

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF WATER RESOURCES

JASON KING, P.E.
STATE ENGINEER



MESQUITE (SANDY) VALLEY (HYDROGRAPHIC BASIN 10-163)

GROUNDWATER PUMPAGE INVENTORY

WATER YEAR 2013

Field Investigated by: John Guillory, P.E.

Report Prepared by: John Guillory, P.E.

TABLE OF CONTENTS

ABSTRACT.....	1
HYDROGRAPHIC BASIN SUMMARY	2
PURPOSE AND SCOPE	3
DESCRIPTION OF THE STUDY AREA.....	3
FIGURE 1 LOCATION MAP OF MESQUITE VALLEY HYDROGRAPHIC BASIN 10-163	4
GROUNDWATER LEVELS	4
FIGURE 2 MONITORING WELL LOCATION MAP OF SANDY VALLEY HYDROGRAPHIC BASIN 10-163	5
METHODS TO ESTIMATE PUMPAGE	6
PUMPAGE BY MANNER OF USE	7
APPENDIX A	8
HISTORICAL PUMPAGE BY MANNER OF USE	9
APPENDIX B	10
PERCENTAGE OF GROUNDWATER PUMPAGE WATER YEAR 2013 BY MANNER OF USE.....	11
GROUNDWATER PUMPAGE WATER YEAR 2013 APPROPRIATIONS vs. ACTUAL PUMPAGE	11
APPENDIX C	12
EXPLANATION OF COLUMN HEADINGS FOR GROUNDWATER PUMPAGE INVENTORY	13
MESQUITE (SANDY) VALLEY GROUNDWATER PUMPAGE FOR WATER YEAR 2013.....	14
APPENDIX D.....	19
MESQUITE (SANDY) VALLEY GROUNDWATER PUMPAGE INVENTORY FIELD NOTES FOR WATER YEAR 2013.....	20

ABSTRACT

This inventory represents the status and usage of all permitted, certificated and claims of vested right groundwater rights located within Mesquite (Sandy) Valley, Hydrographic Basin 10-163, for water year 2013 (October 1, 2012 through September 30, 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 water year 2013 the permitted, certificated and claims of vested right groundwater rights totaled **386 acre-feet**. Estimated pumpage for the water year was **641 acre-feet**. Pumping by exempt domestic wells is the largest manner of use within the basin. For water year 2013, pumpage from domestic wells was 432 acre-feet. Exempt domestic wells are defined by Nevada Revised Statutes 534.013 and do not require a permit issued by the State Engineer. The next largest manner of use was quasi-municipal. For water year 2013, appropriations for quasi-municipal supply totaled 309 acre-feet and pumpage was 147 acre-feet.

HYDROGRAPHIC BASIN SUMMARY

HYDROGRAPHIC BASIN NUMBER..... 163, REGION 10

HYDROGRAPHIC BASIN NAME MESQUITE VALLEY

COUNTIES..... CLARK

MAJOR COMMUNITIES SANDY

DESIGNATED YES

DENIALS BASED UPON WATER AVAILABILITY IRRIGATION

GROUNDWATER LEVEL MEASUREMENTS NDWR

ESTIMATED PUMPAGE INVENTORY, ACRE-FEET IN 2013 641*

STATE ENGINEER'S ORDERS
701 - DESIGNATION JANUARY 5, 1978

COMMITTED GROUNDWATER RESOURCE: 386 ACRE-FEET DATE: JUNE 2013

QUASI-MUNICIPAL...309 IRRIGATION44 COMMERCIAL 33

MINING&MILLING.... TBD

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 0.5 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 approximately 864.

