Appendix 2-A

Annual Precipitation and Water Year Type at SBCFCD Climate Stations in the Yucaipa Subbasin

DRAFT Appendix 2-A. Annual Precipitation and Water Year-Type at San Bernardino County Flood Control District Climate Stations in the Yucaipa Subbasin

Water Year Ending	Western Heights					Calimesa					Crafton			Wilson Creek			
	2915 (2235')	3099 (2140')	3356 (2125')	% of Mean	Water Year Type	3126A (2813')	3132 (2710')	3386 (2620')	% of Mean	Water Year Type	2890 (2606')	% of Mean	Water Year Type	3126 (2815')	3128B (2860')	% of Mean	Water Year Type
1953							5.41		32%	Critically Dry				12.59	14.26	88%	Below Normal
1954							18.12		109%	Normal				17.84	16.92	114%	Above Normal
1955							13.75		82%	Below Normal				15.17	14.68	97%	Normal
1956							11.68		70%	Dry				11.72	11.83	77%	Below Normal
1957							14.47		87%	Below Normal				13.41		88%	Below Normal
1958		24.72		181%	Wet		26.48		159%	Wet				27.95		183%	Wet
1959		8.26		60%	Dry		9.13		55%	Dry				8.76		57%	Dry
1960		15.98		117%	Above Normal		14.03		84%	Below Normal				13.25		87%	Below Normal
1961		8.05		59%	Dry		2.50		15%	Critically Dry				7.63		50%	Critically Dry
1962		18.68		137%	Above Normal		16.78		101%	Normal				18.84		123%	Above Normal
1963		15.80		116%	Above Normal		14.01		84%	Below Normal				13.90		91%	Normal
1964		12.65		93%	Normal		11.04		66%	Dry				11.74		77%	Below Normal
1965		13.80		101%	Normal		13.02		78%	Below Normal							
1966		17.80		130%	Above Normal	19.63	18.19		113%	Above Normal							
1967		27.05		198%	Wet	27.41	24.76		156%	Wet							
1968		15.25		112%	Above Normal	15.46	16.80		97%	Normal							
1969		29.12		213%	Wet	38.22	35.36		221%	Wet							
1970		8.53		62%	Dry	10.26	9.91		60%	Dry					10.03	66%	Dry
1971		9.44		69%	Dry	13.44	13.75		82%	Below Normal					12.17	79%	Below Normal
1972		6.26		46%	Critically Dry	8.65	7.35		48%	Critically Dry					8.73	57%	Dry
1973		15.48		113%	Above Normal	22.33	19.93		127%	Above Normal					21.53	141%	Above Normal
1974		9.98		73%	Dry	14.32	11.83		78%	Below Normal					12.52	82%	Below Normal
1975		12.18		89%	Below Normal	17.74	14.98		98%	Normal					17.02	111%	Above Normal
1976		10.84		79%	Below Normal	18.19	15.89		102%	Normal					17.35	113%	Above Normal
1977						16.48	10.06		80%	Below Normal					13.49	88%	Below Normal
1978						36.63	29.65		199%	Wet					30.84	201%	Wet
1979						27.30	21.25		146%	Above Normal					22.51	147%	Above Normal
1980			24.67	181%	Wet	30.98	26.95		174%	Wet					21.03	137%	Above Normal
1981			7.43	54%	Dry	12.44	9.61		66%	Dry							
1982			16.05	118%	Above Normal	21.53	18.68		121%	Above Normal							
1983			28.58	209%	Wet	39.42	30.71		210%	Wet							
1984			6.87	50%	Dry	10.48	8.96		58%	Dry							
1985			10.33	76%	Below Normal	14.48	12.36		80%	Below Normal							
1986			12.36	91%	Normal	18.25	13.83		96%	Normal							
1987			8.84	65%	Dry	11.33	10.66		66%	Dry							
1988			12.10	89%	Below Normal	16.96	13.69		92%	Normal							
1989			9.20	67%	Dry	12.80	10.60	13.67	74%	Dry							
1990			7.40	54%	Dry	1.50	10.19	13.77	51%	Dry				10.99		72%	Dry
1991			15.38	113%	Above Normal	19.90	16.48	23.43	120%	Above Normal							
1992			14.88	109%	Normal	20.23	16.80	24.42	123%	Above Normal							
1993			28.18	206%	Wet	35.95	32.37	45.23	227%	Wet							

DRAFT Appendix 2-A. Annual Precipitation and Water Year-Type at San Bernardino County Flood Control District Climate Stations in the Yucaipa Subbasin

Water Year Ending	Western Heights					Calimesa					Crafton			Wilson Creek			
	2915 (2235')	3099 (2140')	3356 (2125')	% of Mean	Water Year Type	3126A (2813')	3132 (2710')	3386 (2620')	% of Mean	Water Year Type	2890 (2606')	% of Mean	Water Year Type	3126 (2815')	3128B (2860')	% of Mean	Water Year Type
1994			11.26	82%	Below Normal	12.95	11.35	15.80	80%	Below Normal							
1995			27.22	199%	Wet	31.84	28.54	38.36	197%	Wet							
1996			9.13	67%	Dry	12.12	10.19	14.06	73%	Dry	6.12	55%	Dry				
1997			16.67	122%	Above Normal	20.13	16.93	19.81	114%	Above Normal	13.12	118%	Above Normal				
1998			25.55	187%	Wet	32.10	28.60	33.27	188%	Wet	21.04	189%	Wet				
1999			7.29	53%	Dry	11.02	9.87	8.66	59%	Dry	9.20	83%	Below Normal				
2000			6.40	47%	Critically Dry	12.42	9.63	2.45	49%	Critically Dry	7.12	64%	Dry				
2001			10.49	77%	Below Normal	5.11	9.65	1.61	33%	Critically Dry	4.56	41%	Critically Dry				
2002			2.46	18%	Critically Dry	5.26	5.27	5.18	31%	Critically Dry	3.32	30%	Critically Dry				
2003			17.57	129%	Above Normal	21.32	19.50	16.92	115%	Above Normal	13.76	123%	Above Normal				
2004			9.47	69%	Dry	9.50	11.10	6.61	54%	Dry	9.16	82%	Below Normal				
2005	29.04		31.39	221%	Wet	41.67	32.73	31.70	212%	Wet	17.80	160%	Wet				
2006	9.08		11.45	75%	Below Normal		12.52	12.89	76%	Below Normal	10.92	98%	Normal				
2007	4.48		3.34	29%	Critically Dry	6.42	5.53		36%	Critically Dry	5.53	50%	Critically Dry				
2008	11.64		13.34	91%	Normal	17.94	14.79		98%	Normal	12.20	109%	Normal				
2009	8.80		9.90	68%	Dry	14.08	10.47		74%	Dry	13.04	117%	Above Normal				
2010	15.45		17.80	122%	Above Normal	16.40	17.68		102%	Normal	15.49	139%	Above Normal				
2011	14.35		24.52	142%	Above Normal	27.90	22.74		152%	Wet	20.91	188%	Wet				
2012	8.73		9.57	67%	Dry	10.85	10.80		65%	Dry	9.37	84%	Below Normal				
2013	9.96		9.69	72%	Dry	10.06	9.60		59%	Dry	10.36	93%	Normal				
2014	15.00		6.55	79%	Below Normal	7.55	7.58		45%	Critically Dry	6.92	62%	Dry				
2015	10.88		13.06	88%	Below Normal	14.78	12.39		81%	Below Normal	12.72	114%	Above Normal				
2016	9.64		10.56	74%	Dry	12.71	10.31		69%	Dry	10.42	93%	Normal				
2017	17.76		19.12	135%	Above Normal	21.49	18.38		120%	Above Normal	16.94	152%	Wet				
2018	6.08		6.27	45%	Critically Dry	7.52	6.48		42%	Critically Dry	6.44	58%	Dry				
AVERAGE			**13.65**					**16.68**			**11.15**				**15.31**		

DRAFT Appendix 2-A. Annual Precipitation and Water Year-Type at San Bernardino County Flood Control District Climate Stations in the Yucaipa Subbasin

Water Year Ending	Gateway				Live Oak					Triple Falls Creek			Oak Glen			
	3129 (2660')	3129A (2660')	% of Mean	Water Year Type	3239 (2080')	3239A (2281')	3023 (1285')	% of Mean	Water Year Type	3015 (4680')	% of Mean	Water Year Type	3121 (3695')	2800 (2946')	% of Mean	Water Year Type
1953	12.71		84%	Below Normal						10.52	43%	Critically Dry				
1954	16.54		110%	Normal						20.04	82%	Below Normal				
1955	12.74		84%	Below Normal						21.89	89%	Below Normal				
1956	10.82		72%	Dry						18.60	76%	Below Normal				
1957	14.34		95%	Normal						19.04	78%	Below Normal				
1958	28.13		186%	Wet						43.92	179%	Wet				
1959	7.57		50%	Dry						13.85	57%	Dry				
1960	13.17		87%	Below Normal						20.88	85%	Below Normal				
1961	5.48		36%	Critically Dry						11.33	46%	Critically Dry				
1962	20.06		133%	Above Normal						27.10	111%	Above Normal				
1963	10.31		68%	Dry						17.48	71%	Dry				
1964	11.41		76%	Below Normal			7.66	66%	Dry	21.71	89%	Below Normal				
1965	14.92		99%	Normal	10.60		9.59	86%	Below Normal	22.47	92%	Normal				
1966	19.14		127%	Above Normal	13.34		13.47	115%	Above Normal	31.05	127%	Above Normal				
1967	23.80		158%	Wet	17.11		17.52	148%	Above Normal	40.75	166%	Wet				
1968	15.77		105%	Normal	9.72		9.71	83%	Below Normal	20.20	82%	Below Normal				
1969	28.50		189%	Wet	24.72		24.30	210%	Wet	49.90	204%	Wet				
1970	9.51		63%	Dry	7.59		7.42	64%	Dry	17.15	70%	Dry				
1971	12.19		81%	Below Normal	8.99		9.05	77%	Below Normal	19.16	78%	Below Normal				
1972	8.04		53%	Dry	5.98		5.67	50%	Critically Dry	14.33	58%	Dry				
1973	18.16		120%	Above Normal	14.96		14.76	127%	Above Normal	33.31	136%	Above Normal				
1974	11.41		76%	Below Normal	11.27		10.28	92%	Normal	20.54	84%	Below Normal				
1975	16.84		112%	Above Normal	10.36		9.29	84%	Below Normal	22.73	93%	Normal				
1976	17.44		116%	Above Normal	13.17		12.15	108%	Normal	26.73	109%	Normal				
1977	13.31		88%	Below Normal	11.73		9.74	92%	Normal	20.81	85%	Below Normal				
1978	32.91		218%	Wet	24.46		21.67	197%	Wet	52.09	213%	Wet				
1979	20.40		135%	Above Normal	18.67		16.77	152%	Wet	33.77	138%	Above Normal				
1980		19.28	128%	Above Normal	22.14		22.90	193%	Wet	46.38	189%	Wet				
1981		9.43	62%	Dry	7.41		6.89	61%	Dry	14.90	61%	Dry	14.68		81%	Below Normal
1982		19.21	127%	Above Normal	14.90		14.46	126%	Above Normal	33.37	136%	Above Normal	28.00		154%	Wet
1983		31.48	209%	Wet	25.39		24.16	212%	Wet	50.38	206%	Wet	42.51		234%	Wet
1984		9.56	63%	Dry	5.97		4.99	47%	Critically Dry	18.80	77%	Below Normal	15.90		88%	Below Normal
1985		13.70	91%	Normal	9.02		8.72	76%	Below Normal	22.02	90%	Below Normal	20.70		114%	Above Normal
1986		15.33	102%	Normal	11.24		9.25	88%	Below Normal	26.00	106%	Normal	19.00		105%	Normal
1987		12.52	83%	Below Normal	7.90		7.79	67%	Dry	19.29	79%	Below Normal	5.75		32%	Critically Dry
1988		14.04	93%	Normal	12.49		11.18	101%	Normal	21.46	88%	Below Normal	10.07		55%	Dry
1989		10.76	71%	Dry	9.38		8.08	75%	Dry	17.82	73%	Dry	16.40		90%	Normal
1990		9.71	64%	Dry	7.19		7.21	62%	Dry	17.71	72%	Dry	15.80		87%	Below Normal
1991		17.52	116%	Above Normal	13.95		13.34	117%	Above Normal	26.92	110%	Normal	26.55		146%	Above Normal
1992		19.37	128%	Above Normal	14.58		14.96	126%	Above Normal	30.78	126%	Above Normal	27.72		153%	Wet
1993		34.60	229%	Wet	26.96		25.57	225%	Wet	57.96	237%	Wet	47.23		260%	Wet

DRAFT Appendix 2-A. Annual Precipitation and Water Year-Type at San Bernardino County Flood Control District Climate Stations in the Yucaipa Subbasin

Water Year Ending	Gateway				Live Oak					Triple Falls Creek			Oak Glen			
	3129 (2660')	3129A (2660')	% of Mean	Water Year Type	3239 (2080')	3239A (2281')	3023 (1285')	% of Mean	Water Year Type	3015 (4680')	% of Mean	Water Year Type	3121 (3695')	2800 (2946')	% of Mean	Water Year Type
1994		10.00	66%	Dry	11.90		10.06	94%	Normal	18.76	77%	Below Normal	18.19		100%	Normal
1995		14.70	97%	Normal	15.76		20.49	155%	Wet	57.92	236%	Wet	46.83		258%	Wet
1996		10.89	72%	Dry	0.65		8.08	37%	Critically Dry	20.04	82%	Below Normal	16.40		90%	Normal
1997		16.06	106%	Normal	9.03		10.77	85%	Below Normal	30.39	124%	Above Normal	22.92		126%	Above Normal
1998		24.70	164%	Wet	17.22		22.29	169%	Wet	49.46	202%	Wet	44.58		246%	Wet
1999		7.63	51%	Dry	6.30		6.46	55%	Dry	11.32	46%	Critically Dry	14.61	6.76	59%	Dry
2000		11.10	74%	Dry	5.68		7.41	56%	Dry	17.12	70%	Dry	14.64	12.20	74%	Dry
2001		9.92	66%	Dry	9.96		10.38	87%	Below Normal	11.24	46%	Critically Dry	17.23	12.12	81%	Below Normal
2002		5.66	38%	Critically Dry	3.97		3.35	31%	Critically Dry	6.72	27%	Critically Dry	8.60	4.52	36%	Critically Dry
2003		19.47	129%	Above Normal	16.45		12.18	122%	Above Normal	14.28	58%	Dry	29.20	14.36	120%	Above Normal
2004		11.84	78%	Below Normal	11.58		9.16	89%	Below Normal	18.39	75%	Below Normal	9.57	10.08	54%	Dry
2005		32.70	217%	Wet			24.43	209%	Wet	34.14	139%	Above Normal		38.28	211%	Wet
2006		13.14	87%	Below Normal		10.30	9.52	85%	Below Normal	22.58	92%	Normal		13.72	76%	Below Normal
2007		6.56	43%	Critically Dry		4.13	3.31	32%	Critically Dry	9.71	40%	Critically Dry		5.48	30%	Critically Dry
2008		14.67	97%	Normal		11.93	9.46	91%	Normal	27.54	112%	Above Normal		16.20	89%	Below Normal
2009		12.11	80%	Below Normal		11.35	8.91	87%	Below Normal	18.11	74%	Dry		11.52	63%	Dry
2010		18.79	125%	Above Normal		17.25	15.12	138%	Above Normal	29.72	121%	Above Normal		18.15	100%	Normal
2011		25.09	166%	Wet		22.33	17.38	170%	Wet	36.82	150%	Wet		24.96	138%	Above Normal
2012		11.80	78%	Below Normal		8.84	4.34	56%	Dry	15.13	62%	Dry		11.68	64%	Dry
2013		5.25	35%	Critically Dry		8.82	1.54	44%	Critically Dry	15.69	64%	Dry		9.56	53%	Dry
2014		4.45	29%	Critically Dry		6.92	2.08	38%	Critically Dry	14.07	57%	Dry		7.80	43%	Critically Dry
2015		12.49	83%	Below Normal		10.37	2.72	56%	Dry	20.54	84%	Below Normal		11.56	64%	Dry
2016		11.11	74%	Dry		8.61	1.70	44%	Critically Dry	18.80	77%	Below Normal		11.51	63%	Dry
2017		17.18	114%	Above Normal		16.90	14.42	134%	Above Normal	16.04	65%	Dry		17.56	97%	Normal
2018		6.47	43%	Critically Dry		5.53	5.43	47%	Critically Dry	7.44	30%	Critically Dry		7.36	41%	Critically Dry
AVERAGE		**15.09**				**11.69**				**24.50**				**18.15**		

DRAFT Appendix 2-A. Annual Precipitation and Water Year-Type at San Bernardino County Flood Control District Climate Stations in the Yucaipa Subbasin

Water Year Ending	Basin Wide		
	% of Mean	Avg. Rainfall (inches)	Water Year Type
1953	62%	11.24	Dry
1954	103%	17.36	Normal
1955	88%	14.09	Below Normal
1956	74%	11.51	Dry
1957	87%	14.07	Below Normal
1958	178%	26.82	Wet
1959	56%	8.43	Dry
1960	92%	14.11	Normal
1961	41%	5.92	Critically Dry
1962	121%	18.59	Above Normal
1963	86%	13.51	Below Normal
1964	78%	10.90	Below Normal
1965	91%	12.39	Normal
1966	122%	16.93	Above Normal
1967	165%	22.94	Wet
1968	96%	13.79	Normal
1969	207%	30.04	Wet
1970	64%	9.04	Dry
1971	78%	11.29	Below Normal
1972	52%	7.24	Dry
1973	127%	18.16	Above Normal
1974	81%	11.66	Below Normal
1975	98%	14.06	Normal
1976	105%	15.00	Normal
1977	87%	12.47	Below Normal
1978	206%	29.36	Wet
1979	143%	21.15	Above Normal
1980	167%	23.99	Wet
1981	64%	9.70	Dry
1982	130%	18.98	Above Normal
1983	213%	31.75	Wet
1984	64%	8.96	Dry
1985	88%	12.76	Below Normal
1986	98%	14.18	Normal
1987	65%	9.26	Dry
1988	86%	12.93	Below Normal
1989	75%	11.36	Below Normal
1990	66%	9.31	Dry
1991	120%	18.32	Above Normal
1992	127%	19.12	Above Normal
1993	231%	34.51	Wet

DRAFT Appendix 2-A. Annual Precipitation and Water Year-Type at San Bernardino County Flood Control District Climate Stations in the Yucaipa Subbasin

Water Year Ending	Basin Wide		
	% of Mean	Avg. Rainfall (inches)	Water Year Type
1994	83%	12.69	Below Normal
1995	191%	27.97	Wet
1996	68%	9.74	Dry
1997	114%	16.16	Above Normal
1998	192%	27.71	Wet
1999	58%	8.78	Dry
2000	62%	8.91	Dry
2001	61%	9.10	Dry
2002	30%	4.76	Critically Dry
2003	114%	18.07	Above Normal
2004	72%	9.81	Dry
2005	196%	31.08	Wet
2006	84%	11.50	Below Normal
2007	37%	4.98	Critically Dry
2008	98%	13.57	Normal
2009	80%	11.13	Below Normal
2010	121%	16.90	Above Normal
2011	158%	22.24	Wet
2012	68%	9.55	Dry
2013	60%	8.32	Dry
2014	51%	7.21	Dry
2015	81%	11.22	Below Normal
2016	71%	9.62	Dry
2017	117%	17.75	Above Normal
2018	44%	6.40	Critically Dry
AVERAGE		**15.86**	= weighted average

Appendix 2-B

Information from CalGEM

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

CHECK LIST – WellStats ORPHAN WELL ENTRY PROJECT

API# 071-00041 Well Name/# 1 Operator Colan Development Corp. Ltd.

PDOX	**Entry Date -** July and August 2003	**Initials -** Dave Curtis
WellStats	**Entry Date -** 5/10/05	**Initials -** CO
Map and Map Work	**Entry Date -** 5/26/2005 **Map #** W1-7	**Initials -** TH

- **Return Files(s) to Christina when Mapping is complete.**

CO

(01745)

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS
SIXTH FLOOR
629 SOUTH HILL STREET
LOS ANGELES, CALIFORNIA

LOS ANGELES, CALIF.
MAY 2
6 30 PM
1933
ARCADE STA.

Colan Development Corp. Ltd.,

~~317 I. W. Hellman~~ Bldg.,

~~Los Angeles~~, Cal.

Los Angeles, Calif.
REASON FOR NON-DELIVERY CHECKED
Moved-No Address ____ Refused ____
Unknown at Address ____
No Such Number ____ Deceased ____
Time Discolved-No Order ____
Carrier's Initials ____ Route No. ____

~~Attention Mr. Bert~~ Colan
RETURN ~~General~~ Manager.
WRIT
UNCLAIMED

LOS ANGELES
MAY 25
1933
CALIF.

8346 Hillgarden

Beverly Hills Cal

BEVERLY HILLS, CALIF.
MAY 4 PM
1933

629 South Hill Street
Los Angeles, California
May 2, 1933.

Colan Development Corp. Ltd.,
317 I. W. Hellman Building,
Los Angeles, Cal.

Attention Mr. Bert N. Colan,
General Manager.

Gentlemen:

Your attention is directed to the fact that this Division has not received log, history and core record covering operations at your well No. 1, Sec. 25, T. 1 S., R. 2 W., San Bernardino County.

Please file these records in duplicate on the enclosed forms as soon as possible.

Yours truly,

Deputy Supervisor.

CLB:EMS

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

R. D. BUSH
STATE OIL AND GAS SUPERVISOR

E. HUGUENIN, DEPUTY

629 South Hill Street
Los Angeles, California
May 2, 1933.

Colan Development Corp. Ltd.,
317 I. W. Hellman Building,
Los Angeles, Cal.

Attention Mr. Bert N. Colan,
General Manager.

Gentlemen:

Your attention is directed to the fact that this Division has not received log, history and core record covering operations at your well No. 1, Sec. 25, T. 1 S., R. 2 W., San Bernardino County.

Please file these records in duplicate on the enclosed forms as soon as possible.

Yours truly,

E. Huguenin

Deputy Supervisor.

FORM 100. 75066 12-29 20M
CALIFORNIA STATE PRINTING OFFICE

SUBMIT LOG IN DUPLICATE
FILL THIS BLANK IN WITH TYPEWRITER. WRITE ON ONE SIDE OF PAPER ONLY

DIVISION OF OIL AND GAS
RECEIVED
FEB 9 - 1932
LOS ANGELES, CALIFORNIA

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

LOG OF OIL OR GAS WELL

FIELD Yucaipa Valley San Bernadino Cty COMPANY Colan Development Corp Ltd

Sec. 25, T. ____, R. 2,1 South S.B. B. & M., Elevation 2700 ft Well No. 1.

