

2011 Annual Water Quality Report

Microbiological Contaminants	Unit Measurement	MCL/MRDL	PHG (MCLG)	Surface Water Average	Ground Water Range	Ground Water Average
1. Total Coliform Bacteria	% of tests positive	5%	(zero)	N/D	N/D	N/D
2. Turbidity	NTU	TT	N/S	0.03	0.10 - 0.81	0.37

Radioactive Contaminants (2006)

4. Gross Beta Activity DLR=3.00	pCi/L	50	0	N/D	N/D	N/D
5. Strontium 90	pCi/L	8	0.35	N/D	N/D	N/D
6. Tritium	pCi/L	20,000	400	N/D	N/D	N/D
7. Gross Alpha Activity	pCi/L	15	0	N/D	<3.00	N/D
8. Radium 226 & 228 (total)	pCi/L	5	0	N/D	N/D	N/D
9. Uranium	pCi/L	20	0.43	N/D	N/D	N/D

Inorganic Contaminants

10. Aluminum	ppm	1	0.6	N/D	N/D	N/D
11. Antimony	ppb	6	20	N/D	N/D	N/D
12. Arsenic	ppb	10	0.004	N/D	N/D-2.7	1.57
14. Barium	ppm	1	2	N/D	N/D-0.08	0.03
15. Beryllium	ppb	4	1	N/D	N/D	N/D
16. Cadmium	ppb	5	0.04	N/D	N/D	N/D
17. Chromium	ppb	50	(100)	N/D	N/D	N/D
18. Copper	ppm	1.3	0.3	N/D	N/D	N/D
19. Cyanide	ppb	150	150	N/D	N/D	N/D
20. Fluoride	ppm	2	1	N/D	0.10-0.12	0.11
21. Lead	ppb	15	0.2	N/D	N/D	N/D
22. Mercury(inorganic)	ppb	2	1.2	N/D	N/D	N/D
23. Nickel	ppb	100	12	N/D	13	4.3
24. Nitrate(as nitrite, NO3)	ppm	45	45	1.2	2.2-8.2	5.1
25. Nitrite(as nitrogen, N)	ppm	1	1	N/D	N/D	N/D
26. Perchlorate	ppb	6	6	N/D	N/D	N/D
27. Selenium	ppb	50	(50)	N/D	N/D	N/D
28. Thallium	ppb	2	0.1	N/D	N/D	N/D

Volatile Organic Contaminants

29. Benzene	ppb	1	0.15	N/D	N/D	N/D
30. Carbon tetrachloride	ppt	500	100	N/D	N/D	N/D
31. 1,2-Dichlorobenzene[o-DCB]	ppb	600	600	N/D	N/D	N/D
32. 1,4-Dichlorobenzene[p-DCB]	ppb	5	6	N/D	N/D	N/D
33. 1,1-Dichloroethane	ppb	5	3	N/D	N/D	N/D
34. 1,2-Dichloroethane	ppt	500	400	N/D	N/D	N/D
35. 1,1-Dichloroethylene	ppb	6	10	N/D	N/D	N/D
36. cis-1,2-Dichloroethylene	ppb	6	100	N/D	N/D	N/D
37. trans-1,2-Dichloroethylene	ppb	10	60	N/D	N/D	N/D
38. Dichloromethane	ppb	5	4	N/D	N/D	N/D
39. 1,2-Dichloropropane	ppb	5	0.5	N/D	N/D	N/D
40. 1,3-Dichloropropane	ppt	500	200	N/D	N/D	N/D
41. Ethylbenzene	ppb	300	300	N/D	N/D	N/D
42. Methyl-tert-butyl ether	ppb	13	13	N/D	N/D	N/D
43. Monochlorobenzene	ppb	70	200	N/D	N/D	N/D
44. Styrene	ppb	100	0.5	N/D	N/D	N/D
45. 1,1,2,2-Tetrachlorethane	ppb	1	0.1	N/D	N/D	N/D
46. Tetrachloroethylene[PCE]	ppb	5	0.06	N/D	N/D-1.8	1.0
47. 1,2,4-Trichlorobenzene	ppb	5	5	N/D	N/D	N/D
48. 1,1,1-Trichloroethane	ppb	200	1000	N/D	N/D	N/D
49. 1,1,2-Trichloroethane	ppb	5	0.3	N/D	N/D	N/D
50. Trichloroethylene[TCE]	ppb	5	1.7	N/D	N/D	N/D
51. Toluene	ppb	150	150	N/D	N/D	N/D
52. Trichlorofluoromethane	ppb	150	700	N/D	N/D	N/D
53. 1,1,2-Trichloro1,2,2-trifluoroethane	ppb	1.2	4	N/D	N/D	N/D
54. Vinyl Chloride	ppt	500	50	N/D	N/D	N/D
55. Xylenes	ppm	1.75	1.8	N/D	N/D	N/D

