Findlay Water Treatment Plant and Supply Reservoir Annual Report

2009

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WATER TREATMENT FACILITY

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2009 ANNUAL REPORT

I would respectfully like to submit the Annual Report of Operations for the year ending December 31, 2009. My sincere thank you goes out to the numerous dedicated Water Department employees for their continued support throughout the year.

Because of 2009 budget constraints, numerous projects were put on hold in the Department with only necessary repairs being made to buildings and equipment. One of the major repairs needed at the Water Treatment Facility was to fix several cracks in the finished water storage tanks (clear wells). This project was successfully completed in May 2009.

At the Supply Reservoir, after months of testing, a new sodium permanganate feed facility was bid out in December with final completion expected by the summer of 2010.

Drinking water regulations continue to become more complex thus creating the continued need for a well trained workforce as well as new, modern technologies. These demands will constitute many new financial obligations to numerous cities and a monumental challenge for local government officials to keep water rates reasonable both now and in the future. The City of Findlay's Water Department is prepared to meet these challenges.

Sincerely,

Scott Shellhammer
Superintendent
Water Department

City of Findlay Water Department
Drinking Water Consumer Confidence Report For 2009

Superintendent	Mayor	Service Director
Scott Shellhammer	Pete Sehnert	Bruce Hardy

Introduction
The following report has been prepared to provide information to you, the consumer, on the quality of our drinking water. Included within this report is general health information, water quality test results, how to participate in decisions concerning your drinking water and water system contacts.

Source water information and assessment
Our water source is surface water pumped from the Blanchard River into the Findlay Reservoir, which is located three miles southeast of the water treatment plant. For the purpose of source water assessments, in Ohio all surface waters are considered susceptible to contamination. By their nature, surface waters are readily accessible and can be contaminated by chemicals and pathogens, which may rapidly arrive at the public drinking water intake with little warning or time to prepare. The City of Findlay's drinking water source protection area contains potential contaminant sources such as agricultural runoff, industrial storm water, gas station runoff, home construction, animal feed lot runoff, gas lines and gas and oil wells, wastewater treatment discharges, cemeteries, airports, silage, farm machinery repair, pesticide/fertilizer/petroleum storage areas, pasture, closed and inactive landfills, roadways and railways, and one site being investigated by Ohio EPA's Division of Emergency and Remedial Response (Hobbs Dump) just outside the protection area in Seneca County.

We treat your water using lime/soda softening, coagulation, sedimentation, stabilization, fluoridation, disinfection, and filtration to remove or reduce harmful contaminants in the source water; however, no single treatment technique can address all potential contaminants. The potential for water quality impacts can be further decreased by implementing measures to protect the Blanchard River. Information that is more detailed is in the City of Findlay's Drinking Water Source Assessment Report, which can be obtained by calling the Findlay Water Department at 419-424-7193.

Sources of contamination to drinking water
The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include: (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; (B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; (D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; (E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

Who needs to take special precautions?
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infection. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

About your drinking water
The EPA requires regular sampling to ensure drinking water safety. Our water department conducted sampling for bacteria, inorganic, synthetic organic, and volatile organic contaminants during 2009. Samples were collected for 63 different contaminants, most of which were not detected in the City of Findlay water supply. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. The Ohio EPA also requires us to monitor for unregulated contaminants that have no current MCLs, treatment techniques or action levels. Some of our data, though accurate, are more than one year old.

Listed below is information on those contaminants that were found in the City of Findlay drinking water.

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Bacteriological							
Total Organic Carbon (ppm)	NA	TT	2.3	1.7 – 3.3	NO	2009	Naturally present in the environment.
The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one (1) indicates that the water system is in compliance with TOC removal requirements. A value of less than one (1) indicates a violation of the TOC removal requirements.							
Turbidity (NTU)	NA	TT	0.28	0.05 – 0.28	NO	2009	Soil runoff.
Turbidity (% meeting standard)	NA	TT	100%	100% – 100%	NO	2009	
Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the daily samples and shall not exceed 1 NTU at any time. As reported above the Findlay Water Department's highest recorded turbidity result for 2009 was 0.28 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100%.							