In compliance with the provisions of Chapter 718, Statutes of 1915, as amended, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Signed Burt Y Colan

Date February 8th, 1932. Title Pres.
(President, Secretary or Agent)

The summary on this page is for the ORIGINAL condition of the well

OIL SANDS

1st sand from 2163 to 2165. 4th sand from ____ to ____
2d sand from ____ to ____ 5th sand from ____ to ____
3d sand from ____ to ____ 6th sand from ____ to ____

IMPORTANT WATER SANDS

1st sand from 340 to 390 3d sand from ____ to ____
2d sand from ____ to ____ 4th sand from ____ to ____

CASING RECORD

Size of Casing	Where Landed	Where Cut	Weight Per Foot	Threads Per Inch	Kind of Shoe	Make of Casing	Cemented Yes	Cemented No	Number of Sacks
11/$\frac{5}{4}$"	85 ft	-	60 lbs	10	-	Standard	Yes	-	30.

CEMENTING OR OTHER SHUT-OFF RECORD

Casing, Size	Sacks	Time Set	Method	Test and Result (Give water level and bailing results)

PLUGS AND ADAPTERS

Heaving Plug—Material ____ Length ____ Where set ____
Adapters —Material ____ Size ____

TOOLS

Rotary Tools were used from nil- ft. to 2168. ft.
Cable Tools were used from ____ ft. to ____ ft.

PERFORATIONS

State clearly whether a machine was used or casing was drilled in shop

From	To	Size of Holes	Number of Rows	Holes Per Foot	Machine—Shop
ft.	ft.				
ft.	ft.				
ft.	ft.				
ft.	ft.				
ft.	ft.				

Thirty days after completion well produced ____ barrels of oil per day.
The gravity of oil was ____ degrees Baumé. Water in oil amounted to ____ per cent.

NAMES OF DRILLERS
H.K.Weber.
J.S.Page.
Frank Dunn.

NAMES OF TOOL DRESSERS

Date drilling started June 1931. Date well was completed ____

FORMATIONS PENETRATED BY WELL

DEPTH TO Top of Formation	DEPTH TO Bottom of Formation	Thickness	Name of Formation

FORM 103. 78346 7-30 10M
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

DIVISION OF OIL AND GAS
RECEIVED
FEB 9 - 1932
LOS ANGELES, CALIFORNIA

History of Oil or Gas Well

FIELD YUCAIPA VALLEY, San Bernadino County COMPANY Colan Development Corp Ltd,

Sec. 25, T. _____, R. Two 1 South S.B.B. & M., Well No. 1.

Signed Bert M Colan

Date February 8th 1932. Title Pres.
President, Secretary or Agent

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together with the reason for the work and its results. If there were any changes made in the casing, state fully, and if any casing was "sidetracked" or left in the well, give its size and location. If the well has been dynamited, give date, size, position, and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position, and results of pumping or bailing.

We took over the above mentioned well about June 1931, and cemented 85 feet of 11¾ surface casing with a 11¾ G.P. Blow out preventor attached at top. The bottom of hole at that time was approx 1980 feet with 375 feet of 3" drill pipe and bit at bottom, We cemented hole at approx 1450 ft and set 6-5/8" Whipstock and commenced drilling from that point, at 1975 ft set another Whipstock to sidetrack more junk at bottom, commenced drilling again to 2125 ft where we twisted off drill, pipe, leaving appox 100 ft drill pipe with collar and hughes bit, tried to fish out same but top of fish buried itself in a cavity , cemented up fish with 65 sacks of cement and started sidetracking, passed up fish and bottom of hole is now 2168 ft,.

Hard formation all the way with a few softer streaks of conglomerate, ### black lime, and brown shale hard shells and rock caps of country rock, considerable gas showings at 1750 ft and at intervals down to bottom of hole, had to carry very heavy mud at all times to hold down gas pressure, considerable trouble was incountered going in and out of hole from bridgeing omer at the various gas stratas, the hole was drilled with 9½" to 300 ft, and 7-5/8" Hughes Rock bit to bottom.

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FORM 101-A. 82953 2-31 20M
CALIFORNIA STATE PRINTING OFFICE

SUBMIT IN DUPLICATE
FILL THIS BLANK IN WITH TYPEWRITER. WRITE ON ONE SIDE OF PAPER ONLY

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

CORE RECORD OF OIL OR GAS WELL

DIVISION OF OIL AND GAS
RECEIVED
FEB 9 - 1932
LOS ANGELES, CALIFORNIA

FIELD Yucaipa Valley COMPANY Colan Development Corp Ltd.

Sec. 25, T. , R 2, 1 South S.B. & M., Elevation 2700 Well No. 1.

In compliance with the provisions of Section 18, Chapter 718, Statutes of 1915, as amended, the information given herewith is a complete and correct record of all cores taken in this well to the depth on the accompanying log.

Signed Burt N. Colan

Date February 8th 1932. Title Pres.
(President, Secretary or Agent)

DATE	MAKE OF BARREL	SIZE OF BARREL	FROM (DEPTH)	TO (DEPTH)	CORE RECOVERED	DESCRIPTION OF CORE	ETHER TEST	CONDITION OF CORE
1932.								
10-25	Hughes	5-5/8	2001	2005	2 ft	Hard bn shale, blk lime, rock		broken
10-30	"	"	2028	2031	1½ "	Brown shale, lime, country rock		
11-23	"	"	2077	2079	1 "	Greenish schist, Hard rk,		
12-19	"	"	2112	2115	1 "	Brown & Gray shale, & schist		
1932								
1-22	"	"	2147	2149	1¾ "	Hard formation, black lime,		
2-5	"	"	2158	2161	2 "	Brown Shale, streak oil sand,	slight cut	
2-6	"	"	2161	2164	2½ "	" " " black hard formation		

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DIVISION OF OIL AND G
RECEIVED
NOV 21 1931
LOS ANGELES, CALIFORNI

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS
FERRY BUILDING

R. D. BUSH
STATE OIL AND GAS SUPERVISOR

SAN FRANCISCO

November 20, 1931.

Mr. E. Huguenin,
Deputy Supervisor,
Los Angeles, Cal.

Dear Sir:

San Bernardino Co

Mail addressed to

J. E. Grey, Agent,
Colan Development Corp., Ltd.,
Yucaipa, Cal.

has been returned by the post office with the notation "Moved, left no address".

Shall I request another appointment?

Yours truly,

R. D. Bush

State Oil and Gas Supervisor.

629 South Hill Street
Los Angeles, California
July 17, 1931.

Mr. R. D. Bush,
State Oil and Gas Supervisor,
San Francisco, California.

Dear Sir:

I am informed that Yucaipa Oil Company, Ltd., well No. 1, Sec. 25, T. 1 S., R. 2 W., S. B. B. & M., San Bernardino County, was transferred to Fred Gray on February 1, 1931. On April 22, 1931, the well was transferred to Mr. F. H. Bowers and on May 15, 1931, the well was transferred to Colan Development Corporation, Ltd.

This information was contained in a letter dated July 9, 1931, from Colan Development Corporation, and a letter dated June 23, 1931, from Fred H. Gray, and confirmed in a conversation with Mr. Bowers and Mr. Bert Colan. Our records have been changed accordingly.

Request for the designation of agent should be addressed to Colan Development Corporation, Ltd., 317 I. W. Hellman Building, Los Angeles, Cal.

Yours truly,

Deputy Supervisor.

Corrections Made as Follows		By Whom
	CLB	EHS
Weekly Summaries		
121		
Elev. and Loc. Cards		
Production Reports		
Well Records: Folders		
Well Records: Reports		
Peg Models		
Graphics		
Field Maps		

B
7.20.31

D. Leslie Lord, Sec'y-Treas.
Thos. L. Colangelo, Vice-Pres.

Field Address
DIVISION OF OIL AND GAS
RECEIVED
JUL 10 1931
LOS ANGELES, CALIFORNIA

COLAN DEVELOPMENT CORPORATION, Ltd.
BERT N. COLAN, Gen'l Mgr.
317 I. W. Hellman Bldg.
LOS ANGELES, CALIF.

July 9th, 1931.

Division of Oil & Gas
of the State of California
629 South Hill Street
Los Angeles California

Gentlemen:

In response to your request this will advise you that on May 15th, 1931, the Colan Development Corporation succeeded to the rights of F. H. Bowers on lease covering ground upon which an oil well was formerly attempted by Fred Gray, on a portion of Section 25 Twp. 1 S. Range 2 West SBM at Yucaipa California.

On account of steel which was twisted off at the -time, the Colan Development Corporation was obliged to offset and drill an entirely new hole which is now at a depth of approximately 1950 feet, and is at present encountering very hard formation, and the drilling is very slow.

The company contempletes drilling to a depth of 2500 feet at which depth it has been estimated by geologists, oil should be encountered in commercial quantities.

Trusting this information meets with your request and assuring you of our co-operation, we are

BLC/ B

Very truly yours,

Colan Development Corporation

By Bert N. Colan

Transf. from Fred Gray to F. H. Bowerss
April 22, 1931
Transf. from Yucaipa to Fred Gray on Feb. 1, 1931

DIVISION OF OIL AND GAS
RECEIVED
JUN 26 1931
LOS ANGELES, CALIFORNIA

June 23 1931.

E.Huguenin Esq;
Div.of Oil and Gas;
State of California;

Dear Sir;

We would like to inform you that the well in Sec.25 T.Township/1 S. Rge 2 w.S.B.B.& M San Bernardino County,is now being drilled by Colin Development Co.whose office is 314 I.W.Hellman bldg Los Angeles.

They will be glad to comply with any requests you may make re information that the law requires of them.

Yours Respectfully,

Fred H. Gray.

Fred H.Gray.
234 E.Laurel
Compton Calif.

FORM 100. 73066 12-29 20M
CALIFORNIA STATE PRINTING OFFICE

Cyclar Development Corp. Ltd. #1

SUBMIT LOG IN DUPLICATE
FILL THIS BLANK IN WITH TYPEWRITER. WRITE ON ONE SIDE OF PAPER ONLY

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

DIVISION OF OIL AND GAS
RECEIVED
JAN 13 1931
LOS ANGELES, CALIFORNIA

LOG OF OIL OR GAS WELL

Yucaipa Oil Co. Ltd.

FIELD (Yucaipa) San Bernardino COUNTY COMPANY Fred H. Gray

Sec. 25, T. 1 S, R. 2, West San Bernardino B. & M., Elevation 2500 Well No. 1

In compliance with the provisions of Chapter 718, Statutes of 1915, as amended, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Signed Fred H. Gray

Date Jan. 6. 1931

Title Operator
Reference to file of date (President, Secretary or Agent)

The summary on this page is for the original condition of the well.

Oil Cards			Gas Section		Forms	
					114	121

OIL SANDS

None

1st sand from ..... to ..... 4th sand from ..... to .....
2d sand from ..... to ..... 5th ~~sand from~~ ..... to .....
3d sand from ..... to ..... 6th sand from ..... to .....

IMPORTANT WATER SANDS

1st sand from ..... to ..... 3d sand from ..... to .....
2d sand from ..... to ..... 4th sand from ..... to .....

CASING RECORD

Size of Casing	Where Landed	Where Cut	Weight Per Foot	Threads Per Inch	Kind of Shoe	Make of Casing	Cemented Yes	Cemented No	Number of Sacks
No Casing Set									

CEMENTING OR OTHER SHUT-OFF RECORD

Casing, Size	Sacks	Time Set	Method	Test and Result (Give water level and bailing results)
				None

PLUGS AND ADAPTERS

Heaving Plug—Material None Length ..... Where set .....
Adapters —Material " Size .....

TOOLS

Rotary Tools were used from 0 ft. to 2000 ft.
Cable Tools were used from None ft. to ..... ft.

PERFORATIONS

State clearly whether a machine was used or casing was drilled in shop

From	To	Size of Holes	Number of Rows	Holes Per Foot	Machine—Shop
ft.	ft.	None			

Thirty days after completion well produced ..... barrels of oil per day.

The gravity of oil was ..... degrees Baumé. Water in oil amounted to ..... per cent.

NAMES OF DRILLERS
H. N. Moore
J. Galantine
H. T. Jones

NAMES OF TOOL DRESSERS

Date drilling started Oct. 4. 1928.

Date well was completed .....

FORMATIONS PENETRATED BY WELL

Depth to Top of Formation	Depth to Bottom of Formation	Thickness	Name of Formation

FORM 103. 70346 7-30 10M
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

DIVISION OF OIL AND GAS
RECEIVED
JAN 3 - 1931
LOS ANGELES, CALIFORNIA

History of Oil or Gas Well

FIELD SAN BERNARDINO COUNTY COMPANY Yucaipa Oil Co. Ltd

Sec. 25, T. 1 So., R. 2 W., S. B. B. & M., Well No. One (1)

Signed Fred H Gray

Date December 30-19-30 Title

President, Secretary or Agent

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together with the reason for the work and its results. If there were any changes made in the casing, state fully, and if any casing was "sidetracked" or left in the well, give its size and location. If the well has been dynamited, give date, size, position, and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position, and results of pumping or bailing.

Map	Model	Cross Section	Cards	114	

Hole shot at 1340 feet. Steel in the hole. Unknown.
100 lbs. of 80% Gelatine.
Hole shot at 1576 feet. Rotary disc lost in hole. Tried to break disc to pieces. Failed.
100 lbs. of 80% Gelatine used.
Hole shot second time at 1576 to break up disc bit.
100 lbs. of 80% Gelatine and 15 quarts of nitro-glycerin. 30 ft. combination shot. Broke up disc bit and fished same out of hole.
Hole shot 1926 feet. Boulder riding bit, shot same out of way.
200 lbs. of 80% Gelatine.
78 feet of 3" drill pipe and drill collar were side-tracked at 1839 to 1927. Never touched same while side-tracking.
String of 3" Drill Pipe Froze 60 ft. off bottom - Backed out all but 360 ft. which is in Hole at present time.

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DIVISION OF OIL AND GAS
RECEIVED
JAN 3 - 1931
LOS ANGELES, CALIFORNIA

LOG OF THE GRAY WELL NO. 1

Section 25, Township 1 S, R 2 W.
San Bernardino B and M.

0 to 18 ft.	Surface soil
18 - 35	Conglomerate
35 - 52	Sand stone
52 - 56	Hard Sand
56 - 70	Conglomerate
70 - 90	Gray sand
90 - 106	Gravel & Boulders
106- 129	Red clay
129- 159	Sand Gravel
159- 188	Blue shale
188- 237	Sand & Boulders
237- 324	Hard sand
324- 329	Sand & Gravel
329- 333	Hard sand
333- 348	Sandy shale
348- 378	Sand & Boulders
378- 397	Hard sand
397- 430	Conglomerate
430- 465	Sand shale
465- 473	Hard shale
473- 505	Sticky shale
505- 536	Conglomerate
536- 551	Sand shale
551- 552	Shell
552- 576	Conglomerate
576- 577	Shell
577- 580	Sand
580- 581	Shell
581- 585	Hard sand
585- 586	Shell
586- 591	Conglomerate
591- 596	Tough shale
596- 600	Hard sand
600- 611	Conglomerate
611- 612	Shell
612- 615	Sandy shale
615- 620	Brown shale
620- 623	Gas sand
623- 633	Tough shale
633- 636	Sandy shale
636- 638	Shell
638- 645	Hard sand shale
645- 650	Conglomerate
650- 654	Lime
654- 664	Tough shale
664- 678	Sandy shale
678- 682	Hard sand
682- 683	Shell
683- 695	Lime
695- 699	Tough shale
699- 709	Hard sand
709- 712	Shell
712- 718	Conglomerate
718- 726	Sandy shale
726- 730	Hard sand, Lime Streaks
730- 748	Sand shale
748-753 ft.	Gray sand, streaks of lime
753-758	Tough shale
758-763	Conglomerate
763-767	Lime
767-775	Conglomerate
775-776	Shell
776-784	Hard sand, gas at this depth
784-791	Conglomerate
791-798	Tough shale
798-806	Conglomerate
806-815	Sandy shale
815-820	Hard sandy shale
Gas blow plugged drill collar 11 ft. while making con.	
820-830	Hard sand, streaks of lime
830-839	Sandy shale, gas showing
839-840	Shell
840-849	Sticky shale, streaks of sand
849-859	Conglomerate
859-860	Shell
860-864	Hard sand
864-868	Conglomerate
868-874	Lime
874-877	Tough Shale
877-879	Shell
879-890	Conglomerate
890-904	Shale
904-921	Sandy shale
921-922	Shell
922-929	Hard sand
929-938	Sandy shale
938-944	Conglomerate
944-951	Hard sand
951-953	Shell
953-960	Conglomerate
960-961	Shell
961-965	Tough shale
965-966	Shell
966-978-	Conglomerate
978-983	Sticky shale
983-984	Shell
984-986	Conglomerate
986-992	Gray sand
992-1004	Hard sand
1004-1007	Blue shale, streaks of lime
1007-1010	Sand streaked with lime
1010-1014	Shell with lime
1014-1018	Hard lime
1018-1028	Conglomerate

85

1028-1038 ft.	Sandy shale
1038-1050	Conglomerate
1050-1053	Shell
1053-1060	Hard sandy shale
1060-1061	Shell
1061-1068	Conglomerate
1068-1080	Sandy shale
1080-1090	Hard sand
1090-1098	Conglomerate
1098-1100	Shell
1100-1112	Lime
1112-1113	Shell
1113-1127	Conglomerate
1127-1128	Shell
1128-1137	Lime conglomerate
1137-1139	Lime
1139-1157	Sandy shale
1157-1162	Hard sand
1162-1165	Hard sandy shale
1165-1178	Conglomerate
1178-1183	Hard sandy shale
1183-1191	Tough shale
1191-1192	Shell
1192-1204	Lime
1204-1208	Conglomerate
1208-1210	Tough shale
1210-1221	Conglomerate
1221-1231	Sandy shale,lime
1231-1238	Lime
1238-1243	Shale
1243-1258	Lime
1258-1261	Shale
1261-1304	Lime
1304-1311	Coring no recovery
1311-1340	Shell
1340-1341	Hard shell
1341-1349	Shell
1349-1350	Break in formation
1350-1366	Lime and sand
1366-1367	Break in formation
1367-1383	Lime
1383-1387	Shale with change
1387-1393	Blue shale
1393-1395	Sandy shale
1395-1396	Shell
1396-1400	Sand shale
1400-1401	Shell
1401-1408	Shell with break
1408-1409	Shale
1409-1434	Lime and streaks of shale
1434-1449	Lime conglomerate
1449-1468	Lime streaked with shale
1468-1501	Lime
1501-1528	Lime streaked shale
1528-1548	Lime
1548-1555	Blue shale
1555-1558	Hard sand
1558-1560	Lime
1560-1568 ft.	Blue shale
1568-1579	Hard sand, shale streaked
1579-1581	Lime and hard sand
1581-1582	Lime
1582-1585	Hard sand
1585-1588	Lime stone
1588-1589	Hard sand and lime
1589-1592	Lime
1592-1594	Lime, shale, some shells
1594-1602	Blue shale & lime
1602-1604	Hard sand
1604-1607	Brown shale
1607-1611	Hard sand, gray color with thin breaks
1611-1617	Hard sand, gas showing
1617-1618	Hard sand, marine shells
1618-1629	Brown shale
1629-1634	Shell
1634-1644	Hard & soft streaks
1644-1656	Hard shells with shale breaks
1656-1657	Break and soft
1657-1662	Hard sand shale, Streak brown sandy shale
1662-1678	Streaked thin shell
1678-1694	Hard sand
1694-1696	Soft break in formation
1696-1702	Blue shale
1702-1704	Lime & shells
1704-1715	Blue shale streaked hard sand, sticky shale.
1715-1730	Sticky Blue shale streaked hard sand
1730-1738	Blue shale
1738-1742	Shell
1742-1746	Lime streaked
1746-1750	Shell
1750-1767	Lime shale
1767-1792	Blue shale streaked with lime.
1792-1795	Hard gray sand with sofe breaks
1795-1806	Hard sand
1806-1823	Brown shale with hard sand streaks
1823-1828	Brown shale streaks with hard sand
1828-1838	Brown shale
1838-1844	Brown shale and layers of hard sand
1844-1855	Hard sand gray

1855-1860 ft.	Hard brown shale with thin shells
1865-1873	Shell
1873-1875	Hard gray sand - good gas pressure
1875-1878	Hard sand, gas showing in ditch
1878-1883	Hard sand - hard fine sand
1883-1886	Hard sand, sea shells, gas below shells
1886-1888	Hard sand, thin layers of B shale
1888-1891	Conglomerate - little gas
1891-1892	Shell
1892-1894	Lime streaks blue shale
1894-1902	Shell
1902-1903	Sea shells streaks green shale
1903-1904	Hard shell
1904-1905	Shell
1905-1906	Shell thin break. Good gas showing
1906-1909	Shell
1909-1911	Shell broke to oil sand Gas
1911-1913	Shell-Gas on ditch
1913-1915	Shell
1915-1916	Hard conglomerate-sea shells
1916-1918	Conglomerate hard sand
1918-1923	Hard sand
1923-1924	Shell
1924-1926	Shale
1926-1929	Shell
1929-1935	Shell
1935-1937	Shell and hard sand
1937-1938	Shale
1938-1939½	Brown shale
1939½-1940	Shell
1940-1941	Shale to shell
1941-1943	Shell
1943-1949	Shell lime streaked brown shale
1949-1959	Lime streaked blue shale
1959-1963	Shell and shale
1963-1970	Shell
1970-1972	Break
1972-1975	Blue shale
1975-1976	Black Lime
1976-1982	Blue shale shells intermittent black lime
1982-1988	Shale and shells
1988-1991	Blue sand shale
1991-1992	Shell
1992-1997	Tough brown shale - good cut in this shale

611 New Orpheum Building
Los Angeles
December 30, 1930

Mr. R. D. Bush,
State Oil and Gas Supervisor,
San Francisco, Calif.

Dear Sir:

Fred H. Gray well No. 1, Sec. 25, T. 1 S., R. 2 W., San Bernardino County, was transferred to Yucaipa Oil Company, Limited, 519 Walter P. Story Building, Los Angeles, California, effective November 17, 1930. This information was contained in a letter received from Fred H. Gray dated December 19, 1930, and confirmed in a letter from Yucaipa Oil Company, Limited, dated December 26, 1930. We are, therefore, changing our records accordingly. Please request Yucaipa Oil Company, Limited, to appoint an agent.

Yours truly,

Deputy Supervisor.

EH-GH

Wallace Collins
John Sorenson

Corrections Made as Follows	By Whom
Weekly Summaries	
131	LB
Elev. and Loc. Cards	
Production Reports	✓ EMS
Well Records { Reports	✓
Peg Models	
Graphics	✓ E.J.K.
Field Maps	

W.C. Book - E.J.K.
12/31/30

YUCAIPA OIL COMPANY LIMITED.
519 Walter P Story Building,
Los Angeles. Calif:
December 26th,1930.

DIVISION OF OIL AND GAS
RECEIVED
DEC 30 1930
LOS ANGELES, CALIFORNIA

E Huggenin Esq,
Division of Oil & Gas,
611 New Orpheum Building,
Los Angeles. Calif:

Dear Sir,

Replying to your letter of the 22nd Inst,re Gray Well.

This is being drilled by the Yucaipa Oil Company Limited, of which I am the General Manager, and was transferred to us on November 17th.

I have had the property surveyed, and will file a corrected location within the next few days.

We were compelled to sidetract a junked hole at 1400 feet, so will give your department a correct log from that depth.

All notices for the present will be received at the above address.

Yours very truly,

WGT/JHS.

J. H. Somers

Oct. 9,1928.