PURPOSE AND SCOPE

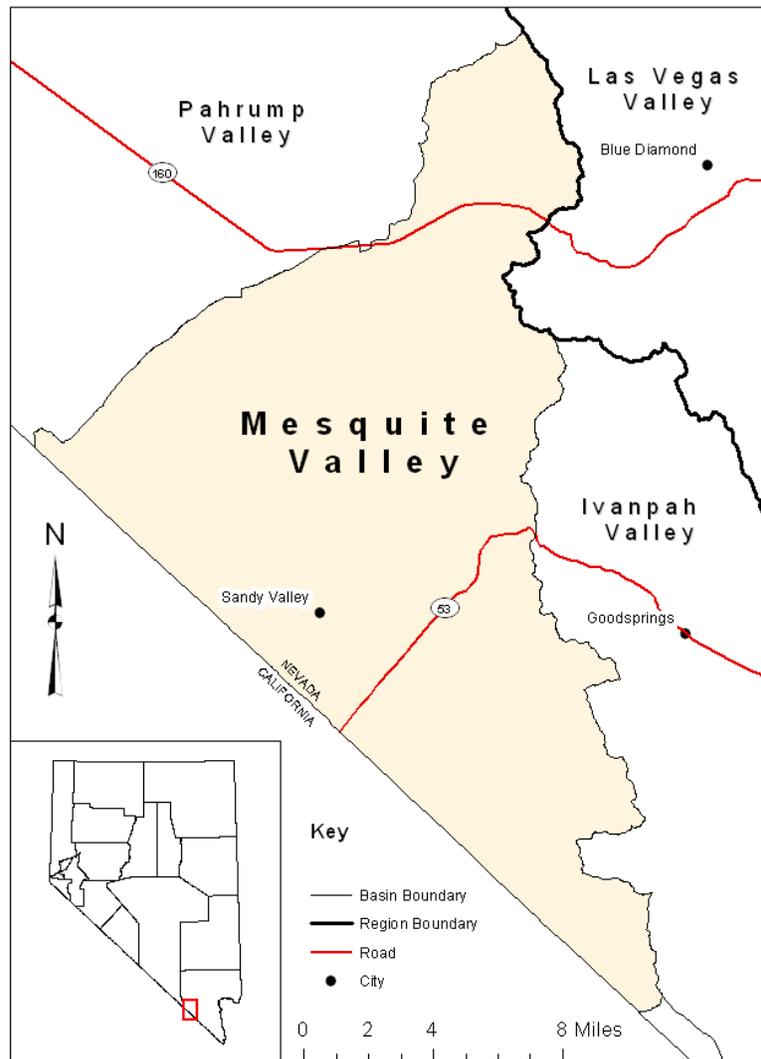
The purpose of this report is to inventory all of the groundwater resources allocated and described by the Office of the State Engineer, Nevada Division of Water Resources, and to estimate the amount of groundwater pumped within the Mesquite (Sandy) Valley Hydrographic Basin 10-163, for the water year beginning October 1, 2012 and ending September 30, 2013 (hereafter referred to as water 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 are also presented.

DESCRIPTION OF THE STUDY AREA

Mesquite (Sandy) Valley is a basin located in southern Nevada that straddles the Nevada and California state borderline. The valley is approximately 40 miles southwest of Las Vegas, Nevada and approximately 15 miles west of Jean, Nevada, and is within the Central Hydrographic Region. The town of Sandy is the principal community. The Nevada portion of the basin (approximately 240 square miles) lies within Clark County and the California portion of the basin (approximately 220 square miles) lies within Inyo and San Bernardino Counties (see Figure 1).

Mesquite (Sandy) Valley is bounded on the east and northeast by the Spring Mountain Range. This range rises to about 8,510 feet (all elevations in this text are above mean sea level) and is the basin's primary watershed. The Clark Mountain Range forms the south boundary. The Mesquite Mountains borders the basin to the southwest; the Kingston Range borders the basin to the west. The northern and northeast boundaries are formed by a low alluvial rise and intermittent hills separating Mesquite (Sandy) Valley from Pahrump Valley. The adjacent Nevada hydrographic basins are as follows: Pahrump Valley, 10-162, to the northwest; Las Vegas Valley, 13-212, to the northeast; and Ivanpah Valley (Northern Part), 10-164A, to the east. The exterior boundary of the Mesquite (Sandy) Valley Hydrographic Basin is as described by Designation Order 701, issued by the Nevada State Engineer January 5, 1978. The basin covers approximately 460 square miles. Valley floor elevations range from 4,000 feet, along the toe of the Spring Mountains Range, to about 2,540 feet at the lowest point.

**FIGURE 1 LOCATION MAP OF MESQUITE VALLEY HYDROGRAPHIC BASIN
10-163**



GROUNDWATER LEVELS

Depths to groundwater in Mesquite (Sandy) Valley have been measured by the Nevada Division of Water Resources consistently since the late 1960's. There are four (4) active sites and zero (0) inactive sites in the monitoring well network. The following are the site names and links to the data (refer to Figure 2 for monitoring well locations):