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Radioactive Contaminants							
Gross Alpha (pCi/L)	0	15	0.584	NA	NO	2006	Erosion of natural deposits.
Gross Beta (pCi/L)	0	AL=50	6.8	NA	NO	2003	Decay of natural and man-made deposits.
EPA considers 50pCi/L to be the level of concern for beta particles.							
Inorganic Contaminants							
Copper (ppm)	1.3	AL=1.3	0.110	NA	NO	2007	Corrosion of household plumbing systems; Erosion of natural deposits.
	Zero out of 30 samples was found to have copper levels in excess of the Action Level of 1.3 ppm.						
Fluoride (ppm)	4	4	1.01	0.77 – 1.18	NO	2009	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Lead (ppb)	0	AL=15	<2.0	NA	NO	2007	Corrosion of household plumbing systems; Erosion of natural deposits.
	Zero out of 30 samples was found to have lead levels in excess of the Action Level of 15 ppb.						
Nitrate (ppm)	10	10	0.90	0.20 – 0.90	NO	2009	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Volatile Organic Contaminants							
Bromodichloromethane (ppb)	NA	NA	7.5	NA	NO	2009	By-product of drinking water chlorination.
Chloroform (ppb)	NA	NA	12.0	NA	NO	2009	By-product of drinking water chlorination.
Dibromochloromethane (ppb)	NA	NA	2.7	NA	NO	2009	By-product of drinking water chlorination.
Haloacetic Acids (HAA5) (ppb)	NA	60	21.2	10.7 – 32.5	NO	2009	By-product of drinking water chlorination.
Total Trihalomethane (TTHM) (ppb)	NA	80	49.6	27.8 – 67.4	NO	2009	By-product of drinking water chlorination.
IDSE HAA5 (ppb)	NA	NA	NA	11.2 – 30.8	NO	2009	By-product of drinking water chlorination.
IDSE TTHM (ppb)	NA	NA	NA	19.1 – 68.6	NO	2009	By-product of drinking water chlorination.
Residual Disinfectants							
Total Chlorine (ppm)	MRDLG = 4	MRDL = 4	1.39	1.17 – 1.57	NO	2009	Water additive used to control microbes.

IDSE Monitoring Results

Under the Stage 2 Disinfectants/Disinfection Byproducts Rule (D/DBPR), our public water system was required by USEPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE), and is intended to identify locations in our distribution system with elevated disinfection byproduct concentrations. The locations selected for the IDSE may be used for compliance monitoring under Stage 2 DBPR, beginning in 2013. Disinfection byproducts are the result of providing continuous disinfection of your drinking water and from when disinfectants combine with organic matter naturally occurring in the source water. Disinfection byproducts are grouped into two categories, Total Trihalomethanes (TTHM) and Haloaetic Acids (HAA5). USEPA sets standards for controlling the levels of disinfectants and disinfectant byproducts in drinking water, including both TTHMs and HAA5s.

Lead Educational Information

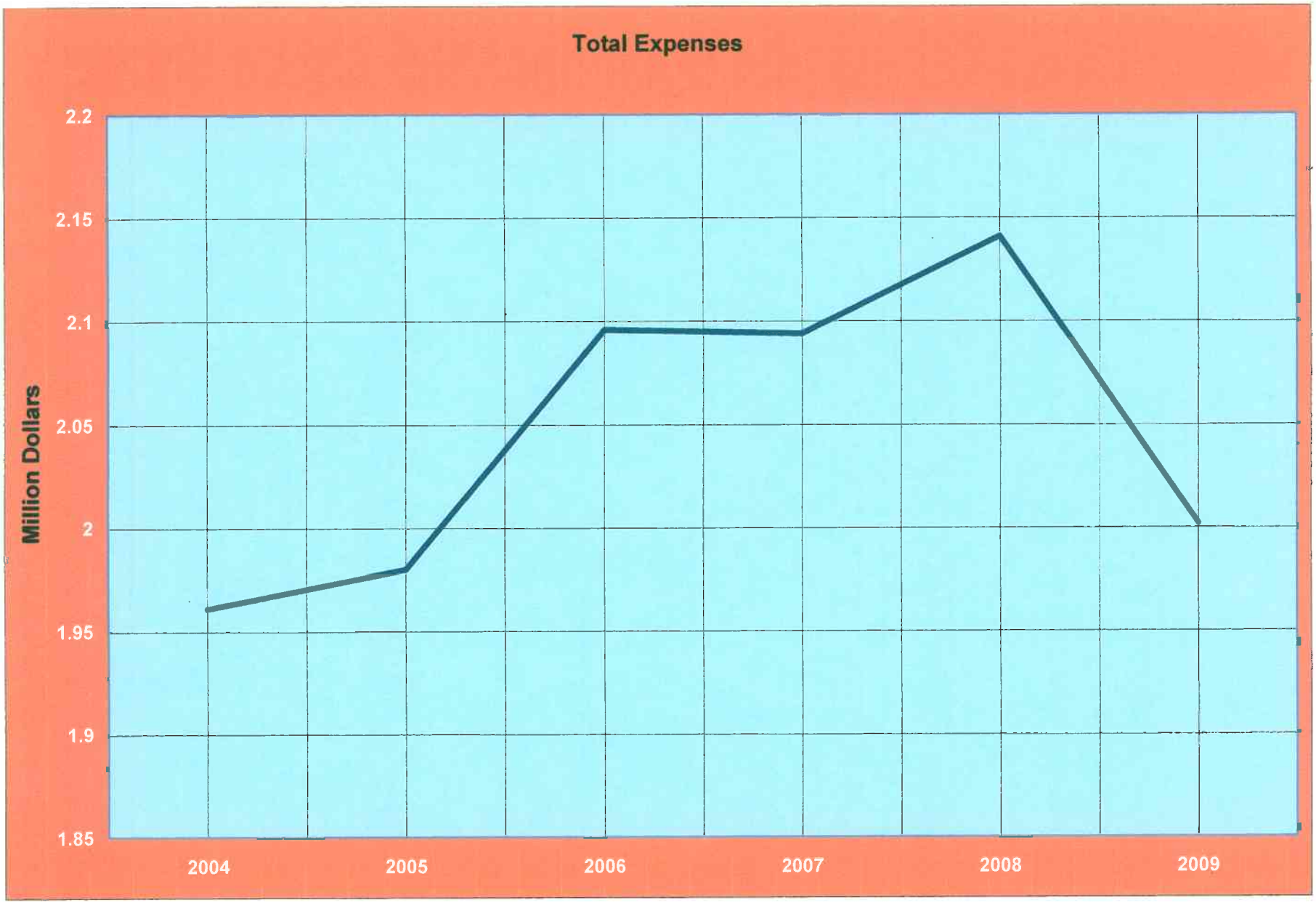
If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Findlay Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at http://www.epa.gov/safewater/lead.