DIVISION OF MINES & MINING
RECEIVED
OCT 1 0 1928
Department of Petroleum and Gas
LOS ANGELES, CALIFORNIA

Division of Mines and Mining,
611 New Orpheum Bldg.,
Los Angeles,Calif.

Gentlemen:

Referring to your letter of Oct. 3rd, concerning the drilling operations on the Clyde Ranch in Section 25, Twp. I, S. R 2 W. S.B.B & M., I beg to advise you that I am assuming all the responsibility in connection with these operations and will be guided in my operations by the matters referred to in your communication of Sept. 21st, to my attorney John C.Miles.

Any further information I can furnish you from time to time I will be glad to do so. In the meantime,I remain

Yours very truly,

F.H. Gray
MJ

F.HG:M

611 New Orpheum Bldg.,
Los Angeles
September 13, 1928.

Mr. R. D. Bush,
State Oil and Gas Supervisor,
San Francisco, California.

Dear Sir:

The well carried in our records under the name of J. W. McPhearson well No. 1, Sec. 25, T. 1 S., R. 2 W., S.B.B.& M., San Bernardino County, was transferred on August 24, 1925 to Mr. Fred H. Gray whose address is Box 253, Compton, California.

This information was contained in a letter received from J. W. McPhearson dated September 10, 1928.

We are therefore changing our records accordingly. Please request Mr. Gray to appoint an agent.

Yours truly,

EH-MC

Deputy Supervisor.

Corrections Made as Follows	By Whom
Weekly Summaries	
121 ✓	H
Elev. and Loc. Cards	
Production Reports	
Well Records: Folders ✓	EMB
Well Records: Reports	
Peg Models	
Graphics	
Field Maps W.C. ✓	F.L.C.

W. C. BK.
F. L. C.

FORM 111. 53572 8-27 5M
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF MINES AND MINING

PETROLEUM AND GAS

Report on Proposed Operations

No. P-1-16285

Los Angeles Cal. Oct. 25 1927

Mr. G. W. McPhearson

Yucaipa Cal.

Agent for W. McPHEARSON ~~Company~~

Should be J.

DEAR SIR:

Your proposal to drill Well No. 1,

Section 25, T 1 S, R 2 W, S.B. B. & M., — Oil Field, San Bernardino County,

dated Oct. 7, 1927 received Oct. 21, 1927, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

THE NOTICE STATES:

"The well is 2600' N. and 700' W. from Southeast corner of Sec. 25.
The elevation of the derrick floor above sea level is 2600'.
We estimate that the first productive oil or gas sand should be encountered at a depth of about 500', more or less."

PROPOSAL:

"We propose to use the following strings of casing either cementing or landing them as here indicated:

Size of Casing Weight New or Second Hand Depth Landed or cemented
Casing program will depend upon formations encountered. Will core frequently.

It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing."

RECOMMENDATION:

This department has not sufficient data available upon which to base an estimate of the depth at which oil or gas bearing formations should be encountered in this vicinity, nor the depth at which a water shut-off should be effected.

The proposed drilling program is approved, however, subject to the recommendations that all possible steps shall be taken to determine the fluid content of porous formations encountered.

THIS DEPARTMENT MUST BE NOTIFIED AS FOLLOWS:

1. When a showing of oil or gas is encountered.
2. Before landing or cementing any casing.
3. To witness a bailing test of each possible water shut-off. Copies of our form 106 for this notification are enclosed herewith.

We would appreciate the filing of a memorandum log of the well with the notice of test of water shut-off.

cc--Company 5/17/28 Mr McPherson - Dead

T.D 400'. no casing; no important showings
Mr McPherson said he is living on lease and
is in charge but that R. D. BUSH,
others associated with him State Oil and Gas Supervisor
are attempting to take possession
without his consent. He does By E. H. Gaskin Deputy
not know ownership changed

HVD:ML
J.S.

J. W.

FORM 105. 43484 2-26 10M

CALIFORNIA STATE MINING BUREAU
RECEIVED
OCT 21 1927
Department of Petroleum and Gas

CALIFORNIA STATE MINING BUREAU

DEPARTMENT OF PETROLEUM AND GAS

071-00041

NOTICE OF INTENTION TO DRILL NEW WELL

This notice must be given before drilling begins

Colon Development Corp., Ltd. Yucaipa Cal. Oct 7 1927

MR. E. Hagenmin

Deputy State Oil and Gas Supervisor

Los Angeles Cal.

DEAR SIR:

In compliance with Section 17, Chapter 718, Statutes of 1915, as amended, notice is hereby given that it is our intention to commence the work of drilling well number 1 Section 25 T. 1 S. R. 2 W., ~~W.~~ B. & M., ... Oil Field, San Bernardino County.

The well is 2800 feet N. ~~or S.~~, and 700 feet ~~E. or~~ W. from So East Corner of Sec 25
(Give location in distance from section corners or other corners of legal subdivision)

The elevation of the derrick floor above sea level is 2600 feet.

We propose to use the following strings of casing, either cementing or landing them as here indicated:

Size of Casing, Inches	Weight, Lb. Per Foot	New or Second Hand	Depth	Landed or Cemented
Casing program will depend upon formations encountered. Will Cave frequently.				

It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing.

We estimate that the first productive oil or gas sand should be encountered at a depth of about 500 feet, more or less. Second 2200

Respectfully yours,

Address R.R. No. 2 Box 30 Yucaipa Calif J. W. McPherson
(Name of ~~Company~~ or Operator)

Telephone number..... By J. W. McP

Address notice to Deputy State Oil and Gas Supervisor in charge of district where well is located

Reference to file of data

Map	Model	Cross Section	Cards	Forms	
WC F.L.C.	off.			✓	✓

W.C.
B.K.
F.L.C

Lease consists of: 100 Acres

Topo. Sh. #66
E.J.K.

Appendix 2-C

Water Budget Analysis

Table 2C-1: Temperature Lapse Rates used in the YIHM

Month	Minimum temperature (T_{min})						Maximum temperature (T_{max})	
	Temperature lapse rate (degrees C/ft.)			Linear regression coefficient of determination			Temperature lapse rate (degrees C/ft.)	Linear regression coefficient of determination
	Low-elevation	Mid-elevation	High-elevaation	Low-elevation	Mid-elevation	High-elevation		
January	-0.000267	-0.009122	-0.001069	0.375161	0.949365	0.254554	-0.006274	0.986521
February	-0.002090	-0.008838	-0.002369	0.410287	0.951706	0.254554	-0.006286	0.986626
March	-0.002894	-0.008079	-0.002473	0.607330	0.944339	0.618303	-0.005846	0.981146
April	-0.003499	-0.007159	-0.002392	0.728538	0.935666	0.555306	-0.005798	0.965877
May	-0.004425	-0.006001	-0.001270	0.831409	0.937605	0.225797	-0.004960	0.906887
June	-0.002725	-0.004569	-0.000979	0.636168	0.804955	0.104089	-0.004187	0.784555
July	-0.000511	-0.004723	-0.000030	0.038804	0.789060	0.000088	-0.004783	0.795607
August	-0.000715	-0.005240	-0.000809	0.079302	0.789060	0.071081	-0.005111	0.839502
September	-0.000432	-0.007149	-0.001582	0.019373	0.890501	0.205146	-0.005646	0.904514
October	-0.001161	-0.008536	-0.000633	0.134185	0.940326	0.049203	-0.005988	0.937825
November	-0.000545	-0.008684	-0.001768	0.028359	0.942844	0.341591	-0.006120	0.978148
December	0.000048	-0.008963	-0.001861	0.000249	0.946138	0.375161	-0.005976	0.986968

Data provided by the USGS

DRAFT

Table 2C-2: Historical Water Budget for the Yucaipa Subbasin

Water Year[A]	Water Year Type	Individual Components of the Basin Water Budget Reported in Units of Acre-Feet (AF)																										
		Inflows to Groundwater System (AF)												Outflows from Groundwater System													Change in Storage	
					Subsurface Inflows										Subsurface Outflows													
		Stream Leakage	Return Flows[B]	Precipitation Recharge	From Beaumont Basin	From San Timoteo Basin	From SBBA	From Crafton Hills	From Yucaipa Hills	From San Bernardino Mountains	*Subtotal*	Surface Water Spreading	Total Basin Inflows	ET	To Beaumont Basin	To San Timoteo Basin	To SBBA	To Crafton Hills	To Yucaipa Hills	To San Bernardino Mountains	*Subtotal*	GW Discharges to Streams	GW Extractions[C]	Surface Water Diversions[D]	Groundwater Discharge to Surface[E]	Total Basin Outflows	Annual	Cumulative
1965	Normal	9,416	2,101	2,209	2,023	6,511	269	47	2,732	1,455	*13,036*	0	26,761	2,340	740	8,980	3,281	0	1,925	13	*14,940*	2,199	9,899	0	7	29,385	-2,624	**-2,624**
1966	Above Normal	10,441	2,101	5,153	2,115	6,449	248	46	2,791	1,596	*13,243*	0	30,938	2,697	741	8,954	3,464	0	1,958	14	*15,132*	2,629	11,609	31	9	32,108	-1,169	**-3,794**
1967	Wet	10,656	2,101	4,957	2,212	6,382	234	44	2,832	1,705	*13,409*	0	31,122	2,399	760	8,944	3,516	0	1,954	13	*15,187*	2,792	11,057	36	10	31,481	-359	**-4,153**
1968	Normal	9,688	2,107	3,166	2,232	6,379	229	43	2,861	1,837	*13,581*	0	28,541	2,611	774	8,974	3,356	0	1,945	13	*15,063*	2,422	11,106	16	8	31,225	-2,684	**-6,837**
1969	Wet	12,421	2,101	11,878	2,251	6,300	209	43	3,016	2,374	*14,193*	0	40,593	2,821	766	8,872	3,650	0	2,072	15	*15,375*	3,967	9,658	127	11	31,959	8,634	**1,796**
1970	Dry	10,341	2,515	4,557	2,148	6,313	185	41	3,187	2,298	*14,172*	0	31,585	2,925	737	8,958	3,490	0	2,072	17	*15,275*	3,018	9,861	111	11	31,200	385	**2,181**
1971	Below Normal	10,382	2,439	4,088	2,204	6,327	174	41	3,075	2,453	*14,275*	0	*31,184*	2,774	733	8,981	3,512	0	2,059	18	*15,303*	3,038	9,849	142	10	*31,117*	67	**2,248**
1972	Dry	10,002	2,446	3,302	2,223	6,356	169	41	3,016	2,295	*14,100*	0	*29,850*	3,004	747	9,018	3,494	0	2,019	21	*15,299*	2,783	10,818	156	8	*32,068*	-2,218	**29**
1973	Above Normal	10,912	2,439	5,141	2,197	6,286	165	41	2,951	2,241	*13,881*	0	*32,373*	2,478	746	9,003	3,665	0	2,019	20	*15,452*	3,391	10,411	217	10	*31,960*	413	**442**
1974	Below Normal	10,663	2,392	4,457	2,128	6,267	161	40	3,036	2,070	*13,701*	0	*31,214*	2,888	736	9,001	3,688	0	2,007	20	*15,453*	3,109	11,484	206	10	*33,150*	-1,936	**-1,494**
1975	Normal	10,059	2,571	3,316	1,975	6,263	157	39	3,005	2,021	*13,459*	0	*29,405*	2,546	718	9,009	3,640	0	1,977	19	*15,362*	2,748	10,501	133	9	*31,299*	-1,894	**-3,388**
1976	Normal	10,530	2,641	4,050	1,820	6,282	156	39	2,958	2,077	*13,334*	0	*30,556*	2,662	701	9,020	3,709	0	1,961	18	*15,410*	2,747	10,366	88	8	*31,282*	-726	**-4,114**
1977	Below Normal	10,098	2,634	4,238	1,720	6,246	160	39	2,929	2,093	*13,187*	0	*30,158*	2,753	687	9,020	3,632	0	1,956	19	*15,313*	2,716	9,906	100	9	*30,798*	-640	**-4,754**
1978	Wet	13,296	2,634	16,145	1,883	6,210	158	38	3,311	2,517	*14,118*	0	*46,193*	3,137	695	8,931	3,896	0	2,205	19	*15,747*	4,909	10,002	220	14	*34,030*	12,163	**7,409**
1979	Above Normal	12,654	2,634	9,423	1,845	6,251	139	35	3,642	2,618	*14,530*	0	*39,242*	3,072	698	9,016	3,967	0	2,296	23	*16,001*	4,675	9,764	267	18	*33,797*	5,445	**12,854**
1980	Wet	15,176	3,278	15,677	1,580	6,351	126	34	3,958	3,033	*15,081*	0	*49,212*	3,550	654	9,010	4,017	0	2,485	25	*16,191*	6,449	10,075	332	20	*36,616*	12,596	**25,450**
1981	Dry	12,933	3,483	6,838	1,187	6,413	119	32	4,029	2,842	*14,623*	0	*37,877*	3,860	612	9,083	3,853	0	2,419	27	*15,993*	4,774	10,198	286	17	*35,129*	2,748	**28,198**
1982	Above Normal	13,988	3,483	8,545	927	6,452	119	33	3,823	2,987	*14,340*	0	*40,355*	3,152	592	9,079	4,104	0	2,370	30	*16,176*	5,490	8,880	299	19	*34,017*	6,338	**34,536**
1983	Wet	14,684	3,483	11,157	788	6,457	116	31	3,857	2,913	*14,163*	0	*43,486*	3,110	598	9,100	4,248	0	2,427	29	*16,402*	6,184	8,353	332	22	*34,405*	9,081	**43,617**
1984	Dry	12,179	3,492	6,583	684	6,475	108	29	3,978	2,581	*13,855*	0	*36,110*	4,117	597	9,184	4,005	0	2,429	27	*16,243*	4,257	10,278	279	18	*35,191*	918	**44,535**
1985	Below Normal	12,335	5,337	6,275	652	6,467	102	29	3,861	2,555	*13,668*	0	*37,615*	3,874	601	9,162	4,081	0	2,402	27	*16,274*	4,297	10,533	268	18	*35,264*	2,351	**46,886**
1986	Normal	12,023	5,961	5,568	513	6,459	98	29	3,741	2,505	*13,346*	0	*36,898*	3,857	685	9,176	4,042	0	2,343	26	*16,272*	4,106	9,823	257	19	*34,333*	2,564	**49,450**
1987	Dry	11,289	5,961	4,170	438	6,430	96	30	3,640	2,385	*13,020*	0	*34,439*	3,878	698	9,179	4,037	0	2,299	24	*16,237*	3,593	9,987	230	19	*33,945*	494	**49,944**
1988	Below Normal	11,108	5,978	3,721	400	6,411	99	30	3,533	2,304	*12,778*	0	*33,584*	3,738	762	9,198	4,057	0	2,260	23	*16,300*	3,459	10,857	218	21	*34,593*	-1,008	**48,936**
1989	Below Normal	10,602	5,961	3,336	382	6,375	106	30	3,433	2,122	*12,448*	0	*32,347*	3,885	818	9,166	4,004	0	2,215	22	*16,225*	3,142	11,266	194	20	*34,733*	-2,385	**46,551**
1990	Dry	10,285	2,208	2,023	442	6,391	114	31	3,349	1,953	*12,280*	0	*26,796*	3,689	822	9,156	3,914	0	2,170	21	*16,082*	2,891	11,626	172	19	*34,479*	-7,683	**38,868**
1991	Above Normal	11,275	942	5,677	654	6,429	124	31	3,334	1,959	*12,531*	0	*30,426*	3,628	683	9,084	4,031	0	2,186	19	*16,003*	3,403	11,657	198	16	*34,906*	-4,480	**34,387**
1992	Above Normal	11,389	945	5,911	832	6,464	127	31	3,430	1,986	*12,871*	0	*31,116*	3,662	656	9,131	4,083	0	2,243	18	*16,131*	3,596	11,743	235	16	*35,383*	-4,267	**30,120**
1993	Wet	14,133	1,173	17,007	954	6,483	128	29	3,879	2,434	*13,907*	0	*46,221*	3,989	683	9,037	4,126	0	2,487	22	*16,355*	5,707	11,481	302	21	*37,854*	8,367	**38,488**
1994	Below Normal	12,201	1,195	5,643	964	6,561	109	28	4,023	2,454	*14,139*	0	*33,177*	3,815	697	9,147	4,145	0	2,490	19	*16,499*	4,233	11,947	279	20	*36,794*	-3,617	**34,871**
1995	Wet	15,315	1,489	12,358	936	6,618	111	27	4,046	2,873	*14,612*	0	*43,774*	3,876	724	9,088	4,227	0	2,566	22	*16,627*	6,814	11,870	354	22	*39,562*	4,212	**39,083**
1996	Dry	13,062	1,592	5,069	975	6,722	97	25	4,114	2,530	*14,464*	0	*34,188*	4,352	700	9,211	4,195	0	2,531	21	*16,658*	5,069	12,841	330	17	*39,268*	-5,080	**34,002**
1997	Above Normal	12,896	1,588	5,442	1,086	6,768	88	25	3,966	2,470	*14,404*	0	*34,329*	4,141	709	9,183	4,231	0	2,489	22	*16,634*	4,894	13,184	305	16	*39,174*	-4,845	**29,157**
1998	Wet	15,355	1,588	12,254	1,227	6,777	85	25	4,036	2,743	*14,893*	0	*44,089*	3,465	696	9,137	4,464	0	2,568	23	*16,888*	6,870	12,511	347	22	*40,102*	3,987	**33,144**
1999	Dry	12,540	1,588	4,722	1,275	6,784	79	24	4,131	2,404	*14,696*	0	*33,546*	3,976	699	9,227	4,338	0	2,537	21	*16,823*	4,719	14,065	315	18	*39,917*	-6,371	**26,774**
2000	Dry	12,304	1,868	4,044	1,409	6,867	79	26	4,011	2,425	*14,817*	0	*33,032*	4,176	727	9,260	4,276	0	2,505	21	*16,790*	4,279	14,988	299	15	*40,546*	-7,514	**19,259**
2001	Dry	12,246	1,955	3,666	1,241	6,840	84	27	3,836	2,417	*14,445*	0	*32,312*	3,699	800	9,221	4,358	0	2,437	20	*16,838*	4,338	14,330	297	15	*39,516*	-7,204	**12,055**
2002	Critically Dry	10,896	1,955	2,245	1,135	6,864	90	29	3,747	2,206	*14,071*	36	*29,202*	3,864	955	9,234	4,126	0	2,373	21	*16,710*	3,400	15,346	235	12	*39,566*	-10,364	**1,691**
2003	Above Normal	11,589	1,955	3,589	1,219	6,847	98	29	3,606	2,133	*13,932*	691	*31,757*	3,435	946	9,206	4,294	0	2,344	20	*16,809*	3,722	14,513	242	19	*38,740*	-6,983	**-5,292**
2004	Dry	10,939	1,961	2,926	1,212	6,849	106	30	3,581	1,988	*13,767*	624	*30,216*	3,649	1,224	9,233	4,155	0	2,323	17	*16,952*	3,316	14,215	215	19	*38,367*	-8,151	**-13,443**
2005	Wet	13,561	2,831	11,620	1,205	6,795	106	30	3,757	2,257	*14,150*	135	*42,297*	3,483	1,173	9,112	4,413	0	2,442	19	*17,159*	5,250	13,561	276	19	*39,747*	2,550	**-10,894**
2006	Below Normal	11,309	3,126	4,449	1,193	6,807	90	29	3,894	2,152	*14,164*	17	*33,065*	3,685	1,290	9,203	4,248	0	2,435	17	*17,193*	3,628	13,478	239	13	*38,237*	-5,172	**-16,065**
2007	Critically Dry	10,581	3,126	2,745	1,218	6,866	84	29	3,741	2,284	*14,221*	4	*30,677*	3,823	1,604	9,220	4,102	0	2,382	17	*17,326*	3,132	13,166	199	10	*37,656*	-6,979	**-23,044**
2008	Normal	11,284	3,135	4,099	1,234	6,877	85	29	3,580	2,292	*14,098*	551	*33,166*	3,664	1,148	9,226	4,276	0	2,343	17	*17,010*	3,554	11,395	218	17	*35,858*	-2,693	**-25,737**
2009	Below Normal	11,112	3,126	4,005	1,251	6,825	84	29	3,482	2,096	*13,768*	1,337	*33,349*	3,769	831	9,200	4,214	0	2,284	17	*16,547*	3,503	10,171	215	38	*34,243*	-895	**-26,632**
2010	Above Normal	12,416	3,787	6,687	1,222	6,752	79	28	3,465	1,985	*13,532*	3,549	*39,971*	3,635	810	9,165	4,322	0	2,274	18	*16,591*	4,528	10,400	236	112	*35,502*	4,470	**-22,162**
2011	Wet	12,924	4,009	8,383	1,161	6,708	66	27	3,523	2,000	*13,487*	3,071	*41,875*	3,740	791	9,145	4,482	0	2,304	17	*16,738*	4,892	9,839	254	128	*35,591*	6,283	**-15,879**
2012	Dry	11,403	4,020	4,835	1,101	6,720	52	26	3,584	1,886	*13,369*	2,936	*36,564*	4,066	812	9,227	4,356	1	2,301	16	*16,712*	3,864	10,174	209	98	*35,123*	1,441	**-14,438**
2013	Dry	11,089	4,009	4,164	1,051	6,724	44	25	3,491	2,030	*13,366*	2,170	*34,799*	3,806	900	9,190	4,441	1	2,263	16	*16,810*	3,562	10,341	182	79	*34,781*	18	**-14,420**
2014	Dry	10,633	4,009	3,544	1,013	6,731	41	25	3,398	2,005	*13,212*	521	*31,920*	3,767	1,068	9,199	4,340	1	2,222	16	*16,846*	3,127	11,897	176	29	*35,840*	-3,920	**-18,340**
Historical Average		**11,812**	**2,829**	**6,101**	**1,315**	**6,544**	**123**	**32**	**3,524**	**2,277**	***13,815***	**313**	***34,870***	**3,460**	**795**	**9,109**	**4,011**	**0**	**2,272**	**20**	***16,207***	**3,984**	**11,346**	**217**	**23**	***35,237***	**-367**	
Critically Dry Wate Year Average		10,738	2,541	2,495	1,177	6,865	87	29	3,744	2,245	*14,146*	20	*29,940*	3,844	1,280	9,227	4,114	0	2,378	19	*17,018*	3,266	14,256	217	11	*38,611*	-8,671	
Dry Water Year Average		11,518	2,936	4,317	1,171	6,615	98	29	3,668	2,289	*13,870*	447	*33,088*	3,783	796	9,168	4,089	0	2,323	20	*16,397*	3,828	11,830	233	27	*36,098*	-3,010	
Below Normal Water Year Average		11,090	3,576	4,468	1,211	6,476	121	33	3,474	2,255	*13,570*	150	*32,855*	3,465	795	9,120	3,954	0	2,234	20	*16,123*	3,458	11,055	207	18	*34,325*	-1,471	
Normal Water Year Average		10,500	3,086	3,734	1,633	6,462	165	38	3,146	2,031	*13,475*	92	*30,888*	2,947	794	9,064	3,717	0	2,083	18	*15,676*	2,963	10,515	119	11	*32,230*	-1,343	
Above Normal Water Year Average		11,951	2,208	6,174	1,344	6,522	132	33	3,445	2,219	*13,696*	471	*34,501*	3,322	731	9,091	4,018	0	2,242	20	*16,103*	4,036	11,351	226	26	*35,065*	-564	
Wet Water Year Average		13,752	2,469	12,144	1,420	6,508	134	33	3,622	2,485	*14,201*	321	*42,886*	3,357	754	9,037	4,104	0	2,351	20	*16,267*	5,383	10,841	258	29	*36,135*	6,751	

[A]Water Year corresponds to October 1 of the previous year, through September 30th of the current year.

