Exhibit No.: 23
Issues: Weather Normalization

FILED[4]

JAN 23 2004

Missouri Public
Service Commission

Witness: Dennis L. Patterson
Sponsoring Party: Mo PSC Staff
Type of Exhibit: Direct Testimony
Case No.: WR-2003-0500 &
WC2004-0168
Date Testimony Prepared: October 3, 2003

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

DIRECT TESTIMONY

OF

DENNIS L. PATTERSON

MISSOURI-AMERICAN WATER COMPANY

CASE NO. WR-2003-0500 & WC-2004-0168

Jefferson City, Missouri
October 2003

Exhibit No. 23
Case No(s). WR-2003-0500
Date 12/16/03 Rptr Sum

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the General Rate Increase for Water and Sewer Service Provided by Missouri-American Water Company	)))	Case No. WR-2003-0500
Staff of the Missouri Public Service Commission, Complainant, v. Missouri-American Water Company, Respondent	)))	Case No. WC-2004-0168

AFFIDAVIT OF DENNIS L. PATTERSON

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Dennis L Patterson, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Direct testimony in question and answer form, consisting of 15 pages of Direct testimony to be presented in the above case, that the answers in the foregoing Direct testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.

Dennis L. Patterson

Subscribed and sworn to before me this 2nd day of October, 2003.

Notary Public

DAWN L. HAKE
Notary Public – State of Missouri
County of Cole
My Commission Expires Jan 9, 2005

My commission expires

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DIRECT TESTIMONY

OF

DENNIS L. PATTERSON

MISSOURI-AMERICAN WATER COMPANY

CASE NOS. WR-2003-0500 AND WC-2004-0168

Q. Please state your name and business address.

A. My name is Dennis Patterson and my business address is Missouri Public Service Commission, P. O. Box 360, Jefferson City, MO 65102.

Q. What is your present position with the Missouri Public Service Commission (Commission)?

A. I am a Regulatory Economist in the Energy Department of the Utility Operations Division.

Q. Please review your educational background and work experience.

A. I was trained as an officer and aviator in the U.S. Army. I studied economics, math, sciences and languages, receiving a B.A. in Latin American Studies (University of Missouri, 1983) and an M.S. in Agricultural Economics (University of Missouri, 1989). I joined the Staff of the Commission in April, 1986. I established the Staff's centralized weather data base, and have continued to maintain and improve it by employing data and methods from reliable sources. I have been employed by the Commission, the Missouri Army National Guard, the University of Missouri, the U.S. Army Reserves, and the U.S. Army.

PURPOSE

Q. What is the purpose of your direct testimony?

A. The purpose of my direct testimony is to support my estimates of weather normalized water consumption, expressed as gallons per meter per day (GMD).

Q. How were your estimates used in this case?

A. I furnished these estimates to Staff witness Edward F. Began, for use in his calculations of weather normalized water sales volumes.

Q. What were the service areas for which you calculated weather normalized GMD?

A. The service areas were Brunswick, Jefferson City, Joplin, Mexico, Parkville, St. Charles, St. Joseph, St. Louis County, and Warrensburg.

Q. What were the customer classifications for which you calculated weather normalized GMD?

A. Each of the service areas had Residential and Commercial rate classes. The St. Louis County Residential and Commercial classes were further subdivided by their respective Monthly and Quarterly reading schedules. St. Louis County had Monthly and Quarterly Other Public Authority rate class sub classifications as well. Since the classifications were modeled separately, and they are called rate classes in my direct testimony.

OVERVIEW

Q. What were your estimates of weather adjusted GMD by service area and rate class for the 12 billing months ending December, 2000

A. These estimates are presented in Schedule 1 attached to my direct testimony.

Q. What was the overall company-wide effect of your weather normalization adjustments?

A. These aggregated results are presented at Schedule 1-2 through 1-9. The table at Schedule 1-2 shows that Company's 2002 Residential sales were 38,958,880 Mgallons, and that the Staff's estimate of normalized 2002 Residential sales was 38,035,836 Mgallons, a downward adjustment of -923,044 Mgallons, or -2.37%. Schedules 1-3, 1-4 and 1-5 illustrate the annual changes in Residential meter counts (customer numbers); actual and normal Residential GMD; and actual and normal Residential Mgallons respectively. A Staff estimate of the effect of Company's weather normalization was included for comparison.

The table at Schedule 1-6 shows that Company's 2002 Commercial sales were 12,657,083 Mgallons, and that the Staff's estimate of normalized 2002 Commercial sales was 11,762,497 Mgallons, a downward adjustment of -894,586 Mgallons, or -7.07%. Schedules 1-7, 1-8 1-9 illustrate the annual changes in Commercial meter counts (customer numbers); actual and normal Commercial GMD; and actual and normal Commercial Mgallons respectively. A Staff estimate of the effect of Company's weather normalization was included for comparison.

The table at Schedule 1-10 shows that Company's 2002 Other Public Authority (OPA) sales were 412,944 Mgallons, and that the Staff's estimate of normalized 2002 OPA sales was also 412,944 Mgallons, so that there is no adjustment recommended. Schedules 1-11, 1-12 and 1-13 illustrate the annual changes in OPA meter counts

(customer numbers); actual and normal OPA GMD; and actual and normal OPA Mgallons respectively. A Staff estimate of the effect of Company's weather normalization was included for comparison.

Q. How did you calculate weather normalized GMD for the service areas and rate classes?

A. For each service area and each rate class, I used linear regression to analyze historical annual GMD with respect to the summer weather of each year. In order to perform the weather analysis accurately, it was also necessary to account for other important effects as well. Among the additional effects were missing meter counts, significant changes in numbers of meters, shifts in the patterns of usage per meter, large billing adjustments, and year-to-year trends in usage per meter.

Q. How were missing meter counts analyzed?

A. For the Jefferson City service area, missing meter counts were estimated by linear interpolation for the years between 1993 and 2001, which was the earliest available in the current rate case. This allowed data from the years 1980 through 2002 to be included in the analyses for the Jefferson City service area. However, the years 1994 and 1995 were not used in the calculations because these sales volumes were also missing. Data for the years from 1980 through 1993 were extracted from my working papers in the Capital City Water Company rate case, Case No. WR-1994-297.

Q. How were shifts in meter counts analyzed?

A. Where the shifts in meter counts were accompanied by corresponding shifts in total Mgallons, the meter numbers were accepted as they were received. Where shifts in meter counts were not accompanied by corresponding shifts in total Mgallons,

the analysis was performed using projections of meter counts from before the shift occurred. For example, this technique was used for the St. Louis County Water Residential rate class quarterly meter counts for 2001 and 2002 billing years. The staff has submitted data requests to the Company for clarification of these meter counts and Mgallon volumes.

Q. How were shifts and trends in usage per meter analyzed?

A. Shifts were analyzed with indicator variables that equaled 0.0 before and after the shift, and which equaled 1.0 with the appropriate sign during the shift period. Trends were analyzed with variables that equaled 0.0 in the final year of the trend, -1.0 in the prior year, and so on backward to where the trend began. Years prior to the beginning of the trend would receive the same value as the year where the trend started. These techniques allowed the test year estimates to be yielded directly by the regression model results.

Q. How were the regression models specified?

A. The GMD regression models were specified to calculate coefficients for billing adjustments, shift adjustments, trend adjustments and for weather effects where it was appropriate. These coefficients were then used to adjust the 2002 non-weather sensitive rate class GMD for adjustments other than the weather, and the 2002 weather-sensitive rate class GMD for the 2002 departures from normal weather as well. This process is described in the sections below, headed BILLING DATA, BILLING ADJUSTMENTS, TREND ADJUSTMENTS AND SHIFTS, WEATHER ADJUSTMENTS and SUMMARY.

BILLING DATA

Q. What were the annual billing data that you used in your analysis?

A. The meter count, Mgallon volumes and GMD billing data are tabulated by service area and rate class at Schedule 2-1 through 2-22, attached to my direct testimony. I used observed (actual) GMD data from the earliest available billing years through the 2002 billing year to perform my analysis. Analyses of meter counts are presented in Schedules 2-23 and 2-24 for St. Louis County Quarterly and Monthly Rate Classes.

Q. What were the earliest billing years available?

A. For Jefferson City, the earliest year was 1980. For Brunswick, Joplin, Mexico, Parkville, St. Charles, St. Joseph and Warrensburg, the earliest available year was 1984. For St. Louis County, I used data from 1993 forward because the Company furnished customer count information from these years for the rate class components the Company used in this case, but not for earlier years. However, data from earlier years for aggregated St. Louis County rate classes were available for crosschecking. These may be found in my work papers in the St. Louis County rate case, Case No. WR-2000-844, which I have provided to Missouri-American Water Company as part of my working papers in the current case.

Q. What were the sources of observed annual GMD?

A. These were calculated from annual volumes and annual average meter counts. The volumes and meter counts for 1989 through 2002 were read from the working papers of Company witness Dr. Edward L. Spitznagel in the present case. The data for the earlier years were read from my working papers and the working papers of Company witnesses, which corresponded to past rate cases for the various components of

the current Missouri-American Water Company. These have also been furnished as part of my working papers.

Q. Did you use other information provided by the Company?

A. Yes. In response to my data request, the company furnished meter counts by rate class from 1993 through 2002 for the St. Louis County service area. This was necessary because the Company had only furnished counts of customer bills to Dr. Spitznagel. However, I did the St. Louis County rate class volumes provided by Dr. Spitznagel wherever they were available for complete years.

Q. Did you adjust any of the meter count information provided by the Company?

A. Yes. For example, I substituted projections of meter counts in the 2001 and 2002 billing years for the St. Louis County Residential rate class quarterly customers. The regression model that was used to calculate these projections for St. Louis County Quarterly Residential customers is presented at Schedule 2-23.

Q. Did you adjust any of the Mgallon volume data that were furnished by the Company?

A. No.

BILLING ADJUSTMENTS

Q. What is a billing adjustment?

A. In each of my analyses, coefficients were calculated to explain the quantity by which the GMD value for a particular billing year departed from the trends and weather patterns followed by the GMD values in the other years in the analysis. Collectively, such coefficients are called billing adjustments.

Q. Why would billing adjustments to annualized GMD be necessary?

A. Billing adjustments are required because several errors may have occurred in the underlying customer billing data: (1) when meters are misread either by meter readers or by those customers who read their own meters; (2) when the Company has found it necessary to estimate readings because the meters were inaccessible; (3) when errors occurred as the bills were calculated; (4) when customers are rerouted (moved to a different billing cycle); (5) when holidays cause the number of annual billing cycle days to vary significantly from 365 days; and (6) when meter reads did not take place on the scheduled dates.

Q. What types of billing adjustments are necessary?

A. Billing adjustments may be singular, without a compensating adjustment; they may also be grouped when compensating adjustments occur in opposite directions.

Q. Are compensating adjustments relatively rare?

A. No. There were many instances where billing adjustments compensated for each other.

Q. What are the causes for compensating adjustments between two billing years?

A. There are several causes. For example, compensating adjustments would be called for in the case where a large over-billing or under-billing in one year has been corrected by crediting or debiting a bill for the same meter in the following year. Compensating adjustments would also be necessary where delayed meter readings for a group of customers might cause a month's bills to be larger than the weather and scheduled number of billing days would indicate. The following month's bills would

then be smaller by a compensating amount. In an alternative case, an estimated bill (based on an actual initial reading but an estimated final one) may have been too large. The next bill, included in the following year, would then be based on an estimated initial reading and an actual final reading, and would therefore be too small. In such cases, it would not be documented that the effective length of the first billing year would be too long, while that of the second would be too short.

Q. Are billing errors always compensated fully in the next billing period?

A. No. In the case where the length of a single billing year is greatly different from the usual 365 days, it may take more than one year before the error is fully compensated. This kind of error may also be compensated in increments over more than one year. Incremental errors might also precede a larger, more noticeable correction. This could occur because a billing year that is a couple of days too short may represent a necessary adjustment for a series of billing years that had been a fraction of a day too long.

Q. What are examples of compensating billing adjustments?

A. There were a series of such adjustments for the St. Charles Commercial rate class, over the last few years of the billing data. This analysis is presented at Schedule 3-12, attached to my direct testimony. There were many others that were more or less randomly distributed over years and service areas.

Q. What is an example of a singular billing adjustments?

A. One such example occurred for the Mexico service area, in the test year (Schedule 3-7). The test year annual GMD are much lower than would be indicated by the patterns established in the prior billing years. An indicator variable was used to

explain this departure. This indicator was set to zero to calculate normalized GMD usage for the test year.

Q. What caused this anomaly to occur?

A. An examination of the monthly billing data showed no significant change in meter counts for Mexico Residential customers, but showed a downward shift in Mgallon volumes that began precisely in January of the test year.

Q. Was there an explanation for the drop in Mgallon volumes?

A. No. The Company has provided no explanation of significant changes or adjustments in 2002 for the Mexico Residential rate class. However, according to existing agreements from the Missouri-American Water Company rate case, Case Number WR-200-281, and from the St. Louis Count Water Company rate case, Case Number WR-2000-844, such information should have been provided.

Q. Did billing adjustments occur independently from consumption trends and weather adjustments?

A. Yes. These effects appeared to occur randomly. However, the analysis must account for them in order to insure accuracy. Billing adjustment indicator variables were used for this purpose in the Staff's linear regressions.

TREND ADJUSTMENTS AND SHIFTS

Q. What was the nature of trends that appeared to be present in the data?

A. Trends refer to linear growth in GMD, by roughly the same amount each year. The Joplin Residential rate class customers exhibit this kind of trend from 1984 through 1998, but exhibit no trend after 1998 (Schedule 3-5).

Definite trends were present over at least a few years in the Residential GMD data for Joplin (Schedule 3-5), Mexico (Schedule 3-7), St. Joseph (Schedule 3-13), and Warrensburg (Schedule 3-21)

Definite trends were also present in the Commercial GMD data for Brunswick (Schedule 3-2), Jefferson City (Schedule 3-4), Joplin (Schedule 3.6), Mexico (Schedule 3-8), Parkville (Schedule 3-10), St. Charles (Schedule 3-12) and St. Joseph (Schedule 3-14).

Q. What was the nature of shifts that appeared to be present in the data?

A. A shift occurs when the GMD are consistent in one way leading up to a year and consistent in another way after that year. The shift of longest standing occurred in the Mexico service area for the Commercial customers (Schedule 3-8). For this service area and rate class, the GMD were definitely lower before 1998 than they were from 1998 forward. This was addressed by specifying a variable that was equal to –1.0 for all years from 1984 through 1997, and set equal to 0.0 thereafter.

Q. Were shifts present for other service areas and rate classes?

A. Yes. These were also addressed with indicator variables that had values different from 0.0 in the years where the shift occurred.

WEATHER ADJUSTMENTS

Q. Were weather adjustments calculated only after other adjustments had been calculated for billing errors, price effects and trends?

A. No. All types of adjustments were calculated at the same time for each rate class, using a single regression model for weather-sensitive GMD water sales.

Q. What was the weather used to model annual weather-sensitive GMD water sales?

A. The models used annual weather data for the stations used in each service area, dating from 1970 forward. This data is presented at Schedules 2-1 through 2-22, attached to my direct testimony. The daily weather used to calculate the annual values is included in my working papers for each service area and rate class.

Q. What was the weather variable used to model annual weather-sensitive GMD water sales?

A. The weather variable was precipitation shortfall ("Shortfall").

Q. How is Shortfall defined?

A. Shortfall was specified as the difference between the sum of daily summer moisture requirements ("Required") for a billing year, and sum of daily summer moisture that was available for evapotranspiration ("Dryup") during a billing year. Shortfall was calculated as inches of precipitation, and could only be positive or zero. That is,

Shortfall = MAX (0 , Required – Dryup)

Q. How was precipitation shortfall information used to calculate weather adjustments?

A. First, for each rate class, a regression analysis was calculated for weather-sensitive GMD as a function of independent variables that included indicators for billing adjustments, trends, shifts, indicators, and annual values for Shortfall. These regressions are presented at Schedules 3-1 through 3-22.

Weather adjustments would then be calculated for each rate class, as the regression coefficient for Shortfall ("Bshortfall") times the difference between observed Shortfall and normal shortfall ("Nshortfall"):

Weather Adjustment = (Bshortfall) X (Shortfall – Nshortfall)

However, in the regression models, the shortfall data were replaced with departures from the 1971-2000 average shortfall, using the variable Dnshortfall that would equal zero in a normal year. Since most other variables were also coded to equal zero in the test year, the intercept term of the regression model serves as the normal GMD with no other calculations needed.

Q. How did you calculate the Required variable (moisture requirement)?

A. For each day, moisture requirement is calculated as the product of a base daily lawn growth moisture requirement in inches ("Base Requirement"), a quadratic function of that day's high temperature ("Evap") and that day's hours of daylight ("Light"). That is,

Required = (Base Requirement)(Evap)(Light)

The best fit Base Requirement was selected by iteration.

For each day, Evap is calculated as that day's quadratic function of high temperature, and is expressed in the data as a percentage of the 30-year summer average of the daily quadratic function of high temperatures. For each day, Light is also calculated as that day's daylight hours, and is expressed as a percentage of the 30-year summer average of daylight hours per day.

For the average summer day, Evap = Light = 1, and Required would then simply be the Base Requirement. The exact calculations of the Evap variable, the Light variable, and the Base Requirement are described in greater detail in my working papers.

Q. How did you calculate Dryup (moisture for evapotranspiration)?

A. Moisture for evapotranspiration (moisture that could "dry up" today) was calculated as the product of moisture available ("Available") on the current day, a base drying rate in percent ("Dryrate"), Evap as just specified, and Light as just specified. The daily Dryup variable is calculated by:

Dryup = (Available)(Dryrate)(Evap)(Light)

Through daily soil moisture accounting, today's moisture Available is the sum of yesterday's soil water on hand and today's precipitation, minus the sum of today's runoff losses, yesterday's drainage losses, and yesterday's evapotranspiration losses. Daily soil moisture accounting is also described in detail in my working papers.

Q. In estimating Shortfall, did you use official weather data from the National Oceanic and Atmospheric Administration for your analysis?

A. Yes. The daily precipitation observations were presented as published, and contained only isolated adjustments and replacements for missing data. However, the daily temperatures were extensively adjusted to correspond with the adjusted monthly temperatures found in the publication, "1971-2000 Monthly Station Normals of Temperatures, Precipitation, and Heating and Cooling Degree-Days," published by NOAA. The monthly station normals, underlying monthly temperature data with NOAA's adjustments, and calculations of adjusted daily temperatures are presented electronically in my working papers for each weather station.

SUMMARY

Q. In summary, what analysis did you perform to weather adjust GMD for each of the rate classes?

A. The first part of my analysis was a regression performed on the weather data and Residential usage data, where annual precipitation shortfall was calculated. The second part of my analysis included regressions and weather adjustments that were performed for each of the rate classes: Residential, Commercial and Other Public Authority.

Q. In summary, what were the results of your analysis of the weather data?

A. This analysis consists of a best-fit specification for the weather variable, Shortfall. Shortfall was specified by using the time series of Residential annual average GMD from the billing years specific to each service area, together with daily weather data from the appropriate weather stations, dating from January 1 of 1970 through 2002. These annual results are equivalent to those found at Schedule 2-1 through 2-22 for the Residential rate classes. The daily results over all the years are voluminous, and are found in my working papers. The specification of Shortfall was determined from these results for the weather station in each service area.

Q. What were your regression results for the service areas and rate classes?

A. The regression results for are presented at Schedules 3-1 through 3-22.

Q. What would be the adjusted GMD for the year 2002 for each of the service areas, rate classes and reading schedules?

A. The adjusted GMD for the year 2002 are presented at Schedule 1-1.

Q. Does this conclude your direct testimony?

A. Yes, it does.

Missouri American Water Company Case No. WR-2003-0500 And WC-2004-0168
Staff's Weather Normalized Usage Per Customer Per Day
Based On 1971 Through 2000 Normal Weather

District	Monthly Residential	Monthly Commercial	Quarterly Residential	Quarterly Commercial	Monthly OPA	Quarterly OPA
Brunswick	125.5	190.3				
Jefferson City	167.6	876.4				
Joplin	198.8	911.5				
Mexico	153.8	602.3				
Parkville Water	281.2	962.5				
St. Charles	271.9	1,264.8				
St. Joseph	168.8	862.6				
St. Louis	5,013.4	14,302.6	290.2	971.1	15,344.4	1,509.1
Warrensburg	181.9	824.4				

Schedule 1-1

MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
OBSERVED RESIDENTIAL SALES

BILLING YEAR	OBSERVED RESIDENTIAL MGALLONS	RESIDENTIAL METERS	NOMINAL DAYS	OBSERVED RESIDENTIAL GMD
1993	32,292,828	357,700	365.25	247.2
1994	36,526,616	361,969	365.25	276.3
1995	35,764,133	366,640	365.25	267.1
1996	36,234,663	370,331	365.25	267.9
1997	37,047,103	373,547	365.25	271.5
1998	35,324,761	376,786	365.25	256.7
1999	38,422,160	379,351	365.25	277.3
2000	37,229,272	381,502	365.25	267.2
2001	37,790,890	383,372	365.25	269.9
2002	38,958,880	385,463	365.25	276.7

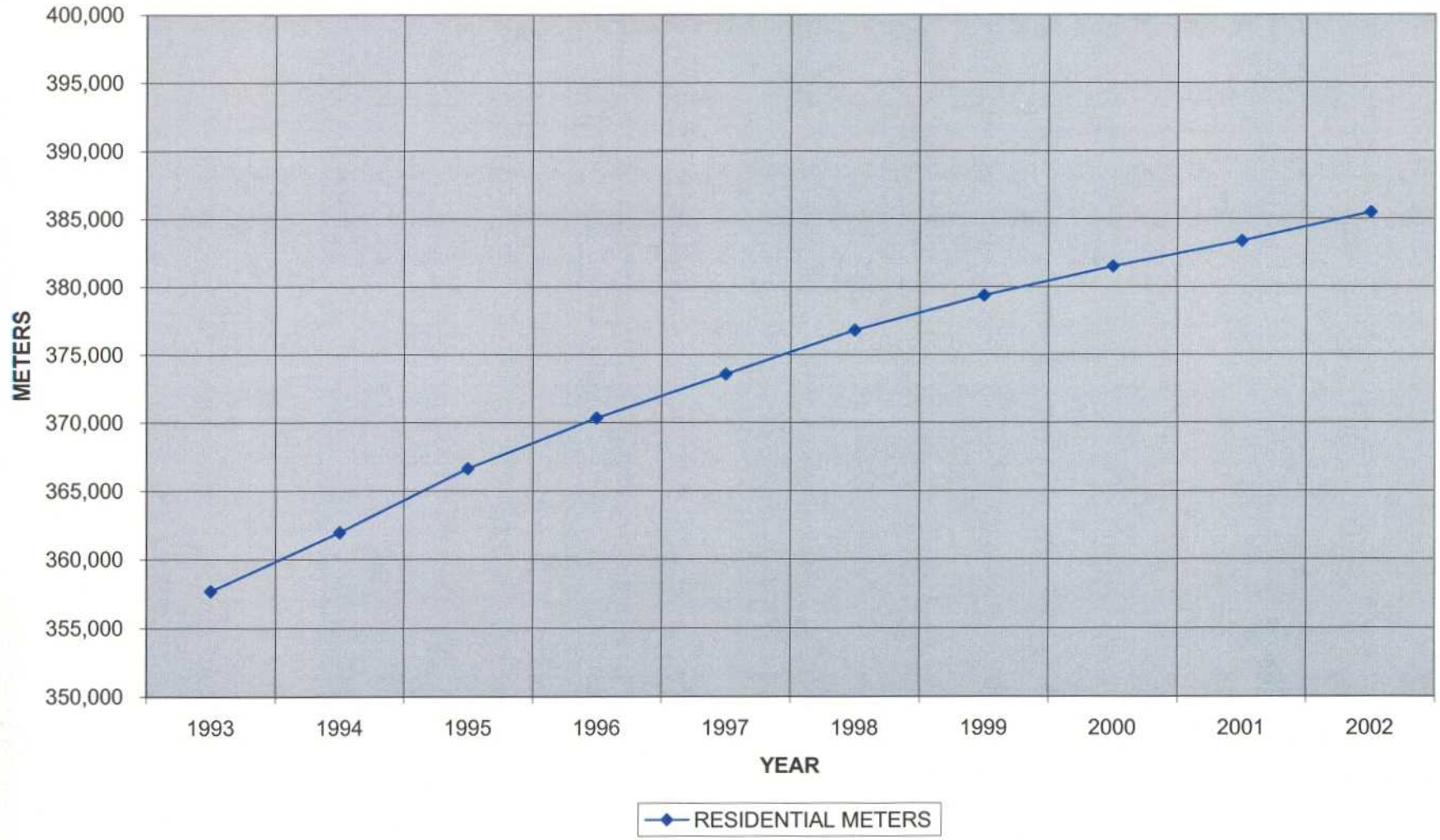
MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
NORMAL RESIDENTIAL SALES

BILLING YEAR	PROJECTD NORMAL RESIDENTIAL MGALLONS	RESIDENTIAL METERS	NOMINAL DAYS	PROJECTED NORMAL RESIDENTIAL GMD
1993	35,606,136	357,700	365.25	272.5
1994	36,084,741	361,969	365.25	272.9
1995	36,578,209	366,640	365.25	273.1
1996	36,936,560	370,331	365.25	273.1
1997	37,283,967	373,547	365.25	273.3
1998	37,572,038	376,786	365.25	273.0
1999	37,785,590	379,351	365.25	272.7
2000	37,950,382	381,502	365.25	272.4
2001	38,112,763	383,372	365.25	272.2
2002	38,035,836	385,463	365.25	270.2

MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
COMPANY NORMAL RESIDENTIAL SALES

BILLING YEAR	MAWC NORM RESIDENTIAL MGALLONS	RESIDENTIAL METERS	NOMINAL DAYS	MAWC NORMAL RESIDENTIAL GMD
1993	34,787,055	357,700	365.25	266.3
1994	35,236,497	361,969	365.25	266.5
1995	35,698,546	366,640	365.25	266.6
1996	36,068,888	370,331	365.25	266.7
1997	36,400,956	373,547	365.25	266.8
1998	36,717,740	376,786	365.25	266.8
1999	36,964,323	379,351	365.25	266.8
2000	37,171,315	381,502	365.25	266.8
2001	37,370,217	385,418	365.25	265.5
2002	37,419,228	385,463	365.25	265.8

MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
OBSERVED AND NORMAL WATER SALES



