

STATE OF NEVADA  
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF WATER RESOURCES

JASON KING, P.E.  
STATE ENGINEER



BLACK MOUNTAINS AREA (HYDROGRAPHIC BASIN 13-215)

GROUNDWATER PUMPAGE INVENTORY

CALENDAR YEAR 2013

Field Investigated by: John Guillory, P.E.

Report Prepared by: John Guillory, P.E.

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## **ABSTRACT**

This inventory represents the status and usage of all permitted, certificated and claims of vested right groundwater rights located within Black Mountains Area, Hydrographic Basin 13-215, for calendar year 2013 (January 1, 2013 through December 31, 2013). 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 daily basis.

For calendar year 2013 the permitted, certificated and claims of vested right groundwater rights totaled **5,797 acre-feet**. Estimated pumpage for the calendar year was **1,776 acre-feet**. Quasi-municipal is the largest manner of use within the basin. For calendar year 2013, appropriations for quasi-municipal totaled 3,603 acre-feet and the pumpage was 10 acre-feet. The next largest manner of use was industrial with appropriations for industrial totaling 1,665 acre-feet and the pumpage was 1,585 acre-feet. The next largest manner of use was mining & milling with appropriations totaling 527 acre-feet and the pumpage was 179 acre-feet. The next largest manner of use was pumping by exempt domestic wells, at 1 acre-foot. 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..... 215, REGION 13

HYDROGRAPHIC BASIN NAME ..... BLACK MOUNTAINS AREA

COUNTIES..... CLARK

COMMUNITIES ..... BOULDER CITY

DESIGNATED ..... YES

DENIALS BASED UPON WATER AVAILABILITY ..... IRRIGATION

GROUNDWATER LEVEL MEASUREMENTS ..... SNWA, USGS

ESTIMATED PUMPAGE INVENTORY, ACRE-FEET IN 2013 ..... 1,776\*

### STATE ENGINEER'S ORDERS

[1018](#) - DESIGNATION ..... NOVEMBER 22, 1989  
[1169](#) - FURTHER STUDY ..... MARCH 8, 2002  
[1169a](#) - FURTHER STUDY ..... DECEMBER 21, 2012

COMMITTED GROUNDWATER RESOURCE: 5,797 ACRE-FEET.... DATE: JUNE 2013

QUASI-MUNICIPAL...3,603 INDUSTRIAL ..... 1,665 MINING&MILLING ... 527

COMMERCIAL .....1 ENVIRONMENTAL.... 1

NOTE: Committed groundwater resource data are accurate for June 2013. Manner of use category totals vary over time, as 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 was estimated by a query of the [Nevada Division of Water Resources' Well Log Database](#) and is estimated to be 1.

## **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, and to estimate the amount of groundwater pumped within the Black Mountains Area Hydrographic Basin 13-215, for the calendar year beginning January 1, 2013 and ending December 31, 2013 (hereafter referred to as calendar year 2013). 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.