[B]Return flows consist of water that recharges the Subbasin via municipal distribution network leaks, septic system discharges, and infiltration of irrigation water

[C]Groundwater Extractions are broken down by Usage Sector in Table 2C-7

[D]Represents surface water diversions through the operation of YVWD-25

[E]The YIHM calculates groundwater discharges to land surface when groundwater elevations in a given cell are higher than the top elevation of the cell

Table 2C-3: Imported Groundwater to the Yucaipa Subbasin

Water Year Ending	Imported Groundwater (AF)		
	South Mesa	YVWD	**Total**
1965	-	-	**-**
1966	-	0	**-**
1967	-	0	**-**
1968	-	0	**-**
1969	-	0	**-**
1970	-	0	**-**
1971	-	0	**-**
1972	-	0	**-**
1973	-	0	**-**
1974	-	0	**-**
1975	-	0	**-**
1976	-	0	**-**
1977	-	0	**-**
1978	-	0	**-**
1979	-	0	**-**
1980	-	0	**-**
1981	0	20	**20**
1982	0	104	**104**
1983	0	43	**43**
1984	0	18	**18**
1985	0	13	**13**
1986	0	6	**6**
1987	0	14	**14**
1988	263	19	**282**
1989	373	45	**418**
1990	469	41	**509**
1991	403	14	**417**
1992	353	2	**355**
1993	417	2	**419**
1994	488	14	**502**
1995	523	6	**529**
1996	582	7	**589**
1997	609	7	**615**
1998	504	3	**507**
1999	560	3	**563**
2000	577	25	**602**
2001	553	886	**1,439**
2002	537	1,518	**2,055**
2003	382	1,693	**2,075**
2004	474	1,657	**2,131**
2005	610	1,279	**1,890**
2006	643	1,709	**2,352**
2007	662	1,609	**2,271**
2008	509	777	**1,286**
2009	399	551	**951**
2010	422	665	**1,087**
2011	415	587	**1,002**
2012	441	694	**1,135**
2013	338	1,010	**1,349**
2014	417	1,198	**1,615**
Average	**380**	**331**	**858**

AF = acre-feet

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Table 2C-4: Imported Surface Water Supplies to the Subbasin

Water Year Ending	From SBVMWD				From SGWPA				Total SWP Water Imported to the Subbasin (AF)
	Delivered to YVWRFF (AF)	Delivered to Wilson Creek spreading Basins (AF)	Delivered to Oak Glen Creek spreading Basins (AF)	**Total SBVMWD Imports (AF)**	Delivered to YVWRFF (AF)	Delivered to Wilson Creek spreading Basins (AF)	Delivered to Oak Glen Creek spreading Basins (AF)	**Total SGPWA Imports (AF)**	
2003	855	0	0	**855**					**855**
2004	1,246	0	0	**1,246**	0	0	0	**0**	**1,246**
2005	1,357	0	0	**1,357**	0	0	0	**0**	**1,357**
2006	2,213	0	0	**2,213**	0	0	0	**0**	**2,213**
2007	3,539	0	0	**3,539**	0	0	0	**0**	**3,539**
2008	7,263	0	0	**7,263**	0	0	0	**0**	**7,263**
2009	7,428	0	48	**7,476**	0	0	0	**0**	**7,476**
2010	5,530	0	0	**5,530**	0	0	0	**0**	**5,530**
2011	5,581	1,542	141	**7,264**	0	0	0	**0**	**7,264**
2012	6,008	3,119	267	**9,394**	0	0	0	**0**	**9,394**
2013	5,846	2,824	220	**8,890**	0	0	0	**0**	**8,890**
2014	5,133	0	159	**5,292**	0	0	0	**0**	**5,292**
2015	3,845	0	0	**3,845**	0	0	0	**0**	**3,845**
2016	7,145	0	0	**7,145**	0	0	0	**0**	**7,145**
2017	8,764	6,579	0	**15,343**	0	0	0	**0**	**15,343**
2018	8,455	1,180	558	**10,192**	0	0	0	**0**	**10,192**
Total	**80,210**	**15,244**	**1,393**	**96,846**	**0**	**0**	**0**	**0**	**96,846**

AF = acre-feet

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Table 2C-5: Spreading at the Oak Glen Creek and Wilson Creek Spreading Basins

Water Year Ending	Imported Water Delivered (AF)			YVWRFF Water Diverted to Spreading Basins (AF)	**Total Water Delivered for Spreading at the Wilson Creek and Oak Glen Creek Spreading Basins (AF)**	**Simulated Spreading at the Oak Glen Creek and Wilson Creek Spreading Basins (AF)**
	to Wilson Creek Spreading Basins	to Oak Glen Creek Spreading Basins	**Total SWP Water Used for Spreading**			
2001				0	**0**	
2002				0	**0**	**36**
2003	0	0	**0**	0	**0**	**691**
2004	0	0	**0**	0	**0**	**624**
2005	0	0	**0**	0	**0**	**135**
2006	0	0	**0**	0	**0**	**17**
2007	0	0	**0**	0	**0**	**4**
2008	0	0	**0**	0	**0**	**551**
2009	0	48	**48**	0	**48**	**1,337**
2010	0	0	**0**	0	**0**	**3,549**
2011	1,542	141	**1,683**	0	**1,683**	**3,071**
2012	3,119	267	**3,386**	0	**3,386**	**2,936**
2013	2,824	220	**3,044**	0	**3,044**	**2,170**
2014	0	159	**159**	0	**159**	**521**
2015	0	0	**0**	133	**133**	**313**
2016	0	0	**0**	8	**8**	**N/A[a]**
2017	6,579	0	**6,579**	3	**6,582**	**N/A[a]**
2018	1,180	558	**1,737**	20	**1,757**	**N/A[a]**
Total	**15,244**	**1,393**	**16,637**	**164**	**16,801**	**15,955**

AF = acre-feet

[a]The YIHM was designed to simulate groundwater conditions through water year 2014, and therefore does not contain estimates of recharge at the Spreading Basins between 2015 and 2019.

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Table 2C-6:
Historical and Current surface water diversion points and diversions in the Subbasin

Water Year Ending	Well 25 Production (AF)	Surface Water Diversion from Oak Glen Creek (AF)	Surface Water Diversion from Birch Creek (AF)	**Total Surface Water Diversions (AF)**
2001	312	29	56	**396**
2002	303	65	81	**449**
2003	330	67	105	**502**
2004	288	24	48	**360**
2005	322	107	99	**527**
2006	327	46	148	**520**
2007	313	57	47	**418**
2008	278	95	9	**382**
2009	287	50	19	**356**
2010	302	61	0	**363**
2011	342	36	0	**378**
2012	267	8	0	**275**
2013	215	20	0	**235**
2014	230	13	0	**243**
2015	217	12	0	**229**
2016	210	13	0	**223**
2017	205	4	0	**209**
2018	192	0	0	**192**
Total	**4,938**	**707**	**611**	**6,257**

AF = acre-feet

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Table 2C-7: Historical Groundwater Extractions by Usage Type in the Subbasin

Water Year[A]	Water Year Type[B]	Municipal Groundwater Extractions (AF)			Irrigation (AF)		Private Well Extractions (AF)	Total Groundwater Extractions (AF)
		YVWD	South Mesa	WHWC	South Mountain	Subtotal		
1965	Normal	2,996	1,602	1,499	115	6,211	3,688	**9,899**
1966	Above Normal	3,189	2,732	1,436	376	7,734	3,876	**11,609**
1967	Wet	3,296	3,035	1,266	337	7,933	3,124	**11,057**
1968	Normal	3,252	2,869	1,278	456	7,855	3,251	**11,106**
1969	Wet	3,362	2,174	936	226	6,698	2,959	**9,658**
1970	Dry	3,433	2,195	1,085	405	7,117	2,743	**9,861**
1971	Below Normal	3,341	2,088	1,187	506	7,122	2,728	**9,849**
1972	Dry	3,489	2,098	1,498	467	7,551	3,267	**10,818**
1973	Above Normal	3,280	2,289	1,334	780	7,683	2,728	**10,411**
1974	Below Normal	3,990	2,518	1,428	815	8,751	2,734	**11,484**
1975	Normal	3,347	2,346	1,430	812	7,936	2,565	**10,501**
1976	Normal	3,403	2,260	1,391	779	7,832	2,534	**10,366**
1977	Below Normal	3,527	2,277	1,327	474	7,605	2,301	**9,906**
1978	Wet	3,204	2,297	1,373	567	7,441	2,561	**10,002**
1979	Above Normal	2,908	2,394	1,510	514	7,325	2,439	**9,764**
1980	Wet	3,140	2,530	1,445	426	7,541	2,534	**10,075**
1981	Dry	3,375	2,660	1,556	80	7,672	2,526	**10,198**
1982	Above Normal	2,635	1,960	1,399	579	6,573	2,307	**8,880**
1983	Wet	2,359	1,731	1,384	795	6,269	2,084	**8,353**
1984	Dry	3,288	2,243	1,670	900	8,100	2,178	**10,278**
1985	Below Normal	3,602	2,261	1,771	956	8,590	1,943	**10,533**
1986	Normal	3,883	1,309	1,864	867	7,924	1,899	**9,823**
1987	Dry	3,945	1,650	1,625	935	8,155	1,833	**9,987**
1988	Below Normal	4,547	1,756	1,838	1,000	9,142	1,715	**10,857**
1989	Below Normal	5,131	1,716	2,042	825	9,713	1,553	**11,266**
1990	Dry	5,323	1,755	2,130	687	9,895	1,731	**11,626**
1991	Above Normal	5,569	1,607	2,052	899	10,127	1,530	**11,657**
1992	Above Normal	5,628	1,596	2,065	1,063	10,352	1,391	**11,743**
1993	Wet	5,261	1,712	2,113	791	9,877	1,604	**11,481**
1994	Below Normal	5,509	1,694	2,181	793	10,177	1,770	**11,947**
1995	Wet	5,567	1,637	2,139	888	10,230	1,640	**11,870**
1996	Dry	6,243	1,781	2,353	1,016	11,392	1,450	**12,841**
1997	Above Normal	6,512	1,799	2,331	1,091	11,733	1,451	**13,184**
1998	Wet	5,929	1,685	3,038	744	11,396	1,116	**12,511**
1999	Dry	7,438	1,904	2,450	1,144	12,936	1,129	**14,065**
2000	Dry	8,519	1,991	2,418	913	13,841	1,147	**14,988**
2001	Dry	8,382	2,029	2,365	832	13,607	723	**14,330**
2002	Critically Dry	9,121	2,176	2,473	946	14,716	629	**15,346**
2003	Above Normal	8,506	2,282	2,346	743	13,877	636	**14,513**
2004	Dry	8,841	2,196	2,392	208	13,637	578	**14,215**
2005	Wet	8,555	1,965	2,383	69	12,972	588	**13,561**
2006	Below Normal	8,362	2,037	2,542	12	12,953	525	**13,478**
2007	Critically Dry	7,821	2,151	2,765	-	12,738	428	**13,166**
2008	Normal	6,350	2,198	2,460	-	11,008	387	**11,395**
2009	Below Normal	5,692	2,148	1,964	-	9,805	366	**10,171**
2010	Above Normal	6,205	1,934	1,873	-	10,012	388	**10,400**
2011	Wet	5,685	1,826	1,946	-	9,458	381	**9,839**
2012	Dry	5,824	1,905	2,093	-	9,822	352	**10,174**
2013	Dry	5,837	2,086	2,081	-	10,004	338	**10,341**
2014	Dry	7,227	2,023	2,114	210	11,574	323	**11,897**
Historical Average		**5,116**	**2,062**	**1,873**	**652**	**9,612**	**1,733**	**11,346**
Critically Dry Wate Year Average		8,471	2,164	2,619	946	13,727	529	**14,256**
Dry Water Year Average		5,797	2,037	1,988	650	10,379	1,451	**11,830**
Below Normal Water Year Average		4,856	2,055	1,809	673	9,317	1,737	**11,055**
Normal Water Year Average		3,872	2,097	1,654	606	8,128	2,387	**10,515**
Above Normal Water Year Average		4,937	2,066	1,816	756	9,491	1,861	**11,351**
Wet Water Year Average		4,636	2,059	1,802	538	8,981	1,859	**10,841**

AF = acre-feet

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Table 2C-8: Estimates of Safe Yield in the Yucaipa Subbasin and Subareas (AFY)				
Subarea	Historical Sustainable Yield Estimated from the YIHM	GSSI (2014) Estimates of Safe Yield		
	YIHM Water Budget	Zero-Net Draft	Hill	Hydrologic Water Balance
Triple Falls Creek	394	215	310	-
Oak Glen	473	415	600	-
Gateway	1,947	1,775	1,440	-
Crafton	427	200	370	-
Wilson Creek	696	1,520	1,245	-
Western Heights	1,764	2,270	2,100	-
Calimesa	4,354	3,195	3,580	-
Live Oak	962	-	-	-
Singleton[a]	0	-	-	-
Yucaipa Subbasin	**10,981**	**9,590**	**9,645**	**9,683**

Estimates of safe yield have not previously been calculated for the Singleton and Live Oak Hydrogeologic Subareas

[a]Results from the YIHM indicate that groundwater in storage declined by approximately 36 AFY; this was subtractred from the total Subbasin sustainable yield, and represented as a zero for the Singelton Subarea sustainable yield

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Table 2C-9:
Historical Water Year Type Distribution in the Subbasin

Water Year Type	Number of occurences between 1965 and 2014	Water Years
Critically Dry	2	2002, 2007
Dry	14	1970, 1972, 1981, 1984, 1987, 1990, 1996, 2000, 2001, 2004, 2012, 2013, 2014
Below Normal	9	1971, 1974, 1977, 1985, 1988, 1994, 2006, 2009
Normal	6	1965, 1968, 1975, 1976, 1986, 2008
Above Normal	9	1966, 1973, 1979, 1982, 1991, 1992, 1997, 2003, 2010
Wet	10	1967, 1969, 1978, 1980, 1983, 1993, 1995, 1998, 2005, 2011

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Table 2C-10: Historical Surface Water Availability in the Subbasin

Water Year Ending	Water Year Type	SWP water imported from SBVMWD	SWP water imported from SGPWA	Surface water diversions from Oak Glen Creek, Birch Creek, and Well 25	**Total Surface Water Availability**
2001	Dry	---	---	396	**396**
2002	Critically Dry	---	---	449	**449**
2003	Above Normal	855	---	502	**1,357**
2004	Dry	1,246	---	360	**1,606**
2005	Wet	1,357	---	527	**1,885**
2006	Below Normal	2,213	---	520	**2,734**
2007	Critically Dry	3,539	---	418	**3,957**
2008	Normal	7,263	---	382	**7,645**
2009	Below Normal	7,476	---	356	**7,832**
2010	Above Normal	5,530	---	363	**5,893**
2011	Wet	7,264	---	378	**7,642**
2012	Dry	9,394	---	275	**9,670**
2013	Dry	8,890	---	235	**9,125**
2014	Dry	5,292	---	243	**5,536**
Average		5,027	---	380	**4,695**
Critically Dry Wate Year Average		3,539	---	434	**2,203**
Dry Water Year Average		6,206	---	302	**5,267**
Below Normal Water Year Average		4,844	---	438	**5,283**
Normal Water Year Average		7,263	---	382	**7,645**
Above Normal Water Year Average		3,193	---	432	**3,625**
Wet Water Year Average		4,311	---	452	**4,763**

--- = Blank cells indicate that YVWD had not contracted with SWP providers during this period

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Table 2C-11
Current Condition Water Budget for the Yucaipa Subbasin

Table 2C-11	Water Year Type	Individual Components of the Basin Water Budget Reported in Units of Acre-Feet (AF)												Individual Components of the Basin Water Budget Reported in Units of Acre-Feet (AF)													
		Inflows to Groundwater System												Outflows from Groundwater System												Change in Groundwater in Storage	
					Subsurface Inflows										Subsurface Outflows												
		Stream Leakage	Return Flows[B]	Precipitation Recharge	From Beaumont Basin	From San Timoteo Basin	From SBBA	From Crafton Hills	From Yucaipa Hills	From San Bernardino Mountains	*Subtotal*	Surface Water Spreading	Total Basin Inflows	ET	To Beaumont Basin	To San Timoteo Basin	To SBBA	To Crafton Hills	To Yucaipa Hills	To San Bernardino Mountains	*Subtotal*	GW Discharges to Streams	GW Extractions	Surface Water Diversions[C]	GW Discharge to Surface[D]	Total Basin Outflows	Annual	Cumulative
2015	Below Normal	10,571	4,009	2,903	1,006	6,721	39	25	3,292	1,887	*12,970*	115	**30,568**	3,426	1,066	9,186	4,372	1	2,180	17	*16,821*	3,073	10,461	188	9	**33,978**	**-3,410**	-3,410
2016	Dry	10,576	4,020	3,647	996	6,700	39	26	3,223	1,751	*12,735*	6	**30,985**	3,443	916	9,199	4,437	1	2,138	17	*16,708*	3,026	7,915	189	10	**31,292**	**-307**	-3,717
2017	Above Normal	14,433	4,009	10,073	949	6,614	38	25	3,251	1,815	*12,692*	6,582	**47,790**	3,719	944	9,127	4,550	1	2,176	21	*16,818*	6,557	7,223	205	320	**34,842**	**12,947**	9,230
2018	Critically Dry	11,349	4,009	5,339	889	6,581	32	22	3,298	1,577	*12,399*	1,757	**34,854**	3,965	1,003	9,163	4,454	1	2,154	20	*16,795*	3,852	9,073	182	191	**34,058**	**796**	10,026
Average		**11,732**	**4,012**	**5,491**	**960**	**6,654**	**37**	**24**	**3,266**	**1,758**	***12,699***	**2,115**	**36,049**	**3,638**	**982**	**9,169**	**4,453**	**1**	**2,162**	**19**	***16,786***	**4,127**	**8,668**	**191**	**133**	**33,542**	**2,506**	**-**

[A]Water Year corresponds to October 1 of the previous year, through September 30th of the current year.
[B]Return flows consist of water that recharges the Subbasin via municipal distribution network leaks, septic system discharges, and infiltration of irrigation water
[C]Represents surface water diversions through the operation of YVWD-25
[D]The YIHM calculates groundwater discharges to land surface when groundwater elevations in a given cell are higher than the top elevation of the cell

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Table 2C-12: Sustainable Yield for each Management Area in the Yucaipa Subbasin	
Management Area	**Sustainable Yield (AFY)**
Calimesa	4,955
North Bench	3,940
San Timoteo	325
Western Heights	1,760
Total	**10,980**

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Table 2C-13: Projected Future Baseline Water Budget

Individual Components of the Basin Water Budget Reported in Units of Acre-Feet (AF)