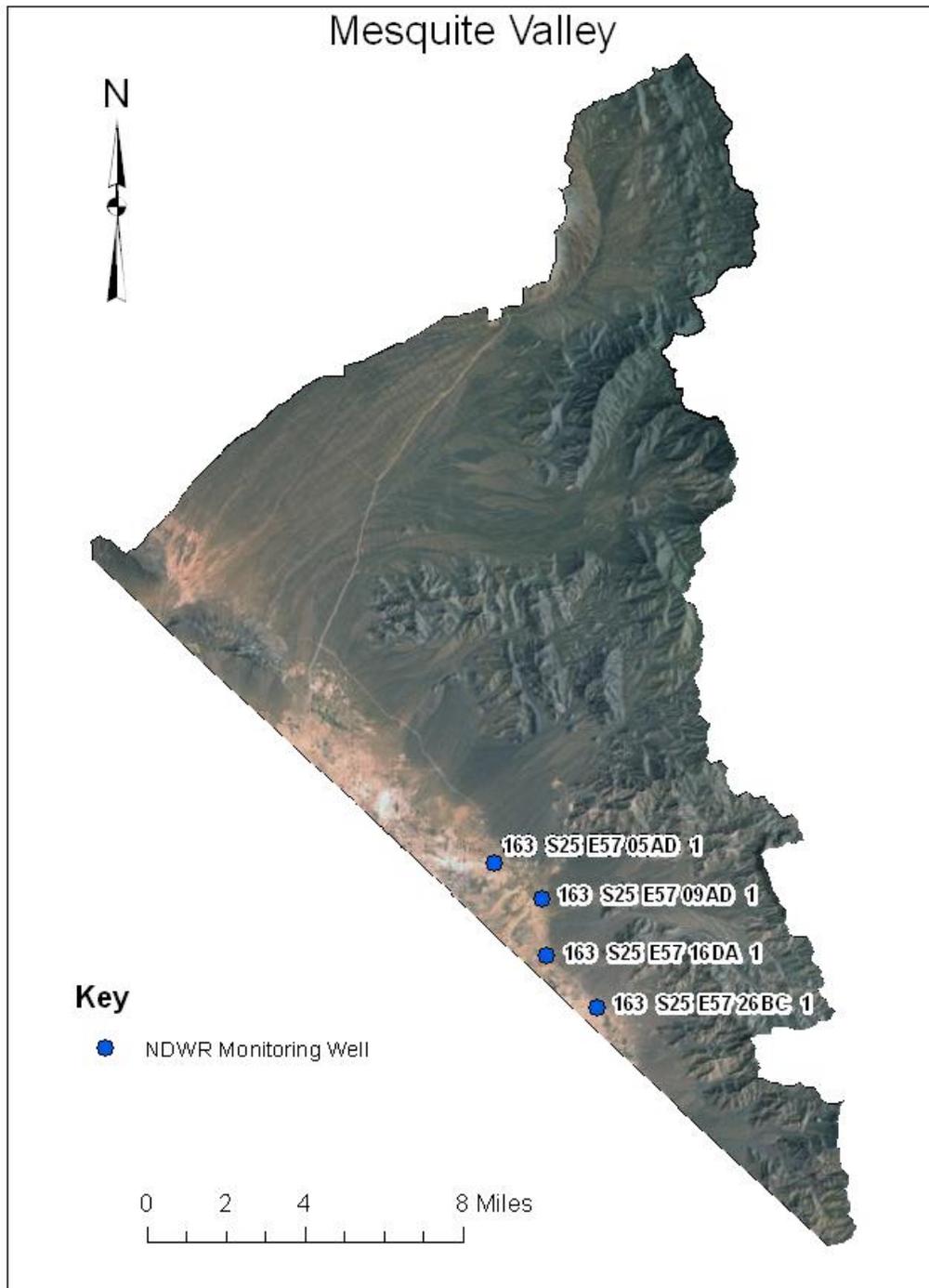
[163 S25 E57 05AD 1](#)
[163 S25 E57 09AD 1](#)

[163 S25 E57 16DA 1](#)

[163 S25 E57 26BC 1](#)

Groundwater level data has been collected by the USGS in the past (data may be accessed through the USGS website <http://nevada.usgs.gov/>).

**FIGURE 2 MONITORING WELL LOCATION MAP OF SANDY VALLEY
HYDROGRAPHIC BASIN 10-163**



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 Mesquite (Sandy) 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 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 use 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 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 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 0.5 acre-foot per well in Mesquite (Sandy) Valley. Actual domestic well pumpage is not known.