How do I participate in decisions concerning my drinking water?

If you have any questions about this report or concerning your water utility, please contact Scott Shellhammer by calling (419) 424-7193 or by writing to 110 North Blanchard Street, Findlay, OH 45840. We want our valued customers to be informed about their water utility. You can attend regular public meetings on the first and third Tuesday of each month, at 7:30 p.m., in Council Chambers in the Municipal Building, at 318 Dorney Plaza.

Definitions of some terms contained within this report

- Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- Maximum Contaminant level (MCL): The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- Parts per Million (ppm) or Milligrams per Liter (mg/L) are units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.
- Parts per Billion (ppb) or Micrograms per Liter (µg/L) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.
- Picocuries per Liter (pCi/L): A measure of radioactivity.
- Nephelometric Turbidity Unit (NTU): A measure of water cloudiness.
- Not Applicable (NA)
- Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
- Maximum Residual Disinfectant Level Goal (MRDLG): The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- The "<" symbol: A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.

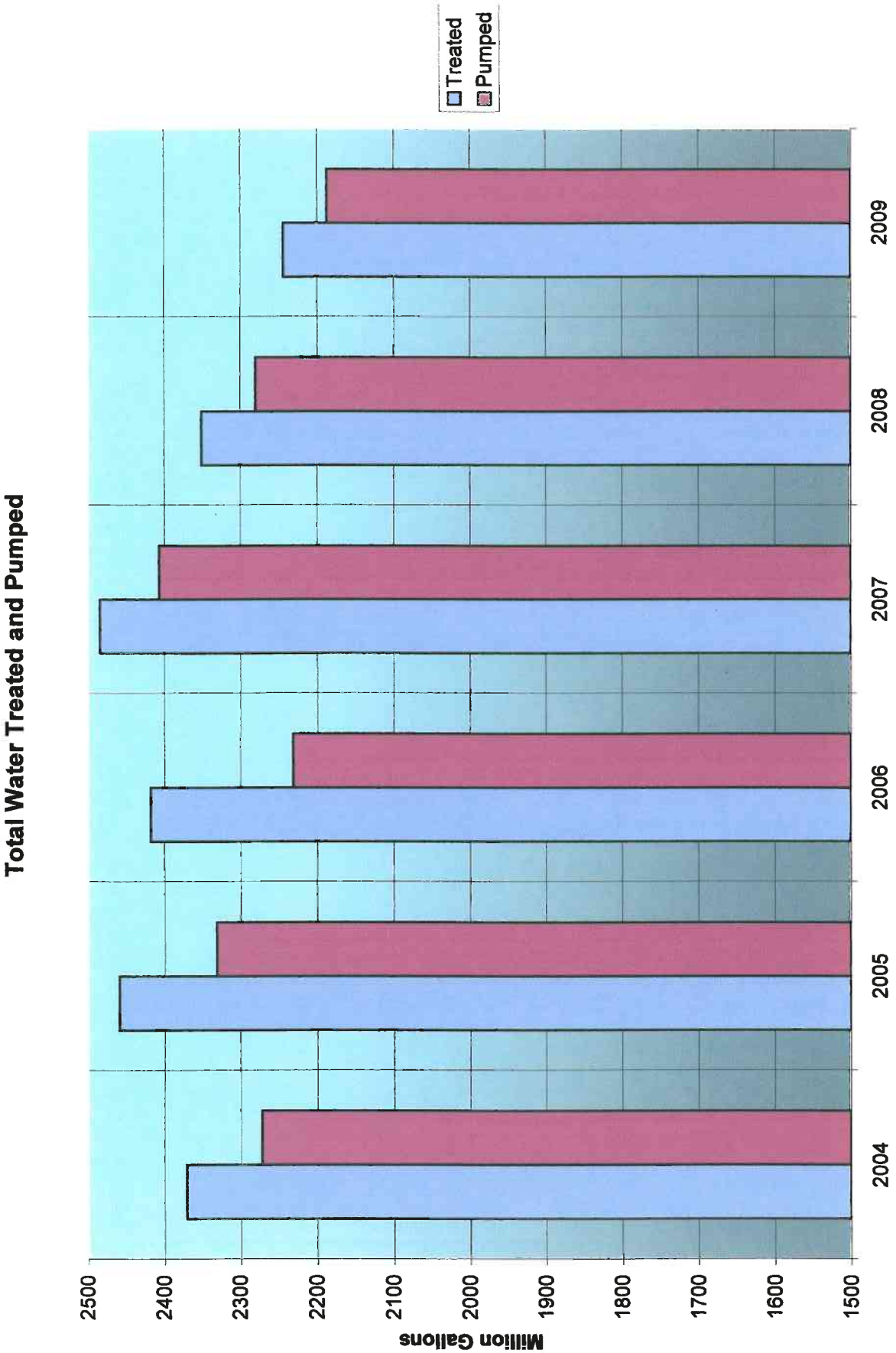

Total Expenses
Million Dollars
2.2
2.15
2.1
2.05
2
1.95
1.9
1.85
2004
2005
2006
2007
2008
2009

