

*Exhibit No.:*  
*Issue:* *Bad Debt Factor-up*  
*Witness:* *Paula Mapeka*  
*Sponsoring Party:* *MoPSC Staff*  
*Type of Exhibit:* *Rebuttal Testimony*  
*Case No.:* *WR-2010-0131*  
*Date Testimony Prepared:* *April 15, 2010*

**MISSOURI PUBLIC SERVICE COMMISSION**

**UTILITY SERVICES DIVISION**

**REBUTTAL TESTIMONY**

**OF**

**PAULA MAPEKA**

**MISSOURI-AMERICAN WATER COMPANY**

**CASE NO. WR-2010-0131**

*Jefferson City, Missouri*  
*April 2010*

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**REBUTTAL TESTIMONY**  
**OF**  
**PAULA MAPEKA**  
**MISSOURI-AMERICAN WATER COMPANY**  
**CASE NO. WR-2010-0131**

**BAD DEBT FACTOR UP ..... 1**

1 **REBUTTAL TESTIMONY**

2 **OF**

3 **PAULA MAPEKA**

4 **MISSOURI-AMERICAN WATER COMPANY**

5 **CASE NO. WR-2010-0131**

6 Q. Please state your name and business address.

7 A. Paula Mapeka, Governor Office Building, P.O. Box 360,  
8 Jefferson City, Missouri 65102.

9 Q. By whom are you employed and in what capacity?

10 A. I am a Utility Regulatory Auditor with the Missouri Public Service  
11 Commission Staff (Staff).

12 Q. Are you the same Paula Mapeka who has contributed to the  
13 Staff's Cost of Service Report in this proceeding?

14 A. Yes, I am.

15 Q. What is the purpose of your rebuttal testimony?

16 A. The purpose of my testimony is to address Missouri-American Water  
17 Company (MAWC or Company) witness Donald J. Petry's direct testimony regarding  
18 Bad Debt Expense, specifically the application of a bad debt "factor up" or "gross-up" to any  
19 revenue requirement increase.

20 **BAD DEBT FACTOR UP**

21 Q. Does the Staff agree that it is reasonable to assume that there will be bad debts  
22 associated with the revenue requirement increase granted in this rate case?

1           A.     In principle, the Staff agrees that bad debts may increase to some extent as a  
2 result of an increase in MAWC's revenue requirement. However, the Staff does not subscribe  
3 to the position that any increase in the Company's revenue requirement should cause bad debt  
4 expense to increase proportionally, or on a dollar-for-dollar basis. The Staff has not seen any  
5 evidence of a direct correlation between revenues and bad debts. In fact, during the Staff's  
6 review of MAWC's bad debts and revenues, the Staff found that there were several times in  
7 which revenues increased and bad debts actually declined. While in other instances, the Staff  
8 found that bad debts increased at the same time revenues decreased.

9           Q.     What is a bad debt "factor-up" or "gross-up", and what is the rationale behind  
10 its use?

11          A.     A bad debt "factor-up" or "gross-up" is a ratio of a company's bad debt  
12 compared to its revenue, which is then applied to any revenue requirement increase granted  
13 by the Missouri Public Service Commission (Commission). The application of the bad debt  
14 factor-up gives the Company additional bad debt expense beyond the normalized level of bad  
15 debt expense used in determining the Company's revenue requirement. The common  
16 justification given for the use of a bad debt factor-up is the belief that there is a direct  
17 correlation between bad debt expense and revenue, thus making it necessary to match the  
18 level of bad debt expense established in a rate case with the amount of revenue requirement  
19 increase that will be determined by the Commission during a rate case.

20          MAWC's use of a bad debt factor-up is based on the assumption that any amount of  
21 increased revenues resulting from this rate case will cause bad debt expense to increase  
22 proportionally. In other words, if some ratepayers are not able to pay their current utility bills  
23 when due, chances are that some of these same customers will not be able to pay their bills

1 when they go up as a result of a rate increase. However, while the Staff believes that this  
2 view may seem reasonable on a theoretical basis, the Staff has found from a practical point of  
3 view that this theory does not always hold true in reality. The use of a bad debt factor-up  
4 means it is a virtual certainty that with each rate increase bad debts will increase. This is not a  
5 realistic view and the Staff has not found evidence as to this occurring. In order for the  
6 MAWC proposal of using a bad debt factor-up to be justified, the Company would need to  
7 submit a substantial amount of analysis to demonstrate a direct correlation between revenue  
8 levels and bad debt levels.

9 Q. How is “correlation” defined by the Webster Dictionary?

10 A. The Webster Dictionary defines correlation as follows:

- 11 “1. A casual, complementary, parallel, or reciprocal relationship esp.  
12 structural, functional or qualitative correspondence between comparable  
13 entities.  
14 2. Statistics a. Simultaneous increase or decrease in value of two  
15 numerically valued random variables.  
16 b. Simultaneous increase in the value of one and decrease in the value of  
17 the other of two numerically valued random variables.”  
18

19 While the Staff believes there may be some relationship between a rate increase and  
20 increased bad debt expense, the Staff has generally found that rate increases do not always  
21 cause a parallel increase in bad debt expense. The Company did not provide an analysis, nor  
22 has the Staff found any indications that an increase in the revenue requirement will result in a  
23 proportional increase in bad debt expense.

24 Q. Has the Staff performed any analysis that would support the position that no  
25 direct relationship exists between increasing bad debts at a proportion relating to an additional  
26 revenue requirement for MAWC?

1           A.     Yes. Attached to this rebuttal testimony, as Schedule MAP-1 is a 36-month  
2 analysis, from July 2006 through June 30, 2009, of the Company's historical bad debts and  
3 historical retail revenue levels for MAWC by total company, and by individual operating  
4 districts. The Staff reviewed the changes or variations that occurred between water or sewer  
5 retail revenues and actual historical bad debt write-offs. The information does not support the  
6 position that there is always a proportional or corresponding direct relationship between  
7 revenues and bad debt expense; whereby any revenue increase will always result in an  
8 automatic increase in bad debt expense in the same magnitude and proportion.  
9 Even in situations where revenues and bad debts tended to go in the same direction, the Staff  
10 observed that they either increased or decreased by different, but not complimentary amounts.  
11 This situation does not support the argument that bad debt write-offs and revenues have a  
12 proportional or parallel relationship.

13           Q.     How did the Staff review MAWC's 36-month relationship of bad debt expense  
14 to sales revenue?

15           A.     The Staff utilized both numerical and graphical presentations in its review.  
16 The Staff does not believe either presentation has produced any substantive evidence to  
17 support the direct relationship that must exist between the two items to justify inclusion of a  
18 full bad debt gross-up in this case.

19           Q.     What does Schedule MAP-1 show?

20           A.     The Staff believes the information shown in Schedule MAP-1 clearly  
21 demonstrates that there is no direct relationship between bad debts and increased revenues  
22 that would justify a total bad debt factor-up calculation.

1 Q. Does the bad debt factor-up proposed by MAWC work in the same way as an  
2 income tax factor-up?

3 A. Yes. The income tax factor-up assumes that for every increase in utility  
4 earnings from a rate case there will be a direct and absolute proportional increase in income  
5 taxes. This is a well-known and established relationship, and in this case both the Company  
6 and the Staff have applied an income tax factor-up to the additional revenue requirement  
7 calculation to determine the proper level of rate increase to recommend in this case. If the  
8 Commission authorizes a rate increase in this proceeding, then a corresponding income tax  
9 amount will have to be added to the additional revenue requirement amount, or the Company  
10 may not be able to recover the authorized amount of increase in its revenue requirement.  
11 However, it is clear from the analysis conducted by the Staff that no such direct relationship  
12 exists between increased rates and increased bad debt expense.

13 Q. Did MAWC include the bad debt factor-up in its rate filing?

14 A. Yes.

15 Q. Did the Staff include an adjustment for the bad debt expense increase the  
16 Company proposed to be associated with the revenue requirement allowed by the  
17 Commission in this case?

18 A. No. The Staff has not included any additional amount in rates for bad debts  
19 supposedly associated with an increase in the revenue requirement.  
20 The Staff's current position includes a normalized level of bad debt expense based on its  
21 historical analysis of actual MAWC data, which showed that no direct correlation exists  
22 between revenue increases and increases in bad debt expense. The analysis does not support

Rebuttal Testimony of  
Paula Mapeka

1 the Company's position that an increase in revenue will result in a proportionate increase in  
2 bad debt expense.

3 Q. Does this conclude your rebuttal testimony?

4 A. Yes, it does.



BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water )  
Company's Request for Authority to Implement )  
a General Rate Increase for Water and Sewer )  
Services Provided in Missouri Service Areas )

Case No. WR-2010-0131

AFFIDAVIT OF PAULA MAPEKA

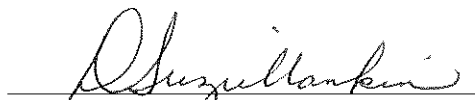
STATE OF MISSOURI     )  
  )  
COUNTY OF COLE     )     ss.

Paula Mapeka, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of 6 pages to be presented in the above case; that the answers in the foregoing Rebuttal Testimony were given by her; that she has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of her knowledge and belief.

  
\_\_\_\_\_  
Paula Mapeka

Subscribed and sworn to before me this 15<sup>th</sup> day of April, 2010.

D. SUZIE MANKIN  
Notary Public - Notary Seal  
State of Missouri  
Commissioned for Cole County  
My Commission Expires: December 08, 2012  
Commission Number: 08412071

  
\_\_\_\_\_  
Notary Public

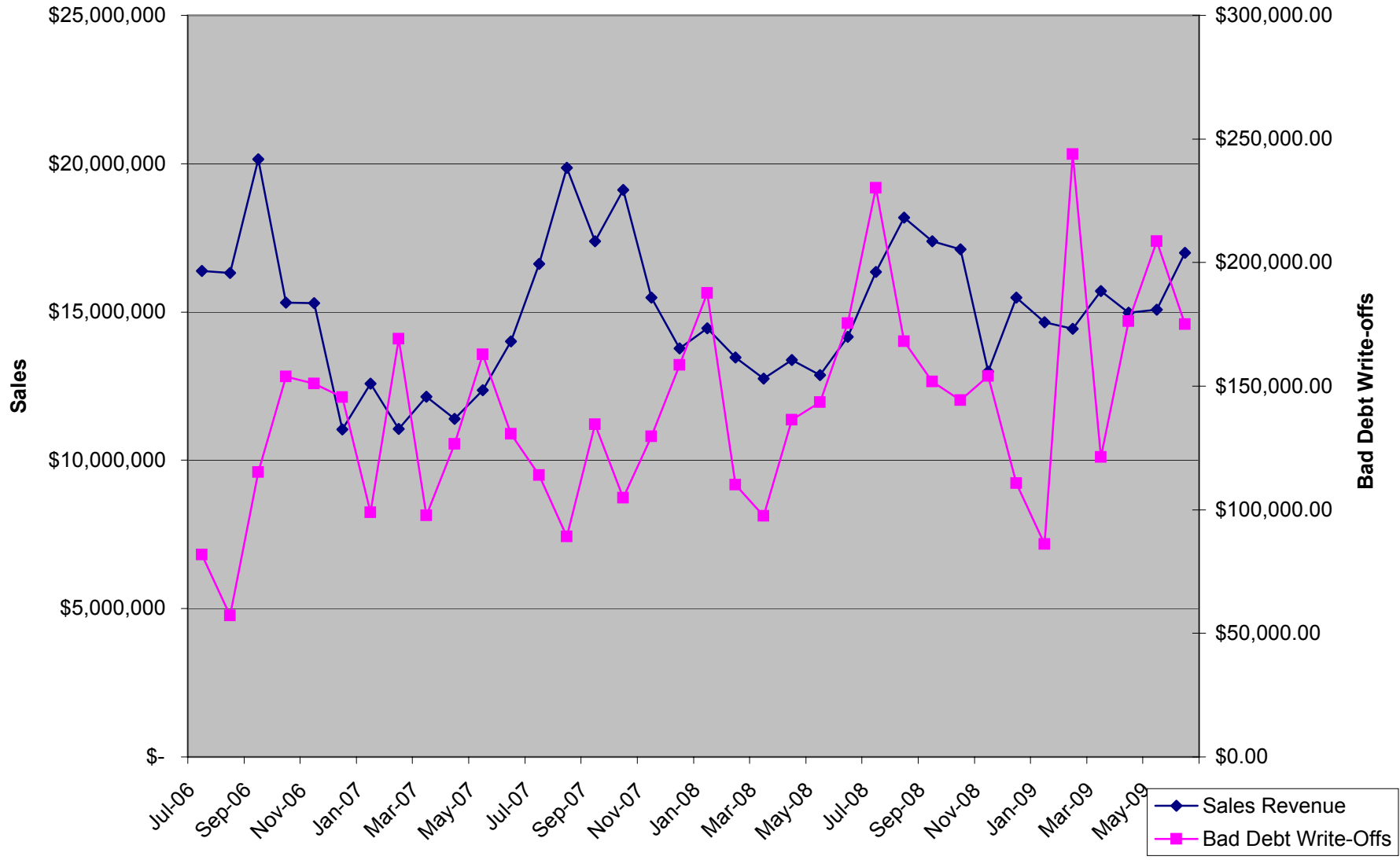
MISSOURI AMERICAN WATER COMPANY  
Case No. WR-2010-0131  
Issue: MO. Net Bad Debt Write-Offs vs. Billed Sales Revenue  
Prepared by: MAPEKA, MPSC

**MAWC - Total Company**

	Monthly Sales Revenue	Monthly Bad Debt Write-Offs	Change in Sales Sales	Change in Bad Debts Write-offs
Jul-06	\$ 16,378,814	\$81,885.14		
Aug-06	\$ 16,309,926	\$57,220.42	-0.42%	-30.12%
Sep-06	\$ 20,144,663	\$115,245.04	23.51%	101.41%
Oct-06	\$ 15,307,031	\$153,799.65	-24.01%	33.45%
Nov-06	\$ 15,305,130	\$151,043.35	-0.01%	-1.79%
Dec-06	\$ 11,040,365	\$145,507.14	-27.86%	-3.67%
Jan-07	\$ 12,578,079	\$98,849.95	13.93%	-32.07%
Feb-07	\$ 11,053,133	\$169,191.42	-12.12%	71.16%
Mar-07	\$ 12,139,210	\$97,719.61	9.83%	-42.24%
Apr-07	\$ 11,397,213	\$126,640.14	-6.11%	29.60%
May-07	\$ 12,370,355	\$162,816.60	8.54%	28.57%
Jun-07	\$ 14,016,001	\$130,687.19	13.30%	-19.73%
Jul-07	\$ 16,618,381	\$114,015.25	18.57%	-12.76%
Aug-07	\$ 19,868,987	\$89,118.60	19.56%	-21.84%
Sep-07	\$ 17,391,499	\$134,522.81	-12.47%	50.95%
Oct-07	\$ 19,114,185	\$104,739.87	9.91%	-22.14%
Nov-07	\$ 15,478,795	\$129,654.90	-19.02%	23.79%
Dec-07	\$ 13,773,572	\$158,518.47	-11.02%	22.26%
Jan-08	\$ 14,444,175	\$187,659.81	4.87%	18.38%
Feb-08	\$ 13,472,604	\$110,081.69	-6.73%	-41.34%
Mar-08	\$ 12,750,492	\$97,508.41	-5.36%	-11.42%
Apr-08	\$ 13,379,758	\$136,400.61	4.94%	39.89%
May-08	\$ 12,878,642	\$143,494.67	-3.75%	5.20%
Jun-08	\$ 14,164,215	\$175,540.84	9.98%	22.33%
Jul-08	\$ 16,344,339	\$230,095.29	15.39%	31.08%
Aug-08	\$ 18,178,110	\$168,078.64	11.22%	-26.95%
Sep-08	\$ 17,387,739	\$151,890.42	-4.35%	-9.63%
Oct-08	\$ 17,107,649	\$144,224.31	-1.61%	-5.05%
Nov-08	\$ 12,994,233	\$154,032.32	-24.04%	6.80%
Dec-08	\$ 15,487,346	\$110,755.13	19.19%	-28.10%
Jan-09	\$ 14,647,506	\$86,054.41	-5.42%	-22.30%
Feb-09	\$ 14,428,559	\$243,880.44	-1.49%	183.40%
Mar-09	\$ 15,707,007	\$121,326.48	8.86%	-50.25%
Apr-09	\$ 14,981,808	\$176,220.68	-4.62%	45.25%
May-09	\$ 15,082,785	\$208,682.84	0.67%	18.42%
Jun-09	\$ 16,993,187	\$175,100.55	12.67%	-16.09%