PUMPAGE BY MANNER OF USE

Note that all data herein are estimates and are subject to revision. The total estimated groundwater pumpage for water year 2013 was **641 acre-feet**. The annual duties of the certificates, permits and claims of vested right within the Mesquite (Sandy) Valley Hydrographic Basin totaled **386 acre-feet**. The appropriated and actual pumped totals, categorized by manner of use, are as follows:

A. Quasi-Municipal (QM)

During water year 2013, appropriations for quasi-municipal totaled 309 acre-feet in the basin. An estimated 147 acre-feet of groundwater was pumped during water year 2013.

B. Commercial (COM)

During water year 2013, appropriations for commercial purposes totaled 33 acre-feet in the basin. An estimated 18 acre-feet of groundwater was pumped during water year 2013.

C. Irrigation (IRR)

During water year 2013, appropriations for irrigation purposes totaled 44 acre-feet in the basin. An estimated 39 acre-feet of groundwater was pumped during water year 2013.

D. Mining & Milling (MM)

During water year 2013, an appropriation for mining and milling is pending for 50 acre-feet in the basin. An estimated 5 acre-feet of groundwater was pumped during water year 2013.

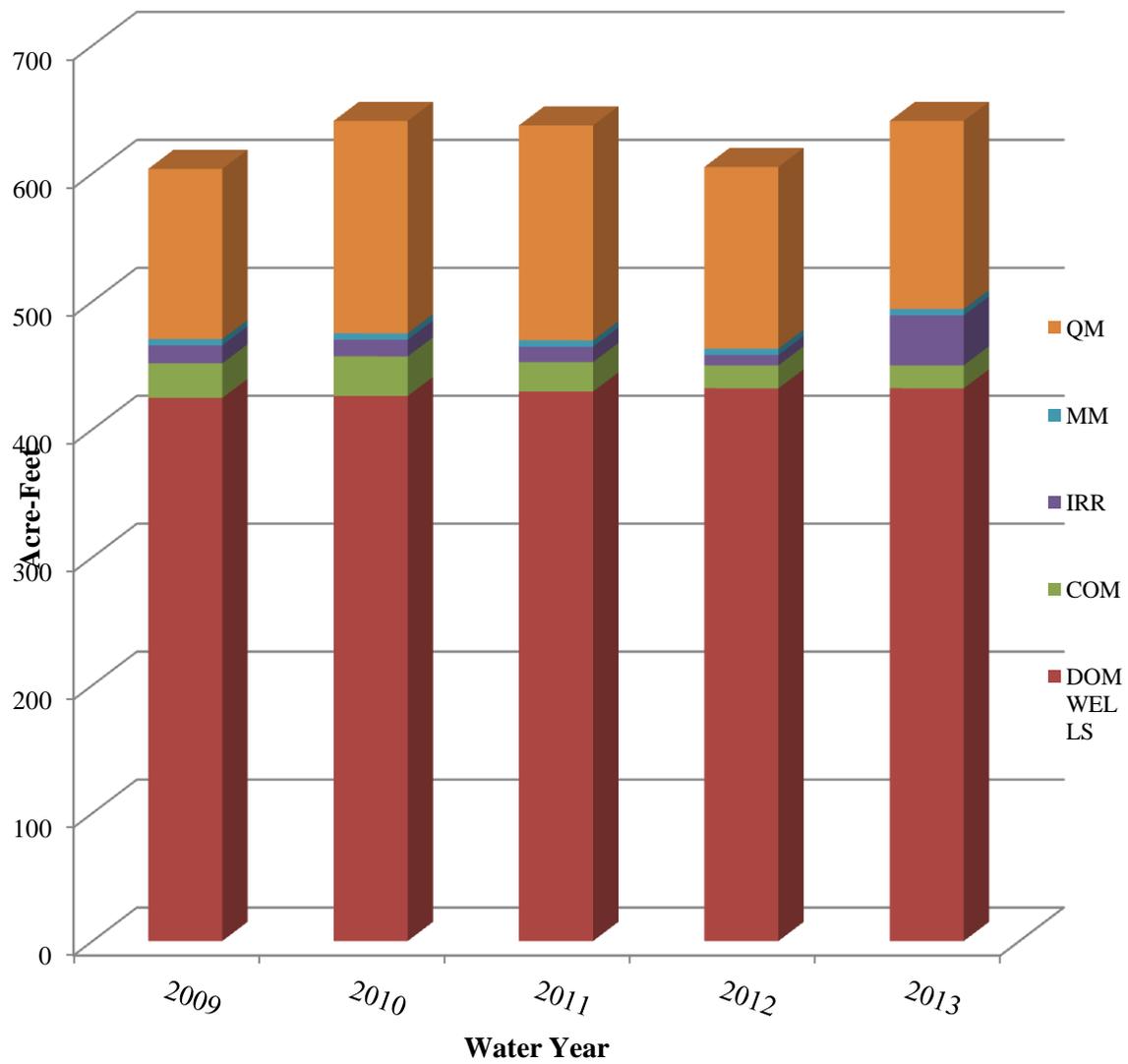
APPENDIX A

MESQUITE (SANDY) VALLEY HISTORICAL PUMPAGE

HISTORICAL PUMPAGE BY MANNER OF USE

YEAR	DOM	COM	IRR	MM	QM	TOTAL
2009	425	27	14	5	133	604
2010	426	31	13	5	166	641
2011	430	23	12	5	168	638
2012	432	18	8	5	142	605
2013	432	18	39	5	147	641

All values are in acre-feet

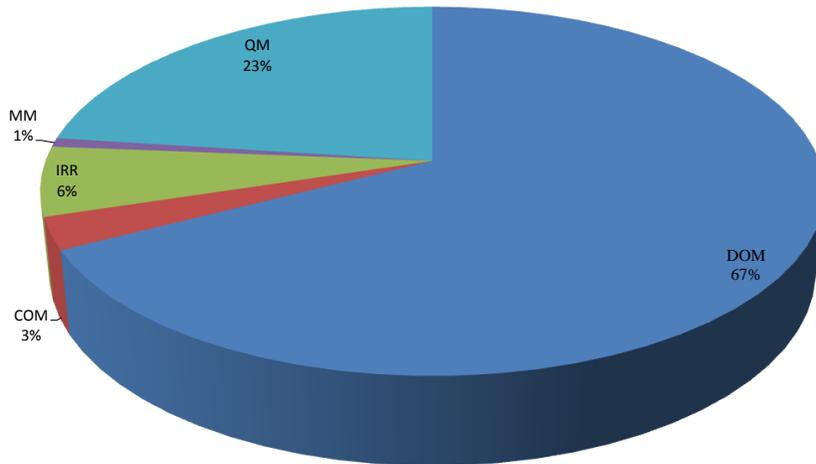


APPENDIX B

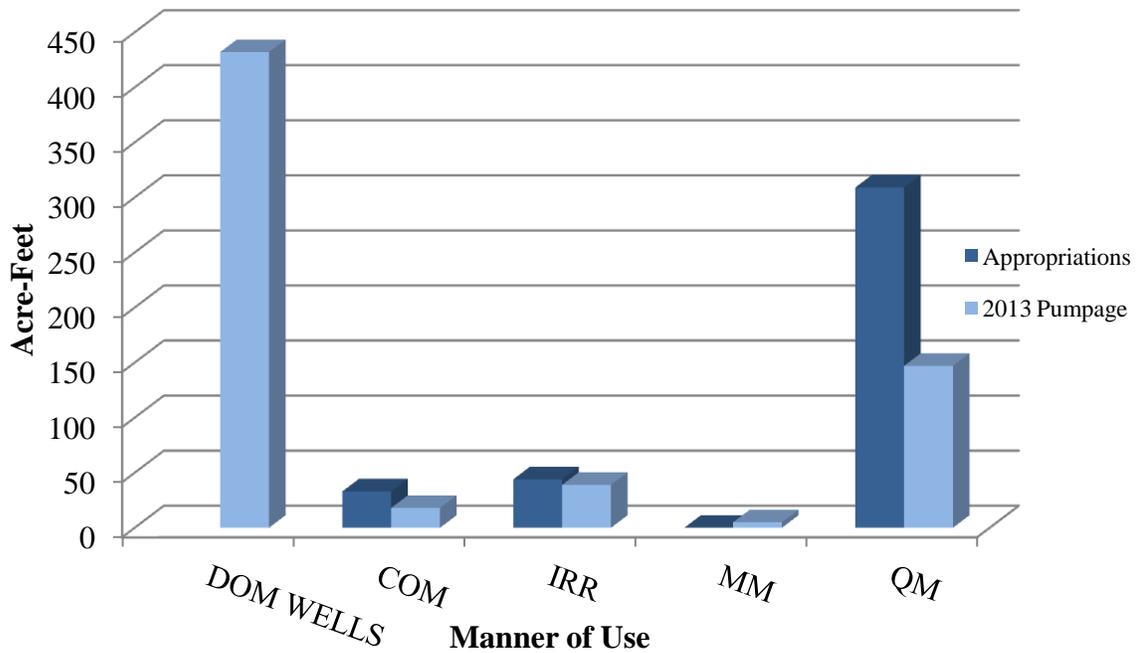
**MESQUITE (SANDY) VALLEY GROUNDWATER PUMPAGE FOR WATER
YEAR 2013 BY MANNER OF USE**