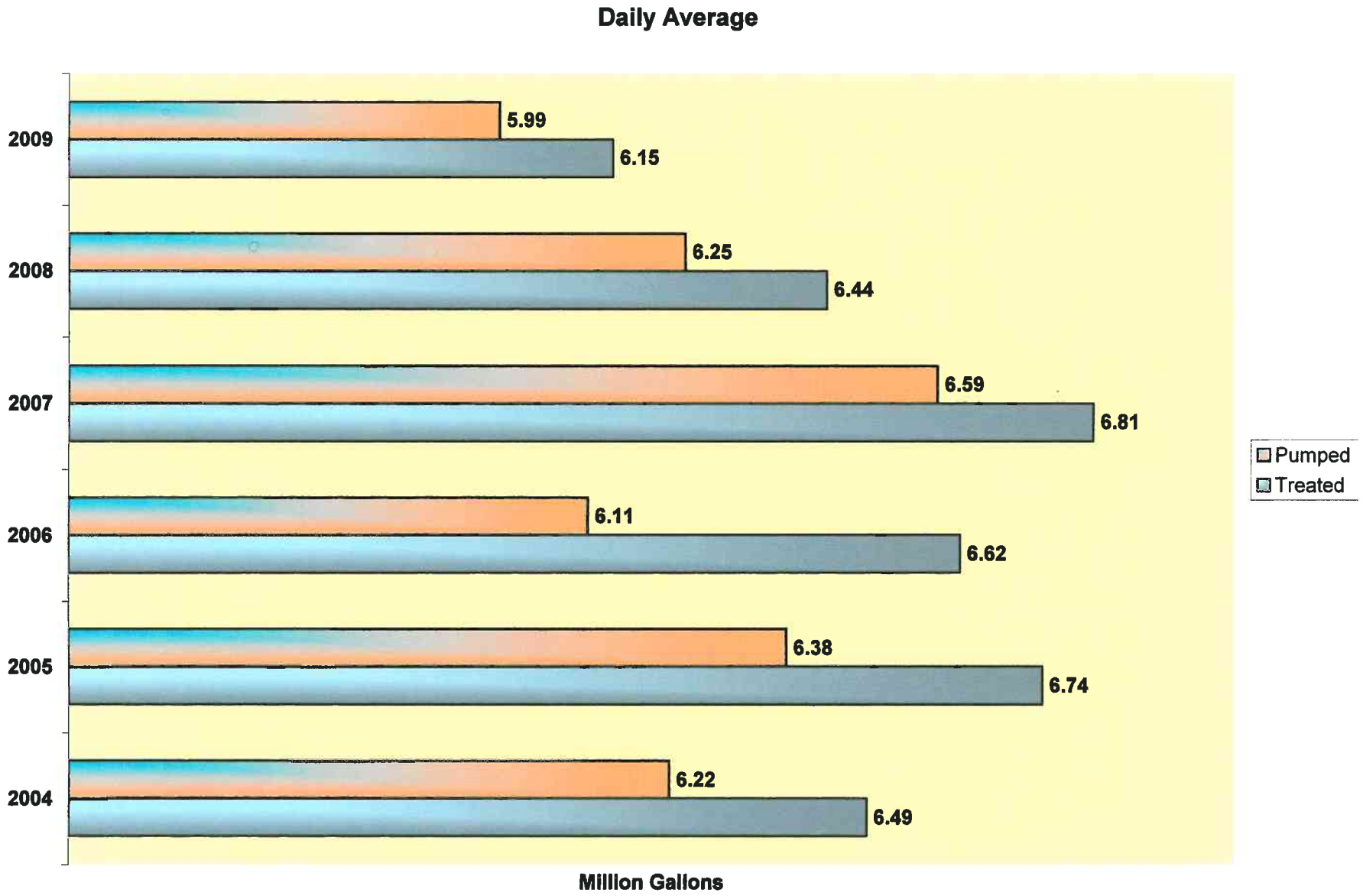
Water Treated

	2004	2005	2006	2007	2008	2009
Treated MG	185.69	201.51	195.48	189.58	184.07	184.01
Cost/MG	$ 96.30	$ 109.37	$ 125.75	$ 117.44	$ 130.86	$ 148.48
Treated MG	177.48	182.66	176.82	186.28	176.9	167.21
Cost/MG	$ 95.75	$ 109.04	$ 125.08	$ 119.54	$ 119.56	$ 143.18
Treated MG	186.93	202.86	191.92	196.14	191.62	186.48
Cost/MG	$ 96.26	$ 109.73	$ 107.62	$ 119.52	$ 122.70	$ 155.03
Treated MG	186.90	193.80	187.97	185.53	190.54	181.67
Cost/MG	$ 95.00	$ 108.74	$ 105.57	$ 114.77	$ 117.64	$ 150.03
Treated MG	201.50	200.94	202.77	222.74	209.39	186.27
Cost/MG	$ 94.11	$ 108.77	$ 108.47	$ 122.76	$ 125.56	$ 161.92
Treated MG	209.70	241.32	209.67	260.54	210.38	192.69
Cost/MG	$ 94.49	$ 110.60	$ 131.07	$ 145.15	$ 132.12	$ 162.98
Treated MG	230.02	219.74	223.42	248.08	222.07	207.13
Cost/MG	$ 95.51	$ 112.43	$ 122.23	$ 152.82	$ 150.66	$ 169.26
Treated MG	212.04	220.72	245.06	224.92	224.92	211.1
Cost/MG	$ 95.16	$ 116.13	$ 124.86	$ 151.31	$ 149.33	$ 167.12
Treated MG	207.00	205.18	205.60	214.18	199.22	201.44
Cost/MG	$ 94.83	$ 116.85	$ 128.67	$ 155.17	$ 159.20	$ 157.76
Treated MG	199.95	206.53	200.99	203.44	187.93	182.24
Cost/MG	$ 95.32	$ 107.16	$ 126.98	$ 144.57	$ 138.24	$ 136.78
Treated MG	182.10	190.77	193.22	174.91	171.39	166.55
Cost/MG	$ 96.07	$ 107.09	$ 108.66	$ 129.71	$ 128.65	$ 141.51
Treated MG	191.27	192.65	184.53	177.97	182.02	176.62
Cost/MG	$ 96.17	$ 105.37	$ 112.94	$ 123.89	$ 106.96	$ 133.00
Treated MG	2370.58	2458.7	2417.45	2484.31	2350.45	2243.41
Cost/MG	$ 95.39	$ 110.07	$ 119.30	$ 134.34	$ 132.41	$ 152.94