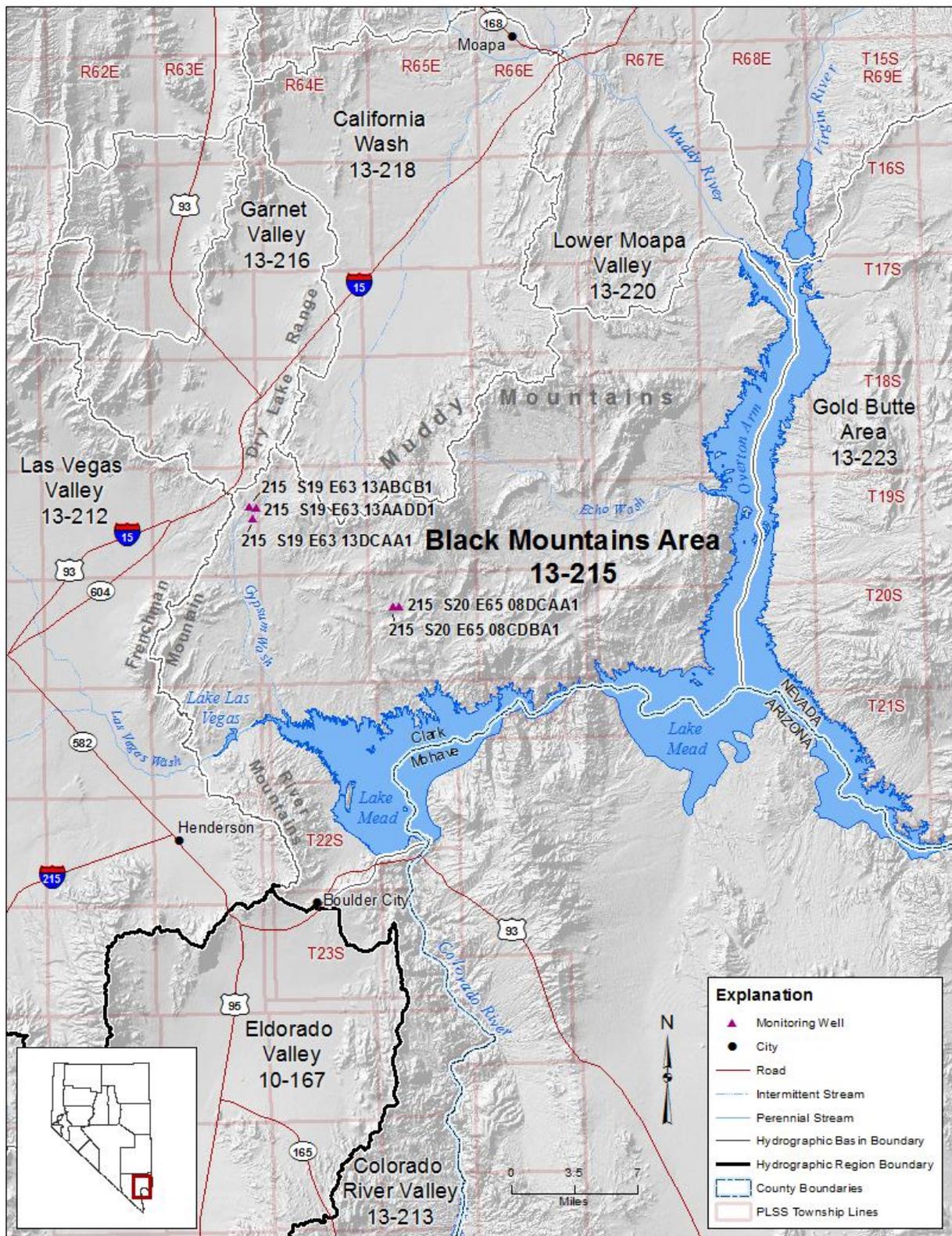
## **DESCRIPTION OF THE STUDY AREA**

Black Mountains Area is a basin located in southern Nevada. The valley is approximately 30 miles east of Las Vegas, Nevada, and is within the Colorado River Hydrographic Region. The basin is located within Clark County (see Figure 1).

Black Mountains Area is bounded on the north by the Muddy Mountains. The centerline of Lake Mead forms the east and south boundaries. The River Mountains border the basin to the south; the Frenchman Mountains border the basin to the west. The northwest boundary is formed by the Dry Valley Range.

The adjacent Nevada hydrographic basins are as follows: Colorado River Valley, 13-213, to the south; Eldorado Valley, 10-167, to the south; Las Vegas Valley, 13-212, to the west; Garnet Valley, 13-216, to the northwest; California Wash, 13-218, to the north; and Lower Moapa Valley, 13-220, to the northeast. The exterior boundary of the Black Mountains Area Hydrographic Basin is as described by Designation Order 1018, issued by the Nevada State Engineer November 22, 1989. The basin covers approximately 627 square miles.

**FIGURE 1: LOCATION MAP OF BLACK MOUNTAINS AREA, BASIN 13-215**



## GROUNDWATER LEVELS

Depths to groundwater in Black Mountains Area are not measured by the Nevada Division of Water Resources (NDWR), but data are provided to NDWR by water rights holders. Groundwater level data are collected by the USGS (data may be accessed through the USGS website <http://nevada.usgs.gov/>).

## 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 Black Mountains Area 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 meters were not in place, use was irrigation, and the number of hours the well was operated was unknown an inspection of the place of use was done to estimate the amount of acreage under cultivation. The number of acres under cultivation was then multiplied by a duty of 5 acre-feet per acre to estimate the use.
- 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.
- If no water was used under the certificate, permit or claim, zero pumpage was recorded.
- 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 and are limited to a maximum of 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 is determined by a query of the Nevada Division of Water Resources' Well Log Database. The amount of water pumped by exempt domestic wells is estimated to be 1.0 acre-foot per well in Black Mountains Area. Actual domestic well pumpage is not precisely known.