Water Year[A]	Inflows to Groundwater System												Outflows from Groundwater System													Change in Groundwater in Storage	
				Subsurface Inflows										Subsurface Outflows													
	Stream Leakage	Return Flows[B]	Precipitation Recharge	From Beaumont Basin	From San Timoteo Basin	From SBBA	From Crafton Hills	From Yucaipa Hills	From San Bernardino Mtns	Subtotal	Surface Water Spreading	Total Basin Inflows	ET	To Beaumont Basin	To San Timoteo Basin	To SBBA	To Crafton Hills	To Yucaipa Hills	To San Bernardino Mtns	Subtotal	GW Discharges to Streams	GW Extractions	Surface Water Diversions[C]	GW Discharge to SurfaceD	Total Basin Outflows	Annual	Cumulative
2019	11,119	4,009	3,705	891	6,574	27	21	3,200	1,574	12,287	2,139	33,260	3,429	1,068	9,160	4,488	1	2,114	16	16,846	3,534	10,563	139	106	34,617	-1,357	**-1,357**
2020	11,256	4,020	4,161	893	6,573	26	21	3,127	1,721	12,362	2,139	33,939	3,457	1,088	9,186	4,559	1	2,099	16	16,949	3,679	10,555	153	120	34,912	-973	**-2,330**
2021	11,381	4,009	4,687	889	6,540	24	22	3,069	1,682	12,226	2,139	34,443	3,337	1,102	9,154	4,576	1	2,080	17	16,929	3,760	10,557	150	118	34,852	-409	**-2,739**
2022	12,253	4,009	8,268	897	6,527	22	21	3,155	1,757	12,380	2,139	39,050	3,894	1,120	9,110	4,698	1	2,126	19	17,074	4,319	10,586	188	119	36,180	2,869	**131**
2023	12,601	4,009	8,223	877	6,500	18	20	3,233	1,797	12,446	2,139	39,418	3,532	1,142	9,110	4,798	1	2,154	19	17,224	4,602	10,600	192	123	36,273	3,145	**3,276**
2024	11,731	4,020	5,605	864	6,531	16	20	3,287	1,852	12,570	2,139	36,065	3,911	1,179	9,178	4,659	1	2,167	17	17,201	4,097	10,580	191	119	36,101	-36	**3,240**
2025	14,806	4,009	15,922	864	6,521	14	18	3,494	2,405	13,317	2,139	*50,193*	4,268	1,204	9,072	4,788	1	2,313	20	17,398	6,641	10,632	191	126	*39,256*	10,936	**14,177**
2026	12,928	4,009	6,836	818	6,502	10	17	3,691	2,308	13,346	2,139	*39,258*	4,552	1,212	9,165	4,835	2	2,332	20	17,565	5,294	10,619	192	123	*38,345*	913	**15,090**
2027	13,302	4,009	6,429	807	6,527	9	18	3,566	2,394	13,321	2,139	*39,200*	4,373	1,297	9,190	4,889	1	2,287	22	17,687	5,505	10,614	192	124	*38,495*	705	**15,795**
2028	12,384	4,020	4,901	800	6,575	10	19	3,498	2,267	13,169	2,139	*36,614*	4,589	1,368	9,227	4,809	1	2,255	22	17,682	4,762	10,603	192	118	*37,946*	-1,332	**14,463**
2029	13,775	4,009	7,923	796	6,526	11	20	3,440	2,337	13,129	2,139	*40,975*	3,888	1,427	9,181	5,024	1	2,262	23	17,918	5,942	10,630	192	126	*38,696*	2,279	**16,742**
2030	13,039	4,009	6,948	793	6,514	11	20	3,509	2,112	12,959	2,139	*39,094*	4,476	1,466	9,178	4,914	1	2,266	23	17,849	5,345	10,633	192	123	*38,618*	475	**17,217**
2031	12,531	4,009	5,242	782	6,488	10	21	3,480	2,058	12,839	2,139	*36,760*	3,932	1,515	9,201	4,976	1	2,253	21	17,968	4,863	10,617	192	124	*37,695*	-935	**16,282**
2032	12,807	4,020	5,934	777	6,532	11	22	3,426	2,087	12,854	2,139	*37,755*	4,044	1,539	9,213	4,922	1	2,236	21	17,933	4,857	10,612	192	122	*37,760*	-5	**16,277**
2033	12,687	4,009	6,488	780	6,497	11	22	3,399	2,146	12,855	2,139	*38,178*	4,390	1,558	9,198	4,935	1	2,233	22	17,947	4,934	10,616	192	125	*38,204*	-26	**16,250**
2034	16,306	4,009	20,771	793	6,500	10	19	3,829	2,645	13,796	2,139	*57,022*	4,944	1,562	9,109	4,944	2	2,478	24	18,120	8,567	10,656	192	133	*42,612*	14,410	**30,661**
2035	16,645	4,009	13,198	732	6,439	6	15	4,143	2,638	13,974	2,139	*49,965*	5,061	1,561	9,170	5,144	4	2,598	23	18,500	8,965	10,657	192	139	*43,513*	6,452	**37,112**
2036	18,647	4,020	18,833	733	6,530	6	15	4,425	3,042	14,750	2,139	*58,389*	5,916	1,668	9,184	5,217	5	2,749	23	18,845	11,184	10,659	192	143	*46,939*	11,450	**48,562**
2037	17,040	4,009	7,761	678	6,554	6	15	4,441	2,818	14,511	2,139	*45,461*	6,310	1,716	9,234	5,315	3	2,674	22	18,965	9,150	10,630	192	135	*45,381*	79	**48,642**
2038	17,748	4,009	9,711	668	6,583	6	18	4,221	3,000	14,496	2,139	*48,104*	5,089	1,839	9,227	5,290	2	2,598	24	18,980	10,011	10,647	192	141	*45,059*	3,044	**51,686**
2039	18,164	4,009	13,277	672	6,640	6	18	4,272	3,007	14,614	2,139	*52,204*	5,181	1,924	9,178	5,299	2	2,663	25	19,092	11,186	10,663	192	150	*46,465*	5,739	**57,425**
2040	15,910	4,020	7,992	649	6,640	6	17	4,341	2,619	14,272	2,139	*44,333*	6,392	1,990	9,275	5,307	2	2,657	22	19,254	8,643	10,644	192	137	*45,262*	-928	**56,497**
2041	15,544	4,009	6,661	640	6,628	7	20	4,193	2,581	14,069	2,139	*42,423*	5,568	2,048	9,310	5,248	2	2,583	24	19,214	7,880	10,636	192	131	*43,621*	-1,198	**55,299**
2042	15,227	4,009	5,659	645	6,635	6	23	4,063	2,563	13,936	2,139	*40,970*	5,383	2,065	9,355	5,346	2	2,522	23	19,313	7,276	10,624	192	127	*42,916*	-1,946	**53,353**
2043	14,169	4,009	4,511	647	6,623	6	24	3,925	2,435	13,661	2,139	*38,489*	5,130	2,079	9,371	5,291	2	2,461	24	19,227	6,320	10,612	192	125	*41,607*	-3,118	**50,235**
2044	13,612	4,020	4,634	657	6,630	6	25	3,813	2,369	13,501	2,139	*37,907*	4,824	2,065	9,386	5,285	2	2,422	24	19,183	5,805	10,609	192	124	*40,738*	-2,831	**47,404**
2045	12,613	4,009	4,203	666	6,608	6	26	3,712	2,167	13,186	2,139	*36,150*	4,877	2,044	9,354	5,116	2	2,385	23	18,924	5,032	10,605	192	120	*39,749*	-3,600	**43,804**
2046	12,063	4,009	3,357	679	6,620	7	27	3,617	1,994	12,944	2,139	*34,513*	4,586	2,027	9,344	5,113	2	2,338	22	18,846	4,440	10,597	192	120	*38,781*	-4,268	**39,536**
2047	13,045	4,009	7,889	703	6,645	9	27	3,579	2,012	12,976	2,139	*40,058*	4,639	1,985	9,272	5,094	2	2,348	20	18,721	5,171	10,620	192	122	*39,465*	593	**40,129**
2048	13,469	4,020	8,722	717	6,644	9	25	3,677	2,056	13,129	2,139	*41,479*	4,804	1,950	9,299	5,094	2	2,400	20	18,765	5,652	10,638	192	124	*40,176*	1,303	**41,432**
2049	16,117	4,009	20,186	719	6,662	7	21	4,121	2,504	14,034	2,139	*56,486*	5,544	1,910	9,211	5,120	2	2,640	24	18,908	8,621	10,655	192	133	*44,053*	12,433	**53,865**
2050	15,057	4,009	7,825	676	6,661	6	18	4,200	2,555	14,117	2,139	*43,147*	5,298	1,870	9,296	5,345	2	2,609	19	19,139	7,296	10,640	192	134	*42,699*	448	**54,313**
2051	17,364	4,009	15,080	688	6,699	6	19	4,225	2,980	14,617	2,139	*53,209*	5,404	1,952	9,237	5,310	2	2,656	23	19,180	10,033	10,657	192	141	*45,607*	7,602	**61,914**
2052	15,428	4,020	7,471	652	6,730	6	19	4,257	2,613	14,277	2,139	*43,336*	6,107	1,984	9,336	5,305	2	2,613	20	19,259	7,838	10,629	192	130	*44,157*	-821	**61,093**
2053	15,118	4,009	7,625	655	6,732	7	21	4,103	2,545	14,062	2,139	*42,954*	5,758	2,075	9,330	5,246	2	2,556	22	19,231	7,493	10,633	192	127	*43,434*	-480	**60,614**
2054	17,239	4,009	14,971	668	6,755	6	21	4,174	2,862	14,485	2,139	*52,843*	4,955	2,110	9,260	5,312	2	2,639	24	19,347	10,078	10,656	192	144	*45,371*	7,472	**68,085**
2055	15,011	4,009	6,458	645	6,734	6	20	4,253	2,465	14,122	2,139	*41,740*	5,644	2,124	9,323	5,388	2	2,605	21	19,462	7,692	10,626	192	137	*43,753*	-2,014	**66,072**
2056	14,730	4,020	6,041	647	6,789	7	23	4,115	2,466	14,046	2,139	*40,976*	5,846	2,166	9,407	5,387	2	2,548	21	19,531	6,783	10,614	192	126	*43,093*	-2,116	**63,955**
2057	14,518	4,009	5,559	647	6,748	6	25	3,940	2,483	13,849	2,139	*40,074*	5,131	2,187	9,372	5,344	2	2,477	21	19,403	6,730	10,625	192	127	*42,209*	-2,135	**61,821**
2058	12,801	4,009	3,545	657	6,745	6	26	3,841	2,237	13,512	2,139	*36,006*	5,290	2,183	9,406	5,251	2	2,414	22	19,278	5,168	10,606	192	120	*40,654*	-4,648	**57,173**
2059	13,513	4,009	5,957	672	6,732	6	27	3,706	2,218	13,361	2,139	*38,979*	4,735	2,157	9,345	5,282	2	2,397	22	19,204	5,677	10,618	192	125	*40,551*	-1,572	**55,601**
2060	12,683	4,020	4,733	691	6,742	7	27	3,684	2,052	13,203	2,139	*36,778*	4,978	2,138	9,393	5,200	2	2,373	21	19,126	4,968	10,614	192	120	*39,998*	-3,220	**52,381**
2061	15,279	4,009	14,869	706	6,711	7	25	3,853	2,383	13,685	2,139	*49,982*	4,890	2,099	9,249	5,149	2	2,496	22	19,017	7,701	10,653	192	133	*42,586*	7,396	**59,777**
2062	13,283	4,009	5,883	668	6,689	6	23	3,971	2,199	13,555	2,139	*38,870*	5,162	2,046	9,354	5,354	2	2,485	19	19,260	5,555	10,618	192	127	*40,914*	-2,044	**57,733**
2063	12,297	4,009	4,024	679	6,746	6	25	3,831	2,281	13,569	2,139	*36,039*	5,202	2,057	9,382	5,184	1	2,420	19	19,063	4,659	10,601	192	118	*39,835*	-3,796	**53,936**
2064	12,631	4,020	4,594	686	6,783	6	27	3,668	2,294	13,466	2,139	*36,851*	4,824	2,069	9,373	5,110	1	2,365	19	18,937	4,976	10,597	192	120	*39,646*	-2,796	**51,140**
2065	12,281	4,009	4,197	703	6,777	8	28	3,571	2,113	13,199	2,139	*35,825*	4,800	2,058	9,347	5,096	1	2,311	21	18,834	4,624	10,600	192	118	*39,168*	-3,343	**47,798**
2066	12,952	4,009	7,026	723	6,751	9	28	3,536	2,002	13,049	2,139	*39,175*	4,418	2,043	9,299	5,103	1	2,301	21	18,768	5,122	10,633	192	122	*39,256*	-81	**47,717**
2067	13,458	4,009	8,366	721	6,729	9	26	3,592	2,022	13,100	2,139	*41,072*	4,488	2,036	9,274	5,105	1	2,326	21	18,762	5,597	10,646	192	127	*39,812*	1,259	**48,976**
2068	12,170	4,020	4,298	717	6,741	8	26	3,655	1,918	13,065	2,139	*35,692*	4,734	2,019	9,355	5,181	1	2,320	19	18,895	4,460	10,609	192	120	*39,010*	-3,318	**45,658**
2069	11,722	4,009	3,765	729	6,770	8	27	3,551	2,060	13,145	2,139	*34,779*	4,394	2,001	9,313	5,054	1	2,279	18	18,665	4,150	10,596	190	117	*38,112*	-3,333	**42,326**
Average	**14,009**	**4,012**	**7,861**	**729**	**6,633**	**9**	**22**	**3,778**	**2,308**	**13,478**	**2,139**	**41,500**	**4,831**	**1,786**	**9,264**	**5,094**	**2**	**2,409**	**21**	**18,576**	**6,326**	**10,620**	**189**	**127**	**40,670**	**830**	**-**

[A]Water Year corresponds to October 1 of the previous year, through September 30th of the current year.

[B]Return flows consist of water that recharges the Subbasin via municipal distribution network leaks, septic system discharges, and infiltration of irrigation water

[C]Represents surface water diversions through the operation of YVWD-25

[D]The YIHM calculates groundwater discharges to land surface when groundwater elevations in a given cell are higher than the top elevation of the cell

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Table 2C-14
Comparison of Average Annual Water Budget Components for the Historical, Current, and Projected Conditions

Water Budget Component		Simulation Period				
				Projected		
		Historical (AFY)	Current (AFY)	Future Baseline (AFY)	Future Baseline with Climate Change I (AFY)	Future Baseline with Climate Change II (AFY)
Stream Leakage		11,812	11,732	14,009	13,257	12,295
Return Flows		2,829	4,012	4,012	4,012	4,012
Precipitation Recharge		6,101	5,491	7,861	7,290	6,496
Subsurface Inflows	From Beaumont Basin	1,315	960	729	755	795
	From San Timoteo Basin	6,544	6,654	6,633	6,591	6,558
	From SBBA	123	37	9	11	13
	From Crafton Hills	32	24	22	22	23
	From Yucaipa Hills	3,524	3,266	3,778	3,612	3,393
	From San Bernardino Mountains	2,277	1,758	2,308	2,200	2,053
	Total Subsurface Inflows	13,815	12,699	13,478	13,191	12,834
Surface Water Spreading		313	2,115	2,139	2,139	2,139
Average Annual Inflows		*34,870*	*36,049*	*41,500*	*39,888*	*37,776*
ET		3,460	3,638	4,831	4,825	4,731
Subsurface Outflows	To Beaumont Basin	795	982	1,786	1,736	1,659
	To San Timoteo Basin	9,109	9,169	9,264	9,246	9,188
	To SBBA	4,011	4,453	5,094	4,910	4,630
	To Crafton Hills	0	1	2	1	1
	To Yucaipa Hills	2,272	2,162	2,409	2,325	2,211
	To San Bernardino Mountains	20	19	21	21	21
	Total Subsurface Outflows	16,207	16,786	18,576	18,240	17,710
GW Discharges to Streams		3,984	4,127	6,326	5,448	4,538
Surface Water Diversions		217	191	189	188	180
GW Extractions		11,346	8,668	10,621	10,611	10,589
GW Discharge to Surface		23	133	127	119	112
Average Annual Outflows		*35,237*	*33,542*	40,670	39,432	37,859
Average Annual Change in Storage		**-367**	**2,506**	**830**	**457**	**-83**

AFY = acre-feet per year

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Table 2C-15: Projected Future Baseline with Climate Change I Water Budget

Individual Components of the Basin Water Budget Reported in Units of Acre-Feet (AF)

Water Year[A]	Inflows to Groundwater System												Outflows from Groundwater System													Change in Groundwater in Storage	
				Subsurface Inflows										Subsurface Outflows													
	Stream Leakage	Return Flows[B]	Precipitation Recharge	From Beaumont Basin	From San Timoteo Basin	From SBBA	From Crafton Hills	From Yucaipa Hills	From San Bernardino Mtns	Subtotal	Surface Water Spreading	Total Basin Inflows	ET	To Beaumont Basin	To San Timoteo Basin	To SBBA	To Crafton Hills	To Yucaipa Hills	To San Bernardino Mtns	Subtotal	GW Discharges to Streams	GW Extractions	Surface Water Diversions[C]	GW Discharge to Surface[D]	Total Basin Outflows	Annual	Cumulative
2019	11,333	4,009	3,902	891	6,581	27	21	3,204	1,569	12,292	2,139	33,676	3,684	1,068	9,161	4,451	1	2,114	16	16,811	3,497	10,563	136	103	34,794	-1,118	**-1,118**
2020	11,178	4,020	4,560	894	6,571	26	21	3,150	1,739	12,400	2,139	34,298	3,820	1,088	9,175	4,555	1	2,106	17	16,941	3,617	10,555	153	117	35,203	-905	**-2,024**
2021	11,168	4,009	4,559	888	6,547	24	22	3,091	1,678	12,250	2,139	34,125	3,645	1,103	9,161	4,460	1	2,089	16	16,830	3,596	10,555	145	114	34,884	-759	**-2,783**
2022	12,035	4,009	7,682	892	6,531	23	21	3,152	1,741	12,360	2,139	38,225	4,074	1,122	9,115	4,638	1	2,120	19	17,016	4,127	10,577	185	115	36,094	2,132	**-651**
2023	12,396	4,009	8,043	880	6,510	19	20	3,218	1,798	12,445	2,139	39,032	3,765	1,140	9,116	4,692	1	2,147	19	17,115	4,380	10,588	190	119	36,157	2,875	**2,224**
2024	11,481	4,020	5,447	867	6,541	17	20	3,271	1,840	12,555	2,139	35,642	4,137	1,174	9,181	4,531	1	2,155	17	17,058	3,887	10,575	189	115	35,962	-320	**1,904**
2025	14,291	4,009	15,055	867	6,526	15	19	3,453	2,324	13,203	2,139	*48,698*	4,467	1,205	9,070	4,693	1	2,290	20	17,278	6,120	10,621	188	121	*38,794*	9,904	**11,808**
2026	12,388	4,009	6,309	826	6,523	11	17	3,628	2,230	13,235	2,139	*38,081*	4,769	1,212	9,158	4,680	1	2,303	20	17,375	4,780	10,612	192	118	*37,845*	235	**12,043**
2027	12,422	4,009	6,143	817	6,558	10	18	3,505	2,381	13,289	2,139	*38,003*	4,570	1,281	9,179	4,712	1	2,259	22	17,454	4,783	10,605	192	118	*37,722*	281	**12,324**
2028	11,721	4,020	4,495	812	6,605	11	20	3,423	2,233	13,104	2,139	*35,480*	4,673	1,360	9,212	4,638	1	2,219	22	17,451	4,202	10,594	192	112	*37,226*	-1,746	**10,578**
2029	12,976	4,009	6,744	809	6,550	12	21	3,335	2,247	12,974	2,139	*38,842*	3,965	1,410	9,166	4,882	1	2,202	22	17,683	5,164	10,623	192	120	*37,747*	1,095	**11,674**
2030	12,378	4,009	6,510	813	6,549	13	21	3,370	2,005	12,770	2,139	*37,807*	4,535	1,448	9,158	4,759	1	2,205	23	17,594	4,683	10,616	192	117	*37,738*	69	**11,742**
2031	11,838	4,009	4,740	803	6,526	13	21	3,350	1,917	12,630	2,139	*35,355*	4,018	1,487	9,178	4,755	1	2,183	21	17,625	4,249	10,596	192	118	*36,797*	-1,441	**10,301**
2032	12,392	4,020	5,716	801	6,556	13	22	3,295	1,924	12,610	2,139	*36,877*	4,084	1,513	9,182	4,748	1	2,162	21	17,627	4,300	10,586	192	116	*36,905*	-28	**10,273**
2033	12,067	4,009	6,550	806	6,514	13	22	3,297	2,015	12,667	2,139	*37,432*	4,518	1,530	9,162	4,750	1	2,176	20	17,640	4,408	10,593	192	119	*37,471*	-38	**10,235**
2034	15,581	4,009	19,261	818	6,490	12	19	3,669	2,480	13,488	2,139	*54,478*	4,923	1,529	9,090	4,835	2	2,400	23	17,878	7,614	10,645	192	126	*41,378*	13,100	**23,335**
2035	15,451	4,009	11,336	758	6,406	6	16	3,959	2,586	13,731	2,139	*46,666*	4,994	1,520	9,165	5,022	3	2,494	22	18,227	7,599	10,652	192	130	*41,794*	4,873	**28,207**
2036	17,238	4,020	16,588	761	6,477	6	16	4,162	2,877	14,299	2,139	*54,284*	5,799	1,608	9,193	5,034	3	2,611	23	18,472	9,216	10,653	192	131	*44,463*	9,820	**38,028**
2037	15,688	4,009	7,170	702	6,473	6	16	4,192	2,629	14,017	2,139	*43,024*	6,136	1,674	9,268	5,016	2	2,547	22	18,528	7,572	10,624	192	124	*43,176*	-153	**37,875**
2038	16,632	4,009	8,361	694	6,503	6	19	3,997	2,804	14,023	2,139	*45,165*	5,001	1,775	9,255	5,159	2	2,488	24	18,702	8,383	10,640	192	129	*43,047*	2,118	**39,993**
2039	17,515	4,009	11,890	695	6,517	6	19	4,012	2,882	14,132	2,139	*49,686*	5,190	1,853	9,219	5,273	2	2,520	26	18,894	9,710	10,663	192	138	*44,787*	4,899	**44,892**
2040	15,094	4,020	7,564	677	6,522	7	18	4,090	2,527	13,841	2,139	*42,658*	6,294	1,887	9,349	5,125	2	2,529	23	18,916	7,351	10,639	192	126	*43,517*	-859	**44,032**
2041	14,462	4,009	6,271	667	6,518	6	21	3,961	2,449	13,623	2,139	*40,504*	5,422	1,947	9,335	5,098	2	2,475	24	18,880	6,556	10,626	192	122	*41,797*	-1,293	**42,739**
2042	13,927	4,009	5,091	667	6,553	6	23	3,841	2,454	13,545	2,139	*38,711*	5,315	1,974	9,348	5,095	2	2,413	23	18,854	5,989	10,616	192	119	*41,084*	-2,372	**40,367**
2043	13,097	4,009	4,330	678	6,578	6	24	3,737	2,361	13,385	2,139	*36,960*	5,122	1,979	9,346	5,070	2	2,361	23	18,780	5,291	10,608	192	118	*40,111*	-3,150	**37,216**
2044	12,632	4,020	4,092	688	6,603	7	25	3,628	2,267	13,219	2,139	*36,102*	4,860	1,985	9,362	5,031	2	2,335	23	18,737	4,860	10,603	192	117	*39,369*	-3,267	**33,949**
2045	11,934	4,009	3,890	701	6,608	9	26	3,526	2,045	12,915	2,139	*34,887*	4,779	1,974	9,318	4,928	2	2,290	22	18,534	4,324	10,599	192	114	*38,542*	-3,655	**30,294**
2046	11,415	4,009	3,314	719	6,616	11	27	3,433	1,857	12,662	2,139	*33,540*	4,548	1,942	9,301	4,844	2	2,241	21	18,351	3,844	10,587	189	114	*37,632*	-4,092	**26,202**
2047	12,356	4,009	7,271	739	6,617	12	27	3,391	1,852	12,637	2,139	*38,413*	4,562	1,926	9,228	4,867	2	2,247	20	18,290	4,467	10,592	184	115	*38,210*	202	**26,404**
2048	12,649	4,020	7,655	755	6,635	12	25	3,461	1,892	12,781	2,139	*39,245*	4,770	1,898	9,259	4,920	2	2,287	19	18,386	4,772	10,617	192	117	*38,853*	391	**26,795**
2049	15,508	4,009	19,111	765	6,611	10	21	3,874	2,287	13,568	2,139	*54,336*	5,359	1,853	9,166	4,980	2	2,508	23	18,532	7,532	10,651	192	125	*42,391*	11,944	**38,740**
2050	13,764	4,009	7,509	715	6,578	6	19	3,994	2,428	13,739	2,139	*41,161*	5,220	1,821	9,273	5,094	2	2,499	19	18,708	5,950	10,630	192	125	*40,825*	336	**39,076**
2051	16,138	4,009	12,230	719	6,607	6	20	3,964	2,766	14,083	2,139	*48,599*	5,344	1,897	9,226	5,084	2	2,530	22	18,760	8,208	10,651	192	129	*43,284*	5,315	**44,390**
2052	14,323	4,020	6,511	691	6,621	6	20	3,967	2,511	13,816	2,139	*40,809*	5,766	1,922	9,340	5,078	2	2,484	20	18,846	6,454	10,623	192	120	*42,002*	-1,193	**43,198**
2053	14,116	4,009	7,486	695	6,627	6	22	3,859	2,479	13,688	2,139	*41,438*	5,504	1,970	9,312	5,052	2	2,444	22	18,801	6,305	10,629	192	118	*41,550*	-112	**43,086**
2054	16,470	4,009	14,193	703	6,629	6	21	3,930	2,749	14,039	2,139	*50,851*	4,917	2,015	9,254	5,185	2	2,521	23	19,000	8,658	10,654	192	133	*43,555*	7,295	**50,381**
2055	14,034	4,009	6,353	672	6,597	6	20	4,031	2,408	13,735	2,139	*40,270*	5,650	2,035	9,366	5,216	2	2,493	21	19,132	6,295	10,624	192	126	*42,019*	-1,749	**48,632**
2056	13,639	4,020	5,679	676	6,660	7	23	3,900	2,357	13,623	2,139	*39,101*	5,622	2,083	9,389	5,116	2	2,455	21	19,066	5,683	10,611	192	118	*41,292*	-2,191	**46,441**
2057	13,602	4,009	5,450	677	6,647	6	24	3,756	2,400	13,511	2,139	*38,711*	5,047	2,104	9,346	5,139	2	2,396	21	19,008	5,783	10,616	192	120	*40,767*	-2,056	**44,385**
2058	11,997	4,009	3,529	690	6,674	7	26	3,675	2,167	13,239	2,139	*34,913*	5,325	2,100	9,371	4,958	2	2,337	22	18,790	4,448	10,605	192	113	*39,473*	-4,560	**39,825**
2059	12,722	4,009	5,333	703	6,678	8	27	3,538	2,084	13,038	2,139	*37,242*	4,803	2,085	9,325	5,070	1	2,310	21	18,812	4,766	10,605	192	117	*39,295*	-2,054	**37,772**
2060	11,973	4,020	4,511	726	6,704	10	27	3,506	1,942	12,915	2,139	*35,558*	4,947	2,063	9,352	4,945	1	2,286	21	18,668	4,258	10,603	192	113	*38,781*	-3,223	**34,548**
2061	14,564	4,009	13,127	745	6,642	10	25	3,620	2,220	13,262	2,139	*47,102*	4,835	2,049	9,237	5,093	1	2,378	22	18,781	6,465	10,645	192	124	*41,042*	6,060	**40,608**
2062	12,461	4,009	5,412	710	6,624	7	24	3,748	2,008	13,121	2,139	*37,142*	5,123	2,006	9,315	5,021	1	2,370	19	18,732	4,733	10,615	192	118	*39,514*	-2,371	**38,236**
2063	11,391	4,009	3,727	718	6,693	7	25	3,618	2,101	13,161	2,139	*34,427*	5,104	2,015	9,319	4,816	1	2,310	19	18,481	3,881	10,599	188	111	*38,364*	-3,936	**34,300**
2064	11,866	4,020	4,276	733	6,743	9	27	3,483	2,179	13,174	2,139	*35,475*	4,662	2,012	9,307	4,950	1	2,272	19	18,562	4,142	10,595	191	113	*38,264*	-2,790	**31,510**
2065	11,604	4,009	3,969	743	6,734	11	27	3,387	1,983	12,885	2,139	*34,607*	4,637	2,003	9,279	4,860	1	2,216	20	18,380	3,934	10,589	191	111	*37,843*	-3,237	**28,274**
2066	12,372	4,009	6,476	756	6,693	12	27	3,344	1,899	12,732	2,139	*37,727*	4,321	1,993	9,235	4,879	1	2,200	22	18,330	4,458	10,605	191	116	*38,021*	-294	**27,980**
2067	12,985	4,009	8,252	761	6,674	12	26	3,407	1,912	12,791	2,139	*40,177*	4,494	1,965	9,216	4,940	1	2,226	22	18,370	4,935	10,629	192	120	*38,741*	1,436	**29,416**
2068	11,494	4,020	4,308	758	6,692	11	25	3,463	1,772	12,721	2,139	*34,684*	4,711	1,957	9,291	4,827	1	2,218	19	18,313	3,891	10,594	190	113	*37,812*	-3,128	**26,287**
2069	11,340	4,009	3,784	764	6,710	11	27	3,373	1,934	12,818	2,139	*34,089*	4,256	1,951	9,241	4,860	1	2,178	17	18,248	3,718	10,576	173	112	*37,083*	-2,993	**23,294**
Average	**13,257**	**4,012**	**7,290**	**755**	**6,591**	**11**	**22**	**3,612**	**2,200**	**13,191**	**2,139**	**39,888**	**4,825**	**1,736**	**9,246**	**4,910**	**1**	**2,325**	**21**	**18,240**	**5,448**	**10,611**	**188**	**119**	**39,432**	**457**	**27,632**

[A]Water Year corresponds to October 1 of the previous year, through September 30th of the current year.

