

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF WATER RESOURCES

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SMITH VALLEY, HYDROGRAPHIC BASIN 9-107

GROUNDWATER PUMPAGE INVENTORY

CALENDAR YEAR 2012

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ABSTRACT

This inventory represents the status and use of all permitted, certificated and claims of vested (vested claims) groundwater rights located within Smith Valley, Hydrographic Basin 9-107, for the 2012 calendar year. Included are graphs and data associated with this use, and yearly totals of historical groundwater use from 1995 through 2012 by manner of use.

The data presented are valid for the time period of this report and may vary from previously published figures 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 2012, the permitted, certificated and claims of vested groundwater rights totaled **55,470 acre-feet**. The manner of use having the greatest amount of groundwater appropriations was irrigation/irrigation DLE (Desert Land Entry), whose appropriations totaled 53,046 acre-feet. Commercial had the next greatest amount of appropriations, totaling 1,299 acre-feet.

An estimated **37,274 acre-feet** were pumped during 2012, including an estimated 800 acre-feet by exempt domestic wells. Exempt domestic wells are defined by Nevada Revised Statutes (NRS) 530.013 and do not require a permit issued by the State Engineer. The manner of use having the greatest amount of groundwater pumped was irrigation, totaling 35,925 acre-feet. Domestic use had the next greatest pumpage amount, totaling 807 acre-feet from exempt and water-righted domestic wells.

HYDROGRAPHIC BASIN SUMMARY

HYDROGRAPHIC BASIN NUMBER	107, REGION 9
HYDROGRAPHIC BASIN NAME	SMITH VALLEY
COUNTIES	LYON, DOUGLAS
MAJOR COMMUNITIES	SMITH, WELLINGTON
DESIGNATED BASIN	YES
DENIALS BASED UPON WATER AVAILABILITY	ALL USES EXCEPT COMMERCIAL, INDUSTRIAL & STOCKWATER LESS THAN 2.0 ACRE-FEET ANNUALLY
GROUNDWATER LEVEL MEASUREMENTS	NDWR & USGS
PUMPAGE ESTIMATED IN 2012 (ACRE-FEET)	37,274 ¹
STATE ENGINEER'S ORDERS	
NO. 245 – PARTIAL DESIGNATION OF BASIN	DATE: JUNE 27, 1960
NO. 253 – MEASURING DEVICES	DATE: AUGUST 2, 1961
NO. 1126 – CURTAILMENT	DATE: FEBRUARY 4, 1997
NO. 1159 – INSTALLATION OF TOTALIZING METERS	DATE: FEBRUARY 1, 2000
NO. 1177 – EXTENDING DESIGNATION AREA	DATE: JULY 8, 2005

COMMITTED GROUNDWATER RESOURCE: 55,470 ACRE-FEET	DATE: DECEMBER 2012
COMMERCIAL.....1,299.07	IRRIGATION & IRRIGATION-DLE.....53,045.58
CONSTRUCTION.....1.45	MINING & MILLING.....226.94
DOMESTIC.....36.21	QUASI-MUNICIPAL.....245.76
ENVIRONMENTAL.....108.64	RECREATION.....133.93
INDUSTRIAL.....57.84	STOCKWATER.....317.40

NOTE: Committed groundwater resource data are accurate for December 2012. Manner of use category totals vary over time, as water 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. The value associated with each manner of use category does not include those portions that have been relinquished in support of domestic wells. A total of 821 acre-feet have been relinquished in the basin.

¹Includes pumpage by exempt domestic wells as defined by NRS 534.013. The domestic use estimate is based upon a count of the domestic wells in the basin multiplied by one acre-foot per annum. The number of wells (800) was determined by a query of the Nevada Division of Water Resources' Well Log database.

PURPOSE AND SCOPE

The purpose of this report is to inventory 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 the Smith Valley Hydrographic Basin 9-107, for the 2012 calendar year. This report estimates the amount of groundwater pumped under the permits and certificates issued by the State Engineer, vested claims to groundwater, and the amount pumped by exempt domestic wells within the basin.

DESCRIPTION OF THE STUDY AREA

The Smith Valley Hydrographic Basin is located in west central Nevada and east central California (Figure 1). This report deals only with the Nevada portion of this basin. The Nevada portion of Smith Valley occupies approximately 464 square miles within Lyon and Douglas Counties. The adjacent hydrographic basins are Antelope Valley (9-106) and Carson Valley (8-105) to the west, Churchill Valley (8-102) to the north, Mason Valley (9-108) to the east and East Walker Area (9-109) to the east and the south; the exterior boundary of the Smith Valley Hydrographic Basin is as described by State Engineer's Orders [245](#) and [1177](#) issued by the Nevada State Engineer dated June 27, 1960 and July 8, 2005, respectively.

Smith Valley is bounded on the north by the Buckskin Range, to the east by the Singatse Range and the Pine Grove Hills, to the south by the Sweetwater Range and to the west by the Wellington Hills and the Pine Nut Range. The valley is approximately 13 miles wide by 38 miles long with basin elevations ranging from about 4,600 to 5,200 feet above mean sea level on the valley floor to 6,000 to 11,000 feet above mean sea level in the surrounding mountains.

HYDROLOGY

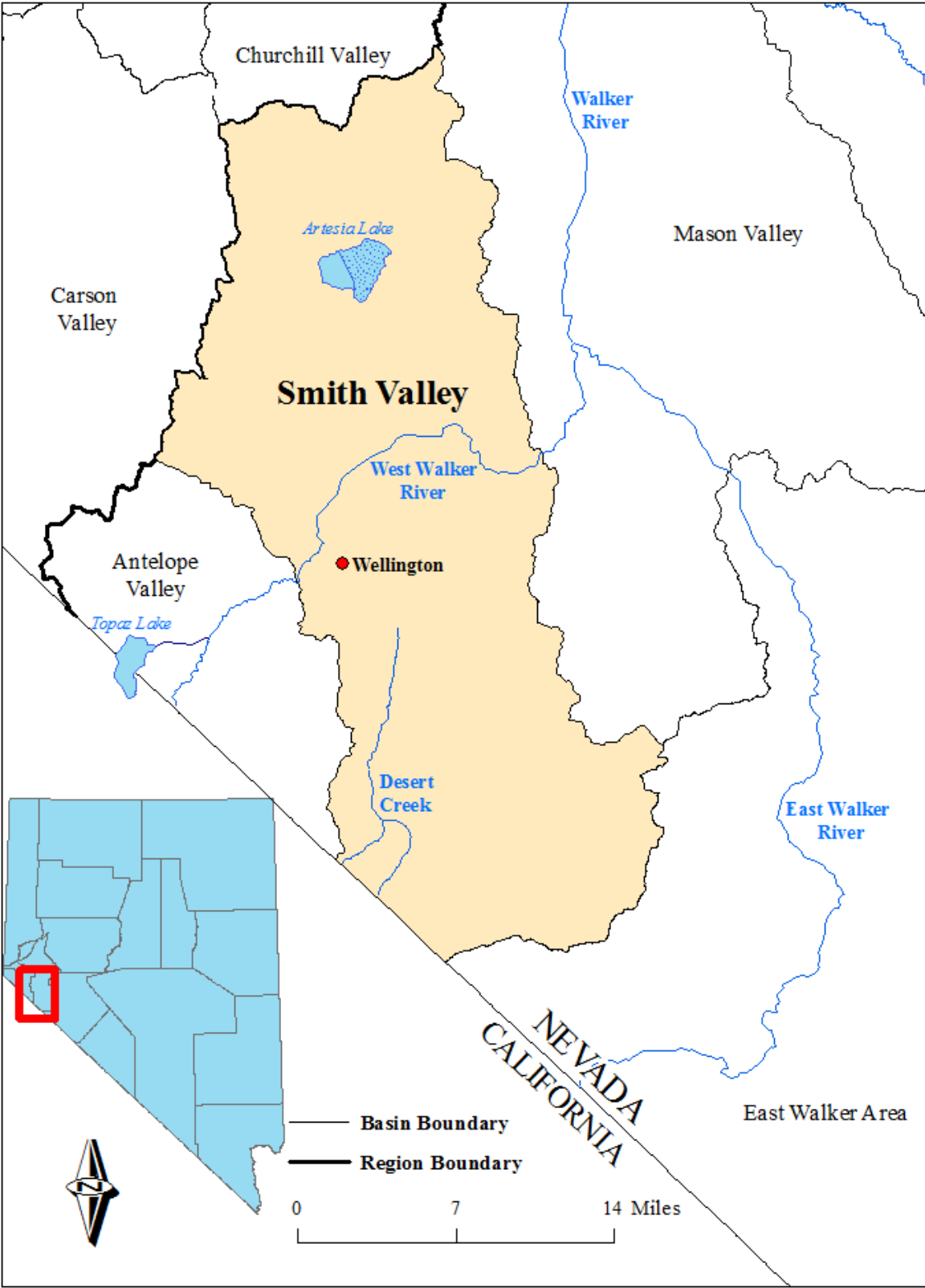
The dominant hydrologic features of Smith Valley are the West Walker River and Desert Creek (Figure 1). The West Walker River flows in a northeasterly direction, crossing just north of the middle of Smith Valley. The river then flows into Wilson Canyon where it continues into Mason Valley to the confluence with the East Walker River. Desert Creek originates in the Sweetwater Range at Lobdell Lake within the southern portion of Smith Valley in California and flows north toward the West Walker River.

The U.S. Geological Survey (USGS) operates two streamflow gaging stations on the West Walker River near points where the West Walker River enters ([#10297500](#) at Hoyer Bridge) and exits Smith Valley ([#10300000](#) at Hudson). The runoff for station [#10297500](#) was 95,140 acre-feet during the 2012 calendar year². The runoff for station [#10300000](#) was 68,220 acre-feet during the 2012 calendar year².

The USGS also operates a streamflow gaging station on Desert Creek ([#10299100](#)) in the southern part of the basin near where the creek enters the valley. The runoff for station [#10299100](#) was 2,650 acre-feet during the 2012 calendar year².

²USGS, Water Data Report 2013; October through December data estimated from USGS data.

FIGURE 1. MAP OF SMITH VALLEY HYDROGRAPHIC BASIN 9-107



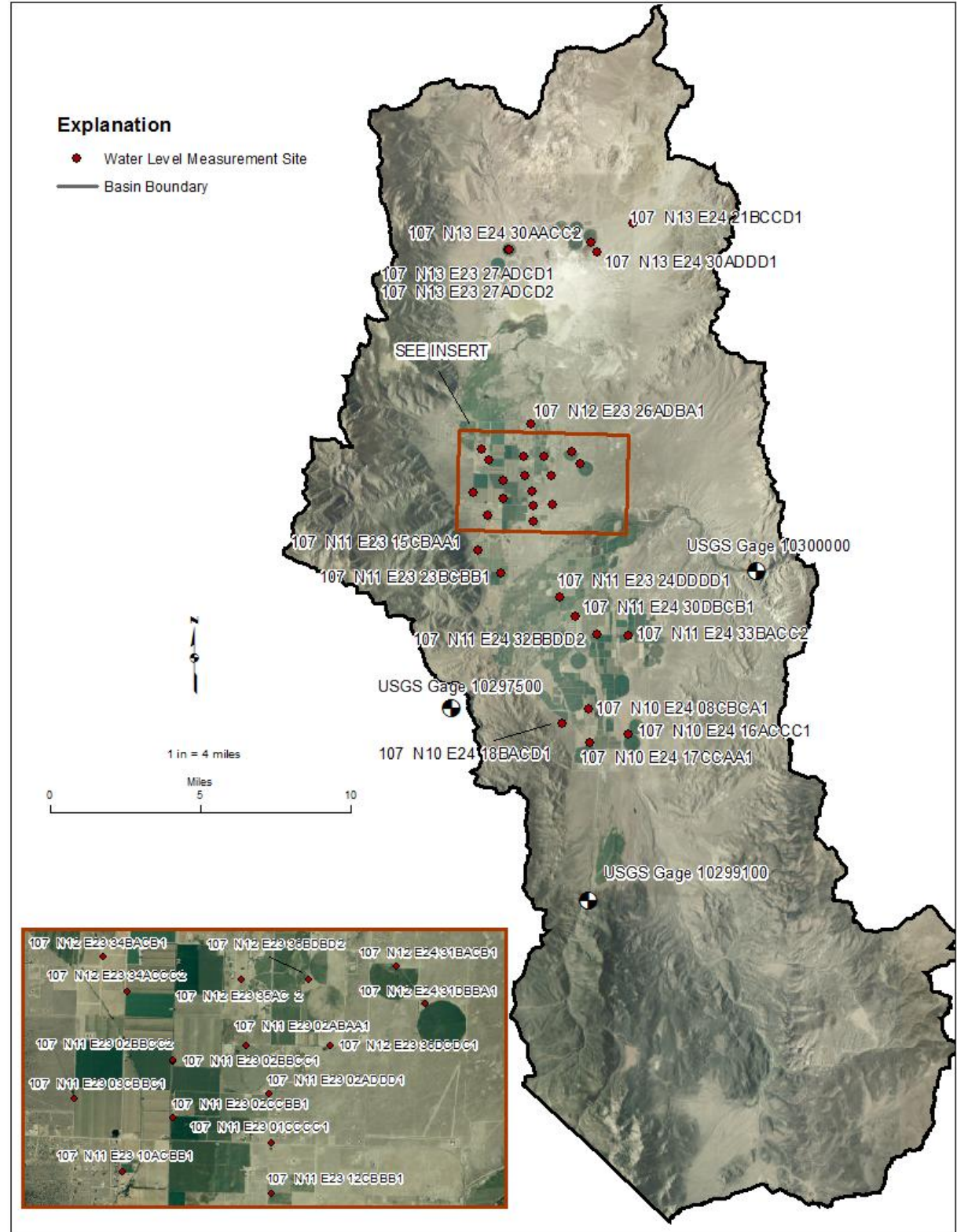
GROUNDWATER LEVELS

A groundwater level monitoring network was instituted as part of the fieldwork done for the inventory. The network consists of 32 sites at the following locations (see Figure 2):

- [107 N10 E24 08CBCA1](#)
- [107 N10 E24 16ACCC1](#)
- [107 N10 E24 17CCAA1](#)
- [107 N10 E24 18BACD1](#)
- [107 N11 E23 01CCCC1](#)
- [107 N11 E23 02ABAA1](#)
- [107 N11 E23 02ADDD1](#)
- [107 N11 E23 02BBCC1](#)
- [107 N11 E23 02BBCC2](#)
- [107 N11 E23 02CCBB1](#)
- [107 N11 E23 03CBBC1](#)
- [107 N11 E23 10ACBB1](#)
- [107 N11 E23 12CBBB1](#)
- [107 N11 E23 15CBAA1](#)
- [107 N11 E23 23BCBB1](#)
- [107 N11 E23 24DDDD1](#)
- [107 N11 E24 30DBCB1](#)
- [107 N11 E24 32BBDD2](#)
- [107 N11 E24 33BACC2](#)
- [107 N12 E23 26ADBA1](#)
- [107 N12 E23 34ACCC2](#)
- [107 N12 E23 34BACB1](#)
- [107 N12 E23 35AC 2](#)
- [107 N12 E23 36BDBD2](#)
- [107 N12 E23 36DCDC1](#)
- [107 N12 E24 31BACB1](#)
- [107 N12 E24 31DBBA1](#)
- [107 N13 E23 27ADCD1](#)
- [107 N13 E23 27ADCD2](#)
- [107 N13 E24 21BCCD1](#)
- [107 N13 E24 30AACC2](#)
- [107 N13 E24 30ADDD1](#)

The water level data and hydrograph for each site are available from the Water Level Data page of the Nevada Division of Water Resources website (<http://water.nv.gov/data/waterlevel/>). Data retrievals are organized by hydrographic basin.

FIGURE 2. MAP OF SMITH VALLEY GROUNDWATER LEVEL-MONITORING NETWORK



METHODS TO ESTIMATE PUMPAGE

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

- Where totalizing meters were in place, meter readings were taken and compared with previous data (if available).
- Where totalizing meters resulted in inconsistent and/or ambiguous totals and the manner of use was irrigation, pumpage was estimated by multiplying the kilowatt-hours the well used during the past year and by a calculated acre-foot/kilowatt-hour ratio generated from past flow totals and electric meter readings.
- Where totalizing meters resulted in inconsistent and/or ambiguous totals and the manner of use was irrigation and it was not possible to use electric meter readings, an inspection of the place of use was done to estimate the amount of acreage under cultivation. For irrigation supplemental to West Walker River water, the number of acres under cultivation is multiplied by a typical duty used within the valley during the irrigation season to estimate the pumpage.
- Where meters were not present and previous data were not available and the manner of use was not irrigation, pumpage was estimated using the annual duty associated with the certificate or permit if the use of the water was as described in the certificate or permit; if the use of the water was not as described in the certificate or permit, pumpage was estimated based on how the water was being used.
- If there was no use of the water under the permit, zero pumpage was recorded. If the meter was not read and the place and manner of use not inspected, no estimate was recorded.
- Where water rights owners are required to provide the Office of the State Engineer with monthly pumping totals as a condition of their permits, these reports are verified with meter readings taken by NDWR staff and used as the amount pumped.
- Stockwater wells estimates of pumpage were derived from information from the Bureau of Land Management (BLM, Rangeland Administration System), documentation from the water right files and the certificated duty for the water right.
- Exempt domestic wells do not require a permit issued by the State Engineer (Nevada Revised Statutes [NRS] 534.180). These domestic wells may be drilled and utilized where water service from a purveyor is not available. NRS 534.013 defines this category of domestic use as: *“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 Nevada Division of Water Resources’ Well Log Database. By statute, domestic wells are allowed to pump up to two acre-feet annually; however, the amount of water pumped by exempt domestic wells in this hydrographic basin is estimated to be one acre-foot per well.