Schedule 1-3

MISSOURI AMERICAN WATER COMPANY
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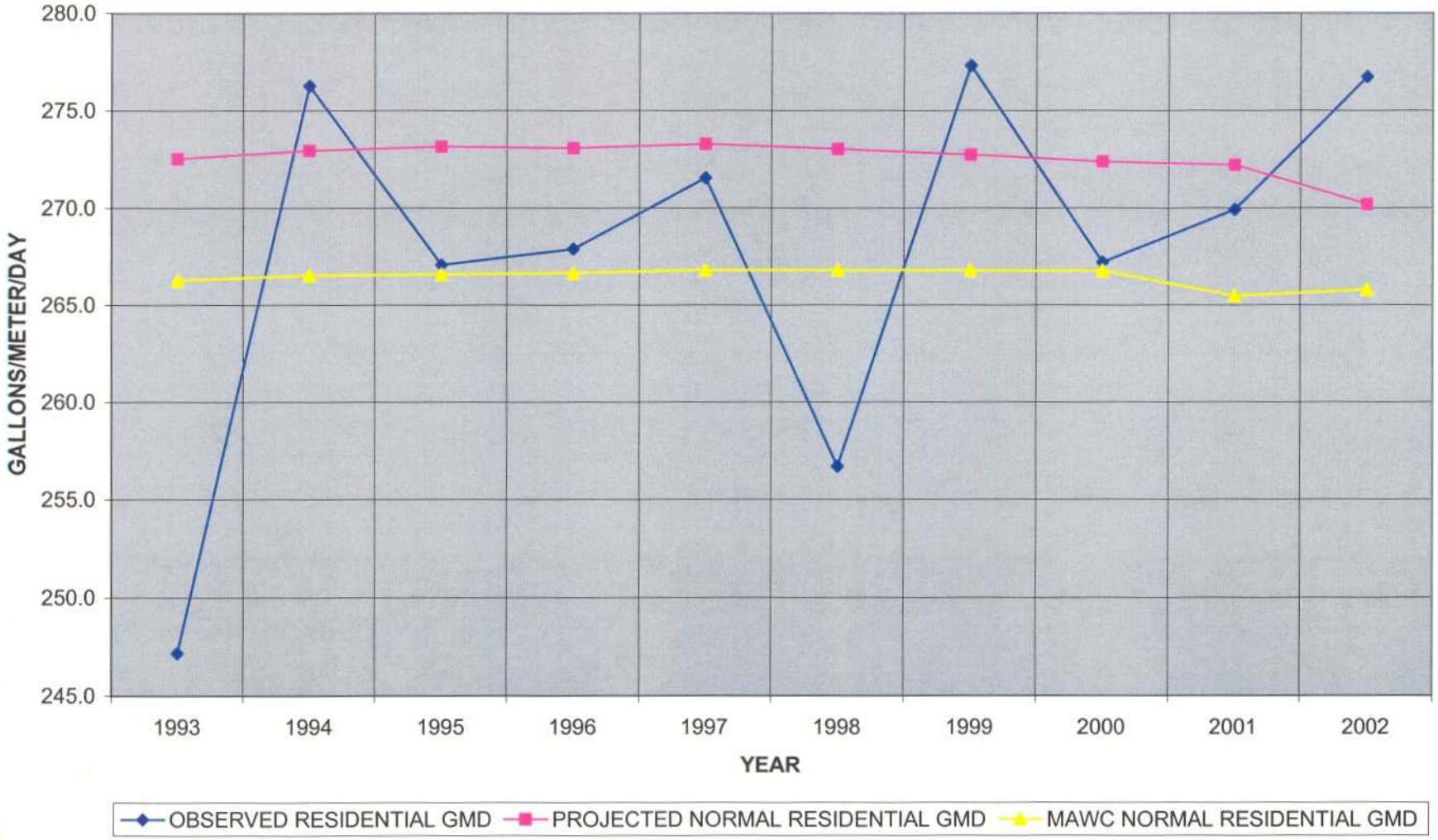
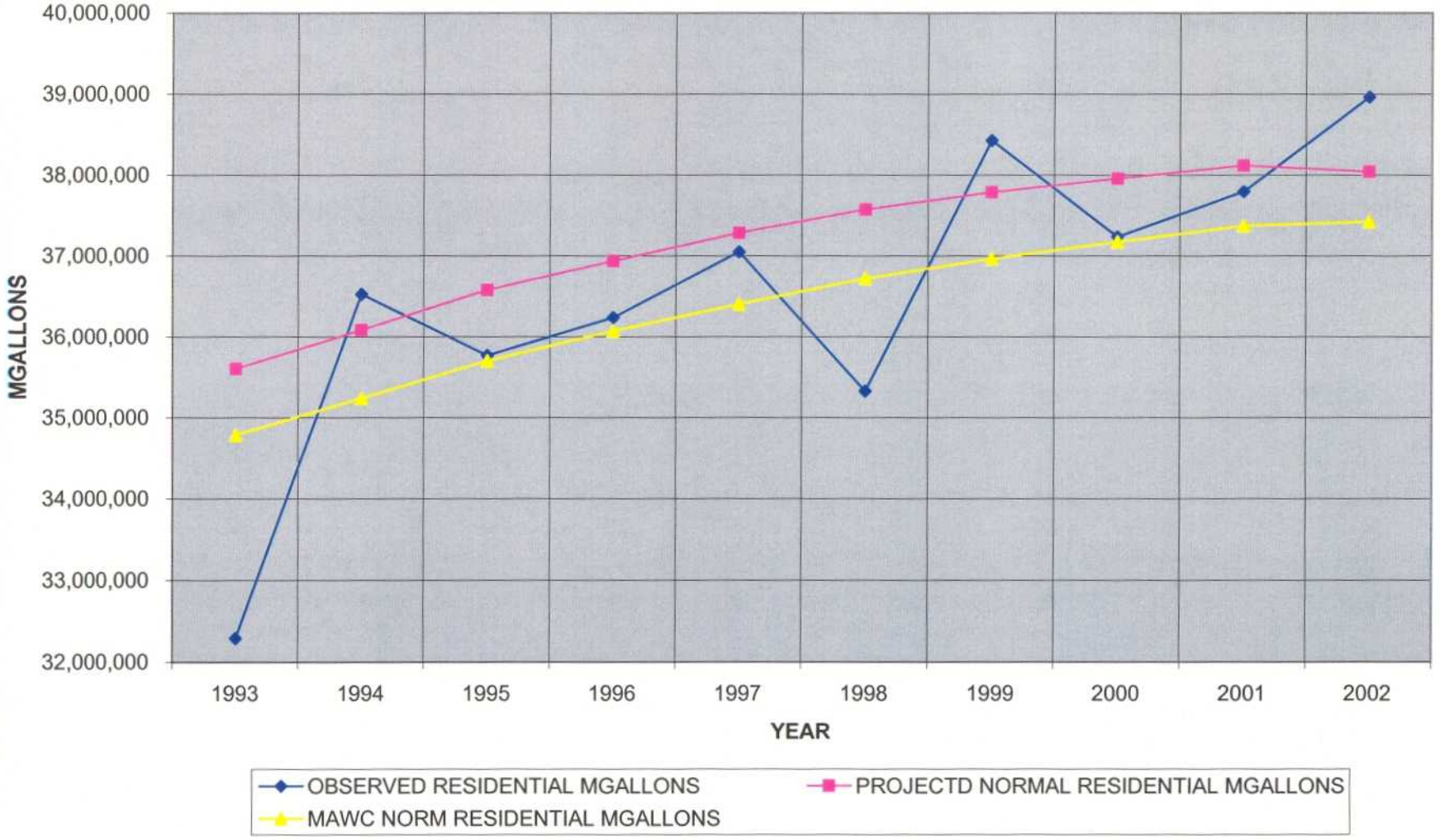
OBSERVED AND NORMAL WATER SALES



Schedule 1-4

MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
OBSERVED AND NORMAL WATER SALES



Schedule 1-5

MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
OBSERVED COMMERCIAL SALES

BILLING YEAR	OBSERVED COMM MGAL	COMMERCIAL METERS	NOMINAL DAYS	OBSERVED COMMERCIAL GMD
1993	9,774,152	24,104	365.25	1,110.2
1994	10,226,848	24,522	365.25	1,141.8
1995	10,677,931	24,775	365.25	1,180.0
1996	10,752,551	25,184	365.25	1,168.9
1997	11,197,752	25,436	365.25	1,205.3
1998	10,968,985	25,625	365.25	1,172.0
1999	11,811,074	25,805	365.25	1,253.1
2000	11,470,035	25,902	365.25	1,212.4
2001	11,825,265	27,463	365.25	1,178.9
2002	12,657,083	29,709	365.25	1,166.4

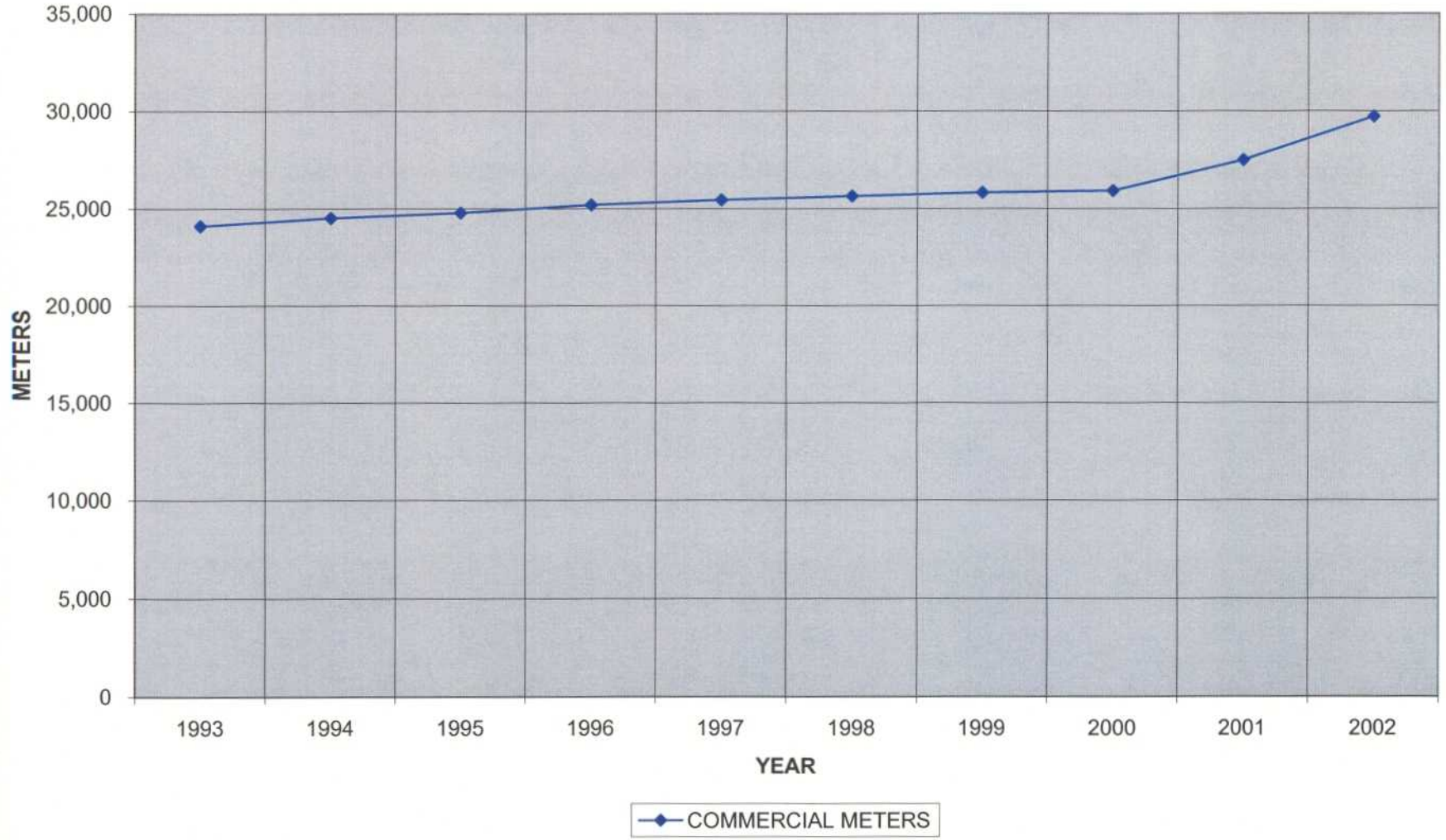
MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
NORMAL COMMERCIAL SALES

BILLING YEAR	PROJ NORMAL COMM MGAL	COMMERCIAL METERS	NOMINAL DAYS	PROJ NORMAL COMMERCIAL GMD
1993	10,579,956	24,104	365.25	1201.7
1994	11,024,192	24,522	365.25	1265.5
1995	11,286,196	24,775	365.25	1247.2
1996	11,353,267	25,184	365.25	1234.2
1997	11,383,573	25,436	365.25	1225.3
1998	11,333,251	25,625	365.25	1210.9
1999	11,468,073	25,805	365.25	1216.7
2000	11,562,450	25,902	365.25	1222.2
2001	11,317,271	27,463	365.25	1128.3
2002	11,762,497	29,709	365.25	1084.0

MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
COMPANY NORMAL COMMERCIAL SALES

BILLING YEAR	MWAC NORMAL COMMERCIAL MGALLONS	COMMERCIAL METERS	NOMINAL DAYS	MWAC NORMAL COMMERCIAL GMD
1993	10,838,160	24,104	365.25	1231.1
1994	11,334,920	24,522	365.25	1265.5
1995	11,488,112	24,775	365.25	1269.5
1996	11,559,374	25,184	365.25	1256.7
1997	11,517,446	25,436	365.25	1239.7
1998	11,409,895	25,625	365.25	1219.1
1999	11,465,168	25,805	365.25	1216.4
2000	11,460,846	25,902	365.25	1211.4
2001	11,630,326	27,463	365.25	1159.5
2002	12,458,999	29,709	365.25	1148.2

MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
OBSERVED AND NORMAL WATER SALES

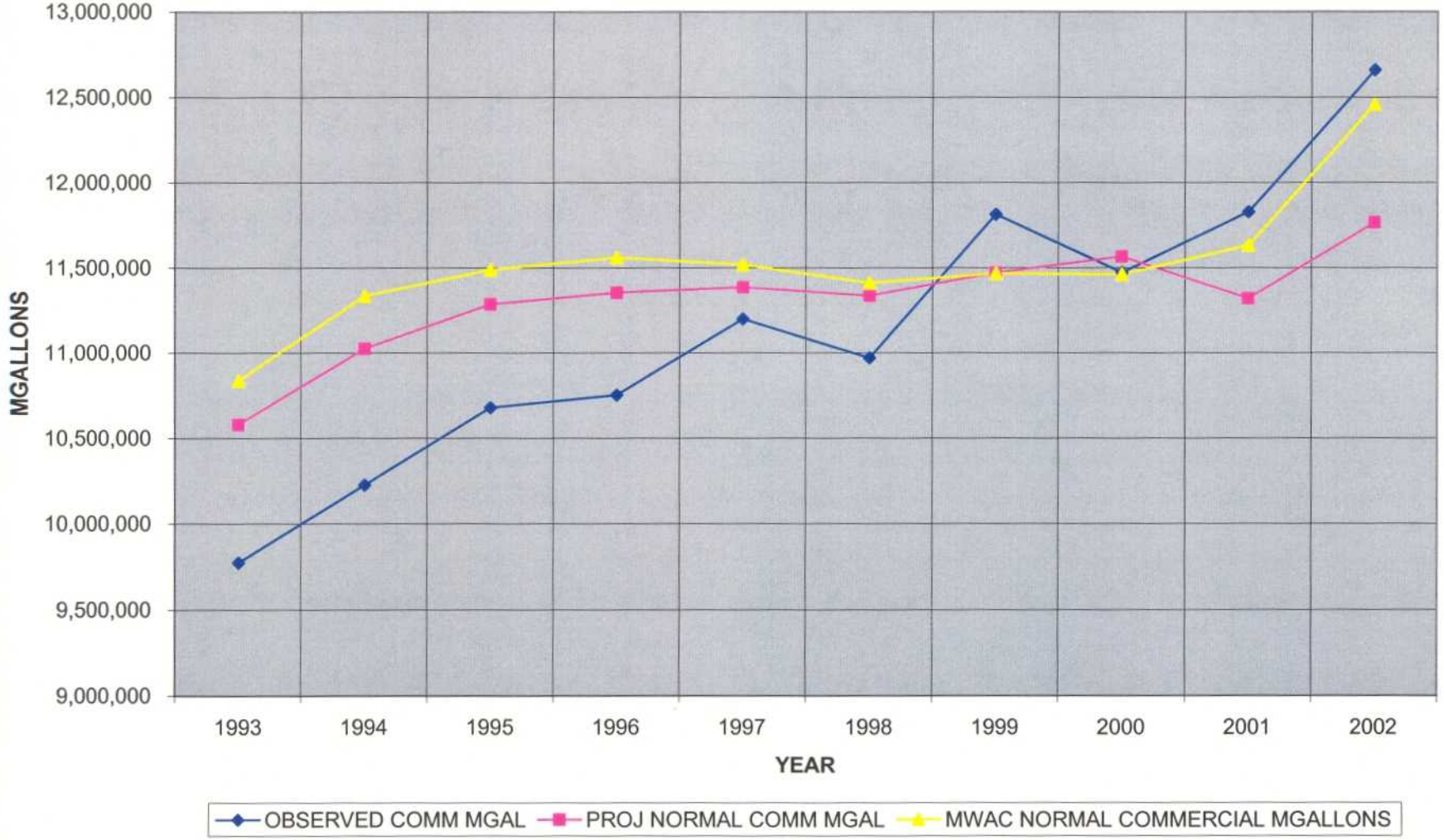


Schedule 1-7

MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
OBSERVED AND NORMAL WATER SALES

Schedule 1-8

MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
OBSERVED AND NORMAL WATER SALES



Schedule 1-9

MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
OBSERVED ST LOUIS OTHER PUBLIC AUTHORITY SALES

BILLING YEAR	OBSERVED OPA MGALLONS	OPA METERS	NOMINAL DAYS	OBSERVED OPA GMD
1993	222,313	513	365.25	1186.5
1994	321,406	551	365.25	1597.0
1995	256,229	531	365.25	1321.1
1996	263,916	535	365.25	1350.6
1997	305,054	547	365.25	1526.9
1998	327,406	554	365.25	1618.0
1999	396,224	565	365.25	1920.0
2000	379,660	563	365.25	1846.3
2001	379,979	578	365.25	1799.4
2002	412,944	593	365.25	1905.5

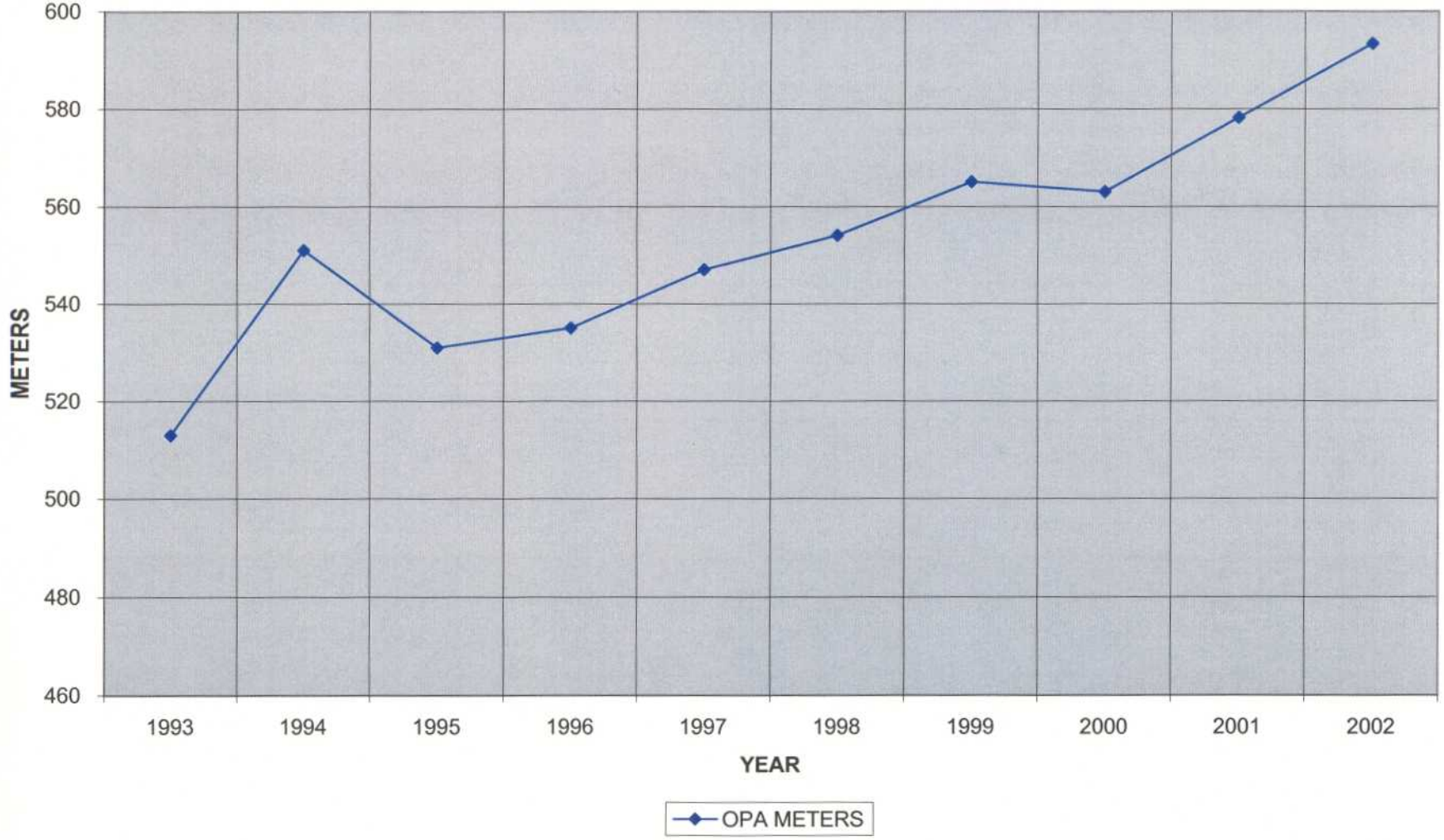
MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
NORMAL ST LOUIS OTHER PUBLIC AUTHORITY SALES

BILLING YEAR	NORMAL OPA MGALLONS	OPA METERS	NOMINAL DAYS	NORMAL OPA GMD
1993	220,235	513	365.25	1175.4
1994	320,291	551	365.25	2041.5
1995	257,602	531	365.25	1328.2
1996	263,916	535	365.25	1350.6
1997	303,807	547	365.25	1520.6
1998	327,406	554	365.25	1618.0
1999	396,224	565	365.25	1920.0
2000	379,660	563	365.25	1846.3
2001	404,343	578	365.25	1914.7
2002	412,944	593	365.25	1905.5

MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
COMPANY NORMAL ST LOUIS OTHER PUBLIC AUTHORITYSALES

BILLING YEAR	COMPANY NORMAL OPA MGALLONS	OPA METERS	NOMINAL DAYS	COMPANY NORMAL OPA GMD
1993	383,116	513	365.25	2044.7
1994	410,853	551	365.25	2041.5
1995	399,291	531	365.25	2058.8
1996	395,834	535	365.25	2025.7
1997	408,541	547	365.25	2044.8
1998	418,358	554	365.25	2067.5
1999	424,717	565	365.25	2058.1
2000	423,560	563	365.25	2059.8
2001	432,328	578	365.25	2047.2
2002	441,096	593	365.25	2035.4

MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
OBSERVED AND NORMAL WATER SALES

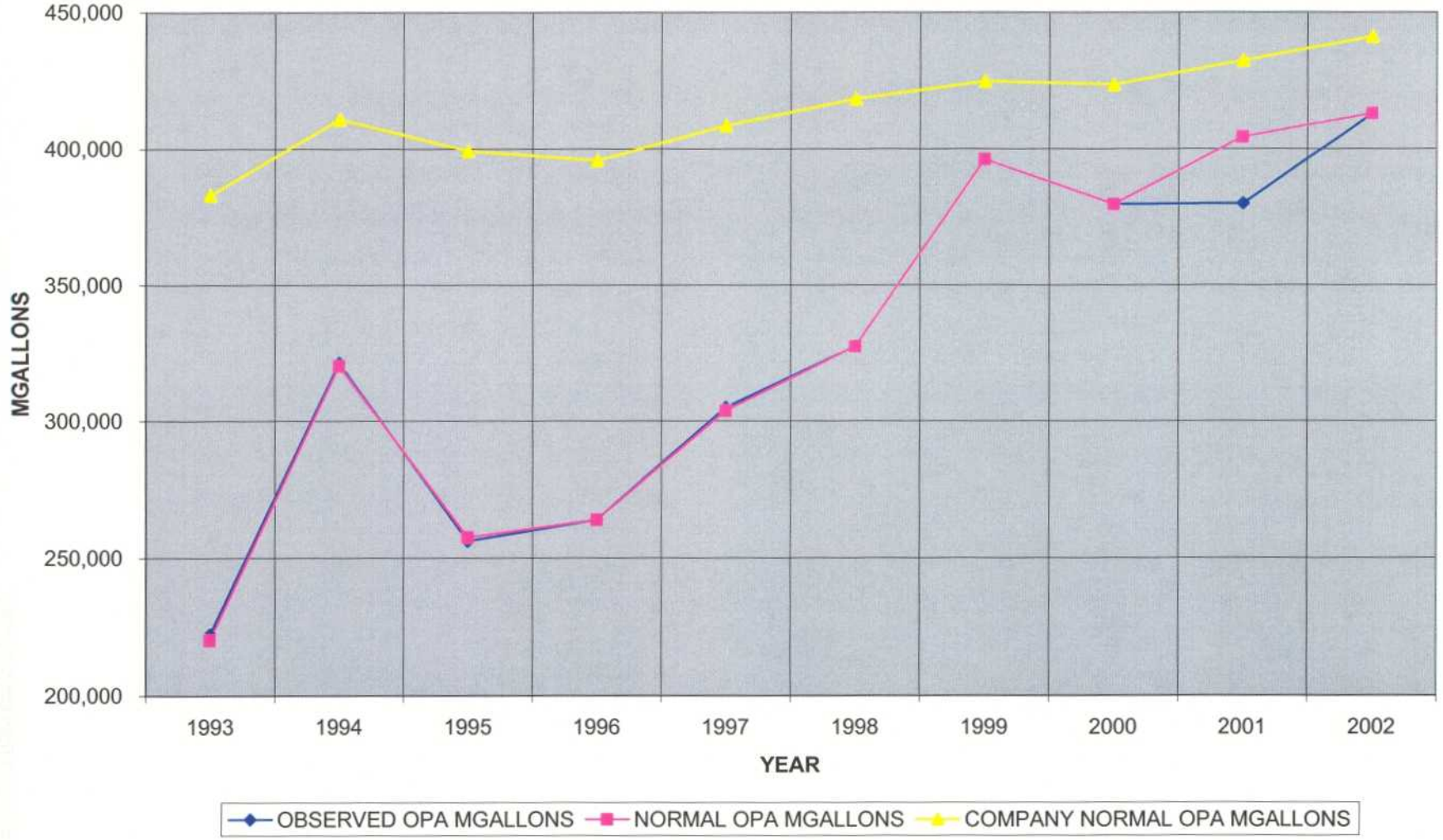


Schedule 1-11

MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
OBSERVED AND NORMAL WATER SALES

Schedule 1-12

MISSOURI AMERICAN WATER COMPANY
CASE NOS. WR-2003-0500 AND WC-2004-0168
OBSERVED AND NORMAL WATER SALES



Schedule 1-13

MISSOURI AMERICAN WATER COMPANY (BRUNSWICK RESIDENTIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970				55.6	39.5	320	302	3.426	24.52	26.86	1.090	8.20	17.04	8.84	7.69	1.15
1971				52.7	34.5	320	277	1.090	20.99	20.41	1.674	6.36	14.69	8.33	7.69	0.64
1972				51.6	30.8	321	272	1.674	18.33	18.73	1.272	5.95	14.66	8.70	7.69	1.02
1973				52.6	62.4	320	263	1.272	37.49	36.54	2.229	9.68	13.78	4.09	7.69	-3.59
1974				52.8	41.7	320	267	2.229	27.36	27.88	1.711	6.90	14.34	7.44	7.69	-0.25
1975				52.5	38.5	320	282	1.711	25.21	24.79	2.131	7.79	15.28	7.49	7.69	-0.20
1976				51.4	32.2	321	277	2.131	19.83	21.19	0.766	5.79	14.90	9.11	7.69	1.42
1977				52.9	46.8	320	288	0.766	28.70	27.86	1.603	8.89	15.62	6.73	7.69	-0.96
1978				50.5	43.4	320	280	1.603	25.19	25.26	1.530	7.87	14.90	7.03	7.69	-0.65
1979				50.3	32.4	320	274	1.530	20.18	21.04	0.670	6.83	14.27	7.44	7.69	-0.25
1980				52.3	28.2	321	293	0.670	20.68	19.94	1.408	6.32	16.42	10.10	7.69	2.41
1981				53.3	50.4	320	266	1.408	26.77	26.97	1.208	8.85	14.19	5.34	7.69	-2.35
1982				51.3	53.2	320	261	1.208	29.02	27.91	2.316	8.75	13.57	4.81	7.69	-2.87
1983				52.7	39.6	320	288	2.316	23.80	23.34	2.781	6.25	15.60	9.35	7.69	1.66
1984	124.52	451	20,512	52.6	38.5	321	272	2.781	24.06	24.98	1.865	5.64	14.86	9.22	7.69	1.53
1985	131.52	444	21,328	50.6	49.5	320	267	1.865	27.64	26.79	2.713	7.08	14.16	7.08	7.69	-0.61
1986	116.24	435	18,468	54.0	36.3	320	278	2.713	22.31	23.74	1.285	6.17	15.38	9.21	7.69	1.53
1987	119.06	428	18,613	55.2	36.9	320	287	1.285	20.85	20.28	1.854	5.88	16.06	10.17	7.69	2.49
1988	121.44	434	19,251	53.2	23.2	321	299	1.854	14.36	15.11	1.107	4.23	16.74	12.50	7.69	4.82
1989	114.55	431	18,016	51.5	28.8	320	280	1.107	19.21	19.68	0.635	6.72	14.51	7.79	7.69	0.10
1990	123.86	436	19,717	54.5	40.1	320	276	0.635	26.59	26.40	0.829	8.31	14.40	6.10	7.69	-1.59
1991	125.44	429	19,651	53.7	26.4	320	290	0.829	19.39	18.87	1.345	5.86	15.86	10.00	7.69	2.31
1992	124.67	430	19,562	51.2	36.9	321	251	1.345	24.98	23.49	2.835	6.34	13.24	6.89	7.69	-0.79
1993	125.77	416	19,118	49.4	56.7	320	251	2.835	32.44	33.92	1.353	10.46	13.38	2.92	7.69	-4.77
1994	128.82	413	19,409	52.3	34.1	320	273	1.353	20.33	20.49	1.193	5.67	14.48	8.81	7.69	1.12
1995	127.34	409	19,015	51.7	40.6	320	268	1.193	25.30	25.89	0.599	8.97	14.02	5.05	7.69	-2.64
1996	123.45	403	18,153	50.5	35.1	321	266	0.599	20.23	20.17	0.660	6.68	13.90	7.22	7.69	-0.46
1997	124.14	394	17,849	51.6	34.4	320	269	0.660	22.96	21.82	1.801	5.93	14.22	8.28	7.69	0.60
1998	128.27	393	18,413	55.2	49.9	320	279	1.801	26.48	27.41	0.870	8.11	15.18	7.07	7.69	-0.61
1999	125.47	392	17,945	54.3	34.4	320	281	0.870	21.30	21.34	0.834	6.62	14.86	8.23	7.69	0.55
2000	126.95	391	18,107	52.9	29.4	321	284	0.834	21.22	21.20	0.849	6.93	15.02	8.09	7.69	0.40
2001	123.49	389	17,531	53.9	44.9	320	275	0.849	24.35	24.54	0.658	8.92	15.73	6.82	7.69	-0.87
2002	126.36	386	17,803	53.7	38.3	320	279	0.658	19.92	20.00	0.574	7.00	16.47	9.47	7.69	1.79