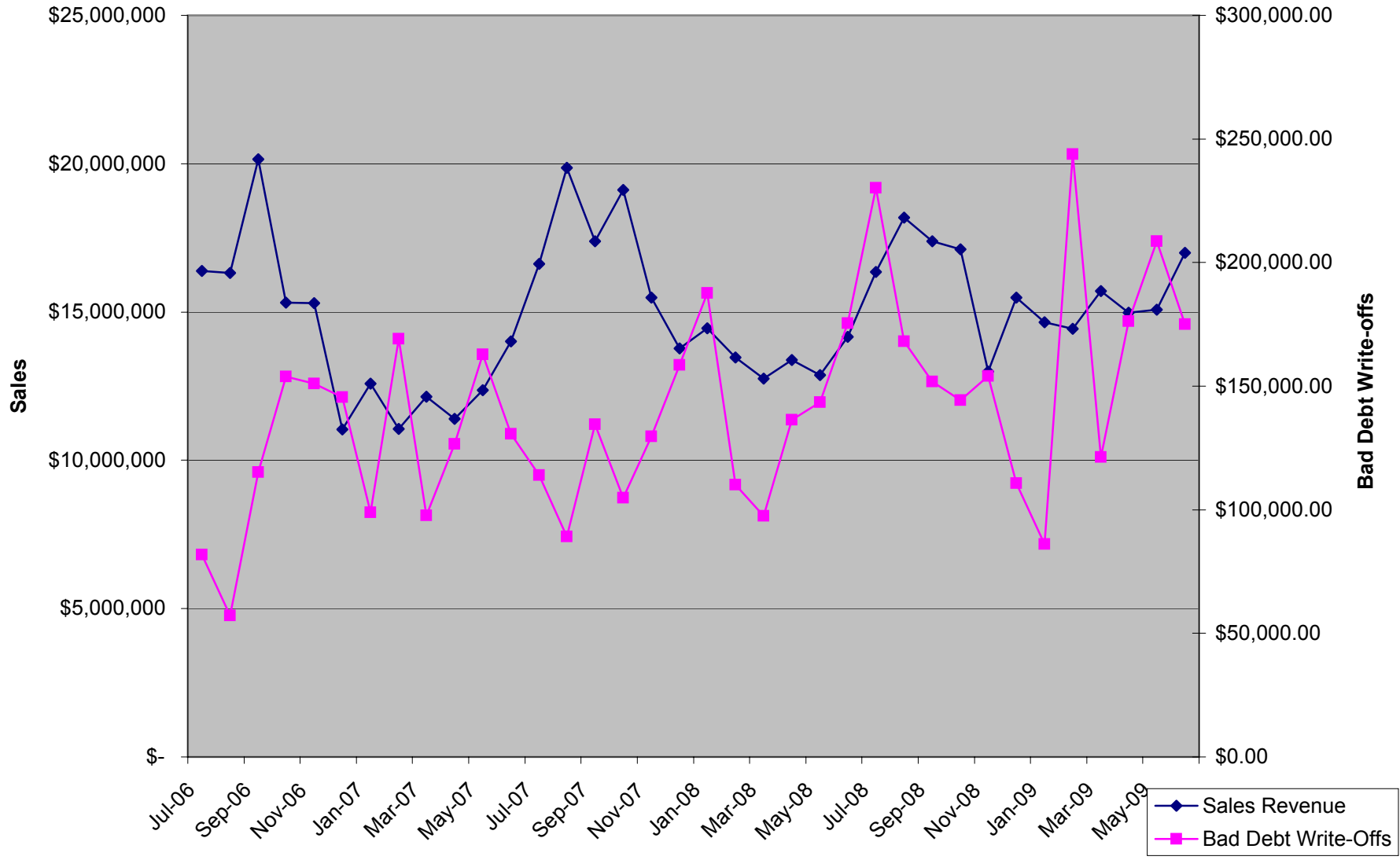
**MAWC**  
**Case No. WR-2010-0131**

**MAWC - Total Company**  
**Monthly Change in Sales Revenue to Change in Bad Debt**



**MAWC**  
**Case No. WR-2010-0131**

**MAWC - Total Company**  
**Monthly Change in Sales Revenue to Change in Bad Debt**



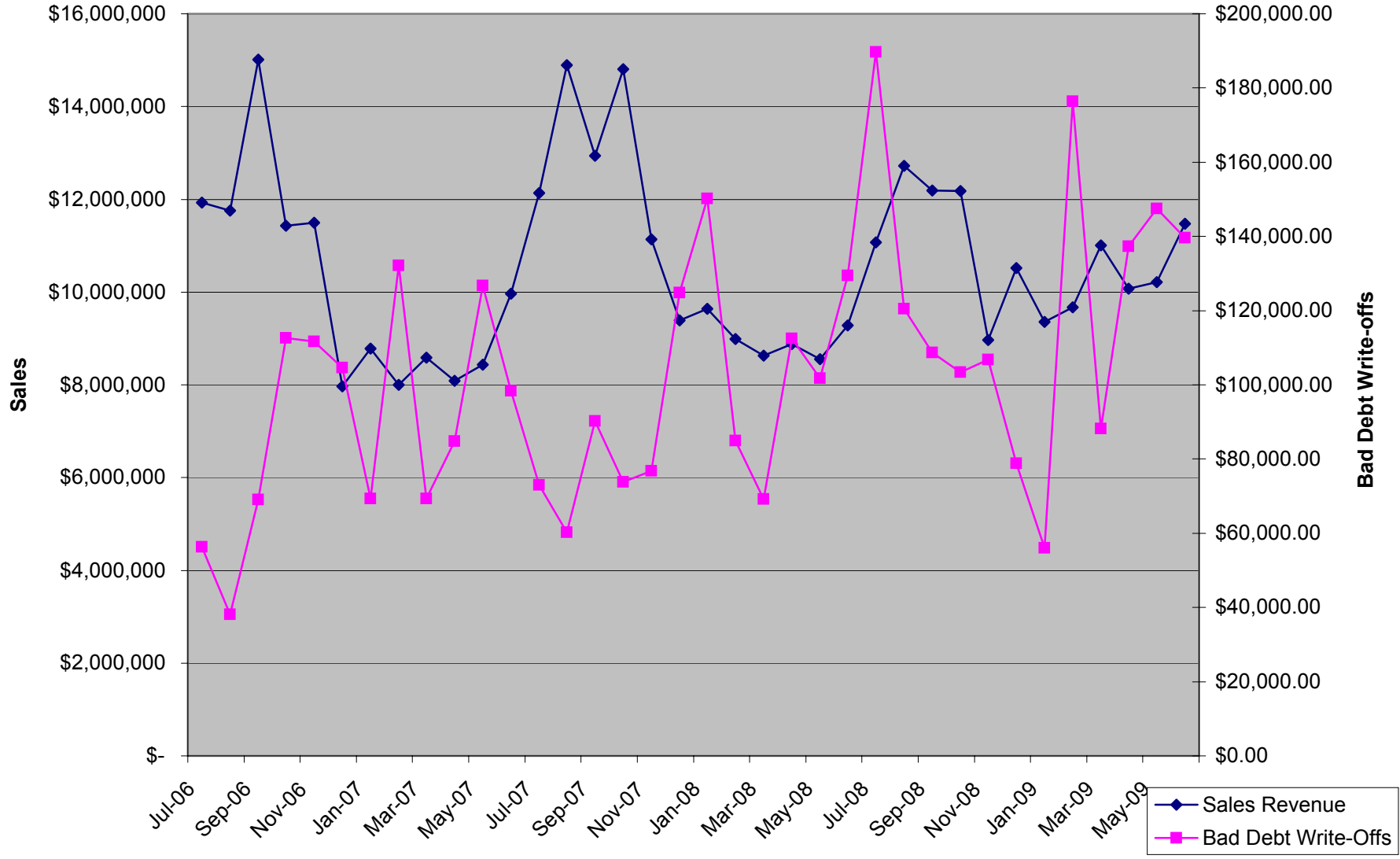
MISSOURI AMERICAN WATER COMPANY  
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Prepared by: MAPEKA, MPSC

**STL County**

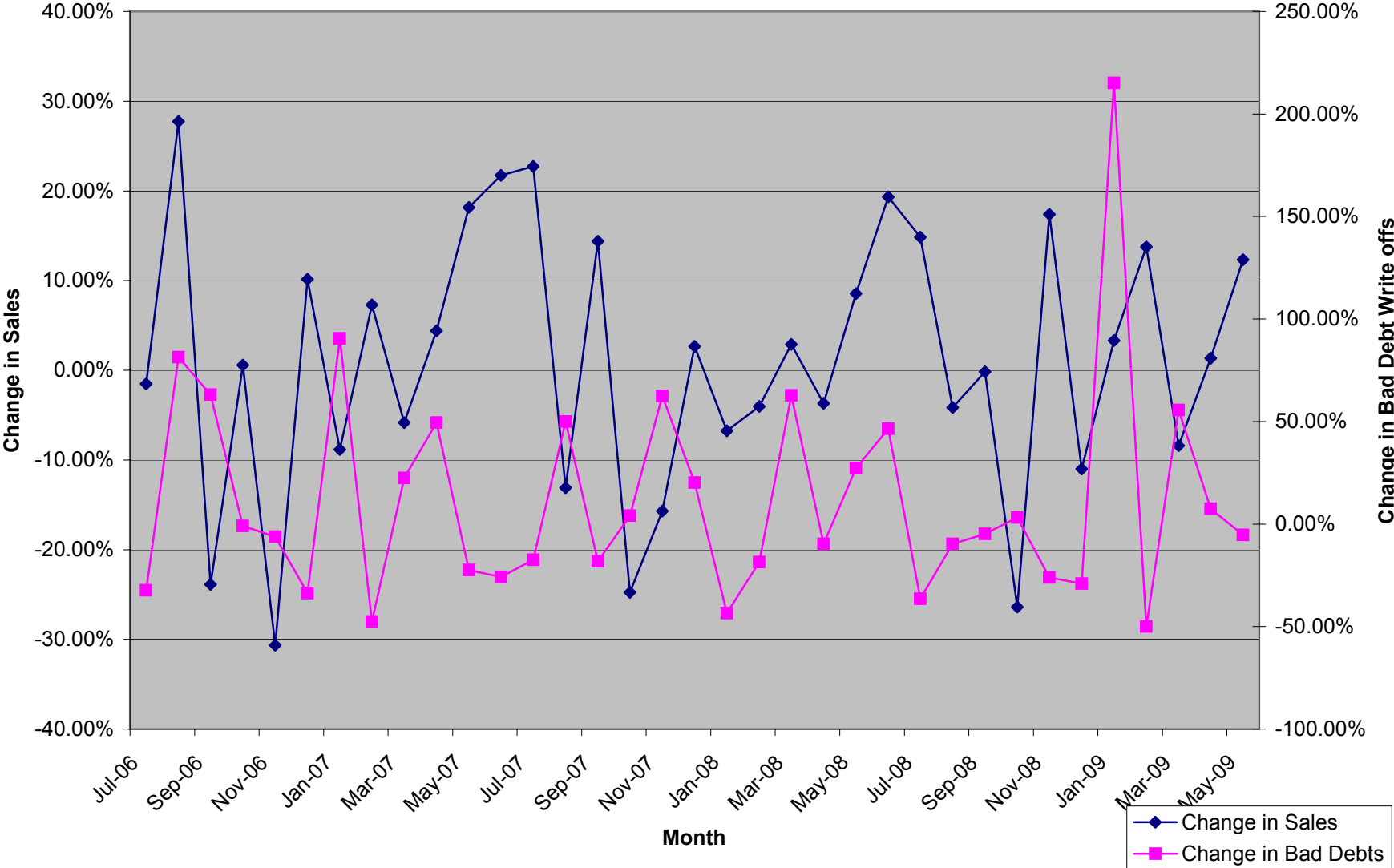
	Monthly	Monthly	Change in Sales	Change in Bad Debts
	<u>Sales Revenue</u>	<u>Bad Debt Write-Offs</u>	<u>Sales</u>	<u>Write-offs</u>
Jul-06	\$ 11,930,953	\$56,273.81		
Aug-06	\$ 11,751,772	\$38,063.23	-1.50%	-32.36%
Sep-06	\$ 15,009,877	\$69,057.79	27.72%	81.43%
Oct-06	\$ 11,425,585	\$112,636.24	-23.88%	63.10%
Nov-06	\$ 11,489,921	\$111,614.37	0.56%	-0.91%
Dec-06	\$ 7,967,952	\$104,666.53	-30.65%	-6.22%
Jan-07	\$ 8,776,353	\$69,344.39	10.15%	-33.75%
Feb-07	\$ 8,000,200	\$132,106.65	-8.84%	90.51%
Mar-07	\$ 8,582,833	\$69,283.54	7.28%	-47.55%
Apr-07	\$ 8,082,688	\$84,840.64	-5.83%	22.45%
May-07	\$ 8,437,603	\$126,785.94	4.39%	49.44%
Jun-07	\$ 9,969,941	\$98,313.00	18.16%	-22.46%
Jul-07	\$ 12,135,469	\$72,943.60	21.72%	-25.80%
Aug-07	\$ 14,892,764	\$60,217.39	22.72%	-17.45%
Sep-07	\$ 12,940,699	\$90,294.93	-13.11%	49.95%
Oct-07	\$ 14,802,070	\$73,830.72	14.38%	-18.23%
Nov-07	\$ 11,137,284	\$76,849.84	-24.76%	4.09%
Dec-07	\$ 9,390,161	\$124,873.22	-15.69%	62.49%
Jan-08	\$ 9,639,401	\$150,155.91	2.65%	20.25%
Feb-08	\$ 8,989,368	\$84,886.80	-6.74%	-43.47%
Mar-08	\$ 8,628,168	\$69,169.16	-4.02%	-18.52%
Apr-08	\$ 8,878,455	\$112,549.36	2.90%	62.72%
May-08	\$ 8,551,214	\$101,716.38	-3.69%	-9.63%
Jun-08	\$ 9,281,631	\$129,444.95	8.54%	27.26%
Jul-08	\$ 11,076,570	\$189,662.99	19.34%	46.52%
Aug-08	\$ 12,721,757	\$120,424.94	14.85%	-36.51%
Sep-08	\$ 12,195,305	\$108,737.65	-4.14%	-9.71%
Oct-08	\$ 12,173,786	\$103,454.06	-0.18%	-4.86%
Nov-08	\$ 8,962,169	\$106,767.57	-26.38%	3.20%
Dec-08	\$ 10,520,469	\$78,880.04	17.39%	-26.12%
Jan-09	\$ 9,361,126	\$55,995.05	-11.02%	-29.01%
Feb-09	\$ 9,672,449	\$176,406.04	3.33%	215.04%
Mar-09	\$ 11,001,849	\$88,216.53	13.74%	-49.99%
Apr-09	\$ 10,077,493	\$137,329.72	-8.40%	55.67%
May-09	\$ 10,213,168	\$147,511.49	1.35%	7.41%
Jun-09	\$ 11,470,965	\$139,596.58	12.32%	-5.37%

**MAWC**  
**Case No. WR-2010-0131**

**STL County**  
**Monthly Change in Sales Revenue to Change in Bad Debt**



**STL County**  
**Monthly Change in Sales Revenue to Change in Bad Debt**



MISSOURI AMERICAN WATER COMPANY  
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Prepared by: MAPEKA, MPSC

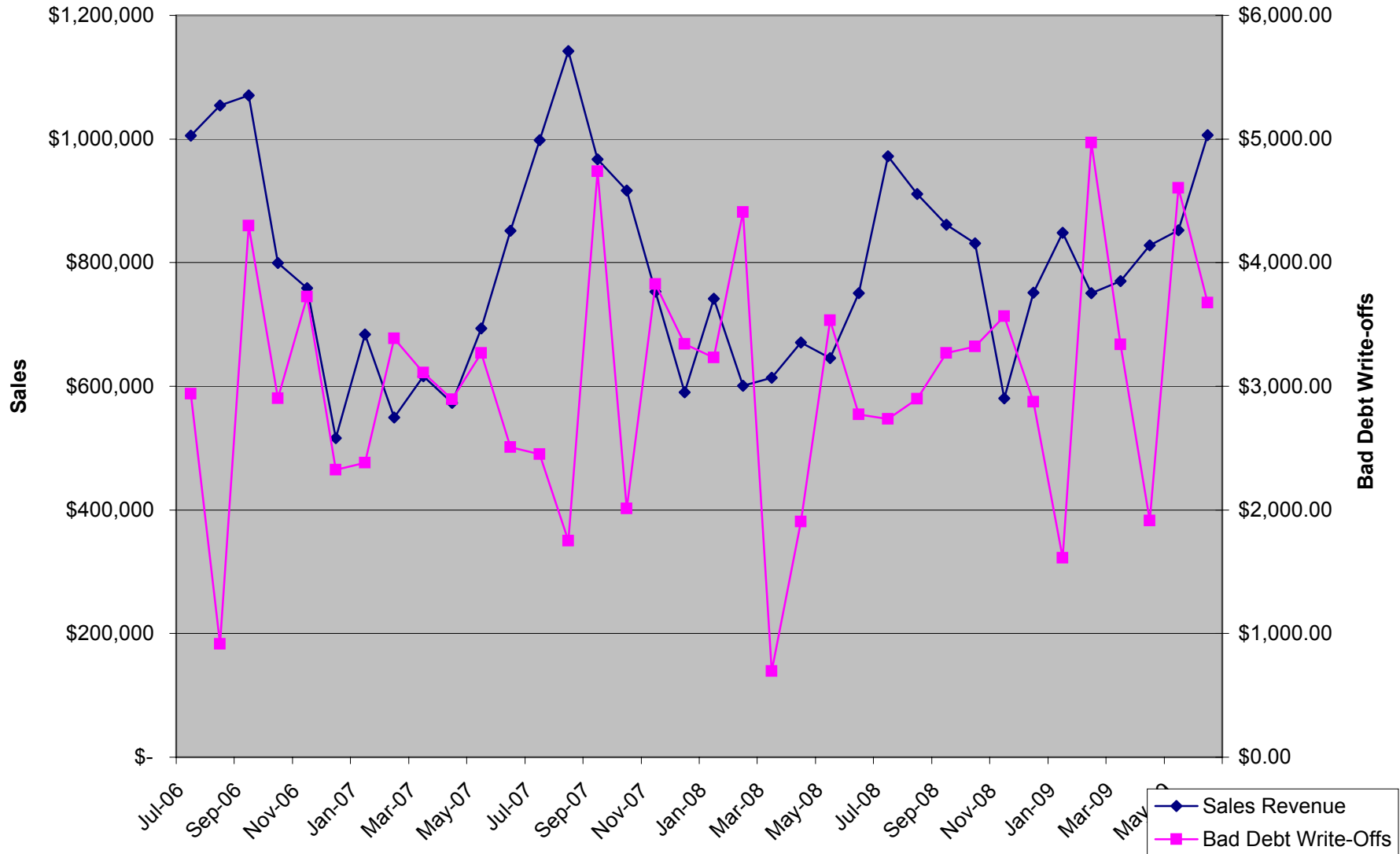
**SCH - St. Charles**

	Monthly	Monthly	Change in Sales	Change in Bad Debts
	<u>Sales Revenue</u>	<u>Bad Debt Write-Offs</u>	<u>Sales</u>	<u>Write-offs</u>
Jul-06	\$ 1,005,630	\$2,938.59		
Aug-06	\$ 1,054,412	\$917.87	4.85%	-68.76%
Sep-06	\$ 1,070,792	\$4,300.44	1.55%	368.52%
Oct-06	\$ 799,306	\$2,902.30	-25.35%	-32.51%
Nov-06	\$ 758,556	\$3,725.18	-5.10%	28.35%
Dec-06	\$ 516,205	\$2,323.95	-31.95%	-37.62%
Jan-07	\$ 684,121	\$2,383.13	32.53%	2.55%
Feb-07	\$ 549,244	\$3,385.99	-19.72%	42.08%
Mar-07	\$ 616,265	\$3,110.41	12.20%	-8.14%
Apr-07	\$ 573,173	\$2,895.15	-6.99%	-6.92%
May-07	\$ 693,956	\$3,267.72	21.07%	12.87%
Jun-07	\$ 851,159	\$2,507.79	22.65%	-23.26%
Jul-07	\$ 998,383	\$2,450.52	17.30%	-2.28%
Aug-07	\$ 1,142,388	\$1,750.86	14.42%	-28.55%
Sep-07	\$ 966,806	\$4,738.06	-15.37%	170.61%
Oct-07	\$ 916,760	\$2,009.79	-5.18%	-57.58%
Nov-07	\$ 752,778	\$3,826.49	-17.89%	90.39%
Dec-07	\$ 589,874	\$3,341.73	-21.64%	-12.67%
Jan-08	\$ 741,251	\$3,231.85	25.66%	-3.29%
Feb-08	\$ 601,033	\$4,409.16	-18.92%	36.43%
Mar-08	\$ 614,028	\$694.77	2.16%	-84.24%
Apr-08	\$ 670,462	\$1,903.07	9.19%	173.91%
May-08	\$ 645,801	\$3,532.82	-3.68%	85.64%
Jun-08	\$ 750,632	\$2,772.35	16.23%	-21.53%
Jul-08	\$ 971,763	\$2,734.18	29.46%	-1.38%
Aug-08	\$ 910,872	\$2,897.58	-6.27%	5.98%
Sep-08	\$ 861,130	\$3,267.27	-5.46%	12.76%
Oct-08	\$ 831,332	\$3,321.18	-3.46%	1.65%
Nov-08	\$ 580,170	\$3,564.01	-30.21%	7.31%
Dec-08	\$ 751,042	\$2,875.81	29.45%	-19.31%
Jan-09	\$ 848,003	\$1,613.39	12.91%	-43.90%
Feb-09	\$ 750,690	\$4,968.42	-11.48%	207.95%
Mar-09	\$ 769,803	\$3,338.04	2.55%	-32.81%
Apr-09	\$ 827,823	\$1,914.06	7.54%	-42.66%
May-09	\$ 852,680	\$4,603.53	3.00%	140.51%
Jun-09	\$ 1,006,191	\$3,674.14	18.00%	-20.19%