## **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 2013 was **1,776 acre-feet**. The annual duties of the certificates, permits and claims of vested right within the Black Mountains Area Hydrographic Basin totaled **5,797 acre-feet**. The appropriated and actual pumped totals, categorized by manner of use, are as follows:

### **A. Quasi-Municipal (QM)**

During calendar year 2013, appropriations for quasi-municipal purposes totaled 3,603 acre-feet in the basin. An estimated 10 acre-feet of groundwater was pumped during calendar year 2013.

### **B. Industrial (IND)**

During calendar year 2013, appropriations for industrial purposes totaled 1,665 acre-feet in the basin. An estimated 1,585 acre-feet of groundwater was pumped during calendar year 2013.

### **C. Mining & Milling (MM)**

During calendar year 2013, appropriations for mining & milling purposes totaled 527 acre-feet in the basin. An estimated 179 acre-feet of groundwater was pumped during calendar year 2013.

### **D. Commercial (COM)**

During calendar year 2013, appropriations for commercial purposes totaled 1 acre-foot in the basin. An estimated 1 acre-foot of groundwater was pumped during calendar year 2013.

### **E. Environmental (ENV)**

During calendar year 2013, appropriations for environmental purposes totaled 1 acre-foot in the basin. An estimated 0 acre-feet of groundwater was pumped during calendar year 2013.

### **F. Domestic (DOM)**

During water year 2013, appropriations for domestic purposes totaled 0 acre-feet in the basin. However, records of the State Engineer indicate an estimated 1 exempt domestic well existed in the basin during water year 2013. The amount of water pumped for domestic use as described under NRS 534.013 is estimated at 1 acre-foot.