Schedule 2-1

MISSOURI AMERICAN WATER COMPANY (BRUNSWICK COMMERCIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970				55.6	39.5	320	302	3.426	24.52	26.86	1.090	8.20	17.04	8.84	7.69	1.15
1971				52.7	34.5	320	277	1.090	20.99	20.41	1.674	6.36	14.69	8.33	7.69	0.64
1972				51.6	30.8	321	272	1.674	18.33	18.73	1.272	5.95	14.66	8.70	7.69	1.02
1973				52.6	62.4	320	263	1.272	37.49	36.54	2.229	9.68	13.78	4.09	7.69	-3.59
1974				52.8	41.7	320	267	2.229	27.36	27.88	1.711	6.90	14.34	7.44	7.69	-0.25
1975				52.5	38.5	320	282	1.711	25.21	24.79	2.131	7.79	15.28	7.49	7.69	-0.20
1976				51.4	32.2	321	277	2.131	19.83	21.19	0.766	5.79	14.90	9.11	7.69	1.42
1977				52.9	46.8	320	288	0.766	28.70	27.86	1.603	8.89	15.62	6.73	7.69	-0.96
1978				50.5	43.4	320	280	1.603	25.19	25.26	1.530	7.87	14.90	7.03	7.69	-0.65
1979				50.3	32.4	320	274	1.530	20.18	21.04	0.670	6.83	14.27	7.44	7.69	-0.25
1980				52.3	28.2	321	293	0.670	20.68	19.94	1.408	6.32	16.42	10.10	7.69	2.41
1981				53.3	50.4	320	266	1.408	26.77	26.97	1.208	8.85	14.19	5.34	7.69	-2.35
1982				51.3	53.2	320	261	1.208	29.02	27.91	2.316	8.75	13.57	4.81	7.69	-2.87
1983				52.7	39.6	320	288	2.316	23.80	23.34	2.781	6.25	15.60	9.35	7.69	1.66
1984	244.42	80	7,142	52.6	38.5	321	272	2.781	24.06	24.98	1.865	5.64	14.86	9.22	7.69	1.53
1985	213.66	80	6,243	50.6	49.5	320	267	1.865	27.64	26.79	2.713	7.08	14.16	7.08	7.69	-0.61
1986	207.39	80	6,060	54.0	36.3	320	278	2.713	22.31	23.74	1.285	6.17	15.38	9.21	7.69	1.53
1987	216.96	78	6,181	55.2	36.9	320	287	1.285	20.85	20.28	1.854	5.88	16.06	10.17	7.69	2.49
1988	232.90	77	6,550	53.2	23.2	321	299	1.854	14.36	15.11	1.107	4.23	16.74	12.50	7.69	4.82
1989	211.77	75	5,769	51.5	28.8	320	280	1.107	19.21	19.68	0.635	6.72	14.51	7.79	7.69	0.10
1990	207.81	71	5,370	54.5	40.1	320	276	0.635	26.59	26.40	0.829	8.31	14.40	6.10	7.69	-1.59
1991	217.85	71	5,676	53.7	26.4	320	290	0.829	19.39	18.87	1.345	5.86	15.86	10.00	7.69	2.31
1992	232.33	71	6,018	51.2	36.9	321	251	1.345	24.98	23.49	2.835	6.34	13.24	6.89	7.69	-0.79
1993	235.33	70	5,981	49.4	56.7	320	251	2.835	32.44	33.92	1.353	10.46	13.38	2.92	7.69	-4.77
1994	211.74	69	5,304	52.3	34.1	320	273	1.353	20.33	20.49	1.193	5.67	14.48	8.81	7.69	1.12
1995	211.15	67	5,180	51.7	40.6	320	268	1.193	25.30	25.89	0.599	8.97	14.02	5.05	7.69	-2.64
1996	207.59	68	5,156	50.5	35.1	321	266	0.599	20.23	20.17	0.660	6.68	13.90	7.22	7.69	-0.46
1997	213.52	74	5,745	51.6	34.4	320	269	0.660	22.96	21.82	1.801	5.93	14.22	8.28	7.69	0.60
1998	197.24	73	5,235	55.2	49.9	320	279	1.801	26.48	27.41	0.870	8.11	15.18	7.07	7.69	-0.61
1999	209.78	71	5,472	54.3	34.4	320	281	0.870	21.30	21.34	0.834	6.62	14.86	8.23	7.69	0.55
2000	201.10	70	5,166	52.9	29.4	321	284	0.834	21.22	21.20	0.849	6.93	15.02	8.09	7.69	0.40
2001	193.77	70	4,960	53.9	44.9	320	275	0.849	24.35	24.54	0.658	8.92	15.73	6.82	7.69	-0.87
2002	190.26	73	5,044	53.7	38.3	320	279	0.658	19.92	20.00	0.574	7.00	16.47	9.47	7.69	1.79

MISSOURI AMERICAN WATER COMPANY (JEFFERSON CITY RESIDENTIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970				55.0	48.3	320	283	3.426	28.34	30.97	0.791	8.51	13.84	5.33	6.76	-1.43
1971				55.9	28.8	320	286	0.791	21.69	21.71	0.770	6.09	13.58	7.49	6.76	0.73
1972				55.0	29.7	321	286	0.770	19.22	19.73	0.257	5.77	14.07	8.30	6.76	1.53
1973				56.1	54.8	320	279	0.257	29.30	28.99	0.568	6.87	13.13	6.25	6.76	-0.51
1974				55.4	40.5	320	273	0.568	27.39	27.15	0.807	6.42	12.71	6.28	6.76	-0.48
1975				55.6	42.0	320	276	0.807	25.26	25.15	0.917	6.34	13.02	6.68	6.76	-0.09
1976				54.2	25.3	321	277	0.917	16.78	17.32	0.374	3.65	13.09	9.43	6.76	2.67
1977				54.7	36.7	320	284	0.374	24.12	23.88	0.618	6.48	13.66	7.18	6.76	0.41
1978				53.2	36.3	320	278	0.618	24.40	24.34	0.674	7.17	13.31	6.13	6.76	-0.63
1979				52.3	29.9	320	272	0.674	19.14	19.31	0.508	5.43	12.69	7.25	6.76	0.49
1980	182.43	7,819.58	521,028	54.9	26.7	321	299	0.508	16.49	16.74	0.255	4.70	15.01	10.31	6.76	3.55
1981	160.58	7,864.25	461,250	54.2	45.9	320	266	0.255	27.21	27.18	0.287	7.68	12.60	4.91	6.76	-1.85
1982	157.38	7,890.83	453,582	52.5	52.4	320	260	0.287	31.28	29.99	1.580	7.61	12.04	4.43	6.76	-2.33
1983	168.64	7,904.83	486,917	52.3	37.5	320	273	1.580	23.07	23.64	1.015	4.98	13.00	8.02	6.76	1.25
1984	170.89	7,944.17	495,866	54.3	39.8	321	269	1.015	25.63	25.74	0.900	4.90	13.02	8.12	6.76	1.35
1985	156.87	8,068.58	462,304	52.6	53.1	320	266	0.900	29.50	28.65	1.746	6.85	12.57	5.72	6.76	-1.04
1986	165.51	8,106.08	490,027	54.7	39.5	320	278	1.746	24.27	25.38	0.632	6.35	13.68	7.33	6.76	0.56
1987	171.42	8,163.42	511,114	54.2	33.3	320	285	0.632	20.88	20.08	1.435	5.68	14.15	8.47	6.76	1.71
1988	172.87	8,195.75	517,488	54.3	36.2	321	283	1.435	22.36	22.35	1.446	4.78	13.85	9.07	6.76	2.30
1989	162.61	8,261.17	490,665	53.5	31.9	320	275	1.446	21.58	22.33	0.697	6.31	12.52	6.21	6.76	-0.55
1990	157.28	8,309.42	477,345	56.8	52.1	320	271	0.697	29.29	29.05	0.943	7.27	12.35	5.08	6.76	-1.68
1991	165.58	8,348.08	504,878	56.5	37.7	320	274	0.943	23.81	24.24	0.518	6.26	13.12	6.86	6.76	0.09
1992	161.81	8,441.42	498,905	54.6	38.9	321	243	0.518	26.85	26.63	0.746	6.29	11.22	4.93	6.76	-1.84
1993	156.44	8,428	481,562	53.2	66.1	320	246	0.746	28.09	28.24	0.599	7.62	11.77	4.15	6.76	-2.62
1994	165	8,470	510,614	55.1	40.9	320	262	0.599	24.43	24.81	0.220	6.15	12.23	6.08	6.76	-0.68
1995	164	8,512	519,280	54.5	34.7	320	264	0.220	23.80	23.53	0.484	6.35	12.21	5.85	6.76	-0.91
1996	162.82	8,554	508,706	53.1	39.5	321	254	0.484	22.56	22.82	0.226	6.19	11.81	5.62	6.76	-1.15
1997	165.33	8,596	519,082	54.0	36.3	320	255	0.226	24.54	23.92	0.842	5.55	11.87	6.32	6.76	-0.44
1998	159.40	8,638	502,936	57.3	53.9	320	269	0.842	31.06	31.28	0.618	7.56	12.81	5.25	6.76	-1.51
1999	177.89	8,681	564,013	56.8	32.7	320	277	0.618	19.09	19.40	0.310	4.28	13.02	8.74	6.76	1.97
2000	165.22	8,723	526,398	55.4	40.5	321	274	0.310	21.66	21.64	0.329	6.34	12.79	6.46	6.76	-0.31
2001	170.89	8,765	547,093	56.4	46.7	320	269	0.329	29.50	29.11	0.722	7.89	13.69	5.80	6.76	-0.97
2002	162.00	8,789	520,045	55.8	38.9	320	266	0.722	24.85	25.11	0.469	7.11	13.82	6.72	6.76	-0.05

MISSOURI AMERICAN WATER COMPANY (JEFFERSON CITY COMMERCIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970				55.0	48.3	320	283	3.426	28.34	31.03	0.735	8.38	13.84	5.45	6.86	-1.41
1971				55.9	28.8	320	286	0.735	21.69	21.75	0.676	6.02	13.58	7.57	6.86	0.70
1972				55.0	29.7	321	286	0.676	19.22	19.70	0.200	5.74	14.07	8.33	6.86	1.47
1973				56.1	54.8	320	279	0.200	29.30	29.03	0.479	6.73	13.13	6.40	6.86	-0.47
1974				55.4	40.5	320	273	0.479	27.39	27.15	0.719	6.32	12.71	6.39	6.86	-0.47
1975				55.6	42.0	320	276	0.719	25.26	25.13	0.844	6.25	13.02	6.77	6.86	-0.09
1976				54.2	25.3	321	277	0.844	16.78	17.32	0.300	3.57	13.09	9.51	6.86	2.65
1977				54.7	36.7	320	284	0.300	24.12	23.91	0.515	6.39	13.66	7.27	6.86	0.41
1978				53.2	36.3	320	278	0.515	24.40	24.30	0.615	7.05	13.31	6.26	6.86	-0.60
1979				52.3	29.9	320	272	0.615	19.14	19.30	0.454	5.33	12.69	7.35	6.86	0.49
1980	875.14	1,241.25	396,758	54.9	26.7	321	299	0.454	16.49	16.74	0.200	4.64	15.01	10.37	6.86	3.51
1981	842.92	1,267.67	390,284	54.2	45.9	320	266	0.200	27.21	27.18	0.227	7.51	12.60	5.08	6.86	-1.78
1982	836.36	1,269.83	387,907	52.5	52.4	320	260	0.227	31.28	30.09	1.413	7.48	12.04	4.57	6.86	-2.30
1983	938.63	1,287.58	441,426	52.3	37.5	320	273	1.413	23.07	23.60	0.881	4.92	13.00	8.08	6.86	1.22
1984	950.88	1,304.08	452,919	54.3	39.8	321	269	0.881	25.63	25.69	0.816	4.85	13.02	8.17	6.86	1.30
1985	911.77	1,327.92	442,230	52.6	53.1	320	266	0.816	29.50	28.79	1.525	6.71	12.57	5.86	6.86	-1.00
1986	902.92	1,343.33	443,018	54.7	39.5	320	278	1.525	24.27	25.27	0.521	6.30	13.68	7.38	6.86	0.52
1987	995.23	1,335.83	485,584	54.2	33.3	320	285	0.521	20.88	20.07	1.326	5.60	14.15	8.55	6.86	1.69
1988	940.87	1,343.67	461,755	54.3	36.2	321	283	1.326	22.36	22.34	1.350	4.71	13.85	9.14	6.86	2.28
1989	951.96	1,357.58	472,038	53.5	31.9	320	275	1.350	21.58	22.28	0.657	6.16	12.52	6.36	6.86	-0.50
1990	894.83	1,378.75	450,624	56.8	52.1	320	271	0.657	29.29	29.08	0.872	7.13	12.35	5.22	6.86	-1.64
1991	921.28	1,398.67	470,648	56.5	37.7	320	274	0.872	23.81	24.26	0.428	6.18	13.12	6.94	6.86	0.08
1992	872.99	1,436.67	458,097	54.6	38.9	321	243	0.428	26.85	26.68	0.606	6.23	11.22	4.99	6.86	-1.87
1993	874.78	1,445	461,562	53.2	66.1	320	246	0.606	28.09	28.19	0.504	7.51	11.77	4.25	6.86	-2.61
1994	915	1,476	493,417	55.1	40.9	320	262	0.504	24.43	24.76	0.169	6.05	12.23	6.18	6.86	-0.68
1995	913	1,508	502,817	54.5	34.7	320	264	0.169	23.80	23.51	0.454	6.23	12.21	5.98	6.86	-0.88
1996	907.77	1,540	510,647	53.1	39.5	321	254	0.454	22.56	22.85	0.169	6.14	11.81	5.67	6.86	-1.19
1997	919.68	1,572	528,041	54.0	36.3	320	255	0.169	24.54	23.98	0.729	5.46	11.87	6.41	6.86	-0.45
1998	892.97	1,604	523,090	57.3	53.9	320	269	0.729	31.06	31.22	0.567	7.38	12.81	5.44	6.86	-1.42
1999	925.55	1,636	552,941	56.8	32.7	320	277	0.567	19.09	19.42	0.235	4.21	13.02	8.81	6.86	1.94
2000	894.24	1,667	544,639	55.4	40.5	321	274	0.235	21.66	21.62	0.275	6.24	12.79	6.55	6.86	-0.32
2001	877.54	1,699	544,671	56.4	46.7	320	269	0.275	29.50	29.15	0.625	7.75	13.69	5.94	6.86	-0.93
2002	876.55	1,697	543,258	55.8	38.9	320	266	0.625	24.85	25.06	0.414	6.95	13.82	6.88	6.86	0.02

MISSOURI AMERICAN WATER COMPANY (JOPLIN RESIDENTIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970				57.2	45.0	320	272	3.426	21.43	23.49	1.362	6.49	11.50	5.01	4.75	0.26
1971				58.6	37.5	320	275	1.362	20.27	20.24	1.388	5.40	11.20	5.80	4.75	1.05
1972				57.8	39.3	321	273	1.388	18.25	18.05	1.586	4.74	11.33	6.59	4.75	1.84
1973				57.8	62.0	320	264	1.586	30.20	29.83	1.959	6.99	10.56	3.57	4.75	-1.18
1974				56.6	47.0	320	254	1.959	22.91	22.88	1.986	5.51	10.22	4.71	4.75	-0.04
1975				56.9	44.1	320	264	1.986	23.16	23.18	1.969	6.19	10.70	4.52	4.75	-0.24
1976				54.9	42.1	321	248	1.969	17.51	18.56	0.920	5.35	9.77	4.43	4.75	-0.33
1977				57.5	46.3	320	267	0.920	24.51	24.26	1.169	7.33	10.97	3.64	4.75	-1.11
1978				56.6	39.7	320	282	1.169	20.57	20.61	1.125	6.80	11.45	4.65	4.75	-0.10
1979				55.6	41.4	320	266	1.125	19.58	19.78	0.928	6.52	10.60	4.08	4.75	-0.68
1980				59.3	29.9	321	302	0.928	16.73	16.90	0.756	5.25	12.91	7.66	4.75	2.90
1981				58.2	38.6	320	264	0.756	19.65	19.46	0.943	5.76	10.81	5.05	4.75	0.30
1982				57.9	38.4	320	274	0.943	21.20	20.24	1.899	6.17	10.93	4.76	4.75	0.00
1983				57.2	45.6	320	281	1.899	22.64	22.30	2.242	6.07	11.57	5.49	4.75	0.74
1984	193.80	14,320	1,013,651	57.9	46.2	321	271	2.242	25.04	25.70	1.584	5.47	11.21	5.74	4.75	0.98
1985	185.37	14,559	985,762	56.9	65.3	320	269	1.584	27.17	26.86	1.892	6.95	11.05	4.10	4.75	-0.65
1986	186.32	14,820	1,008,541	59.1	51.1	320	274	1.892	22.34	23.28	0.949	6.57	11.36	4.80	4.75	0.05
1987	187.88	15,172	1,041,177	58.8	48.2	320	277	0.949	23.68	22.53	2.104	6.77	11.67	4.90	4.75	0.15
1988	197.40	15,634	1,127,210	57.4	44.8	321	281	2.104	21.95	21.99	2.069	5.52	11.73	6.22	4.75	1.46
1989	187.62	15,951	1,093,075	55.9	34.4	320	263	2.069	18.35	19.65	0.771	6.04	10.25	4.20	4.75	-0.55
1990	189.66	16,142	1,118,202	59.0	63.6	320	274	0.771	29.18	28.12	1.831	7.52	10.96	3.44	4.75	-1.31
1991	205.45	16,319	1,224,537	59.0	33.0	320	282	1.831	21.59	21.52	1.905	5.42	11.74	6.32	4.75	1.57
1992	180.87	16,661	1,100,665	57.1	61.4	321	247	1.905	27.30	26.88	2.322	7.29	9.69	2.40	4.75	-2.35
1993	178.02	17,038	1,107,828	56.4	59.8	320	256	2.322	26.49	27.63	1.182	7.81	10.62	2.82	4.75	-1.94
1994	198.32	17,330	1,255,333	58.4	48.6	320	276	1.182	23.94	23.73	1.395	6.18	11.35	5.17	4.75	0.42
1995	198.43	17,716	1,283,993	58.2	42.9	320	278	1.395	24.11	24.06	1.445	7.39	11.05	3.66	4.75	-1.10
1996	200.82	17,935	1,315,562	57.5	45.7	321	274	1.445	19.45	19.86	1.033	5.77	11.14	5.37	4.75	0.62
1997	209.07	18,091	1,381,456	57.4	44.2	320	266	1.033	25.06	23.98	2.111	7.10	10.74	3.65	4.75	-1.11
1998	196.62	18,262	1,311,483	58.8	47.6	320	275	2.111	24.13	25.07	1.168	6.40	11.40	5.00	4.75	0.25
1999	199.13	18,458	1,342,470	59.1	53.3	320	276	1.168	22.74	22.66	1.251	6.86	10.98	4.12	4.75	-0.63
2000	206.98	18,626	1,408,159	58.2	36.6	321	283	1.251	20.50	20.23	1.517	5.86	11.58	5.72	4.75	0.97
2001	199.60	18,862	1,375,106	59.4	43.9	320	282	1.517	20.75	20.72	1.549	6.38	12.39	6.01	4.75	1.25
2002	192.22	19,092	1,340,481	58.7	40.8	320	278	1.549	19.93	20.02	1.456	6.36	12.45	6.09	4.75	1.34

Schedule 2-5

MISSOURI AMERICAN WATER COMPANY (JOPLIN COMMERCIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970	#N/A	#N/A	#N/A	57.2	45.0	320	272	3.426	21.43	23.49	1.362	6.49	11.50	5.01	4.75	0.26
1971	#N/A	#N/A	#N/A	58.6	37.5	320	275	1.362	20.27	20.24	1.388	5.40	11.20	5.80	4.75	1.05
1972	#N/A	#N/A	#N/A	57.8	39.3	321	273	1.388	18.25	18.05	1.586	4.74	11.33	6.59	4.75	1.84
1973	#N/A	#N/A	#N/A	57.8	62.0	320	264	1.586	30.20	29.83	1.959	6.99	10.56	3.57	4.75	-1.18
1974	#N/A	#N/A	#N/A	56.6	47.0	320	254	1.959	22.91	22.88	1.986	5.51	10.22	4.71	4.75	-0.04
1975	#N/A	#N/A	#N/A	56.9	44.1	320	264	1.986	23.16	23.18	1.969	6.19	10.70	4.52	4.75	-0.24
1976	#N/A	#N/A	#N/A	54.9	42.1	321	248	1.969	17.51	18.56	0.920	5.35	9.77	4.43	4.75	-0.33
1977	#N/A	#N/A	#N/A	57.5	46.3	320	267	0.920	24.51	24.26	1.169	7.33	10.97	3.64	4.75	-1.11
1978	#N/A	#N/A	#N/A	56.6	39.7	320	282	1.169	20.57	20.61	1.125	6.80	11.45	4.65	4.75	-0.10
1979	#N/A	#N/A	#N/A	55.6	41.4	320	266	1.125	19.58	19.78	0.928	6.52	10.60	4.08	4.75	-0.68
1980	#N/A	#N/A	#N/A	59.3	29.9	321	302	0.928	16.73	16.90	0.756	5.25	12.91	7.66	4.75	2.90
1981	#N/A	#N/A	#N/A	58.2	38.6	320	264	0.756	19.65	19.46	0.943	5.76	10.81	5.05	4.75	0.30
1982	#N/A	#N/A	#N/A	57.9	38.4	320	274	0.943	21.20	20.24	1.899	6.17	10.93	4.76	4.75	0.00
1983	#N/A	#N/A	#N/A	57.2	45.6	320	281	1.899	22.64	22.30	2.242	6.07	11.57	5.49	4.75	0.74
1984	874.29	2,407	768,634	57.9	46.2	321	271	2.242	25.04	25.70	1.584	5.47	11.21	5.74	4.75	0.98
1985	871.36	2,441	776,883	56.9	65.3	320	269	1.584	27.17	26.86	1.892	6.95	11.05	4.10	4.75	-0.65
1986	859.98	2,465	774,276	59.1	51.1	320	274	1.892	22.34	23.28	0.949	6.57	11.36	4.80	4.75	0.05
1987	916.05	2,498	835,795	58.8	48.2	320	277	0.949	23.68	22.53	2.104	6.77	11.67	4.90	4.75	0.15
1988	875.19	2,468	788,925	57.4	44.8	321	281	2.104	21.95	21.99	2.069	5.52	11.73	6.22	4.75	1.46
1989	918.76	2,370	795,208	55.9	34.4	320	263	2.069	18.35	19.65	0.771	6.04	10.25	4.20	4.75	-0.55
1990	885.45	2,406	778,207	59.0	63.6	320	274	0.771	29.18	28.12	1.831	7.52	10.96	3.44	4.75	-1.31
1991	909.70	2,397	796,417	59.0	33.0	320	282	1.831	21.59	21.52	1.905	5.42	11.74	6.32	4.75	1.57
1992	845.72	2,471	763,236	57.1	61.4	321	247	1.905	27.30	26.88	2.322	7.29	9.69	2.40	4.75	-2.35
1993	872.25	2,573	819,602	56.4	59.8	320	256	2.322	26.49	27.63	1.182	7.81	10.62	2.82	4.75	-1.94
1994	855.22	2,731	852,946	58.4	48.6	320	276	1.182	23.94	23.73	1.395	6.18	11.35	5.17	4.75	0.42
1995	865.76	2,848	900,486	58.2	42.9	320	278	1.395	24.11	24.06	1.445	7.39	11.05	3.66	4.75	-1.10
1996	859.21	2,966	930,837	57.5	45.7	321	274	1.445	19.45	19.86	1.033	5.77	11.14	5.37	4.75	0.62
1997	852.98	3,099	965,413	57.4	44.2	320	266	1.033	25.06	23.98	2.111	7.10	10.74	3.65	4.75	-1.11
1998	843.31	3,107	957,142	58.8	47.6	320	275	2.111	24.13	25.07	1.168	6.40	11.40	5.00	4.75	0.25
1999	869.80	3,097	983,790	59.1	53.3	320	276	1.168	22.74	22.66	1.251	6.86	10.98	4.12	4.75	-0.63
2000	882.89	3,115	1,004,562	58.2	36.6	321	283	1.251	20.50	20.23	1.517	5.86	11.58	5.72	4.75	0.97
2001	848.07	3,118	965,905	59.4	43.9	320	282	1.517	20.75	20.72	1.549	6.38	12.39	6.01	4.75	1.25
2002	911.53	3,108	1,034,712	58.7	40.8	320	278	1.549	19.93	20.02	1.456	6.36	12.45	6.09	4.75	1.34