PUMPAGE BY MANNER OF USE

The total estimated groundwater pumpage for the calendar year 2012 was **37,274 acre-feet**. The annual duties of permitted, certificated and claims of vested groundwater rights within the Smith Valley Hydrographic Basin total approximately **55,470 acre-feet**. This value does not include those portions of rights that have been relinquished in support of domestic wells. **Note that all data herein are estimates and subject to revision.** The permitted and pumped totals, categorized by manner of use, are as follows:

A. Commercial (COM)

During calendar year 2012, appropriations for commercial purposes totaled 1299 acre-feet. An estimated 219 acre-feet were pumped during calendar year 2012.

B. Construction (CON)

During calendar year 2012, appropriations for construction purposes totaled one acre-foot. An estimated 0.1 acre-feet were pumped during calendar year 2012.

C. Domestic (DOM)

During calendar year 2012, appropriations for domestic use totaled 36 acre-feet. An estimated seven acre-feet were pumped during calendar year 2012. The amount of water pumped during calendar year 2012 for domestic use by exempt domestic wells, as described under NRS 534.013, was estimated to be 800 acre-feet. The amount of water pumped by exempt domestic wells was estimated by multiplying the number of domestic wells in the basin, determined through records of the State Engineer, by the estimated average use of one acre-foot per well.

D. Environmental (ENV)

During the calendar year 2012, appropriations for environmental purposes totaled 109 acre-feet. It is estimated that no water was pumped for environmental purposes during calendar year 2012.

E. Industrial (IND)

During the calendar year 2012, appropriations for industrial purposes totaled 58 acre-feet. An estimated 28 acre-feet were pumped during calendar year 2012.

F. Irrigation, Irrigation-DLE (IRR & IRD)

During calendar year 2012, appropriations for irrigation purposes in the basin totaled 53,046 acre-feet, and an estimated 35,925 acre-feet were pumped. Also included in the appropriations and estimated pumpage for irrigation is Irrigation-DLE purposes. A significant portion of irrigated acres with the basin also have surface water rights appurtenant. This report is not intended to quantify, nor present any definitive place of use of these surface water rights.

G. Mining & Milling and Mining, Milling & Dewatering (MM & MMD)

During the calendar year 2012, appropriations for mining and milling purposes totaled 227 acre-feet. It is estimated that no water was pumped for mining and milling purposes during calendar year 2012.

H. Quasi-Municipal (QM)

During calendar year 2012, appropriations for quasi-municipal purposes totaled 246 acre-feet. An estimated 60 acre-feet were pumped during calendar year 2012.

I. Recreation (REC)

During the calendar year 2012, appropriations for recreation purposes totaled 134 acre-feet. An estimated 70 acre-feet were pumped during calendar year 2012.

J. Stockwater (STK)

During the calendar year 2012, appropriations for stockwater purposes totaled 317 acre-feet. An estimated 165 acre-feet were pumped during calendar year 2012.

REFERENCES CITED

U.S. Geological Survey, 2013, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 10297500, accessed at <http://wdr.water.usgs.gov/wy2012/pdfs/10297500.2012.pdf>

U.S. Geological Survey, 2013, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 10299100, accessed at <http://wdr.water.usgs.gov/wy2012/pdfs/10299100.2012.pdf>

U.S. Geological Survey, 2013, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 10300000, accessed at <http://wdr.water.usgs.gov/wy2012/pdfs/10300000.2012.pdf>

Nevada Division of Water Resources, (Online).
<http://water.nv.gov>

United States Department of the Interior, Geologic Survey. *Water Resources Bulletin No. 43: Geohydrology of Smith Valley, Nevada, with Special Reference to the Water Use Period, 1953-72; F.E. Rush and C.V. Schroer.* 1976. Print.

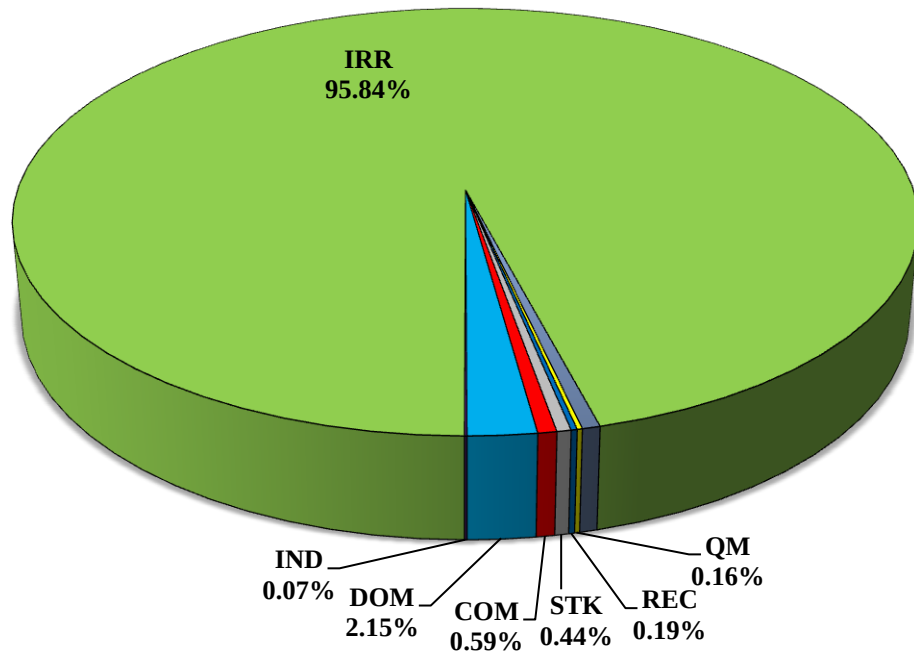
Nevada Department of Conservation and Natural Resources, Division of Water Resources. *Estimated Annual Ground-Water Pumpage 1994-2004 Smith Valley and Mason Valley Lyon County, Nevada.* Thomas K. Gallagher. 2004, Print.

APPENDIX A

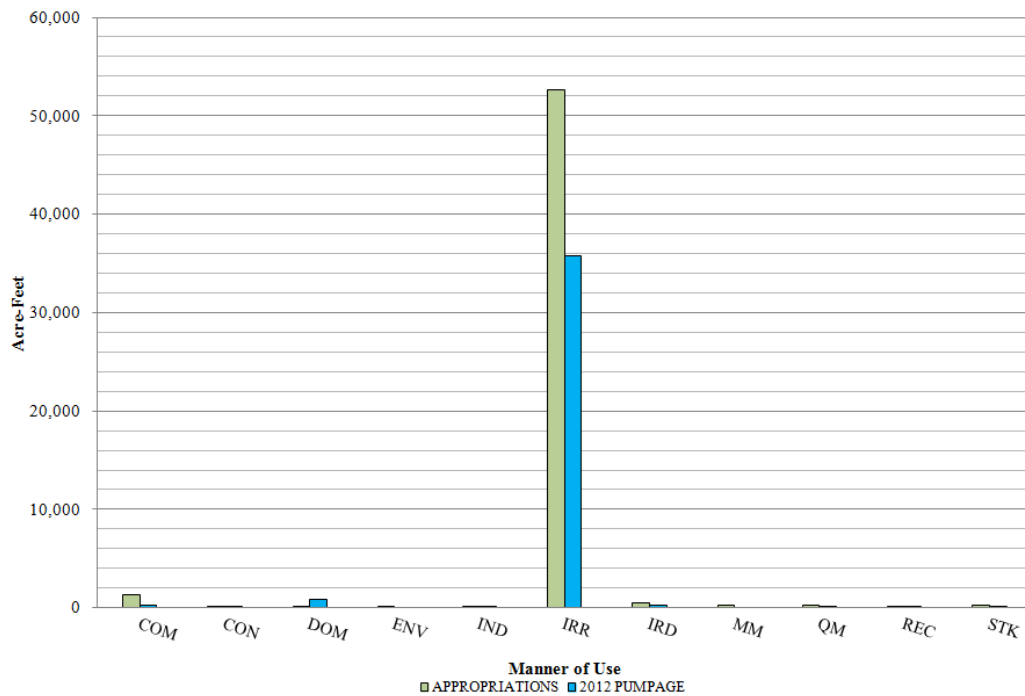
2012 PERCENTAGE OF GROUNDWATER PUMPAGE BY MANNER OF USE

2012 GROUNDWATER PUMPAGE APPROPRIATIONS VS. ACTUAL PUMPAGE

2012 PERCENTAGE OF GROUNDWATER PUMPAGE BY MANNER OF USE



2012 GROUNDWATER PUMPAGE APPROPRIATIONS VS. ACTUAL PUMPAGE



APPENDIX B

SMITH VALLEY HISTORICAL PUMPAGE-TABLE

SMITH VALLEY HISTORICAL PUMPAGE-CHART

**SMITH VALLEY UNDERGROUND IRRIGATION USE, SURFACE WATER
CONSUMPTION & WEST WALKER RIVER STREAMFLOW-GRAPH**

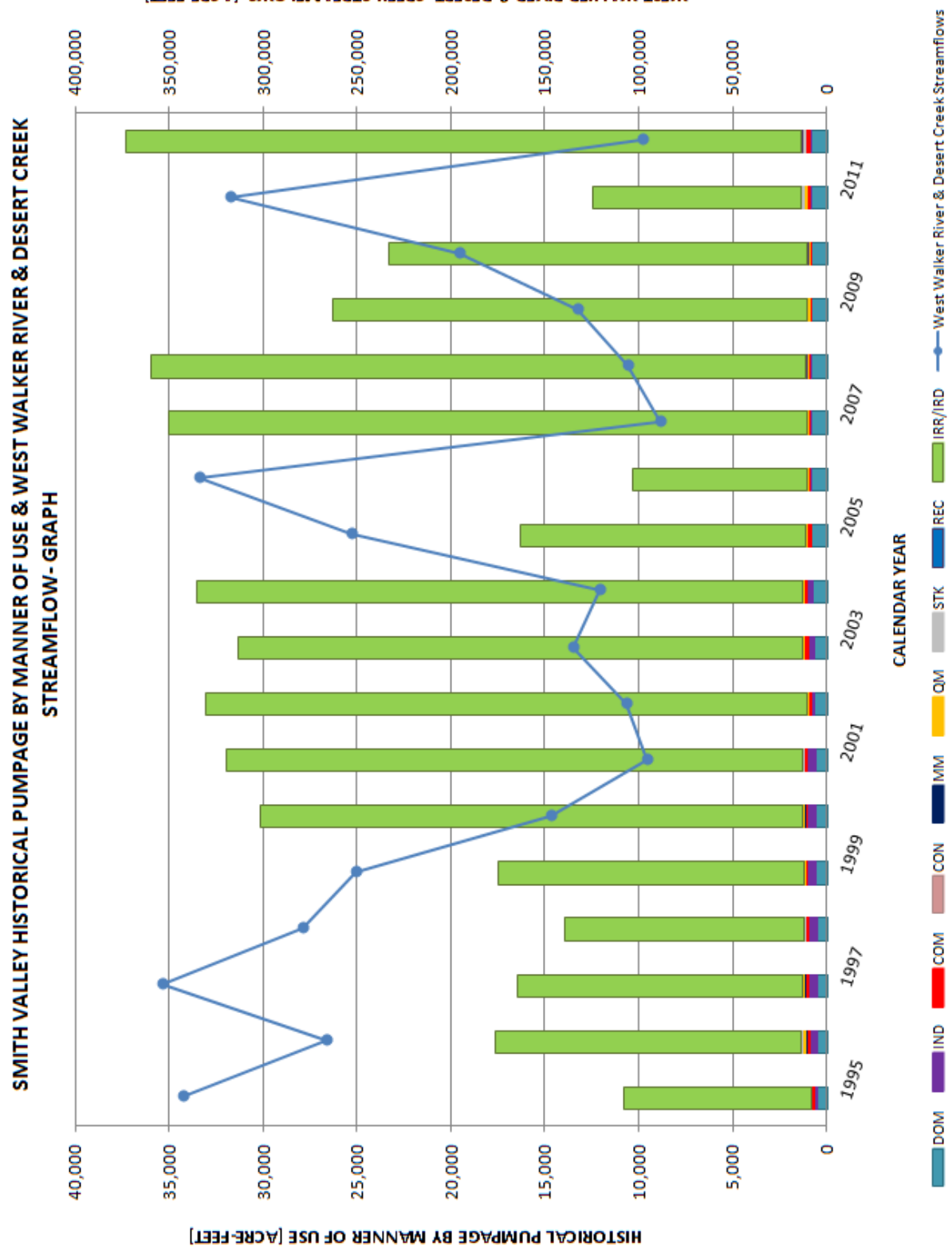
SMITH VALLEY HISTORICAL PUMPAGE BY CALENDAR YEAR* - TABLE

	1995	1996	1997	1998	1999	2000	2001	2002	2003
COM	163	201	79	59	107	95	72	201	234
CON									
DOM**	452	466	483	496	520	537	566	591	640
ENV									
IND	167	412	487	458	461	455	456	185	321
IRR/IRD	10,010	16,328	15,217	12,809	16,313	28,895	30,666	32,028	30,059
MM	0	136	63	0	0	43	0	0	0
QM	0	108	48	51	57	68	55	38	53
REC									
STK		65	8	13	21	24	64	65	28
TOTALS	10,792	17,715	16,384	13,887	17,478	30,117	31,879	33,109	31,335

	2004	2005	2006	2007	2008	2009	2010	2011	2012
COM	127	108	137	113	106	114	111	168	219
CON									
DOM**	689	739	772	783	787	787	786	791	800
ENV		0	0	0	0	0	0	0	0
IND	312	59	60	59	51	11	24	26	28
IRR/IRD	32,266	15,227	9,323	33,984	34,884	25,214	22,257	11,065	35,505
MM	0	1	2	25	0	0	0	0	0
QM	57	81	81	78	71	94	49	125	60
REC					38	46	42	36	70
STK	42		2	2	2	16	18	182	165
TOTALS	33,493	16,214	10,377	35,045	35,939	26,283	23,289	12,393	36,847

*All values are in acre-feet. Prior to 2011, pumpage use monitoring mostly limited to larger users of water.

**The domestic use estimate includes a count of exempt domestic wells (NRS 534.013) in the basin multiplied by 1 acre-foot per annum i.e. 452 acre-feet (1995), 466 acre-feet (1996), 483 acre-feet (1997), 496 acre-feet (1998), 520 acre-feet (1999), 537 acre-feet (2000), 566 acre-feet (2001), 591 acre-feet (2002), 640 acre-feet (2003), 689 acre-feet (2004), 739 acre-feet (2005), 772 acre-feet (2006), 783 acre-feet (2007), 787 acre-feet (2008), 787 acre-feet (2009), 786 acre-feet (2010), 791 acre-feet (2011), and 800 acre-feet (2012).



APPENDIX C

**EXPLANATION OF COLUMN HEADINGS FOR GROUNDWATER PUMPAGE BY
APPLICATION NUMBER**

SMITH VALLEY 2012 GROUNDWATER PUMPAGE BY APPLICATION NUMBER

EXPLANATION OF COLUMN HEADINGS FOR GROUNDWATER PUMPAGE BY APPLICATION NUMBER

UNIQUE ID	ID assigned to each well based on its geographic location.
APP NO.	The file number of the Application to Appropriate, the Application to Change or Vested Claim.
STATUS	Indicates if the application is a permit (PER) or if it has been certificated. If an application has been certificated, the certificate number will be listed in the column.
MOU	The manner of use of the appropriated water.
	COM- Commercial CON- Construction DOM- Domestic ENV- Environmental IND- Industrial IRR- Irrigation IRD– Irrigation, DLE MM-Mining and Milling QM- Quasi-Municipal REC- Recreational STK- Stockwater
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.
PER ACRES	The number of acres that are permitted to be irrigated.
DUTY (AF)	The number of acre-feet of water that the permittee may pump. One acre-foot equals 325,851 gallons.
SUPP ADJ	Where more than one permit is appurtenant to the same place of use, the permits may be considered supplemental. Permits may be either completely or partially supplemental. In these cases, a total combined duty for the subject permits is employed.
DUTY USED	The amount of water used during the calendar year, in acre-feet, as determined by review of records and/or field investigation.
UNITS	AFA stands for acre-feet annually, and AFS stands for acre-feet seasonally. AFS limits water usage to certain months out of the year.
SUPP GW APP NO.	The file number(s) of the supplemental water appropriations. Supplemental application groups are listed at the end of Appendix B.