Water Pumped

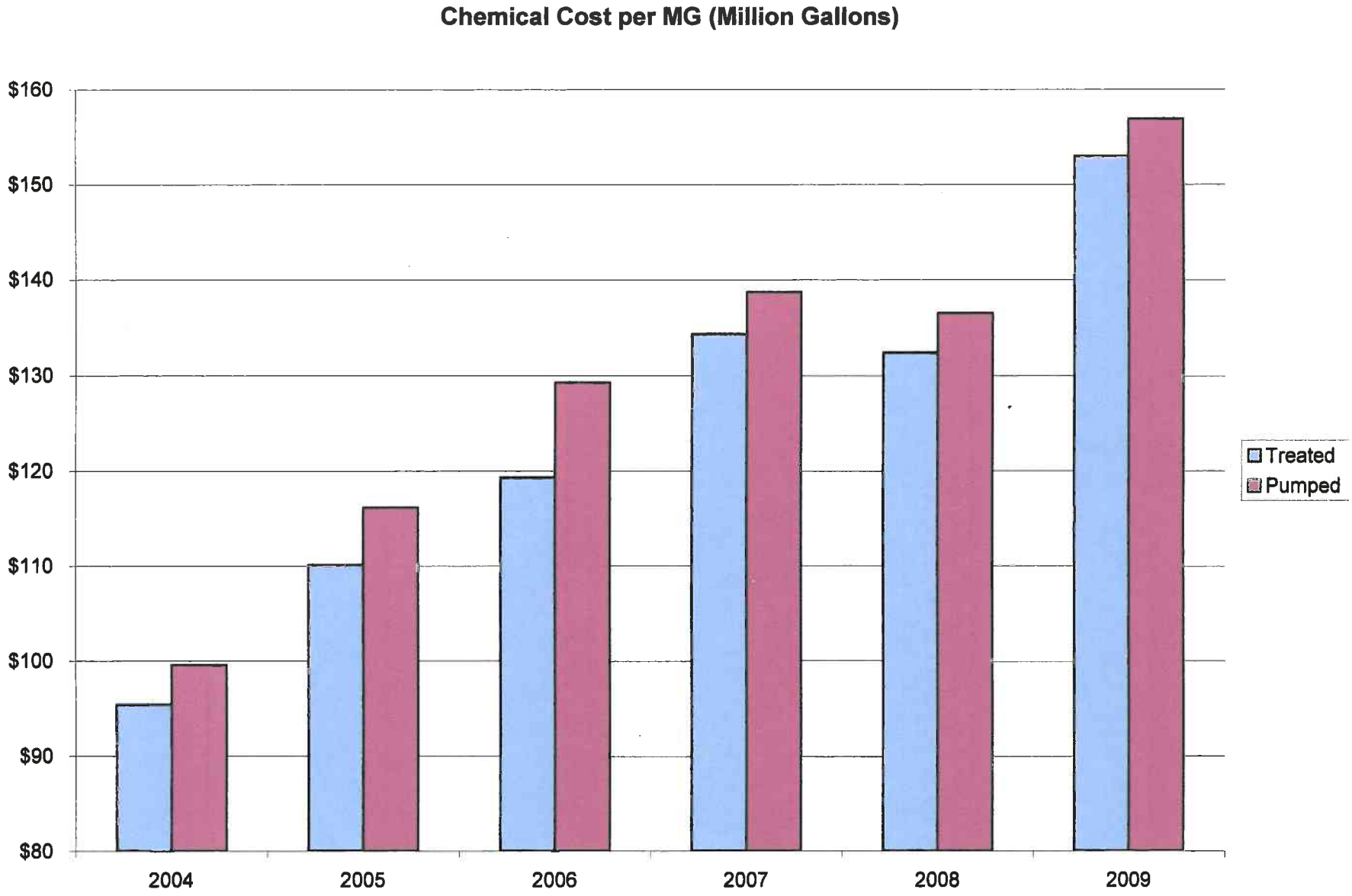
	2004	2005	2006	2007	2008	2009	
January	182.57	190.85	183.4	177.76	177.04	188.47	Pumped MG
	$ 97.94	$ 115.48	$ 134.03	$ 125.25	$ 136.06	$ 144.96	Cost/MG
February	171.95	173.79	171.08	177.41	171.52	169.05	Pumped MG
	$ 98.83	$ 114.60	$ 129.28	$ 125.52	$ 123.31	$ 141.62	Cost/MG
March	182.40	189.25	181.53	190.47	183.53	178.83	Pumped MG
	$ 98.65	$ 117.63	$ 113.78	$ 123.08	$ 128.11	$ 161.66	Cost/MG
April	178.64	184.24	171.78	182.9	180.36	165.20	Pumped MG
	$ 99.39	$ 112.28	$ 115.52	$ 116.39	$ 124.28	$ 164.98	Cost/MG
May	193.84	193.50	184.54	212.62	195.72	178.46	Pumped MG
	$ 97.83	$ 112.95	$ 119.19	$ 128.60	$ 134.33	$ 169.00	Cost/MG
June	196.45	225.19	187.63	250.7	198.62	185.62	Pumped MG
	$ 100.86	$ 118.53	$ 146.47	$ 150.85	$ 139.94	$ 169.19	Cost/MG
July	217.90	206.60	197.76	242.54	213.83	200.88	Pumped MG
	$ 100.82	$ 119.59	$ 138.07	$ 156.31	$ 156.49	$ 174.53	Cost/MG
August	201.39	213.58	229.8	222.76	222.06	202.26	Pumped MG
	$ 100.19	$ 120.01	$ 133.15	$ 152.77	$ 151.25	$ 174.42	Cost/MG
September	198.51	197.68	182.71	206.21	196.31	200.74	Pumped MG
	$ 98.88	$ 121.28	$ 144.79	$ 161.17	$ 161.56	$ 158.31	Cost/MG
October	189.90	187.65	181.66	196.02	187.60	178.75	Pumped MG
	$ 100.37	$ 117.94	$ 140.50	$ 150.04	$ 138.49	$ 139.45	Cost/MG
November	176.19	182.04	182.78	173.46	173.28	164.39	Pumped MG
	$ 99.29	$ 112.23	114.87	$ 130.79	$ 125.26	$ 143.37	Cost/MG
December	181.90	186.12	176.15	173.22	179.73	173.90	Pumped MG
	$ 101.12	$ 109.06	118.31	$ 127.89	$ 108.32	$ 135.08	Cost/MG
yearly	2271.64	2330.49	2230.84	2406.09	2279.6	2186.55	Pumped MG
comparison	$ 99.54	$ 116.12	$ 129.28	$ 138.71	$ 136.52	$ 156.91	Cost/MG


Total Water Treated and Pumped
Treated
Pumped
Million Gallons
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
2004
2005
2006
2007
2008
2009


Daily Average
2009
5.99
6.15
2008
6.25
6.44
2007
6.59
6.81
2006
6.11
6.62
2005
6.38
6.74
2004
6.22
6.49
Pumped
Treated
Million Gallons