Disinfection Byproducts (Distribution System)

56. TTHM [Total Trihalomethanes]	ppb	80	N/S	7.6	N/A	N/A
57. Haloacetic Acids	ppb	60	N/S	5.7	N/A	N/A
58. Chlorine	ppm	4 [MRDL]	4 [MRDL]	0.83	N/A	N/A

Secondary Drinking Water Standards

59. Aluminum	ppb	200	N/S	N/D	N/D	N/D
60. Color	units	15 units	N/S	N/D	N/D	N/D
61. Copper	ppm	1	N/S	N/D	N/D	N/D
62. Corrosivity	---	Non-corrosive	N/S	N/D	N/D	N/D
63. Foaming Agents [MBAS]	ppb	500	N/S	N/D	N/D	N/D
64. Iron	ppb	300	N/S	N/D	N/D-190	63
65. Manganese	ppb	50	N/S	N/D	N/D-21	7
66. Methyl-tert-butyl ether [MTBE]	ppb	5	N/S	N/D	N/D	N/D
67. Odor-Threshold	TON (units)	3	N/S	N/D	N/D	N/D
68. Silver	ppb	100	N/S	N/D	N/D	N/D
69. Thiobencarb	ppb	1	N/S	N/D	N/D	N/D
70. Turbidity	units	5 units	N/S	0.03	0.10 - 0.81	0.37
71. Zinc	ppm	5	N/S	N/D	N/D	N/D
72. Total Dissolved Solids	ppm	1000	N/S	61	130-210	170
73. Specific Conductance	micromhos	1600	N/S	86	130-270	203
74. Chloride	ppm	500	N/S	3.5	3.1-7.9	5.2
75. Sulfate	ppm	500	N/S	2.9	3.1-18	9.6

Synthetic Organic Contaminants including Pesticides and Herbicides

76. DBCP	ppt	200	1.7	N/D	N/D	N/D
77. EDB	ppt	50	10	N/D	N/D	N/D
78. Aldrin	ppb	N/S	N/S	N/D	N/D	N/D
79. Chlordane	ppt	100	30	N/D	N/D	N/D
80. Chorothonil	ppb	N/S	5	N/D	N/D	N/D
81. Dieldrin	ppb	N/S	0.02	N/D	N/D	N/D
82. Endrin	ppb	2	2	N/D	N/D	N/D
83. Heptachlor	ppt	10	8	N/D	N/D	N/D
84. Heptachlor Epoxide	ppt	10	6	N/D	N/D	N/D
85. Hexachlobenzene	ppb	1	0.03	N/D	N/D	N/D
86. Hexachlorocyclopentadiene	ppb	50	50	N/D	N/D	N/D
87. Lindane	ppt	200	32	N/D	N/D	N/D
88. Methoxychlor	ppb	30	0.09	N/D	N/D	N/D
89. PCB Arochlor Screen	ppt	500	90	N/D	N/D	N/D
90. Toxaphene	ppb	3	0.03	N/D	N/D	N/D
91. Triflualin	ppb	N/S	N/S	N/D	N/D	N/D
92. 2,4,5-T (2C)	ppb	N/S	N/S	N/D	N/D	N/D
93. 2,4,5-TP (Silvex) (2C)	ppb	50	25	N/D	N/D	N/D
94. 2,4-D (2C)	ppb	70	20	N/D	N/D	N/D
95. Bentazon	ppb	18	200	N/D	N/D	N/D
96. Dalapon	ppb	200	200	N/D	N/D	N/D
97. Dicamba	ppb	N/S	N/S	N/D	N/D	N/D
98. Dinoseb	ppb	7	14	N/D	N/D	N/D
99. Pentachlorophenol	ppb	1	1	N/D	N/D	N/D
100. Picloram	ppb	500	500	N/D	N/D	N/D
101. N-Nitrosodiethylamine (NDEA)	ppt	N/S	10	N/D	N/D	N/D
102. N-Nitrosodimethylamine (NDMA)	ppt	N/S	10	N/D	N/D	N/D
103. N-Nitrosodi-n-butylamine (NDBA)	ppt	N/S	10	N/D	N/D	N/D
104. N-Nitrosodi-n-propylamine (NDPA)	ppt	N/S	10	N/D	N/D	N/D
105. N-Nitrosopyrrolidine (NMEA)	ppt	N/S	10	N/D	N/D	N/D
106. N-Nitrosopyrrolidine (NPYR)	ppt	N/S	10	N/D	N/D	N/D
107. Alachlor	ppb	2	4	N/D	N/D	N/D
108. Atrazine	ppb	1	0.15	N/D	N/D	N/D
109. Benzo(a)pyrene	ppt	200	7	N/D	N/D	N/D
110. Bis(2-ethylhexyl) adipate	ppb	N/S	N/S	N/D	N/D	N/D
111. Bis(2-ethylhexyl) phthalate	ppb	N/S	N/S	N/D	N/D	N/D
112. Bromcil	ppb	N/S	N/S	N/D	N/D	N/D
113. Butachlor	ppb	N/S	N/S	N/D	N/D	N/D
114. Diazinon	ppb	N/S	N/S	N/D	N/D	N/D
115. Dimethoate	ppb	N/S	N/S	N/D	N/D	N/D
116. Metolachlor	ppb	N/S	N/S	N/D	N/D	N/D
117. Metribuzin	ppb	N/S	N/S	N/D	N/D	N/D
118. Molinate	ppb	20	1	N/D	N/D	N/D
119. Propachlor	ppb	N/S	N/S	N/D	N/D	N/D
120. Simazine	ppb	4	4	N/D	N/D	N/D
121. Thiobencarb	ppb	70	70	N/D	N/D	N/D
122. 3-Hydroxycarbofuran	ppb	N/S	N/S	N/D	N/D	N/D
123. Aldicarb	ppb	N/S	N/S	N/D	N/D	N/D