SMITH VALLEY 2012 GROUNDWATER PUMPAGE BY APPLICATION NUMBER

UNIQUE ID	APP NO.	STATUS	MOU	OWNER OF RECORD	QQ	QTR	SEC	T	R	PER ACRES	DUTY (AF)	SUPP ADJ	DUTY USED	UNITS	SUP GW APP NO.
107 N11 E24 07DBDD1	12255	3200	STK	ALLEN, IDA E.	NW	SE	7	11N	24E		1.27	1.27	0.00	AFA	
107 N11 E23 02DC 1	12262	3219	STK	FLYING A LIMITED PARTNERSHIP	SW	SE	2	11N	23E		10.86	10.86	0.00	AFA	
107 N12 E23 36BCCB1	12263	3220	STK	BUNKOWSKI, AUGUST	SW	NW	36	12N	23E		4.34	4.34	0.00	AFA	
107 N12 E23 36BCCB1	12265	3222	STK	BUNKOWSKI, AUGUST	NW	NW	36	12N	23E		14.48	14.48	14.48	AFA	
107 N11 E24 17DCBD1	12269	3203	STK	BROWN, NORMAN D.	SW	SE	17	11N	24E		13.44	13.44	0.00	AFA	
107 N11 E24 16CBBA1	12270	3204	STK	BROWN, NORMAN D.	NW	SW	16	11N	24E		13.44	13.44	0.00	AFA	
107 N11 E24 09BBDA1	12271	3427	STK	BROWN, NORMAN D.	NW	NW	9	11N	24E		3.89	3.89	0.00	AFS	
107 N11 E24 17DABB1	12272	3205	STK	BROWN, NORMAN D.	NE	SE	17	11N	24E		21.72	21.72	0.00	AFA	
107 N11 E24 17DB 1	12273	3206	STK	BROWN, NORMAN D.	NW	SE	17	11N	24E		6.05	6.05	6.05	AFA	
107 N11 E24 19DDDD1	12275	3725	IRR	F.M. FULSTONE INC.	SE	SE	19	11N	24E	40.00	160.00	2,110.00	2.00	AFS	1
107 N11 E24 30AA 1	12276	3726	IRR	F.M. FULSTONE INC.	NE	NE	30	11N	24E	30.00	120.00		0.00	AFS	1
107 N11 E24 30AD 1	12277	3727	IRR	F.M. FULSTONE, INC.	SE	NE	30	11N	24E	28.00	112.00		0.00	AFS	1
107 N10 E24 05CBAD1	12278	3887	IRR	F. M. FULSTONE INC	NW	SW	5	10N	24E	95.00	144.50	144.50	0.00	AFA	
107 N11 E24 32DAAA1	12281	3296	DOM	SIX-N RANCH, INC.	NE	SE	32	11N	24E		18.11	18.11	1.00	AFA	
107 N11 E23 25AADD1	12301	3247	STK	WRIGHT, NADIA	NE	NE	25	11N	23E		1.90	1.90	1.90	AFA	
107 N11 E23 25CADA1	12303	3246	STK	LEVEILLE, ANITA	NE	SW	25	11N	23E		0.90	0.90	0.00	AFA	
107 N12 E23 35DAAC1	12304	3678	STK	SMITH, G.C.	NE	SE	35	12N	23E		4.36	4.36	0.00	AFA	
107 N12 E23 36CC 1	12305	3679	STK	SMITH, G.C.	SW	SW	36	12N	23E		4.82	4.82	0.00	AFA	
107 N11 E24 19DBAA1	12306	3231	IRR	HINDS, BEATRICE E.	NW	SE	19	11N	24E	0.50	25.30	25.30	2.00	AFA	
107 N11 E23 26DDDD1	12307	3419	STK	GROSO, CHARLES	SE	SE	26	11N	23E		1.19	1.19	0.00	AFA	
107 N11 E23 25CCCC1	12308	3420	DOM	GROSO, CHARLES	SW	SW	25	11N	23E		3.22	3.22	1.00	AFA	
107 N11 E24 31BB 1	12309	3148	STK	MENCARINI, AMOS	NW	NW	31	11N	24E		2.26	2.26	0.00	AFA	
107 N11 E24 19DADA1	12323	3225	DOM	GANSBERG, CHRIS H., JR. & FAYE E.	NE	SE	19	11N	24E		3.22	3.22	1.00	AFA	
107 N11 E24 19AAD 1	12324	3226	STK	GANSBERG, CHRIS H., JR. & FAYE E.	NE	NE	19	11N	24E		3.58	3.58	3.59	AFA	
107 N11 E24 19ADAA1	12325	3227	DOM	GANSBERG, CHRIS H. , JR.& FAYE E.	SE	NE	19	11N	24E		3.22	3.22	1.00	AFA	
107 N11 E24 19DAD 1	12339	3381	IRR	SCHMID, A.J.	NE	SE	19	11N	24E	3.00	12.00	12.00	2.00	AFS	
107 N11 E24 18AD 1	12340	3452	IRR	FENILI, PETER A. & VERONICA JEAN	SE	NE	18	11N	24E	10.00	38.87	38.87	0.00	AFS	
107 N11 E24 19DBB 1	12341	3317	STK	LINSCOTT, TIMOTHY	NW	SE	19	11N	24E		0.67	0.67	0.00	AFA	
107 N11 E24 19CBBC1	12342	3230	STK	SETTELMAYER, F.W.	NW	SW	19	11N	24E		2.58	2.58	0.00	AFA	
107 N11 E23 26DAAD1	12343	3428	IRR	CHIDWICK, C.F.	NE	SE	26	11N	23E	20.00	28.01	28.01	0.00	AFS	
107 N12 E23 34AB 1	12344	3479	STK	FARIAS, LESTER M.	NW	NE	34	12N	23E		14.49	14.49	0.00	AFA	
107 N11 E24 19ACAA1	12345	3442	STK	GANSBERG, CHRIS H., JR. & FAYE E.	SW	NE	19	11N	24E		1.44	1.44	0.00	AFA	
107 N11 E24 19ABDD1	12346	3443	STK	MCVICAR, MRS. C. A.	NW	NE	19	11N	24E		1.44	1.44	0.00	AFA	
107 N11 E23 25DA 1	12347	3613	STK	SEDDON, S.V.	NE	SE	25	11N	23E		6.72	6.72	0.00	AFA	
107 N11 E23 25DBDD1	12348	3614	STK	SEDDON, S.V.	NW	SE	25	11N	23E		6.72	6.72	0.00	AFA	
107 N11 E24 19DAAD1	12352	3444	DOM	WILLIAMS JOHN CAMERON	NE	SE	19	11N	24E		1.99	1.99	1.00	AFA	
107 N11 E24 20CBCB2	12371	3480	COM	CENTRAL MERCANTILE	NW	SW	20	11N	24E		0.71	0.71	0.71	AFA	
107 N11 E24 18DA 1	12373	3228	STK	MANN, FRANK B.	NE	SE	18	11N	24E		1.66	1.66	0.00	AFA	
107 N11 E24 29AB 1	12374	3481	IRR	FENILI, BRUNO	NW	NE	29	11N	24E	10.00	32.59	32.59	1.00	AFA	
107 N11 E23 24CADD1	12375	3229	STK	SCHWAKE, WALTER R.	NE	SW	24	11N	23E		11.20	11.20	11.20	AFA	
107 N11 E23 26AAAD1	12376	3248	STK	PINENUT RANCH CORPORATION	NE	NE	26	11N	23E		2.24	2.24	1.12	AFA	
107 N11 E23 26ABBB1	12377	3249	STK	PINENUT RANCH CORPORATION	NW	NE	26	11N	23E		2.24	2.24	0.00	AFA	
107 N11 E23 36ACAC1	12378	3190	STK	WICHMAN, JOHN H.	SW	NE	36	11N	23E		2.46	2.46	1.18	AFA	
107 N11 E24 20CBCB1	12379	3214	COM	RENNER AND ASSOCIATES	NW	SW	20	11N	24E		6.91	6.91	6.91	AFA	
107 N11 E24 19BCDD1	12398	3202	STK	MCKAY, JAMES T.	SW	NW	19	11N	24E		11.20	11.20	11.20	AFA	
107 N11 E23 25ADDD1	12399	3201	DOM	MCKAY, JAMES T.	SE	NE	25	11N	23E		3.22	3.22	1.00	AFA	
107 N12 E23 22AC 1	12465	3300	STK	S. H. HUNEWILL & CO.	SW	NE	22	12N	23E		13.44	13.44	13.44	AFA	
107 N12 E23 22DDBB1	12466	3301	STK	S. H. HUNEWILL & CO.	SE	SE	22	12N	23E		22.40	22.40	22.40	AFA	
107 N11 E23 03DCBC1	12575	3920	IRR	MILE HI INVESTMENT COMPANY	SW	SE	3	11N	23E	25.50	102.00	860.40	860.40	AFS	2
107 N11 E23 24DB 1	12782	3382	IRR	NESMITH, JENNIE E.	NW	SE	24	11N	23E	30.00	120.00	120.00	0.00	AFA	
107 N12 E23 13CCCD2	13344	4287	IRR	PETERS, DARLENE F.	SW	SW	13	12N	23E	92.70	9.87	9.87	9.87	AFS	
107 N10 E24 04CDCC1	13494	4644	IRR	F.I.M. CORP.	SE	SW	4	10N	24E	198.00	792.00	1,224.00	0.00	AFS	3
107 N11 E24 20BC 1	14013	3906	IRR	WICHMAN, JOHN H.	SW	NW	20	11N	24E	2.64	10.60	10.60	10.60	AFA	
107 N10 E24 09BCBA1	14987	4705	IRR	F.I.M. CORP.	SW	NW	9	10N	24E	293.00	1,172.00		778.25	AFA	3
107 N11 E24 20DB 1	15572	4539	DOM	HINDS, BEATRICE E.	NW	SE	20	11N	24E		3.22	3.22	1.00	AFA	
107 N10 E24 03BBDD1	16440	4898	IRR	F.I.M. CORP.	NW	NW	3	10N	24E	165.12	660.48	660.48	336.27	AFA	
107 N10 E23 01ADCA2	16477	4936	IRR	DENTON TRUST	SE	NE	1	10N	23E	270.40	907.00	907.00	223.27	AFA	

SMITH VALLEY 2012 GROUNDWATER PUMPAGE BY APPLICATION NUMBER

UNIQUE ID	APP NO.	STATUS	MOU	OWNER OF RECORD	QQ	QTR	SEC	T	R	PER ACRES	DUTY (AF)	SUPP ADJ	DUTY USED	UNITS	SUP GW APP NO.
107 N12 E23 36BDBA3	16628	5317	IRR	SMITH RANCH PARTNERSHIP	SE	NW	36	12N	23E	278.00	695.00	1,328.00	390.74	AFS	18368
107 N12 E23 35AADC1	16629	5318	IRR	OWENS, DAVID A. AND CINDY R.	NE	NE	35	12N	23E	31.92	79.80	127.68	0.00	AFA	25895
107 N12 E23 24CBCC2	16798	5599	IRR	PETERS, DARLENE F.	NW	SW	24	12N	23E	214.72	858.88	858.88	0.00	AFA	
107 N12 E23 23AB 1	16824	5137	IRR	PERRIN, CLARENCE H.	NW	NE	23	12N	23E	36.00	129.00	144.00	0.00	AFA	16825
107 N12 E23 23AB 2	16825	5138	IRR	PERRIN, CLARENCE H.	NW	NE	23	12N	23E	36.00	16.13		0.00	AFA	16824
107 N12 E23 26DA 1	16826	5139	IRR	PERRIN, CLARENCE H.	NE	SE	26	12N	23E	14.54	48.36	48.36	0.00	AFA	
107 N12 E23 25CD 1	16827	4793	STK	THE FLYING "A" RANCH	SE	SW	25	12N	23E		0.74	0.74	1.13	AFA	
107 N11 E23 13ADDC1	17755	5713	IRR	SEUBERT FAMILY TRUST	SE	NE	13	11N	23E	15.00	60.00	60.00	60.00	AFA	
107 N11 E24 18BBDA1	17756	5714	IRR	SIGLER, CHERYL L. & RALPH M	NW	NW	18	11N	24E	4.11	16.44	16.44	0.00	AFA	
107 N12 E23 35CDC1	18313	6048	IRR	STANLEY L. HUNEWILL AND JANET BLISS HUNEWILL,	SW	SE	35	12N	23E	133.38	533.64	533.64	533.64	AFA	
107 N11 E23 13CAAA1	18327	6401	IRR	JOE ROBINSON MATHIS AND ELEANOR MARGHERITE MATHIS	NE	SW	13	11N	23E	46.50	186.00	186.00	3.95	AFA	
107 N12 E23 36DCDC1	18368	5689	IRR	SMITH RANCH PARTNERSHIP	SW	SE	36	12N	23E	326.50	1,306.00		225.61	AFA	16628
107 N10 E24 20ABAD2	18435	5844	IRR	FELTHOVEN, LEE AND EILEEN	NW	NE	20	10N	24E	583.50	1,401.40	3,241.12	904.08	AFA	4
107 N10 E24 07DDBA1	18680	6050	IRR	DREYER, ROLAND AND JOAN	SE	SE	7	10N	24E	300.00	1,200.00	1,200.00	849.78	AFS	
107 N12 E23 34ACCC2	18689	6072	IRR	FARIAS WHEEL RANCH, INC.	SW	NE	34	12N	23E	160.00	640.00	640.00	388.01	AFA	
107 N12 E23 27AADD3	18804	5967	IRR	HUNEWILL LAND & LIVESTOCK CO. INC.	NE	NE	27	12N	23E	400.00	1,600.00	1,600.00	691.41	AFA	
107 N11 E23 02BBCC2	18822	5921	IRR	NEILL, HETTIE MAE	NW	NW	2	11N	23E	385.50	1,542.00	1,542.00	1,102.83	AFA	
107 N10 E24 09BDBB1	18879	6052	IRR	F.I.M. CORP.	NE	NW	9	10N	24E	287.00	1,148.00		516.12	AFA	3
107 N11 E24 30BCDD2	18938	5688	IRR	F.M. FULSTONE, INC.	SW	NW	30	11N	24E	513.00	2,052.00		1,689.93	AFA	1
107 N12 E23 28DCAB1	18953	6445	IRR	DREYER, ROLAND AND JOAN	SW	SE	28	12N	23E	200.00	800.00	800.00	810.22	AFA	
107 N11 E23 23BCBB1	18990	6269	IRR	SOILFUME, INC. A CALIFORINIA CORP.	NW	NW	23	11N	23E	73.00	292.00	292.00	182.07	AFA	
107 N11 E24 18ADAD1	19102	6053	IND	LYON COUNTY	SE	NE	18	11N	24E		14.48	14.48	14.48	AFA	
107 N11 E23 11BBBB1	19600	6029	IRR	BACON, MILTON E.	NW	NW	11	11N	23E	275.35	1,101.40	1,101.40	732.84	AFA	
107 N11 E24 31CCDB2	19602	6009	IRR	URREA, JOHN	SW	SW	31	11N	24E	190.09	760.36	760.36	263.35	AFA	
107 N10 E23 02ACCD1	19734	6434	IRR	F.M. FULSTONE INC.	SW	NE	2	10N	23E	603.40	1,547.36	2,413.76	594.55	AFA	70927
107 N11 E23 36CB 1	19919	5889	IRR	SMITH, C.L.	NW	SW	36	11N	23E	6.60	26.40	26.40	0.00	AFA	
107 N11 E24 32BBDD2	19983	6731	IRR	C.E.A.S. COMPANY	NW	NW	32	11N	24E	316.00	1,264.00	1,264.00	1,116.30	AFA	
107 N10 E24 20BDDD1	20014	7460	IRR	AIAZZI, GARY R AND CYNTHIA J	SE	NW	20	10N	24E	321.90	1,287.60		441.92	AFA	4
107 N11 E23 10ACBB1	20351	5474	IRR	1990 SPENCE FAMILY TRUST	SW	NE	10	11N	23E	258.59	954.44	954.44	543.63	AFA	
107 N11 E23 03DCBC1	20491	6464	IRR	BRYAN, VERNON F. & RUTH A.	SW	SE	3	11N	23E	162.50	650.00		87.89	AFA	2
107 N10 E23 02BB 1	20977	6284	IRR	COMPSTON, JAMES	NW	NW	2	10N	23E	40.00	160.00	160.00	0.00	AFS	
107 N10 E24 22CB 1	21277	5712	STK	BLM	NW	SW	22	10N	24E		0.74	0.74	0.00	AFS	
107 N11 E23 15CCDC1	21279	6571	IRR	O'BANION, CAROL R.	SW	SW	15	11N	23E	179.30	717.20		420.02	AFA	24347
107 N10 E24 16ACCC1	22904	8495	IRD	ACME LEASING, LLC	SW	NE	16	10N	24E	116.06	464.24	464.24	209.06	AFA	
107 N12 E23 34BACB1	22936	6855	IRR	FARIAS, LLC	NE	NW	34	12N	23E	331.06	1,002.95	1,002.95	675.09	AFA	
107 N11 E23 13BBDD2	23191	8483	IRR	JOE ROBINSON MATHIS AND ELEANOR MARGHERITE MATHIS	NW	NW	13	11N	23E	41.40	165.60	165.60	36.28	AFA	
107 N11 E23 10ACBB1	23521	7482	IRR	BAUHOFFER, WILLIAM L.	SW	NE	10	11N	23E	51.48	205.90	205.90	0.00	AFA	
107 N10 E24 21BAAB1	23627	8205	IRR	F.I.M. CORP.	NE	NW	21	10N	24E	156.00	624.00	624.00	346.93	AFA	
107 N11 E23 02DD 1	23800	8046	IRR	STURTEVANT, FERD	SE	SE	2	11N	23E	6.00	24.00	24.00	0.00	AFA	
107 N11 E23 15CCDC1	24347	7021	COM	O'BANION, CAROL R.	SW	SW	15	11N	23E		24.00	741.20		AFA	21279
107 N11 E23 12BACC1	25347	7556	IRR	JOHNSON, RICHARD & SHARLENE	SW	NW	12	11N	23E	54.66	218.64	267.60	187.98	AFA	5
107 N10 E24 09CCDD1	25374	8673	IRR	SV DEVELOPMENT, LLC	SE	SW	9	10N	24E	113.53	454.12	454.12	0.00	AFA	
107 N11 E23 02CCBB1	25441	8676	IRR	FLYING A LIMITED PARTNERSHIP	SW	SW	2	11N	23E	180.00	720.00	758.50	671.97	AFA	6
107 N10 E24 07CDBA1	25506	8424	IRR	ALBRIGHT, MINA	SE	SW	7	10N	24E	162.50	650.00	650.00	650.50	AFA	
107 N11 E23 12BACC1	25543	7557	IRR	JOHNSON, RICHARD & SHARLENE	SW	NW	12	11N	23E	64.18	256.72		0.00	AFA	5
107 N11 E23 12CBBB1	25690	9215	IRR	CASEBOLT, INC. & J. CASEBOLT	NW	SW	12	11N	23E	101.65	406.60	426.08	394.19	AFA	7
107 N12 E23 35AADC1	25895	8090	IRR	SULLIVAN, LANA	NE	NE	35	12N	23E	21.34	127.68		0.00	AFA	16629
107 N11 E23 23BD 1	26360	12646	IRR	HERNER, JAMES P. & ELIZABETH A.	SE	NW	23	11N	23E	1.40	5.60	5.60	1.00	AFA	
107 N10 E24 08CBCA1	26730	9762	IRR	F.I.M. CORP.	NW	SW	8	10N	24E	448.00	1,792.00	1,808.00	1,802.14	AFA	41361
107 N11 E23 15CBAA1	26804	9353	IRR	RUPE FAMILY TRUST AGREEMENT	NE	SW	15	11N	23E	267.00	1,068.00	1,068.00	788.98	AFA	
107 N10 E24 17CCAA1	26883	9280	IRR	FELTHOVEN, LEE AND EILEEN	SW	SW	17	10N	24E	354.18	1,416.72		621.85	AFA	4
107 N11 E24 30DBCB1	26937	9166	IRR	LYON COUNTY	NW	SE	30	11N	24E	9.16	36.64	36.64	37.99	AFA	
107 N11 E23 13DBDB1	27298	9176	IRR	BUTLER, GARY R. & THERESA A.	NW	SE	13	11N	23E	0.38	1.50	1.50	1.00	AFA	
107 N11 E23 03CBCB1	27317	10104	IRR	COSTA RANCH, L.P.	NW	SW	3	11N	23E	276.50	1,106.00	1,106.00	1,130.77	AFA	
107 N10 E24 20DCCD1	27704	9363	IND	L. S. DAY, INC	SW	SE	20	10N	24E		43.36	43.36	13.04	AFA	
107 N10 E24 18BACD1	28293	12869	IRR	F.I.M. CORP.	NE	NW	18	10N	24E	75.30	301.20	301.20	459.22	AFA	
107 N10 E24 08CBCA1	33232	9841	IRR	F.I.M. CORP.	NW	SW	8	10N	24E	308.00	1,232.00	1,232.00	0.00	AFA	
107 N12 E24 31DBBA1	36524A02	12481	IRR	ECKEL, EDGAR S. & MARY V.	NW	SE	31	12N	24E		2.46	2.46	2.46	AFA	
107 N12 E24 31DBBA1	36824	12458	IRR	PINION RANCH ESTATES, LLC	NW	SE	31	12N	24E	2.07	8.28	8.28	8.28	AFA	
107 N11 E23 12CBBB1	40400	12349	IRR	GREGORIS, OTTAVIO & YVETTE	NW	SW	12	11N	23E	5.43	21.72		0.00	AFA	7
107 N10 E24 18BACD1	41361	14386	IRR	F.I.M. CORP.	NE	NW	18	10N	24E	75.00	340.00		0.00	AFA	26730