Chemical Report

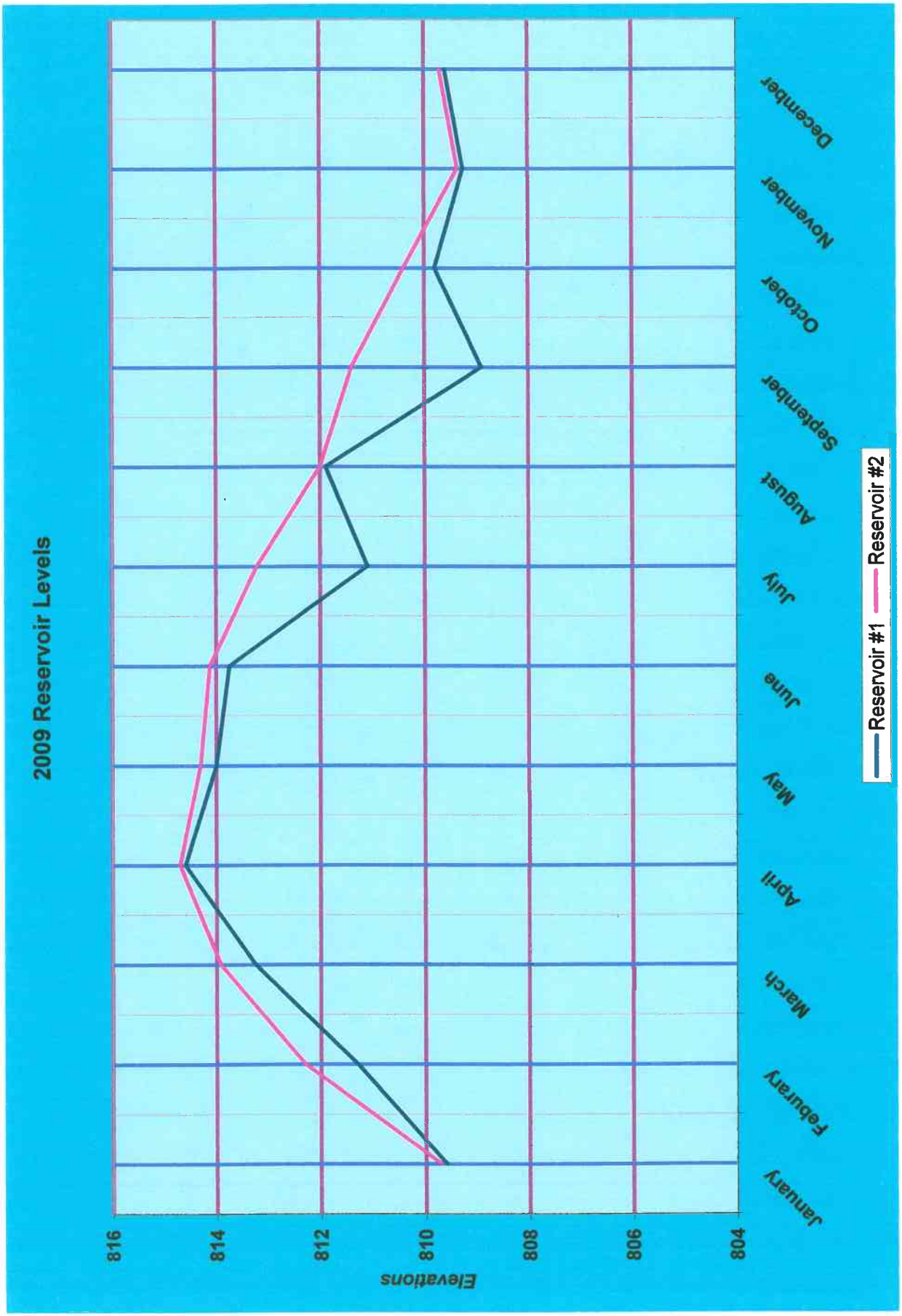
Month	Water Pumped MG	Water Treated MG	Pounds Lime	Gallons Ferric Chloride	Pounds Soda Ash	Pounds Fluoride	Pounds Carbon Dioxide	Gallons Chlorine	Pounds Potassium Permanganate	Pounds Polymer	Total Monthly Chemical Cost monthly cost	Pumped Cost/MG	Treated Cost/MG
January	188.47	184.01	165720.1	1853.1	18466.5	5461.6	46905.6	3387.1	1528.7	38.4			
cost/chemical			10523.23	1895.69	3479.27	2291.14	1794.14	3285.49	3974.62	77.95	27321.53	144.96	148.48
February	169.05	167.21	139248	1688	17236	4895	41562	2862	1404.1	27			
cost/chemical			8842.22	1726.70	3247.45	2053.37	1589.76	2776.43	3650.66	54.40	23941.00	141.62	143.18
March	178.83	186.48	188030	1883	19005	5450	48283	3301	1565	30			
cost/chemical			11939.89	1925.97	3580.79	2286.36	1846.82	3202.26	4067.70	60.29	28910.09	161.66	155.03
April	165.2	181.67	176041	1839	18532	5535	48362	3138	1319	29			
cost/chemical			11178.60	1881.27	3491.61	2321.93	1849.85	3043.86	3429.40	58.87	27255.40	164.98	150.03
May	178.46	186.27	199333	1915	19813	5618	51290	3485	1558	30			
cost/chemical			12657.65	1959.02	3732.97	2356.75	1961.84	3380.45	4050.80	60.90	30160.37	169.00	161.92
June	185.62	192.69	180588	2009	20395	5732	57574	3836	2173	31			
cost/chemical			11467.34	2055.18	3842.62	2404.57	2202.21	3720.92	5649.80	62.93	31405.57	169.19	162.98
July	200.88	207.13	198946	2107	22349	6215	59860	4503	2588	33			