124. Aldicarb Sulfone	ppb	N/S	N/S	N/D	N/D	N/D
125. Aldicarb Sulfoxide	ppb	N/S	N/S	N/D	N/D	N/D
126. Carbaryl	ppb	N/S	N/S	N/D	N/D	N/D
127. Carbofuran	ppb	18	1.7	N/D	N/D	N/D
128. Methomyl	ppb	N/S	N/S	N/D	N/D	N/D
129. Oxamyl	ppb	50	26	N/D	N/D	N/D
130. Glyphosate	ppb	700	900	N/D	N/D	N/D
131. Endothall	ppb	100	580	N/D	N/D	N/D
132. Diquat	ppb	20	15	N/D	N/D	N/D
133. 1,4 Dioxane	ppb	N/S	1	N/D	N/D	N/D

Unregulated Contaminants and Constituents of Interest

134. Dimethoate	ppb	N/S	N/S	N/D	N/D	N/D
135. Terbufos sulfone	ppb	N/S	N/S	N/D	N/D	N/D
136. 2,2',4,4'-tetrabromodiphenyl ether	ppb	N/S	N/S	N/D	N/D	N/D
137. 2,2',4,4',5-pentabromodiphenyl ether	ppb	N/S	N/S	N/D	N/D	N/D
138. 2,2',4,4',5,5'-hexabromodiphenyl	ppb	N/S	N/S	N/D	N/D	N/D
139. 2,2',4,4',5,5'-hexabromodiphenyl ether	ppb	N/S	N/S	N/D	N/D	N/D
140. 2,2',4,4',6-pentabromodiphenyl ether	ppb	N/S	N/S	N/D	N/D	N/D
141. 1,3-dinitrobenzene	ppb	N/S	N/S	N/D	N/D	N/D
142. 2,4,6-trinitrotoluene (TNT)	ppb	N/S	N/S	N/D	N/D	N/D
143. hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	ppb	N/S	N/S	N/D	N/D	N/D
144. Sodium	ppm	N/S	N/S	7.2	6.7-12	9
145. Calcium	ppm	N/S	N/S	6.7	10.0- 24	17
146. Hardness	ppm	N/S	N/S	26	51-120	88
147. Magnesium	ppm	N/S	N/S	2.3	6.3-15	11

Lead and Copper		AL	PHG	90th Percentile	Number of sites exceeding AL	
148. Lead	ppb	15	0.2	N/D	1	
149. Copper	ppm	1.3	0.17	0.055	Zero	

LEGEND:

N/D = Analyzed; Non Detected

NTU = Nephelometric Turbidity Unit

PPM = Parts Per Million

MCL= Maximum Contaminant Level

MCLG = Maximum Contaminant Level Goal

MRDL = Maximum Residual Disinfection Level

PCi/l = Picocuries per Liter

PHG = Public Health Goal

N/A = Not Applicable

N/S = No Standard

TT = Treatment Technique

AL = Alert Level

*Total Trihalomethanes =

Sum of results for Chloroform, Bromoform, Dibromochloromethane and Bromochloromethane

Notes:

1. Surface water samples collected in 2011.
2. Groundwater samples collected in 2010.
3. Nitrates sampled annually.
4. Groundwater samples for NDMA, Pechlorate, and VOC's are collected quarterly.

For additional water quality data, contact:

Carmichael Water District at 483-2452