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107 N13 E24 20ABC 1	43318	13666	MM	CUSTOM DETAILS, LLC	NW	NE	20	13N	24E		39.13	39.13	0.00	AFA	
107 N13 E24 21BCCD1	43578	11183	STK	F.I.M., CORP.	SW	NW	21	13N	24E		18.11	18.11	2.81	AFA	
107 N11 E23 12BACC1	46606	11205	IRR	JOHNSON, RICHARD & SHARLENE	SW	NW	12	11N	23E	2.62	10.48		0.00	AFA	5
107 N11 E23 12BACC1	46607	11206	IRR	JOHNSON, RICHARD & SHARLENE	SW	NW	12	11N	23E	64.18	256.72		0.00	AFA	5
107 N11 E23 12CBBB1	46608	12352	IRR	CASEBOLT, INC. & JOSEPHINE	NW	SW	12	11N	23E	21.04	84.14		0.00	AFA	7
107 N11 E24 10AAAA1	46622	17147	QM	SIMMONS, LEIA H.	NE	NE	10	11N	24E		44.81	104.81	44.81	AFA	75697
107 N13 E24 18CBDB1	48597	13551	MM	SONORA MINING CORP.	NW	SW	18	13N	24E		187.82	187.82	0.00	AFA	8
107 N11 E24 07A 1	48738	12340	STK	HALL, SHAWN; SCHADE, ROXANNE; WIEGARDT, RONALD A.;	LT02	7	11N	24E			3.11	3.95	0.00	AFA	48739
107 N11 E24 07DA 1	48739	12673	STK	HALL, SHAWN; SCHADE, ROXANNE; WIEGARDT, RONALD A.;	NE	SE	7	11N	24E		2.94		0.00	AFA	48738
107 N14 E24 31CA 4	50311	12678	STK	F.M. FULSTONE, INC.	NE	SW	31	14N	24E		26.79	26.79	26.79	AFA	
107 N11 E23 13ABAC1	50926	13053	IRR	OXSEN, NANCY A.	NW	NE	13	11N	23E	3.20	12.80	12.80	16.90	AFA	
107 N10 E23 01CB 2	51546	PER	QM	LYON COUNTY	NW	SW	1	10N	23E		133.93	133.93	2.19	AFA	74589
107 N11 E24 20CB 1	53075	PER	COM	HUNEWILL ENTERPRISES	NW	SW	20	11N	24E		2.88	2.88	0.00	AFA	
107 N11 E24 09AACB1	53835	PER	COM	SMITH VALLEY CATTLE FEEDERS	NE	NE	9	11N	24E		115.70	462.62	0.90	AFA	9
107 N11 E24 09ABD1	53836	PER	COM	SMITH VALLEY CATTLE FEEDERS	SE	NE	9	11N	24E		115.70		3.99	AFA	9
107 N11 E24 09ADBC1	53837	PER	COM	SMITH VALLEY CATTLE FEEDERS	SE	NE	9	11N	24E		115.70		0.00	AFA	9
107 N10 E24 07DC 1	53907	PER	IRR	HULSTROM, GENE E. & DONNA	SW	SE	7	10N	24E	4.40	10.60	10.60	2.59	AFA	
107 N13 E23 22DA 1	54441	13898	STK	F.I.M., INC.	NE	SE	22	13N	23E		8.96	8.96	0.00	AFA	
107 N10 E24 03BBAB1	54655	15410	IRR	CEFALU, JOHN N.	NW	NW	3	10N	24E	37.90	151.60	151.60	151.60	AFA	
107 N12 E24 31BAAD1	55027	PER	IRR	GAGNE, J. & M., MOREHOUSE, W. & L.	NE	NW	31	12N	24E	6.00	13.47	24.00	0.00	AFA	55028
107 N12 E24 31BAAD1	55028	PER	IRR	GAGNE, J. & M., MOREHOUSE, W. & L.	NE	NW	31	12N	24E	6.00	10.53		0.00	AFA	55027
107 N11 E24 33DADD1	55085	15263	IRR	WIPFLI, CANDACE	NE	SE	33	11N	24E	17.00	65.29	65.29	0.00	AFA	
107 N10 E23 02BC 1	55254	15459	COM	BERGSTROM, CYNTHIA K.	SW	NW	2	10N	23E		0.55	0.55	0.55	AFA	
107 N11 E24 20CC 1	56746	13961	COM	LEINASSAR, MARIANNE F.	SW	SW	20	11N	24E		3.22	3.22	3.22	AFA	
107 N10 E24 20ABDC1	57236	PER	IRR	TYNDALL, DAVID J. & GORRINDO, LOROLYN A.	NW	NE	20	10N	24E	20.00	48.00	80.00	53.33	AFA	57237
107 N10 E24 20ABDC1	57237	PER	IRR	TYNDALL, DAVID J. & GORRINDO, LOROLYN A.	NW	NE	20	10N	24E	20.00	80.00		0.00	AFA	57236
107 N11 E24 09ACCB1	57362	PER	COM	SMITH VALLEY CATTLE FEEDERS	SW	NE	9	11N	24E		115.70		159.72	AFA	9
107 N11 E23 03ABCC1	57495	14431	IRR	BRYAN, VERNON F. & RUTH A.	NW	NE	3	11N	23E	52.60	210.40		277.73	AFA	2
107 N12 E23 25DC 1	57771	16103	STK	FLYING "A" RANCH	SW	SE	25	12N	23E		11.20	11.20	11.20	AFA	
107 N13 E24 18BCDD1	57921E	PER	ENV	SONORA MINING CORPORATION	SW	NW	18	13N	24E		36.21		0.00	AFA	8
107 N13 E24 18CB 1	58091E	PER	ENV	SONORA MINING CORPORATION	NW	SW	18	13N	24E		72.43		0.00	AFA	8
107 N11 E24 32DCCD2	58873	18578	IRR	SIX-N RANCH, INC.	SW	SE	32	11N	24E	546.01	467.64	2,184.04	1,595.53	AFA	10
107 N11 E24 32DCCD2	58874	18579	IRR	SIX-N RANCH, INC.	SW	SE	32	11N	24E	546.01	1,043.47		0.00	AFA	10
107 N10 E24 04ABCA1	58875	18580	IRR	SIX-N RANCH, INC.	NW	NE	4	10N	24E	546.01	627.64		867.99	AFA	10
107 N11 E24 32ABDC1	58876	18581	IRR	SIX-N RANCH, INC.	SW	NE	32	11N	24E	546.01	2,106.04		1,358.50	AFA	10
107 N11 E23 12CBBB1	58994	14432	IRR	GREGORIS, OTTAVIO A.	NW	SW	12	11N	23E	4.20	16.80	16.80	0.00	AFA	
107 N10 E23 02CA 1	59173	17872	COM	HOYE PLAZA LLC	NE	SW	2	10N	23E		0.22	0.22	0.22	AFA	
107 N10 E23 02CA 2	60037	15010	COM	WELLINGTON STATION, LLC	NE	SW	2	10N	23E		8.59	15.07	8.59	AFA	11
107 N12 E23 35AC 2	60725	16234	IRR	RUF, ROSS C. & KYLE A.	SW	NE	35	12N	23E	5.00	12.50	20.00	12.50	AFS	60726
107 N12 E23 35AC 2	60726	16235	IRR	RUF, ROSS C. & KYLE A.	SW	NE	35	12N	23E	5.00	20.00		12.24	AFS	60725
107 N11 E24 28DDCD2	60814	14794	IRR	BACKTRACK, LLC	SE	SE	28	11N	24E	137.00	489.01	489.01	489.01	AFA	
107 N11 E24 33BACC2	60816	14795	IRR	GARMS, GARY	NE	NW	33	11N	24E	1.00	3.98	3.98	3.98	AFA	
107 N11 E24 33BACC2	60817	14796	IRR	GARMS, GARY	NE	NW	33	11N	24E	159.00	636.00	636.00	487.88	AFA	
107 N11 E24 27DBCC1	60818	14982	IRR	CARLSON, BILL E.	SE	SW	27	11N	24E	112.00	448.00	448.00	448.00	AFA	
107 N10 E23 11AABA1	61721	16662	COM	OXSEN, PETER & NANCY	NE	NE	11	10N	23E		1.57	1.57	0.00	AFA	
No POC Filed	61898	PER	IRR	FARIAS, ELLIS AND DIANNE	SE	NE	35	12N	23E	0.97	2.00	3.88		AFA	61899
No POC Filed	61899	PER	IRR	FARIAS, ELLIS AND DIANNE	SE	NE	35	12N	23E	0.97	2.00			AFA	61898
107 N10 E24 18DACB1	61987	16015	IRR	ROYCE W. ANDERSON, TRUSTEE	NE	SE	18	10N	24E	5.00	20.00	20.00	10.78	AFA	
107 N12 E24 27DABC1	62002	15095	STK	F.I.M. CORP.	NE	SE	27	12N	24E		8.96	8.96	8.96	AFA	
107 N10 E23 02CA 2	62128	PER	COM	WELLINGTON STATION, LLC	NE	SW	2	10N	23E		1.48		1.10	AFA	11
107 N11 E24 30CBBB1	62213	16371	QM	METHODIST EPISCOPAL CHURCH	NW	SW	30	11N	24E		3.06	3.06	3.06	AFA	
107 N10 E24 17CBDB1	62992	16767	QM	SOUTH LYON COUNTY HOSPITAL DISTRICT	NW	SW	17	10N	24E		0.13	0.13	0.38	AFA	
107 N11 E24 27CCCA1	63302	16113	IRR	HARTWICK, REX A.	SW	SW	27	11N	24E	3.00	12.00	12.00	12.00	AFA	
107 N11 E24 28DDCD2	63460	15344	IRR	BACKTRACK, LLC	SE	SE	28	11N	24E	146.25	4.74	96.00	0.00	AFA	12
107 N11 E24 28DDCD2	63461	15345	IRR	BACKTRACK, LLC	SE	SE	28	11N	24E	146.25	5.26		0.00	AFA	12
107 N11 E24 28DDCD2	63462	15346	IRR	BACKTRACK, LLC	SE	SE	28	11N	24E	146.25	40.76		0.00	AFA	12
107 N11 E24 28DDCD2	63463	15347	IRR	BACKTRACK, LLC	SE	SE	28	11N	24E	146.25	45.24		0.00	AFA	12
107 N12 E23 34ACCC2	63521	15379	IRR	DINSMORE FAMILY TRUST	SW	NE	34	12N	23E	19.40	48.50	77.60	0.00	AFS	63522
107 N12 E23 34ACCC2	63522	15380	IRR	DINSMORE FAMILY TRUST	SW	NE	34	12N	23E	19.40	77.60		0.00	AFA	63521
107 N11 E24 31ABCD2	63716	16320	COM	S V DEVELOPMENT, L.L.C.	NW	NE	31	11N	24E		10.92	10.92	11.29	AFA	
107 N10 E23 02DBCA1	63781	16300	COM	IRVING MAXON CHASE LIVING TRUST	NW	SE	2	10N	23E		0.71	0.71	0.71	AFA	