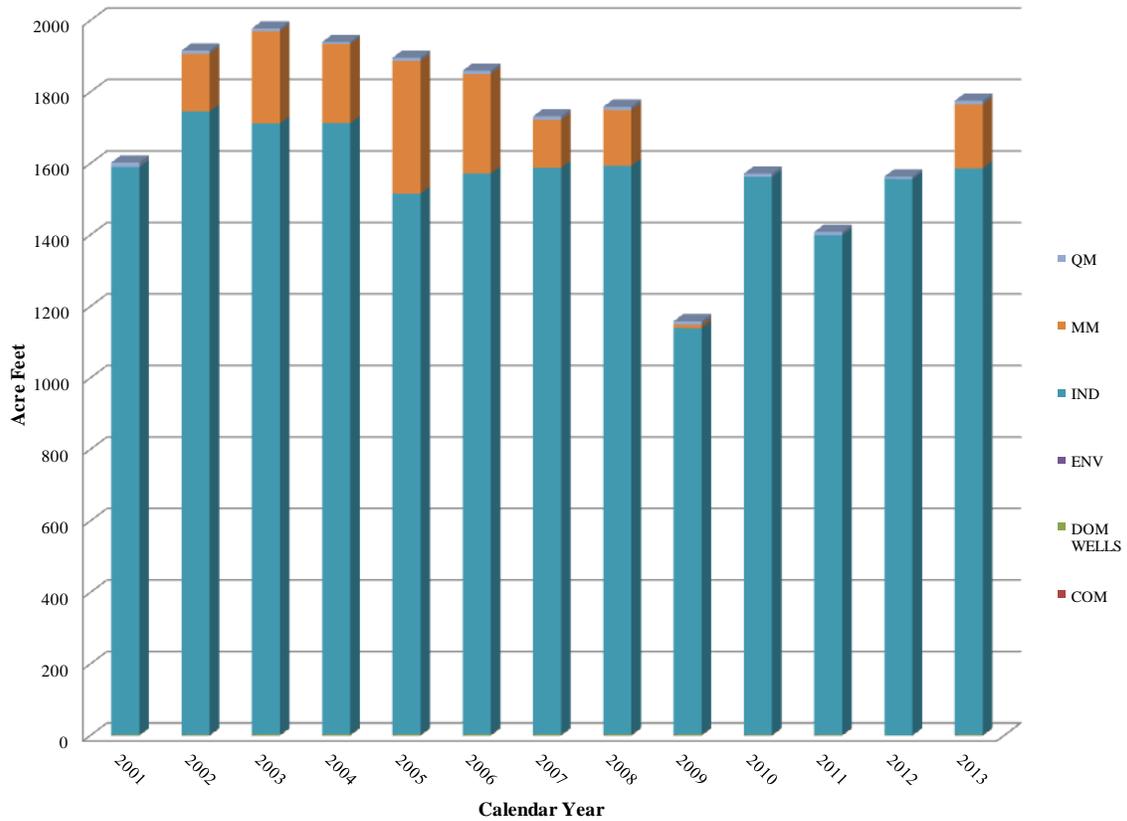
**APPENDIX A**

**BLACK MOUNTAINS AREA HISTORICAL PUMPAGE**

## HISTORICAL GROUNDWATER PUMPAGE BY MANNER OF USE

YEAR	COM	DOM	ENV	IND	MM	QM	TOTAL
2001	1	1	0	1588	0	13	1603
2002	1	1	0	1744	161	9	1916
2003	1	2	0	1709	258	8	1978
2004	1	2	0	1710	221	6	1940
2005	1	2	0	1513	371	9	1896
2006	1	2	0	1569	279	9	1860
2007	1	2	0	1585	134	10	1732
2008	1	2	0	1591	156	9	1759
2009	1	2	0	1137	10	9	1159
2010	1	1	0	1561	0	9	1572
2011	1	1	0	1398	0	9	1409
2012	0	1	0	1556	0	7	1564
2013	1	1	0	1585	179	10	1776