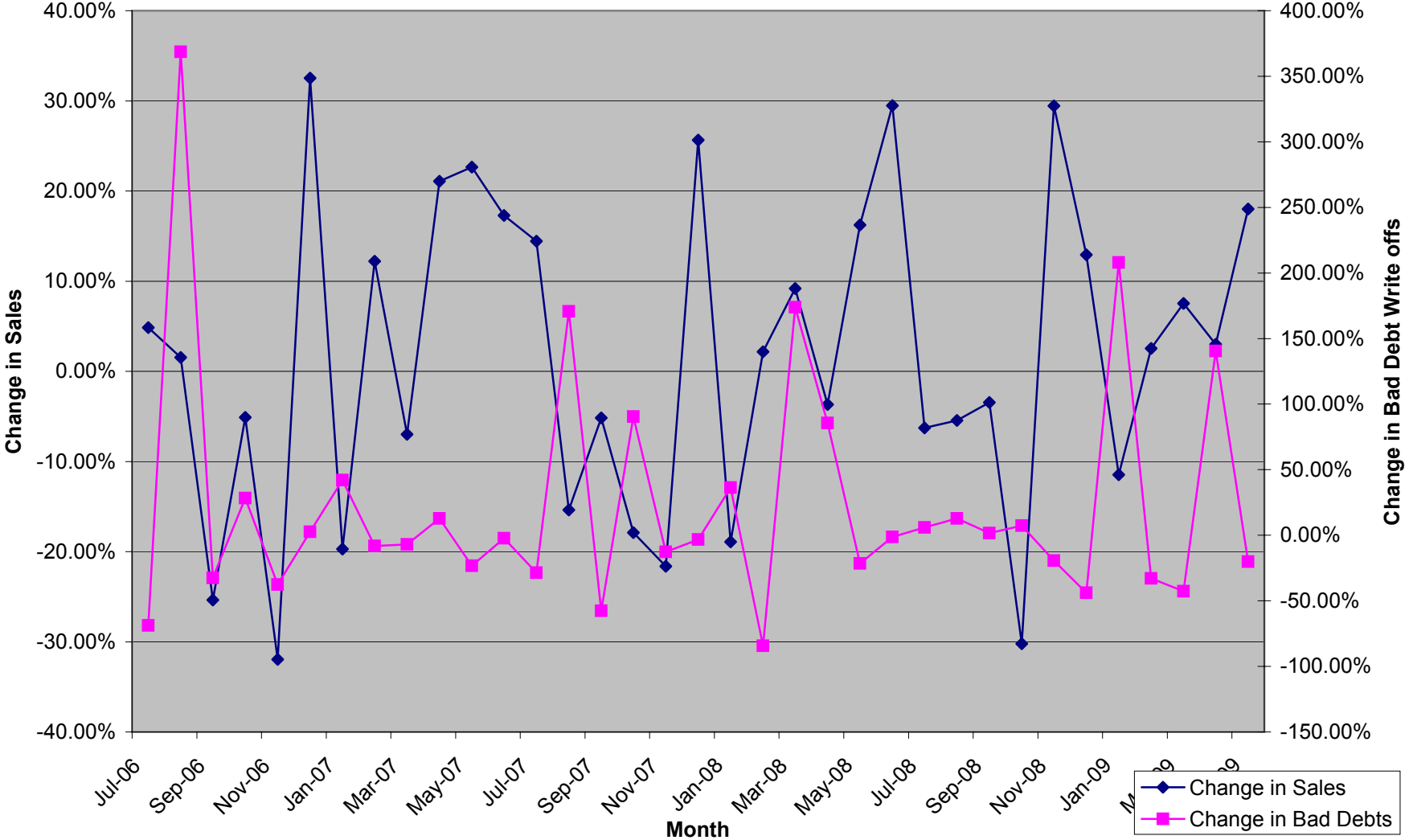
**MAWC  
Case No. WR-2010-0131**

**SCH - St. Charles  
Monthly Change in Sales Revenue to Change in Bad Debt**



MAWC  
Case No. WR-2010-0131

SCH - St. Charles  
Monthly Change in Sales Revenue to Change in Bad Debt



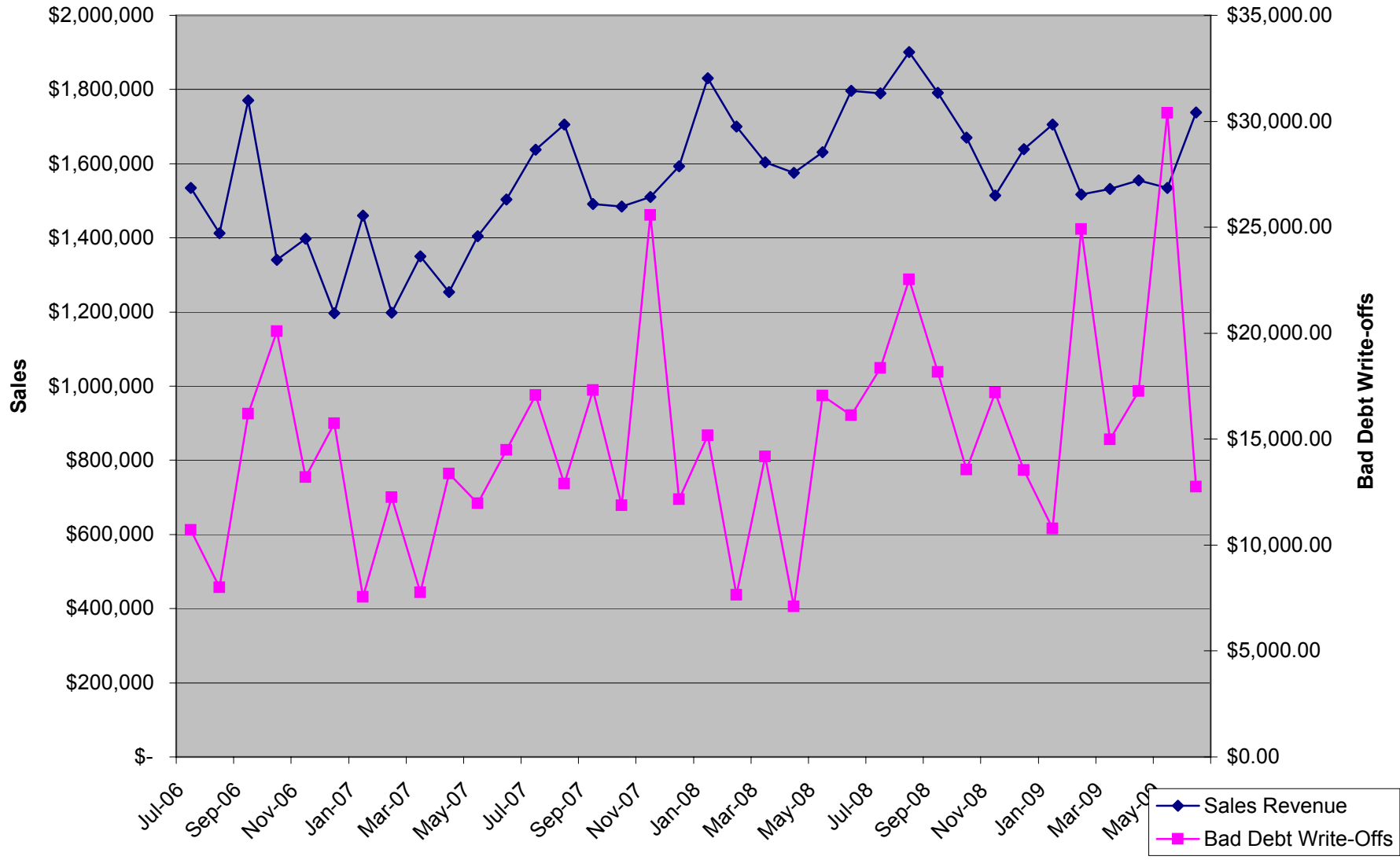
MISSOURI AMERICAN WATER COMPANY  
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Prepared by: MAPEKA, MPSC

**SJO - St. Joseph**

	Monthly	Monthly	Change in Sales	Change in Bad Debts
	<u>Sales Revenue</u>	<u>Bad Debt Write-Offs</u>	<u>Sales</u>	<u>Write-offs</u>
Jul-06	\$ 1,534,185	\$10,713.10		
Aug-06	\$ 1,413,126	\$8,001.31	-7.89%	-25.31%
Sep-06	\$ 1,770,708	\$16,200.13	25.30%	102.47%
Oct-06	\$ 1,340,207	\$20,094.65	-24.31%	24.04%
Nov-06	\$ 1,397,485	\$13,212.93	4.27%	-34.25%
Dec-06	\$ 1,196,965	\$15,735.59	-14.35%	19.09%
Jan-07	\$ 1,460,257	\$7,551.42	22.00%	-52.01%
Feb-07	\$ 1,198,480	\$12,256.15	-17.93%	62.30%
Mar-07	\$ 1,350,411	\$7,758.71	12.68%	-36.70%
Apr-07	\$ 1,253,174	\$13,359.99	-7.20%	72.19%
May-07	\$ 1,404,271	\$11,977.19	12.06%	-10.35%
Jun-07	\$ 1,503,884	\$14,476.45	7.09%	20.87%
Jul-07	\$ 1,637,526	\$17,067.38	8.89%	17.90%
Aug-07	\$ 1,705,964	\$12,897.00	4.18%	-24.43%
Sep-07	\$ 1,491,802	\$17,320.59	-12.55%	34.30%
Oct-07	\$ 1,484,106	\$11,870.89	-0.52%	-31.46%
Nov-07	\$ 1,509,769	\$25,578.97	1.73%	115.48%
Dec-07	\$ 1,592,747	\$12,156.70	5.50%	-52.47%
Jan-08	\$ 1,830,596	\$15,172.01	14.93%	24.80%
Feb-08	\$ 1,700,430	\$7,640.06	-7.11%	-49.64%
Mar-08	\$ 1,603,827	\$14,182.78	-5.68%	85.64%
Apr-08	\$ 1,575,551	\$7,101.05	-1.76%	-49.93%
May-08	\$ 1,630,457	\$17,044.53	3.48%	140.03%
Jun-08	\$ 1,796,164	\$16,121.80	10.16%	-5.41%
Jul-08	\$ 1,789,770	\$18,347.70	-0.36%	13.81%
Aug-08	\$ 1,900,828	\$22,537.02	6.21%	22.83%
Sep-08	\$ 1,790,838	\$18,170.74	-5.79%	-19.37%
Oct-08	\$ 1,670,470	\$13,561.81	-6.72%	-25.36%
Nov-08	\$ 1,513,569	\$17,195.40	-9.39%	26.79%
Dec-08	\$ 1,638,955	\$13,523.40	8.28%	-21.35%
Jan-09	\$ 1,705,533	\$10,778.13	4.06%	-20.30%
Feb-09	\$ 1,516,363	\$24,907.91	-11.09%	131.10%
Mar-09	\$ 1,531,452	\$14,980.68	1.00%	-39.86%
Apr-09	\$ 1,555,567	\$17,262.08	1.57%	15.23%
May-09	\$ 1,534,894	\$30,397.94	-1.33%	76.10%
Jun-09	\$ 1,738,583	\$12,743.91	13.27%	-58.08%

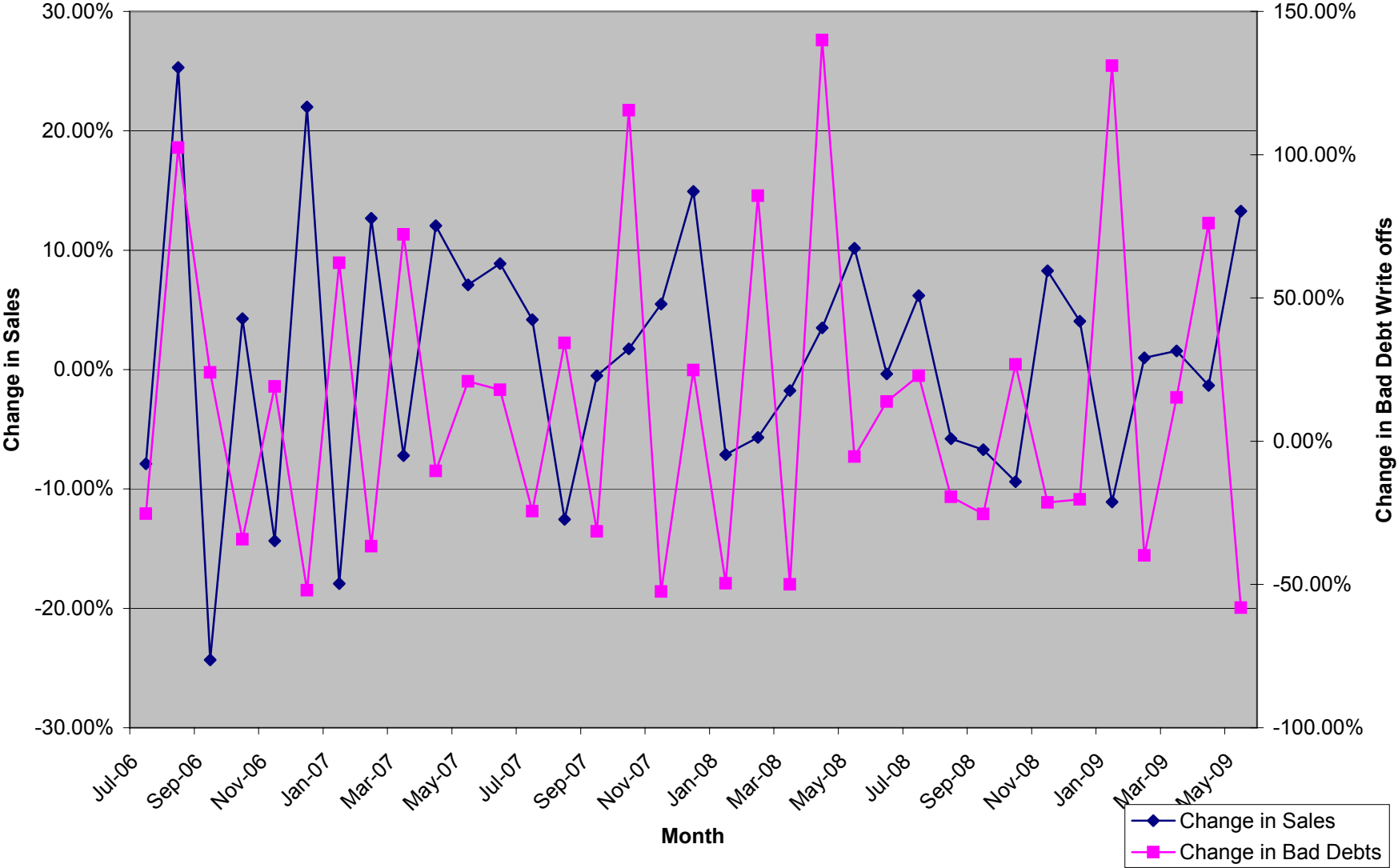
**MAWC**  
**Case No. WR-2010-0131**

**SJO - St. Joseph**  
**Monthly Change in Sales Revenue to Change in Bad Debt**



MAWC  
Case No. WR-2010-0131

SJO - St. Joseph  
Monthly Change in Sales Revenue to Change in Bad Debt



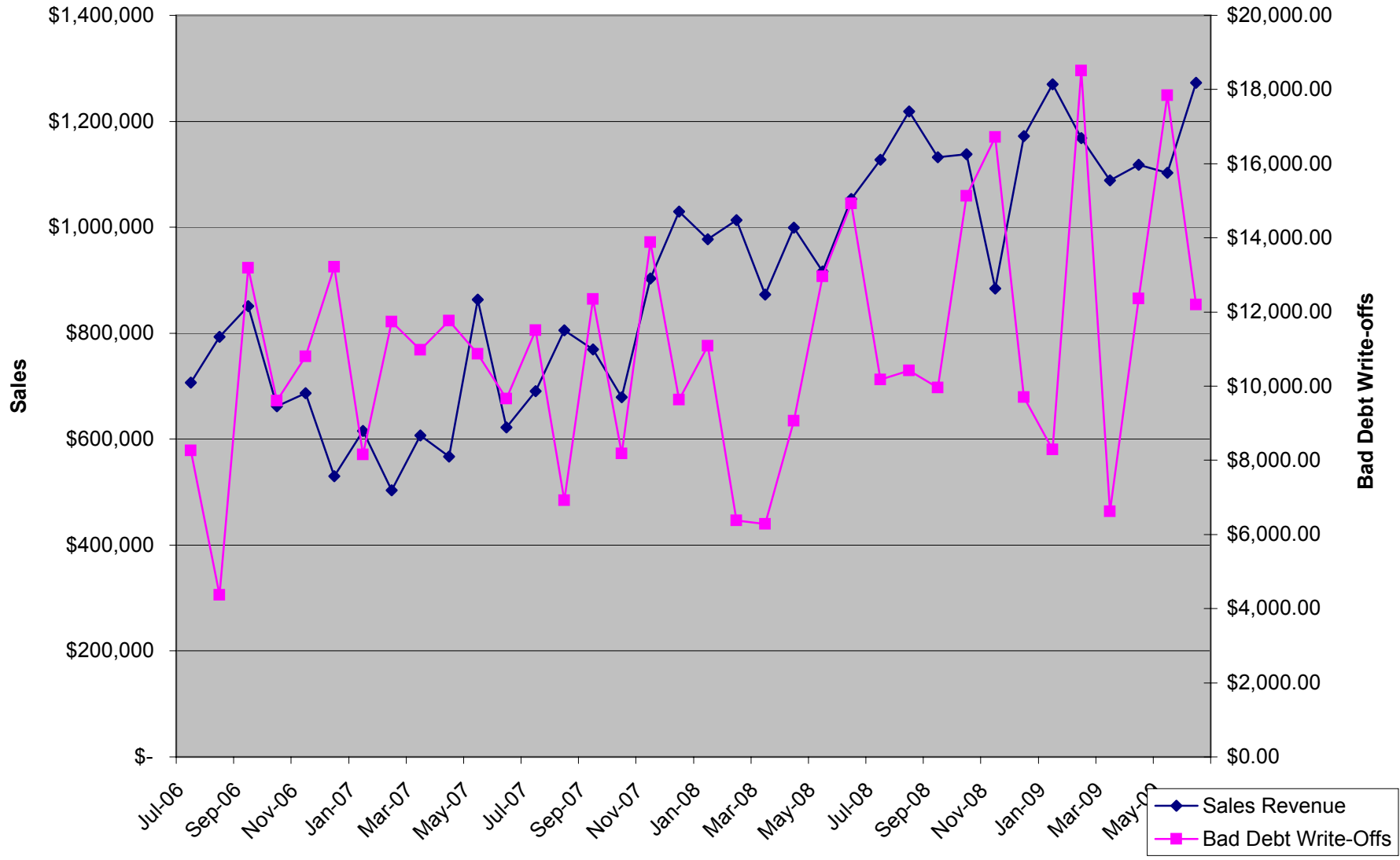
MISSOURI AMERICAN WATER COMPANY  
Case No. WR-2010-0131  
Issue: MO. Net Bad Debt Write-Offs vs. Billed Sales Revenue  
Prepared by: MAPEKA, MPSC

**JOP - Joplin**

	Monthly	Monthly	Change in Sales	Change in Bad Debts
	<u>Sales Revenue</u>	<u>Bad Debt Write-Offs</u>	<u>Sales</u>	<u>Write-offs</u>
Jul-06	\$ 706,942	\$8,265.58		
Aug-06	\$ 793,148	\$4,372.75	12.19%	-47.10%
Sep-06	\$ 851,435	\$13,195.06	7.35%	201.76%
Oct-06	\$ 661,777	\$9,611.00	-22.28%	-27.16%
Nov-06	\$ 686,811	\$10,803.13	3.78%	12.40%
Dec-06	\$ 530,261	\$13,217.77	-22.79%	22.35%
Jan-07	\$ 615,158	\$8,158.49	16.01%	-38.28%
Feb-07	\$ 503,823	\$11,738.96	-18.10%	43.89%
Mar-07	\$ 606,838	\$10,973.66	20.45%	-6.52%
Apr-07	\$ 567,074	\$11,765.20	-6.55%	7.21%
May-07	\$ 863,406	\$10,862.84	52.26%	-7.67%
Jun-07	\$ 622,005	\$9,666.07	-27.96%	-11.02%
Jul-07	\$ 690,515	\$11,499.65	11.01%	18.97%
Aug-07	\$ 805,764	\$6,924.96	16.69%	-39.78%
Sep-07	\$ 769,181	\$12,341.20	-4.54%	78.21%
Oct-07	\$ 679,176	\$8,188.18	-11.70%	-33.65%
Nov-07	\$ 903,646	\$13,874.47	33.05%	69.45%
Dec-07	\$ 1,029,893	\$9,626.87	13.97%	-30.61%
Jan-08	\$ 977,527	\$11,091.76	-5.08%	15.22%
Feb-08	\$ 1,013,220	\$6,373.25	3.65%	-42.54%
Mar-08	\$ 872,456	\$6,278.66	-13.89%	-1.48%
Apr-08	\$ 999,294	\$9,069.98	14.54%	44.46%
May-08	\$ 916,719	\$12,959.26	-8.26%	42.88%
Jun-08	\$ 1,052,869	\$14,923.74	14.85%	15.16%
Jul-08	\$ 1,127,457	\$10,172.40	7.08%	-31.84%
Aug-08	\$ 1,218,493	\$10,422.09	8.07%	2.45%
Sep-08	\$ 1,132,277	\$9,961.45	-7.08%	-4.42%
Oct-08	\$ 1,137,451	\$15,135.25	0.46%	51.94%
Nov-08	\$ 884,403	\$16,714.69	-22.25%	10.44%
Dec-08	\$ 1,171,696	\$9,700.58	32.48%	-41.96%
Jan-09	\$ 1,269,689	\$8,289.49	8.36%	-14.55%
Feb-09	\$ 1,168,188	\$18,510.51	-7.99%	123.30%
Mar-09	\$ 1,088,722	\$6,620.51	-6.80%	-64.23%
Apr-09	\$ 1,117,646	\$12,366.17	2.66%	86.79%
May-09	\$ 1,103,075	\$17,838.20	-1.30%	44.25%
Jun-09	\$ 1,272,738	\$12,204.61	15.38%	-31.58%