[B]Return flows consist of water that recharges the Subbasin via municipal distribution network leaks, septic system discharges, and infiltration of irrigation water

[C]Represents surface water diversions through the operation of YVWD-25

[D]The YIHM calculates groundwater discharges to land surface when groundwater elevations in a given cell are higher than the top elevation of the cell

Table 2C-16: Projected Future Baseline with Climate Change II Water Budget

Individual Components of the Basin Water Budget Reported in Units of Acre-Feet (AF)

Water Year[A]	Inflows to Groundwater System												Outflows from Groundwater System												Change in Groundwater in Storage	
				Subsurface Inflows										Subsurface Outflows												
	Stream Leakage	Return Flows[B]	Precipitation Recharge	From Beaumont Basin	From San Timoteo Basin	From SBBA	From Crafton Hills	From Yucaipa Hills	From San Bernardino Mtns	Subtotals	Surface Water Spreading	Total Basin Inflows	ET	To Beaumont Basin	To San Timoteo Basin	To SBBA	To Crafton Hills	To Yucaipa Hills	To San Bernardino Mtns	GW Discharges to Streams	GW Extractions	Surface Water Diversions[C]	GW Discharge to Surface[D]	Total Basin Outflows	Annual	Cumulative
2019	11,195	4,009	3,839	891	6,592	27	21	3,209	1,558	11,407	2,139	33,480	3,984	1,070	9,164	4,363	1	2,114	16	3,367	10,562	131	100	34,871	-1,390	**-1,390**
2020	10,994	4,020	4,494	894	6,577	26	21	3,151	1,729	11,504	2,139	34,045	4,101	1,090	9,178	4,461	1	2,106	16	3,466	10,551	145	112	35,227	-1,181	**-2,572**
2021	10,823	4,009	3,982	888	6,560	25	22	3,090	1,650	11,347	2,139	33,189	3,936	1,099	9,162	4,326	1	2,082	16	3,341	10,549	132	109	34,753	-1,564	**-4,135**
2022	11,708	4,009	6,983	893	6,536	24	22	3,111	1,703	11,396	2,139	37,129	4,221	1,116	9,118	4,533	1	2,092	19	3,834	10,563	173	110	35,780	1,349	**-2,786**
2023	11,996	4,009	7,106	883	6,512	21	22	3,148	1,727	11,429	2,139	37,562	3,979	1,141	9,117	4,555	1	2,105	20	4,027	10,574	181	113	35,813	1,750	**-1,037**
2024	11,050	4,020	4,928	874	6,538	19	21	3,188	1,719	11,485	2,139	34,497	4,280	1,168	9,176	4,377	1	2,104	17	3,521	10,565	168	109	35,486	-989	**-2,025**
2025	13,393	4,009	13,363	878	6,525	17	20	3,322	2,116	12,000	2,139	*45,783*	4,522	1,190	9,061	4,568	1	2,215	20	5,226	10,602	172	114	*37,692*	8,091	**6,066**
2026	11,545	4,009	5,755	847	6,547	14	19	3,483	2,048	12,111	2,139	*36,407*	4,815	1,188	9,142	4,469	1	2,230	19	4,018	10,592	192	110	*36,776*	-368	**5,697**
2027	11,458	4,009	5,504	840	6,585	13	20	3,372	2,207	12,196	2,139	*36,147*	4,544	1,255	9,154	4,500	1	2,193	20	3,967	10,587	192	111	*36,523*	-376	**5,321**
2028	10,959	4,020	3,891	840	6,623	14	21	3,290	2,081	12,030	2,139	*33,878*	4,566	1,319	9,186	4,417	1	2,150	21	3,559	10,578	188	106	*36,091*	-2,213	**3,108**
2029	12,036	4,009	5,549	839	6,565	15	22	3,184	2,097	11,884	2,139	*36,456*	3,910	1,355	9,145	4,632	1	2,121	20	4,292	10,590	191	114	*36,371*	85	**3,194**
2030	11,669	4,009	5,687	841	6,554	16	22	3,202	1,849	11,644	2,139	*35,990*	4,480	1,404	9,128	4,562	1	2,109	22	3,992	10,587	192	110	*36,588*	-598	**2,595**
2031	10,989	4,009	3,950	846	6,535	16	23	3,169	1,725	11,467	2,139	*33,400*	4,051	1,416	9,150	4,449	1	2,079	20	3,537	10,565	184	111	*35,562*	-2,162	**433**
2032	11,754	4,020	5,077	839	6,534	16	24	3,109	1,709	11,392	2,139	*35,221*	4,056	1,449	9,141	4,531	1	2,061	20	3,674	10,555	164	109	*35,761*	-540	**-106**
2033	11,235	4,009	6,183	845	6,500	17	23	3,111	1,818	11,469	2,139	*35,880*	4,445	1,462	9,119	4,505	1	2,073	19	3,691	10,561	184	113	*36,172*	-292	**-398**
2034	14,384	4,009	16,767	857	6,449	15	21	3,401	2,228	12,114	2,139	*50,270*	4,737	1,456	9,060	4,679	1	2,274	20	6,226	10,621	188	118	*39,380*	10,890	**10,492**
2035	13,938	4,009	9,525	801	6,380	10	18	3,652	2,333	12,392	2,139	*42,803*	4,802	1,450	9,125	4,797	2	2,336	21	6,037	10,645	192	121	*39,528*	3,275	**13,767**
2036	15,500	4,020	14,073	814	6,458	8	17	3,822	2,737	13,042	2,139	*49,589*	5,568	1,517	9,145	4,781	2	2,435	26	7,308	10,646	192	120	*41,741*	7,848	**21,615**
2037	13,841	4,009	7,058	762	6,452	6	17	3,876	2,469	12,821	2,139	*40,630*	5,835	1,560	9,199	4,669	2	2,404	23	5,941	10,614	192	114	*40,553*	77	**21,692**
2038	15,276	4,009	7,815	749	6,501	6	19	3,717	2,633	12,876	2,139	*42,863*	5,003	1,650	9,185	4,860	1	2,358	24	6,883	10,621	192	119	*40,899*	1,964	**23,656**
2039	16,655	4,009	11,322	751	6,473	7	19	3,745	2,794	13,038	2,139	*47,915*	5,135	1,730	9,188	5,068	2	2,384	27	8,401	10,654	192	128	*42,909*	5,006	**28,662**
2040	13,859	4,020	7,046	725	6,470	6	19	3,839	2,476	12,810	2,139	*40,599*	6,048	1,766	9,308	4,773	2	2,397	25	6,161	10,620	192	116	*41,408*	-809	**27,853**
2041	13,120	4,009	5,546	718	6,483	6	21	3,716	2,396	12,622	2,139	*38,154*	5,316	1,819	9,274	4,826	2	2,347	23	5,339	10,606	192	113	*39,857*	-1,703	**26,150**
2042	12,695	4,009	4,747	717	6,541	7	23	3,611	2,388	12,569	2,139	*36,876*	5,222	1,860	9,274	4,746	2	2,296	23	4,938	10,598	192	112	*39,262*	-2,386	**23,764**
2043	11,973	4,009	3,964	726	6,578	9	24	3,507	2,304	12,422	2,139	*35,233*	5,078	1,866	9,267	4,701	2	2,252	24	4,367	10,592	192	111	*38,450*	-3,217	**20,547**
2044	11,685	4,020	3,687	741	6,607	11	25	3,426	2,133	12,202	2,139	*34,475*	4,750	1,878	9,285	4,653	2	2,222	23	4,053	10,587	192	110	*37,754*	-3,280	**17,267**
2045	11,172	4,009	3,435	757	6,594	12	26	3,315	1,895	11,842	2,139	*33,354*	4,643	1,873	9,241	4,617	2	2,173	21	3,654	10,574	188	107	*37,094*	-3,740	**13,527**
2046	10,811	4,009	3,111	768	6,594	14	27	3,222	1,703	11,558	2,139	*32,397*	4,422	1,859	9,224	4,530	2	2,124	21	3,339	10,556	166	107	*36,350*	-3,953	**9,574**
2047	11,694	4,009	6,241	786	6,572	15	27	3,166	1,688	11,468	2,139	*36,337*	4,352	1,831	9,158	4,628	2	2,124	22	3,860	10,558	165	109	*36,809*	-472	**9,102**
2048	11,939	4,020	6,858	803	6,575	16	26	3,218	1,724	11,559	2,139	*37,318*	4,603	1,820	9,198	4,667	2	2,146	22	4,052	10,579	188	110	*37,386*	-67	**9,035**
2049	14,675	4,009	17,715	812	6,522	14	22	3,600	2,067	12,225	2,139	*51,575*	5,156	1,778	9,101	4,750	2	2,362	25	6,402	10,629	191	117	*40,513*	11,062	**20,097**
2050	12,510	4,009	6,848	755	6,503	8	20	3,746	2,170	12,446	2,139	*38,708*	5,161	1,750	9,197	4,728	2	2,366	19	4,831	10,612	192	116	*38,971*	-264	**19,833**
2051	14,706	4,009	11,268	763	6,551	7	20	3,681	2,641	12,901	2,139	*45,786*	5,257	1,809	9,160	4,853	2	2,397	22	6,614	10,636	192	119	*41,061*	4,725	**24,558**
2052	13,029	4,020	6,060	743	6,594	7	21	3,720	2,443	12,785	2,139	*38,777*	5,610	1,826	9,255	4,771	1	2,371	21	5,284	10,612	192	113	*40,057*	-1,280	**23,278**
2053	12,890	4,009	6,466	742	6,596	7	22	3,604	2,398	12,627	2,139	*38,872*	5,368	1,865	9,223	4,766	1	2,322	22	5,175	10,610	192	111	*39,655*	-783	**22,495**
2054	15,156	4,009	11,652	750	6,573	8	22	3,637	2,621	12,861	2,139	*46,567*	4,810	1,903	9,194	4,928	1	2,376	23	7,041	10,644	192	123	*41,237*	5,330	**27,825**
2055	12,527	4,009	5,918	729	6,550	7	21	3,721	2,300	12,599	2,139	*37,921*	5,483	1,921	9,279	4,752	1	2,358	21	5,040	10,612	192	116	*39,776*	-1,855	**25,970**
2056	12,104	4,020	5,152	726	6,611	7	23	3,614	2,284	12,540	2,139	*36,681*	5,371	1,978	9,289	4,754	1	2,318	21	4,456	10,597	192	110	*39,087*	-2,406	**23,564**
2057	12,264	4,009	5,478	730	6,616	9	24	3,485	2,327	12,462	2,139	*37,082*	4,881	1,983	9,247	4,843	1	2,267	21	4,556	10,597	192	113	*38,701*	-1,619	**21,945**
2058	11,049	4,009	3,391	739	6,648	10	25	3,423	2,074	12,181	2,139	*33,509*	5,132	2,021	9,265	4,555	1	2,210	22	3,655	10,590	191	106	*37,749*	-4,240	**17,705**
2059	11,768	4,009	4,535	757	6,636	12	27	3,314	1,945	11,934	2,139	*35,142*	4,675	2,001	9,238	4,665	1	2,184	21	3,908	10,585	191	110	*37,579*	-2,437	**15,269**
2060	11,154	4,020	3,769	769	6,650	14	27	3,265	1,784	11,740	2,139	*33,592*	4,730	1,987	9,260	4,560	1	2,147	21	3,555	10,572	188	105	*37,129*	-3,537	**11,732**
2061	13,319	4,009	10,979	792	6,570	14	26	3,316	2,001	11,927	2,139	*43,165*	4,677	1,958	9,163	4,820	1	2,215	23	5,119	10,609	191	115	*38,890*	4,275	**16,007**
2062	11,394	4,009	4,762	765	6,577	12	24	3,427	1,789	11,829	2,139	*34,898*	4,907	1,925	9,215	4,568	1	2,205	20	3,835	10,589	191	110	*37,565*	-2,667	**13,340**
2063	10,540	4,009	3,482	772	6,633	12	25	3,322	1,827	11,820	2,139	*32,762*	4,788	1,929	9,207	4,459	1	2,157	19	3,184	10,565	153	104	*36,565*	-3,802	**9,538**
2064	11,054	4,020	3,755	783	6,654	14	27	3,216	1,962	11,872	2,139	*33,624*	4,394	1,918	9,214	4,570	1	2,131	19	3,437	10,559	152	106	*36,502*	-2,878	**6,660**
2065	10,773	4,009	3,241	793	6,637	15	27	3,139	1,808	11,626	2,139	*32,582*	4,401	1,905	9,186	4,456	1	2,082	19	3,293	10,551	152	104	*36,149*	-3,568	**3,092**
2066	11,545	4,009	5,310	799	6,594	16	27	3,083	1,731	11,452	2,139	*35,253*	4,161	1,892	9,141	4,573	1	2,055	22	3,692	10,555	169	108	*36,369*	-1,116	**1,975**
2067	12,087	4,009	7,040	805	6,561	16	26	3,123	1,734	11,460	2,139	*37,540*	4,310	1,883	9,134	4,648	1	2,067	24	4,011	10,573	184	111	*36,947*	594	**2,569**
2068	10,608	4,020	3,781	808	6,589	16	26	3,155	1,543	11,329	2,139	*32,686*	4,521	1,862	9,193	4,419	1	2,057	20	3,191	10,562	155	105	*36,085*	-3,400	**-830**
2069	10,557	4,009	3,195	812	6,569	16	27	3,081	1,588	11,280	2,139	*31,993*	4,063	1,846	9,154	4,440	1	2,013	17	3,106	10,548	106	105	*35,399*	-3,406	**-4,237**
Average	**12,295**	**4,012**	**6,496**	**795**	**6,558**	**13**	**23**	**3,393**	**2,053**	**12,039**	**2,139**	**37,776**	**4,731**	**1,659**	**9,188**	**4,630**	**1**	**2,211**	**21**	**4,538**	**10,589**	**180**	**112**	**37,859**	**-83**	**11,589**

[A]Water Year corresponds to October 1 of the previous year, through September 30th of the current year.

[B]Return flows consist of water that recharges the Subbasin via municipal distribution network leaks, septic system discharges, and infiltration of irrigation water

[C]Represents surface water diversions through the operation of YVWD-25

[D]The YIHM calculates groundwater discharges to land surface when groundwater elevations in a given cell are higher than the top elevation of the cell

Table 2C-17: Parameter groups included in YIHM Calibration and Sensitivity Analysis

Group Name	Model Component	Parameter Description
A	PRMS	Solar Radiation and PET parameters
B	PRMS, MODFLOW	Soil zone and
C	MODFLOW	Hydraulic conductivity
D	MODFLOW	Storage properties
E	MODFLOW	General head and constant head boundary condition properties
F	MODFLOW	Conductance parameters for faults and barriers to flow
G	MODFLOW	Streambed conductivity
H	MODFLOW	Unsaturated zone parameters, including brook-corey exponent, extinction depths, and surface leakage conductances

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Table 2C-18: Historical Water Budget for the Western Heights Management Area

