** ACRES IRR: 100.0
 BENEFICIAL USE: YES **X** NO PORTION ALL **X** TYPE Irrigation

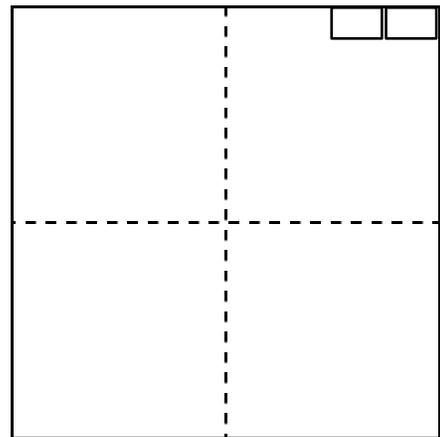
IF PARTIAL USE, SKETCH OF LAND IRRIGATED.

 1/4 1/4 SEC **24**

 1/4 1/4 SEC **25**



 - IRR ALFALFA



REMARKS: Permit is valid for 68.6 acres within POU. Mining & milling operation and
landfill within POU also. Six (6) unpermitted wells on the property pump water to two (2)
ponds, water is then distributed throught property for several manners of use. No well
visible at permitted point of diversion. Alfalfa irrigated by wheel lines.

SIGNATURE:  , P.E. DATE: 10/24/2014