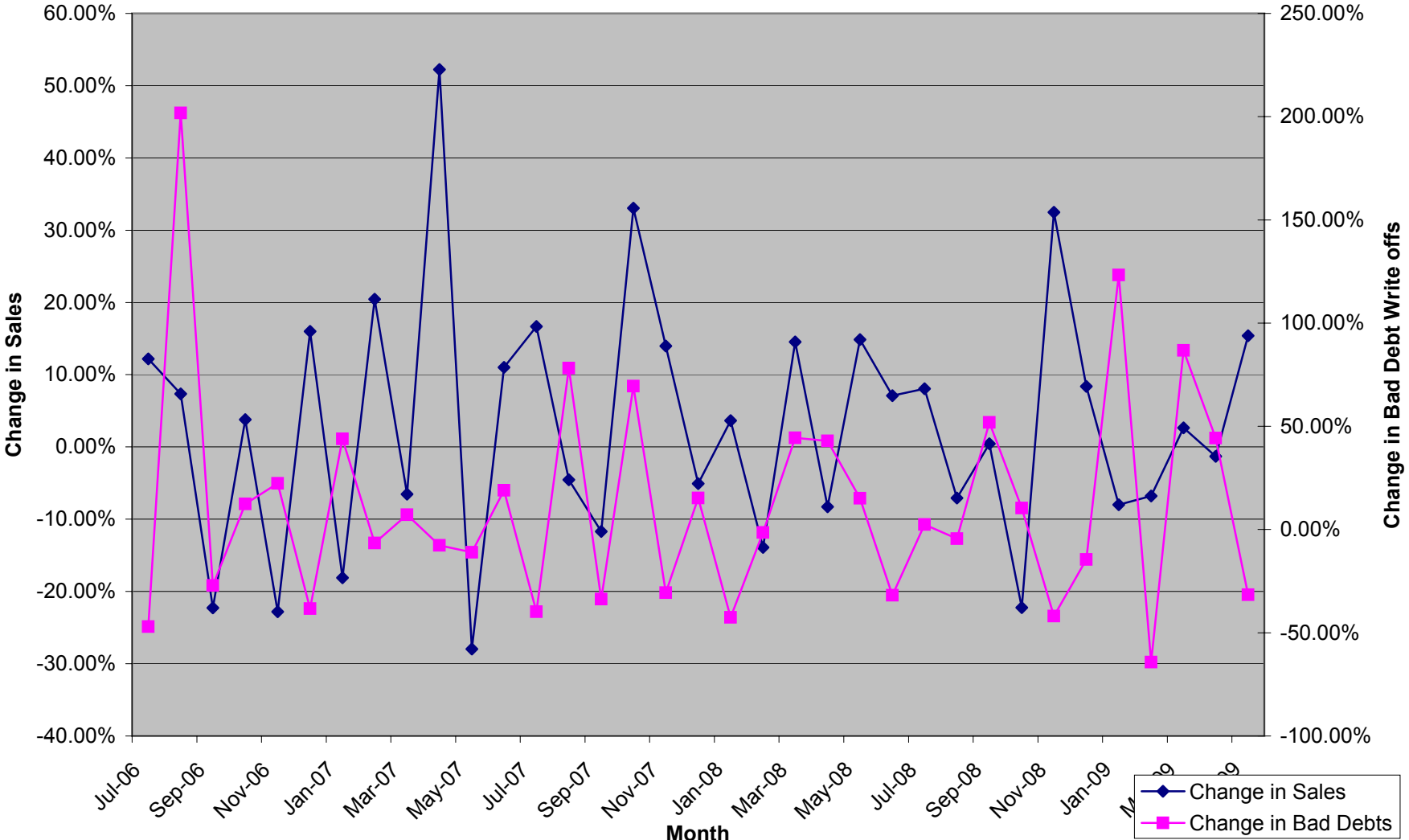
**MAWC**  
**Case No. WR-2010-0131**

**JOP - Joplin**  
**Monthly Change in Sales Revenue to Change in Bad Debt**



MAWC  
Case No. WR-2010-0131

JOP - Joplin  
Monthly Change in Sales Revenue to Change in Bad Debt





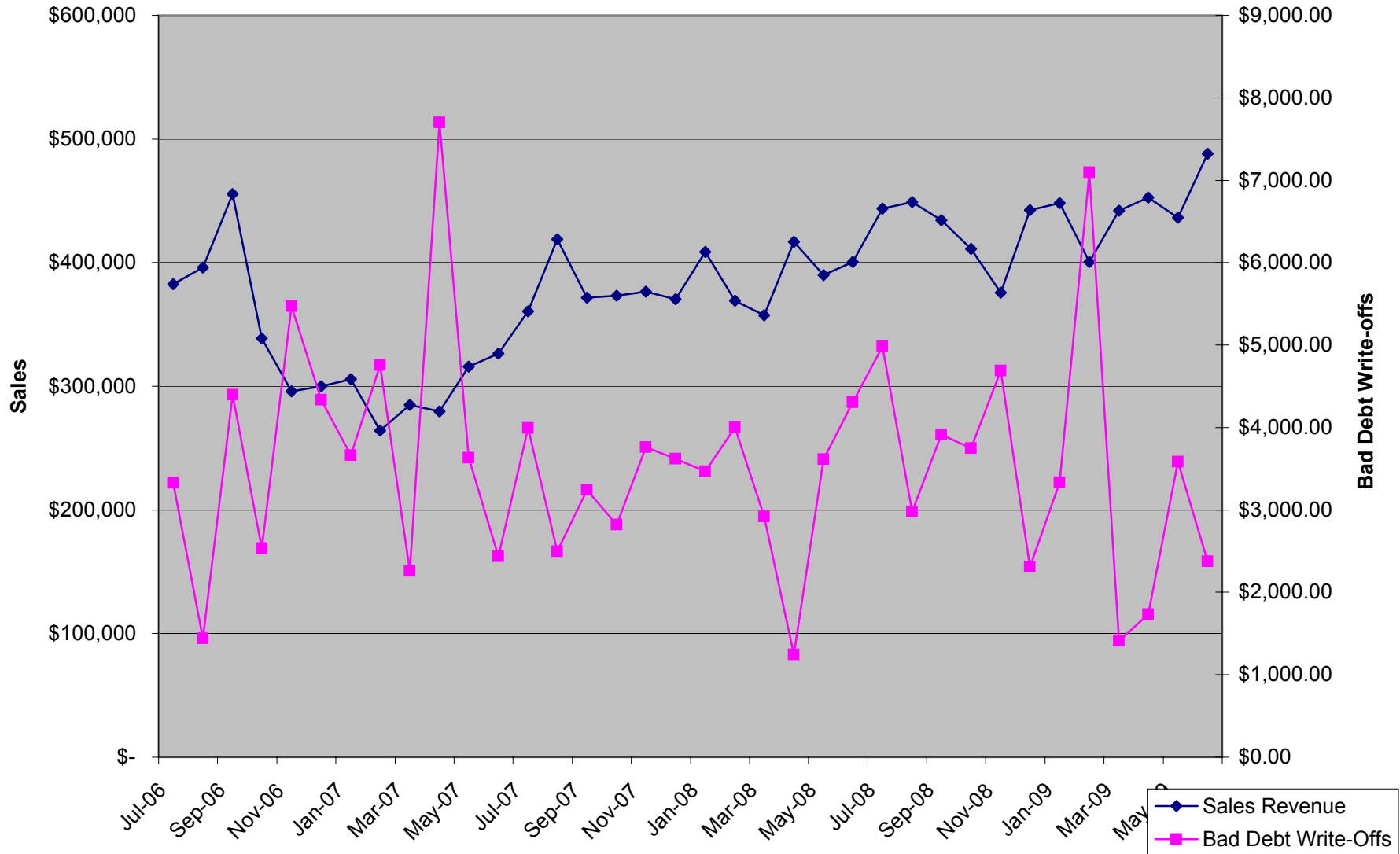
MISSOURI AMERICAN WATER COMPANY  
Case No. WR-2010-0131  
Issue: MO. Net Bad Debt Write-Offs vs. Billed Sales Revenue  
Prepared by: MAPEKA, MPSC

**JFC - Jefferson City**

	Monthly	Monthly	Change in Sales	Change in Bad Debts
	<u>Sales Revenue</u>	<u>Bad Debt Write-Offs</u>	<u>Sales</u>	<u>Write-offs</u>
Jul-06	\$ 382,717	\$3,329.63		
Aug-06	\$ 396,259	\$1,439.38	3.54%	-56.77%
Sep-06	\$ 455,436	\$4,393.44	14.93%	205.23%
Oct-06	\$ 338,483	\$2,533.92	-25.68%	-42.32%
Nov-06	\$ 296,098	\$5,471.62	-12.52%	115.93%
Dec-06	\$ 299,937	\$4,335.30	1.30%	-20.77%
Jan-07	\$ 305,758	\$3,664.50	1.94%	-15.47%
Feb-07	\$ 264,270	\$4,756.89	-13.57%	29.81%
Mar-07	\$ 284,963	\$2,259.14	7.83%	-52.51%
Apr-07	\$ 279,775	\$7,697.21	-1.82%	240.71%
May-07	\$ 315,878	\$3,630.67	12.90%	-52.83%
Jun-07	\$ 326,312	\$2,437.46	3.30%	-32.86%
Jul-07	\$ 360,505	\$3,991.37	10.48%	63.75%
Aug-07	\$ 418,708	\$2,497.34	16.14%	-37.43%
Sep-07	\$ 371,820	\$3,239.58	-11.20%	29.72%
Oct-07	\$ 373,333	\$2,819.77	0.41%	-12.96%
Nov-07	\$ 376,448	\$3,760.10	0.83%	33.35%
Dec-07	\$ 370,443	\$3,619.79	-1.60%	-3.73%
Jan-08	\$ 408,497	\$3,467.37	10.27%	-4.21%
Feb-08	\$ 369,203	\$3,998.18	-9.62%	15.31%
Mar-08	\$ 357,418	\$2,916.37	-3.19%	-27.06%
Apr-08	\$ 416,807	\$1,243.41	16.62%	-57.36%
May-08	\$ 389,855	\$3,616.47	-6.47%	190.85%
Jun-08	\$ 400,575	\$4,305.53	2.75%	19.05%
Jul-08	\$ 443,724	\$4,985.33	10.77%	15.79%
Aug-08	\$ 448,947	\$2,980.32	1.18%	-40.22%
Sep-08	\$ 434,264	\$3,911.12	-3.27%	31.23%
Oct-08	\$ 411,299	\$3,750.13	-5.29%	-4.12%
Nov-08	\$ 375,667	\$4,691.81	-8.66%	25.11%
Dec-08	\$ 442,595	\$2,311.02	17.82%	-50.74%
Jan-09	\$ 448,203	\$3,331.25	1.27%	44.15%
Feb-09	\$ 400,498	\$7,094.58	-10.64%	112.97%
Mar-09	\$ 442,087	\$1,407.59	10.38%	-80.16%
Apr-09	\$ 452,452	\$1,733.58	2.34%	23.16%
May-09	\$ 436,407	\$3,582.24	-3.55%	106.64%
Jun-09	\$ 488,028	\$2,377.35	11.83%	-33.64%

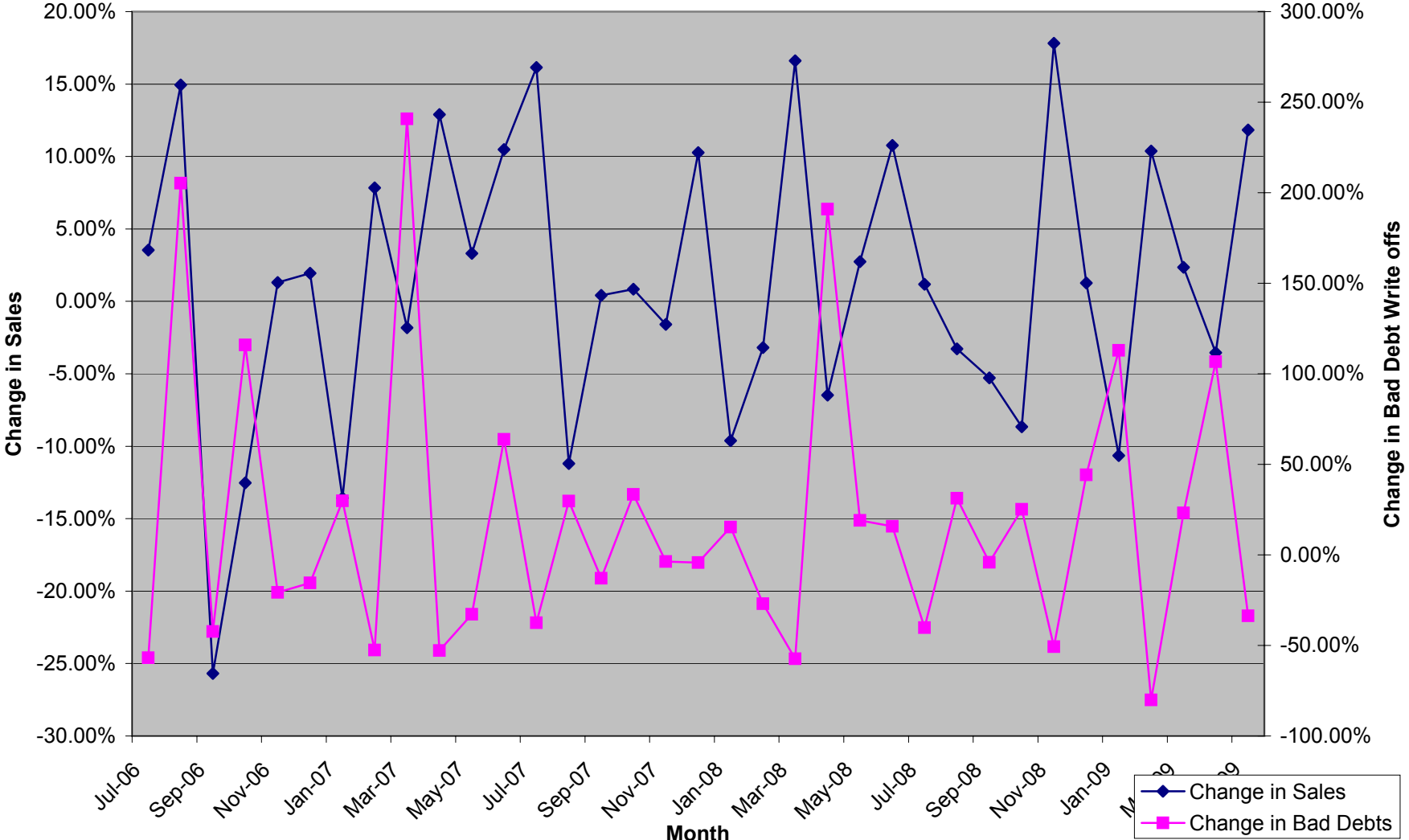
**MAWC**  
**Case No. WR-2010-0131**

**JFC - Jefferson City**  
**Monthly Change in Sales Revenue to Change in Bad Debt**



MAWC  
Case No. WR-2010-0131

JFC - Jefferson City  
Monthly Change in Sales Revenue to Change in Bad Debt



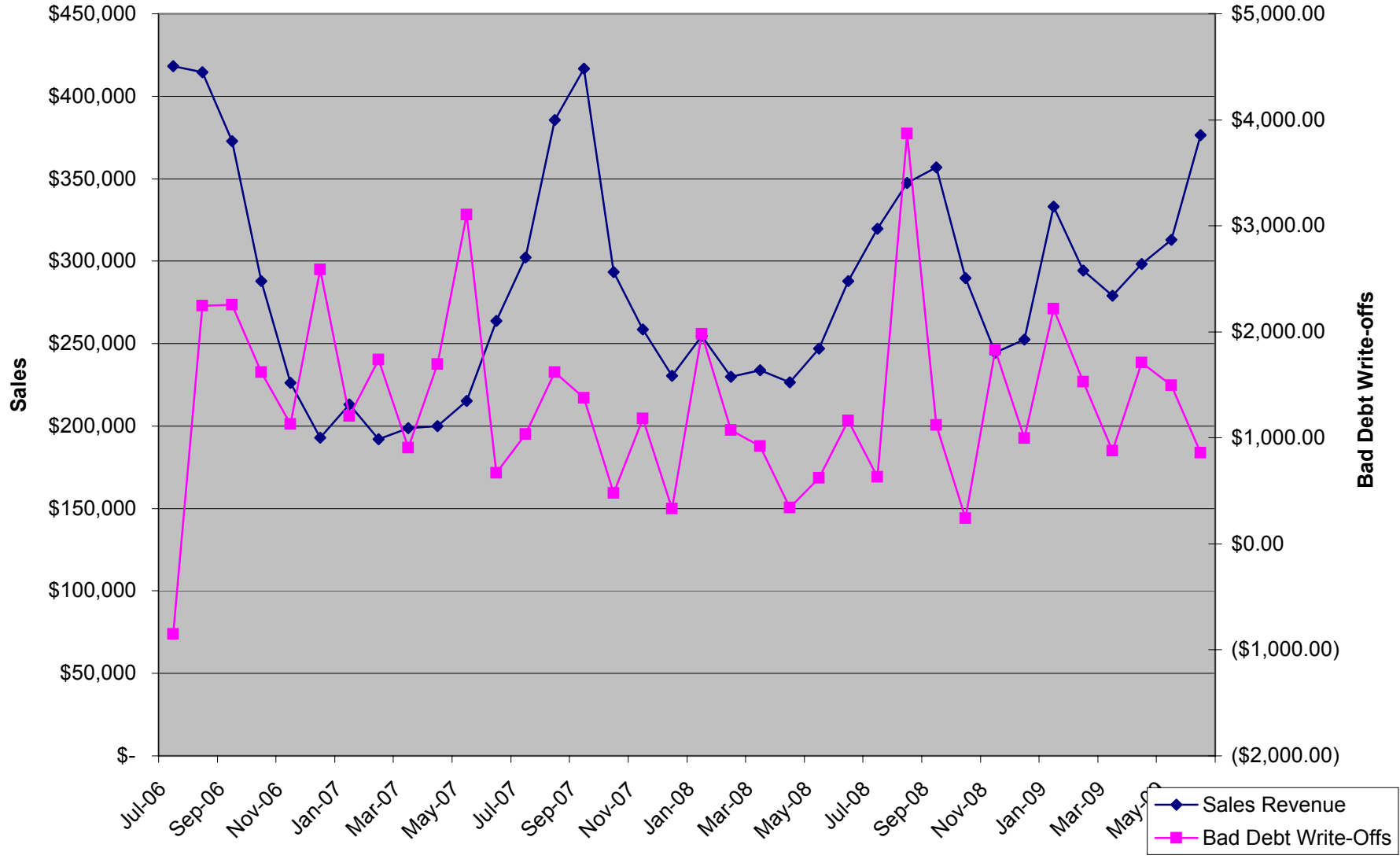
MISSOURI AMERICAN WATER COMPANY  
Case No. WR-2010-0131  
Issue: MO. Net Bad Debt Write-Offs vs. Billed Sales Revenue  
Prepared by: MAPEKA, MPSC