Water Year[A]	Water Year Type[B]	Inflows to Principal Aquifer										Outflows from Principal Aquifer											Change in Storage	
					Subsurface Inflows										Subsurface Outflows									
		Stream Leakage	Return Flows	Precipitation Recharge	From North Bench MA	From Crafton Hills	From SBBA	From Calimesa MA	From San. Tim. MA	Subtotal	Total Inflows	ET	GW Production	GW Discharge to Streams	To North Bench MA	To Crafton Hills	To SBBA	To Calimesa MA	To San. Tim. MA	*Subtotal*	GW Discharge to Surface	Total Outflows	Annual	Cumulative
1965	Normal	0	72	80	335	11	0	733	73	*1,152*	1,305	1	2,646	0	0	0	0	60	148	*208*	0	2,855	***-1,550***	**-1,550**
1966	Above Normal	0	72	251	343	10	0	731	96	*1,181*	1,505	8	2,741	0	0	0	0	45	148	*194*	0	2,943	***-1,438***	**-2,988**
1967	Wet	0	72	260	332	10	0	708	119	*1,169*	1,502	10	2,315	0	0	0	0	45	151	*195*	0	2,520	***-1,018***	**-4,007**
1968	Normal	0	73	199	332	10	0	685	141	*1,167*	1,440	0	2,580	0	0	0	0	46	156	*202*	0	2,782	***-1,342***	**-5,349**
1969	Wet	1	72	692	341	10	0	690	176	*1,217*	1,982	16	1,986	0	0	0	0	43	162	*205*	0	2,208	***-225***	**-5,575**
1970	Dry	0	321	360	333	9	0	710	172	*1,225*	1,906	2	2,186	0	0	0	0	38	169	*208*	0	2,396	***-490***	**-6,064**
1971	Below Normal	0	202	235	334	9	0	716	150	*1,209*	1,646	2	2,259	0	0	0	0	29	171	*200*	0	2,460	***-814***	**-6,879**
1972	Dry	0	202	168	338	9	0	706	139	*1,192*	1,562	1	2,831	0	0	0	0	24	171	*195*	0	3,026	***-1,464***	**-8,343**
1973	Above Normal	0	202	153	338	9	0	686	135	*1,168*	1,523	4	2,381	0	0	0	0	20	170	*190*	0	2,575	***-1,052***	**-9,394**
1974	Below Normal	0	202	220	316	9	0	718	136	*1,180*	1,602	8	2,473	0	0	0	0	19	170	*189*	0	2,670	***-1,068***	**-10,462**
1975	Normal	0	204	179	294	9	0	737	135	*1,174*	1,557	0	2,326	0	0	0	0	27	170	*197*	0	2,523	***-966***	**-11,429**
1976	Normal	0	207	205	289	9	0	753	135	*1,186*	1,597	4	2,351	0	0	0	0	30	171	*201*	0	2,556	***-959***	**-12,388**
1977	Below Normal	0	206	190	299	8	0	768	135	*1,211*	1,607	6	2,214	0	0	0	0	27	171	*199*	0	2,418	***-811***	**-13,198**
1978	Wet	1	206	789	296	8	0	786	169	*1,260*	2,256	17	2,382	0	1	0	0	38	172	*211*	0	2,612	***-356***	**-13,554**
1979	Above Normal	0	206	489	289	8	0	828	178	*1,304*	1,999	15	2,410	0	0	0	0	43	178	*221*	0	2,646	***-648***	**-14,202**
1980	Wet	1	76	738	286	8	0	866	188	*1,349*	2,164	17	2,267	0	0	0	0	48	181	*229*	0	2,514	***-350***	**-14,552**
1981	Dry	0	32	482	284	8	0	900	173	*1,365*	1,880	0	2,236	0	0	0	0	50	184	*234*	0	2,470	***-590***	**-15,142**
1982	Above Normal	0	32	384	286	8	0	926	159	*1,379*	1,795	12	2,121	0	0	0	0	41	182	*223*	0	2,356	***-561***	**-15,703**
1983	Wet	1	32	464	277	8	0	938	178	*1,400*	1,897	16	1,957	0	0	0	0	39	183	*222*	0	2,195	***-298***	**-16,001**
1984	Dry	0	32	353	276	8	0	982	173	*1,439*	1,824	0	2,429	0	0	0	0	45	186	*232*	0	2,661	***-837***	**-16,838**
1985	Below Normal	0	50	280	284	8	0	1,010	155	*1,456*	1,787	0	2,533	0	0	0	0	45	185	*229*	0	2,762	***-975***	**-17,813**
1986	Normal	0	56	215	290	8	0	1,056	150	*1,503*	1,774	0	2,626	0	0	0	0	39	183	*222*	0	2,848	***-1,074***	**-18,887**
1987	Dry	0	56	190	294	7	0	1,086	147	*1,535*	1,781	0	2,460	0	0	0	0	32	181	*214*	0	2,674	***-894***	**-19,780**
1988	Below Normal	0	56	164	294	7	0	1,105	146	*1,552*	1,772	0	2,591	0	0	0	0	29	181	*210*	0	2,801	***-1,029***	**-20,809**
1989	Below Normal	0	56	136	296	7	0	1,122	137	*1,562*	1,754	0	2,641	0	0	0	0	28	179	*208*	0	2,848	***-1,094***	**-21,903**
1990	Dry	0	158	130	298	7	0	1,146	133	*1,584*	1,873	0	2,926	0	0	0	0	33	177	*210*	0	3,136	***-1,263***	**-23,167**
1991	Above Normal	0	192	273	297	7	0	1,131	141	*1,576*	2,042	5	2,624	0	0	0	0	32	176	*209*	0	2,838	***-796***	**-23,963**
1992	Above Normal	0	193	340	290	7	0	1,109	151	*1,557*	2,090	12	2,476	0	0	0	0	37	178	*215*	0	2,704	***-614***	**-24,576**
1993	Wet	1	411	954	283	7	0	1,097	207	*1,594*	2,961	17	2,616	0	1	0	0	53	182	*235*	0	2,868	***92***	**-24,484**
1994	Below Normal	0	432	509	293	7	0	1,132	195	*1,627*	2,568	0	2,795	0	0	0	0	68	190	*259*	0	3,054	***-487***	**-24,971**
1995	Wet	1	561	672	299	7	0	1,114	185	*1,605*	2,839	17	2,733	0	1	0	0	58	191	*249*	0	2,999	***-160***	**-25,131**
1996	Dry	0	606	455	290	7	0	1,088	172	*1,557*	2,618	0	2,863	0	0	0	0	60	193	*254*	0	3,117	***-499***	**-25,630**
1997	Above Normal	0	604	350	289	7	0	1,070	147	*1,512*	2,467	9	2,876	0	0	0	0	64	189	*253*	0	3,138	***-672***	**-26,302**
1998	Wet	1	604	528	279	7	0	1,066	175	*1,527*	2,660	15	3,228	0	0	0	0	71	188	*259*	0	3,502	***-842***	**-27,144**
1999	Dry	0	604	396	277	7	0	1,073	179	*1,536*	2,536	0	2,842	0	0	0	0	85	192	*278*	0	3,120	***-584***	**-27,728**
2000	Dry	0	640	298	283	7	0	1,051	148	*1,488*	2,426	0	2,503	0	0	0	0	77	190	*268*	0	2,771	***-345***	**-28,073**
2001	Dry	0	649	266	258	7	0	1,037	141	*1,442*	2,358	0	2,359	0	0	0	0	91	186	*278*	0	2,637	***-279***	**-28,352**
2002	Critically Dry	0	649	226	249	7	0	1,023	135	*1,414*	2,289	0	2,466	0	0	0	0	100	184	*284*	0	2,751	***-462***	**-28,814**
2003	Above Normal	0	649	224	245	7	0	1,003	138	*1,393*	2,266	4	2,340	0	0	0	0	106	182	*288*	0	2,631	***-365***	**-29,180**
2004	Dry	0	651	205	243	7	0	988	140	*1,377*	2,233	0	2,386	0	0	0	0	108	182	*291*	0	2,676	***-443***	**-29,622**
2005	Wet	1	456	500	237	7	0	988	180	*1,412*	2,369	14	2,380	0	0	0	0	116	183	*300*	0	2,694	***-326***	**-29,948**
2006	Below Normal	0	391	340	236	7	0	979	182	*1,403*	2,134	0	2,537	0	0	0	0	123	189	*312*	0	2,848	***-714***	**-30,662**
2007	Critically Dry	0	391	219	242	6	0	986	153	*1,388*	1,998	0	2,759	0	0	0	0	125	188	*313*	0	3,072	***-1,074***	**-31,736**
2008	Normal	0	392	219	245	6	0	997	148	*1,395*	2,006	0	2,456	0	0	0	0	129	186	*315*	0	2,771	***-765***	**-32,501**
2009	Below Normal	0	391	210	245	6	0	980	146	*1,377*	1,978	0	1,961	0	0	0	0	123	184	*307*	0	2,268	***-290***	**-32,791**
2010	Above Normal	0	400	316	245	6	0	963	156	*1,370*	2,087	3	1,870	0	0	0	0	120	184	*303*	0	2,177	***-90***	**-32,881**
2011	Wet	1	403	419	246	6	0	949	174	*1,376*	2,198	5	1,943	0	0	0	0	118	186	*304*	0	2,251	***-52***	**-32,934**
2012	Dry	0	404	342	250	6	0	958	158	*1,372*	2,119	0	2,089	0	0	0	0	122	188	*310*	0	2,398	***-280***	**-33,214**
2013	Dry	0	403	261	255	6	0	978	144	*1,383*	2,047	0	2,077	0	0	0	0	126	185	*311*	0	2,389	***-342***	**-33,555**
2014	Dry	0	403	212	259	6	0	974	138	*1,377*	1,991	0	2,110	0	0	0	0	125	183	*308*	0	2,418	***-426***	**-33,981**
Historical Average		**0**	**293**	**335**	**286**	**7.64**	***0***	***937***	***153***	***1,384***	***2,011***	***5***	***2,443***	***0***	***0***	***0***	***0***	***64***	***179***	***243***	***0***	***2,691***	***-680***	
Critically Dry Wate Year Avg		0	520	223	245	7	*0*	*1,005*	*144*	*1,401*	*2,143*	*0*	*2,613*	*0*	*0*	*0*	*0*	*113*	*186*	*299*	*0*	*2,912*	*-768*	
Dry Water Year Avg		0	369	294	281	7	*0*	*977*	*154*	*1,419*	*2,082*	*0*	*2,450*	*0*	*0*	*0*	*0*	*73*	*184*	*256*	*0*	*2,706*	*-624*	
Below Normal Water Year Avg		0	221	254	289	8	*0*	*948*	*154*	*1,397*	*1,872*	*2*	*2,445*	*0*	*0*	*0*	*0*	*55*	*180*	*235*	*0*	*2,681*	*-809*	
Normal Water Year Avg		0	167	183	297	9	*0*	*827*	*130*	*1,263*	*1,613*	*1*	*2,497*	*0*	*0*	*0*	*0*	*55*	*169*	*224*	*0*	*2,722*	*-1,109*	
Above Normal Water Year Avg		0	283	309	291	8	*0*	*939*	*145*	*1,382*	*1,975*	*8*	*2,427*	*0*	*0*	*0*	*0*	*56*	*176*	*233*	*0*	*2,668*	*-693*	
Wet Water Year Avg		1	289	602	288	8	*0*	*920*	*175*	*1,391*	*2,283*	*14*	*2,381*	*0*	*0*	*0*	*0*	*63*	*178*	*241*	*0*	*2,636*	*-354*	

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Table 2C-19: Historical Water Budget for the North Bench Management Area

Water Year	Water Year Type	Inflows to Principal Aquifer													Outflows from Principal Aquifer														Change in Groundwater in Storage	
						Subsurface Inflows													Subsurface Outflows											
		Stream Leakage	Return Flows	Precipitation Recharge	Surface Water Spreading	From San Bernardino Mtns	From Crafton Hills	From Yucaipa Hills	From SBBA near Mill Creek	From San Timoteo Subbasin	From Calimesa	From Western Heights	Subtotal	Total Inflows	ET	GW Production	Surface Water Diversions	GW Discharge to Streams	To San Bernardino Mtns	To Crafton Hills	To Yucaipa Hills	To SBB near Mill Creek	To San Timoteo Subbasin	To Calimesa	To Western Heights	Subtotal	GW Discharge to Surface	Total Outflows	Annual	Cumulative
1965	Normal	1,829	1,992	1,253	0	1,455	36	2,510	263	436	14	0	4,714	9,787	1,092	2,477	0	2,006	13	0	1,910	238	12	2,088	335	4,598	5	10,178	-391	-391
1966	Above Normal	2,400	1,992	3,456	0	1,596	35	2,568	242	429	17	0	4,885	12,733	1,377	3,049	31	2,371	14	0	1,940	272	14	2,101	343	4,685	6	11,518	1,215	823
1967	Wet	2,533	1,992	3,160	0	1,705	34	2,603	228	433	14	0	5,017	12,702	1,145	2,845	36	2,512	13	0	1,937	296	13	2,167	332	4,757	6	11,301	1,401	2,225
1968	Normal	2,045	1,997	1,695	0	1,837	34	2,610	223	434	14	0	5,151	10,889	1,294	3,026	16	2,242	13	0	1,927	307	13	2,210	332	4,802	5	11,385	-496	1,729
1969	Wet	3,943	1,992	7,782	0	2,374	33	2,745	203	426	14	0	5,795	19,511	1,450	3,048	127	3,564	15	0	2,047	337	15	2,247	341	5,001	8	13,197	6,314	8,043
1970	Dry	2,480	1,992	2,294	0	2,298	32	2,848	180	464	13	0	5,836	12,602	1,459	2,905	111	2,820	17	0	2,051	373	9	2,260	333	5,044	7	12,346	256	8,299
1971	elow Norm	2,629	1,991	2,122	0	2,453	32	2,727	168	456	14	0	5,851	12,592	1,375	2,544	142	2,826	18	0	2,037	389	11	2,292	334	5,082	7	11,975	617	8,916
1972	Dry	2,391	1,996	1,574	0	2,295	32	2,702	163	452	15	0	5,658	11,620	1,543	2,597	156	2,602	21	0	2,000	403	12	2,361	338	5,135	5	12,038	-418	8,498
1973	bove Norm	3,131	1,991	3,300	0	2,241	32	2,660	159	433	18	0	5,543	13,964	1,265	3,133	217	3,117	20	0	1,999	414	15	2,392	338	5,177	6	12,914	1,049	9,547
1974	elow Norm	2,755	1,991	2,425	0	2,070	31	2,754	155	434	14	0	5,457	12,628	1,466	4,030	206	2,851	20	0	1,987	429	15	2,387	316	5,155	6	13,715	-1,086	8,461
1975	Normal	2,380	2,008	1,501	0	2,021	31	2,731	151	439	14	0	5,386	11,276	1,220	3,326	133	2,523	19	0	1,959	440	14	2,339	294	5,065	6	12,273	-997	7,463
1976	Normal	2,546	2,020	2,031	0	2,077	31	2,678	150	436	15	0	5,387	11,984	1,282	3,257	88	2,490	18	0	1,942	442	15	2,295	289	5,001	5	12,123	-138	7,325
1977	elow Norm	2,436	2,015	2,199	0	2,093	31	2,659	154	434	15	0	5,385	12,035	1,269	3,075	100	2,505	19	0	1,936	427	16	2,266	299	4,963	6	11,918	118	7,443
1978	Wet	4,728	2,015	10,722	0	2,517	30	3,024	152	454	13	1	6,191	23,656	1,676	2,739	220	4,464	19	0	2,173	433	13	2,370	296	5,304	10	14,413	9,243	16,686
1979	bove Norm	4,251	2,015	5,736	0	2,618	27	3,267	133	502	14	0	6,561	18,562	1,606	2,621	267	4,350	23	0	2,268	485	6	2,494	289	5,565	12	14,421	4,142	20,828
1980	Wet	6,368	1,096	9,452	0	3,033	25	3,558	121	540	15	0	7,293	24,209	1,946	2,985	332	6,004	25	0	2,445	517	6	2,626	286	5,905	13	17,184	7,025	27,853
1981	Dry	4,625	783	2,421	0	2,842	24	3,571	113	574	20	0	7,145	14,975	1,980	3,148	286	4,537	27	0	2,383	529	7	2,639	284	5,869	11	15,832	-858	26,995
1982	bove Norm	5,447	783	4,215	0	2,987	25	3,395	113	561	19	0	7,099	17,544	1,570	2,579	299	5,135	30	0	2,334	527	8	2,637	286	5,822	11	15,416	2,128	29,123
1983	Wet	5,952	783	6,453	0	2,913	24	3,475	110	604	21	0	7,147	20,336	1,491	2,178	332	5,790	29	0	2,388	545	8	2,729	277	5,976	13	15,781	4,555	33,679
1984	Dry	3,832	786	2,961	0	2,581	22	3,589	102	603	23	0	6,919	14,498	1,964	2,287	279	4,004	27	0	2,392	575	8	2,858	276	6,137	10	14,680	-182	33,496
1985	elow Norm	4,068	1,102	2,597	0	2,555	22	3,480	96	583	24	0	6,761	14,528	1,852	2,233	268	4,014	27	0	2,362	583	9	2,913	284	6,179	9	14,554	-27	33,470
1986	Normal	3,841	1,209	2,007	0	2,505	22	3,393	91	581	25	0	6,617	13,674	1,754	2,337	257	3,815	26	0	2,306	592	9	2,864	290	6,087	8	14,258	-584	32,885
1987	Dry	3,192	1,209	1,376	0	2,385	22	3,308	90	576	24	0	6,406	12,182	1,637	2,255	230	3,287	24	0	2,263	596	8	2,817	294	6,003	7	13,419	-1,237	31,649
1988	elow Norm	3,007	1,212	1,387	0	2,304	23	3,223	93	572	25	0	6,240	11,846	1,499	2,366	218	3,132	23	0	2,224	590	8	2,817	294	5,957	6	13,178	-1,333	30,316
1989	elow Norm	2,612	1,209	1,289	0	2,122	23	3,137	100	558	24	0	5,964	11,074	1,576	2,653	194	2,831	22	0	2,180	569	8	2,781	296	5,856	5	13,116	-2,042	28,274
1990	Dry	2,390	852	760	0	1,953	23	3,065	108	553	22	0	5,724	9,726	1,429	2,926	172	2,607	21	0	2,140	549	7	2,773	298	5,789	5	12,928	-3,202	25,072
1991	bove Norm	3,110	732	3,831	0	1,959	24	3,066	118	539	22	0	5,726	13,400	1,533	3,343	198	3,032	19	0	2,158	524	9	2,783	297	5,790	5	13,902	-502	24,569
1992	bove Norm	3,166	734	3,882	0	1,986	24	3,174	121	546	20	0	5,870	13,652	1,613	3,575	235	3,268	18	0	2,216	518	7	2,770	290	5,820	7	14,518	-866	23,704
1993	Wet	5,274	733	11,331	0	2,434	22	3,597	122	585	18	1	6,780	24,119	1,935	3,095	302	5,152	22	0	2,451	514	6	2,796	283	6,072	11	16,567	7,552	31,255
1994	elow Norm	3,709	733	2,711	0	2,454	20	3,651	103	610	20	0	6,859	14,012	1,724	3,164	279	3,953	19	0	2,458	544	6	2,801	293	6,121	10	15,252	-1,239	30,016
1995	Wet	6,562	895	8,087	0	2,873	20	3,685	105	597	21	1	7,301	22,845	1,948	2,793	354	6,340	22	0	2,533	544	7	2,882	299	6,287	12	17,732	5,113	35,129
1996	Dry	4,661	952	2,519	0	2,530	19	3,733	91	614	23	0	7,009	15,141	2,191	3,056	330	4,825	21	0	2,503	591	7	3,000	290	6,412	9	16,822	-1,680	33,449
1997	bove Norm	4,618	950	3,170	0	2,470	19	3,601	82	587	24	0	6,781	15,518	2,103	3,322	305	4,609	22	0	2,460	611	7	3,037	289	6,426	8	16,773	-1,255	32,194
1998	Wet	6,527	950	8,059	0	2,743	18	3,692	79	614	22	0	7,169	22,704	1,762	3,279	347	6,395	23	0	2,532	633	7	3,063	279	6,537	12	18,331	4,373	36,567
1999	Dry	4,078	950	1,928	0	2,404	18	3,756	73	623	22	0	6,895	13,850	1,918	4,203	315	4,450	21	0	2,511	663	7	3,072	277	6,552	10	17,447	-3,597	32,971
2000	Dry	3,974	1,193	1,696	0	2,425	19	3,620	73	599	23	0	6,759	13,622	2,062	5,509	299	4,026	21	0	2,474	650	7	3,002	283	6,438	8	18,341	-4,718	28,252
2001	Dry	3,940	1,271	1,731	0	2,417	20	3,475	78	580	24	0	6,594	13,536	1,804	5,252	297	4,050	20	0	2,411	620	7	2,838	258	6,155	8	17,566	-4,030	24,223
2002	Critically Dr	2,801	1,271	747	36	2,206	22	3,412	83	567	22	0	6,312	11,168	1,817	5,560	235	3,178	21	0	2,349	601	7	2,704	249	5,930	6	16,727	-5,560	18,663
2003	bove Norm	3,302	1,271	2,166	691	2,133	23	3,298	92	558	23	0	6,128	13,558	1,633	5,117	242	3,423	20	0	2,319	576	7	2,563	245	5,730	13	16,158	-2,600	16,063
2004	Dry	2,802	1,274	1,562	624	1,988	24	3,285	100	552	21	0	5,970	12,232	1,774	5,443	215	3,072	17	0	2,299	559	6	2,441	243	5,565	15	16,083	-3,851	12,211
2005	Wet	4,813	2,339	8,047	135	2,257	23	3,471	100	560	19	0	6,430	21,765	1,819	5,426	276	4,773	19	0	2,408	566	6	2,367	237	5,605	12	17,912	3,853	16,064
2006	elow Norm	2,942	2,700	2,113	17	2,152	22	3,555	84	582	18	0	6,413	14,184	1,795	5,187	239	3,373	17	0	2,411	611	6	2,347	236	5,628	8	16,230	-2,046	14,019
2007	Critically Dr	2,484	2,700	1,115	4	2,284	22	3,393	77	568	22	0	6,366	12,669	1,866	4,999	199	2,918	17	0	2,359	620	7	2,303	242	5,548	6	15,535	-2,866	11,153
2008	Normal	3,082	2,707	2,101	551	2,292	23	3,250	79	558	22	0	6,223	14,664	1,886	3,967	218	3,289	17	0	2,319	615	7	2,285	245	5,488	12	14,859	-195	10,958
2009	elow Norm	2,989	2,700	2,290	1,337	2,096	22	3,178	78	546	17	0	5,937	15,252	1,957	3,679	215	3,252	17	0	2,262	625	6	2,273	245	5,430	33	14,566	686	11,644
2010	bove Norm	4,099	3,347	4,485	3,549	1,985	22	3,187	73	526	16	0	5,809	21,289	1,954	3,956	236	4,187	18	0	2,253	666	8	2,291	245	5,482	107	15,921	5,367	17,011
2011	Wet	4,414	3,565	5,436	3,071	2,000	21	3,254	60	536	14	0	5,885	22,371	2,041	3,737	254	4,513	17	0	2,282	738	6	2,472	246	5,761	122	16,428	5,943	22,954
2012	Dry	3,216	3,575	2,564	2,936	1,886	20	3,291	45	544	13	0	5,799	18,091	2,154	3,806	209	3,622	16	0	2,280	809	6	2,683	250	6,045	93	15,929	2,161	25,115
2013	Dry	2,988	3,565	2,188	2,170	2,030	19	3,191	38	537	17	0	5,831	16,741	2,041	3,530	182	3,312	16	0	2,242	847	6	2,828	255	6,195	75	15,334	1,407	26,522
2014	Dry	2,634	3,565	1,541	521	2,005	18	3,100	35	529	16	0	5,703	13,964	1,933	4,560	176	2,899	16	0	2,204	867	6	2,996	259	6,348	25	15,941	-1,977	24,545
Historical Average		**3,600**	**1,714**	**3,429**	**313**	**2,277**	**25**	**3,204**	**117**	**533**	**19**	**0**	**6,174**	**15,230**	**1,690**	**3,444**	**217**	**3,686**	**20**	**0**	**2,244**	**539**	**9**	**2,586**	**286**	**5,685**	**16**	**14,739**	**491**	
ically Dry Wate Year A		2,643	1,985	931	20	2,245	22	3,402	80	568	22	0	6,339	11,919	1,841	5,280	217	3,048	19	0	2,354	610	7	2,503	245	5,739	6	16,131	-4,213	
Dry Water Year Avg		3,372	1,712	1,937	447	2,289	22	3,324	92	557	20	0	6,303	13,770	1,849	3,677	233	3,579	20	0	2,297	616	8	2,755	281	5,978	20	15,336	-1,566	
w Normal Water Year		3,016	1,739	2,126	150	2,255	25	3,152	115	531	19	0	6,096	13,128	1,612	3,215	207	3,193	20	0	2,206	530	9	2,542	289	5,597	10	13,834	-706	
lormal Water Year Av		2,621	1,989	1,765	92	2,031	29	2,862	159	481	17	0	5,580	12,046	1,421	3,065	119	2,727	18	0	2,061	439	12	2,347	297	5,173	7	12,513	-467	
ve Normal Water Year		3,725	1,535	3,804	471	2,219	25	3,135	126	520	19	0	6,045	15,580	1,628	3,411	226	3,721	20	0	2,216	510	9	2,563	291	5,611	19	14,616	964	
Wet Water Year Avg		5,111	1,636	7,853	321	2,485	25	3,310	128	535	17	0	6,501	21,422	1,721	3,212	258	4,951	20	0	2,319	512	9	2,572	288	5,720	22	15,885	5,537	