MISSOURI AMERICAN WATER COMPANY (MEXICO RESIDENTIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970				52.6	54.7	320	267	3.426	34.91	35.22	3.111	9.74	11.03	1.29	2.69	-1.40
1971				53.5	34.6	320	275	3.111	29.02	27.96	4.173	8.82	11.04	2.23	2.69	-0.47
1972				52.0	28.3	321	278	4.173	24.00	23.98	4.197	6.75	11.71	4.96	2.69	2.27
1973				53.6	58.8	320	265	4.197	40.68	40.23	4.638	10.16	10.73	0.57	2.69	-2.12
1974				52.2	44.2	320	262	4.638	34.04	35.08	3.596	8.64	10.53	1.89	2.69	-0.80
1975				52.8	39.2	320	272	3.596	29.19	29.41	3.376	8.85	11.15	2.30	2.69	-0.39
1976				51.4	25.9	321	272	3.376	22.07	23.12	2.326	6.03	11.22	5.19	2.69	2.50
1977				52.6	36.5	320	279	2.326	32.74	31.00	4.071	8.98	11.47	2.49	2.69	-0.20
1978				50.2	41.3	320	269	4.071	28.55	29.30	3.328	8.90	11.01	2.11	2.69	-0.58
1979				50.3	27.8	320	274	3.328	23.95	24.87	2.413	7.65	10.99	3.34	2.69	0.64
1980				53.0	26.9	321	297	2.413	23.87	23.55	2.732	7.29	12.79	5.50	2.69	2.80
1981				52.5	52.3	320	262	2.732	34.83	34.09	3.475	9.66	10.58	0.91	2.69	-1.78
1982				50.8	54.1	320	257	3.475	38.21	37.06	4.629	9.56	10.14	0.57	2.69	-2.12
1983				51.9	44.5	320	284	4.629	30.25	30.00	4.877	7.52	11.65	4.13	2.69	1.44
1984	164.86	3,981	239,710	52.9	48.2	321	264	4.877	33.77	34.15	4.488	7.99	10.86	2.87	2.69	0.17
1985	162.97	3,969	236,259	50.9	49.6	320	265	4.488	29.31	28.93	4.872	8.70	10.59	1.89	2.69	-0.80
1986	160.96	3,952	232,344	53.5	37.0	320	274	4.872	29.66	30.81	3.726	8.70	11.44	2.74	2.69	0.05
1987	165.13	3,974	239,693	53.7	33.5	320	282	3.726	28.06	26.91	4.876	8.94	11.94	3.00	2.69	0.31
1988	180.65	4,006	264,328	52.1	27.9	321	293	4.876	21.77	22.30	4.350	6.13	12.56	6.43	2.69	3.73
1989	168.90	4,017	247,835	50.2	25.4	320	264	4.350	22.47	25.26	1.556	7.96	10.22	2.26	2.69	-0.43
1990	162.94	4,049	240,944	55.8	44.4	320	275	1.556	33.93	32.53	2.953	9.10	10.91	1.82	2.69	-0.88
1991	169.97	4,052	251,522	55.2	41.8	320	281	2.953	32.68	31.57	4.064	8.86	11.61	2.74	2.69	0.05
1992	173.82	4,058	257,611	54.0	35.9	321	252	4.064	27.83	27.43	4.456	6.36	10.19	3.83	2.69	1.13
1993	158.57	4,070	235,717	52.3	58.6	320	254	4.456	38.29	39.04	3.705	10.26	10.51	0.25	2.69	-2.44
1994	170.39	4,102	255,264	54.2	34.8	320	270	3.705	28.96	28.99	3.671	6.94	10.94	4.00	2.69	1.30
1995	160.29	4,161	243,628	53.2	41.9	320	266	3.671	31.49	32.42	2.737	9.53	10.68	1.14	2.69	-1.55
1996	157.33	4,253	244,389	52.0	33.3	321	259	2.737	29.50	29.84	2.397	8.47	10.44	1.97	2.69	-0.73
1997	160.30	4,288	251,070	52.5	34.5	320	257	2.397	31.03	28.93	4.500	7.91	10.34	2.44	2.69	-0.26
1998	151.09	4,479	247,161	56.1	45.6	320	274	4.500	38.79	40.70	2.591	10.25	11.23	0.99	2.69	-1.71
1999	163.73	4,318	258,242	55.4	38.6	320	281	2.591	26.84	27.28	2.146	6.92	11.43	4.52	2.69	1.82
2000	153.44	4,306	241,304	53.9	39.3	321	275	2.146	29.47	29.48	2.144	9.22	10.98	1.75	2.69	-0.94
2001	152.42	4,299	239,347	54.9	48.3	320	271	2.144	37.01	36.43	2.716	10.27	11.85	1.58	2.69	-1.12
2002	140.63	4,284	220,056	54.6	38.8	320	270	2.716	27.89	27.87	2.732	8.39	12.14	3.74	2.69	1.05

MISSOURI AMERICAN WATER COMPANY (MEXICO COMMERCIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970	#N/A	#N/A	#N/A	52.6	54.7	320	267	3.426	34.91	35.22	3.111	9.74	11.03	1.29	2.69	-1.40
1971	#N/A	#N/A	#N/A	53.5	34.6	320	275	3.111	29.02	27.96	4.173	8.82	11.04	2.23	2.69	-0.47
1972	#N/A	#N/A	#N/A	52.0	28.3	321	278	4.173	24.00	23.98	4.197	6.75	11.71	4.96	2.69	2.27
1973	#N/A	#N/A	#N/A	53.6	58.8	320	265	4.197	40.68	40.23	4.638	10.16	10.73	0.57	2.69	-2.12
1974	#N/A	#N/A	#N/A	52.2	44.2	320	262	4.638	34.04	35.08	3.596	8.64	10.53	1.89	2.69	-0.80
1975	#N/A	#N/A	#N/A	52.8	39.2	320	272	3.596	29.19	29.41	3.376	8.85	11.15	2.30	2.69	-0.39
1976	#N/A	#N/A	#N/A	51.4	25.9	321	272	3.376	22.07	23.12	2.326	6.03	11.22	5.19	2.69	2.50
1977	#N/A	#N/A	#N/A	52.6	36.5	320	279	2.326	32.74	31.00	4.071	8.98	11.47	2.49	2.69	-0.20
1978	#N/A	#N/A	#N/A	50.2	41.3	320	269	4.071	28.55	29.30	3.328	8.90	11.01	2.11	2.69	-0.58
1979	#N/A	#N/A	#N/A	50.3	27.8	320	274	3.328	23.95	24.87	2.413	7.65	10.99	3.34	2.69	0.64
1980	#N/A	#N/A	#N/A	53.0	26.9	321	297	2.413	23.87	23.55	2.732	7.29	12.79	5.50	2.69	2.80
1981	#N/A	#N/A	#N/A	52.5	52.3	320	262	2.732	34.83	34.09	3.475	9.66	10.58	0.91	2.69	-1.78
1982	#N/A	#N/A	#N/A	50.8	54.1	320	257	3.475	38.21	37.06	4.629	9.56	10.14	0.57	2.69	-2.12
1983	#N/A	#N/A	#N/A	51.9	44.5	320	284	4.629	30.25	30.00	4.877	7.52	11.65	4.13	2.69	1.44
1984	440.88	427	68,761	52.9	48.2	321	264	4.877	33.77	34.15	4.488	7.99	10.86	2.87	2.69	0.17
1985	428.78	436	68,283	50.9	49.6	320	265	4.488	29.31	28.93	4.872	8.70	10.59	1.89	2.69	-0.80
1986	453.62	440	72,901	53.5	37.0	320	274	4.872	29.66	30.81	3.726	8.70	11.44	2.74	2.69	0.05
1987	494.84	437	78,983	53.7	33.5	320	282	3.726	28.06	26.91	4.876	8.94	11.94	3.00	2.69	0.31
1988	514.86	424	79,734	52.1	27.9	321	293	4.876	21.77	22.30	4.350	6.13	12.56	6.43	2.69	3.73
1989	518.94	428	81,046	50.2	25.4	320	264	4.350	22.47	25.26	1.556	7.96	10.22	2.26	2.69	-0.43
1990	524.72	431	82,666	55.8	44.4	320	275	1.556	33.93	32.53	2.953	9.10	10.91	1.82	2.69	-0.88
1991	544.02	425	84,382	55.2	41.8	320	281	2.953	32.68	31.57	4.064	8.86	11.61	2.74	2.69	0.05
1992	488.71	443	79,091	54.0	35.9	321	252	4.064	27.83	27.43	4.456	6.36	10.19	3.83	2.69	1.13
1993	509.13	451	83,806	52.3	58.6	320	254	4.456	38.29	39.04	3.705	10.26	10.51	0.25	2.69	-2.44
1994	556.36	460	93,392	54.2	34.8	320	270	3.705	28.96	28.99	3.671	6.94	10.94	4.00	2.69	1.30
1995	574.82	454	95,389	53.2	41.9	320	266	3.671	31.49	32.42	2.737	9.53	10.68	1.14	2.69	-1.55
1996	582.88	454	96,690	52.0	33.3	321	259	2.737	29.50	29.84	2.397	8.47	10.44	1.97	2.69	-0.73
1997	574.19	459	96,298	52.5	34.5	320	257	2.397	31.03	28.93	4.500	7.91	10.34	2.44	2.69	-0.26
1998	607.09	469	104,089	56.1	45.6	320	274	4.500	38.79	40.70	2.591	10.25	11.23	0.99	2.69	-1.71
1999	613.22	477	106,782	55.4	38.6	320	281	2.591	26.84	27.28	2.146	6.92	11.43	4.52	2.69	1.82
2000	615.47	476	106,948	53.9	39.3	321	275	2.146	29.47	29.48	2.144	9.22	10.98	1.75	2.69	-0.94
2001	606.65	476	105,545	54.9	48.3	320	271	2.144	37.01	36.43	2.716	10.27	11.85	1.58	2.69	-1.12
2002	562.50	475	97,591	54.6	38.8	320	270	2.716	27.89	27.87	2.732	8.39	12.14	3.74	2.69	1.05

MISSOURI AMERICAN WATER COMPANY (PARKVILLE RESIDENTIAL) WR-2003-0500 AND WC-2004-0168
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YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970				57.2	36.1	320	193	3.426	15.50	18.26	0.664	3.76	7.57	3.81	7.65	-3.84
1971				54.1	27.8	320	274	0.664	18.09	17.64	1.114	5.41	13.02	7.61	7.65	-0.04
1972				53.1	33.5	321	263	1.114	20.36	20.69	0.786	6.37	12.57	6.20	7.65	-1.45
1973				54.9	55.3	320	262	0.786	20.17	19.84	1.117	5.17	12.28	7.11	7.65	-0.54
1974				54.4	36.1	320	269	1.117	15.45	15.61	0.959	4.03	12.76	8.73	7.65	1.07
1975				54.9	34.1	320	281	0.959	13.71	13.78	0.890	4.06	13.71	9.64	7.65	1.99
1976				54.1	23.7	321	277	0.890	11.82	12.50	0.209	3.63	13.23	9.60	7.65	1.94
1977				54.9	49.7	320	275	0.209	18.65	18.48	0.381	6.53	13.20	6.67	7.65	-0.98
1978				52.9	34.0	320	283	0.381	16.67	16.65	0.397	5.96	13.48	7.52	7.65	-0.13
1979				52.0	31.8	320	267	0.397	14.29	14.57	0.114	4.82	12.34	7.52	7.65	-0.13
1980				54.8	31.8	321	296	0.114	14.56	14.05	0.620	4.58	14.78	10.21	7.65	2.55
1981				55.0	42.1	320	263	0.620	17.40	17.51	0.514	6.24	12.41	6.17	7.65	-1.48
1982				53.0	47.2	320	263	0.514	17.76	17.28	0.995	5.62	12.16	6.53	7.65	-1.12
1983				53.5	32.9	320	286	0.995	16.14	15.84	1.298	4.51	13.72	9.21	7.65	1.56
1984	299.23	2,940	321,324	54.0	38.8	321	268	1.298	18.81	19.04	1.064	4.22	12.93	8.71	7.65	1.06
1985	278.95	2,995	305,147	51.9	52.7	320	262	1.064	19.77	19.57	1.264	5.43	12.36	6.92	7.65	-0.73
1986	278.44	3,046	309,775	55.6	39.4	320	268	1.264	18.58	19.46	0.381	5.97	12.94	6.98	7.65	-0.67
1987	282.45	3,110	320,847	56.5	34.0	320	281	0.381	18.04	17.51	0.914	5.94	13.88	7.94	7.65	0.29
1988	318.10	3,164	367,610	55.3	24.2	321	297	0.914	10.44	10.86	0.497	3.29	14.83	11.53	7.65	3.88
1989	278.01	3,253	330,298	53.0	37.6	320	271	0.497	14.64	14.74	0.395	5.09	12.42	7.33	7.65	-0.32
1990	275.37	3,271	329,036	56.0	40.6	320	274	0.395	18.83	18.55	0.671	5.63	12.80	7.16	7.65	-0.49
1991	296.64	3,393	367,571	55.7	28.7	320	286	0.671	17.39	17.29	0.775	5.31	13.83	8.52	7.65	0.87
1992	263.80	3,485	335,795	54.0	50.6	321	246	0.775	21.12	20.75	1.141	5.93	11.42	5.48	7.65	-2.17
1993	246.05	3,594	322,964	52.4	51.5	320	250	1.141	23.34	23.87	0.608	7.93	11.96	4.03	7.65	-3.62
1994	279.93	3,665	374,678	54.7	28.3	320	272	0.608	14.20	14.45	0.355	4.26	12.97	8.71	7.65	1.06
1995	278.75	3,753	382,056	53.8	34.6	320	263	0.355	15.87	15.84	0.384	5.40	12.22	6.82	7.65	-0.83
1996	256.45	3,823	358,073	52.0	40.4	321	256	0.384	17.45	17.53	0.300	5.89	11.87	5.98	7.65	-1.67
1997	281.93	3,895	401,108	53.3	33.1	320	259	0.300	17.50	16.81	0.989	5.00	12.09	7.08	7.65	-0.57
1998	273.97	3,957	395,963	56.9	49.5	320	272	0.989	19.80	20.44	0.349	5.82	13.09	7.27	7.65	-0.38
1999	291.17	4,037	429,351	55.8	40.1	320	270	0.349	17.48	17.29	0.543	5.32	12.54	7.22	7.65	-0.43
2000	300.70	4,181	459,239	54.9	35.0	321	281	0.543	14.89	14.98	0.456	4.28	13.40	9.11	7.65	1.46
2001	279.35	4,302	438,903	55.6	53.5	320	269	0.456	19.13	19.31	0.273	6.91	13.71	6.80	7.65	-0.85
2002	303.00	4,462	493,843	55.7	24.8	320	281	0.273	13.86	14.04	0.090	4.68	14.89	10.21	7.65	2.56

MISSOURI AMERICAN WATER COMPANY (PARKVILLE COMMERCIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970	#N/A	#N/A	#N/A	57.2	36.1	320	193	3.426	15.50	18.26	0.664	3.76	7.57	3.81	7.65	-3.84
1971	#N/A	#N/A	#N/A	54.1	27.8	320	274	0.664	18.09	17.64	1.114	5.41	13.02	7.61	7.65	-0.04
1972	#N/A	#N/A	#N/A	53.1	33.5	321	263	1.114	20.36	20.69	0.786	6.37	12.57	6.20	7.65	-1.45
1973	#N/A	#N/A	#N/A	54.9	55.3	320	262	0.786	20.17	19.84	1.117	5.17	12.28	7.11	7.65	-0.54
1974	#N/A	#N/A	#N/A	54.4	36.1	320	269	1.117	15.45	15.61	0.959	4.03	12.76	8.73	7.65	1.07
1975	#N/A	#N/A	#N/A	54.9	34.1	320	281	0.959	13.71	13.78	0.890	4.06	13.71	9.64	7.65	1.99
1976	#N/A	#N/A	#N/A	54.1	23.7	321	277	0.890	11.82	12.50	0.209	3.63	13.23	9.60	7.65	1.94
1977	#N/A	#N/A	#N/A	54.9	49.7	320	275	0.209	18.65	18.48	0.381	6.53	13.20	6.67	7.65	-0.98
1978	#N/A	#N/A	#N/A	52.9	34.0	320	283	0.381	16.67	16.65	0.397	5.96	13.48	7.52	7.65	-0.13
1979	#N/A	#N/A	#N/A	52.0	31.8	320	267	0.397	14.29	14.57	0.114	4.82	12.34	7.52	7.65	-0.13
1980	#N/A	#N/A	#N/A	54.8	31.8	321	296	0.114	14.56	14.05	0.620	4.58	14.78	10.21	7.65	2.55
1981	#N/A	#N/A	#N/A	55.0	42.1	320	263	0.620	17.40	17.51	0.514	6.24	12.41	6.17	7.65	-1.48
1982	#N/A	#N/A	#N/A	53.0	47.2	320	263	0.514	17.76	17.28	0.995	5.62	12.16	6.53	7.65	-1.12
1983	#N/A	#N/A	#N/A	53.5	32.9	320	286	0.995	16.14	15.84	1.298	4.51	13.72	9.21	7.65	1.56
1984	672.51	236	57,970	54.0	38.8	321	268	1.298	18.81	19.04	1.064	4.22	12.93	8.71	7.65	1.06
1985	679.10	237	58,786	51.9	52.7	320	262	1.064	19.77	19.57	1.264	5.43	12.36	6.92	7.65	-0.73
1986	740.46	240	64,909	55.6	39.4	320	268	1.264	18.58	19.46	0.381	5.97	12.94	6.98	7.65	-0.67
1987	808.91	244	72,091	56.5	34.0	320	281	0.381	18.04	17.51	0.914	5.94	13.88	7.94	7.65	0.29
1988	823.96	255	76,743	55.3	24.2	321	297	0.914	10.44	10.86	0.497	3.29	14.83	11.53	7.65	3.88
1989	708.15	261	67,551	53.0	37.6	320	271	0.497	14.64	14.74	0.395	5.09	12.42	7.33	7.65	-0.32
1990	741.21	267	72,171	56.0	40.6	320	274	0.395	18.83	18.55	0.671	5.63	12.80	7.16	7.65	-0.49
1991	764.89	266	74,337	55.7	28.7	320	286	0.671	17.39	17.29	0.775	5.31	13.83	8.52	7.65	0.87
1992	668.75	267	65,279	54.0	50.6	321	246	0.775	21.12	20.75	1.141	5.93	11.42	5.48	7.65	-2.17
1993	640.09	263	61,565	52.4	51.5	320	250	1.141	23.34	23.87	0.608	7.93	11.96	4.03	7.65	-3.62
1994	750.40	265	72,609	54.7	28.3	320	272	0.608	14.20	14.45	0.355	4.26	12.97	8.71	7.65	1.06
1995	815.53	279	83,181	53.8	34.6	320	263	0.355	15.87	15.84	0.384	5.40	12.22	6.82	7.65	-0.83
1996	813.05	278	82,581	52.0	40.4	321	256	0.384	17.45	17.53	0.300	5.89	11.87	5.98	7.65	-1.67
1997	864.04	285	89,864	53.3	33.1	320	259	0.300	17.50	16.81	0.989	5.00	12.09	7.08	7.65	-0.57
1998	891.58	293	95,415	56.9	49.5	320	272	0.989	19.80	20.44	0.349	5.82	13.09	7.27	7.65	-0.38
1999	896.11	301	98,464	55.8	40.1	320	270	0.349	17.48	17.29	0.543	5.32	12.54	7.22	7.65	-0.43
2000	848.75	311	96,257	54.9	35.0	321	281	0.543	14.89	14.98	0.456	4.28	13.40	9.11	7.65	1.46
2001	893.64	319	103,959	55.6	53.5	320	269	0.456	19.13	19.31	0.273	6.91	13.71	6.80	7.65	-0.85
2002	995.26	319	115,872	55.7	24.8	320	281	0.273	13.86	14.04	0.090	4.68	14.89	10.21	7.65	2.56

MISSOURI AMERICAN WATER COMPANY (ST CHARLES RESIDENTIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970				54.8	37.8	320	273	3.426	15.82	18.66	0.590	5.22	11.31	6.08	6.18	-0.10
1971				55.1	35.9	320	278	0.590	14.78	14.24	1.131	3.95	11.13	7.18	6.18	1.00
1972				53.4	34.2	321	269	1.131	16.45	16.33	1.255	4.49	11.22	6.72	6.18	0.54
1973				55.5	38.7	320	270	1.255	20.51	20.65	1.113	4.83	10.83	6.00	6.18	-0.18
1974				53.9	39.3	320	263	1.113	20.34	20.56	0.893	5.64	10.60	4.96	6.18	-1.22
1975				54.9	39.9	320	272	0.893	19.33	19.37	0.856	5.20	11.06	5.85	6.18	-0.33
1976				53.6	24.0	321	271	0.856	13.16	13.52	0.495	3.69	10.97	7.28	6.18	1.10
1977				54.6	47.1	320	286	0.495	18.53	18.16	0.869	5.31	11.81	6.50	6.18	0.32
1978				52.3	35.4	320	277	0.869	16.84	16.78	0.935	4.93	11.44	6.51	6.18	0.33
1979				51.8	32.8	320	274	0.935	15.10	15.20	0.831	4.11	11.07	6.96	6.18	0.78
1980				54.2	24.1	321	292	0.831	13.32	13.65	0.494	4.22	12.52	8.30	6.18	2.12
1981				54.5	46.4	320	265	0.494	19.43	18.98	0.940	6.40	10.85	4.44	6.18	-1.74
1982				53.1	46.4	320	263	0.940	22.36	22.09	1.210	6.33	10.42	4.08	6.18	-2.10
1983				54.2	43.5	320	284	1.210	18.17	18.01	1.367	4.65	11.81	7.16	6.18	0.98
1984	277.22	12,038.00	1,218,899	54.7	43.2	321	273	1.367	20.57	21.18	0.755	4.32	11.29	6.97	6.18	0.79
1985	257.35	12,846.00	1,207,469	53.4	52.1	320	266	0.755	20.95	19.90	1.808	5.28	10.74	5.46	6.18	-0.72
1986	280.84	13,738.00	1,409,220	55.8	38.9	320	276	1.808	17.39	18.52	0.676	4.72	11.56	6.84	6.18	0.66
1987	297.46	15,033.00	1,633,284	56.1	40.4	320	284	0.676	15.75	15.03	1.396	3.76	12.06	8.30	6.18	2.12
1988	313.74	15,919.00	1,824,191	54.4	37.4	321	287	1.396	15.51	15.69	1.213	3.37	12.14	8.77	6.18	2.59
1989	279.43	16,489.17	1,682,898	53.3	29.1	320	274	1.213	14.22	14.94	0.499	4.43	10.80	6.37	6.18	0.19
1990	254.97	17,004.92	1,583,612	56.4	46.4	320	280	0.499	19.42	18.41	1.513	4.80	11.18	6.38	6.18	0.20
1991	278.50	17,530.08	1,783,167	55.9	31.0	320	279	1.513	18.46	19.07	0.904	4.78	11.51	6.73	6.18	0.55
1992	273.82	18,113.00	1,811,527	54.1	33.6	321	250	0.904	17.05	16.75	1.207	3.76	10.10	6.34	6.18	0.16
1993	235.27	18,768	1,612,803	53.0	58.7	320	248	1.207	23.84	24.30	0.742	6.99	10.22	3.23	6.18	-2.95
1994	279.90	19,671	2,011,009	54.4	42.1	320	264	0.742	19.00	18.94	0.810	4.72	10.51	5.79	6.18	-0.39
1995	279.23	21,046	2,146,503	53.7	48.3	320	264	0.810	19.58	19.59	0.796	5.57	10.51	4.94	6.18	-1.24
1996	270.91	22,020	2,178,820	52.4	48.7	321	257	0.796	19.98	19.81	0.961	5.44	10.27	4.83	6.18	-1.35
1997	275.28	23,081	2,320,674	53.4	39.9	320	256	0.961	20.91	20.69	1.178	5.01	10.19	5.18	6.18	-1.00
1998	257.99	24,141	2,274,780	56.9	53.4	320	270	1.178	24.11	24.51	0.773	6.89	11.00	4.12	6.18	-2.06
1999	284.14	24,970	2,591,401	56.1	33.9	320	274	0.773	15.63	15.98	0.423	3.83	11.07	7.25	6.18	1.07
2000	260.53	25,584	2,434,554	55.2	39.3	321	273	0.423	16.94	16.61	0.748	4.93	10.90	5.97	6.18	-0.21
2001	266.46	25,987	2,529,186	57.2	41.9	320	273	0.748	20.48	19.90	1.326	6.10	11.89	5.78	6.18	-0.39
2002	276.92	26,375	2,667,699	56.0	44.4	320	267	1.326	18.89	19.36	0.863	5.19	11.95	6.76	6.18	0.58

MISSOURI AMERICAN WATER COMPANY (ST CHARLES COMMERCIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970				54.8	37.8	320	273	3.426	15.82	18.66	0.590	5.22	11.31	6.08	6.18	-0.10
1971		41		55.1	35.9	320	278	0.590	14.78	14.24	1.131	3.95	11.13	7.18	6.18	1.00
1972		67		53.4	34.2	321	269	1.131	16.45	16.33	1.255	4.49	11.22	6.72	6.18	0.54
1973		93		55.5	38.7	320	270	1.255	20.51	20.65	1.113	4.83	10.83	6.00	6.18	-0.18
1974		119		53.9	39.3	320	263	1.113	20.34	20.56	0.893	5.64	10.60	4.96	6.18	-1.22
1975		144		54.9	39.9	320	272	0.893	19.33	19.37	0.856	5.20	11.06	5.85	6.18	-0.33
1976		170		53.6	24.0	321	271	0.856	13.16	13.52	0.495	3.69	10.97	7.28	6.18	1.10
1977		196		54.6	47.1	320	286	0.495	18.53	18.16	0.869	5.31	11.81	6.50	6.18	0.32
1978		222		52.3	35.4	320	277	0.869	16.84	16.78	0.935	4.93	11.44	6.51	6.18	0.33
1979		248		51.8	32.8	320	274	0.935	15.10	15.20	0.831	4.11	11.07	6.96	6.18	0.78
1980		274		54.2	24.1	321	292	0.831	13.32	13.65	0.494	4.22	12.52	8.30	6.18	2.12
1981		300		54.5	46.4	320	265	0.494	19.43	18.98	0.940	6.40	10.85	4.44	6.18	-1.74
1982		326		53.1	46.4	320	263	0.940	22.36	22.09	1.210	6.33	10.42	4.08	6.18	-2.10
1983		352		54.2	43.5	320	284	1.210	18.17	18.01	1.367	4.65	11.81	7.16	6.18	0.98
1984	1,415	378	195,335	54.7	43.2	321	273	1.367	20.57	21.18	0.755	4.32	11.29	6.97	6.18	0.79
1985	1,326	422	204,460	53.4	52.1	320	266	0.755	20.95	19.90	1.808	5.28	10.74	5.46	6.18	-0.72
1986	1,318	475	228,606	55.8	38.9	320	276	1.808	17.39	18.52	0.676	4.72	11.56	6.84	6.18	0.66
1987	1,408	531	273,005	56.1	40.4	320	284	0.676	15.75	15.03	1.396	3.76	12.06	8.30	6.18	2.12
1988	1,412	566	291,993	54.4	37.4	321	287	1.396	15.51	15.69	1.213	3.37	12.14	8.77	6.18	2.59
1989	1,281	599	280,524	53.3	29.1	320	274	1.213	14.22	14.94	0.499	4.43	10.80	6.37	6.18	0.19
1990	1,334	618	301,257	56.4	46.4	320	280	0.499	19.42	18.41	1.513	4.80	11.18	6.38	6.18	0.20
1991	1,357	636	315,163	55.9	31.0	320	279	1.513	18.46	19.07	0.904	4.78	11.51	6.73	6.18	0.55
1992	1,356	650	322,118	54.1	33.6	321	250	0.904	17.05	16.75	1.207	3.76	10.10	6.34	6.18	0.16
1993	1,212	723	319,964	53.0	58.7	320	248	1.207	23.84	24.30	0.742	6.99	10.22	3.23	6.18	-2.95
1994	1,142	818	341,230	54.4	42.1	320	264	0.742	19.00	18.94	0.810	4.72	10.51	5.79	6.18	-0.39
1995	1,396	587	299,271	53.7	48.3	320	264	0.810	19.58	19.59	0.796	5.57	10.51	4.94	6.18	-1.24
1996	1,397	700	356,974	52.4	48.7	321	257	0.796	19.98	19.81	0.961	5.44	10.27	4.83	6.18	-1.35
1997	1,370	750	375,258	53.4	39.9	320	256	0.961	20.91	20.69	1.178	5.01	10.19	5.18	6.18	-1.00
1998	1,287	778	365,963	56.9	53.4	320	270	1.178	24.11	24.51	0.773	6.89	11.00	4.12	6.18	-2.06
1999	1,352	806	398,013	56.1	33.9	320	274	0.773	15.63	15.98	0.423	3.83	11.07	7.25	6.18	1.07
2000	1,277	842	392,897	55.2	39.3	321	273	0.423	16.94	16.61	0.748	4.93	10.90	5.97	6.18	-0.21
2001	1,311	887	424,611	57.2	41.9	320	273	0.748	20.48	19.90	1.326	6.10	11.89	5.78	6.18	-0.39
2002	1,246	894	406,819	56.0	44.4	320	267	1.326	18.89	19.36	0.863	5.19	11.95	6.76	6.18	0.58