PERCENTAGE OF GROUNDWATER PUMPAGE WATER YEAR 2013 BY MANNER OF USE

2013



GROUNDWATER PUMPAGE WATER YEAR 2013 APPROPRIATIONS vs. ACTUAL PUMPAGE



APPENDIX C

**MESQUITE (SANDY) VALLEY GROUNDWATER PUMPAGE FOR WATER
YEAR 2013**

**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.																
PLACE OF USE																	
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	The number of acres irrigated or the manner of use of the appropriated water. The types of manner of use may include: <table border="0" style="margin-left: 20px;"> <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 water 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
MESQUITE (SANDY) VALLEY, NO. 163
2013**

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				
V09638	VST	KMI Zeolite, Inc.	N2	SW	03	25	57	0.00	MM	5.00	WV, no meter. Used for dust control at zeolite mine. 09-12-13
V09639	VST										
26713	Cert	James C. Hunt	SW	SW	25	24	56	0.60	0.30	1.50	S/N 9812750 Domestic use. Installed 09-20-13
28954	Cert	Bell Telephone	SE	SW	31	24	57	0.06	COM	0.06	No meter. Locked 09-12-13 Well used for bathroom only.
31209	Permit	Sky Ranch Estates	SW	SE	06	25	57	152.04	QM	0.83	POD 31209: S/N 66143282 RD - 07825500 - 08-14-12 RD - 08117900 - 09-12-13
42512	Permit		QM	55.27	POD 42512 & 67960: S/N 134359 RD - 095901000 - 08-14-12 RD - 115343000 - 09-12-13						
67960	Permit										
59006	Cert	Larson						8.96	QM	13.08	POD 59006: S/N 144889 RD - 10710700 - 08-14-12 RD - 15310600 - 09-12-13 45 homes, 12 mobile homes, 33 hangars, 2 commercials bldgs.
38311	Cert	Sweney	SW	SE	32	24	57	3.13	COM	7.64	S/N 05004964 1 trailer, restaurant RD - 14484700 - 08-14-12 RD - 17170500 - 09-12-13

**GROUNDWATER PUMPAGE INVENTORY
MESQUITE (SANDY) VALLEY, NO. 163
2013**

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				
45515	Cert	L Mejia	SW	SW	25	24	56	4.75	4.75	37.45	S/N 873082 Meter broken
50656	Cert						4.74	2.74	RD - 203793000 - 08-14-12 RD - 206145000 - 09-12-13 Domestic well serves 50656 POU		
45690	Cert	Clark County	NE	SW	32	24	57	15.80	QM	17.83	no S/N. Sandy Valley School
50990	Cert								RD - 44047700 - 08-14-12 RD - 50317600 - 09-12-13		
45762	Cert	L.D.S. Church	SW	NE	04	25	57	2.90	QM	5.13	S/N 67305279 RD - 1097330 - 08-14-12 RD - 2902960 - 09-12-13
50579	Cert	Rau	NW	SW	25	24	56	1.00	QM	1.48	S/N 051158204 RD - 05599900 - 08-14-12 RD - 06119100 - 09-12-13
57190	Cert	Slankard	SW	SE	31	24	57	1.12	COM	2.70	S/N 92538818 General Store RD - 21339900 - 08-14-12 RD - 22288600 - 09-12-13
58719	WDR	B. Wills	SE	SW	32	24	57	1.50	COM	0.00	S/N 9072445 RD - 05554400 - 07-21-09 No use, meter removed.
60087	Cert	Kolojay	NE	NE	06	25	57	2.02	COM	0.76	S/N 94528666 Shopping center RD - 06732100 - 08-14-12 RD - 06999000 - 09-12-13