Table 2C-20: Historical Water Budget for the Calimesa Management Area

Water Year	Water Year Type	Inflows to Principal Aquifer											Outflows from Principal Aquifer												Change in Groundwater in Storage	
					Subsurface Inflows											Subsurface Outflows										
		Stream Leakage	Return Flows	Precipitation Recharge	From Yucaipa Hills	From North Bench	From Western Heights	From Beaumont Basin	From San Timoteo MA	From San Timoteo subbasin	Subtotal	Total Inflows	ET	GW Production	GW Discharge to Streams	To Yucaipa Hills	To North Bench	To Western Heigths	To Beaumont Basin	To San Timoteo Subbasin	To San Timoteo MA	Subtotal	GW Discharge to Surface	Total Outflows	Annual	Cumulative
1965	Normal	419	36	798	222	2,088	60	1,660	11	322	4,363	5,616	132	3,814	30	15	14	733	565	34	524	1,885	1	5,862	-246	-246
1966	Above Normal	427	36	1,157	223	2,101	45	1,754	16	313	4,451	6,071	146	4,915	31	18	17	731	568	42	525	1,901	1	6,994	-923	-1,170
1967	Wet	441	36	1,193	230	2,167	45	1,855	17	268	4,581	6,251	143	5,326	35	17	14	708	588	46	522	1,896	1	7,401	-1,151	-2,320
1968	Normal	422	36	1,095	251	2,210	46	1,878	14	256	4,655	6,208	153	5,173	33	18	14	685	604	47	505	1,874	1	7,234	-1,026	-3,346
1969	Wet	442	36	2,328	271	2,247	43	1,915	28	247	4,751	7,556	161	4,341	40	25	14	690	601	56	515	1,902	1	6,445	1,111	-2,235
1970	Dry	456	199	1,589	339	2,260	38	1,822	15	224	4,698	6,941	184	4,574	39	21	13	710	578	56	497	1,875	2	6,674	267	-1,969
1971	elow Norm	441	244	1,494	348	2,292	29	1,875	12	250	4,806	6,984	175	4,866	38	21	14	716	576	54	482	1,863	2	6,943	40	-1,928
1972	Dry	396	244	1,368	315	2,361	24	1,896	11	261	4,867	6,877	179	5,207	33	20	15	706	589	53	473	1,855	2	7,275	-399	-2,327
1973	bove Norm	420	244	1,492	292	2,392	20	1,875	11	267	4,856	7,012	152	4,705	38	20	18	686	588	47	461	1,820	2	6,717	295	-2,032
1974	elow Norm	416	197	1,525	282	2,387	19	1,812	12	262	4,774	6,912	169	4,794	36	20	14	718	578	51	460	1,842	1	6,842	70	-1,963
1975	Normal	397	354	1,452	275	2,339	27	1,660	12	258	4,571	6,774	152	4,659	36	17	14	737	559	48	459	1,835	1	6,684	90	-1,872
1976	Normal	368	410	1,511	281	2,295	30	1,506	11	276	4,399	6,688	157	4,572	34	19	15	753	542	48	457	1,834	1	6,598	90	-1,782
1977	elow Norm	388	409	1,644	270	2,266	27	1,410	11	274	4,257	6,698	163	4,427	36	20	15	768	527	50	456	1,835	1	6,463	236	-1,546
1978	Wet	425	409	3,497	288	2,370	38	1,591	79	215	4,581	8,912	186	4,660	45	33	13	786	535	64	454	1,886	2	6,778	2,134	588
1979	bove Norm	454	409	2,754	375	2,494	43	1,540	34	195	4,681	8,298	200	4,519	54	29	14	828	541	61	458	1,930	3	6,706	1,592	2,180
1980	Wet	459	2,085	4,319	400	2,626	48	1,292	24	184	4,574	11,437	248	4,500	61	40	15	866	501	70	506	1,999	4	6,811	4,626	6,806
1981	Dry	458	2,640	3,492	458	2,639	50	908	12	173	4,240	10,830	291	4,544	53	36	20	900	459	62	512	1,990	5	6,882	3,948	10,754
1982	bove Norm	454	2,640	3,493	428	2,637	41	646	9	194	3,954	10,541	262	3,952	55	36	19	926	435	59	521	1,997	5	6,271	4,270	15,024
1983	Wet	450	2,640	3,759	382	2,729	39	521	8	165	3,843	10,693	322	4,025	63	39	21	938	433	64	538	2,034	6	6,451	4,242	19,266
1984	Dry	456	2,648	2,943	389	2,858	45	426	8	158	3,885	9,931	498	5,413	52	37	23	982	423	63	557	2,084	6	8,053	1,878	21,144
1985	elow Norm	450	4,128	3,089	381	2,913	45	398	7	176	3,919	11,587	519	5,645	50	40	24	1,010	418	60	577	2,129	7	8,350	3,237	24,381
1986	Normal	449	4,630	3,071	349	2,864	39	269	6	167	3,694	11,844	561	4,740	69	37	25	1,056	493	58	607	2,274	9	7,653	4,191	28,572
1987	Dry	449	4,630	2,354	332	2,817	32	206	5	156	3,549	10,981	693	5,172	94	36	24	1,086	494	56	636	2,332	10	8,301	2,681	31,252
1988	elow Norm	446	4,642	1,937	310	2,817	29	175	5	152	3,488	10,513	736	5,764	106	36	25	1,105	547	51	664	2,427	12	9,045	1,467	32,720
1989	elow Norm	433	4,630	1,694	296	2,781	28	162	4	153	3,425	10,182	790	5,811	104	35	24	1,122	594	54	681	2,509	13	9,226	955	33,675
1990	Dry	417	1,180	933	284	2,773	33	222	5	181	3,497	6,028	734	5,601	92	29	22	1,146	591	46	681	2,516	12	8,955	-2,927	30,748
1991	bove Norm	433	17	1,074	268	2,783	32	428	6	231	3,748	5,272	632	5,512	72	27	22	1,131	448	45	656	2,330	8	8,554	-3,281	27,467
1992	bove Norm	446	17	1,291	257	2,770	37	604	7	246	3,920	5,674	592	5,536	57	27	20	1,109	423	50	641	2,270	6	8,461	-2,787	24,679
1993	Wet	452	27	3,138	281	2,796	53	752	31	225	4,138	7,756	582	5,611	72	36	18	1,097	456	57	672	2,336	7	8,608	-853	23,827
1994	elow Norm	455	28	2,025	372	2,801	68	746	10	266	4,264	6,771	525	5,834	43	33	20	1,132	477	51	615	2,329	7	8,738	-1,967	21,860
1995	Wet	453	31	2,676	361	2,882	58	708	15	283	4,307	7,468	461	6,186	49	33	21	1,114	512	61	600	2,342	7	9,045	-1,577	20,283
1996	Dry	458	32	1,725	381	3,000	60	742	10	308	4,502	6,718	448	6,770	27	28	23	1,088	495	58	570	2,262	6	9,513	-2,795	17,488
1997	bove Norm	455	32	1,561	365	3,037	64	837	9	350	4,661	6,709	383	6,831	22	29	24	1,070	509	53	547	2,232	5	9,473	-2,763	14,724
1998	Wet	453	32	2,779	344	3,063	71	980	16	334	4,808	8,073	330	5,854	32	36	22	1,066	501	58	544	2,228	5	8,450	-377	14,347
1999	Dry	459	32	2,017	375	3,072	85	1,026	11	331	4,901	7,409	352	6,871	29	26	22	1,073	510	55	518	2,205	5	9,462	-2,053	12,294
2000	Dry	457	33	1,742	391	3,002	77	1,145	9	378	5,003	7,236	358	6,830	21	31	23	1,051	541	54	501	2,201	4	9,415	-2,179	10,115
2001	Dry	455	34	1,391	361	2,838	91	972	9	380	4,650	6,530	312	6,578	21	26	24	1,037	618	51	485	2,242	4	9,156	-2,626	7,489
2002	ritically Dr	455	34	1,044	335	2,704	100	863	9	408	4,419	5,951	293	7,175	19	24	22	1,023	776	47	476	2,367	3	9,857	-3,906	3,584
2003	bove Norm	454	34	902	308	2,563	106	941	10	431	4,358	5,747	258	6,910	22	25	23	1,003	770	45	464	2,331	2	9,523	-3,777	-193
2004	Dry	453	34	911	296	2,441	108	929	10	432	4,217	5,615	236	6,242	19	24	21	988	1,053	48	452	2,586	2	9,085	-3,470	-3,663
2005	Wet	451	35	2,106	286	2,367	116	936	22	412	4,139	6,730	217	5,711	29	34	19	988	1,010	58	456	2,564	2	8,522	-1,792	-5,454
2006	elow Norm	457	35	1,628	339	2,347	123	920	15	406	4,150	6,271	203	5,751	23	25	18	979	1,135	53	430	2,639	3	8,619	-2,348	-7,802
2007	ritically Dr	455	35	1,153	348	2,303	125	932	12	451	4,172	5,815	193	5,407	19	24	22	986	1,455	54	411	2,952	2	8,573	-2,758	-10,560
2008	Normal	455	35	1,513	330	2,285	129	944	12	458	4,157	6,160	185	4,972	22	24	22	997	1,002	51	400	2,495	2	7,676	-1,516	-12,076
2009	elow Norm	453	35	1,268	304	2,273	123	959	12	445	4,117	5,873	186	4,532	25	22	17	980	689	49	392	2,147	2	6,892	-1,019	-13,095
2010	bove Norm	453	39	1,439	278	2,291	120	933	16	424	4,062	5,993	163	4,574	27	22	16	963	669	52	392	2,115	2	6,882	-889	-13,984
2011	Wet	454	41	1,866	270	2,472	118	884	21	398	4,162	6,522	171	4,159	30	22	14	949	652	54	395	2,086	2	6,447	74	-13,910
2012	Dry	458	41	1,620	293	2,683	122	823	16	383	4,319	6,437	187	4,279	29	20	13	958	674	49	385	2,101	2	6,598	-161	-14,070
2013	Dry	450	41	1,469	301	2,828	126	763	15	391	4,423	6,383	173	4,734	27	21	17	978	763	50	380	2,208	2	7,143	-761	-14,831
2014	Dry	434	41	1,567	298	2,996	125	721	15	399	4,554	6,596	169	5,227	24	19	16	974	931	51	375	2,365	1	7,786	-1,191	-16,021
Historical Average		**442**	**812**	**1,918**	**320**	**2,586**	***64***	***1,035***	***14***	***290***	***4,310***	***7,481***	***314***	***5,276***	***42***	***27***	***19***	***937***	***620***	***53***	***510***	***2,165***	***4***	***7,802***	***-320***	
ically Dry Wate Year		455	34	1,098	341	2,503	*113*	*897*	*11*	*429*	*4,295*	*5,883*	*243*	*6,291*	*19*	*24*	*22*	*1,005*	*1,116*	*50*	*444*	*2,659*	*3*	*9,215*	*-3,332*	
Dry Water Year Avg		447	845	1,794	344	2,755	*73*	*900*	*11*	*297*	*4,379*	*7,465*	*344*	*5,574*	*40*	*27*	*20*	*977*	*623*	*54*	*501*	*2,201*	*4*	*8,164*	*-699*	
w Normal Water Year		438	1,594	1,812	322	2,542	*55*	*940*	*10*	*265*	*4,133*	*7,977*	*385*	*5,269*	*51*	*28*	*19*	*948*	*616*	*53*	*529*	*2,191*	*5*	*7,902*	*75*	
lormal Water Year Av		418	917	1,573	285	2,347	*55*	*1,319*	*11*	*290*	*4,307*	*7,215*	*223*	*4,655*	*37*	*22*	*17*	*827*	*628*	*48*	*492*	*2,033*	*3*	*6,951*	*264*	
ve Normal Water Year		444	385	1,685	310	2,563	*56*	*1,062*	*13*	*295*	*4,299*	*6,813*	*310*	*5,273*	*42*	*26*	*19*	*939*	*550*	*51*	*518*	*2,103*	*4*	*7,731*	*-918*	
Wet Water Year Avg		448	537	2,766	311	2,572	*63*	*1,143*	*26*	*273*	*4,389*	*8,140*	*282*	*5,037*	*46*	*32*	*17*	*920*	*579*	*59*	*520*	*2,127*	*4*	*7,496*	*644*	

Table 2C-21: Historical Water Budget for the San Timoteo Management Area

Water Year	Water Year Type	Inflows to Principal Aquifer										Outflows from Principal Aquifer											Change in Storage	
					Subsurface Inflows										Subsurface Outflows									
		Stream Leakage	Return Flows	Precipitation Recharge	From Beaumont Basin	From San Timoteo Subbasin	From SBBA	From Western Heights	From Calimesa	Total Subsurface Inflows	Total Inflows	ET	GW Production	GW Discharge to Streams	To Beaumont Basin	To San Timoteo Subbasin	To SBBA	To Western Heights	To Calimesa	To Subsurface Outflows	GW Discharge to Surface	Total Outflows	Annual	Cumulative
1965	Normal	7,169	1	77	363	5,753	6	148	524	6,794	14,041	1,115	962	163	175	8,933	3,042	73	11	12,236	2	14,477	-436	-436
1966	Above Normal	7,614	1	289	361	5,708	6	148	525	6,748	14,652	1,166	904	228	173	8,898	3,192	96	16	12,376	2	14,675	-23	-459
1967	Wet	7,681	1	344	356	5,681	6	151	522	6,717	14,742	1,101	571	246	172	8,886	3,220	119	17	12,414	2	14,334	408	-51
1968	Normal	7,220	1	176	354	5,689	6	156	505	6,710	14,107	1,164	327	147	170	8,914	3,049	141	14	12,288	1	13,928	179	129
1969	Wet	8,035	1	1,076	336	5,627	6	162	515	6,647	15,759	1,193	283	363	164	8,801	3,313	176	28	12,483	2	14,324	1,434	1,563
1970	Dry	7,405	3	315	326	5,624	6	169	497	6,622	14,345	1,280	195	159	159	8,893	3,117	172	15	12,356	2	13,992	352	1,915
1971	elow Norm	7,313	3	237	330	5,621	6	171	482	6,609	14,161	1,222	181	175	157	8,916	3,123	150	12	12,358	2	13,938	223	2,139
1972	Dry	7,215	3	191	327	5,643	6	171	473	6,620	14,029	1,281	185	148	158	8,952	3,091	139	11	12,351	2	13,966	63	2,201
1973	bove Norm	7,361	3	196	321	5,586	6	170	461	6,544	14,104	1,058	191	237	158	8,941	3,251	135	11	12,495	3	13,984	120	2,322
1974	elow Norm	7,491	3	288	316	5,571	6	170	460	6,523	14,306	1,246	187	221	158	8,935	3,259	136	12	12,501	2	14,157	149	2,470
1975	Normal	7,281	4	184	314	5,565	6	170	459	6,515	13,984	1,173	189	189	158	8,947	3,200	135	12	12,452	2	14,005	-21	2,450
1976	Normal	7,616	5	304	314	5,569	6	171	457	6,517	14,442	1,219	187	223	160	8,958	3,267	135	11	12,530	2	14,161	281	2,731
1977	elow Norm	7,273	5	205	311	5,539	6	171	456	6,483	13,966	1,315	190	176	160	8,954	3,205	135	11	12,465	2	14,148	-182	2,548
1978	Wet	8,141	5	1,137	292	5,540	6	172	454	6,465	15,748	1,257	222	400	160	8,854	3,463	169	79	12,725	3	14,606	1,142	3,690
1979	bove Norm	7,949	5	445	305	5,554	6	178	458	6,500	14,898	1,251	214	271	157	8,950	3,482	178	34	12,801	3	14,540	358	4,048
1980	Wet	8,348	21	1,167	288	5,626	6	181	506	6,606	16,142	1,340	323	384	153	8,933	3,500	188	24	12,799	3	14,848	1,294	5,342
1981	Dry	7,850	26	443	280	5,666	6	184	512	6,647	14,966	1,588	269	184	153	9,014	3,323	173	12	12,675	2	14,718	248	5,590
1982	bove Norm	8,086	26	454	281	5,697	6	182	521	6,687	15,254	1,308	228	300	157	9,013	3,577	159	9	12,914	3	14,753	501	6,091
1983	Wet	8,281	26	481	268	5,688	6	183	538	6,684	15,472	1,281	192	331	165	9,028	3,703	178	8	13,082	4	14,889	582	6,673
1984	Dry	7,892	27	325	257	5,715	6	186	557	6,722	14,965	1,655	149	201	174	9,113	3,430	173	8	12,898	2	14,906	59	6,733
1985	elow Norm	7,817	57	309	255	5,708	6	185	577	6,730	14,913	1,503	122	233	183	9,093	3,498	155	7	12,936	3	14,797	115	6,848
1986	Normal	7,733	67	274	245	5,711	6	183	607	6,751	14,825	1,542	120	222	192	9,109	3,450	150	6	12,907	3	14,793	31	6,879
1987	Dry	7,648	67	250	232	5,698	6	181	636	6,753	14,717	1,547	100	212	204	9,115	3,441	147	5	12,911	3	14,773	-56	6,823
1988	elow Norm	7,656	67	233	224	5,688	6	181	664	6,763	14,720	1,503	135	221	215	9,138	3,468	146	5	12,972	3	14,833	-114	6,709
1989	elow Norm	7,556	67	218	220	5,664	6	179	681	6,750	14,590	1,519	161	208	224	9,104	3,435	137	4	12,905	2	14,795	-204	6,505
1990	Dry	7,478	17	201	220	5,658	6	177	681	6,742	14,438	1,525	173	193	232	9,102	3,364	133	5	12,835	2	14,728	-290	6,215
1991	bove Norm	7,731	1	499	226	5,660	6	176	656	6,725	14,955	1,457	179	299	234	9,030	3,507	141	6	12,918	3	14,856	99	6,314
1992	bove Norm	7,777	1	398	228	5,673	6	178	641	6,726	14,902	1,446	156	270	233	9,074	3,564	151	7	13,029	3	14,903	-1	6,313
1993	Wet	8,406	2	1,584	202	5,672	6	182	672	6,734	16,726	1,454	158	482	227	8,974	3,612	207	31	13,051	4	15,150	1,576	7,889
1994	elow Norm	8,037	2	398	218	5,685	6	190	615	6,715	15,151	1,567	154	237	219	9,090	3,601	195	10	13,115	3	15,075	76	7,966
1995	Wet	8,299	2	924	228	5,739	6	191	600	6,764	15,988	1,450	158	425	212	9,020	3,683	185	15	13,115	4	15,152	836	8,802
1996	Dry	7,943	2	371	233	5,800	6	193	570	6,802	15,117	1,713	152	217	206	9,145	3,604	172	10	13,137	3	15,222	-106	8,696
1997	bove Norm	7,823	2	361	250	5,831	6	189	547	6,823	15,009	1,645	155	264	200	9,123	3,619	147	9	13,097	3	15,164	-155	8,541
1998	Wet	8,374	2	888	246	5,828	6	188	544	6,813	16,076	1,358	150	443	195	9,072	3,831	175	16	13,288	4	15,244	832	9,373
1999	Dry	8,003	2	382	248	5,830	6	192	518	6,795	15,182	1,707	149	240	189	9,165	3,675	179	11	13,220	3	15,319	-137	9,236
2000	Dry	7,872	2	307	264	5,890	6	190	501	6,852	15,033	1,756	146	232	186	9,199	3,627	148	9	13,168	3	15,304	-271	8,965
2001	Dry	7,851	2	277	269	5,880	6	186	485	6,827	14,957	1,582	141	268	182	9,163	3,738	141	9	13,232	3	15,227	-270	8,695
2002	ritically Dr	7,640	2	228	273	5,889	6	184	476	6,828	14,697	1,754	144	203	179	9,180	3,526	135	9	13,029	3	15,133	-436	8,259
2003	bove Norm	7,834	2	297	278	5,857	6	182	464	6,787	14,920	1,540	146	277	176	9,154	3,717	138	10	13,195	3	15,161	-241	8,018
2004	Dry	7,683	2	248	283	5,864	6	182	452	6,788	14,721	1,639	145	226	171	9,178	3,596	140	10	13,096	3	15,109	-388	7,630
2005	Wet	8,296	1	967	269	5,823	6	183	456	6,738	16,002	1,433	44	447	163	9,048	3,846	180	22	13,259	4	15,188	814	8,444
2006	elow Norm	7,910	1	368	272	5,819	6	189	430	6,716	14,995	1,687	4	232	155	9,144	3,637	182	15	13,133	3	15,059	-64	8,380
2007	ritically Dr	7,641	1	258	286	5,846	6	188	411	6,737	14,637	1,764	0	195	149	9,160	3,482	153	12	12,956	2	14,918	-281	8,099
2008	Normal	7,747	1	266	290	5,861	6	186	400	6,744	14,757	1,594	0	244	146	9,168	3,661	148	12	13,134	3	14,975	-217	7,882
2009	elow Norm	7,670	1	237	292	5,835	6	184	392	6,708	14,617	1,625	0	226	143	9,145	3,589	146	12	13,035	3	14,888	-272	7,610
2010	bove Norm	7,863	1	447	289	5,803	6	184	392	6,674	14,986	1,514	0	314	141	9,105	3,657	156	16	13,074	3	14,905	81	7,691
2011	Wet	8,056	1	663	277	5,774	6	186	395	6,638	15,358	1,523	0	349	139	9,085	3,744	174	21	13,163	4	15,039	319	8,010
2012	Dry	7,729	1	309	278	5,794	6	188	385	6,651	14,690	1,725	0	212	138	9,172	3,547	158	16	13,030	3	14,970	-280	7,730
2013	Dry	7,652	1	246	288	5,797	6	185	380	6,656	14,555	1,593	0	224	136	9,134	3,594	144	15	13,022	3	14,842	-287	7,444
2014	Dry	7,565	1	224	292	5,803	6	183	375	6,659	14,450	1,666	0	203	136	9,142	3,474	138	15	12,905	2	14,776	-326	7,117
Historical Average		**7,770**	**11**	**419**	**280**	**5,721**	**6**	**179**	**510**	**6,695**	**14,895**	**1,451**	**183**	**255**	**175**	**9,047**	**3,472**	**153**	**14**	**12,861**	**3**	**14,753**	**142**	
ically Dry Wate Year A		7,640	1	243	279	5,868	6	186	444	6,783	14,667	1,759	72	199	164	9,170	3,504	144	11	12,993	2	15,026	-358	
Dry Water Year Avg		7,699	11	292	271	5,761	6	184	501	6,724	14,726	1,590	129	209	173	9,106	3,473	154	11	12,917	2	14,847	-121	
w Normal Water Year		7,636	23	277	271	5,681	6	180	529	6,666	14,602	1,465	126	214	179	9,058	3,424	154	10	12,824	2	14,632	-30	
Normal Water Year Av		7,461	13	213	313	5,691	6	169	492	6,672	14,359	1,301	297	198	167	9,005	3,278	130	11	12,591	2	14,390	-30	
ve Normal Water Year		7,782	5	376	282	5,708	6	176	518	6,690	14,853	1,376	241	273	181	9,032	3,508	145	13	12,878	3	14,771	82	
Wet Water Year Avg		8,192	6	923	276	5,700	6	178	520	6,680	15,801	1,339	210	387	175	8,970	3,592	175	26	12,938	3	14,877	924	

Table 2C-22
Comparison of average annual water budget components for each Management Area in the Yucaipa Subbasin

Water Budget Component		Historical Simulation Period: WY 1965-2014				
			Management Area			
		Yucaipa Subbasin	Western Heights	North Bench	Calimesa	San Timoteo
Stream Leakage		11,812	0	3,600	442	7,770
Return Flows		2,829	293	1,714	812	11
Precipitation Recharge		6,101	335	3,429	1,918	419
Subsurface Inflows	From Beaumont Basin	1,315	--	--	1,035	280
	From San Timoteo Basin	6,544	--	533	290	5,721
	From SBBA	123	0	117	--	6
	From Crafton Hills	32	8	25	--	--
	From Yucaipa Hills	3,524	--	3,204	320	--
	From San Bernardino Mountains	2,277	--	2,277	--	--
	From Western Heights MA	--	--	0	64	179
	From North Bench MA	--	286	--	2,586	--
	From Calimesa MA	--	937	19	--	510
	From San Timoteo MA	--	153	--	14	--
	Total Subsurface Inflows	13,815	1,384	6,174	4,310	6,696
Surface Water Spreading		313	--	313	--	--
Average Annual Inflows		*34,870*	*2,012*	*15,231*	*7,481*	*14,896*
ET		3,460	5	1,690	314	1,451
Subsurface Outflows	To Beaumont Basin	795	--	--	620	175
	To San Timoteo Basin	9,109	--	9	53	9,047
	To SBBA	4,011	0	539	--	3,472
	To Crafton Hills	0	0	0	--	--
	To Yucaipa Hills	2,272	--	2,244	27	--
	To San Bernardino Mountains	20	--	20	--	--
	To Western Heights MA	--	--	286	937	153
	To North Bench MA	--	0	--	19	--
	To Calimesa MA	--	64	2,586	--	14
	To San Timoteo MA	--	179	--	510	--
	Total Subsurface Outflows	16,207	243	5,685	2,166	12,861
GW Discharges to Streams		3,984	0	3,686	42	255
Surface Water Diversions		217	--	217	--	--
GW Extractions		11,346	2,443	3,444	5,276	183
GW Discharge to Surface		23	0	16	4	3
Average Annual Outflows		*35,237*	*2,691*	14,737	7,802	14,753
Average Annual Change in Storage		**-367**	**-679**	**494**	**-321**	**143**

Surface Water Diversions represent extractions from YVWD Well 25
"--" represents categories that are not applicable to specific management area, or Subbasin, water budget

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Appendix 2-D

Chapter B: YIHM, Yucaipa Subbasin, San Bernardino and Riverside Counties, California

TO BE PROVIDED UPON COMPLETION