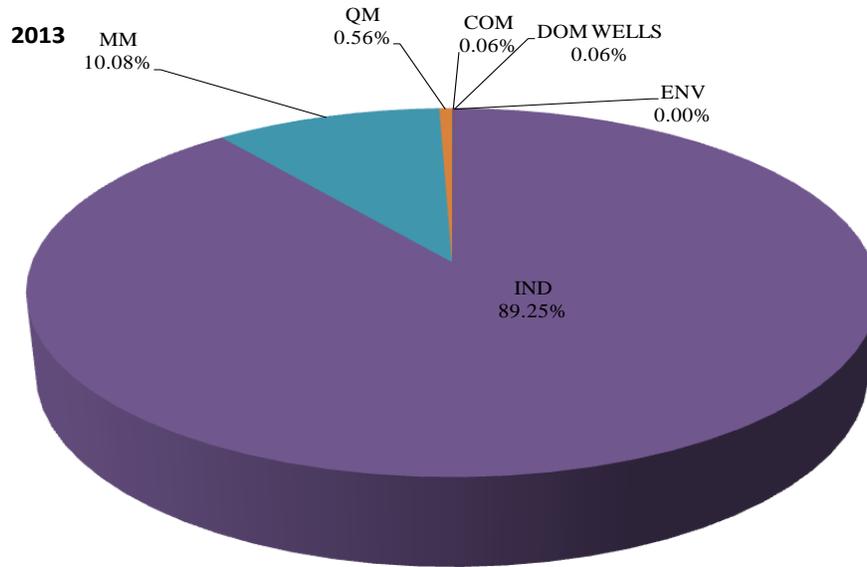
All values are in acre-feet



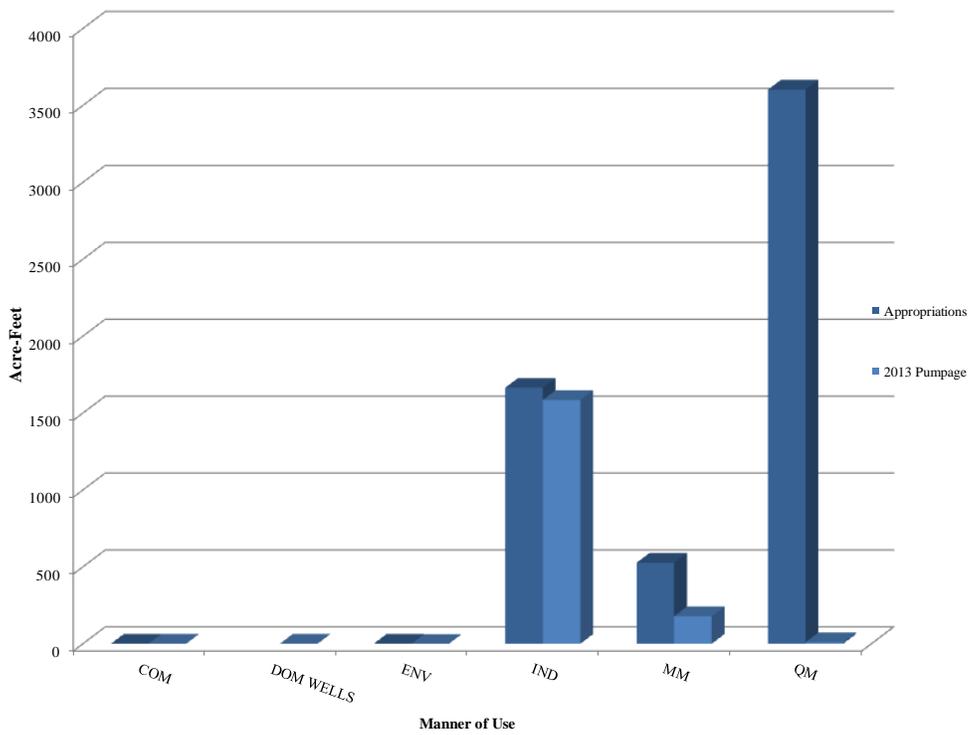
**APPENDIX B**

**BLACK MOUNTAINS AREA GROUNDWATER PUMPAGE FOR CALENDAR  
YEAR 2013 BY MANNER OF USE**

**PERCENTAGE OF GROUNDWATER PUMPAGE FOR CALENDAR YEAR 2013 BY MANNER OF USE**



**GROUNDWATER PUMPAGE FOR CALENDAR YEAR 2013 APPROPRIATIONS vs. ACTUAL PUMPAGE**



**APPENDIX C**

**BLACK MOUNTAINS AREA GROUNDWATER PUMPAGE INVENTORY FOR  
CALENDAR YEAR 2013**

## EXPLANATION OF COLUMN HEADINGS

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.</p> <p>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 &amp; 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  
BLACK MOUNTAINS AREA, NO. 215  
2013**

APP NUMBER	STATUS	OWNER OF RECORD	PLACE OF USE					ACRES OR DUTY	ACRES IRR OR USE	USED (A/F)
			QQ	Qtr	Sec	T	R			
29368	Cert.	NV State Park System	NW	NE	30	17	67	2.39	QM	<b>0.00</b>
48816	Cert.		NW	SW				4.47	QM	<b>10.41</b>
76086	Permit							4.00	QM	<b>0.00</b>
46029	Permit	Lake Las Vegas	NE	NW	23	21	63	2200.00	QM	<b>0.00</b>
46030	Permit		NE	NE	22					
53829	Permit		NW	SW	22					
53831	Permit		NW	NE	15					
56150	Permit		NE	NE	15					
70441-T	Exp		SW	SW	22					
55269	Cert.	NV Cogeneration Assoc.	SE	SE	13	19	63	1665.00	IND	<b>1584.67</b>
58031	Cert.		NE	SE						
58032	Cert.		NE	SE						
58051	Canc.	Lareen Dawson et. al.	SE	SW	8	20	65	250.00	MM	<b>0.00</b>
61597	Canc.		SW	SE						
61598	Canc.		NE	SE						
			SE	NW						
			SW	SE	5	20	64			
			NW	SE	5					
			NE	NE	15					
			SW	NW	7	20	65			
		NE	NE	7						

**GROUNDWATER PUMPAGE INVENTORY  
BLACK MOUNTAINS AREA, NO. 215  
2013**

APP NUMBER	STATUS	OWNER OF RECORD	PLACE OF USE					ACRES OR DUTY	ACRES IRR OR USE	USED (A/F)
			QQ	Qtr	Sec	T	R			
64960-E	Exp	Seven Crown Resorts	NW	SW	5	19	68	9.92	ENV	<b>0.00</b>
66085-E	Permit	dba Echo Bay Resorts								
66973-E	Permit									
66108	Permit	Laker Plaza	NE	NW	35	21	63	1.34	COM	<b>0.26</b>
68350	Permit	Dry Lake Water Co., LLC	NE	NE	13	19	63	1392.06	QM	<b>0.00</b>
68351	Permit		NE	NE	13					
68352	Permit		NE	NE	13					
68353	Permit		NW	NE	13					
72759	Permit	Pacific Coast (Sandia)	E/2	SE	29	20	64	527.28	MM	<b>178.86</b>
72760	Permit									
72761	Permit									
72762	Permit									
<b>TOTAL</b>										<b>1774.20</b>