**GROUNDWATER PUMPAGE INVENTORY
MESQUITE (SANDY) VALLEY, NO. 163
2013**

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				
60264	Permit	Clark County	Lt.	01	01	23	57	8.00	QM	0.00	Camp Potosi. S/N 49081567 RD - 02666200 - 08-14-12 RD - 02666300 - 09-12-13
61409	Canc	Augustine Bustos	SW	SW	01	23	57	19.33	COM	0.13	S/N 12005462 New meter RD - 0017060 - 09-12-13
62466	Permit	Skip Powell Mgmt. Corp	NE	SW	24	24	56	4.50	COM	0.00	S/N 96502368 gravel pit RD - 20622300 - 08-14-12 RD - 20622300 - 09-12-13
62506 62507 62941	Permit Permit Permit	Clark County	Gov.	Lot #6	36	24	56	90.00	QM	5.86	POD 62507 & 62941: S/N 60609831 RD - 17271200 - 08-14-12 RD - 17271200 - 09-12-13 meter broken
									QM	7.75	POD 62506: S/N 60609832 RD - 08963500 - 08-14-12 RD - 11689200 - 09-12-13
62588	Canc	Diamond Estates	SE	SE	16	24	56	8.96	QM	0.50	No meter, 2 MH one is vacant. 09-12-13. Cancelled 03-30-07
64471	Cert	Valley Elect. Assoc. Inc.	SW	SW	32	24	57	1.12	COM	0.03	S/N 6917517 RD - 00678300 - 08-14-12 RD - 00690300 - 09-12-13
65611	Canc	Augustine Bustos	SW	SW	01	23	57	1.44	COM	0.00	WV, no works, POU vacant. 09-12-13 Cancelled 12-10-10

**GROUNDWATER PUMPAGE INVENTORY
MESQUITE (SANDY) VALLEY, NO. 163
2013**

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				
65713	Permit	Talavera	SW	SE	32	24	57	1.34	COM	0.00	WV, open casing, POU vacant 09-12-13
66227	DEN	Vidler Water Company	NW	NE	14	25	57	415.00	QM	0.00	WV, capped. 09-12-13
66275	Cert	John Kamp	SW	NE	05	25	57	0.98	COM	0.00	S/N 70809192 American Gas RD - 0190000 - 08-14-12 RD - 0191730 - 09-12-13
66545	Permit	Valley Educational Foundation	SE	SE	31	24	57	23.80	QM	31.69	S/N 0108206 units in cubic feet RD - 2705440 - 08-14-12 RD - 4195600 - 09-12-13 Second unpermitted well within POU
66835	Canc	Haddad	NE	NW	06	25	57	2.00	COM	0.00	gate locked, POU vacant. 09-12-13 S/N 6186993 Cancelled 05-05-09 RD - 679910 - 09-25-07
67442	Permit	Thomas Leed	NE	NW	06	25	57	2.02	COM	0.00	POU vacant, gate locked. 09-12-13 S/N 62407150 RD - 58240 - 09-15-08
68790	Canc	Dunajski Ernie	SE	SW	31	24	57	1.50	COM	0.05	Bar closed, gate locked. 08-14-12 S/N 60990153 Cancelled 08-17-07 RD - 3076980 - 08-12-11 RD - 3093050 - 09-12-13
70428	Permit	Angellotti F/Trust	NE	SE	19	22	58	4.03	COM	1.07	S/N 64677680 Mtn. Springs Bar RD - 04417800 - 08-14-12 RD - 04793200 - 09-12-13

**GROUNDWATER PUMPAGE INVENTORY
MESQUITE (SANDY) VALLEY, NO. 163
2013**

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				
71449	Canc	ACVLB Family Trust	NW	SW	20	22	58	8.00	COM	4.00	S/N 12005461 New meter RD - 1084810 - 09-12-13
71962	Canc	Sandy Valley Rancheros Water Users	SW	SE	32	24	57	3.36	QM	7.24	S/N 850859 RD - 11016800 - 08-14-12 RD - 13564000 - 09-12-13
73594	Permit	Sandy Valley Church	SW	NE	06	25	57	2.00	COM	1.20	S/N 955877 RD - 07678000 - 08-14-12 RD - 08101500 - 09-12-13
74313	Permit	Zeigler	NW	NE	5	25	57	12.00	COM	0.00	WNV, POU vacant. 09-12-13
75476	Permit	Benny, LLC	NW	SW	25	24	56	4.00	QM	0.00	S/N 66979529 Property vacant RD - 0000110 - 09-12-13
77285	Permit	Monte Brown	S2	SW	31	24	58	2.00	COM	0.00	WV, no meter, gravel pit, no use. 09-12-13
TOTAL									208.25	Permitted rights	

, P.E.