cost/chemical			12633.07	2155.43	4210.78	2607.19	2289.65	4367.91	6728.80	66.99	35059.81	174.53	169.26
August	202.26	211.1	190492	2148	21546	6338	59240	5227	2639	34			
cost/chemical			12096.24	2197.37	4059.48	2658.79	2265.93	5070.19	6861.40	69.02	35278.43	174.42	167.12
September	200.74	201.44	167933	2083	20619	6043	47263	4667	2371	32			
cost/chemical			10663.75	2130.88	3884.83	2535.04	1807.81	4526.99	6164.60	64.96	31778.85	158.31	157.76
October	178.75	182.24	125881	2075	17999	5398	40602	3912	1442	29			
cost/chemical			7993.44	2122.69	3391.19	2264.46	1553.03	3794.64	3749.20	58.87	24927.53	139.45	136.78
November	164.39	166.55	126814	2169	16470	4977	34143	3193	1403	27			
cost/chemical			8052.69	2218.85	3103.11	2087.85	1305.97	3097.21	3647.80	54.81	23568.30	143.37	141.51
December	173.90	176.62	123797	1758	17489	5277	38297	3191	1425	28			
cost/chemical			7861.11	1798.41	3295.10	2213.70	1464.86	3095.27	3705.00	56.84	23490.29	135.08	133.00
Totals	2186.55	2243.41	1982822.5	23527	229920	66940	573382	44703	21415	368			
Monthly Avg	182.21	186.95083	165235	1961	19160	5578	47782	3725	1785	30.66			
Max	202.26	211.1											
Min	164.39	166.55											
Cost/gallon								0.97					
Cost/ton			127.00	537.00	376.82	839.00	76.50		5200.00	4060.00			
Annual chemical cost			$ 125,909.23	$ 24,067.46	$ 43,319.21	$ 28,081.16	$ 21,931.86	$ 43,361.62	$ 55,679.78	$ 746.84	$ 343,097.15		
Cost/MG												$ 156.91	$ 152.94