UNIQUE ID	APP NO.	STATUS	MOU	OWNER OF RECORD	QQ	QTR	SEC	T	R	PER ACRES	DUTY (AF)	SUPP ADJ	DUTY USED	UNITS	SUP GW APP NO.
107 N11 E24 34BACC1	64012	15415	IRR	F & B TRUST	NE	NW	34	11N	24E	24.88	99.52	99.52	61.01	AFA	64014
107 N11 E23 24DDDD1	64013	15639	IRR	GANSBERG, CHRIS H., JR. & FAYE E.	SE	SE	24	11N	23E	80.00	254.74	320.00	626.05	AFA	
107 N11 E23 24DDDD1	64014	15640	IRR	GANSBERG, CHRIS H., JR. & FAYE E.	SE	SE	24	11N	23E	80.00	65.26		0.00	AFA	
107 N10 E23 02DDDD1	64015	16284	COM	WALKER RIVER CONSTRUCTION	SE	SE	2	10N	23E		1.31	1.31	1.31	AFA	
107 N10 E23 02DBBC1	64393	16052	COM	SMITH, DANIEL G.	NW	SE	2	10N	23E		0.87	0.87	0.87	AFA	71338
107 N10 E23 02DBCB1	64394	16302	COM	THE RENEGADE CORP.	NW	SE	2	10N	23E		1.58	1.58	1.58	AFA	
107 N11 E24 22BCBB1	64437	16089	COM	SMITH VALLEY BAPTIST CHURCH	SW	NW	22	11N	24E		0.44	1.52	0.44	AFA	
107 N11 E24 28ADCB1	64509	16361	IRR	GREGORY & DEBORAH LONG FAMILY TRUST	SE	NE	28	11N	24E	2.00	8.00	8.00	7.79	AFA	
107 N10 E24 18DACB1	65149	PER	IRR	ROYCE W. ANDERSON FAMILY TRUST	NE	SE	18	10N	24E	2.05	10.20	10.20	0.00	AFA	71338
107 N10 E23 11AAAD1	65172	15843	CON	TRANSPORTATION DEPARTMENT-NEVADA	NE	NE	11	10N	23E		1.45	1.45	0.16	AFA	
107 N10 E24 04AADD1	65468	PER	IRR	RENNER LASHELE M.	NE	NE	4	10N	24E	5.00	20.00	20.00	20.00	AFA	
No POC Filed	65470	PER	IRR	SV DEVEL LTD LLC & FM FULSTONE INC	SE	SW	5	09N	24E	12.90	51.61	51.61		AFA	
No POC Filed	65499	PER	IRR	PETERS, DARLENE	SE	NE	14	12N	23E	92.70	98.60	345.60		AFA	13
No POC Filed	65590	PER	IRR	PETERS, DARLENE	SE	NE	14	12N	23E	92.70	123.50			AFA	13
No POC Filed	65591	PER	IRR	PETERS, DARLENE	SE	NE	14	12N	23E	92.70	123.50			AFA	13
107 N11 E24 29DDBD1	66209	PER	COM	NUTI RALPH C.	SE	SE	29	11N	24E		2.03	2.03	2.03	AFA	14
107 N10 E24 05ACDD1	66253	16321	IRR	JOHN AND LURA WEAVER FAMILY TRUST	SW	NE	5	10N	24E	93.00	40.00	372.00	541.99	AFA	
107 N10 E24 05ACDD1	66254	16322	IRR	JOHN AND LURA WEAVER FAMILY TRUST	SW	NE	5	10N	24E	93.00	332.00		0.00	AFA	
107 N10 E24 05ACDD1	66255	16323	IRR	JOHN AND LURA WEAVER FAMILY TRUST	SW	NE	5	10N	24E	93.00	40.00		0.00	AFA	
107 N11 E23 09ABCD1	66458	PER	IRR	NORMAN, TIM	NW	NE	9	11N	23E	0.68	2.71	2.71	1.00	AFA	14
107 N12 E23 35AB 1	66737	PER	COM	LAFLEUR, DEBRA C.	NW	NE	35	12N	23E		20.00	20.00	7.92	AFA	
107 N11 E24 21DAAD1	66917	18453	COM	GREGORY O GARMONG	NE	SE	21	11N	24E		2.02	2.02	0.00	AFA	
107 N11 E24 21BCDD1	66918	16390	COM	BYBEE REVOCABLE LIVING TRUST 2000	SW	NW	21	11N	24E		2.02	2.02	0.52	AFA	
107 N11 E24 21DABA1	66919	16363	COM	OXSEN ENTERPRISES LLC	NE	SE	21	11N	24E		0.39	0.39	0.21	AFA	15
107 N11 E24 08BBBB1	67889	18073	COM	SMITH TRANSFER STATION	NW	NW	8	11N	24E		2.02	2.02	0.10	AFA	
107 N10 E24 21DDAD1	68151	PER	COM	SV DEVEL LTD LLC & FM FULSTONE INC	SE	SE	21	10N	24E		12.54	12.54	1.29	AFA	
107 N11 E23 03DCDC1	68457	PER	COM	SMITH VALLEY FIRE PROTECTION DISTR.	SW	SE	3	11N	23E		2.02	2.02	0.01	AFA	
107 N11 E24 21CBAA1	68458	PER	COM	SMITH VALLEY FIRE PROTECTION DISTR.	NW	SW	21	11N	24E		2.02	2.02	0.73	AFA	15
107 N12 E23 04DAAA1	68767	PER	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	NE	SE	4	12N	23E	39.90	193.				

SMITH VALLEY 2012 GROUNDWATER PUMPAGE BY APPLICATION NUMBER

UNIQUE ID	APP NO.	STATUS	MOU	OWNER OF RECORD	QQ	QTR	SEC	T	R	PER ACRES	DUTY (AF)	SUPP ADJ	DUTY USED	UNITS	SUP GW APP NO.
107 N13 E23 25AABB1	71056	PER	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	NE	NE	25	13N	23E	479.50	110.00		0.00	AFA	17
107 N13 E23 25AABB1	71057	PER	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	NE	NE	25	13N	23E	479.50	110.00		0.00	AFA	17
107 N13 E23 25AABB1	71058	PER	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	NE	NE	25	13N	23E	479.50	208.00		0.00	AFA	17
107 N11 E24 22BCBB1	71338	PER	COM	SMITH VALLEY BAPTIST CHURCH	SW	NW	22	11N	24E		1.08		0.80	AFA	64437
107 N11 E23 01DCDB1	71361	PER	IRR	THE BRANDSTETTER FAMILY TRUST	SW	SE	1	11N	23E	13.33	4.00	4.00	3.31	AFA	
107 N10 E24 04ABCA1	71384	18583	IRR	SIX-N-RANCH, INC.	NW	NE	4	10N	24E	31.49	125.96	125.96	0.00	AFA	
107 N10 E24 18ACCB1	71558	17988	IRR	SAVIDGE, DALE A. & MAUREEN P.	SW	NE	18	10N	24E	1.52	6.06	6.06	6.06	AFA	
No POC Filed	71673	PER	IRR	ROSACHI FAMILY TRUST	SW	SW	8	10N	24E	7.50	30.00	30.00		AFA	
107 N10 E24 09CCDD1	71714	PER	IRR	F.M. FULSTONE INC.	SE	SW	9	10N	24E	19.60	78.39	78.39	0.00	AFA	
107 N11 E23 36ACBC1	71864	PER	IRR	FULSTONE 1989 TRUST/RN FULSTONE CO	SW	NE	36	11N	23E	195.04	601.70	601.70	564.95	AFA	
107 N11 E23 13DBBC1	72663	PER	IRR	HELM, DANIEL B. & CONNIE L.	NW	SE	13	11N	23E	0.25	1.00	1.00	1.00	AFA	
107 N11 E24 27CDAD1	73365	PER	IRR	MARTIN, CHERYL LYNNE	SE	SW	27	11N	24E	7.00	12.50	28.00	8.85	AFA	18
107 N11 E24 27CDAD1	73366	PER	IRR	MARTIN, CHERYL LYNNE	SE	SW	27	11N	24E	7.00	20.00		0.00	AFA	18
107 N11 E24 27CDAD1	73367	PER	IRR	MARTIN, CHERYL LYNNE	SE	SW	27	11N	24E	7.00	8.00		0.00	AFA	18
No POC Filed	73714	PER	IRR	MURPHY, PATRICK & DANA	SE	SE	34	11N	23E	2.81	11.23	11.23		AFA	
107 N11 E23 12DDAA1	74580	PER	IRR	MAYO, JIM & VALERIE	SE	SE	12	11N	23E	1.25	5.00	5.00	2.70	AFA	
107 N11 E23 12DDAC1	74581	PER	IRR	GANGWISH, KAREN	SE	SE	12	11N	23E	0.50	2.00	2.00	6.67	AFA	
107 N10 E23 01CBAB1	74589	PER	REC	LYON COUNTY	NW	SW	1	10N	23E		133.93		70.17	AFA	51546
107 N13 E23 26CDCC1	74804	RFA	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	SE	SW	26	13N	23E				541.06	AFA	
107 N13 E24 30BBBB1	74805	RFA	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	NW	NW	30	13N	24E				320.40	AFA	
108 N13 E24 30BBBB1	74806	RFA	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	NW	NW	30	13N	24E				56.63	AFA	
109 N13 E24 30BBBB1	74807	RFA	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	NW	NW	30	13N	24E				56.63	AFA	
107 N13 E23 26CDCC1	74808	RFA	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	SE	SW	26	13N	23E				541.06	AFA	
No POC Filed	74982	PER	IRR	GAGNE, JOHN L.	SE	NE	31	12N	24E	18.68	41.95	112.22		AFA	19
No POC Filed	74983	PER	IRR	GAGNE, JOHN L.	SE	NE	31	12N	24E	18.68	32.77			AFA	19
No POC Filed	74984	PER	IRR	GAGNE, JOHN L.	SE	NE	31	12N	24E	9.38	37.50			AFA	19
107 N12 E24 31DBBA1	75185	PER	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	NW	SE	31	12N	24E	91.50	366.02	872.54	217.20	AFA	75186
107 N12 E24 31BACB2	75186	PER	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	NE	NW	31	12N	24E	91.50	506.52		579.41	AFA	75185
107 N11 E24 28ADBC1	75216	PER	IRR	BOYD, JOHN L.	SE	NE	28	11N	24E	0.60	2.40	2.40	0.00	AFA	
No POC Filed	75234	PER	IRR	CRONAN, PATRICIA	SW	NE	35	12N	23E	3.00	12.00	12.00		AFA	
107 N11 E23 13ADDC1	75236	PER	IRR	SEUBERT FAMILY TRUST	SE	NE	13	11N	23E	1.50	6.00	6.00		AFA	
107 N11 E23 02CCBB1	75237	PER	IRR	COMPSTON FAMILY 1982 TRUST	SW	SW	2	11N	23E	4.13	16.50		0.00	AFA	6
107 N11 E23 02CCBB1	75238	PER	IRR	FLYING A LIMITED PARTNERSHIP	SW	SW	2	11N	23E	5.50	21.60		0.00	AFA	6
107 N11 E23 02CCBB1	75239	PER	IRR	FLYING A LIMITED PARTNERSHIP	SW	SW	2	11N	23E	0.10	0.40		0.00	AFA	6
107 N11 E23 12DBCC1	75512	PER	IRR	ADAMS, LISA ANN	NW	SE	12	11N	23E	0.75	3.00	3.00	1.00	AFA	
107 N11 E24 10AAAA1	75697	PER	QM	SIMMONS, LEIA H.	NE	NE	10	11N	24E		60.00		5.66	AFA	46622
107 N11 E24 31CCDB1	75830	PER	STK	R.N. FULSTONE CO.	SW	SW	31	11N	24E		5.60	5.60	5.60	AFA	
107 N10 E23 02DCBA1	75884	PER	COM	GARMSLAND LIMITED LLC	SW	SE	2	10N	23E		1.12	1.12	1.12	AFA	
No POC Filed	75955	PER	IRR	NAT & KAREN LOMMORI	SE	SE	2	10N	23E	1.25	5.00	5.00		AFA	
107 N10 E23 02CABD1	76039	PER	COM	WELLINGTON STATION LLC	NE	SW	2	10N	23E		5.00		0.00	AFA	11
107 N12 E23 35ADDB1	76219	18798	IRR	PETER AND NANCY RAISBECK	SE	NE	35	12N	23E	10.30	42.00	42.00	32.36	AFA	
107 N11 E24 19DA 1	76336	17881	QM	LYON COUNTY	NE	SE	19	11N	24E		3.84	3.84	3.84	AFA	
107 N11 E23 02ABAA1	77013	PER	IRR	J&S BLISS / HUNEWILL 2004 TRUST	NW	NE	2	11N	23E	157.00	628.00	628.00	181.21	AFA	
107 N11 E24 30DAAA1	77232	18667	COM	ST. JOHN THE BAPTIST CATHOLIC CHURCH	NE	SE	30	11N	24E		0.73	0.73	0.76	AFA	
No POC Filed	77528	PER	IRR	JEFFREY & PEGGY CAIN	NW	NE	31	12N	24E	2.50	10.00	10.00		AFA	
107 N11 E23 23CBAB1	77676	PER	IRR	ZWART, JOHN J	NW	SW	23	11N	23E	22.92	20.00	20.00	0.00	AFA	
107 N11 E23 02ABAA1	78098	PER	IRR	J & S BLISS/HUNEWILL 2004 TRUST	NW	NE	2	11N	23E	80.00	320.00	320.00	0.00	AFA	
No POC Filed	78675	PER	IRR	JOHN & JOYCE SEWARD	NE	SW	8	09N	24E	2.53	10.11	35.22		AFA	78754
No POC Filed	78754	PER	IRR	JOHN & JOYCE SEWARD	NE	SW	8	09N	24E	6.28	25.11			AFA	78675
No POC Filed	78951	PER	IRR	JOHN AND JOYCE SEWARD	SW	NE	18	10N	24E	20.00	5.00	5.00		AFA	
No POC Filed	79967	PER	IRR	TODD JAMES OBANION	SE	SE	21	10N	24E	2.98	11.92	11.92		AFA	
107 N11 E23 36ACBC1	80093T	PER	IRR	VIVIAN D FULSTONE TRUST	SW	NE	36	11N	23E	10.50	36.75	36.75	36.75	AFA	
No POC Filed	80681	PER	IRR	SEWARD, JOHN AND JOYCE	SW	NE	18	10N	24E	5.00	20.00	20.00		AFA	
107 N12 E23 35BAAB1	V02951	VST	STK	NEILL, JOHN H. & CAROLYN E.	NE	NW	35	12N	23E		1.23	1.23	0.00	AFA	
107 N11 E24 07DA 1	V04230	VST	STK	GANSBERG, CHRIS H., JR. & FAYE E.	NE	SE	7	11N	24E				0.00	AFA	
107 N10 E23 11AA 1	V09342	VST	COM	ITHURBURU, JOHN & CARLSON, BILL	NE	NE	11	10N	23E				1.00	AFA	

SMITH VALLEY 2012 GROUNDWATER PUMPAGE BY APPLICATION NUMBER

- ¹ PERMITS 12275, 12276, 12277 & 18938 HAVE A TOTAL COMBINED DUTY OF 2,110 AFA.
- ² PERMITS 12575, 20491 & 57495 HAVE A TOTAL COMBINED DUTY OF 860.4 AFA.
- ³ PERMITS 13494, 14987 & 18879 HAVE A TOTAL COMBINED DUTY OF 1,224 AFA.
- ⁴ PERMITS 18435, 20014 & 26883 HAVE A TOTAL COMBINED DUTY OF 3,241.12 AFA.
- ⁵ PERMITS 25347, 25543, 46606 & 46607 HAVE A TOTAL COMBINED DUTY OF 267.6 AFA.
- ⁶ PERMITS 25441, 75237, 75238 & 75239 HAVE A TOTAL COMBINED DUTY OF 758.5 AFA.
- ⁷ PERMITS 25690, 40400 & 46608 HAVE A TOTAL COMBINED DUTY OF 426.08 AFA.
- ⁸ PERMITS 48597, 57921E & 58091E HAVE A TOTAL COMBINED DUTY OF 187.82 AFA.
- ⁹ PERMITS 53835, 53836, 53837 & 57362 HAVE A TOTAL COMBINED DUTY OF 462.62 AFA.
- ¹⁰ PERMITS 58873, 58874, 58875 & 58876 HAVE A TOTAL COMBINED DUTY OF 2,184.04 AFA.
- ¹¹ PERMITS 60037, 62128 & 76039 HAVE A TOTAL COMBINED DUTY OF 15.07 AFA.
- ¹² PERMITS 63460, 63461, 63462 & 63463 HAVE A TOTAL COMBINED DUTY OF 96 AFA.
- ¹³ PERMITS 65499, 65590 & 65591 HAVE A TOTAL COMBINED DUTY OF 345.6 AFA.
- ¹⁴ PERMITS 66253, 66254 & 66255 HAVE A TOTAL COMBINED DUTY OF 372 AFA.
- ¹⁵ PERMITS 68767, 68768, 68769, 68770, 68771, 68772, 68773, 68774, 68775, 68776, 68777, 68778, 68779 & 68780 HAVE A TOTAL COMBINED DUTY OF 3,684.91 AFA.
- ¹⁶ PERMITS 69415, 69416, 69417, 69418 & 69419 HAVE A TOTAL COMBINED DUTY OF 2,198.76 AFA.
- ¹⁷ PERMITS 71051, 71052, 71053, 71054, 71055, 71056, 71057 & 71058 HAVE A TOTAL COMBINED DUTY OF 1,918 AFA.
- ¹⁸ PERMITS 73365, 73366 & 73367 HAVE A TOTAL COMBINED DUTY OF 28 AFA.
- ¹⁹ PERMITS 74982, 74983 & 74984 HAVE A TOTAL COMBINED DUTY OF 112.22 AFA.