MISSOURI AMERICAN WATER COMPANY (ST JOSEPH RESIDENTIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970				56.2	36.0	320	285	3.426	19.76	22.21	0.971	6.10	10.19	4.09	3.70	0.39
1971				54.3	28.3	320	282	0.971	16.62	16.04	1.547	4.69	9.65	4.96	3.70	1.26
1972				53.0	32.9	321	273	1.547	18.73	18.99	1.291	6.20	9.50	3.30	3.70	-0.40
1973				54.9	55.6	320	269	1.291	25.04	24.79	1.537	6.25	9.19	2.94	3.70	-0.76
1974				53.8	29.4	320	272	1.537	17.00	17.34	1.198	4.20	9.37	5.17	3.70	1.47
1975				54.4	33.2	320	282	1.198	17.39	17.55	1.044	5.34	9.77	4.43	3.70	0.73
1976				54.1	22.1	321	279	1.044	11.53	12.26	0.319	3.63	9.62	5.98	3.70	2.28
1977				55.6	43.3	320	281	0.319	18.56	17.96	0.919	5.97	9.79	3.82	3.70	0.12
1978				53.1	37.6	320	282	0.919	20.71	20.88	0.746	6.33	9.75	3.42	3.70	-0.28
1979				51.5	31.2	320	266	0.746	17.81	18.16	0.401	6.08	8.82	2.74	3.70	-0.96
1980				54.9	27.7	321	298	0.401	15.17	14.74	0.833	4.67	10.66	5.99	3.70	2.29
1981				54.6	35.2	320	265	0.833	17.45	17.38	0.905	5.99	8.97	2.98	3.70	-0.72
1982				51.4	48.8	320	249	0.905	21.67	21.04	1.527	6.34	8.10	1.77	3.70	-1.93
1983				53.1	31.7	320	268	1.527	18.86	18.32	2.066	4.72	9.14	4.42	3.70	0.72
1984	186.02	23,362	1,587,311	54.8	36.2	321	264	2.066	21.16	21.95	1.276	5.12	9.14	4.02	3.70	0.32
1985	177.26	23,551	1,524,753	51.4	47.2	320	255	1.276	23.34	22.63	1.983	6.16	8.62	2.46	3.70	-1.24
1986	177.52	23,671	1,534,806	55.3	49.3	320	267	1.983	22.17	23.33	0.826	6.47	9.27	2.80	3.70	-0.90
1987	182.82	23,733	1,584,798	56.1	36.2	320	273	0.826	19.89	19.23	1.490	6.22	9.67	3.44	3.70	-0.26
1988	205.53	23,878	1,792,504	55.1	17.2	321	291	1.490	11.87	12.54	0.817	4.08	10.29	6.21	3.70	2.51
1989	194.08	24,066	1,705,993	53.4	27.4	320	278	0.817	14.93	15.07	0.677	4.85	9.30	4.44	3.70	0.74
1990	187.27	24,193	1,654,782	56.5	38.2	320	277	0.677	21.18	20.79	1.069	5.87	9.39	3.53	3.70	-0.17
1991	195.33	24,227	1,728,498	55.7	34.2	320	287	1.069	17.92	17.53	1.463	4.93	10.00	5.06	3.70	1.37
1992	181.73	25,362	1,683,422	54.0	39.0	321	245	1.463	23.73	23.11	2.085	6.08	8.22	2.14	3.70	-1.56
1993	176.17	26,281	1,691,082	51.9	40.9	320	241	2.085	27.19	28.46	0.815	7.51	8.22	0.71	3.70	-2.99
1994	186.50	26,436	1,800,800	54.1	26.8	320	264	0.815	15.62	15.69	0.745	4.96	9.01	4.05	3.70	0.35
1995	184.16	26,653	1,792,798	53.5	41.8	320	258	0.745	20.27	20.16	0.859	6.27	8.69	2.42	3.70	-1.28
1996	182.28	26,813	1,785,153	51.8	35.2	321	250	0.859	17.31	17.39	0.781	5.63	8.39	2.76	3.70	-0.94
1997	187.09	26,958	1,842,196	53.0	35.4	320	255	0.781	18.78	17.50	2.057	5.02	8.62	3.60	3.70	-0.10
1998	178.08	27,105	1,762,985	55.9	39.0	320	266	2.057	21.93	23.33	0.663	6.83	9.22	2.40	3.70	-1.30
1999	179.46	27,250	1,786,146	55.1	29.0	320	261	0.663	15.75	15.76	0.654	4.92	8.72	3.79	3.70	0.09
2000	195.08	27,592	1,965,978	54.6	27.1	321	277	0.654	13.99	13.88	0.763	4.28	9.52	5.24	3.70	1.54
2001	161.44	27,494	1,621,197	55.6	53.5	320	258	0.763	23.51	23.77	0.503	7.48	9.41	1.92	3.70	-1.78
2002	175.66	27,822	1,785,085	55.7	24.8	320	270	0.503	16.15	16.39	0.260	5.25	10.22	4.96	3.70	1.27

MISSOURI AMERICAN WATER COMPANY (ST JOSEPH COMMERCIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970				56.2	36.0	320	285	3.426	19.76	22.21	0.971	6.10	10.19	4.09	3.70	0.39
1971				54.3	28.3	320	282	0.971	16.62	16.04	1.547	4.69	9.65	4.96	3.70	1.26
1972				53.0	32.9	321	273	1.547	18.73	18.99	1.291	6.20	9.50	3.30	3.70	-0.40
1973				54.9	55.6	320	269	1.291	25.04	24.79	1.537	6.25	9.19	2.94	3.70	-0.76
1974				53.8	29.4	320	272	1.537	17.00	17.34	1.198	4.20	9.37	5.17	3.70	1.47
1975				54.4	33.2	320	282	1.198	17.39	17.55	1.044	5.34	9.77	4.43	3.70	0.73
1976				54.1	22.1	321	279	1.044	11.53	12.26	0.319	3.63	9.62	5.98	3.70	2.28
1977				55.6	43.3	320	281	0.319	18.56	17.96	0.919	5.97	9.79	3.82	3.70	0.12
1978				53.1	37.6	320	282	0.919	20.71	20.88	0.746	6.33	9.75	3.42	3.70	-0.28
1979				51.5	31.2	320	266	0.746	17.81	18.16	0.401	6.08	8.82	2.74	3.70	-0.96
1980				54.9	27.7	321	298	0.401	15.17	14.74	0.833	4.67	10.66	5.99	3.70	2.29
1981				54.6	35.2	320	265	0.833	17.45	17.38	0.905	5.99	8.97	2.98	3.70	-0.72
1982				51.4	48.8	320	249	0.905	21.67	21.04	1.527	6.34	8.10	1.77	3.70	-1.93
1983				53.1	31.7	320	268	1.527	18.86	18.32	2.066	4.72	9.14	4.42	3.70	0.72
1984	778.74	3,158	898,243	54.8	36.2	321	264	2.066	21.16	21.95	1.276	5.12	9.14	4.02	3.70	0.32
1985	742.96	3,142	852,635	51.4	47.2	320	255	1.276	23.34	22.63	1.983	6.16	8.62	2.46	3.70	-1.24
1986	747.95	3,120	852,352	55.3	49.3	320	267	1.983	22.17	23.33	0.826	6.47	9.27	2.80	3.70	-0.90
1987	756.32	3,139	867,136	56.1	36.2	320	273	0.826	19.89	19.23	1.490	6.22	9.67	3.44	3.70	-0.26
1988	834.07	3,137	955,664	55.1	17.2	321	291	1.490	11.87	12.54	0.817	4.08	10.29	6.21	3.70	2.51
1989	778.89	3,138	892,727	53.4	27.4	320	278	0.817	14.93	15.07	0.677	4.85	9.30	4.44	3.70	0.74
1990	778.29	3,121	887,070	56.5	38.2	320	277	0.677	21.18	20.79	1.069	5.87	9.39	3.53	3.70	-0.17
1991	852.52	3,144	979,061	55.7	34.2	320	287	1.069	17.92	17.53	1.463	4.93	10.00	5.06	3.70	1.37
1992	790.00	3,174	915,854	54.0	39.0	321	245	1.463	23.73	23.11	2.085	6.08	8.22	2.14	3.70	-1.56
1993	772.15	3,185	898,211	51.9	40.9	320	241	2.085	27.19	28.46	0.815	7.51	8.22	0.71	3.70	-2.99
1994	819.45	3,175	950,189	54.1	26.8	320	264	0.815	15.62	15.69	0.745	4.96	9.01	4.05	3.70	0.35
1995	807.29	3,190	940,736	53.5	41.8	320	258	0.745	20.27	20.16	0.859	6.27	8.69	2.42	3.70	-1.28
1996	807.00	3,172	934,916	51.8	35.2	321	250	0.859	17.31	17.39	0.781	5.63	8.39	2.76	3.70	-0.94
1997	840.46	3,149	966,800	53.0	35.4	320	255	0.781	18.78	17.50	2.057	5.02	8.62	3.60	3.70	-0.10
1998	817.10	3,156	941,795	55.9	39.0	320	266	2.057	21.93	23.33	0.663	6.83	9.22	2.40	3.70	-1.30
1999	865.25	3,168	1,001,054	55.1	29.0	320	261	0.663	15.75	15.76	0.654	4.92	8.72	3.79	3.70	0.09
2000	885.63	3,175	1,027,086	54.6	27.1	321	277	0.654	13.99	13.88	0.763	4.28	9.52	5.24	3.70	1.54
2001	870.49	3,156	1,003,364	55.6	53.5	320	258	0.763	23.51	23.77	0.503	7.48	9.41	1.92	3.70	-1.78
2002	836.98	3,121	954,243	55.7	24.8	320	270	0.503	16.15	16.39	0.260	5.25	10.22	4.96	3.70	1.27

MISSOURI AMERICAN WATER COMPANY (ST LOUIS MONTHLY RESIDENTIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GCD(OLD CUS)	OLD CUS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970	#N/A	#N/A	#N/A	54.8	36.2	320	265	3.426	20.66	20.38	3.714	6.77	14.71	7.94	8.52	-0.58
1971	#N/A	#N/A	#N/A	56.8	33.7	320	280	3.714	19.17	18.54	4.340	6.00	15.20	9.20	8.52	0.68
1972	#N/A	#N/A	#N/A	55.2	33.7	321	272	4.340	19.66	19.06	4.936	5.99	15.27	9.28	8.52	0.76
1973	#N/A	#N/A	#N/A	57.3	39.8	320	266	4.936	20.34	20.50	4.776	6.15	14.39	8.24	8.52	-0.28
1974	#N/A	#N/A	#N/A	56.2	36.8	320	262	4.776	19.28	20.54	3.514	6.32	14.13	7.80	8.52	-0.72
1975	#N/A	#N/A	#N/A	56.7	40.2	320	267	3.514	22.18	21.76	3.938	7.45	14.57	7.12	8.52	-1.40
1976	#N/A	#N/A	#N/A	55.3	23.5	321	269	3.938	14.40	15.90	2.441	4.94	14.65	9.71	8.52	1.19
1977	#N/A	#N/A	#N/A	56.7	43.4	320	283	2.441	20.95	19.03	4.364	6.42	15.74	9.32	8.52	0.80
1978	#N/A	#N/A	#N/A	54.7	37.7	320	273	4.364	17.79	18.13	4.026	6.44	15.02	8.58	8.52	0.06
1979	#N/A	#N/A	#N/A	54.7	29.5	320	276	4.026	15.22	16.29	2.954	5.74	15.08	9.34	8.52	0.82
1980	#N/A	#N/A	#N/A	56.9	27.5	321	289	2.954	16.32	16.87	2.399	6.16	16.60	10.44	8.52	1.92
1981	#N/A	#N/A	#N/A	56.6	45.5	320	260	2.399	22.32	20.91	3.806	7.12	14.07	6.95	8.52	-1.57
1982	#N/A	#N/A	#N/A	55.4	55.0	320	261	3.806	23.07	22.07	4.808	6.99	13.93	6.93	8.52	-1.59
1983	#N/A	#N/A	#N/A	56.2	44.8	320	279	4.808	19.14	19.01	4.939	5.81	15.47	9.66	8.52	1.14
1984	#N/A	#N/A	#N/A	56.6	51.7	321	266	4.939	20.59	20.59	4.939	5.66	14.86	9.20	8.52	0.68
1985	#N/A	#N/A	#N/A	55.5	50.7	320	265	4.939	20.26	20.50	4.697	6.84	14.34	7.50	8.52	-1.02
1986	#N/A	#N/A	#N/A	57.9	34.9	320	276	4.697	20.40	21.10	4.000	6.45	15.60	9.16	8.52	0.64
1987	#N/A	#N/A	#N/A	58.5	38.4	320	277	4.000	19.48	18.69	4.788	5.78	15.79	10.01	8.52	1.49
1988	#N/A	#N/A	#N/A	56.5	33.9	321	287	4.788	16.67	16.54	4.916	4.90	16.46	11.56	8.52	3.04
1989	#N/A	#N/A	#N/A	55.3	28.6	320	268	4.916	16.09	18.47	2.537	5.84	14.28	8.43	8.52	-0.09
1990	#N/A	#N/A	#N/A	58.1	45.1	320	268	2.537	22.57	20.81	4.299	6.48	14.35	7.87	8.52	-0.65
1991	#N/A	#N/A	#N/A	58.3	33.5	320	281	4.299	19.83	19.57	4.567	5.89	15.76	9.88	8.52	1.36
1992	#N/A	#N/A	#N/A	56.2	33.5	321	248	4.567	19.74	19.83	4.477	5.35	13.43	8.08	8.52	-0.44
1993	18087.56	29	191,588	54.7	54.8	320	247	4.477	23.46	23.31	4.621	7.60	13.73	6.13	8.52	-2.39
1994	17512.66	36	230,274	56.8	34.7	320	266	4.621	19.33	19.78	4.177	5.83	14.42	8.59	8.52	0.07
1995	17411.19	39	248,018	56.2	41.7	320	265	4.177	19.13	19.78	3.532	6.74	14.40	7.65	8.52	-0.86
1996	17728.25	41	265,485	55.0	43.7	321	257	3.532	20.80	20.20	4.131	6.44	13.89	7.45	8.52	-1.07
1997	16548.85	45	272,001	55.2	31.2	320	253	4.131	17.93	18.48	3.577	5.36	13.56	8.20	8.52	-0.32
1998	18299.33	47	314,140	58.8	43.6	320	269	3.577	24.04	24.39	3.227	7.84	14.75	6.90	8.52	-1.62
1999	18706.07	46	314,290	58.0	34.1	320	271	3.227	18.77	19.57	2.423	6.18	14.75	8.56	8.52	0.05
2000	17591.60	48	308,416	56.2	37.4	321	265	2.423	20.63	19.18	3.875	6.33	14.18	7.85	8.52	-0.67
2001	17460.01	50	320,458	57.8	35.3	320	270	3.875	22.21	21.41	4.677	7.32	15.83	8.51	8.52	-0.01
2002	11051.03	23	93,846	57.9	41.0	320	270	4.677	19.88	21.08	3.479	7.07	16.28	9.21	8.52	0.69

MISSOURI AMERICAN WATER COMPANY (ST LOUIS MONTHLY COMMERCIAL) WR-2003-0500 AND WC-2004-0168
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YYYY	GCD(OLD CUS)	OLD CUS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970	#N/A	#N/A	#N/A	54.8	36.2	320	265	3.426	20.66	20.38	3.714	6.77	14.71	7.94	8.52	-0.58
1971	#N/A	#N/A	#N/A	56.8	33.7	320	280	3.714	19.17	18.54	4.340	6.00	15.20	9.20	8.52	0.68
1972	#N/A	#N/A	#N/A	55.2	33.7	321	272	4.340	19.66	19.06	4.936	5.99	15.27	9.28	8.52	0.76
1973	#N/A	#N/A	#N/A	57.3	39.8	320	266	4.936	20.34	20.50	4.776	6.15	14.39	8.24	8.52	-0.28
1974	#N/A	#N/A	#N/A	56.2	36.8	320	262	4.776	19.28	20.54	3.514	6.32	14.13	7.80	8.52	-0.72
1975	#N/A	#N/A	#N/A	56.7	40.2	320	267	3.514	22.18	21.76	3.938	7.45	14.57	7.12	8.52	-1.40
1976	#N/A	#N/A	#N/A	55.3	23.5	321	269	3.938	14.40	15.90	2.441	4.94	14.65	9.71	8.52	1.19
1977	#N/A	#N/A	#N/A	56.7	43.4	320	283	2.441	20.95	19.03	4.364	6.42	15.74	9.32	8.52	0.80
1978	#N/A	#N/A	#N/A	54.7	37.7	320	273	4.364	17.79	18.13	4.026	6.44	15.02	8.58	8.52	0.06
1979	#N/A	#N/A	#N/A	54.7	29.5	320	276	4.026	15.22	16.29	2.954	5.74	15.08	9.34	8.52	0.82
1980	#N/A	#N/A	#N/A	56.9	27.5	321	289	2.954	16.32	16.87	2.399	6.16	16.60	10.44	8.52	1.92
1981	#N/A	#N/A	#N/A	56.6	45.5	320	260	2.399	22.32	20.91	3.806	7.12	14.07	6.95	8.52	-1.57
1982	#N/A	#N/A	#N/A	55.4	55.0	320	261	3.806	23.07	22.07	4.808	6.99	13.93	6.93	8.52	-1.59
1983	#N/A	#N/A	#N/A	56.2	44.8	320	279	4.808	19.14	19.01	4.939	5.81	15.47	9.66	8.52	1.14
1984	#N/A	#N/A	#N/A	56.6	51.7	321	266	4.939	20.59	20.59	4.939	5.66	14.86	9.20	8.52	0.68
1985	#N/A	#N/A	#N/A	55.5	50.7	320	265	4.939	20.26	20.50	4.697	6.84	14.34	7.50	8.52	-1.02
1986	#N/A	#N/A	#N/A	57.9	34.9	320	276	4.697	20.40	21.10	4.000	6.45	15.60	9.16	8.52	0.64
1987	#N/A	#N/A	#N/A	58.5	38.4	320	277	4.000	19.48	18.69	4.788	5.78	15.79	10.01	8.52	1.49
1988	#N/A	#N/A	#N/A	56.5	33.9	321	287	4.788	16.67	16.54	4.916	4.90	16.46	11.56	8.52	3.04
1989	#N/A	#N/A	#N/A	55.3	28.6	320	268	4.916	16.09	18.47	2.537	5.84	14.28	8.43	8.52	-0.09
1990	#N/A	#N/A	#N/A	58.1	45.1	320	268	2.537	22.57	20.81	4.299	6.48	14.35	7.87	8.52	-0.65
1991	#N/A	#N/A	#N/A	58.3	33.5	320	281	4.299	19.83	19.57	4.567	5.89	15.76	9.88	8.52	1.36
1992	#N/A	#N/A	#N/A	56.2	33.5	321	248	4.567	19.74	19.83	4.477	5.35	13.43	8.08	8.52	-0.44
1993	12263.01	399	1,787,147	54.7	54.8	320	247	4.477	23.46	23.31	4.621	7.60	13.73	6.13	8.52	-2.39
1994	14357.70	457	2,396,576	56.8	34.7	320	266	4.621	19.33	19.78	4.177	5.83	14.42	8.59	8.52	0.07
1995	14130.31	472	2,436,038	56.2	41.7	320	265	4.177	19.13	19.78	3.532	6.74	14.40	7.65	8.52	-0.86
1996	13796.92	459	2,313,050	55.0	43.7	321	257	3.532	20.80	20.20	4.131	6.44	13.89	7.45	8.52	-1.07
1997	15320.32	437	2,445,342	55.2	31.2	320	253	4.131	17.93	18.48	3.577	5.36	13.56	8.20	8.52	-0.32
1998	14342.25	407	2,132,073	58.8	43.6	320	269	3.577	24.04	24.39	3.227	7.84	14.75	6.90	8.52	-1.62
1999	15880.85	405	2,349,194	58.0	34.1	320	271	3.227	18.77	19.57	2.423	6.18	14.75	8.56	8.52	0.05
2000	14164.22	398	2,059,046	56.2	37.4	321	265	2.423	20.63	19.18	3.875	6.33	14.18	7.85	8.52	-0.67
2001	15387.28	400	2,248,082	57.8	35.3	320	270	3.875	22.21	21.41	4.677	7.32	15.83	8.51	8.52	-0.01
2002	16720.46	400	2,442,859	57.9	41.0	320	270	4.677	19.88	21.08	3.479	7.07	16.28	9.21	8.52	0.69

MISSOURI AMERICAN WATER COMPANY (QUARTERLY RESIDENTIAL) WR-2003-0500 AND WC-2004-0168
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YYYY	GCD(OLD CUS)	OLD CUS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970	#N/A	#N/A	#N/A	54.8	36.2	320	265	3.426	20.66	20.38	3.714	6.77	14.71	7.94	8.52	-0.58
1971	#N/A	#N/A	#N/A	56.8	33.7	320	280	3.714	19.17	18.54	4.340	6.00	15.20	9.20	8.52	0.68
1972	#N/A	#N/A	#N/A	55.2	33.7	321	272	4.340	19.66	19.06	4.936	5.99	15.27	9.28	8.52	0.76
1973	#N/A	#N/A	#N/A	57.3	39.8	320	266	4.936	20.34	20.50	4.776	6.15	14.39	8.24	8.52	-0.28
1974	#N/A	#N/A	#N/A	56.2	36.8	320	262	4.776	19.28	20.54	3.514	6.32	14.13	7.80	8.52	-0.72
1975	#N/A	#N/A	#N/A	56.7	40.2	320	267	3.514	22.18	21.76	3.938	7.45	14.57	7.12	8.52	-1.40
1976	#N/A	#N/A	#N/A	55.3	23.5	321	269	3.938	14.40	15.90	2.441	4.94	14.65	9.71	8.52	1.19
1977	#N/A	#N/A	#N/A	56.7	43.4	320	283	2.441	20.95	19.03	4.364	6.42	15.74	9.32	8.52	0.80
1978	#N/A	#N/A	#N/A	54.7	37.7	320	273	4.364	17.79	18.13	4.026	6.44	15.02	8.58	8.52	0.06
1979	#N/A	#N/A	#N/A	54.7	29.5	320	276	4.026	15.22	16.29	2.954	5.74	15.08	9.34	8.52	0.82
1980	#N/A	#N/A	#N/A	56.9	27.5	321	289	2.954	16.32	16.87	2.399	6.16	16.60	10.44	8.52	1.92
1981	#N/A	#N/A	#N/A	56.6	45.5	320	260	2.399	22.32	20.91	3.806	7.12	14.07	6.95	8.52	-1.57
1982	#N/A	#N/A	#N/A	55.4	55.0	320	261	3.806	23.07	22.07	4.808	6.99	13.93	6.93	8.52	-1.59
1983	#N/A	#N/A	#N/A	56.2	44.8	320	279	4.808	19.14	19.01	4.939	5.81	15.47	9.66	8.52	1.14
1984	#N/A	#N/A	#N/A	56.6	51.7	321	266	4.939	20.59	20.59	4.939	5.66	14.86	9.20	8.52	0.68
1985	#N/A	#N/A	#N/A	55.5	50.7	320	265	4.939	20.26	20.50	4.697	6.84	14.34	7.50	8.52	-1.02
1986	#N/A	#N/A	#N/A	57.9	34.9	320	276	4.697	20.40	21.10	4.000	6.45	15.60	9.16	8.52	0.64
1987	#N/A	#N/A	#N/A	58.5	38.4	320	277	4.000	19.48	18.69	4.788	5.78	15.79	10.01	8.52	1.49
1988	#N/A	#N/A	#N/A	56.5	33.9	321	287	4.788	16.67	16.54	4.916	4.90	16.46	11.56	8.52	3.04
1989	#N/A	#N/A	#N/A	55.3	28.6	320	268	4.916	16.09	18.47	2.537	5.84	14.28	8.43	8.52	-0.09
1990	#N/A	#N/A	#N/A	58.1	45.1	320	268	2.537	22.57	20.81	4.299	6.48	14.35	7.87	8.52	-0.65
1991	#N/A	#N/A	#N/A	58.3	33.5	320	281	4.299	19.83	19.57	4.567	5.89	15.76	9.88	8.52	1.36
1992	#N/A	#N/A	#N/A	56.2	33.5	321	248	4.567	19.74	19.83	4.477	5.35	13.43	8.08	8.52	-0.44
1993	262.76	274,429	26,337,508	54.7	54.8	320	247	4.477	23.46	23.31	4.621	7.60	13.73	6.13	8.52	-2.39
1994	293.85	277,001	29,729,856	56.8	34.7	320	266	4.621	19.33	19.78	4.177	5.83	14.42	8.59	8.52	0.07
1995	282.00	279,330	28,771,525	56.2	41.7	320	265	4.177	19.13	19.78	3.532	6.74	14.40	7.65	8.52	-0.86
1996	284.50	281,490	29,250,936	55.0	43.7	321	257	3.532	20.80	20.20	4.131	6.44	13.89	7.45	8.52	-1.07
1997	287.22	283,094	29,698,300	55.2	31.2	320	253	4.131	17.93	18.48	3.577	5.36	13.56	8.20	8.52	-0.32
1998	270.92	284,600	28,162,554	58.8	43.6	320	269	3.577	24.04	24.39	3.227	7.84	14.75	6.90	8.52	-1.62
1999	294.56	285,908	30,760,506	58.0	34.1	320	271	3.227	18.77	19.57	2.423	6.18	14.75	8.56	8.52	0.05
2000	281.85	286,670	29,511,009	56.2	37.4	321	265	2.423	20.63	19.18	3.875	6.33	14.18	7.85	8.52	-0.67
2001	288.87	287,821	30,367,468	57.8	35.3	320	270	3.875	22.21	21.41	4.677	7.32	15.83	8.51	8.52	-0.01
2002	298.26	288,734	31,454,872	57.9	41.0	320	270	4.677	19.88	21.08	3.479	7.07	16.28	9.21	8.52	0.69

MISSOURI AMERICAN WATER COMPANY (ST LOUIS QUARTERLY COMMERCIAL) WR-2003-0500 AND WC-2004-0168
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YYYY	GCD(OLD CUS)	OLD CUS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970	#N/A	#N/A	#N/A	54.8	36.2	320	265	3.426	20.66	20.38	3.714	6.77	14.71	7.94	8.52	-0.58
1971	#N/A	#N/A	#N/A	56.8	33.7	320	280	3.714	19.17	18.54	4.340	6.00	15.20	9.20	8.52	0.68
1972	#N/A	#N/A	#N/A	55.2	33.7	321	272	4.340	19.66	19.06	4.936	5.99	15.27	9.28	8.52	0.76
1973	#N/A	#N/A	#N/A	57.3	39.8	320	266	4.936	20.34	20.50	4.776	6.15	14.39	8.24	8.52	-0.28
1974	#N/A	#N/A	#N/A	56.2	36.8	320	262	4.776	19.28	20.54	3.514	6.32	14.13	7.80	8.52	-0.72
1975	#N/A	#N/A	#N/A	56.7	40.2	320	267	3.514	22.18	21.76	3.938	7.45	14.57	7.12	8.52	-1.40
1976	#N/A	#N/A	#N/A	55.3	23.5	321	269	3.938	14.40	15.90	2.441	4.94	14.65	9.71	8.52	1.19
1977	#N/A	#N/A	#N/A	56.7	43.4	320	283	2.441	20.95	19.03	4.364	6.42	15.74	9.32	8.52	0.80
1978	#N/A	#N/A	#N/A	54.7	37.7	320	273	4.364	17.79	18.13	4.026	6.44	15.02	8.58	8.52	0.06
1979	#N/A	#N/A	#N/A	54.7	29.5	320	276	4.026	15.22	16.29	2.954	5.74	15.08	9.34	8.52	0.82
1980	#N/A	#N/A	#N/A	56.9	27.5	321	289	2.954	16.32	16.87	2.399	6.16	16.60	10.44	8.52	1.92
1981	#N/A	#N/A	#N/A	56.6	45.5	320	260	2.399	22.32	20.91	3.806	7.12	14.07	6.95	8.52	-1.57
1982	#N/A	#N/A	#N/A	55.4	55.0	320	261	3.806	23.07	22.07	4.808	6.99	13.93	6.93	8.52	-1.59
1983	#N/A	#N/A	#N/A	56.2	44.8	320	279	4.808	19.14	19.01	4.939	5.81	15.47	9.66	8.52	1.14
1984	#N/A	#N/A	#N/A	56.6	51.7	321	266	4.939	20.59	20.59	4.939	5.66	14.86	9.20	8.52	0.68
1985	#N/A	#N/A	#N/A	55.5	50.7	320	265	4.939	20.26	20.50	4.697	6.84	14.34	7.50	8.52	-1.02
1986	#N/A	#N/A	#N/A	57.9	34.9	320	276	4.697	20.40	21.10	4.000	6.45	15.60	9.16	8.52	0.64
1987	#N/A	#N/A	#N/A	58.5	38.4	320	277	4.000	19.48	18.69	4.788	5.78	15.79	10.01	8.52	1.49
1988	#N/A	#N/A	#N/A	56.5	33.9	321	287	4.788	16.67	16.54	4.916	4.90	16.46	11.56	8.52	3.04
1989	#N/A	#N/A	#N/A	55.3	28.6	320	268	4.916	16.09	18.47	2.537	5.84	14.28	8.43	8.52	-0.09
1990	#N/A	#N/A	#N/A	58.1	45.1	320	268	2.537	22.57	20.81	4.299	6.48	14.35	7.87	8.52	-0.65
1991	#N/A	#N/A	#N/A	58.3	33.5	320	281	4.299	19.83	19.57	4.567	5.89	15.76	9.88	8.52	1.36
1992	#N/A	#N/A	#N/A	56.2	33.5	321	248	4.567	19.74	19.83	4.477	5.35	13.43	8.08	8.52	-0.44
1993	975.31	14,467	5,153,617	54.7	54.8	320	247	4.477	23.46	23.31	4.621	7.60	13.73	6.13	8.52	-2.39
1994	1004.06	14,559	5,339,279	56.8	34.7	320	266	4.621	19.33	19.78	4.177	5.83	14.42	8.59	8.52	0.07
1995	963.35	14,903	5,243,830	56.2	41.7	320	265	4.177	19.13	19.78	3.532	6.74	14.40	7.65	8.52	-0.86
1996	977.58	14,973	5,346,264	55.0	43.7	321	257	3.532	20.80	20.20	4.131	6.44	13.89	7.45	8.52	-1.07
1997	1009.78	15,029	5,543,026	55.2	31.2	320	253	4.131	17.93	18.48	3.577	5.36	13.56	8.20	8.52	-0.32
1998	1023.30	15,152	5,663,193	58.8	43.6	320	269	3.577	24.04	24.39	3.227	7.84	14.75	6.90	8.52	-1.62
1999	1100.27	15,258	6,131,810	58.0	34.1	320	271	3.227	18.77	19.57	2.423	6.18	14.75	8.56	8.52	0.05
2000	1085.61	15,256	6,049,274	56.2	37.4	321	265	2.423	20.63	19.18	3.875	6.33	14.18	7.85	8.52	-0.67
2001	1112.42	16745	6,246,176	57.8	35.3	320	270	3.875	22.21	21.41	4.677	7.32	15.83	8.51	8.52	-0.01
2002	1215.44	19024	6,876,553	57.9	41.0	320	270	4.677	19.88	21.08	3.479	7.07	16.28	9.21	8.52	0.69