Verified with field notes: _____

APPENDIX D

**MESQUITE (SANDY) VALLEY GROUNDWATER PUMPAGE INVENTORY FIELD
NOTES FOR WATER YEAR 2013**

2013

Mesquite (Sandy) Valley
No. 163

Inventory Field Notes

compiled by
John Guillory, P.E.

State of Nevada
Division of Water Resources
Southern Nevada Branch Office

PUMPAGE INVENTORY FIELD REPORT

BASIN NO: 163

PERMIT NO: 26713

WELL: YES NO

METER SER NO: _____

PUMP: YES NO

PUMP TYPE: Submersible

MOTOR: YES NO

MOTOR TYPE: _____

METER: YES NO

METER READ: _____

PHOTO: YES NO

ACRES IRR: 0.3

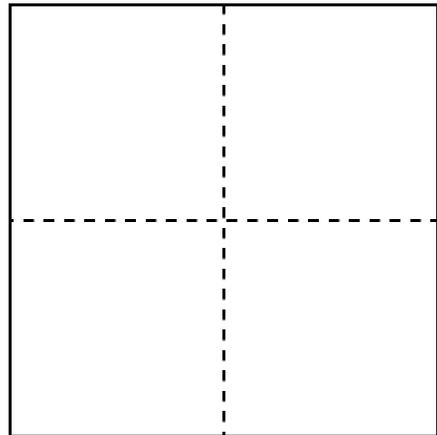
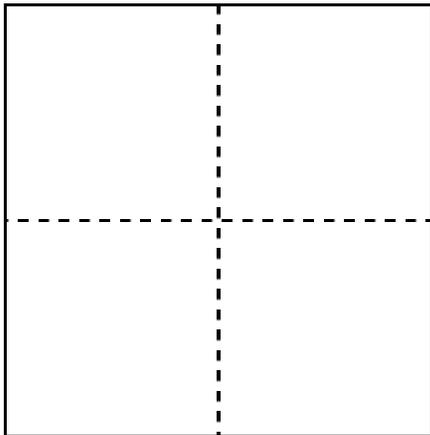
BENEFICIAL USE: YES NO

PORTION ALL TYPE Irrigation

IF PARTIAL USE, SKETCH OF LAND IRRIGATED.

 1/4 1/4 SEC

 1/4 1/4 SEC



REMARKS: APN 200-25-401-002. Domestic use and hydroponic use.

SIGNATURE:  , P.E.

DATE: 9/12/2013

PUMPAGE INVENTORY FIELD REPORT

BASIN NO: 163

PERMIT NO: 45515 & 50656

WELL: YES NO

METER SER NO: 873082

PUMP: YES NO

PUMP TYPE: _____

MOTOR: YES NO

MOTOR TYPE: Turbine

METER: YES NO

METER READ: 206145000

PHOTO: YES NO

ACRES IRR: 7.49

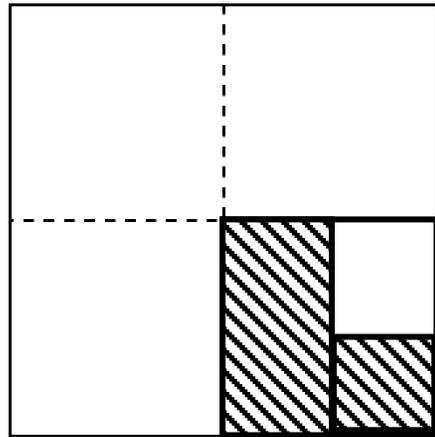
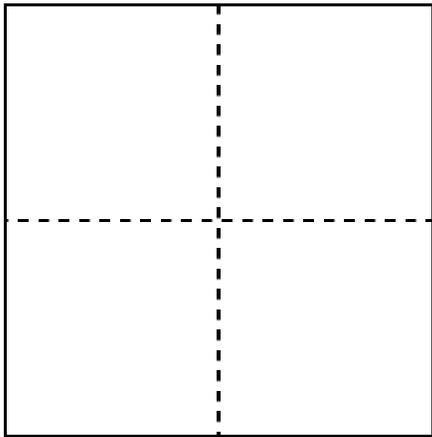
BENEFICIAL USE: YES NO

PORTION ALL TYPE Irrigation

IF PARTIAL USE, SKETCH OF LAND IRRIGATED.

 1/4 1/4 SEC

SW 1/4 SW 1/4 SEC 25



REMARKS: Meter broken. Meter repaired and re-installed 11-01-13 with a reading of zero.

SIGNATURE:  , P.E.

DATE: 9/12/2013