APPENDIX D

**SMITH VALLEY HISTORICAL GROUNDWATER PUMPAGE BY POINT OF
DIVERSION**

SMITH VALLEY HISTORIC GROUNDWATER PUMPAGE BY POINT OF DIVERSION

UNIQUE IDENTIFIER	PERMITS	MOU	OWNER OF RECORD	DUTY USED 2006	DUTY USED 2007	DUTY USED 2008	DUTY USED 2009	DUTY USED 2010	DUTY USED 2011	DUTY USED 2012	DUTY UNITS
107 N10 E23 01ADCA1	16477	IRR	DENTON TRUST		66.7				0.00	0.00	AF
107 N10 E23 01ADCA2	16477	IRR	DENTON TRUST			116.10	199.45	100.85	36.86	223.27	AF
107 N10 E23 01CB 2	51546	QM	LYON COUNTY	24.26	24.26	24.26	24.26	24.26	66.94	2.19	AF
107 N10 E23 01CBAB1	74589	REC	LYON COUNTY		0.00	37.83	46.43	41.71	35.71	70.17	AF
107 N10 E23 02ACCD1	19734, 70927	IRR	F.M. FULSTONE INC.		1,544.82	2,884.71	923.80	3,294.84	61.40	594.55	AF
107 N10 E23 02BB 1	20977	IRR	COMPSTON, JAMES						0.00	0.00	AF
107 N10 E23 02BC 1	55254	COM	BERGSTROM, CYNTHIA K.						0.55	0.55	AF
107 N10 E23 02CA 1	59173	COM	HOYE PLAZA LLC						0.22	0.22	AF
107 N10 E23 02CA 2	60037, 62128	COM	WELLINGTON STATION, LLC						10.07	9.69	AF
107 N10 E23 02CABD1	76039	COM	WELLINGTON STATION, LLC						5.00	0.00	AF
107 N10 E23 02DBBC1	64393	COM	SMITH, DANIEL G.						0.87	0.87	AF
107 N10 E23 02DBCA1	63781	COM	IRVING MAXON CHASE LIVING TRUST						0.71	0.71	AF
107 N10 E23 02DBC1	64394	COM	THE RENEGADE CORP.						1.58	1.58	AF
107 N10 E23 02DCBA1	75884	COM	GARMSLAND LIMITED LLC						1.12	1.12	AF
107 N10 E23 02DDBC1	68963	COM	WALSH, TOM, M.D.						0.30	0.00	AF
107 N10 E23 02DDDD1	64015	COM	WALKER RIVER CONSTRUCTION						1.31	1.31	AF
107 N10 E23 11AA 1	V09342	COM	ITHURBURU, JOHN & CARLSON, BILL						1.00	1.00	AF
107 N10 E23 11AAAD1	65172	CON	TRANSPORTATION DEPARTMENT-NEVADA					1.45	0.17	0.16	AF
107 N10 E23 11AABA1	61721	COM	OXSEN, PETER & NANCY						0.00	0.00	AF
107 N10 E24 03BBAB1	54655	IRR	CEFALU, JOHN N.	49.78	81.13	106.47	0.00	0.00	0.00	151.60	AF
107 N10 E24 03BBDD1	16440	IRR	F.I.M. CORP.	1.11	253.80	107.70	313.00	280.90	22.44	336.37	AF
107 N10 E24 04AADD1	65468	IRR	RENNER LASHELE M.				37.10	14.41	13.19	20.00	AF
107 N10 E24 04ABCA1	58875, 71384	IRR	SIX-N RANCH, INC.		794.66	829.98	382.66	179.61	34.34	867.99	AF
107 N10 E24 04CDCC1	13494	IRR	F.I.M. CORP.		0.00	0.00	0.00	0.00	0.00	0.00	AF
107 N10 E24 05ACDD1	66253, 66254, 66255	IRR	JOHN AND LURA WEAVER FAMILY TRUST	0.00	430.37	450.12	245.74	144.38	9.45	541.99	AF
107 N10 E24 05CBAD1	12278	IRR	F. M. FULSTONE INC			0.00	0.00	0.00	0.00	0.00	AF
107 N10 E24 07CDBA1	25506	IRR	ALBRIGHT, MINA	198.12	345.98	818.79	390.64	323.56	112.40	650.50	AF
107 N10 E24 07DC 1	53907	IRR	HULSTROM, GENE E. & DONNA		0.99	0.99	2.92	1.45	1.92	2.59	AF
107 N10 E24 07DDBA1	18680	IRR	DREYER, ROLAND AND JOAN	308.60	1,111.00	524.30	250.60	31.70	0.00	849.78	AF
107 N10 E24 08CBCA1	26730, 33232	IRR	F.I.M. CORP.	294.26	1,125.10	1,281.60	70.64	1,516.63	59.71	1802.14	AF
107 N10 E24 09BCBA1	14987	IRR	F.I.M. CORP.	0.00	569.57	612.85	515.67	261.76	134.44	778.25	AF
107 N10 E24 09BDBB1	18879	IRR	F.I.M. CORP.	106.05	641.43	739.70	482.29	432.80	438.64	516.12	AF
107 N10 E24 09CCDD1	25374, 69528, 71714	IRR	SV DEVELOPMENT, LLC; F.M. FULSTONE INC.	0.00	73.05	141.04	46.45	61.08	179.38	0.00	AF
107 N10 E24 16ACCC1	22904	IRD	ACME LEASING, LLC	370.65	278.42	162.94	0.05	0.00	0.04	209.06	AF
107 N10 E24 17CBDB1	62992	QM	SOUTH LYON COUNTY HOSPITAL DISTRICT						1.65	0.38	AF
107 N10 E24 17CCAA1	26883	IRR	FELTHOVEN, LEE AND EILEEN	4.90	474.70	598.59	469.56	493.45	573.14	621.85	AF
107 N10 E24 18ACCB1	71558	IRR	SAVIDGE, DALE A. & MAUREEN P.			2.90	6.10	4.00	6.06	6.06	AF
107 N10 E24 18BACD1	28293, 41361	IRR	F.I.M. CORP.	350.10	345.72	506.30	416.10	107.89	26.44	459.22	AF
107 N10 E24 18DACB1	61987, 65149	IRR	ROYCE W. ANDERSON, TRUSTEE		7.77			1.14	9.77	10.78	AF
107 N10 E24 20ABAD2	18435	IRR	FELTHOVEN, LEE AND EILEEN	0.00	32.15	443.72	383.52	474.83	122.46	904.08	AF
107 N10 E24 20ABDC1	57236, 57237	IRR	TYNDALL, DAVID & GORRINDO, LOROLYN			0.00	2.32	2.32	46.56	53.33	AF
107 N10 E24 20BDDD1	20014	IRR	AIAZZI, GARY R AND CYNTHIA J	11.30	227.61	342.47	323.01	257.56	120.13	441.92	AF
107 N10 E24 20DCCD1	27704	IND	L. S. DAY, INC	59.52	59.18	50.59	11.15	24.44	11.58	13.04	AF
107 N10 E24 21BAAB1	23627	IRR	F.I.M. CORP.	600.48	84.83	1,019.62	384.38	841.92	422.72	346.93	AF
107 N10 E24 21DDAD1	68151	COM	SV DEVEL LTD LLC & FM FULSTONE INC	0.00	0.00	0.02	0.00	0.00	0.33	1.29	AF
107 N10 E24 22CB 1	21277	STK	BLM				0.00	0.00	0.00	0.00	AF
107 N11 E23 01DCDB1	71361	IRR	THE BRANDSTETTER FAMILY TRUST	1.16		3.00	1.00	4.00	1.47	3.31	AF
107 N11 E23 02ABAA1	77013, 78098	IRR	J&S BLISS / HUNEWILL 2004 TRUST				106.50	124.17	124.90	181.21	AF
107 N11 E23 02ADDD1	24815 (ABR in 2008)	IRR	J&S BLISS / HUNEWILL 2004 TRUST	322.90	325.80	252.30	0.00	0.00	0.00		AF
107 N11 E23 02BBCC2	18822	IRR	NEILL, HETTIE MAE	507.20	1,819.65	1,166.85	728.79	517.68	55.44	1,102.83	AF
107 N11 E23 02CCBB1	25441, 75237, 75238, 75239	IRR	FLYING A LIMITED PARTNERSHIP; COMPSTON	274.10	666.70	564.00	526.25	288.23	38.41	671.97	AF
107 N11 E23 02DC 1	12262	STK	FLYING A LIMITED PARTNERSHIP						0.00	0.00	AF
107 N11 E23 02DD 1	23800	IRR	STURTEVANT, FERD						0.00	0.00	AF
107 N11 E23 03ABCC1	57495	IRR	BRYAN, VERNON F. & RUTH A.	311.93	310.67	268.57	194.64	357.19	320.65	277.73	AF
107 N11 E23 03CBC1	27317	IRR	COSTA RANCH, L.P.	833.03	1,074.60	1,163.98	967.79	910.31	945.52	1,130.77	AF
107 N11 E23 03DCBC1	12575, 20491	IRR	MILE HI INVESTMENT COMPANY; BRYAN, VERNON F.	112.51	880.12	704.41	531.62	285.66	150.91	948.29	AF

SMITH VALLEY HISTORIC GROUNDWATER PUMPAGE BY POINT OF DIVERSION

UNIQUE IDENTIFIER	PERMITS	MOU	OWNER OF RECORD	DUTY USED 2006	DUTY USED 2007	DUTY USED 2008	DUTY USED 2009	DUTY USED 2010	DUTY USED 2011	DUTY USED 2012	DUTY UNITS
107 N11 E23 03DCDC1	68457	COM	SMITH VALLEY FIRE PROTECTION DISTR.				0.01	0.02	0.00	0.01	AF
107 N11 E23 09ABCD1	66458	IRR	NORMAN, TIM						0.00	1.00	AF
107 N11 E23 10ACBB1	20351, 23521	IRR	1990 SPENCE FAMILY TRUST; BAUHOFFER, WILLIAM L.	38.95	261.32	505.42	264.55	152.60	213.35	543.63	AF
107 N11 E23 11BBBB1	19600	IRR	BACON, MILTON E.	530.63	1,699.88	1,420.05	611.08	0.59	21.31	732.84	AF
107 N11 E23 12BACC1	25347, 25543, 46606, 46607	IRR	JOHNSON, RICHARD & SHARLENE; FLYING A LTD	60.00	89.88	0.00	0.00	0.00	40.38	187.98	AF
107 N11 E23 12CBBB1	25690, 40400, 46608, 58994	IRR	CASEBOLT, INC. & J. CASEBOLT; GREGORIS, OTTAVIO	327.68	70.06	0.00	0.00	156.77	215.61	394.19	AF
107 N11 E23 12DBCC1	75512	IRR	ADAMS, LISA ANN						1.00	1.00	AF
107 N11 E23 12DDAA1	74580	IRR	MAYO, JIM & VALERIE			2.70	1.90	0.50	0.18	2.70	AF
107 N11 E23 12DDAC1	74581	IRR	GANGWISH, KAREN						5.64	6.67	AF
107 N11 E23 13ABAC1	50926	IRR	OXSEN, NANCY A.	6.88	12.92	10.37	11.09	9.27	11.12	16.90	AF
107 N11 E23 13ADDC1	17755, 75236	IRR	SEUBERT FAMILY TRUST				0.00	0.00		60.00	AF
107 N11 E23 13BBDD2	23191	IRR	JOE ROBINSON MATHIS AND ELEANOR MARGHERITE	11.12	34.89	18.30	19.57	26.11	34.24	36.28	AF
107 N11 E23 13CAAA1	18327	IRR	JOE ROBINSON MATHIS AND ELEANOR MARGHERITE	1.24	3.56	4.56	4.25	4.85	6.40	3.95	AF
107 N11 E23 13DBBC1	72663	IRR	HELM, DANIEL B. & CONNIE L.						1.00	1.00	AF
107 N11 E23 13DBDB1	27298	IRR	BUTLER, GARY R. & THERESA A.				0.00	0.00	0.00	1.00	AF
107 N11 E23 15CBAA1	26804	IRR	RUPE FAMILY TRUST AGREEMENT	14.06	748.47	522.10	308.31	0.06	316.50	788.98	AF
107 N11 E23 15CCDC1	21279, 24347	IRR/COM	O'BANION, CAROL R.	595.83		72.64	13.50	18.61	478.85	420.02	AF
107 N11 E23 23BCBB1	18990	IRR	SOILFUME, INC. A CALIFORINIA CORP.	104.95	104.95	186.12	137.52	57.08	16.35	182.07	AF
107 N11 E23 23BD 1	26360	IRR	HERNER, JAMES P. & ELIZABETH A.						1.00	1.00	AF
107 N11 E23 23CBAB1	77676	IRR	ZWART, JOHN J						0.00	0.00	AF
107 N11 E23 24CADD1	12375	STK	SCHWAKE, WALTER R.						11.20	11.20	AF
107 N11 E23 24DB 1	12782	IRR	NESMITH, JENNIE E.						0.00	0.00	AF
107 N11 E23 24DDDD1	64013, 64014, 70044, 70045	IRR	GANSBERG, CHRIS H., JR. & FAYE E.	0.00	610.96	524.81	277.69	22.25	0.00	626.05	AF
107 N11 E23 25AADD1	12301	STK	WRIGHT, NADIA						1.90	1.90	AF
107 N11 E23 25ADDD1	12399	DOM	MCKAY, JAMES T.						1.00	1.00	AF
107 N11 E23 25CADA1	12303	STK	LEVEILLE, ANITA						0.00	0.00	AF
107 N11 E23 25CCCC1	12308	DOM	GROSO, CHARLES						1.00	1.00	AF
107 N11 E23 25DA 1	12347	STK	SEDDON, S.V.						0.00	0.00	AF
107 N11 E23 25DBDD1	12348	STK	SEDDON, S.V.						0.00	0.00	AF
107 N11 E23 26AAAD1	12376	STK	PINENUT RANCH CORPORATION						1.12	1.12	AF
107 N11 E23 26ABBB1	12377	STK	PINENUT RANCH CORPORATION						0.00	0.00	AF
107 N11 E23 26DAAD1	12343	IRR	CHIDWICK, C.F.						0.00	0.00	AF
107 N11 E23 26DDDD1	12307	STK	GROSO, CHARLES						0.00	0.00	AF
107 N11 E23 36ACAC1	12378	STK	WICHMAN, JOHN H.						1.16	1.18	AF
107 N11 E23 36ACBC1	71864, 80093T	IRR	FULSTONE 1989 TRUST/RN FULSTONE CO; VIVIAN D			11.42	9.87	502.79	0.00	601.70	AF
107 N11 E23 36CB 1	19919	IRR	SMITH, C.L.						0.00	0.00	AF
107 N11 E24 07A 1	48738	STK	HALL, SHAWN; SCHADE, ROXANNE; WIEGARDT,						0.00	0.00	AF
107 N11 E24 07CDDC1	69801	STK	GANSBERG, CHRIS H., JR. & FAYE E.						21.72	21.72	AF
107 N11 E24 07DA 1	V04230, 48739	STK	GANSBERG, CHRIS H., JR. & FAYE E.; HALL, SHAWN;						0.00	0.00	AF
107 N11 E24 07DBDD1	12255	STK	ALLEN, IDA E.						0.00	0.00	AF
107 N11 E24 08BBBB1	67889	COM	SMITH TRANSFER STATION					0.56	0.04	0.10	AF
107 N11 E24 09ACB1	53835	COM	SMITH VALLEY CATTLE FEEDERS	0.55	0.55	0.00	0.00	0.00	0.00	0.90	AF
107 N11 E24 09ACCB1	57362	COM	SMITH VALLEY CATTLE FEEDERS	122.13	101.94	94.42	90.34	93.36	111.18	159.72	AF
107 N11 E24 09ADBC1	53837	COM	SMITH VALLEY CATTLE FEEDERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	AF
107 N11 E24 09ADBD1	53836	COM	SMITH VALLEY CATTLE FEEDERS	2.16	1.06	1.06	0.69	0.80	0.30	3.99	AF
107 N11 E24 09BBDA1	12271	STK	BROWN, NORMAN D.					0.00	0.00	0.00	AF
107 N11 E24 10AAAA1	46622, 75697	QM	SIMMONS, LEIA H.	57.09	54.10	47.22	70.00	24.62	49.02	50.47	AF
107 N11 E24 16CBBA1	12270	STK	BROWN, NORMAN D.						0.00	0.00	AF
107 N11 E24 17DABB1	12272	STK	BROWN, NORMAN D.						0.00	0.00	AF
107 N11 E24 17DB 1	12273	STK	BROWN, NORMAN D.						21.73	6.05	AF
107 N11 E24 17DCBD1	12269	STK	BROWN, NORMAN D.						0.00	0.00	AF
107 N11 E24 18AD 1	12340	IRR	FENILI, PETER A. & VERONICA JEAN						0.00	0.00	AF
107 N11 E24 18ADAD1	19102	IND	LYON COUNTY						14.48	14.48	AF
107 N11 E24 18BBDA1	17756	IRR	SIGLER, CHERYL L. & RALPH M						0.00	0.00	AF
107 N11 E24 18DA 1	12373	STK	MANN, FRANK B.						0.00	0.00	AF
107 N11 E24 19AAD 1	12324	STK	GANSBERG, CHRIS H., JR. & FAYE E.						3.59	3.59	AF