MISSOURI AMERICAN WATER COMPANY (ST LOUIS MONTHLY OPA) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970	#N/A	#N/A	#N/A	55.1	36.2	320	265	3.426	20.96	23.27	1.115	6.34	9.20	2.86	3.61	-0.75
1971	#N/A	#N/A	#N/A	56.8	33.7	320	280	1.115	19.17	18.67	1.612	5.39	9.50	4.11	3.61	0.50
1972	#N/A	#N/A	#N/A	55.2	33.7	321	272	1.612	20.46	20.02	2.050	5.48	9.54	4.07	3.61	0.46
1973	#N/A	#N/A	#N/A	57.3	39.8	320	266	2.050	23.90	23.88	2.072	5.42	8.99	3.57	3.61	-0.04
1974	#N/A	#N/A	#N/A	56.2	36.8	320	262	2.072	22.27	23.04	1.299	5.48	8.83	3.35	3.61	-0.26
1975	#N/A	#N/A	#N/A	56.7	40.2	320	267	1.299	23.95	23.54	1.707	7.16	9.11	1.95	3.61	-1.66
1976	#N/A	#N/A	#N/A	55.3	23.5	321	269	1.707	14.40	15.39	0.720	4.15	9.15	5.00	3.61	1.39
1977	#N/A	#N/A	#N/A	56.7	43.4	320	283	0.720	21.27	20.58	1.411	6.30	9.84	3.54	3.61	-0.07
1978	#N/A	#N/A	#N/A	54.7	37.7	320	273	1.411	20.19	20.14	1.462	5.70	9.39	3.69	3.61	0.08
1979	#N/A	#N/A	#N/A	54.7	29.5	320	276	1.462	17.64	17.92	1.184	4.90	9.42	4.53	3.61	0.92
1980	#N/A	#N/A	#N/A	56.9	27.5	321	289	1.184	16.38	16.88	0.683	5.43	10.38	4.95	3.61	1.34
1981	#N/A	#N/A	#N/A	56.6	45.5	320	260	0.683	22.75	22.38	1.056	6.97	8.79	1.83	3.61	-1.78
1982	#N/A	#N/A	#N/A	55.4	55.0	320	261	1.056	26.44	25.28	2.221	6.51	8.70	2.19	3.61	-1.42
1983	#N/A	#N/A	#N/A	56.2	44.8	320	279	2.221	23.01	22.70	2.535	4.82	9.67	4.85	3.61	1.24
1984	#N/A	#N/A	#N/A	56.6	51.7	321	266	2.535	27.29	27.51	2.318	4.82	9.29	4.47	3.61	0.86
1985	#N/A	#N/A	#N/A	55.5	50.7	320	265	2.318	24.55	24.04	2.832	6.08	8.96	2.87	3.61	-0.74
1986	#N/A	#N/A	#N/A	57.9	34.9	320	276	2.832	20.66	22.66	0.829	5.82	9.75	3.93	3.61	0.32
1987	#N/A	#N/A	#N/A	58.5	38.4	320	277	0.829	19.86	18.43	2.255	5.13	9.87	4.74	3.61	1.13
1988	#N/A	#N/A	#N/A	56.5	33.9	321	287	2.255	17.89	18.11	2.033	3.84	10.29	6.44	3.61	2.83
1989	#N/A	#N/A	#N/A	55.3	28.6	320	268	2.033	17.94	19.13	0.844	5.50	8.92	3.42	3.61	-0.19
1990	#N/A	#N/A	#N/A	58.1	45.1	320	268	0.844	23.91	22.86	1.896	5.75	8.97	3.22	3.61	-0.40
1991	6366.93	42	98,447	58.3	33.5	320	281	1.896	21.17	21.41	1.657	4.90	9.85	4.95	3.61	1.34
1992	18120.64	15	99,830	56.2	33.5	321	248	1.657	20.17	20.37	1.460	4.85	8.39	3.54	3.61	-0.07
1993	13656.16	15	76,897	54.7	54.8	320	247	1.460	28.49	28.33	1.619	7.48	8.58	1.10	3.61	-2.51
1994	18323.17	16	108,196	56.8	34.7	320	266	1.619	21.36	21.74	1.243	5.13	9.01	3.88	3.61	0.27
1995	15040.80	16	86,525	56.2	41.7	320	265	1.243	21.72	21.36	1.602	6.08	9.00	2.92	3.61	-0.69
1996	15181.93	15	83,178	55.0	43.7	321	257	1.602	21.87	22.28	1.192	5.85	8.68	2.82	3.61	-0.79
1997	17294.89	16	103,177	55.2	31.2	320	253	1.192	18.87	18.73	1.327	4.57	8.47	3.90	3.61	0.29
1998	13357.65	17	82,941	58.8	43.6	320	269	1.327	27.15	27.67	0.802	7.48	9.22	1.73	3.61	-1.88
1999	19023.23	17	118,120	58.0	34.1	320	271	0.802	19.12	19.17	0.757	5.11	9.22	4.10	3.61	0.49
2000	14043.89	17	87,202	56.2	37.4	321	265	0.757	20.66	20.34	1.076	6.20	8.86	2.66	3.61	-0.95
2001	15652.13	17	97,188	57.8	35.3	320	270	1.076	22.46	21.58	1.952	6.60	9.89	3.29	3.61	-0.32
2002	15344.37	17	95,277	57.9	41.0	320	270	1.952	22.24	23.06	1.131	6.46	10.17	3.71	3.61	0.10

MISSOURI AMERICAN WATER COMPANY (ST LOUIS QUARTERLY OPA) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970	#N/A	#N/A	#N/A	55.1	36.2	320	265	3.426	20.96	23.27	1.115	6.34	9.20	2.86	3.61	-0.75
1971	#N/A	#N/A	#N/A	56.8	33.7	320	280	1.115	19.17	18.67	1.612	5.39	9.50	4.11	3.61	0.50
1972	#N/A	#N/A	#N/A	55.2	33.7	321	272	1.612	20.46	20.02	2.050	5.48	9.54	4.07	3.61	0.46
1973	#N/A	#N/A	#N/A	57.3	39.8	320	266	2.050	23.90	23.88	2.072	5.42	8.99	3.57	3.61	-0.04
1974	#N/A	#N/A	#N/A	56.2	36.8	320	262	2.072	22.27	23.04	1.299	5.48	8.83	3.35	3.61	-0.26
1975	#N/A	#N/A	#N/A	56.7	40.2	320	267	1.299	23.95	23.54	1.707	7.16	9.11	1.95	3.61	-1.66
1976	#N/A	#N/A	#N/A	55.3	23.5	321	269	1.707	14.40	15.39	0.720	4.15	9.15	5.00	3.61	1.39
1977	#N/A	#N/A	#N/A	56.7	43.4	320	283	0.720	21.27	20.58	1.411	6.30	9.84	3.54	3.61	-0.07
1978	#N/A	#N/A	#N/A	54.7	37.7	320	273	1.411	20.19	20.14	1.462	5.70	9.39	3.69	3.61	0.08
1979	#N/A	#N/A	#N/A	54.7	29.5	320	276	1.462	17.64	17.92	1.184	4.90	9.42	4.53	3.61	0.92
1980	#N/A	#N/A	#N/A	56.9	27.5	321	289	1.184	16.38	16.88	0.683	5.43	10.38	4.95	3.61	1.34
1981	#N/A	#N/A	#N/A	56.6	45.5	320	260	0.683	22.75	22.38	1.056	6.97	8.79	1.83	3.61	-1.78
1982	#N/A	#N/A	#N/A	55.4	55.0	320	261	1.056	26.44	25.28	2.221	6.51	8.70	2.19	3.61	-1.42
1983	#N/A	#N/A	#N/A	56.2	44.8	320	279	2.221	23.01	22.70	2.535	4.82	9.67	4.85	3.61	1.24
1984	#N/A	#N/A	#N/A	56.6	51.7	321	266	2.535	27.29	27.51	2.318	4.82	9.29	4.47	3.61	0.86
1985	#N/A	#N/A	#N/A	55.5	50.7	320	265	2.318	24.55	24.04	2.832	6.08	8.96	2.87	3.61	-0.74
1986	#N/A	#N/A	#N/A	57.9	34.9	320	276	2.832	20.66	22.66	0.829	5.82	9.75	3.93	3.61	0.32
1987	#N/A	#N/A	#N/A	58.5	38.4	320	277	0.829	19.86	18.43	2.255	5.13	9.87	4.74	3.61	1.13
1988	#N/A	#N/A	#N/A	56.5	33.9	321	287	2.255	17.89	18.11	2.033	3.84	10.29	6.44	3.61	2.83
1989	#N/A	#N/A	#N/A	55.3	28.6	320	268	2.033	17.94	19.13	0.844	5.50	8.92	3.42	3.61	-0.19
1990	#N/A	#N/A	#N/A	58.1	45.1	320	268	0.844	23.91	22.86	1.896	5.75	8.97	3.22	3.61	-0.40
1991	1177.45	421	181,057	58.3	33.5	320	281	1.896	21.17	21.41	1.657	4.90	9.85	4.95	3.61	1.34
1992	1057.24	465	179,659	56.2	33.5	321	248	1.657	20.17	20.37	1.460	4.85	8.39	3.54	3.61	-0.07
1993	805.93	498	145,416	54.7	54.8	320	247	1.460	28.49	28.33	1.619	7.48	8.58	1.10	3.61	-2.51
1994	1090.08	535	213,210	56.8	34.7	320	266	1.619	21.36	21.74	1.243	5.13	9.01	3.88	3.61	0.27
1995	911.03	515	169,704	56.2	41.7	320	265	1.243	21.72	21.36	1.602	6.08	9.00	2.92	3.61	-0.69
1996	950.23	520	180,738	55.0	43.7	321	257	1.602	21.87	22.28	1.192	5.85	8.68	2.82	3.61	-0.79
1997	1045.31	531	201,877	55.2	31.2	320	253	1.192	18.87	18.73	1.327	4.57	8.47	3.90	3.61	0.29
1998	1246.38	537	244,465	58.8	43.6	320	269	1.327	27.15	27.67	0.802	7.48	9.22	1.73	3.61	-1.88
1999	1389.43	548	278,104	58.0	34.1	320	271	0.802	19.12	19.17	0.757	5.11	9.22	4.10	3.61	0.49
2000	1466.50	546	292,458	56.2	37.4	321	265	0.757	20.66	20.34	1.076	6.20	8.86	2.66	3.61	-0.95
2001	1379.69	561	282,791	57.8	35.3	320	270	1.076	22.46	21.58	1.952	6.60	9.89	3.29	3.61	-0.32
2002	1509.07	576	317,667	57.9	41.0	320	270	1.952	22.24	23.06	1.131	6.46	10.17	3.71	3.61	0.10

MISSOURI AMERICAN WATER COMPANY (WARRENSBURG RESIDENTIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970				56.3	39.3	320	577	3.426	29.64	31.24	1.822	13.60	24.35	10.74	11.04	-0.29
1971				13.1	28.1	320	364	1.822	7.43	4.85	4.405	0.00	11.24	11.24	11.04	0.20
1972				14.3	32.0	321	375	4.405	4.55	6.68	2.273	0.00	11.45	11.45	11.04	0.41
1973				12.7	55.3	320	364	2.273	7.45	6.04	3.679	0.05	11.41	11.37	11.04	0.33
1974				13.3	47.0	320	352	3.679	8.07	7.36	4.390	0.00	10.61	10.61	11.04	-0.42
1975				13.7	38.8	320	365	4.390	10.42	11.09	3.718	0.13	11.47	11.34	11.04	0.31
1976				14.2	27.5	321	363	3.718	5.47	7.49	1.689	0.00	10.56	10.56	11.04	-0.48
1977				14.2	44.4	320	383	1.689	4.75	4.82	1.615	0.00	10.89	10.89	11.04	-0.15
1978				16.4	35.6	320	394	1.615	6.97	5.62	2.969	0.00	10.67	10.67	11.04	-0.36
1979				16.3	35.9	320	391	2.969	8.14	8.10	3.010	0.00	9.99	9.99	11.04	-1.05
1980				15.1	34.5	321	383	3.010	6.73	7.51	2.226	0.00	11.23	11.23	11.04	0.19
1981				13.9	52.2	320	355	2.226	5.39	5.05	2.563	0.00	10.05	10.05	11.04	-0.98
1982				14.9	53.4	320	364	2.563	8.38	6.49	4.448	0.04	9.86	9.82	11.04	-1.22
1983				15.0	46.2	320	378	4.448	5.88	8.55	1.779	0.00	11.33	11.33	11.04	0.29
1984	196.91	3,736	268,699	13.9	45.3	321	351	1.779	5.83	3.51	4.102	0.00	10.67	10.67	11.04	-0.37
1985	182.18	3,760	250,194	15.1	63.1	320	386	4.102	5.64	8.18	1.557	0.00	10.76	10.76	11.04	-0.27
1986	174.88	3,798	242,598	12.4	42.9	320	366	1.557	3.95	2.84	2.661	0.00	11.86	11.86	11.04	0.83
1987	185.48	3,877	262,657	12.0	33.7	320	356	2.661	5.73	4.08	4.315	0.00	12.15	12.15	11.04	1.11
1988	202.79	3,971	294,128	13.7	26.6	321	378	4.315	6.07	6.86	3.526	0.00	11.46	11.46	11.04	0.43
1989	180.86	4,159	274,724	14.6	31.3	320	379	3.526	5.67	7.69	1.500	0.00	10.74	10.74	11.04	-0.29
1990	195.94	4,262	305,032	12.2	39.6	320	354	1.500	6.90	4.66	3.739	0.00	11.44	11.44	11.04	0.41
1991	181.14	4,389	290,387	13.3	31.6	320	365	3.739	7.24	6.23	4.756	0.00	11.26	11.26	11.04	0.22
1992	197.32	4,535	326,819	12.7	40.6	321	327	4.756	4.18	5.15	3.785	0.00	10.24	10.24	11.04	-0.80
1993	172.42	4,647	292,658	15.0	53.8	320	362	3.785	7.45	8.05	3.183	0.00	11.22	11.22	11.04	0.18
1994	191.75	4,839	338,930	13.6	43.1	320	354	3.183	4.25	4.16	3.276	0.00	10.78	10.78	11.04	-0.25
1995	199.83	5,007	365,423	14.0	35.4	320	365	3.276	4.22	5.63	1.872	0.00	11.32	11.32	11.04	0.28
1996	170.18	4,977	309,386	15.3	35.6	321	381	1.872	4.87	4.54	2.204	0.00	11.17	11.17	11.04	0.13
1997	185.23	5,075	343,367	14.2	32.4	320	356	2.204	7.57	5.67	4.109	0.11	10.98	10.88	11.04	-0.16
1998	178.53	5,127	334,346	12.1	49.2	320	362	4.109	3.79	5.03	2.875	0.00	11.92	11.92	11.04	0.89
1999	186.69	5,247	357,796	12.3	35.0	320	347	2.875	4.45	3.74	3.586	0.00	11.20	11.20	11.04	0.16
2000	182.93	5,330	356,108	14.2	32.2	321	382	3.586	2.41	5.13	0.861	0.00	11.48	11.48	11.04	0.44
2001	169.54	5,403	334,601	55.6	46.5	320	551	0.861	32.98	32.65	1.188	16.59	24.09	7.50	11.04	-3.53
2002	181.89	5,496	365,150	54.9	34.3	320	559	1.188	24.98	25.38	0.788	11.56	25.15	13.59	11.04	2.55

MISSOURI AMERICAN WATER COMPANY (WARRENSBURG COMMERCIAL) WR-2003-0500 AND WC-2004-0168
ANNUAL BILLING AND WEATHER INFORMATION

YYYY	GMD	METERS	MGAL	MDT	PRCP	LITE	EVAP	OPEN	GAIN	LOSS	CLOSE	AVAIL	NEEDS	SHORT	NSHORT	DNSHORT
1970				56.3	39.3	320	577	3.426	29.64	31.24	1.822	13.60	24.35	10.74	11.04	-0.29
1971				13.1	28.1	320	364	1.822	7.43	4.85	4.405	0.00	11.24	11.24	11.04	0.20
1972				14.3	32.0	321	375	4.405	4.55	6.68	2.273	0.00	11.45	11.45	11.04	0.41
1973				12.7	55.3	320	364	2.273	7.45	6.04	3.679	0.05	11.41	11.37	11.04	0.33
1974				13.3	47.0	320	352	3.679	8.07	7.36	4.390	0.00	10.61	10.61	11.04	-0.42
1975				13.7	38.8	320	365	4.390	10.42	11.09	3.718	0.13	11.47	11.34	11.04	0.31
1976				14.2	27.5	321	363	3.718	5.47	7.49	1.689	0.00	10.56	10.56	11.04	-0.48
1977				14.2	44.4	320	383	1.689	4.75	4.82	1.615	0.00	10.89	10.89	11.04	-0.15
1978				16.4	35.6	320	394	1.615	6.97	5.62	2.969	0.00	10.67	10.67	11.04	-0.36
1979				16.3	35.9	320	391	2.969	8.14	8.10	3.010	0.00	9.99	9.99	11.04	-1.05
1980				15.1	34.5	321	383	3.010	6.73	7.51	2.226	0.00	11.23	11.23	11.04	0.19
1981				13.9	52.2	320	355	2.226	5.39	5.05	2.563	0.00	10.05	10.05	11.04	-0.98
1982				14.9	53.4	320	364	2.563	8.38	6.49	4.448	0.04	9.86	9.82	11.04	-1.22
1983				15.0	46.2	320	378	4.448	5.88	8.55	1.779	0.00	11.33	11.33	11.04	0.29
1984	875.06	436	139,352	13.9	45.3	321	351	1.779	5.83	3.51	4.102	0.00	10.67	10.67	11.04	-0.37
1985	845.77	451	139,321	15.1	63.1	320	386	4.102	5.64	8.18	1.557	0.00	10.76	10.76	11.04	-0.27
1986	797.08	454	132,175	12.4	42.9	320	366	1.557	3.95	2.84	2.661	0.00	11.86	11.86	11.04	0.83
1987	808.24	467	137,863	12.0	33.7	320	356	2.661	5.73	4.08	4.315	0.00	12.15	12.15	11.04	1.11
1988	889.78	473	153,721	13.7	26.6	321	378	4.315	6.07	6.86	3.526	0.00	11.46	11.46	11.04	0.43
1989	891.71	483	157,338	14.6	31.3	320	379	3.526	5.67	7.69	1.500	0.00	10.74	10.74	11.04	-0.29
1990	878.83	490	157,126	12.2	39.6	320	354	1.500	6.90	4.66	3.739	0.00	11.44	11.44	11.04	0.41
1991	871.77	505	160,667	13.3	31.6	320	365	3.739	7.24	6.23	4.756	0.00	11.26	11.26	11.04	0.22
1992	931.60	513	174,642	12.7	40.6	321	327	4.756	4.18	5.15	3.785	0.00	10.24	10.24	11.04	-0.80
1993	944.21	530	182,697	15.0	53.8	320	362	3.785	7.45	8.05	3.183	0.00	11.22	11.22	11.04	0.18
1994	930.81	513	174,408	13.6	43.1	320	354	3.183	4.25	4.16	3.276	0.00	10.78	10.78	11.04	-0.25
1995	1003.78	466	171,003	14.0	35.4	320	365	3.276	4.22	5.63	1.872	0.00	11.32	11.32	11.04	0.28
1996	836.30	574	175,436	15.3	35.6	321	381	1.872	4.87	4.54	2.204	0.00	11.17	11.17	11.04	0.13
1997	856.00	582	181,965	14.2	32.4	320	356	2.204	7.57	5.67	4.109	0.11	10.98	10.88	11.04	-0.16
1998	846.45	585	180,990	12.1	49.2	320	362	4.109	3.79	5.03	2.875	0.00	11.92	11.92	11.04	0.89
1999	856.00	587	183,554	12.3	35.0	320	347	2.875	4.45	3.74	3.586	0.00	11.20	11.20	11.04	0.16
2000	853.26	591	184,160	14.2	32.2	321	382	3.586	2.41	5.13	0.861	0.00	11.48	11.48	11.04	0.44
2001	822.59	592	177,992	55.6	46.5	320	551	0.861	32.98	32.65	1.188	16.59	24.09	7.50	11.04	-3.53
2002	824.36	598	180,131	54.9	34.3	320	559	1.188	24.98	25.38	0.788	11.56	25.15	13.59	11.04	2.55

Year	St. Louis Quarterly Residential		
	Quarterly Residential gcd	Quarterly Residential Customers	Quarterly Residential Spitznagel Mgallons
1980			
1981			
1982			
1983			
1984			
1985			
1986			
1987			
1988			
1989			
1990			
1991			
1992		Quarterly Residential Customers	Quarterly Residential Spitznagel Mgallons
1993	262.8	274,429	26,337,508
1994	293.8	277,001	29,729,856
1995	282.0	279,330	28,771,525
1996	284.5	281,490	29,250,936
1997	287.2	283,094	29,698,300
1998	270.9	284,600	28,162,554
1999	294.6	285,908	30,760,506
2000	281.8	286,670	29,511,009
2001	286.8	289,867	30,367,468
2002	277.4	310,435	31,454,872
2003			
2004			

1990

LOGN(Year-1990)	Indicator 2001	Indicator 2002	Projected Existing Customers	Est. of Added Cust	Regression Total Customers	Projected Total Customers	
							262673
							262673
							262673
							262673
							262673
							262673
							262673
							262673
							262673
							262673
							262673
LOGN(Year-1990)	Indicator 2001	Indicator 2002	Projected Existing Customers	Est. of Added Cust	Regression Total Customers	Projected Total Customers	
1.098612	0	0		0	274195		274,429
1.386294	0	0		0	277212		277,001
1.609438	0	0		0	279552		279,330
1.791759	0	0		0	281464		281,490
1.94591	0	0		0	283081		283,094
2.079442	0	0		0	284481		284,600
2.197225	0	0		0	285716		285,908
2.302585	0	0	286821	0	286821		286,670
2.397895	1	0	287821	2046	289867	289867	287821
2.484907	0	1	288734	21701	310435	310435	288734
2.564949	0	1	289573	21701		311274	289573
2.639057	0	1	290350	21701		312052	290350

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.99987564
R Square	0.9997513
Adjusted R S	0.99962695
Standard Erro	192.869771
Observations	10

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	3	897203082	2.99E+08	8039.725	3.36E-11
Residual	6	223192.492	37198.75		
Total	9	897426274			

	Coefficients	*Standard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Upper 95.0%*
Intercept	262672.785	323.228573	812.6534	2.34E-16	261881.9	263463.7	261881.9	263463.7
LOGN(Year-1990)	10487.6092	175.392731	59.795	1.47E-09	10058.44	10916.78	10058.44	10916.78
Indicator 2001	2046.02644	229.769085	8.904707	0.000112	1483.801	2608.252	1483.801	2608.2516
Indicator 2002	21701.3185	237.107499	91.52523	1.15E-10	21121.14	22281.5	21121.14	22281.5

	St. Louis Quarterly Commercial		
Year	St. Louis Quarterly Commercial gmd	St. Louis Quarterly Commercial meters	St. Louis Quarterly Commercial mgallons
1980			
1981			
1982			
1983			
1984			
1985			
1986			
1987			
1988			
1989			
1990			
1991			
1992	St. Louis Quarterly Commercial gmd	St. Louis Quarterly Commercial meters	St. Louis Quarterly Commercial mgallons
1993	12263.0	399	1,787,147
1994	14357.7	457	2,396,576
1995	14130.3	472	2,436,038
1996	13796.9	459	2,313,050
1997	15320.3	437	2,445,342
1998	14342.3	407	2,132,073
1999	15880.8	405	2,349,194
2000	14164.2	398	2,059,046
2001	15406.5	400	2,248,082
2002	14929.0	448	2,442,859
2003			
2004			

1990

LOGN(Year-1990)	Indicator 2001	Indicator 2002	Projected Existing Customers	Est. of Added Cust	Regression Total Customers	Projected Total Customers

Trend	Indicator 2001	Indicator 2002	Projected Existing Customers	Est. of Added Cust	Projected Total Customers	
-9	0	0		0		399
-8	0	0		0		457
-7	0	0		0		472
-6	0	0		0		459
-5	0	0		0		437
-4	0	0		0		407
-3	0	0		0		405
-2	0	0	398	0		398
-1	1	0	400	0		400
0	1	1	400	48	448	400
1	1	1	400	48	448	400
2	1	1	400	48	448	400

SUMMARY OUTPUT

MISSOURI AMERICAN WATER COMPANY (BRUNSWICK RESIDENTIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 126.56 GMD

YYYY	GMD	SHORT	NSHORT	DUMMIES	86to89
1984	124.5	9.22	7.69	0.0	(0.2)
1985	131.5	7.08	7.69	0.0	1.2
1986	116.2	9.21	7.69	0.0	(1.7)
1987	119.1	10.17	7.69	0.0	(1.2)
1988	121.4	12.50	7.69	0.0	(0.7)
1989	114.6	7.79	7.69	0.0	(2.0)
1990	123.9	6.10	7.69	(1.0)	0.0
1991	125.4	10.00	7.69	0.0	0.0
1992	124.7	6.89	7.69	0.0	0.0
1993	125.8	2.92	7.69	0.0	0.0
1994	128.8	8.81	7.69	2.0	0.0
1995	127.3	5.05	7.69	1.0	0.0
1996	123.5	7.22	7.69	(1.0)	0.0
1997	124.1	8.28	7.69	(1.0)	0.0
1998	128.3	7.07	7.69	1.5	0.0
1999	125.5	8.23	7.69	0.0	0.0
2000	127.0	8.09	7.69	1.0	0.0
2001	123.5	6.82	7.69	(1.0)	0.0
2002	126.4	9.47	7.69	0.5	0.0
2003		7.69	7.69	0.00	0.0
2004		7.69	7.69	0.00	0.0
				2.0	(4.6)