**PKW - Parkville**

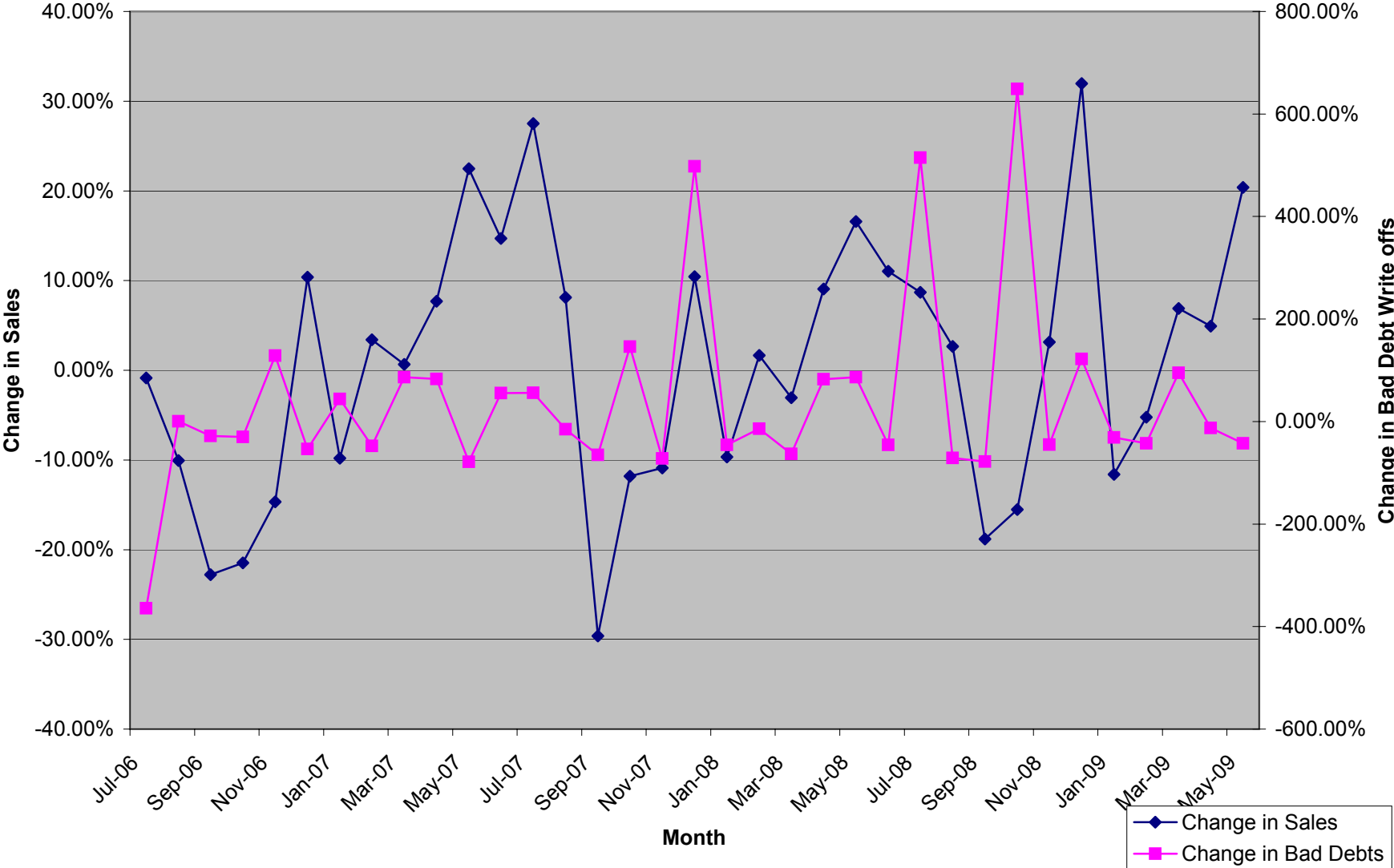
	Monthly	Monthly	Change in Sales	Change in Bad Debts
	<u>Sales Revenue</u>	<u>Bad Debt Write-Offs</u>	<u>Sales</u>	<u>Write-offs</u>
Jul-06	\$ 418,221	(\$848.83)		
Aug-06	\$ 414,614	\$2,244.11	-0.86%	-364.38%
Sep-06	\$ 372,878	\$2,255.16	-10.07%	0.49%
Oct-06	\$ 287,874	\$1,619.34	-22.80%	-28.19%
Nov-06	\$ 226,096	\$1,131.83	-21.46%	-30.11%
Dec-06	\$ 192,944	\$2,587.84	-14.66%	128.64%
Jan-07	\$ 212,967	\$1,203.94	10.38%	-53.48%
Feb-07	\$ 192,105	\$1,736.20	-9.80%	44.21%
Mar-07	\$ 198,629	\$908.56	3.40%	-47.67%
Apr-07	\$ 199,909	\$1,695.77	0.64%	86.64%
May-07	\$ 215,275	\$3,106.60	7.69%	83.20%
Jun-07	\$ 263,624	\$666.73	22.46%	-78.54%
Jul-07	\$ 302,359	\$1,036.54	14.69%	55.47%
Aug-07	\$ 385,534	\$1,618.42	27.51%	56.14%
Sep-07	\$ 416,834	\$1,374.30	8.12%	-15.08%
Oct-07	\$ 293,393	\$479.89	-29.61%	-65.08%
Nov-07	\$ 258,712	\$1,181.42	-11.82%	146.19%
Dec-07	\$ 230,508	\$330.97	-10.90%	-71.99%
Jan-08	\$ 254,541	\$1,978.54	10.43%	497.80%
Feb-08	\$ 229,933	\$1,074.22	-9.67%	-45.71%
Mar-08	\$ 233,721	\$921.05	1.65%	-14.26%
Apr-08	\$ 226,538	\$341.31	-3.07%	-62.94%
May-08	\$ 247,050	\$622.65	9.05%	82.43%
Jun-08	\$ 288,017	\$1,162.07	16.58%	86.63%
Jul-08	\$ 319,764	\$629.53	11.02%	-45.83%
Aug-08	\$ 347,541	\$3,871.28	8.69%	514.95%
Sep-08	\$ 356,807	\$1,119.42	2.67%	-71.08%
Oct-08	\$ 289,653	\$243.78	-18.82%	-78.22%
Nov-08	\$ 244,674	\$1,825.65	-15.53%	648.89%
Dec-08	\$ 252,389	\$998.46	3.15%	-45.31%
Jan-09	\$ 333,090	\$2,215.89	31.97%	121.93%
Feb-09	\$ 294,380	\$1,528.41	-11.62%	-31.03%
Mar-09	\$ 278,945	\$878.19	-5.24%	-42.54%
Apr-09	\$ 298,139	\$1,711.09	6.88%	94.84%
May-09	\$ 312,785	\$1,494.10	4.91%	-12.68%
Jun-09	\$ 376,551	\$856.94	20.39%	-42.65%

**MAWC  
Case No. WR-2010-0131**

**PKW - Parkville  
Monthly Change in Sales Revenue to Change in Bad Debt**



PKW - Parkville  
Monthly Change in Sales Revenue to Change in Bad Debt



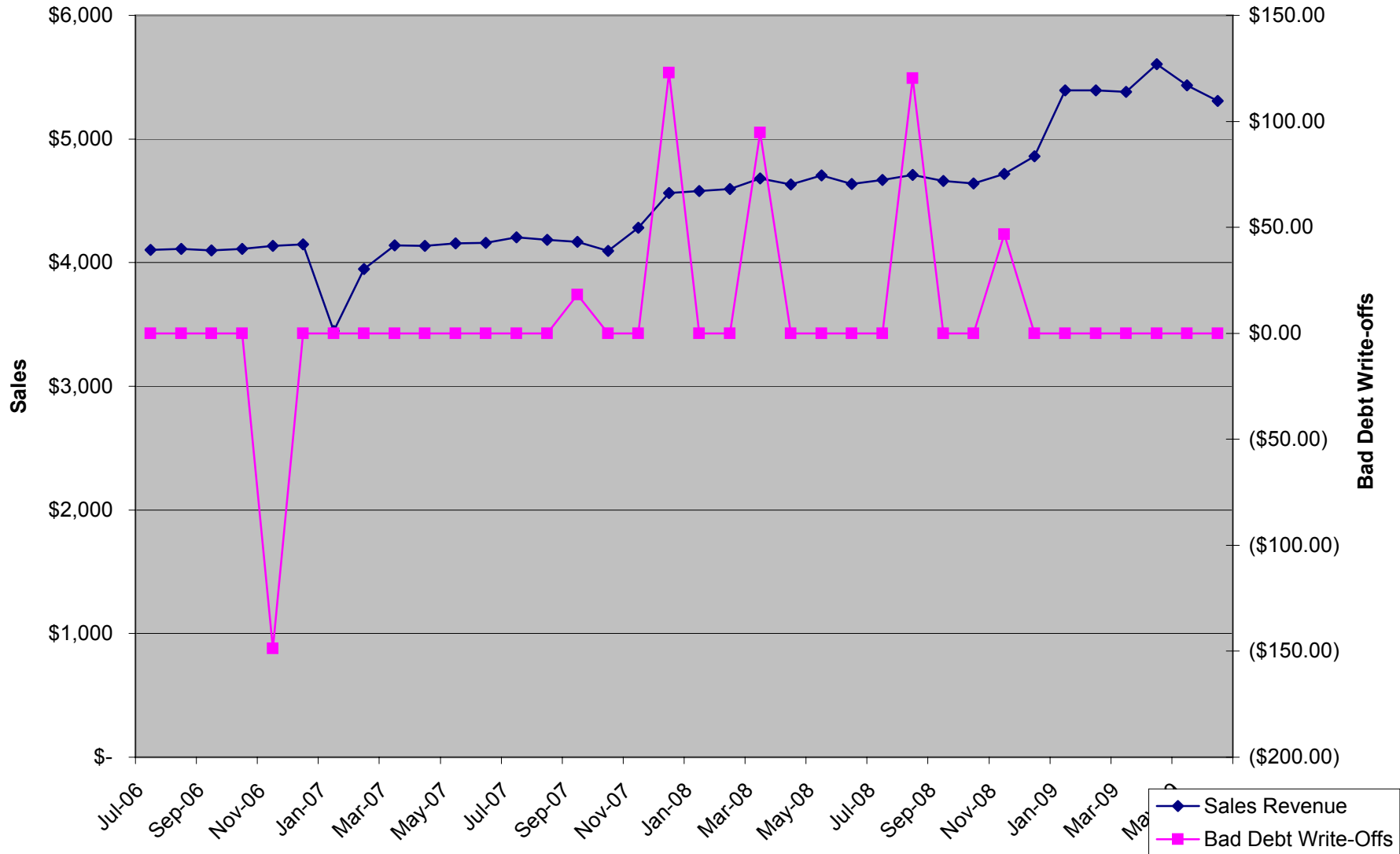
MISSOURI AMERICAN WATER COMPANY  
Case No. WR-2010-0131  
Issue: MO. Net Bad Debt Write-Offs vs. Billed Sales Revenue  
Prepared by: MAPEKA, MPSC

**PKS - Parkville Sewer**

	Monthly	Monthly	Change in Sales	Change in Bad Debts
	<u>Sales Revenue</u>	<u>Bad Debt Write-Offs</u>	<u>Sales</u>	<u>Write-offs</u>
Jul-06	\$ 4,102	\$0.00		
Aug-06	\$ 4,110	\$0.00	0.20%	0.00%
Sep-06	\$ 4,101	\$0.00	-0.22%	0.00%
Oct-06	\$ 4,112	\$0.00	0.27%	0.00%
Nov-06	\$ 4,135	(\$148.75)	0.56%	0.00%
Dec-06	\$ 4,147	\$0.00	0.29%	-100.00%
Jan-07	\$ 3,446	\$0.00	-16.90%	0.00%
Feb-07	\$ 3,950	\$0.00	14.63%	0.00%
Mar-07	\$ 4,140	\$0.00	4.81%	0.00%
Apr-07	\$ 4,135	\$0.00	-0.12%	0.00%
May-07	\$ 4,155	\$0.00	0.48%	0.00%
Jun-07	\$ 4,162	\$0.00	0.17%	0.00%
Jul-07	\$ 4,206	\$0.00	1.06%	0.00%
Aug-07	\$ 4,185	\$0.00	-0.50%	0.00%
Sep-07	\$ 4,169	\$18.10	-0.38%	0.00%
Oct-07	\$ 4,094	\$0.00	-1.80%	-100.00%
Nov-07	\$ 4,281	\$0.00	4.57%	0.00%
Dec-07	\$ 4,562	\$122.82	6.56%	0.00%
Jan-08	\$ 4,580	\$0.00	0.39%	-100.00%
Feb-08	\$ 4,595	\$0.00	0.33%	0.00%
Mar-08	\$ 4,682	\$94.61	1.89%	0.00%
Apr-08	\$ 4,633	\$0.00	-1.05%	-100.00%
May-08	\$ 4,707	\$0.00	1.60%	0.00%
Jun-08	\$ 4,636	\$0.00	-1.51%	0.00%
Jul-08	\$ 4,670	\$0.00	0.73%	0.00%
Aug-08	\$ 4,710	\$120.30	0.86%	0.00%
Sep-08	\$ 4,661	\$0.00	-1.04%	-100.00%
Oct-08	\$ 4,640	\$0.00	-0.45%	0.00%
Nov-08	\$ 4,717	\$46.70	1.66%	0.00%
Dec-08	\$ 4,861	\$0.00	3.05%	-100.00%
Jan-09	\$ 5,394	\$0.00	10.96%	0.00%
Feb-09	\$ 5,394	\$0.00	0.00%	0.00%
Mar-09	\$ 5,382	\$0.00	-0.22%	0.00%
Apr-09	\$ 5,605	\$0.00	4.14%	0.00%
May-09	\$ 5,435	\$0.00	-3.03%	0.00%
Jun-09	\$ 5,308	\$0.00	-2.34%	0.00%

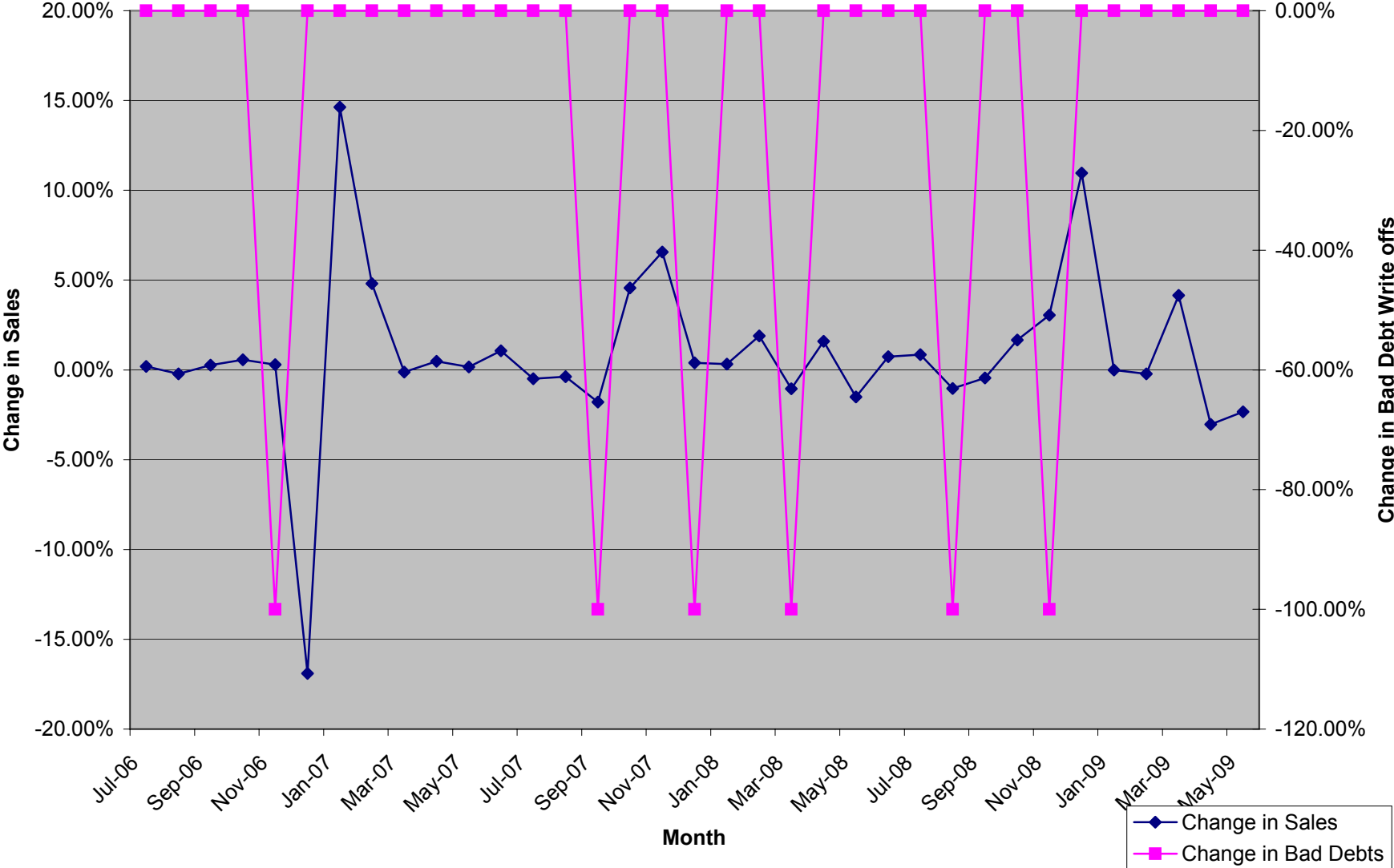
**MAWC  
Case No. WR-2010-0131**

**PKS - Parkville Sewer  
Monthly Change in Sales Revenue to Change in Bad Debt**





PKS - Parkville Sewer  
Monthly Change in Sales Revenue to Change in Bad Debt



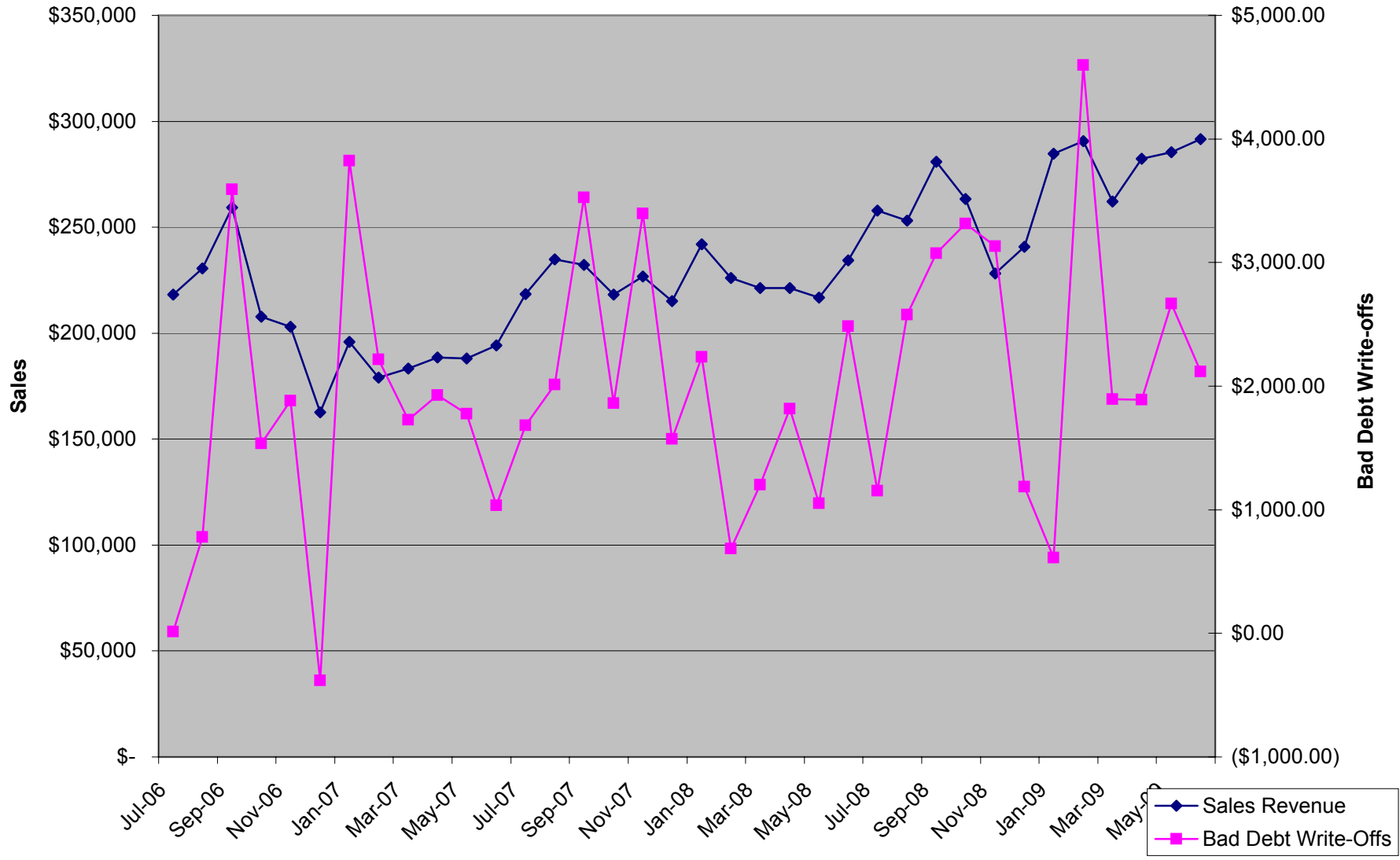
MISSOURI AMERICAN WATER COMPANY  
Case No. WR-2010-0131  
Issue: MO. Net Bad Debt Write-Offs vs. Billed Sales Revenue  
Prepared by: MAPEKA, MPSC