SMITH VALLEY HISTORIC GROUNDWATER PUMPAGE BY POINT OF DIVERSION

UNIQUE IDENTIFIER	PERMITS	MOU	OWNER OF RECORD	DUTY USED 2006	DUTY USED 2007	DUTY USED 2008	DUTY USED 2009	DUTY USED 2010	DUTY USED 2011	DUTY USED 2012	DUTY UNITS
107 N11 E24 19ABDD1	12346	STK	MCVICAR, MRS. C. A.						0.00	0.00	AF
107 N11 E24 19ACAA1	12345	STK	GANSBERG, CHRIS H., JR. & FAYE E.						0.00	0.00	AF
107 N11 E24 19ADAA1	12325	DOM	GANSBERG, CHRIS H. , JR.& FAYE E.						1.00	1.00	AF
107 N11 E24 19BCDD1	12398	STK	MCKAY, JAMES T.						11.57	11.20	AF
107 N11 E24 19CBB1	12342	STK	SETTELMAYER, F.W.						0.00	0.00	AF
107 N11 E24 19DA 1	76336	QM	LYON COUNTY						3.84	3.84	AF
107 N11 E24 19DAAD1	12352	DOM	WILLIAMS JOHN CAMERON						1.00	1.00	AF
107 N11 E24 19DAD 1	12339	IRR	SCHMID, A.J.						2.00	2.00	AF
107 N11 E24 19DADA1	12323	DOM	GANSBERG, CHRIS H., JR. & FAYE E.						1.00	1.00	AF
107 N11 E24 19DBAA1	12306	IRR	HINDS, BEATRICE E.						2.00	2.00	AF
107 N11 E24 19DBB 1	12341	STK	LINSCOTT, TIMOTHY						0.00	0.00	AF
107 N11 E24 19DDDD1	12275	IRR	F.M. FULSTONE INC.						2.00	2.00	AF
107 N11 E24 20BC 1	14013	IRR	WICHMAN, JOHN H.						10.60	10.60	AF
107 N11 E24 20CB 1	53075	COM	HUNEWILL ENTERPRISES						0.00	0.00	AF
107 N11 E24 20CBCB1	12379	COM	RENNER AND ASSOCIATES						6.91	6.91	AF
107 N11 E24 20CBCB2	12371	COM	CENTRAL MERCANTILE						0.71	0.71	AF
107 N11 E24 20CC 1	56746	COM	LEINASSAR, MARIANNE F.						3.22	3.22	AF
107 N11 E24 20DB 1	15572	DOM	HINDS, BEATRICE E.						1.00	1.00	AF
107 N11 E24 21BCDD1	66918	COM	BYBEE REVOCABLE LIVING TRUST 2000	0.56	1.21	0.64	0.39	0.69	0.34	0.52	AF
107 N11 E24 21CBAA1	68458	COM	SMITH VALLEY FIRE PROTECTION DISTR.						1.92	0.73	AF
107 N11 E24 21DAAD1	66917	COM	GREGORY O GARMONG						0.00	0.00	AF
107 N11 E24 21DABA1	66919	COM	OXSEN ENTERPRISES LLC				3.60	0.41	0.27	0.21	AF
107 N11 E24 22BCBB1	64437, 71338	COM	SMITH VALLEY BAPTIST CHURCH	0.86	1.02	0.81	1.16	1.43	1.06	1.24	AF
107 N11 E24 27CCCA1	63302	IRR	HARTWICK, REX A.						12.00	12.00	AF
107 N11 E24 27CDAD1	73365, 73366, 73367	IRR	MARTIN, CHERYL LYNNE						1.50	8.85	AF
107 N11 E24 27DBCC1	60818	IRR	CARLSON, BILL E.	11.63	314.75	354.17	372.12	119.30	0.00	448.00	AF
107 N11 E24 28ADBC1	75216	IRR	BOYD, JOHN L.						0.00	0.00	AF
107 N11 E24 28ADCB1	64509	IRR	GREGORY & DEBORAH LONG FAMILY TRUST						5.44	7.79	AF
107 N11 E24 28DDCD2	60814, 63460, 63461, 63462, 63463	IRR	BACKTRACK, LLC	257.43	796.24	698.60	585.14	265.92	88.93	489.01	AF
107 N11 E24 29AB 1	12374	IRR	FENILI, BRUNO						1.00	1.00	AF
107 N11 E24 29DDBD1	66209	COM	NUTI RALPH C.						2.03	2.03	AF
107 N11 E24 30AA 1	12276	IRR	F.M. FULSTONE INC.						0.00	0.00	AF
107 N11 E24 30AD 1	12277	IRR	F.M. FULSTONE, INC.						0.00	0.00	AF
107 N11 E24 30BCDD2	18938	IRR	F.M. FULSTONE, INC.	100.62	2,013.07	1,531.29	1,130.11	544.49	153.46	1,689.93	AF
107 N11 E24 30CBBB1	62213	QM	METHODIST EPISCOPAL CHURCH						3.06	3.06	AF
107 N11 E24 30DAAA1	77232	COM	ST. JOHN THE BAPTIST CATHOLIC CHURCH						0.73	0.76	AF
107 N11 E24 30DBCB1	26937	IRR	LYON COUNTY	16.46	44.91	49.37	17.74	11.31	13.98	37.99	AF
107 N11 E24 31ABCD2	63716	COM	S V DEVELOPMENT, L.L.C.	10.94	7.21	8.76	11.61	8.26	9.49	11.29	AF
107 N11 E24 31BB 1	12309	STK	MENCARINI, AMOS						0.00	0.00	AF
107 N11 E24 31CCDB1	75830	STK	R.N. FULSTONE CO.							5.60	AF
107 N11 E24 31CCDB2	19602	IRR	URREA, JOHN		21.09	207.89	169.12	149.29	17.75	263.35	AF
107 N11 E24 32ABDC1	58876	IRR	SIX-N RANCH, INC.	155.99	722.41	829.91	597.47	1,075.29	149.23	1,358.50	AF
107 N11 E24 32BBDD2	19983	IRR	C.E.A.S. COMPANY	62.34	1,304.11	1,228.57	1,214.25	866.44	272.85	1,116.30	AF
107 N11 E24 32DAAA1	12281	DOM	SIX-N RANCH, INC.						1.00	1.00	AF
107 N11 E24 32DCCD2	58873, 58874	IRR	SIX-N RANCH, INC.	0.00	789.05	845.64	983.46	940.37	112.65	1,595.53	AF
107 N11 E24 33BACC2	60816, 60817	IRR	GARMS, GARY	8.62	686.08	734.64	610.69	243.94	40.00	491.86	AF
107 N11 E24 33DADD1	55085	IRR	WIPFLI, CANDACE	43.33	36.02	26.21	12.03	0.00	0.00	0.00	AF
107 N11 E24 34BACC1	64012	IRR	F & B TRUST	61.01	26.52	102.73	0.00	0.00	0.00	61.01	AF
107 N12 E23 04DAAA1	68767, 68768, 68772	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY				0.00	0.00	0.00	0.00	AF
107 N12 E23 13CCCD2	13344	IRR	PETERS, DARLENE F.						9.87	9.87	AF
107 N12 E23 22AC 1	12465	STK	S. H. HUNEWILL & CO.						18.11	13.44	AF
107 N12 E23 22DDBB1	12466	STK	S. H. HUNEWILL & CO.				13.80	16.70	28.97	22.40	AF
107 N12 E23 23AB 1	16824	IRR	PERRIN, CLARENCE H.						0.00	0.00	AF
107 N12 E23 23AB 2	16825	IRR	PERRIN, CLARENCE H.						0.00	0.00	AF
107 N12 E23 24CBCC2	16798	IRR	PETERS, DARLENE F.		193.30	267.30	221.20	47.50	0.00	0.00	AF

SMITH VALLEY HISTORIC GROUNDWATER PUMPAGE BY POINT OF DIVERSION

UNIQUE IDENTIFIER	PERMITS	MOU	OWNER OF RECORD	DUTY USED 2006	DUTY USED 2007	DUTY USED 2008	DUTY USED 2009	DUTY USED 2010	DUTY USED 2011	DUTY USED 2012	DUTY UNITS
107 N12 E23 25CD 1	16827	STK	THE FLYING "A" RANCH						1.12	1.13	AF
107 N12 E23 25DC 1	57771	STK	FLYING "A" RANCH						11.20	11.20	AF
107 N12 E23 26ADBA1	69712	IRR	SALONY FAMILY TRUST		5.48	2.07	0.00	0.00	15.00	5.00	AF
107 N12 E23 26DA 1	16826	IRR	PERRIN, CLARENCE H.					0.00	0.00	0.00	AF
107 N12 E23 27AADD3	18804	IRR	HUNEWILL LAND AND LIVESTOCK CO. INC.	0.01	2,429.43	2,309.69	391.19	186.88	0.00	691.41	AF
107 N12 E23 27CCDC1	70115	IRR	STEWART, KIM K. & KATHLEEN L.			35.53	0.00	0.00	0.00	0.00	AF
107 N12 E23 28DCAB1	18953	IRR	DREYER, ROLAND AND JOAN	0.97	981.50	925.70	530.10	377.50	22.49	810.22	AF
107 N12 E23 34AB 1	12344	STK	FARIAS, LESTER M.						0.00	0.00	AF
107 N12 E23 34ACCC1	18689, 63521, 63522 (Plugged in 2008)	IRR	FARIAS WHEEL RANCH, INC.; DINSMORE FAMILY	0.00							AF
107 N12 E23 34ACCC2	18689, 63521, 63522	IRR	FARIAS WHEEL RANCH, INC.; DINSMORE FAMILY			236.22	207.96	77.44	29.09	388.01	AF
107 N12 E23 34BACB1	22936	IRR	FARIAS, LLC	173.18	978.47	924.83	368.72	137.81	30.51	675.09	AF
107 N12 E23 35AADC1	16629, 25895	IRR	OWENS, DAVID A. AND CINDY R.; SULLIVAN, LANA	58.84	36.57	78.74	21.08	0.00	0.00	0.00	AF
107 N12 E23 35AB 1	66737	COM	LAFLEUR, DEBRA C.			0.00	6.15	5.75	6.58	7.92	AF
107 N12 E23 35AC 2	60725, 60726	IRR	RUF, ROSS C. & KYLE A.			0.13	0.05	21.20	14.81	24.74	AF
107 N12 E23 35ADDB1	76219	IRR	PETER AND NANCY RAISBECK			42.23	42.02	29.65	29.19	32.36	AF
107 N12 E23 35BAAB1	V02951	STK	NEILL, JOHN H. & CAROLYN E.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	AF
107 N12 E23 35DAAC1	12304	STK	SMITH, G.C.						0.00	0.00	AF
107 N12 E23 35DCDC1	18313	IRR	STANLEY L. HUNEWILL AND JANET BLISS HUNEWILL,						0.00	533.64	AF
107 N12 E23 36BBCB1	12265	STK	BUNKOWSKI, AUGUST						0.00	14.48	AF
107 N12 E23 36BCCB1	12263	STK	BUNKOWSKI, AUGUST						0.00	0.00	AF
107 N12 E23 36BDBA3	16628	IRR	SMITH RANCH PARTNERSHIP	110.20	382.31	360.64	191.96	232.28	38.88	390.74	AF
107 N12 E23 36CC 1	12305	STK	SMITH, G.C.					0.00	0.00	0.00	AF
107 N12 E23 36DCDC1	18368	IRR	SMITH RANCH PARTNERSHIP	19.57	384.94	241.89	138.11	63.49	0.00	225.61	AF
107 N12 E24 27DABC1	62002	STK	F.I.M. CORP.						8.96	8.96	AF
107 N12 E24 31BAAD1	55027, 55028	IRR	GAGNE, J. & M., MOREHOUSE, W. & L.						0.00	0.00	AF
107 N12 E24 31BACB2	75186	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	369.28	625.28	403.29	526.58	433.51	392.64	579.41	AF
107 N12 E24 31DBBA1	36524A02, 36824, 75185	IRR	ECKEL, EDGAR S. & MARY V.; PINION RANCH		760.32	96.22	167.60	39.73	73.64	227.94	AF
107 N13 E23 22DA 1	54441	STK	F.I.M., INC.						8.96	0.00	AF
107 N13 E23 25AABB1	71054, 71056, 71057, 71058	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	412.41	402.19	347.66	154.35	15.28	140.58	105.97	AF
107 N13 E23 25BACC1	71052	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY						73.57	73.57	AF
107 N13 E23 25BDCC1	71051, 71055 (Re-drilled in 2008)	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	0.00	204.80	199.20	104.60	16.10			AF
107 N13 E23 25BDCC2	71051, 71055	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY				597.38	844.27	646.61	1,015.94	AF
107 N13 E23 26CDCC1	74804, 74808	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY						1,149.78	1,082.12	AF
107 N13 E23 27ADCD2	68773	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY		900.10	769.60	514.00	391.80	598.35	469.21	AF
107 N13 E23 34BDBB1	68774, 68776, 68777	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	376.78	407.75	159.26	539.22	446.47	418.56	351.42	AF
107 N13 E24 18BCDD1	57921E	ENV	SONORA MINING CORPORATION						0.00	0.00	AF
107 N13 E24 18CB 1	58091E	ENV	SONORA MINING CORPORATION						0.00	0.00	AF
107 N13 E24 18CBDB1	48597	MM	SONORA MINING CORP.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	AF
107 N13 E24 20ABC 1	43318	MM	CUSTOM DETAILS, LLC	1.90	25.39	0.00	0.00	0.00	0.00	0.00	AF
107 N13 E24 21BCCD1	43578	STK	F.I.M., CORP.	2.42	2.41	2.42	2.41	1.27	4.38	2.81	AF
107 N13 E24 30AACC1	69415 (Well plugged in 2006)	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY								AF
107 N13 E24 30AACC2	69415	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	802.30	874.19	837.36	862.06	710.87	532.06	628.53	AF
107 N13 E24 30ADDD1	69416	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	527.89	458.78	443.25	468.53	465.49	398.66	259.81	AF
107 N13 E24 30BACD1	69418 (Well plugged in 2006)	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	0.00							AF
107 N13 E24 30BACD2	69418	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY	0.00	0.00	136.58	12.05	2.30	4.26	0.00	AF
107 N13 E24 30BBBB1	74805, 74806, 74807	IRR	RIGHTWAY INVESTMENTS SMITH VALLEY		0.00	437.40	2,914.80	1,253.80	608.30	433.66	AF
107 N14 E24 31CA 4	50311	STK	F.M. FULSTONE, INC.						26.79	26.79	AF

*Some Unique Identifiers have been corrected to match the corresponding Unique Identifiers in the various Division of Water Resources' databases.

ATTACHMENT 1

METRIC Analysis of Agricultural Evapotranspiration
Summary of Findings
Smith Valley, Nevada
2012



NEVADA DIVISION OF WATER RESOURCES
2012 SMITH VALLEY GROUNDWATER PUMPAGE INVENTORY

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1. Overview

This attachment to the 2012 Smith Valley Groundwater Pumpage Inventory presents findings of an analysis conducted by NDWR to quantify actual evapotranspiration (ET) from agricultural fields for 2012. ET data was computed using METRIC (Mapping Evapotranspiration at High Resolution with Internalized Calibration). METRIC calculates ET as the residual of the surface energy balance using satellite imagery, calibrated using ground-based reference ET from weather stations (Allen et al, 2007).

The approach used in this study is the same as the 2011 Pumpage Inventory for Smith Valley (NDWR, 2013). This 2012 report adds an additional section on annual alfalfa ET, using other modeling approaches to estimate ET in months with no METRIC results.

This work was funded by a grant from the National Fish and Wildlife Foundation as part of the Walker Basin Restoration Program. The purpose of the METRIC analysis is to document water use and water consumption reductions in response to lease and buyout programs supported by the Walker Basin Restoration Program. No lease or buyout agreements were finalized in 2012, so this report adds to the baseline data for crop water use in Smith Valley. NDWR is funded through September 2014 to continue METRIC analysis in the Walker River Basin.

2. Methods

Reflectance data from Landsat 7 were used to run METRIC for this analysis. Smith Valley is within Landsat paths 42 and 43, row 33. Fifteen scenes were used for the analysis. Pixel size is 30m x 30m. This degree of spatial precision allows for quantification of ET at the field-scale. Landsat 7 scenes have some missing data due to a hardware failure on the instrument, but there is enough data overlap among scenes and between the two paths to be able to apply METRIC.

Cloud-free Landsat satellite images were not available for every month, so the analyses reported here are for time periods when cloud cover was absent and may not represent the ET for the entire growing season. Analysis only included agricultural fields, excluding riparian corridors and surrounding desert and mountain areas.

Ground weather data for this analysis was recorded by the Smith Valley NICE net weather station. NICE net is comprised of several weather stations in agricultural settings throughout Nevada. The stations are maintained by the Desert Research Institute and data are available to the public. Data include temperature, wind, solar radiation and precipitation at 10-minute intervals. Raw weather data were closely reviewed by NDWR for instrument error.

METRIC models were run using code developed by the Desert Research Institute for ArcGIS 10.0. Alfalfa-based reference ET was computed using RefET v. 3.1.05. Results generated are field-scale and pixel-scale monthly totals of ET for the months May through November, 2012.

ET during months when METRIC results were not obtained was estimated using a daily crop water balance model based on the procedure in Huntington and Allen (2010) and described in section 4 of this report.

3. METRIC Results

Findings of this METRIC analysis are summarized in Figures 1-3 and Tables 1-2. Results are presented for total evapotranspiration from agricultural fields in Smith Valley for the period May-November, 2012, and distinguished by crop type, by ditch service area, and by month.