Chemical Cost per MG (Million Gallons)
$160
$150
$140
$130
$120
$110
$100
$90
$80
2004
2005
2006
2007
2008
2009
Treated
Pumped

2009 Monthly Chemical Report

Month	Water Pumped MG	Water Treated MG	Pounds Lime	Gallons Ferric Chloride	Pounds Soda Ash	Pounds Fluoride	Pounds Carbon Dioxide	gallons Sodium Hypochlorite	Pounds Potassium Permanganate	Pounds Polymer
January	188.47	184.01	165720	1853	18467	5461.6	46906	3387	1528.7	38
February	169.05	167.21	139248	1688	17236	4895	41562	2862	1404.1	27
March	178.83	186.48	188030	1883	19005	5450	48283	3301	1565	30
April	165.20	181.67	176041	1839	18532	5535	48362	3138	1319	29
May	178.46	186.27	199333	1915	19813	5618	51290	3485	1558	30
June	185.62	192.69	180588	2009	20395	5732	57574	3836	2173	31
July	200.88	207.13	198946	2107	22349	6215	59860	4503	2588	33
August	202.26	211.1	190492	2148	21546	6338	59240	5227	2639	34
September	200.74	201.44	167933	2083	20619	6043	47263	4667	2371	32
October	178.75	182.24	125881	2075	17999	5398	40602	3912	1442	29
November	164.39	166.55	126814	2169	16470	4977	34143	3193	1403	27
December	173.9	176.62	123797	1758	17489	5277	38297	3191	1425	28
Totals	2186.55	2243.41	1982822.5	23526.7	229919.9	66939.6	573381.9	44702.7	21415.3	367.9
Monthly Avg	182.21	186.95	165235	1961	19160	5578	47782	3725	1785	30.66
Max	202.26	211.1								
Min	164.39	166.55								
Cost/gallon								$ 0.97		
Cost/ton			$ 127.00	$ 537.00	$ 376.82	$ 839.00	$ 76.50		$ 5,200.00	$ 4,060.00
Cost/gallon										
Annual chemical cost			$ 125,909.23	$ 24,067.46	$ 43,319.21	$ 28,081.16	$ 21,931.86	$ 43,361.62	$ 55,679.78	$ 746.84

Total chemical cost $ 343,097.15


2009 Reservoir Levels
Elevations
816
814
812
810
808
806
804
January
February
March
April
May
June
July
August
September
October
November
December
Reservoir #1
Reservoir #2

2009 Total Cost of Operations