**WAR - Warrensburg**

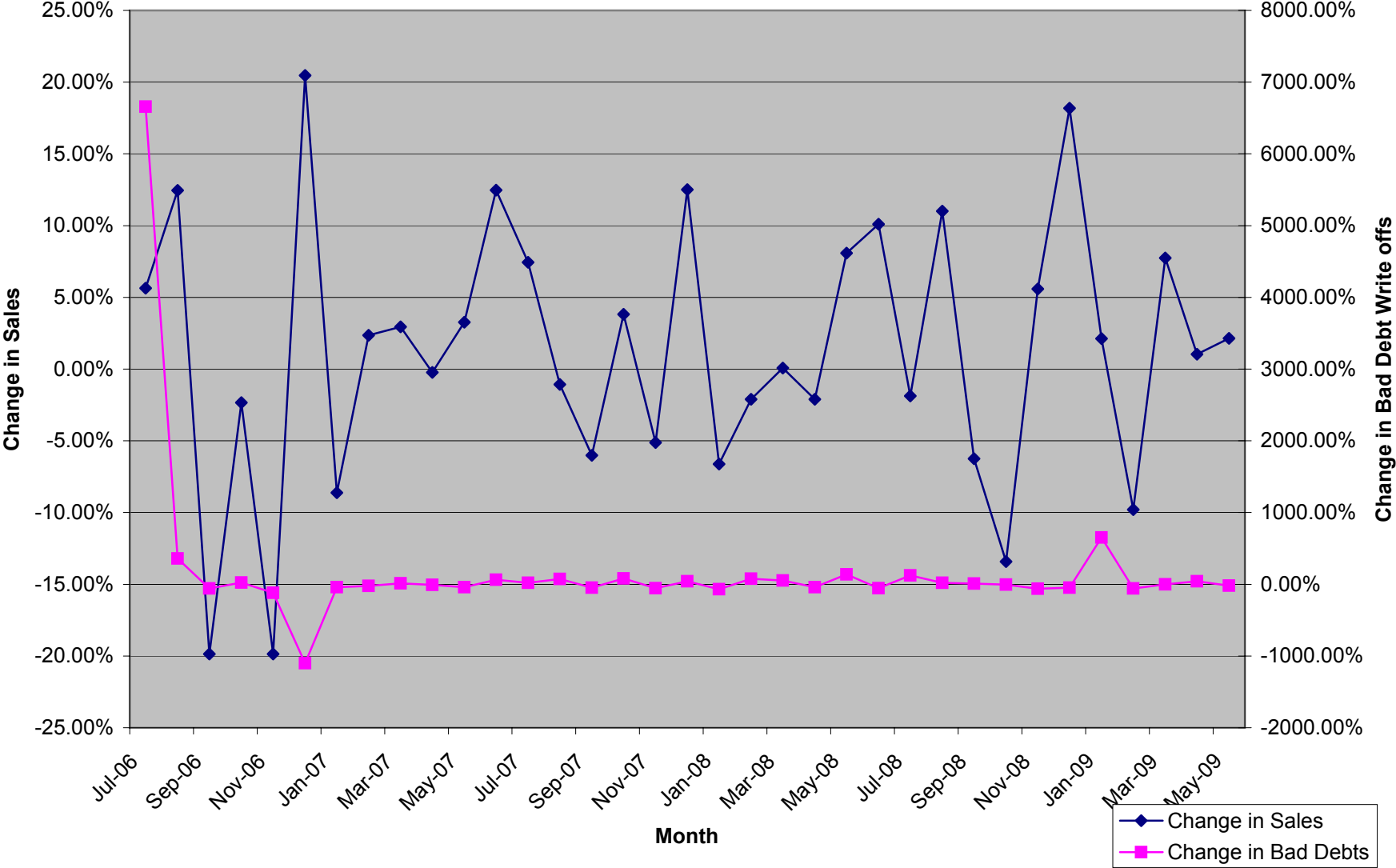
	Monthly	Monthly	Change in Sales	Change in Bad Debts
	<u>Sales Revenue</u>	<u>Bad Debt Write-Offs</u>	<u>Sales</u>	<u>Write-offs</u>
Jul-06	\$ 218,254	\$11.54		
Aug-06	\$ 230,568	\$780.07	5.64%	6659.71%
Sep-06	\$ 259,270	\$3,590.70	12.45%	360.30%
Oct-06	\$ 207,758	\$1,537.01	-19.87%	-57.19%
Nov-06	\$ 202,911	\$1,882.71	-2.33%	22.49%
Dec-06	\$ 162,608	(\$381.85)	-19.86%	-120.28%
Jan-07	\$ 195,877	\$3,822.44	20.46%	-1101.03%
Feb-07	\$ 179,008	\$2,215.96	-8.61%	-42.03%
Mar-07	\$ 183,224	\$1,729.21	2.36%	-21.97%
Apr-07	\$ 188,610	\$1,926.01	2.94%	11.38%
May-07	\$ 188,178	\$1,777.75	-0.23%	-7.70%
Jun-07	\$ 194,329	\$1,033.46	3.27%	-41.87%
Jul-07	\$ 218,559	\$1,683.38	12.47%	62.89%
Aug-07	\$ 234,819	\$2,012.12	7.44%	19.53%
Sep-07	\$ 232,294	\$3,526.86	-1.08%	75.28%
Oct-07	\$ 218,315	\$1,862.60	-6.02%	-47.19%
Nov-07	\$ 226,667	\$3,397.67	3.83%	82.42%
Dec-07	\$ 215,059	\$1,571.78	-5.12%	-53.74%
Jan-08	\$ 241,960	\$2,235.14	12.51%	42.20%
Feb-08	\$ 225,952	\$683.91	-6.62%	-69.40%
Mar-08	\$ 221,200	\$1,201.64	-2.10%	75.70%
Apr-08	\$ 221,371	\$1,815.94	0.08%	51.12%
May-08	\$ 216,726	\$1,050.20	-2.10%	-42.17%
Jun-08	\$ 234,262	\$2,482.52	8.09%	136.39%
Jul-08	\$ 257,921	\$1,153.38	10.10%	-53.54%
Aug-08	\$ 253,096	\$2,576.13	-1.87%	123.35%
Sep-08	\$ 280,972	\$3,076.63	11.01%	19.43%
Oct-08	\$ 263,426	\$3,316.09	-6.24%	7.78%
Nov-08	\$ 228,072	\$3,130.09	-13.42%	-5.61%
Dec-08	\$ 240,800	\$1,186.28	5.58%	-62.10%
Jan-09	\$ 284,598	\$612.12	18.19%	-48.40%
Feb-09	\$ 290,635	\$4,596.58	2.12%	650.93%
Mar-09	\$ 262,161	\$1,895.52	-9.80%	-58.76%
Apr-09	\$ 282,444	\$1,890.35	7.74%	-0.27%
May-09	\$ 285,385	\$2,666.23	1.04%	41.04%
Jun-09	\$ 291,513	\$2,119.45	2.15%	-20.51%

**MAWC  
Case No. WR-2010-0131**

**WAR - Warrensburg  
Monthly Change in Sales Revenue to Change in Bad Debt**



WAR - Warrensburg  
Monthly Change in Sales Revenue to Change in Bad Debt



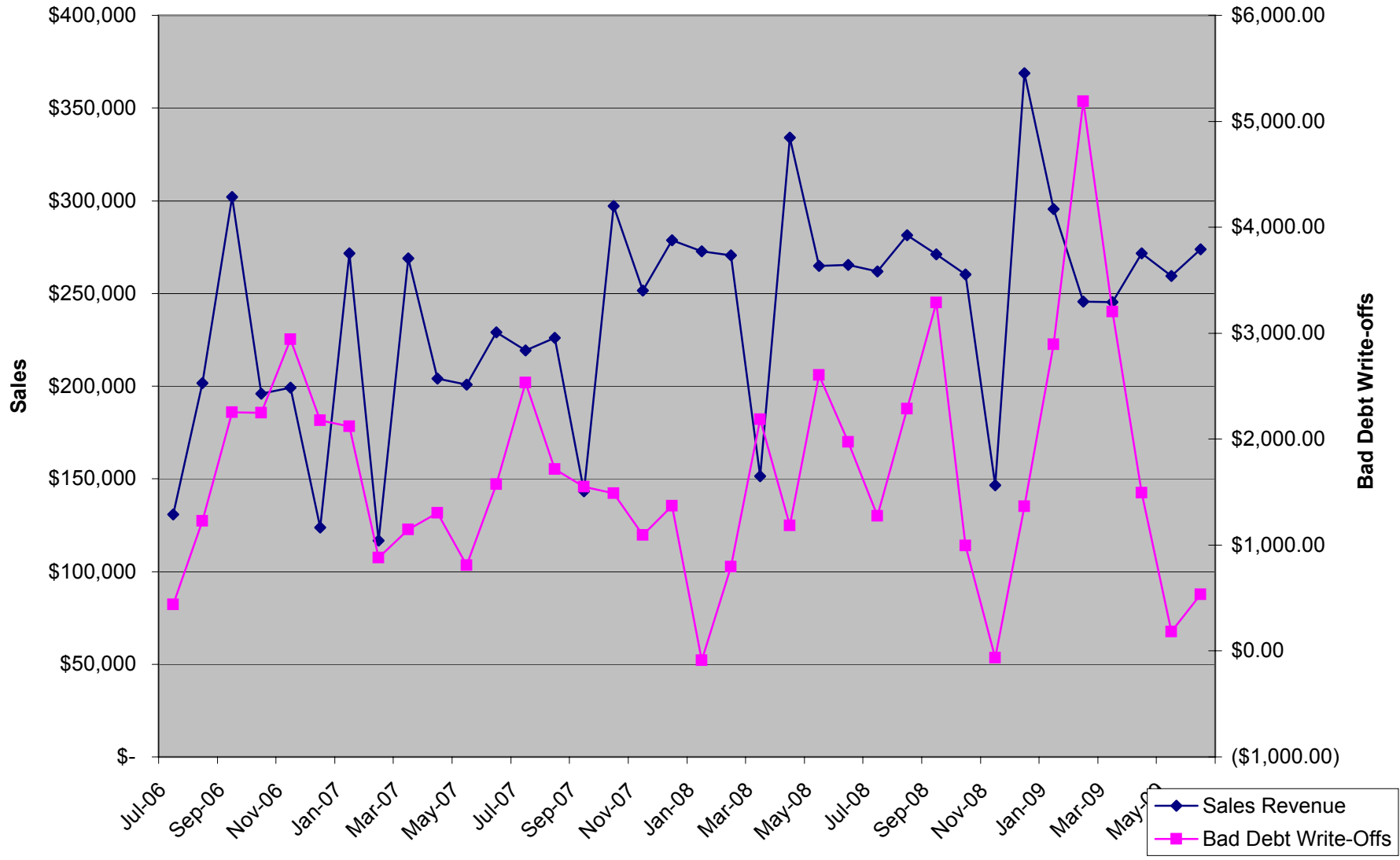
MISSOURI AMERICAN WATER COMPANY  
Case No. WR-2010-0131  
Issue: MO. Net Bad Debt Write-Offs vs. Billed Sales Revenue  
Prepared by: MAPEKA, MPSC

**MEX - Mexico**

	Monthly <u>Sales Revenue</u>	Monthly <u>Bad Debt Write-Offs</u>	Change in Sales <u>Sales</u>	Change in Bad Debts <u>Write-offs</u>
Jul-06	\$ 130,896	\$440.93		
Aug-06	\$ 201,685	\$1,226.49	54.08%	178.16%
Sep-06	\$ 302,094	\$2,252.74	49.79%	83.67%
Oct-06	\$ 196,047	\$2,246.59	-35.10%	-0.27%
Nov-06	\$ 199,145	\$2,940.77	1.58%	30.90%
Dec-06	\$ 123,747	\$2,175.87	-37.86%	-26.01%
Jan-07	\$ 271,547	\$2,120.24	119.44%	-2.56%
Feb-07	\$ 116,763	\$881.32	-57.00%	-58.43%
Mar-07	\$ 269,010	\$1,144.63	130.39%	29.88%
Apr-07	\$ 204,061	\$1,304.86	-24.14%	14.00%
May-07	\$ 200,770	\$807.91	-1.61%	-38.08%
Jun-07	\$ 228,918	\$1,575.51	14.02%	95.01%
Jul-07	\$ 219,241	\$2,533.14	-4.23%	60.78%
Aug-07	\$ 226,182	\$1,717.57	3.17%	-32.20%
Sep-07	\$ 143,325	\$1,548.02	-36.63%	-9.87%
Oct-07	\$ 297,052	\$1,488.50	107.26%	-3.84%
Nov-07	\$ 251,691	\$1,094.27	-15.27%	-26.49%
Dec-07	\$ 278,801	\$1,367.70	10.77%	24.99%
Jan-08	\$ 272,751	(\$89.36)	-2.17%	-106.53%
Feb-08	\$ 270,479	\$796.24	-0.83%	-991.05%
Mar-08	\$ 151,521	\$2,186.47	-43.98%	174.60%
Apr-08	\$ 334,010	\$1,182.39	120.44%	-45.92%
May-08	\$ 264,735	\$2,602.24	-20.74%	120.08%
Jun-08	\$ 265,352	\$1,971.84	0.23%	-24.23%
Jul-08	\$ 261,899	\$1,273.37	-1.30%	-35.42%
Aug-08	\$ 281,487	\$2,284.34	7.48%	79.39%
Sep-08	\$ 271,177	\$3,289.05	-3.66%	43.98%
Oct-08	\$ 260,142	\$996.07	-4.07%	-69.72%
Nov-08	\$ 146,596	(\$64.93)	-43.65%	-106.52%
Dec-08	\$ 368,696	\$1,365.95	151.50%	-2203.73%
Jan-09	\$ 295,585	\$2,895.13	-19.83%	111.95%
Feb-09	\$ 245,550	\$5,188.20	-16.93%	79.20%
Mar-09	\$ 245,210	\$3,203.37	-0.14%	-38.26%
Apr-09	\$ 271,560	\$1,491.68	10.75%	-53.43%
May-09	\$ 259,298	\$184.79	-4.52%	-87.61%
Jun-09	\$ 273,754	\$534.57	5.58%	189.29%

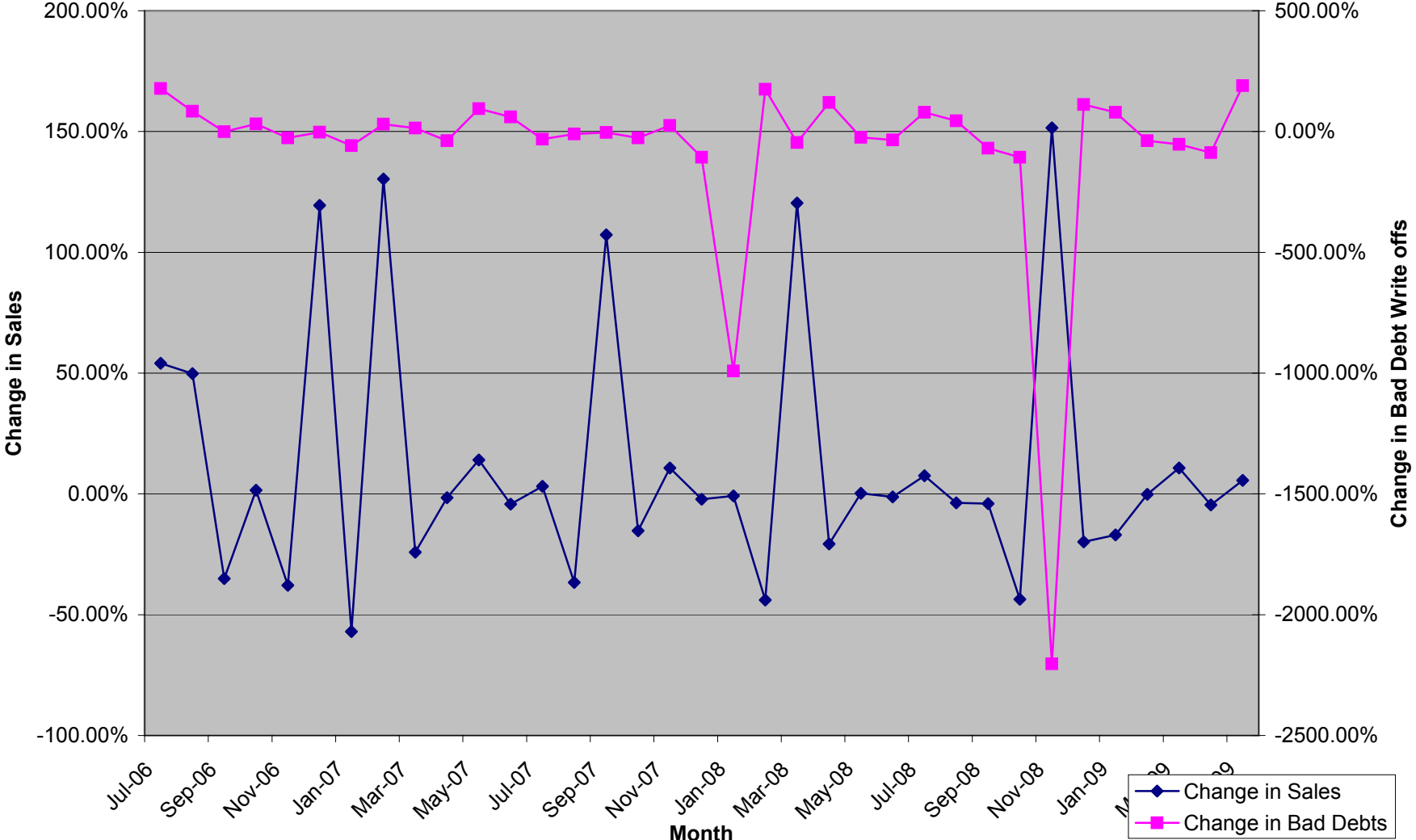
**MAWC**  
**Case No. WR-2010-0131**

**MEX - Mexico**  
**Monthly Change in Sales Revenue to Change in Bad Debt**



**MAWC**  
**Case No. WR-2010-0131**

**MEX - Mexico**  
**Monthly Change in Sales Revenue to Change in Bad Debt**



MISSOURI AMERICAN WATER COMPANY  
Case No. WR-2010-0131  
Issue: MO. Net Bad Debt Write-Offs vs. Billed Sales Revenue  
Prepared by: MAPEKA, MPSC