These results are not directly comparable to other results presented in the 2012 Smith Valley Groundwater Pumpage Inventory. METRIC results only span the period May-November whereas pumpage is for the entire year, and METRIC results do not distinguish between groundwater pumpage and surface water diversions.

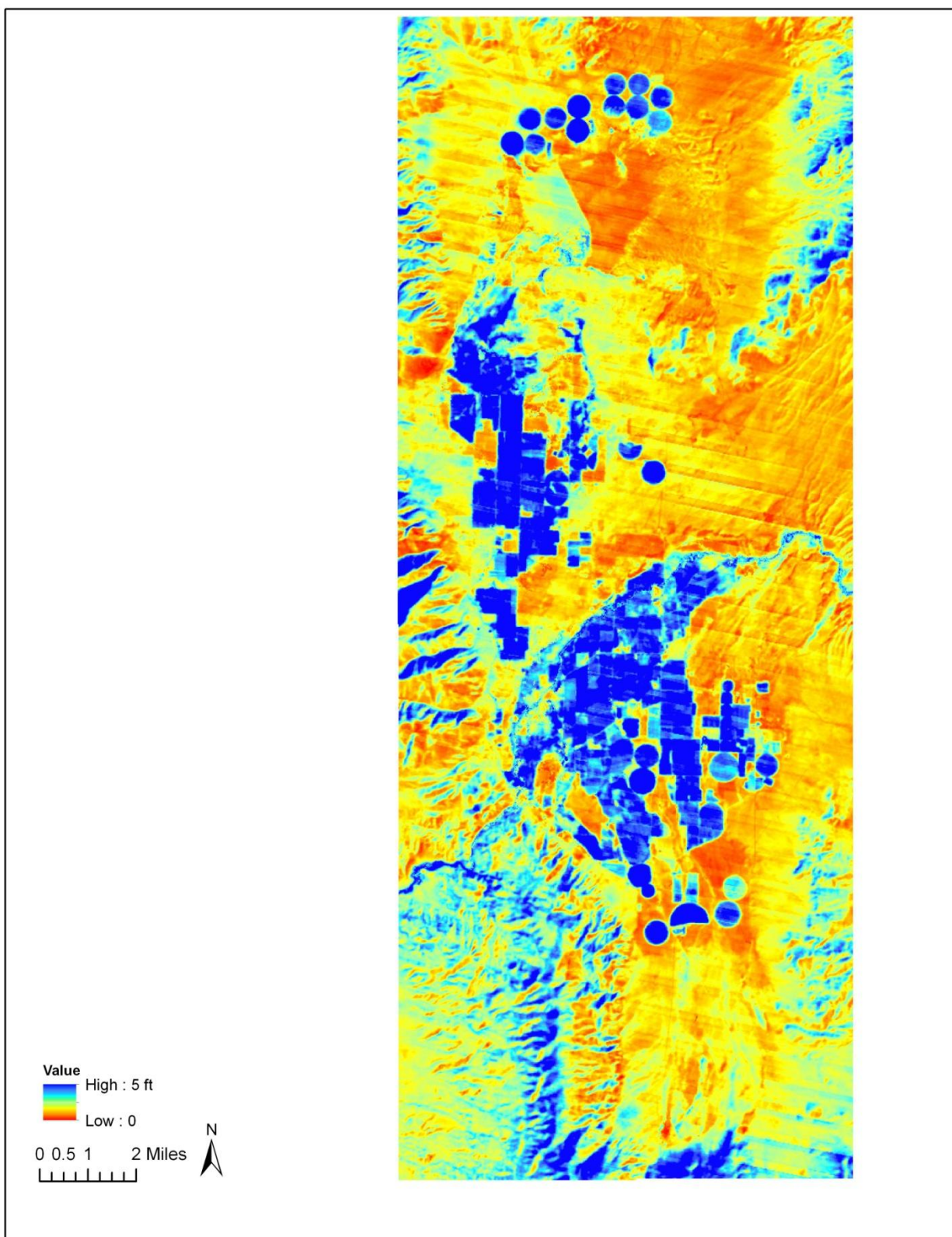


Figure 1. Total ET for Smith Valley, May-November 2012. This figure demonstrates the variation in ET among agricultural fields and throughout the valley as computed by METRIC.

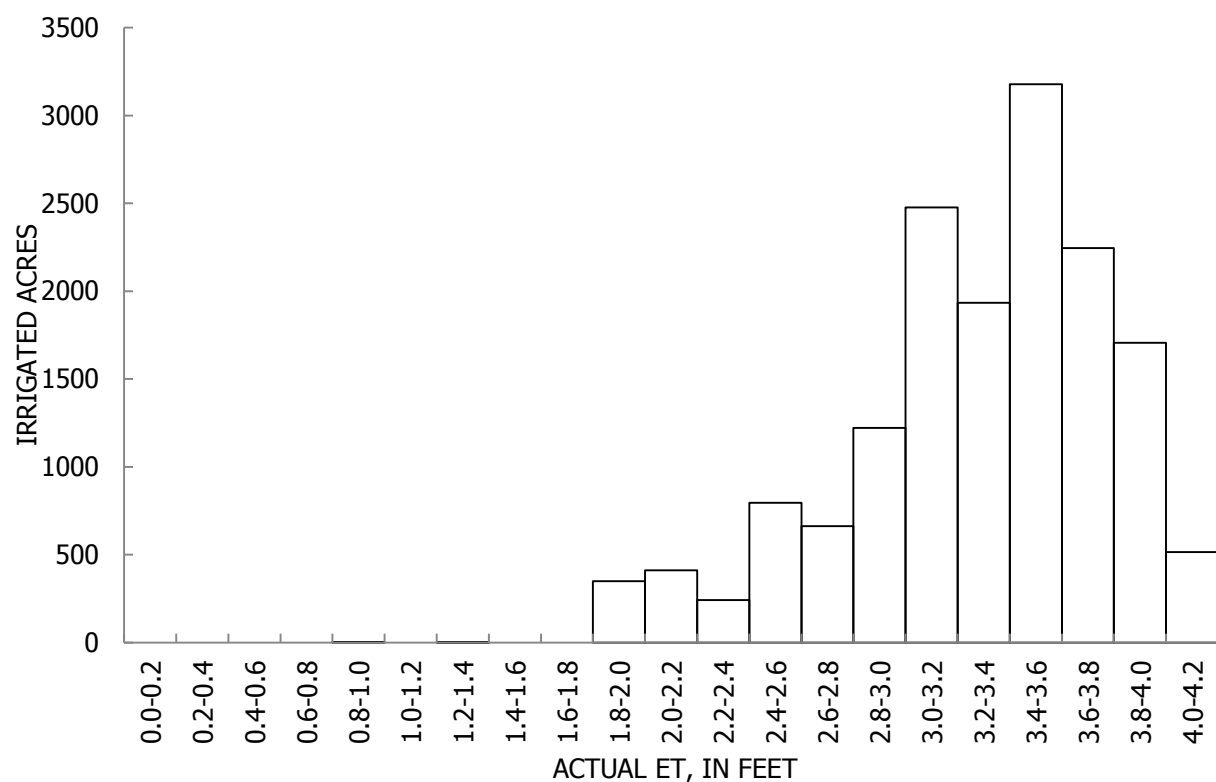


Figure 2. Smith Valley agricultural ET for the period May-November, 2012. This histogram shows the distribution of actual ET for all irrigated areas. Average ET for this period was 3.29 feet.

Crop	Irrigated Acres	Total ET, in acre-feet								Average ET, in feet
		May	Jun	Jul	Aug	Sep	Oct	Nov	May-November	
Alfalfa	9,648	5,322	6,270	6,746	5,940	4,102	2,579	1,220	32,179	3.34
Grain	217	150	139	66	55	77	59	30	576	2.65
Grass	3,152	1,795	2,293	2,341	1,919	1,409	967	446	11,170	3.54
Oats	104	43	79	45	43	45	35	19	308	2.96
Pasture	1,388	686	838	785	662	486	319	145	3,920	2.82
Sorghum	119	69	104	58	83	51	36	20	421	3.53
Turf	6.4	3.1	3.6	3.5	3.3	2.4	1.6	0.8	18.4	2.89
Unknown	1,099	542	726	658	499	364	233	107	3,130	2.85
Wine grapes	4.0	0.5	0.6	0.7	0.6	0.9	0.4	0.3	4.0	1.00
Total	15,738	8,611	10,454	10,703	9,205	6,537	4,229	1,988	51,727	3.29

Table 2. Smith Valley Crop Evapotranspiration, May-November 2012. ET rates were averaged over cumulative irrigated acreage. Crop inventories were completed by NDWR staff during summer, 2012. Less land was irrigated in 2012 than in 2010 and 2011 primarily because of reduced irrigated pasture from Desert Creek diversions.

Source	Irrigated Acres	Total ET, in acre-feet								Average ET, in feet
		May	Jun	Jul	Aug	Sep	Oct	Nov	May-November	
Burbank	373	245	270	278	241	165	95	43	1,338	3.59
Colony	3,225	1,921	2,133	2,458	2,168	1,526	1,009	447	11,662	3.62
Desert Creek	638	379	450	451	355	249	183	92	2,161	3.39
Gage Peterson	420	279	345	276	232	169	92	39	1,432	3.41
Groundwater	1,833	797	1,208	1,213	963	708	427	197	5,514	3.01
Groundwater Artesia	1,371	659	896	928	823	605	358	196	4,466	3.26
Plymouth	1,875	1,076	1,184	1,055	873	646	392	178	5,404	2.88
River Simpson	808	470	554	582	488	343	216	104	2,757	3.41
Saroni	3,544	1,834	2,397	2,392	2,109	1,473	990	470	11,665	3.29
Upper Fulstone	440	213	253	265	262	189	140	64	1,385	3.15
West Walker	1,210	738	762	803	691	463	326	159	3,943	3.26
Total	15,738	8,611	10,454	10,703	9,205	6,537	4,229	1,988	51,727	3.29

Table 3. Smith Valley Agricultural Evapotranspiration by Source, May-November 2012. These results are for total ET from agricultural lands within each area, originating from both Walker River surface water diversions and supplemental pumpage. Fields irrigated by stand-alone groundwater rights are identified as unique source categories, shown separately for Smith Valley and for the Artesia subbasin at the north end of Smith Valley. Walker River diversion mapping was provided by the Desert Research Institute (Figure 3).

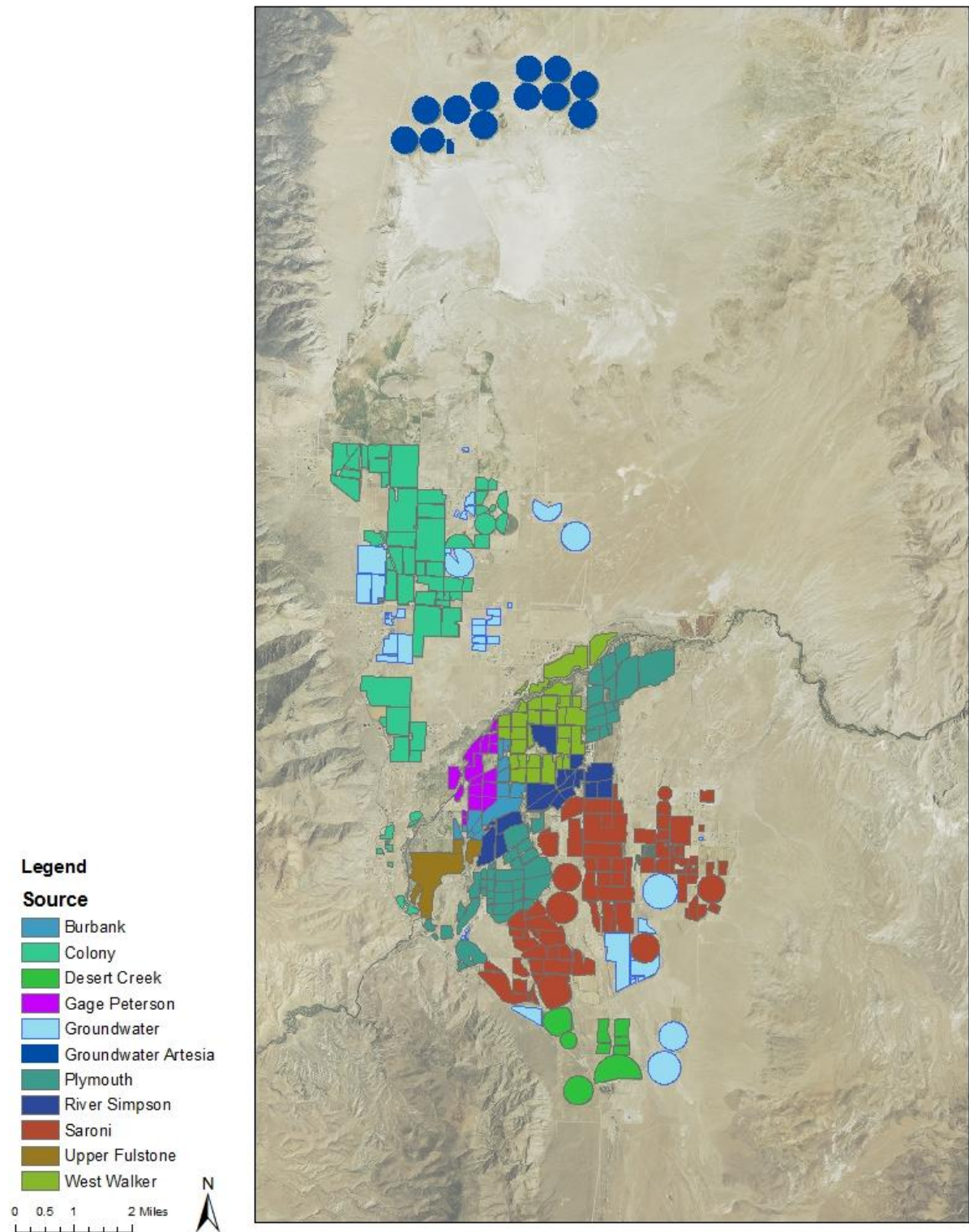


Figure 3. Irrigated Fields by Diversion Source, Smith Valley, 2012. Imagery base is NAIP 2013.

4. Annual Evapotranspiration

Results of the METRIC analysis for Smith Valley in 2012 were limited to the period May - November because there were not sufficient cloud-free Landsat scenes during the off-season months. To estimate actual ET from irrigated agricultural fields for the remainder of 2012, NDWR applied a crop water balance model using a dual crop coefficient – reference ET approach, as described in Huntington and Allen (2010). Weather data was obtained and processed using the same methods as for the METRIC analysis. Results of the model include crop-specific monthly actual ET and net irrigation water requirements (NIWR). In the calculation of actual ET, the model assumes no moisture stress during the irrigation season and limits non-growing season ET by water availability from precipitation. NIWR is defined as the actual ET minus precipitation residing in the root zone, and is synonymous with net evapotranspiration. Table 3 shows a comparison between results of the crop water balance model and METRIC for alfalfa. METRIC results are expected to be somewhat lower because the crop water balance model does not account for moisture stress that occurs from limited water supply, inefficient irrigation, or other reasons.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
ET,a	0.08	0.05	0.13	0.53	0.83	0.63	0.74	0.75	0.40	0.29	0.09	0.08	4.60
METRIC	--	--	--	--	0.55	0.65	0.70	0.62	0.43	0.27	0.13	--	--
Prz	0.11	0.04	0.04	0.08	0.00	0.01	0.00	0.01	0.00	0.01	0.18	0.17	0.66
NIWR	-0.03	0.01	0.09	0.45	0.83	0.62	0.74	0.75	0.39	0.29	-0.09	-0.09	3.94
Net ET,adj	-0.03	0.01	0.09	0.45	0.55	0.64	0.70	0.61	0.42	0.26	-0.06	-0.09	3.55

Table 3: Computed alfalfa ET in Mason Valley for the year 2012. The first two rows compare actual ET as calculated by the crop water balance model and by METRIC. The third row is effective precipitation that offsets irrigation requirements. The last two rows compare NIWR from the crop water balance model to net ET obtained using METRIC results when available. All values are in feet.

5. Citations

Allen Richard G., Ricardo Trezza, Masahiro Tasumi, Jeppe Kjaersgaard, 2012. METRIC Applications Manual for Landsat Satellite Imagery, Version 2.0.8. University of Idaho, March 2012.

Allen, Richard G., Masahiro Tasumi, and Ricardo Trezza, 2007. Satellite-Based Energy Balance for Mapping Evapotranspiration with Internalized Calibration (METRIC)-Model. Journal of Irrigation and Drainage Engineering Vol. 133, No. 4, August 1, 2007.

Allen, Richard G., Ref-ET version 3.1.05. Reference Evapotranspiration Calculator for Support of ASCE Manual 70 (1990) and 2005 ASCE Standardizations and FAO Irrigation and Drainage Paper No. 56: Crop Evapotranspiration, University of Idaho, 2008.

Desert Research Institute, Nevada Integrated Climate and Evapotranspiration Network, online at nicenet.dri.edu

Huntington, Justin L. and Richard G. Allen, 2010. Evapotranspiration and Net Irrigation Water Requirements for Nevada. Nevada Division of Water Resources, online at http://water.nv.gov/mapping/et/et_general.cfm

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