5.00	0.50	4.00%	0.08
OPENING	GAIN	DRAINED	NEEDS

0.995041
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9977935
R Square	0.995592
Adjusted R Sq	0.995041
Standard Error	0.2926997
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	309.6000893	154.8	1806.868	1.42548E-19
Residual	16	1.370770251	0.085673		
Total	18	310.9708595			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	125.39479	0.071784929	1746.812	1.12E-43	125.2426164	125.5469709	125.2426164	125.5469709
DUMMIES	1.7434671	0.083580919	20.85963	5E-13	1.566283516	1.920650702	1.566283516	1.920650702
86to89	5.3527571	0.096672533	55.36999	1.04E-19	5.147820563	5.5576937	5.147820563	5.5576937

Schedule 3-1

MISSOURI AMERICAN WATER COMPANY (BRUNSWICK COMMERCIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 187.13 GMD

YYYY	GMD	SHORT	NSHORT	DUMMIES	TREND	TREND92
1984	244.4	9.22	7.69	1.0	(18.0)	(8.0)
1985	213.7	7.08	7.69	0.0	(17.0)	(7.0)
1986	207.4	9.21	7.69	(0.2)	(16.0)	(6.0)
1987	217.0	10.17	7.69	0.0	(15.0)	(5.0)
1988	232.9	12.50	7.69	0.5	(14.0)	(4.0)
1989	211.8	7.79	7.69	0.0	(13.0)	(3.0)
1990	207.8	6.10	7.69	(0.3)	(12.0)	(2.0)
1991	217.9	10.00	7.69	0.0	(11.0)	(1.0)
1992	232.3	6.89	7.69	0.3	(10.0)	0.0
1993	235.3	2.92	7.69	0.5	(9.0)	0.0
1994	211.7	8.81	7.69	0.0	(8.0)	0.0
1995	211.1	5.05	7.69	0.0	(7.0)	0.0
1996	207.6	7.22	7.69	0.0	(6.0)	0.0
1997	213.5	8.28	7.69	0.3	(5.0)	0.0
1998	197.2	7.07	7.69	(0.2)	(4.0)	0.0
1999	209.8	8.23	7.69	0.3	(3.0)	0.0
2000	201.1	8.09	7.69	0.0	(2.0)	0.0
2001	193.8	6.82	7.69	0.0	(1.0)	0.0
2002	190.3	9.47	7.69	0.0	0.0	0.0
2003		7.69	7.69	0.00	1.0	0.0
2004		7.69	7.69	0.00	2.0	0.0
				2.2		

5.00	0.50	4.00%	0.08	0.97681
OPENING	GAIN	DRAINED	NEEDS	R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.990292
R Square	0.980679
Adjusted R Square	0.976814
Standard Error	2.174972
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	3601.535084	1200.512	253.7809	4.49088E-13
Residual	15	70.95757657	4.730505		
Total	18	3672.492661			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	191.6319	1.190053332	161.028	1.05E-25	189.0953741	194.1684545	189.0953741	194.1684545
DUMMIES	33.5117	1.738807381	19.2728	5.39E-12	29.80551282	37.21787778	29.80551282	37.21787778
TREND	-2.79017	0.180172128	-15.4861	1.24E-10	-3.17419623	-2.40614016	-3.17419623	-2.40614016
TREND92	3.758547	0.371609794	10.11423	4.3E-08	2.966479289	4.550615315	2.966479289	4.550615315

MISSOURI AMERICAN WATER COMPANY (JEFFERSON CITY RESIDENTIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 167.6 GMD

YYYY	GMD	SHORT	NSHORT	DNSHORT	DUMMIES
1980	182.4	10.31	6.76	3.55	0.0
1981	160.6	4.91	6.76	-1.85	0.0
1982	157.4	4.43	6.76	-2.33	(0.3)
1983	168.6	8.02	6.76	1.25	(0.7)
1984	170.9	8.12	6.76	1.35	(0.5)
1985	156.9	5.72	6.76	-1.04	(1.3)
1986	165.5	7.33	6.76	0.56	(0.7)
1987	171.4	8.47	6.76	1.71	(0.7)
1988	172.9	9.07	6.76	2.30	(0.7)
1989	162.6	6.21	6.76	-0.55	(0.7)
1990	157.3	5.08	6.76	-1.68	(0.7)
1991	165.6	6.86	6.76	0.09	(0.3)
1992	161.8	4.93	6.76	-1.84	0.0
1993	156.4	4.15	6.76	-2.62	0.0
1994	165.1	5.68	6.76	-0.68	0.0
1995	164.1	5.85	6.76	-0.91	0.0
1996	162.8	5.62	6.76	-1.15	0.0
1997	165.3	6.32	6.76	-0.44	0.0
1998	159.4	5.25	6.76	-1.51	(0.3)
1999	177.9	8.74	6.76	1.97	0.3
2000	165.2	6.46	6.76	-0.31	(0.3)
2001	170.9	5.80	6.76	-0.97	1.3
2002	162.0	6.72	6.76	-0.05	(1.0)
2003		#REF!	#REF!	#REF!	0.0
2004		#REF!	#REF!	#REF!	0.0

REGRESSION DATA: 1994 AND 1995 POINTS REMOVED

YYYY	GMD	SHORT	NSHORT	DNSHORT	DUMMIES
1980	182.4	10.31	6.76	3.55	0.0
1981	160.6	4.91	6.76	-1.85	0.0
1982	157.4	4.43	6.76	-2.33	(0.3)
1983	168.6	8.02	6.76	1.25	(0.7)
1984	170.9	8.12	6.76	1.35	(0.5)
1985	156.9	5.72	6.76	-1.04	(1.3)
1986	165.5	7.33	6.76	0.56	(0.7)
1987	171.4	8.47	6.76	1.71	(0.7)
1988	172.9	9.07	6.76	2.30	(0.7)
1989	162.6	6.21	6.76	-0.55	(0.7)
1990	157.3	5.08	6.76	-1.68	(0.7)
1991	165.6	6.86	6.76	0.09	(0.3)
1992	161.8	4.93	6.76	-1.84	0.0
1993	156.4	4.15	6.76	-2.62	0.0
1996	162.8	5.62	6.76	-1.15	0.0
1997	165.3	6.32	6.76	-0.44	0.0
1998	159.4	5.25	6.76	-1.51	(0.3)
1999	177.9	8.74	6.76	1.97	0.3
2000	165.2	6.46	6.76	-0.31	(0.3)
2001	170.9	5.80	6.76	-0.97	1.3
2002	162.0	6.72	6.76	-0.05	(1.0)
2003		6.76	6.76	0.00	0.0
2004		6.76	6.76	0.00	0.0

5.00	0.50	8.00%	0.07
OPENING	GAIN	DRAINED	NEEDS

0.991422
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9961323
R Square	0.9922795
Adjusted R Square	0.9914217
Standard Error	0.6517161
Observations	21

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	982.6044033	491.3022	1156.729	9.74547E-20
Residual	18	7.645210571	0.424734		
Total	20	990.2496139			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	167.81118	0.167165906	1003.86	3.43E-44	167.4599779	168.1623835
DNSHORT	4.0315595	0.087828416	45.90268	4.18E-20	3.84703866	4.216080256
DUMMIES	5.4336433	0.269519687	20.16047	8.39E-14	4.867403023	5.999883603

MISSOURI AMERICAN WATER COMPANY (JEFFERSON CITY COMMERCIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 876.4 GMD

YYYY	GMD	SHORT	NSHORT	DNSHORT	DUMMIES	1999trend
1980	875.1	10.37	6.86	3.51	(3.0)	(5.00)
1981	842.9	5.08	6.86	-1.78	(2.0)	(5.00)
1982	836.4	4.57	6.86	-2.30	(2.0)	(5.00)
1983	938.6	8.08	6.86	1.22	0.0	(5.00)
1984	950.9	8.17	6.86	1.30	0.5	(5.00)
1985	911.8	5.86	6.86	-1.00	0.0	(5.00)
1986	902.9	7.38	6.86	0.52	(1.0)	(5.00)
1987	995.2	8.55	6.86	1.69	2.0	(5.00)
1988	940.9	9.14	6.86	2.28	0.0	(5.00)
1989	952.0	6.36	6.86	-0.50	1.0	(5.00)
1990	894.8	5.22	6.86	-1.64	(0.5)	(5.00)
1991	921.3	6.94	6.86	0.08	0.0	(5.00)
1992	873.0	4.99	6.86	-1.87	(1.0)	(5.00)
1993	874.8	4.25	6.86	-2.61	(0.5)	(5.00)
1994	915.0	6.18	6.86	-0.68	0.0	(5.00)
1995	912.7	5.98	6.86	-0.88	0.0	(5.00)
1996	907.8	5.67	6.86	-1.19	0.0	(5.00)
1997	919.7	6.41	6.86	-0.45	0.0	(5.00)
1998	893.0	5.44	6.86	-1.42	(0.2)	(4.00)
1999	925.5	8.81	6.86	1.94	0.0	(3.00)
2000	894.2	6.55	6.86	-0.32	0.0	(2.00)
2001	877.5	5.94	6.86	-0.93	0.0	(1.00)
2002	876.6	6.88	6.86	0.02	0.0	0.00
2003		#REF!	#REF!	#REF!	0.0	1.00
2004		#REF!	#REF!	#REF!	0.0	2.00

REGRESSION DATA: 1994 AND 1995 POINTS REMOVED

YYYY	GMD	SHORT	NSHORT	DNSHORT	DUMMIES	1999trend
1980	875.1	10.37	6.86	3.51	(3.0)	(5.00)
1981	842.9	5.08	6.86	-1.78	(2.0)	(5.00)
1982	836.4	4.57	6.86	-2.30	(2.0)	(5.00)
1983	938.6	8.08	6.86	1.22	0.0	(5.00)
1984	950.9	8.17	6.86	1.30	0.5	(5.00)
1985	911.8	5.86	6.86	-1.00	0.0	(5.00)
1986	902.9	7.38	6.86	0.52	(1.0)	(5.00)
1987	995.2	8.55	6.86	1.69	2.0	(5.00)
1988	940.9	9.14	6.86	2.28	0.0	(5.00)
1989	952.0	6.36	6.86	-0.50	1.0	(5.00)
1990	894.8	5.22	6.86	-1.64	(0.5)	(5.00)
1991	921.3	6.94	6.86	0.08	0.0	(5.00)
1992	873.0	4.99	6.86	-1.87	(1.0)	(5.00)
1993	874.8	4.25	6.86	-2.61	(0.5)	(5.00)
1996	907.8	5.67	6.86	-1.19	0.0	(5.00)
1997	919.7	6.41	6.86	-0.45	0.0	(5.00)
1998	893.0	5.44	6.86	-1.42	(0.2)	(4.00)
1999	925.5	8.81	6.86	1.94	0.0	(3.00)
2000	894.2	6.55	6.86	-0.32	0.0	(2.00)
2001	877.5	5.94	6.86	-0.93	0.0	(1.00)
2002	876.6	6.88	6.86	0.02	0.0	0.00
2003		6.86	6.86	0.00	0.0	1.00
2004		6.86	6.86	0.00	0.0	2.00

5.00	0.50	9.00%	0.07
OPENING	GAIN	DRAINED	NEEDS

0.9922
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.99670049
R Square	0.99341186
Adjusted R Sq	0.99224925
Standard Error	3.3612202
Observations	21

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	3	28960.72403	9653.575	854.4649	9.86E-19
Residual	17	192.0626206	11.2978		
Total	20	29152.78665			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	878.09052	2.288326298	383.7261	6.46E-35	873.2626	882.9184729	873.262566	882.918473
DNSHORT	10.8937504	0.458943216	23.7366	1.79E-14	9.925464	11.8620373	9.9254635	11.8620373
DUMMIES	29.0086212	0.718003372	40.40179	2.48E-18	27.49376	30.52347797	27.4937643	30.523478
1999trend	-8.8533336	0.510483483	-17.34304	3.03E-12	-9.930361	-7.7763061	-9.93036112	-7.7763061

MISSOURI AMERICAN WATER COMPANY (JOPLIN RESIDENTIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 197.95 GMD

YYYY	GMD	SHORT	NSHORT	DNSHORT	DUMMIES	TREND98
1984	193.8	5.74	4.75	0.98	0.0	(14.0)
1985	185.4	4.10	4.75	-0.65	0.0	(13.0)
1986	186.3	4.80	4.75	0.05	(0.5)	(12.0)
1987	187.9	4.90	4.75	0.15	(0.5)	(11.0)
1988	197.4	6.22	4.75	1.46	0.0	(10.0)
1989	187.6	4.20	4.75	-0.55	0.0	(9.0)
1990	189.7	3.44	4.75	-1.31	0.5	(8.0)
1991	205.4	6.32	4.75	1.57	0.5	(7.0)
1992	180.9	2.40	4.75	-2.35	0.0	(6.0)
1993	178.0	2.82	4.75	-1.94	(1.0)	(5.0)
1994	198.3	5.17	4.75	0.42	0.0	(4.0)
1995	198.4	3.66	4.75	-1.10	1.0	(3.0)
1996	200.8	5.37	4.75	0.62	0.0	(2.0)
1997	209.1	3.65	4.75	-1.11	2.5	(1.0)
1998	196.6	5.00	4.75	0.25	(0.5)	0.0
1999	199.1	4.12	4.75	-0.63	0.5	0.0
2000	207.0	5.72	4.75	0.97	0.3	0.0
2001	199.6	6.01	4.75	1.25	(1.0)	0.0
2002	192.2	6.09	4.75	1.34	(2.0)	0.0
2003		4.75	4.75	0.00	0.00	0.0
2004		4.75	4.75	0.00	0.00	0.0
					(0.2)	

5.00	0.40	3.00%	0.06
OPENING	GAIN	DRAINED	NEEDS

0.993
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9972723
R Square	0.994552
Adjusted R Sq	0.9934624
Standard Error	0.6991651
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	3	1338.567826	446.1893	912.7664	3.4E-17
Residual	15	7.332477727	0.488832		
Total	18	1345.900303			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	199.12984	0.245165369	812.2266	3.03E-36	198.6073	199.6524014	198.6072856	199.6524014
DNSHORT	5.3881106	0.147111689	36.62599	4.33E-16	5.074549	5.701671955	5.074549284	5.701671955
DUMMIES	6.8733616	0.191116324	35.96428	5.67E-16	6.466007	7.280716626	6.46600652	7.280716626
TREND98	0.8135765	0.033596282	24.21627	1.94E-13	0.741968	0.885185348	0.7419677	0.885185348

MISSOURI AMERICAN WATER COMPANY (JOPLIN COMMERCIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 866.19 GMD

YYYY	GMD	SHORT	NSHORT	DUMMIES	TREND98	TREND02
1984	874.3	5.74	4.75	(1.0)	(14.0)	(18.0)
1985	871.4	4.10	4.75	(1.0)	(13.0)	(17.0)
1986	860.0	4.80	4.75	(1.0)	(12.0)	(16.0)
1987	916.0	4.90	4.75	0.5	(11.0)	(15.0)
1988	875.2	6.22	4.75	(0.5)	(10.0)	(14.0)
1989	918.8	4.20	4.75	0.5	(9.0)	(13.0)
1990	885.5	3.44	4.75	(0.2)	(8.0)	(12.0)
1991	909.7	6.32	4.75	0.5	(7.0)	(11.0)
1992	845.7	2.40	4.75	(0.5)	(6.0)	(10.0)
1993	872.3	2.82	4.75	0.0	(5.0)	(9.0)
1994	855.2	5.17	4.75	0.0	(4.0)	(8.0)
1995	865.8	3.66	4.75	0.0	(3.0)	(7.0)
1996	859.2	5.37	4.75	0.0	(2.0)	(6.0)
1997	853.0	3.65	4.75	0.0	(1.0)	(5.0)
1998	843.3	5.00	4.75	0.0	0.0	(4.0)
1999	869.8	4.12	4.75	0.0	0.0	(3.0)
2000	882.9	5.72	4.75	0.0	0.0	(2.0)
2001	848.1	6.01	4.75	(1.0)	0.0	(1.0)
2002	911.5	6.09	4.75	0.0	0.0	0.0
2003		4.75	4.75	0.00	0.0	1.0
2004		4.75	4.75	0.00	0.0	2.0
				(3.7)		

5.00	0.40	3.00%	0.06	0.941163
OPENING	GAIN	DRAINED	NEEDS	R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.97517656
R Square	0.95096932
Adjusted R Sq	0.94116318
Standard Error	5.82456134
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	9869.980053	3289.993	96.97696	4.78284E-10
Residual	15	508.8827216	33.92551		
Total	18	10378.86277			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	912.8583	4.573253126	199.6081	4.2E-27	903.110636	922.6059646	903.110636	922.6059646
DUMMIES	45.7446263	3.071613658	14.8927	2.15E-10	39.19763269	52.29161981	39.19763269	52.29161981
TREND98	-21.632103	1.721855115	-12.5633	2.3E-09	-25.30215273	-17.9620536	-25.3021527	-17.9620536
TREND02	16.5434093	1.473434716	11.22779	1.07E-08	13.40285559	19.68396296	13.40285559	19.68396296

MISSOURI AMERICAN WATER COMPANY (MEXICO RESIDENTIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 146.53 GMD

YYYY	GMD	SHORT	NSHORT	DNSHORT	DUMMIES	TREND	Trend89
1984	164.9	2.87	2.69	0.17	(0.5)	(18.0)	(6.0)
1985	163.0	1.89	2.69	-0.80	(0.4)	(17.0)	(5.0)
1986	161.0	2.74	2.69	0.05	(0.7)	(16.0)	(4.0)
1987	165.1	3.00	2.69	0.31	(0.4)	(15.0)	(3.0)
1988	180.7	6.43	2.69	3.73	0.0	(14.0)	(2.0)
1989	168.9	2.26	2.69	-0.43	0.0	(13.0)	(1.0)
1990	162.9	1.82	2.69	-0.88	(0.3)	(12.0)	0.0
1991	170.0	2.74	2.69	0.05	0.0	(11.0)	0.0
1992	173.8	3.83	2.69	1.13	0.2	(10.0)	0.0
1993	158.6	0.25	2.69	-2.44	0.0	(9.0)	0.0
1994	170.4	4.00	2.69	1.30	0.1	(8.0)	0.0
1995	160.3	1.14	2.69	-1.55	0.0	(7.0)	0.0
1996	157.3	1.97	2.69	-0.73	(0.2)	(6.0)	0.0
1997	160.3	2.44	2.69	-0.26	0.0	(5.0)	0.0
1998	151.1	0.99	2.69	-1.71	(0.2)	(4.0)	0.0
1999	163.7	4.52	2.69	1.82	0.0	(3.0)	0.0
2000	153.4	1.75	2.69	-0.94	0.0	(2.0)	0.0
2001	152.4	1.58	2.69	-1.12	0.0	(1.0)	0.0
2002	140.6	3.74	2.69	1.05	(1.0)	0.0	0.0
2003		2.69	2.69	0.00	0.00	1.0	0.0
2004		2.69	2.69	0.00	0.00	2.0	0.0
					(3.4)		

5.00	0.90	2.00%	0.06
OPENING	GAIN	DRAINED	NEEDS

0.99532
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9981783
R Square	0.99636
Adjusted R Sq	0.99532
Standard Error	0.6188559
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	1467.65448	366.9136	958.0425	6.75152E-17
Residual	14	5.361756376	0.382983		
Total	18	1473.016236			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	154.08267	0.363196984	424.2399	3.61E-30	153.3036847	154.8616462	153.3036847	154.8616462
DNSHORT	2.7908439	0.102945659	27.10987	1.68E-13	2.570047251	3.011640602	2.570047251	3.011640602
DUMMIES	16.102806	0.600951876	26.7955	1.98E-13	14.81389132	17.39172078	14.81389132	17.39172078
TREND	-1.350749	0.045614695	-29.6122	4.99E-14	-1.448583179	-1.25291542	-1.44858318	-1.25291542
Trend89	1.0440716	0.149698372	6.974502	6.51E-06	0.723000258	1.365142982	0.723000258	1.365142982

MISSOURI AMERICAN WATER COMPANY (MEXICO COMMERCIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 580.26 GMD

YYYY	GMD	SHORT	NSHORT	DUMMIES	SHIFT97	TREND98
1984	440.9	2.87	2.69	(1.0)	(1.0)	(14.0)
1985	428.8	1.89	2.69	(1.5)	(1.0)	(13.0)
1986	453.6	2.74	2.69	(1.0)	(1.0)	(12.0)
1987	494.8	3.00	2.69	0.0	(1.0)	(11.0)
1988	514.9	6.43	2.69	0.0	(1.0)	(10.0)
1989	518.9	2.26	2.69	0.0	(1.0)	(9.0)
1990	524.7	1.82	2.69	0.0	(1.0)	(8.0)
1991	544.0	2.74	2.69	0.0	(1.0)	(7.0)
1992	488.7	3.83	2.69	(1.3)	(1.0)	(6.0)
1993	509.1	0.25	2.69	(1.3)	(1.0)	(5.0)
1994	556.4	4.00	2.69	0.0	(1.0)	(4.0)
1995	574.8	1.14	2.69	0.0	(1.0)	(3.0)
1996	582.9	1.97	2.69	0.0	(1.0)	(2.0)
1997	574.2	2.44	2.69	(0.3)	(1.0)	(1.0)
1998	607.1	0.99	2.69	0.0	0.0	0.0
1999	613.2	4.52	2.69	0.0	0.0	0.0
2000	615.5	1.75	2.69	0.0	0.0	0.0
2001	606.6	1.58	2.69	0.0	0.0	0.0
2002	562.5	3.74	2.69	(1.0)	0.0	0.0
2003		2.69	2.69	0.00	0.0	0.0
2004		2.69	2.69	0.00	0.0	0.0
				(7.4)		

5.00	0.90	2.00%	0.06
OPENING	GAIN	DRAINED	NEEDS

0.99195
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.996639
R Square	0.993289
Adjusted R Sq	0.991947
Standard Error	5.24427
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	61062.39327	20354.13	740.0866	1.62262E-16
Residual	15	412.5354503	27.50236		
Total	18	61474.92872			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	608.9411	2.392212664	254.5514	1.1E-28	603.8422081	614.0399756	603.8422081	614.0399756
DUMMIES	39.77269	2.356951219	16.87463	3.64E-11	34.74896125	44.79641264	34.74896125	44.79641264
SHIFT97	11.92062	3.791648248	3.143914	0.006689	3.838905568	20.00232937	3.838905568	20.00232937
TREND98	8.542844	0.369600215	23.11374	3.84E-13	7.75505938	9.33062877	7.75505938	9.33062877

MISSOURI AMERICAN WATER COMPANY (PARKVILLE RESIDENTIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 286.64 GMD

YYYY	GMD	SHORT	NSHORT	DNSHORT	DUMMIES
1984	299.2	8.71	7.65	1.06	0.5
1985	278.9	6.92	7.65	-0.73	0.0
1986	278.4	6.98	7.65	-0.67	0.0
1987	282.5	7.94	7.65	0.29	0.0
1988	318.1	11.53	7.65	3.88	0.0
1989	278.0	7.33	7.65	-0.32	0.0
1990	275.4	7.16	7.65	-0.49	0.0
1991	296.6	8.52	7.65	0.87	0.0
1992	263.8	5.48	7.65	-2.17	0.0
1993	246.0	4.03	7.65	-3.62	(0.5)
1994	279.9	8.71	7.65	1.06	(0.8)
1995	278.8	6.82	7.65	-0.83	0.0
1996	256.4	5.98	7.65	-1.67	(1.0)
1997	281.9	7.08	7.65	-0.57	0.0
1998	274.0	7.27	7.65	-0.38	(0.5)
1999	291.2	7.22	7.65	-0.43	0.7
2000	300.7	9.11	7.65	1.46	0.0
2001	279.3	6.80	7.65	-0.85	0.0
2002	303.0	10.21	7.65	2.56	0.0
2003		7.65	7.65	0.00	0.00
2004		7.65	7.65	0.00	0.00
					(1.6)

5.00	0.30	5.00%	0.07
OPENING	GAIN	DRAINED	NEEDS

0.97118
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.98710999
R Square	0.97438613
Adjusted R Sq	0.97118439
Standard Error	2.86670862
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	5001.991547	2500.996	304.3308	1.85269E-13
Residual	16	131.4882927	8.218018		
Total	18	5133.47984			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	284.109294	0.673038153	422.1296	8.29E-34	282.682517	285.5360707	282.682517	285.5360707
DNSHORT	8.52765352	0.416314204	20.4837	6.62E-13	7.645107036	9.410200013	7.645107036	9.410200013
DUMMIES	14.6001279	1.812702605	8.054343	5.08E-07	10.75737088	18.44288487	10.75737088	18.44288487

MISSOURI AMERICAN WATER COMPANY (PARKVILLE COMMERCIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 994.71 GMD

YYYY	GMD	SHORT	NSHORT	DNSHORT	DUMMIES	TREND02	TREND95	TREND93	TREND87
1984	672.5	8.71	7.65	1.06	0.0	(18.0)	(11.0)	(9.0)	(3.0)
1985	679.1	6.92	7.65	-0.73	0.0	(17.0)	(10.0)	(8.0)	(2.0)
1986	740.5	6.98	7.65	-0.67	0.0	(16.0)	(9.0)	(7.0)	(1.0)
1987	808.9	7.94	7.65	0.29	0.0	(15.0)	(8.0)	(6.0)	0.0
1988	824.0	11.53	7.65	3.88	0.0	(14.0)	(7.0)	(5.0)	0.0
1989	708.1	7.33	7.65	-0.32	(0.5)	(13.0)	(6.0)	(4.0)	0.0
1990	741.2	7.16	7.65	-0.49	0.0	(12.0)	(5.0)	(3.0)	0.0
1991	764.9	8.52	7.65	0.87	0.0	(11.0)	(4.0)	(2.0)	0.0
1992	668.8	5.48	7.65	-2.17	0.0	(10.0)	(3.0)	(1.0)	0.0
1993	640.1	4.03	7.65	-3.62	0.0	(9.0)	(2.0)	0.0	0.0
1994	750.4	8.71	7.65	1.06	0.0	(8.0)	(1.0)	0.0	0.0
1995	815.5	6.82	7.65	-0.83	0.0	(7.0)	0.0	0.0	0.0
1996	813.0	5.98	7.65	-1.67	0.0	(6.0)	0.0	0.0	0.0
1997	864.0	7.08	7.65	-0.57	0.0	(5.0)	0.0	0.0	0.0
1998	891.6	7.27	7.65	-0.38	0.0	(4.0)	0.0	0.0	0.0
1999	896.1	7.22	7.65	-0.43	0.0	(3.0)	0.0	0.0	0.0
2000	848.8	9.11	7.65	1.46	(1.0)	(2.0)	0.0	0.0	0.0
2001	893.6	6.80	7.65	-0.85	(0.5)	(1.0)	0.0	0.0	0.0
2002	995.3	10.21	7.65	2.56	0.0	0.0	0.0	0.0	0.0
2003		7.65	7.65	0.00	0.00	1.0	0.0	0.0	0.0
2004		7.65	7.65	0.00	0.00	2.0	0.0	0.0	0.0
					(2.0)				

5.00	0.30	5.00%	0.07
OPENING	GAIN	DRAINED	NEEDS

0.982
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.994128
R Square	0.98829
Adjusted R Sq	0.982434
Standard Error	12.61548
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	6	161176.826	26862.8	168.7889	7.08E-11
Residual	12	1909.80316	159.1503		
Total	18	163086.629			

	Coefficients	*tandard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	969.3723	9.96478737	97.27978	9.31E-19	947.6609	991.0837205	947.6609081	991.0837205
DNSHORT	12.81875	2.10574135	6.087525	5.44E-05	8.230737	17.40676949	8.230737092	17.40676949
DUMMIES	96.2395	12.6238219	7.623642	6.14E-06	68.73456	123.7444457	68.73455653	123.7444457
TREND02	21.15582	2.16144944	9.787791	4.51E-07	16.44642	25.8652099	16.44642253	25.8652099
TREND95	45.67361	7.28833486	6.266672	4.15E-05	29.79369	61.55352457	29.79369011	61.55352457
TREND93	-85.7206	7.69440928	-11.1406	1.1E-07	-102.485	-68.955899	-102.485254	-68.955899
TREND87	69.11814	6.66149246	10.37577	2.4E-07	54.60399	83.63228124	54.60399126	83.63228124