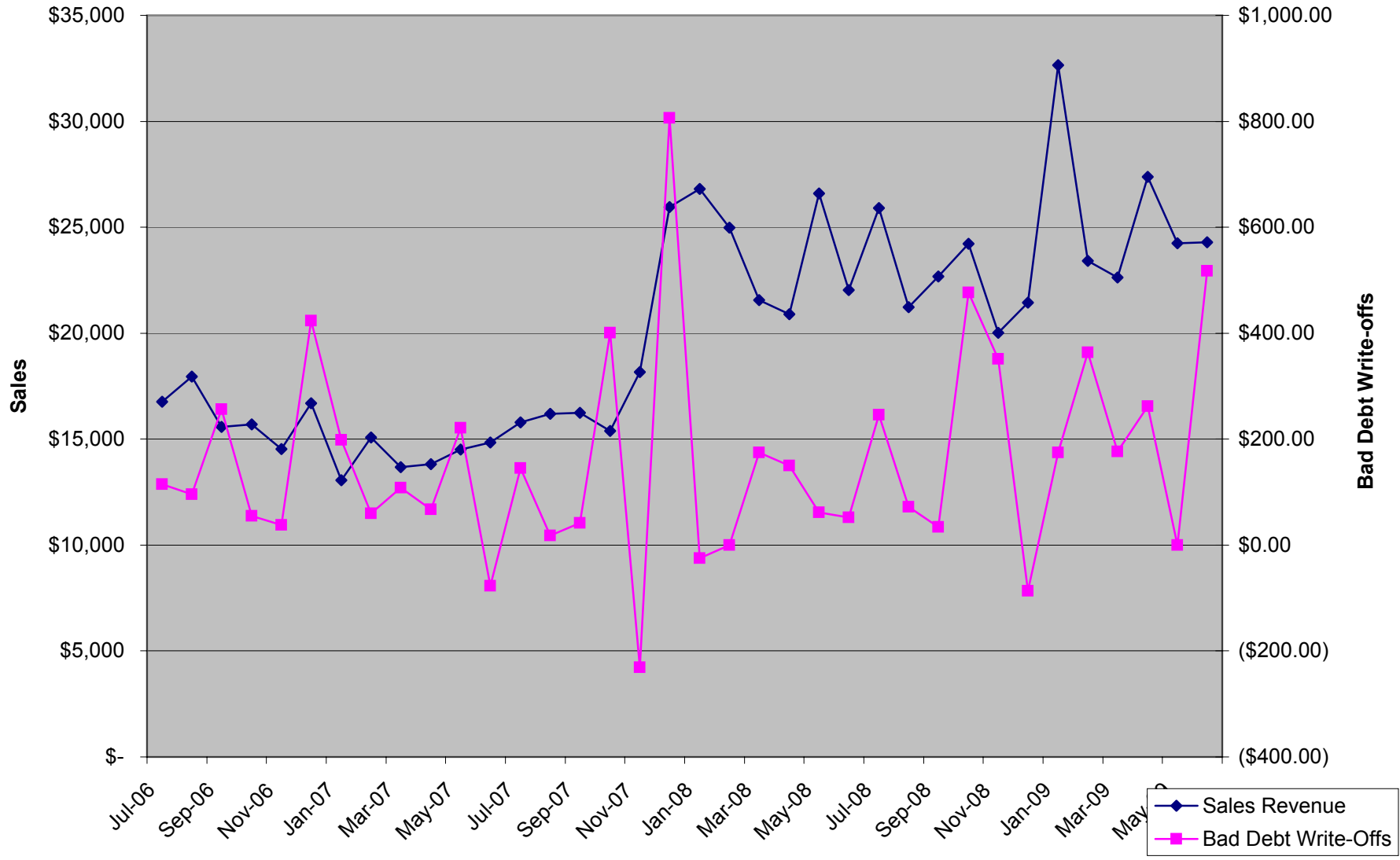
**BRU - Brunswick**

	Monthly Sales Revenue	Monthly Bad Debt Write-Offs	Change in Sales Sales	Change in Bad Debts Write-offs
Jul-06	\$ 16,773	\$114.79		
Aug-06	\$ 17,950	\$95.49	7.02%	-16.81%
Sep-06	\$ 15,569	\$256.18	-13.26%	168.28%
Oct-06	\$ 15,691	\$54.56	0.78%	-78.70%
Nov-06	\$ 14,539	\$37.79	-7.34%	-30.74%
Dec-06	\$ 16,687	\$423.76	14.77%	1021.35%
Jan-07	\$ 13,053	\$198.77	-21.78%	-53.09%
Feb-07	\$ 15,079	\$59.46	15.52%	-70.09%
Mar-07	\$ 13,687	\$108.43	-9.23%	82.36%
Apr-07	\$ 13,819	\$67.63	0.96%	-37.63%
May-07	\$ 14,499	\$221.23	4.92%	227.12%
Jun-07	\$ 14,852	(\$77.29)	2.43%	-134.94%
Jul-07	\$ 15,793	\$145.60	6.34%	-288.38%
Aug-07	\$ 16,194	\$17.77	2.54%	-87.80%
Sep-07	\$ 16,246	\$41.85	0.32%	135.51%
Oct-07	\$ 15,377	\$400.33	-5.35%	856.58%
Nov-07	\$ 18,169	(\$231.10)	18.16%	-157.73%
Dec-07	\$ 25,956	\$806.60	42.86%	-449.03%
Jan-08	\$ 26,806	(\$24.84)	3.27%	-103.08%
Feb-08	\$ 24,988	\$0.00	-6.78%	-100.00%
Mar-08	\$ 21,567	\$174.51	-13.69%	0.00%
Apr-08	\$ 20,896	\$150.33	-3.11%	-13.86%
May-08	\$ 26,591	\$62.01	27.25%	-58.75%
Jun-08	\$ 22,047	\$51.86	-17.09%	-16.37%
Jul-08	\$ 25,901	\$245.54	17.48%	373.47%
Aug-08	\$ 21,229	\$71.68	-18.04%	-70.81%
Sep-08	\$ 22,666	\$34.04	6.77%	-52.51%
Oct-08	\$ 24,222	\$477.07	6.86%	1301.50%
Nov-08	\$ 20,009	\$351.52	-17.39%	-26.32%
Dec-08	\$ 21,453	(\$86.41)	7.22%	-124.58%
Jan-09	\$ 32,645	\$174.43	52.17%	-301.86%
Feb-09	\$ 23,424	\$363.81	-28.25%	108.57%
Mar-09	\$ 22,620	\$176.86	-3.43%	-51.39%
Apr-09	\$ 27,369	\$262.21	20.99%	48.26%
May-09	\$ 24,251	\$0.00	-11.39%	-100.00%
Jun-09	\$ 24,286	\$517.22	0.14%	0.00%

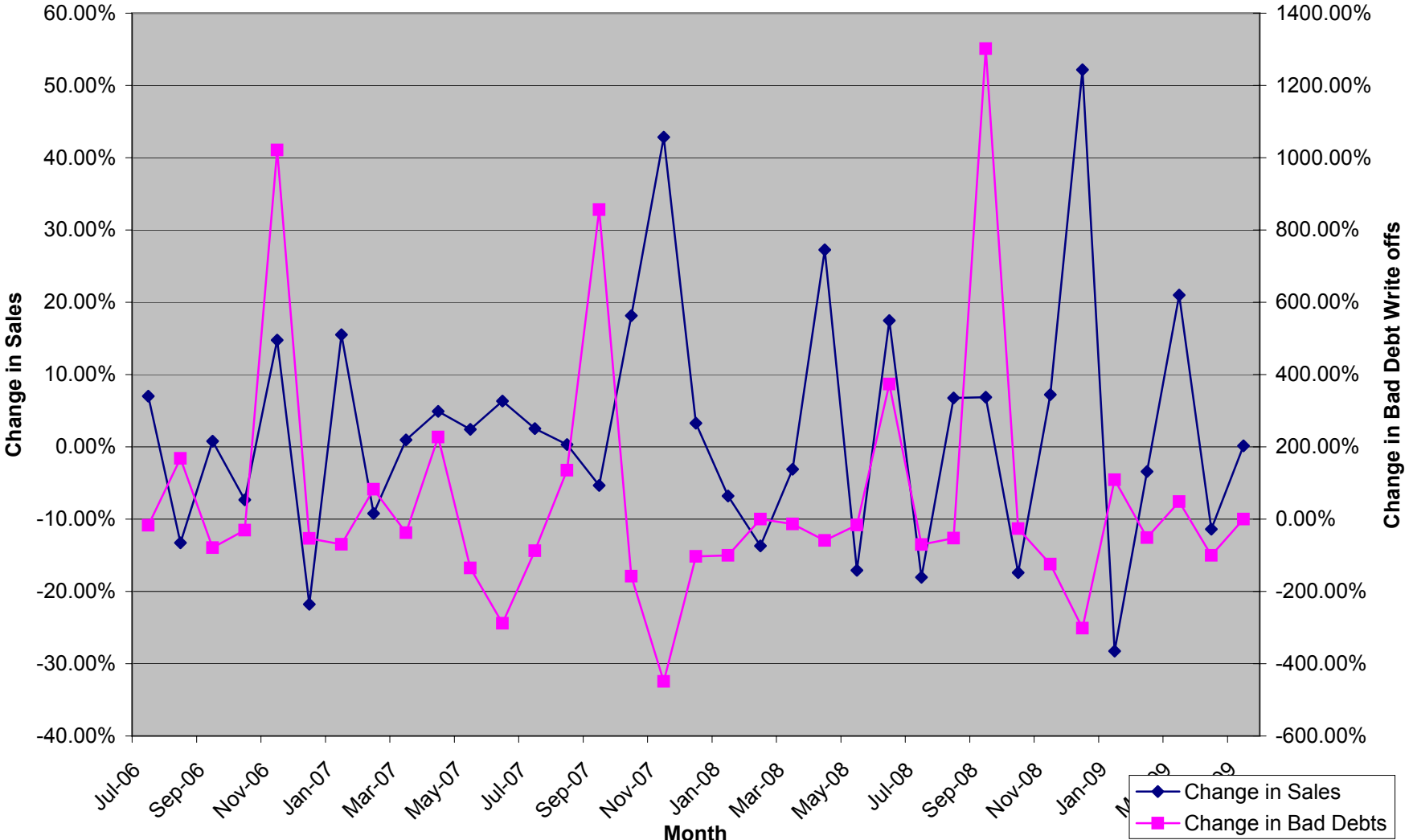


**MAWC**  
**Case No. WR-2010-0131**

**BRU - Brunswick**  
**Monthly Change in Sales Revenue to Change in Bad Debt**



**BRU - Brunswick**  
**Monthly Change in Sales Revenue to Change in Bad Debt**



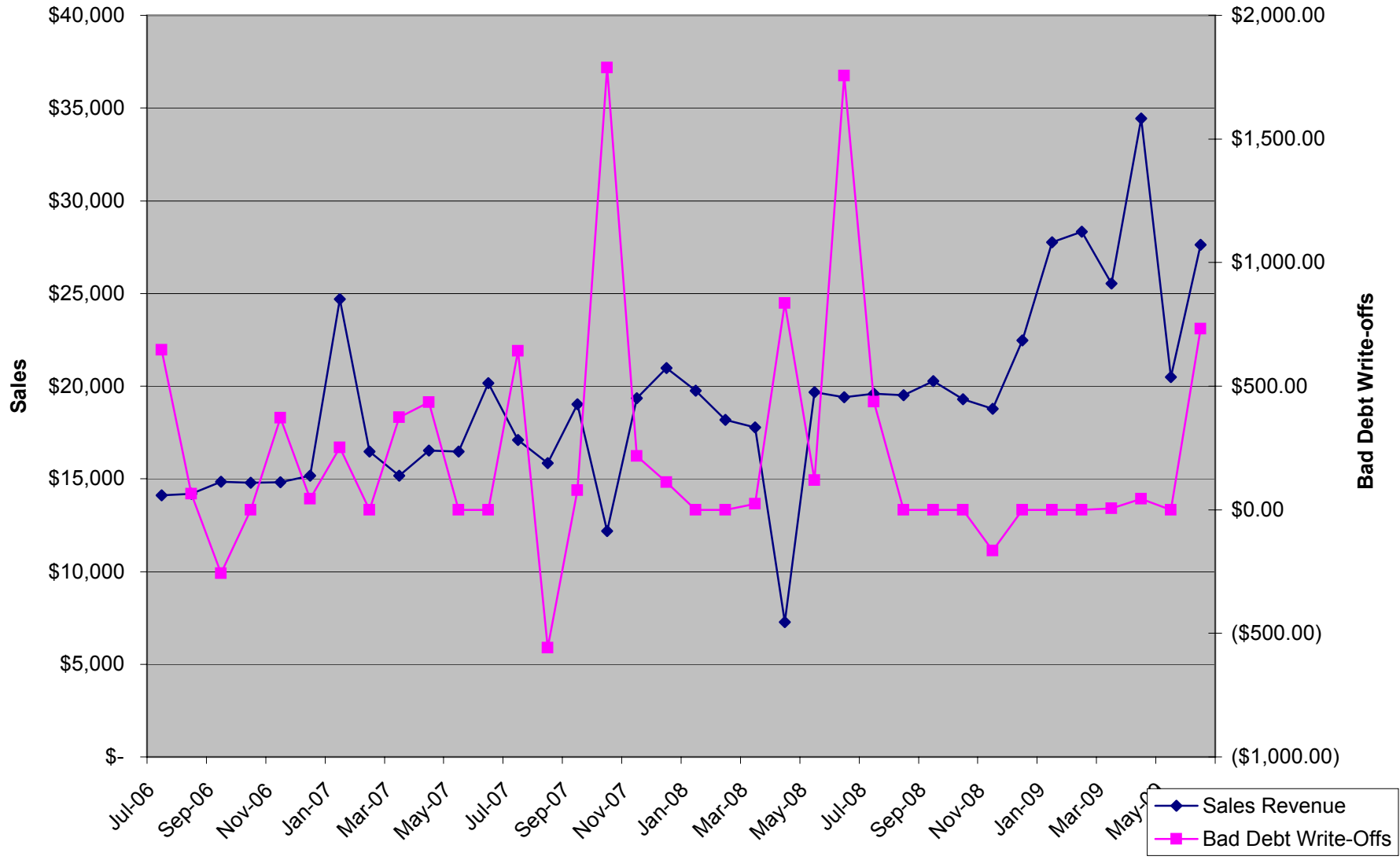
MISSOURI AMERICAN WATER COMPANY  
Case No. WR-2010-0131  
Issue: MO. Net Bad Debt Write-Offs vs. Billed Sales Revenue  
Prepared by: MAPEKA, MPSC

**CDH - Cedar Hill**

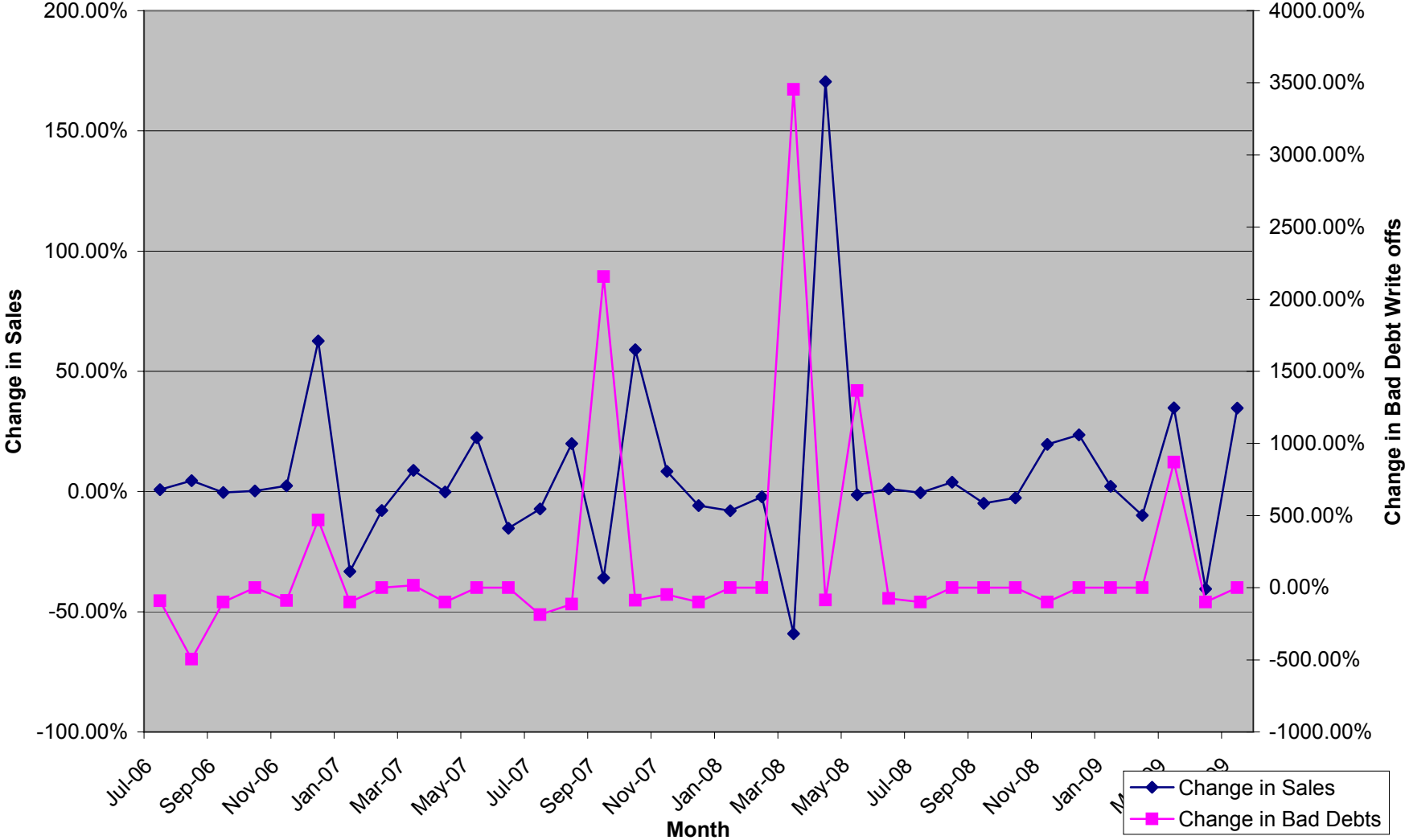
	Monthly	Monthly	Change in Sales	Change in Bad Debts
	<u>Sales Revenue</u>	<u>Bad Debt Write-Offs</u>	<u>Sales</u>	<u>Write-offs</u>
Jul-06	\$ 14,098	\$646.00		
Aug-06	\$ 14,206	\$64.80	0.77%	-89.97%
Sep-06	\$ 14,845	(\$256.60)	4.50%	-495.99%
Oct-06	\$ 14,789	\$0.00	-0.38%	-100.00%
Nov-06	\$ 14,825	\$371.77	0.24%	0.00%
Dec-06	\$ 15,179	\$44.40	2.39%	-88.06%
Jan-07	\$ 24,687	\$252.60	62.64%	468.92%
Feb-07	\$ 16,477	\$0.00	-33.26%	-100.00%
Mar-07	\$ 15,175	\$374.00	-7.90%	0.00%
Apr-07	\$ 16,513	\$434.00	8.82%	16.04%
May-07	\$ 16,484	\$0.00	-0.18%	-100.00%
Jun-07	\$ 20,174	\$0.00	22.39%	0.00%
Jul-07	\$ 17,087	\$642.00	-15.30%	0.00%
Aug-07	\$ 15,849	(\$558.60)	-7.25%	-187.01%
Sep-07	\$ 19,011	\$79.32	19.95%	-114.20%
Oct-07	\$ 12,175	\$1,789.20	-35.96%	2155.67%
Nov-07	\$ 19,359	\$217.00	59.01%	-87.87%
Dec-07	\$ 20,988	\$111.60	8.41%	-48.57%
Jan-08	\$ 19,766	\$0.00	-5.82%	-100.00%
Feb-08	\$ 18,179	\$0.00	-8.03%	0.00%
Mar-08	\$ 17,782	\$23.52	-2.18%	0.00%
Apr-08	\$ 7,269	\$836.04	-59.12%	3454.59%
May-08	\$ 19,662	\$119.75	170.49%	-85.68%
Jun-08	\$ 19,393	\$1,756.53	-1.37%	1366.83%
Jul-08	\$ 19,604	\$437.73	1.09%	-75.08%
Aug-08	\$ 19,502	\$0.00	-0.52%	-100.00%
Sep-08	\$ 20,266	\$0.00	3.92%	0.00%
Oct-08	\$ 19,281	\$0.00	-4.86%	0.00%
Nov-08	\$ 18,775	(\$166.19)	-2.62%	0.00%
Dec-08	\$ 22,458	\$0.00	19.62%	-100.00%
Jan-09	\$ 27,748	\$0.00	23.56%	0.00%
Feb-09	\$ 28,342	\$0.00	2.14%	0.00%
Mar-09	\$ 25,537	\$4.51	-9.90%	0.00%
Apr-09	\$ 34,430	\$43.81	34.82%	871.40%
May-09	\$ 20,494	\$0.00	-40.48%	-100.00%
Jun-09	\$ 27,612	\$732.61	34.73%	0.00%

**MAWC  
Case No. WR-2010-0131**

**CDH - Cedar Hill  
Monthly Change in Sales Revenue to Change in Bad Debt**



CDH - Cedar Hill  
Monthly Change in Sales Revenue to Change in Bad Debt



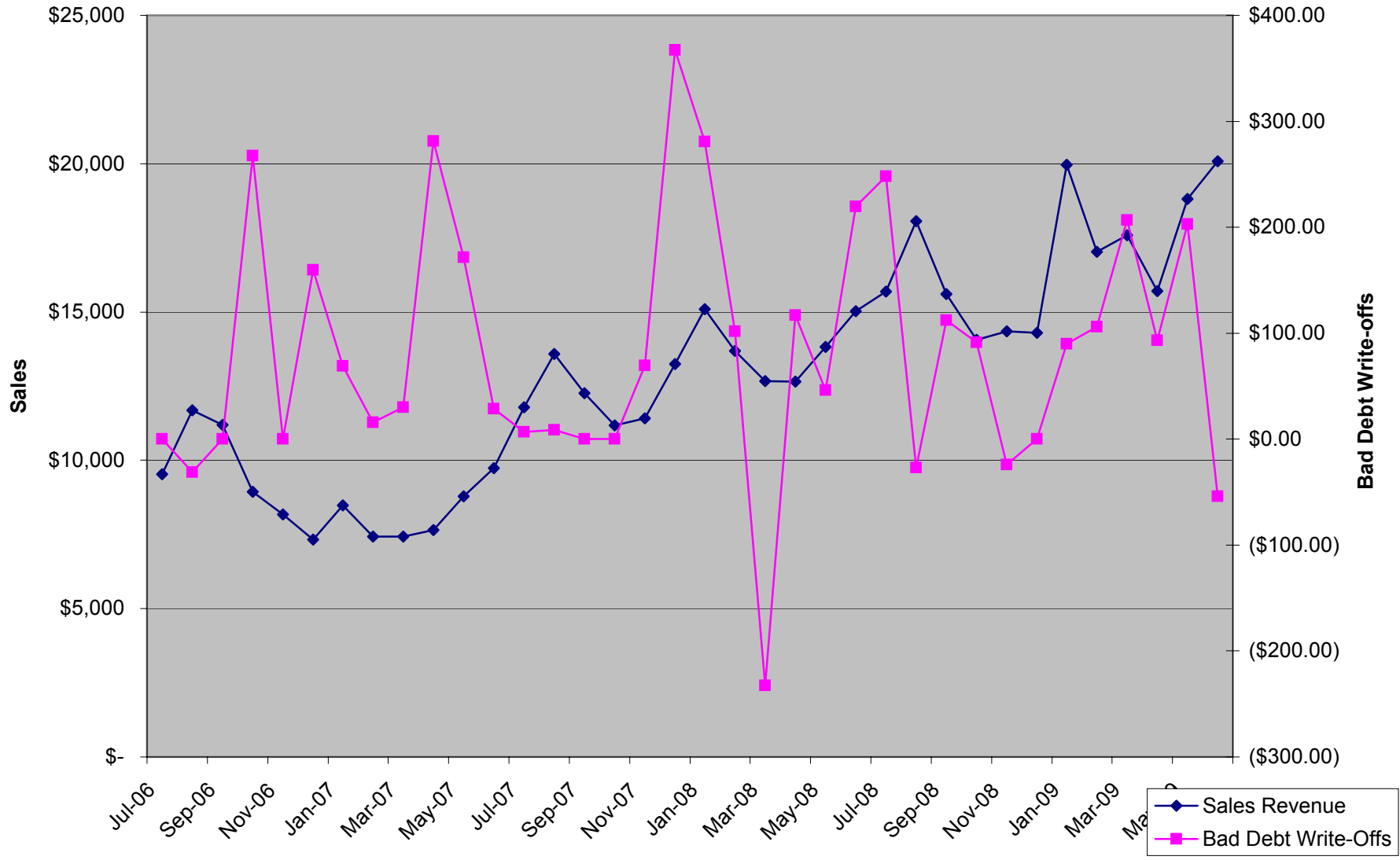
MISSOURI AMERICAN WATER COMPANY  
Case No. WR-2010-0131  
Issue: MO. Net Bad Debt Write-Offs vs. Billed Sales Revenue  
Prepared by: MAPEKA, MPSC

**WCW - Warren County Water**

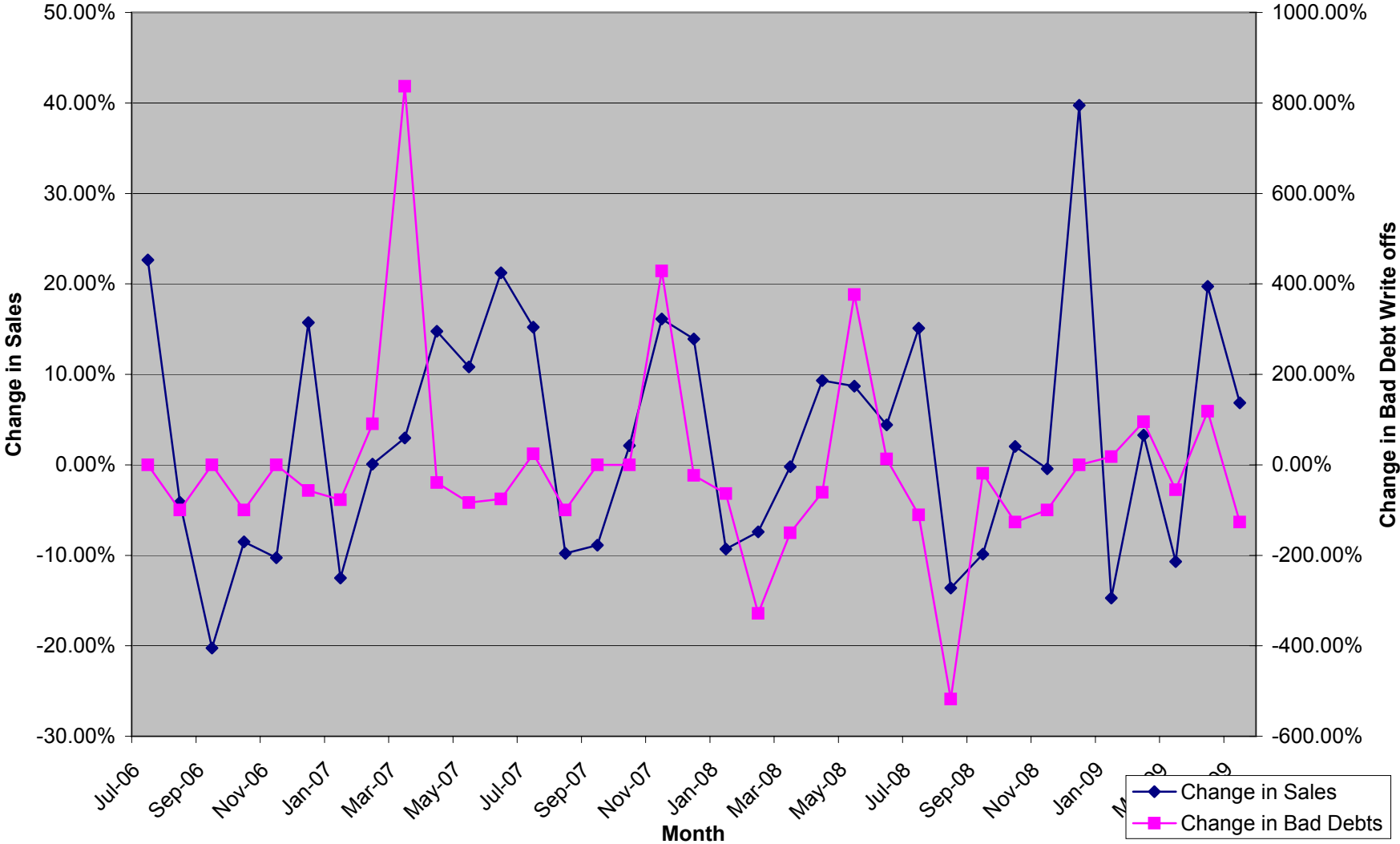
	Monthly	Monthly	Change in Sales	Change in Bad Debts
	<u>Sales Revenue</u>	<u>Bad Debt Write-Offs</u>	<u>Sales</u>	<u>Write-offs</u>
Jul-06	\$ 9,527	\$0.00		
Aug-06	\$ 11,685	(\$31.43)	22.65%	0.00%
Sep-06	\$ 11,201	\$0.00	-4.14%	-100.00%
Oct-06	\$ 8,934	\$267.33	-20.24%	0.00%
Nov-06	\$ 8,173	\$0.00	-8.52%	-100.00%
Dec-06	\$ 7,333	\$159.87	-10.28%	0.00%
Jan-07	\$ 8,486	\$69.00	15.72%	-56.84%
Feb-07	\$ 7,425	\$15.74	-12.50%	-77.19%
Mar-07	\$ 7,430	\$30.02	0.07%	90.72%
Apr-07	\$ 7,650	\$281.21	2.96%	836.74%
May-07	\$ 8,780	\$171.35	14.77%	-39.07%
Jun-07	\$ 9,729	\$28.75	10.81%	-83.22%
Jul-07	\$ 11,794	\$6.95	21.23%	-75.83%
Aug-07	\$ 13,589	\$8.65	15.22%	24.46%
Sep-07	\$ 12,259	\$0.00	-9.79%	-100.00%
Oct-07	\$ 11,172	\$0.00	-8.87%	0.00%
Nov-07	\$ 11,410	\$69.49	2.13%	0.00%
Dec-07	\$ 13,250	\$367.39	16.13%	428.69%
Jan-08	\$ 15,095	\$280.59	13.92%	-23.63%
Feb-08	\$ 13,692	\$101.80	-9.29%	-63.72%
Mar-08	\$ 12,677	(\$232.47)	-7.41%	-328.36%
Apr-08	\$ 12,650	\$117.03	-0.21%	-150.34%
May-08	\$ 13,830	\$46.07	9.33%	-60.63%
Jun-08	\$ 15,034	\$219.49	8.71%	376.43%
Jul-08	\$ 15,696	\$248.16	4.40%	13.06%
Aug-08	\$ 18,065	(\$26.90)	15.09%	-110.84%
Sep-08	\$ 15,605	\$112.31	-13.62%	-517.51%
Oct-08	\$ 14,066	\$91.16	-9.86%	-18.83%
Nov-08	\$ 14,354	(\$24.00)	2.05%	-126.33%
Dec-08	\$ 14,291	\$0.00	-0.44%	-100.00%
Jan-09	\$ 19,971	\$89.69	39.75%	0.00%
Feb-09	\$ 17,032	\$106.06	-14.72%	18.25%
Mar-09	\$ 17,589	\$206.69	3.27%	94.88%
Apr-09	\$ 15,706	\$93.04	-10.71%	-54.99%
May-09	\$ 18,802	\$203.09	19.71%	118.28%
Jun-09	\$ 20,088	(\$54.06)	6.84%	-126.62%

**MAWC**  
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**WCW - Warren County Water**  
**Monthly Change in Sales Revenue to Change in Bad Debt**



WCW - Warren County Water  
Monthly Change in Sales Revenue to Change in Bad Debt





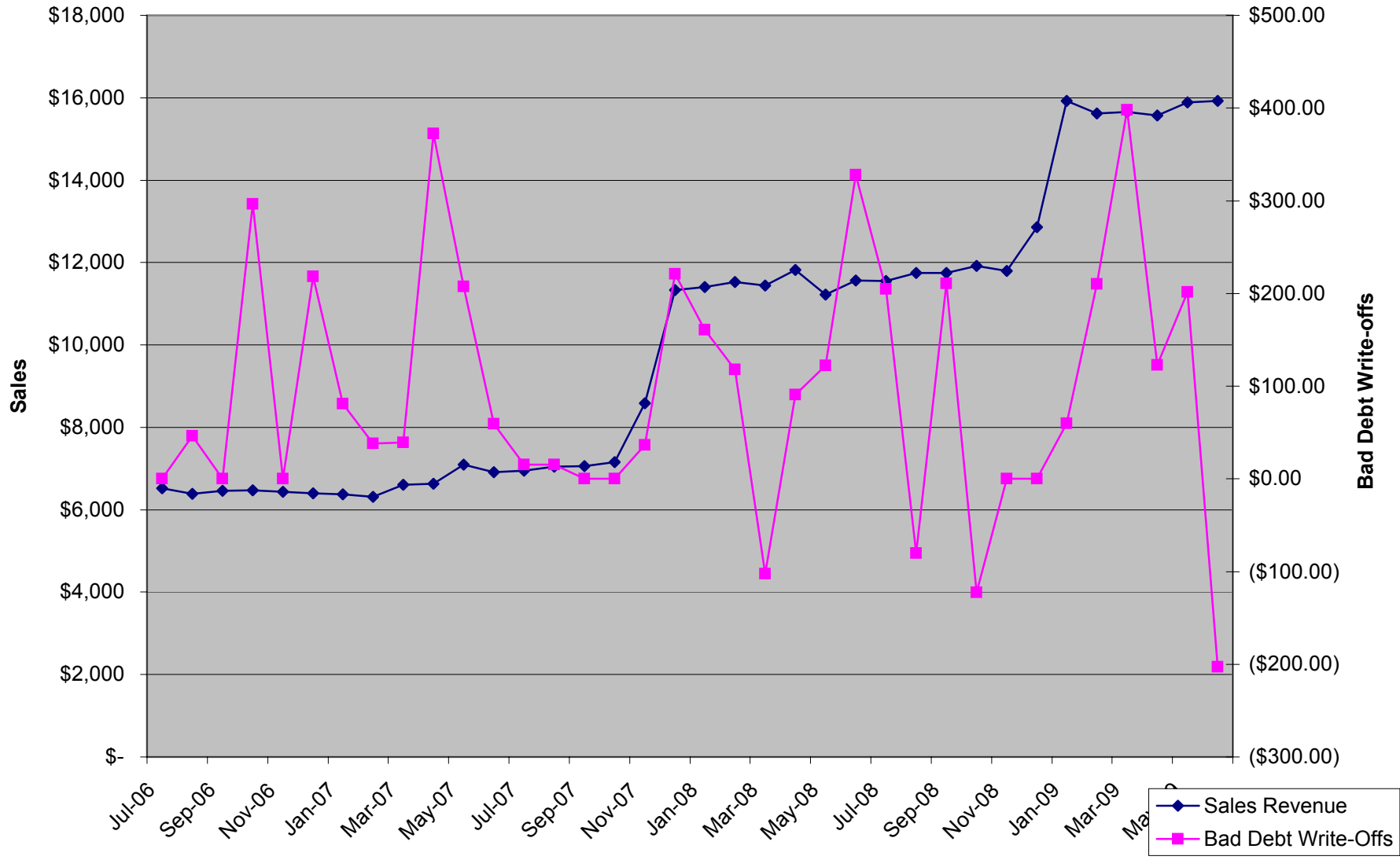
MISSOURI AMERICAN WATER COMPANY  
Case No. WR-2010-0131  
Issue: MO. Net Bad Debt Write-Offs vs. Billed Sales Revenue  
Prepared by: MAPEKA, MPSC

**WCS - Warren County Sewer**

	Monthly	Monthly	Change in Sales	Change in Bad Debts
	<u>Sales Revenue</u>	<u>Bad Debt Write-Offs</u>	<u>Sales</u>	<u>Write-offs</u>
Jul-06	\$ 6,516	\$0.00		
Aug-06	\$ 6,391	\$46.35	-1.92%	0.00%
Sep-06	\$ 6,457	\$0.00	1.03%	-100.00%
Oct-06	\$ 6,468	\$296.71	0.17%	0.00%
Nov-06	\$ 6,435	\$0.00	-0.51%	-100.00%
Dec-06	\$ 6,400	\$218.11	-0.54%	0.00%
Jan-07	\$ 6,369	\$81.03	-0.48%	-62.85%
Feb-07	\$ 6,309	\$38.10	-0.94%	-52.98%
Mar-07	\$ 6,605	\$39.30	4.69%	3.15%
Apr-07	\$ 6,632	\$372.47	0.41%	847.76%
May-07	\$ 7,100	\$207.40	7.06%	-44.32%
Jun-07	\$ 6,912	\$59.26	-2.65%	-71.43%
Jul-07	\$ 6,944	\$15.12	0.46%	-74.49%
Aug-07	\$ 7,047	\$15.12	1.48%	0.00%
Sep-07	\$ 7,053	\$0.00	0.09%	-100.00%
Oct-07	\$ 7,162	\$0.00	1.55%	0.00%
Nov-07	\$ 8,581	\$36.28	19.81%	0.00%
Dec-07	\$ 11,330	\$221.30	32.04%	509.98%
Jan-08	\$ 11,404	\$160.84	0.65%	-27.32%
Feb-08	\$ 11,532	\$118.07	1.12%	-26.59%
Mar-08	\$ 11,445	(\$102.66)	-0.75%	-186.95%
Apr-08	\$ 11,822	\$90.70	3.29%	-188.35%
May-08	\$ 11,220	\$122.29	-5.09%	34.83%
Jun-08	\$ 11,564	\$328.16	3.07%	168.35%
Jul-08	\$ 11,549	\$204.98	-0.13%	-37.54%
Aug-08	\$ 11,747	(\$80.14)	1.71%	-139.10%
Sep-08	\$ 11,752	\$210.74	0.04%	-362.96%
Oct-08	\$ 11,921	(\$122.29)	1.44%	-158.03%
Nov-08	\$ 11,800	\$0.00	-1.02%	-100.00%
Dec-08	\$ 12,856	\$0.00	8.95%	0.00%
Jan-09	\$ 15,921	\$59.84	23.84%	0.00%
Feb-09	\$ 15,614	\$209.92	-1.93%	250.80%
Mar-09	\$ 15,650	\$397.99	0.23%	89.59%
Apr-09	\$ 15,574	\$122.89	-0.49%	-69.12%
May-09	\$ 15,883	\$201.23	1.98%	63.75%
Jun-09	\$ 15,919	(\$202.77)	0.23%	-200.77%

**MAWC  
Case No. WR-2010-0131**

**WCS - Warren County Sewer  
Monthly Change in Sales Revenue to Change in Bad Debt**



**WCS - Warren County Sewer**  
**Monthly Change in Sales Revenue to Change in Bad Debt**