MISSOURI AMERICAN WATER COMPANY (ST CHARLES RESIDENTIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 271.94 GMD

YYYY	GMD	SHORT	NSHORT	DNSHORT	DUMMIES
1984	277.2	6.97	6.18	0.79	0.0
1985	257.3	5.46	6.18	-0.72	(0.7)
1986	280.8	6.84	6.18	0.66	0.0
1987	297.5	8.30	6.18	2.12	0.5
1988	313.7	8.77	6.18	2.59	1.5
1989	279.4	6.37	6.18	0.19	0.5
1990	255.0	6.38	6.18	0.20	(2.0)
1991	278.5	6.73	6.18	0.55	0.0
1992	273.8	6.34	6.18	0.16	0.0
1993	235.3	3.23	6.18	-2.95	(1.0)
1994	279.9	5.79	6.18	-0.39	1.0
1995	279.2	4.94	6.18	-1.24	1.0
1996	270.9	4.83	6.18	-1.35	1.0
1997	275.3	5.18	6.18	-1.00	1.0
1998	258.0	4.12	6.18	-2.06	0.0
1999	284.1	7.25	6.18	1.07	0.0
2000	260.5	5.97	6.18	-0.21	(1.0)
2001	266.5	5.78	6.18	-0.39	0.0
2002	276.9	6.76	6.18	0.58	0.0
2003		6.18	6.18	0.00	0.0
2004		6.18	6.18	0.00	0.0
					1.8

5.00	0.30	5.00%	0.06
OPENING	GAIN	DRAINED	NEEDS

0.9812
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.991613
R Square	0.983296
Adjusted R Sq	0.981208
Standard Error	2.296787
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	2	4968.51082	2484.255	470.9282	6.06E-15
Residual	16	84.4037004	5.275231		
Total	18	5052.91452			

	Coefficients	*Standard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	273.2654	0.53219637	513.4672	3.61E-35	272.1372	274.393597
DNSHORT	8.708886	0.41479604	20.99559	4.52E-13	7.829557	9.588213624
DUMMIES	11.25681	0.65081606	17.29646	8.87E-12	9.877145	12.63648093

MISSOURI AMERICAN WATER COMPANY (ST CHARLES COMMERCIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 1304.91 GMD

YYYY	GMD	SHORT	NSHORT	DNSHORT	DUMMIES	1995trend
1984	1,414.8	6.97	6.18	0.79	2.00	(5.00)
1985	1,326.5	5.46	6.18	-0.72	(0.50)	(5.00)
1986	1,317.7	6.84	6.18	0.66	(1.50)	(5.00)
1987	1,407.6	8.30	6.18	2.12	1.00	(5.00)
1988	1,412.4	8.77	6.18	2.59	1.00	(5.00)
1989	1,281.5	6.37	6.18	0.19	(2.50)	(5.00)
1990	1,334.3	6.38	6.18	0.20	(0.50)	(5.00)
1991	1,357.1	6.73	6.18	0.55	0.00	(5.00)
1992	1,356.4	6.34	6.18	0.16	0.00	(5.00)
1997	1,370.2	5.18	6.18	-1.00	1.50	(5.00)
1998	1,287.3	4.12	6.18	-2.06	(0.50)	(4.00)
1999	1,352.0	7.25	6.18	1.07	1.00	(3.00)
2000	1,276.9	5.97	6.18	-0.21	(1.00)	(2.00)
2001	1,310.9	5.78	6.18	-0.39	1.00	(1.00)
2002	1,246.1	6.76	6.18	0.58	(1.00)	0.00
2003		6.18	6.18	0.00	1.00	1.00
2004		6.18	6.18	0.00	-1.00	2.00
					0.00	

5.00	0.30	5.00%	0.06
OPENING	GAIN	DRAINED	NEEDS

0.9929
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9972074
R Square	0.9944226
Adjusted R Sq	0.9929015
Standard Error	4.3567018
Observations	15

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	37226.13317	12408.71	653.7489	1.13479E-12
Residual	11	208.7893567	18.98085		
Total	14	37434.92253			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1269.0699	2.98560857	425.0624	1.53E-24	1262.498586	1275.641153	1262.498586	1275.64115
DNSHORT	14.332495	1.046106052	13.7008	2.95E-08	12.03002973	16.63495985	12.03002973	16.6349598
DUMMIES	26.996002	0.970554107	27.81504	1.52E-11	24.85982571	29.13217825	24.85982571	29.1321782
1995trend	-15.84898	0.696511921	-22.75478	1.33E-10	-17.3819892	-14.3159628	-17.3819892	-14.315963

MISSOURI AMERICAN WATER COMPANY (ST JOSEPH RESIDENTIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 169.24 GMD

YYYY	GMD	SHORT	NSHORT	DNSHORT	DUMMIES	TREND02	TREND97
1984	186.0	4.02	3.70	0.32	0.0	(18.0)	(13.0)
1985	177.3	2.46	3.70	-1.24	0.0	(17.0)	(12.0)
1986	177.5	2.80	3.70	-0.90	(0.5)	(16.0)	(11.0)
1987	182.8	3.44	3.70	-0.26	(0.5)	(15.0)	(10.0)
1988	205.5	6.21	3.70	2.51	1.0	(14.0)	(9.0)
1989	194.1	4.44	3.70	0.74	0.0	(13.0)	(8.0)
1990	187.3	3.53	3.70	-0.17	0.0	(12.0)	(7.0)
1991	195.3	5.06	3.70	1.37	0.0	(11.0)	(6.0)
1992	181.7	2.14	3.70	-1.56	0.0	(10.0)	(5.0)
1993	176.2	0.71	3.70	-2.99	1.0	(9.0)	(4.0)
1994	186.5	4.05	3.70	0.35	(0.5)	(8.0)	(3.0)
1995	184.2	2.42	3.70	-1.28	0.0	(7.0)	(2.0)
1996	182.3	2.76	3.70	-0.94	0.0	(6.0)	(1.0)
1997	187.1	3.60	3.70	-0.10	0.0	(5.0)	0.0
1998	178.1	2.40	3.70	-1.30	0.0	(4.0)	0.0
1999	179.5	3.79	3.70	0.09	(0.5)	(3.0)	0.0
2000	195.1	5.24	3.70	1.54	1.5	(2.0)	0.0
2001	161.4	1.92	3.70	-1.78	(1.0)	(1.0)	0.0
2002	175.7	4.96	3.70	1.27	0.0	0.0	0.0
2003		3.70	3.70	0.00	0.00	1.0	0.0
2004		3.70	3.70	0.00	0.00	2.0	0.0
					0.5		

5.00	0.40	3.50%	0.05
OPENING	GAIN	DRAINED	NEEDS

0.966
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.986698
R Square	0.973574
Adjusted R Sq	0.966024
Standard Error	1.758999
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	4	1595.85901	398.9648	128.9446	7.03E-11
Residual	14	43.3170872	3.094078		
Total	18	1639.17609			

	Coefficients	*Standard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	170.5703	1.2399243	137.5651	2.53E-23	167.9109	173.2296672	167.9109162	173.2296672
DNSHORT	5.421054	0.33614414	16.12717	1.94E-10	4.700096	6.142011886	4.700095638	6.142011886
DUMMIES	5.110607	0.74713202	6.8403	8.06E-06	3.508167	6.713047426	3.508166949	6.713047426
TREND02	-3.777071	0.33972427	-11.11805	2.48E-08	-4.505708	-3.04843416	-4.50570766	-3.04843416
TREND97	4.090542	0.4166971	9.816584	1.17E-07	3.196815	4.984269063	3.196814699	4.984269063

MISSOURI AMERICAN WATER COMPANY (ST JOSEPH COMMERCIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 881.62 GMD

YYYY	GMD	SHORT	NSHORT	DNSHORT	DUMMIES	TREND02	TREND97
1984	778.7	4.02	3.70	0.32	0.0	(18.0)	
1985	743.0	2.46	3.70	-1.24	0.0	(17.0)	
1986	748.0	2.80	3.70	-0.90	0.0	(16.0)	
1987	756.3	3.44	3.70	-0.26	(0.4)	(15.0)	
1988	834.1	6.21	3.70	2.51	0.0	(14.0)	
1989	778.9	4.44	3.70	0.74	(0.5)	(13.0)	
1990	778.3	3.53	3.70	-0.17	(0.3)	(12.0)	
1991	852.5	5.06	3.70	1.37	0.5	(11.0)	
1992	790.0	2.14	3.70	-1.56	0.0	(10.0)	
1993	772.1	0.71	3.70	-2.99	0.0	(9.0)	
1994	819.4	4.05	3.70	0.35	0.0	(8.0)	
1995	807.3	2.42	3.70	-1.28	0.0	(7.0)	
1996	807.0	2.76	3.70	-0.94	0.0	(6.0)	
1997	840.5	3.60	3.70	-0.10	0.0	(5.0)	
1998	817.1	2.40	3.70	-1.30	0.0	(4.0)	
1999	865.2	3.79	3.70	0.09	0.3	(3.0)	
2000	885.6	5.24	3.70	1.54	0.0	(2.0)	
2001	870.5	1.92	3.70	-1.78	1.0	(1.0)	
2002	837.0	4.96	3.70	1.27	(1.0)	0.0	
2003		3.70	3.70	0.00	0.00	1.0	
2004		3.70	3.70	0.00	0.00	2.0	
					(0.4)		

5.00	0.40	3.50%	0.05
OPENING	GAIN	DRAINED	NEEDS

0.975997
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9899484
R Square	0.9799978
Adjusted R Sq	0.9759974
Standard Error	6.5967296
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	31981.31901	10660.44	244.9727	5.82096E-13
Residual	15	652.7526308	43.51684		
Total	18	32634.07164			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	864.92337	2.935437072	294.6489	1.22E-29	858.6666275	871.1801072	858.6666275	871.1801072
DNSHORT	17.644212	1.191081517	14.81361	2.32E-10	15.10548012	20.18294356	15.10548012	20.18294356
DUMMIES	47.93769	4.105131013	11.67751	6.27E-09	39.18780489	56.68757491	39.18780489	56.68757491
TREND02	5.5915473	0.278560254	20.07303	2.99E-12	4.99780978	6.185284765	4.99780978	6.185284765

MISSOURI AMERICAN WATER COMPANY (ST LOUIS MONTHLY RESIDENTIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL =	14668 GMD		Spitznagel	14510	Customers:	23
YYYY	GCD	SHORT	NSHORT		EXITS	
						6654.03

YYYY	GCD	SHORT	NSHORT	EXITS
1993	18,087.6	6.13	8.52	1.00
1994	17,512.7	8.59	8.52	1.00
1995	17,411.2	7.65	8.52	1.00
1996	17,728.3	7.45	8.52	1.00
1997	16,548.8	8.20	8.52	1.00
1998	18,299.3	6.90	8.52	1.00
1999	18,706.1	8.56	8.52	1.00
2000	17,591.6	7.85	8.52	1.00
2001	17,460.0	8.51	8.52	1.00
2002	11,051.0	9.21	8.52	0.00
2003		8.52	8.52	0.00
2004		11.56	8.52	0.00

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.96396253
R Square	0.92922375
Adjusted R Sq	0.92037672
Standard Error	615.949062
Observations	10

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	39848534.03	39848534	105.0323	7.06463E-06
Residual	8	3035145.979	379393.2		
Total	9	42883680			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	11051.0256	615.9490624	17.94146	9.55E-08	9630.643587	12471.40759
EXITS	6654.03253	649.2673199	10.24853	7.06E-06	5156.818438	8151.246623

MISSOURI AMERICAN WATER COMPANY (ST LOUIS MONTHLY COMMERCIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL =	17123	GMD		Spitznagel	15288.76	Customers:	400	Bills:	448

YYYY	Observed Mgal	GCD	SHORT	NSHORT	DNSHORT	Beforetestyr
					903.12	1056.853
1988			11.56	8.52	3.04	

YYYY	Observed Mgal	GCD	SHORT	NSHORT	DNSHORT	OLD_CUS	NEW_CUS	ALL_CUS	Days
1993	1,787,147	12263	6.13	8.52	-2.39	399	0	399	365.25
1994	2,396,576	14358	8.59	8.52	0.07	457	0	457	365.25
1995	2,436,038	14130	7.65	8.52	-0.86	472	0	472	365.25
1996	2,313,050	13797	7.45	8.52	-1.07	459	0	459	365.25
1997	2,445,342	15320	8.20	8.52	-0.32	437	0	437	365.25
1998	2,132,073	14342	6.90	8.52	-1.62	407	0	407	365.25
1999	2,349,194	15881	8.56	8.52	0.05	405	0	405	365.25
2000	2,059,046	14164	7.85	8.52	-0.67	398	0	398	365.25
2001	2,248,082	15387	8.51	8.52	-0.01	400	0	400	365.25
2002	2,442,859	14929	9.21	8.52	0.69	400	48	448	365.25
2003			8.52	8.52	0.00	400	48	448	365.25
2004			8.52	8.52	0.00	400	48	448	365.25

43.8

SUMMARY OUTPUT

Standard Err Gal/Cus/Day

Regression Statistics	
Multiple R	0.94646676
R Square	0.89579934
Adjusted R Square	0.86602772
Standard Error	372.584748
Observations	10

372.5847481

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	2	8353884	4176942	30.08904	0.000365
Residual	7	971735.8	138819.4		
Total	9	9325620			

		Coefficients	*tandard Err*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept		14693.9908	163.1985	90.03755	5.49E-12	14308.09	15079.89	14308.09	15079.89
dsnshort		903.12366	136.1551	6.633052	0.000295	581.1683	1225.079	581.1683	1225.079
	979899	1056.85332	257.1305	4.110182	0.004515	448.8366	1664.87	448.8366	1664.87

		Constant	dsnshort	979899
		14693.99	903.1236599	1056.853319

trend	979899	Constant	dsnshort	979899
(9)	0	1	(2.39)	0
(8)	0	1	0.07	0
(7)	0	1	(0.86)	0
(6)	0	1	(1.07)	0
(5)	1	1	(0.32)	1
(4)	1	1	(1.62)	1
(3)	1	1	0.05	1
(2)	0	1	(0.67)	0
(1)	0	1	(0.01)	0
0	0	1	0.69	0
1	0	1	0.00	0
2	0	1	0.00	0

MISSOURI AMERICAN WATER COMPANY (ST LOUIS QUARTERLY RESIDENTIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 284.0628664 GMD GCD(Oldcus) | Spitznagel 277.62 | Customers: 310,435 | DNSHORT 11.67

YYYY	GCD(Oldcus)	SHORT	NSHORT	DNSHORT
1993	262.8	6.13	8.52	-2.39
1994	293.8	8.59	8.52	0.07
1995	282.0	7.65	8.52	-0.86
1996	284.5	7.45	8.52	-1.07
1997	287.2	8.20	8.52	-0.32
1998	270.9	6.90	8.52	-1.62
1999	294.6	8.56	8.52	0.05
2000	281.8	7.85	8.52	-0.67
2001	288.9	8.51	8.52	-0.01
2002	298.3	9.21	8.52	0.69
2003		8.52	8.52	0.00
2004		11.56	8.52	3.04

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.974277
R Square	0.949215
Adjusted R Sq	0.942867
Standard Error	2.612128
Observations	10

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1020.253971	1020.254	149.5269	1.85703E-06
Residual	8	54.58571805	6.823215		
Total	9	1074.839689			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	291.6367	1.01240362	288.0637	2.36E-17	289.3020922	293.9713091
DNSHORT	11.67145	0.954476106	12.22812	1.86E-06	9.47041933	13.87247387

MISSOURI AMERICAN WATER COMPANY (ST LOUIS QUARTERLY COMMERCIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL =	1012 GMD		Spitznagel	1107.54	Customers:	19,024	Bills:	17374.75
YYYY	Observed Mgal	SHORT	NSHORT		DNSHORT	Beforetestyr		
					280.17	34.59155567		

1988		11.56	8.52		3.04		

YYYY	Observed Mgal	SHORT	NSHORT	DNSHORT	OLD_CUS	NEW_CUS	ALL_CUS
1993	5,153,617	6.13	8.52	-2.39	14,467	0	14,467
1994	5,339,279	8.59	8.52	0.07	14,559	0	14,559
1995	5,243,830	7.65	8.52	-0.86	14,903	0	14,903
1996	5,346,264	7.45	8.52	-1.07	14,973	0	14,973
1997	5,543,026	8.20	8.52	-0.32	15,029	0	15,029
1998	5,663,193	6.90	8.52	-1.62	15,152	0	15,152
1999	6,131,810	8.56	8.52	0.05	15,258	0	15,258
2000	6,049,274	7.85	8.52	-0.67	15,256	0	15,256
2001	6,246,176	8.51	8.52	-0.01	15,139	1,606	16,745
2002	6,876,553	9.21	8.52	0.69	15,256	3,768	19,024
2003		8.52	8.52	0.00	15,373	3,768	19,141
2004		8.52	8.52	0.00	15,490	3,768	19,258

90.15941815

intercep/(2002 cusdays)	685.3713
gal/cus/day	280.1665
Residual/cus/day	0.093605
Total	965.6314

	Constant	allcusdays	dsnallcusd	trendallcusdays	9497allcusdays
	4762418	280.1665	34.59156	13.97540714	-58.8866366

YYYY	Days	Newdays	oldcus*days	newcus*newda	allcusdays	trend	9497	Constant	allcusdays	dsnallcusd	trendallcusdays	9497allcusdays
1993	365.25	0	5,284,072	0	5,284,072	(9)	0	1	5,284	(12,617)	(47,557)	0
1994	365.25	0	5,317,675	0	5,317,675	(8)	1	1	5,318	386	(42,541)	5,318
1995	365.25	0	5,443,321	0	5,443,321	(7)	1	1	5,443	(4,708)	(38,103)	5,443
1996	365.25	0	5,468,888	0	5,468,888	(6)	1	1	5,469	(5,860)	(32,813)	5,469
1997	365.25	0	5,489,342	0	5,489,342	(5)	1	1	5,489	(1,769)	(27,447)	5,489
1998	365.25	0	5,534,268	0	5,534,268	(4)	0	1	5,534	(8,939)	(22,137)	0
1999	365.25	0	5,572,985	0	5,572,985	(3)	0	1	5,573	251	(16,719)	0
2000	365.25	0	5,572,254	0	5,572,254	(2)	0	1	5,572	(3,744)	(11,145)	0
2001	365.25	90	5,529,550	144,533	5,674,083	(1)	0	1	5,674	(58)	(5,674)	0
2002	365.25	365.25	5,572,254	1,376,414	6,948,668	0	0	1	6,949	4,819	0	0
2003	365.25	365.25	5,614,958	1,376,414	6,991,372	1	0	1	6,991	0	6,991	0
2004	365.25	365.25	5,657,662	1,376,414	7,034,076	2	0	1	7,034	0	14,068	0

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.999019
R Square	0.998038
Adjusted R Squ	0.996469
Standard Error	32808.35
Observations	10

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	2.73836E+12	6.8459E+11	636.0065	5.95591E-07
Residual	5	5381939065	1076387813		
Total	9	2.74374E+12			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Upper 95.0%*
Intercept	4762418	216502.8712	21.99701992	3.61E-06	4205880.532	5318955.41	4205881	5318955
allcusdays	280.1665	35.40018144	7.914267592	0.000518	189.167594	371.1654234	189.1676	371.1654
dsnallcusdays	34.59156	3.691441924	9.370743569	0.000233	25.10241762	44.08069372	25.10242	44.08069
trendallcusdays	13.97541	1.395312008	10.01597281	0.00017	10.3886493	17.56216499	10.38865	17.56216
9497allcusdays	-58.88664	6.086436664	-9.675059449	0.0002	-74.53229452	-43.24097859	-74.53229	-43.24098

MISSOURI AMERICAN WATER COMPANY (ST LOUIS MONTHLY OPA) WR-2003-0500 AND WC-2004-0168 1996

MAWC NORMAL = 16036.71 GMD

YYYY	GMD	SHORT	NSHORT	DNSHORT	Trend	Dummy
1984		4.47	3.61	0.86	(18.0)	0.0
1985		2.87	3.61	-0.74	(17.0)	0.0
1986		3.93	3.61	0.32	(16.0)	0.0
1987		4.74	3.61	1.13	(15.0)	0.0
1988		6.44	3.61	2.83	(14.0)	0.0
1989		3.42	3.61	-0.19	(13.0)	0.0
1990		3.22	3.61	-0.40	(12.0)	0.0
1991	6,366.9	4.95	3.61	1.34	(11.0)	(1.0)
1992	18,120.6	3.54	3.61	-0.07	(10.0)	0.0
1993	13,656.2	1.10	3.61	-2.51	(9.0)	0.0
1994	18,323.2	3.88	3.61	0.27	(8.0)	0.0
1995	15,040.8	2.92	3.61	-0.69	(7.0)	0.0
1996	15,181.9	2.82	3.61	-0.79	(6.0)	0.0
1997	17,294.9	3.90	3.61	0.29	(5.0)	0.0
1998	13,357.7	1.73	3.61	-1.88	(4.0)	0.0
1999	19,023.2	4.10	3.61	0.49	(3.0)	0.0
2000	14,043.9	2.66	3.61	-0.95	(2.0)	0.0
2001	15,652.1	3.29	3.61	-0.32	(1.0)	0.0
2002	15,344.4	3.71	3.61	0.10	0.0	0.0
2003		3.61	3.61	0.00	1.0	0.0
2004		3.61	3.61	0.00	2.0	0.0
					(171.0)	

5.00	0.40	3.50%	0.05
OPENING	GAIN	DRAINED	NEEDS

0.6248775
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.8325152
R Square	0.6930816
Adjusted R Square	0.6248775
Standard Error	2044.6941
Observations	12

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	84969038.57	42484519	10.16188	0.0049159
Residual	9	37626967.2	4180774		
Total	11	122596005.8			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	15340.135	1153.363046	13.30035	3.19E-07	12731.0443	17949.22523	12731.0443	17949.22523
X Variable 1	-114.49763	194.9539371	-0.587306	0.571436	-555.5144137	326.5191488	-555.514414	326.5191488
X Variable 2	10232.683	2434.973893	4.202379	0.002299	4724.384987	15740.98065	4724.384987	15740.98065

MISSOURI AMERICAN WATER COMPANY (ST LOUIS QUARTERLY OPA) WR-2003-0500 AND WC-2004-0168 1996

MAWC NORMAL = 1576.84 GMD

YYYY	GMD	SHORT	NSHORT	DNSHORT	LN(Yr-1995	Dummy
1984		4.47	3.61	0.86	0.0	0.0
1985		2.87	3.61	-0.74	0.0	0.0
1986		3.93	3.61	0.32	0.0	0.0
1987		4.74	3.61	1.13	0.0	0.0
1988		6.44	3.61	2.83	0.0	0.0
1989		3.42	3.61	-0.19	0.0	0.0
1990		3.22	3.61	-0.40	0.0	0.0
1991	1,177.5	4.95	3.61	1.34	0.0	0.0
1992	1,057.2	3.54	3.61	-0.07	0.0	0.0
1993	805.9	1.10	3.61	-2.51	0.0	0.0
1994	1,090.1	3.88	3.61	0.27	0.0	0.0
1995	911.0	2.92	3.61	-0.69	0.0	0.0
1996	950.2	2.82	3.61	-0.79	0.0	0.0
1997	1,045.3	3.90	3.61	0.29	0.0	0.0
1998	1,246.4	1.73	3.61	-1.88	0.7	0.0
1999	1,389.4	4.10	3.61	0.49	1.1	0.0
2000	1,466.5	2.66	3.61	-0.95	1.4	0.0
2001	1,379.7	3.29	3.61	-0.32	1.6	1.0
2002	1,509.1	3.71	3.61	0.10	1.8	0.0
2003		3.61	3.61	0.00	1.9	0.0
2004		3.61	3.61	0.00	2.1	0.0
					6.6	

5.00	0.40	3.50%	0.05
OPENING	GAIN	DRAINED	NEEDS

0.959730803
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9878454
R Square	0.9758385
Adjusted R Sq	0.9597308
Standard Error	34.07941
Observations	6

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	140721.0613	70360.53	60.58219	0.003755661
Residual	3	3484.218485	1161.406		
Total	5	144205.2798			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1061.2746	29.02888602	36.55926	4.5E-05	968.8916195	1153.657535	968.8916195	1153.657535
X Variable 1	271.70334	24.8562387	10.93099	0.001639	192.5996225	350.807061	192.5996225	350.807061
X Variable 2	-118.8704	40.34511656	-2.946339	0.060202	-247.2666843	9.525890883	-247.266684	9.525890883

MISSOURI AMERICAN WATER COMPANY (WARRENSBURG RESIDENTIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 181.87 GMD

YYYY	GMD	SHORT	NSHORT	TREND
1984	196.9	10.67	11.04	(18.0)
1985	182.2	10.76	11.04	(17.0)
1986	174.9	11.86	11.04	(16.0)
1987	185.5	12.15	11.04	(15.0)
1988	202.8	11.46	11.04	(14.0)
1989	180.9	10.74	11.04	(13.0)
1990	195.9	11.44	11.04	(12.0)
1991	181.1	11.26	11.04	(11.0)
1992	197.3	10.24	11.04	(10.0)
1993	172.4	11.22	11.04	(9.0)
1994	191.8	10.78	11.04	(8.0)
1995	199.8	11.32	11.04	(7.0)
1996	170.2	11.17	11.04	(6.0)
1997	185.2	10.88	11.04	(5.0)
1998	178.5	11.92	11.04	(4.0)
1999	186.7	11.20	11.04	(3.0)
2000	182.9	11.48	11.04	(2.0)
2001	169.5	7.50	11.04	(1.0)
2002	181.9	13.59	11.04	0.0
2003		11.04	11.04	1.0
2004		11.04	11.04	2.0

5.00	0.90	2.00%	0.06
OPENING	GAIN	DRAINED	NEEDS

0.04733
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.3166391
R Square	0.1002603
Adjusted R Sq	0.0473344
Standard Error	9.7969412
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	181.8201848	181.8202	1.894354	0.18657162
Residual	17	1631.660959	95.98006		
Total	18	1813.481144			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	179.99632	4.323291928	41.63409	1.49E-18	170.8749542	189.117677
TREND	-0.5647856	0.41034871	-1.376355	0.186572	-1.43054692	0.300975704

MISSOURI AMERICAN WATER COMPANY (WARRENSBURG COMMERCIAL) WR-2003-0500 AND WC-2004-0168

MAWC NORMAL = 804.14 GMD

YYYY	GMD	SHORT	NSHORT	DUMMIES	SHIFT2K	SHIFT95
1984	875.1	10.67	11.04	0.0	1.0	1.0
1985	845.8	10.76	11.04	(0.2)	1.0	1.0
1986	797.1	11.86	11.04	(0.6)	1.0	1.0
1987	808.2	12.15	11.04	(0.5)	1.0	1.0
1988	889.8	11.46	11.04	0.0	1.0	1.0
1989	891.7	10.74	11.04	0.0	1.0	1.0
1990	878.8	11.44	11.04	0.0	1.0	1.0
1991	871.8	11.26	11.04	0.0	1.0	1.0
1992	931.6	10.24	11.04	0.4	1.0	1.0
1993	944.2	11.22	11.04	0.5	1.0	1.0
1994	930.8	10.78	11.04	0.4	1.0	1.0
1995	1,003.8	11.32	11.04	1.0	1.0	1.0
1996	836.3	11.17	11.04	0.0	1.0	0.0
1997	856.0	10.88	11.04	0.1	1.0	0.0
1998	846.4	11.92	11.04	0.1	1.0	0.0
1999	856.0	11.20	11.04	0.1	1.0	0.0
2000	853.3	11.48	11.04	0.1	1.0	0.0
2001	822.6	7.50	11.04	0.0	0.0	0.0
2002	824.4	13.59	11.04	0.0	0.0	0.0
2003		11.04	11.04	0.0	0.0	0.0
2004		11.04	11.04	0.0	0.0	0.0

5.00	0.90	2.00%	0.06
OPENING	GAIN	DRAINED	NEEDS

0.9866601
R-BarSQ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9944262
R Square	0.9888834
Adjusted R Square	0.9866601
Standard Error	5.9778969
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	47682.81561	15894.27	444.7785	7.13552E-15
Residual	15	536.028767	35.73525		
Total	18	48218.84438			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	823.47328	4.227011423	194.8122	6.05E-27	814.4636085	832.4829427	814.4636085	832.4829427
DUMMIES	131.30483	4.081957873	32.16712	2.97E-15	122.6043366	140.0053218	122.6043366	140.0053218
SHIFT2K	15.623852	5.012116821	3.117216	0.007064	4.940771779	26.30693315	4.940771779	26.30693315
SHIFT95	39.013625	3.182007693	12.26069	3.22E-09	32.23133237	45.79591841	32.23133237	45.79591841