

2013 Annual Water Quality Report

	Unit Measurement	MCL/MRDL	PHG (MCLG)	Surface Water Average	Ground Water Range	Ground Water Average
Microbiological Contaminants						
1 Total Coliform Bacteria	% of tests positive	5%	(zero)	0.0%	N/D	N/D
2 Turbidity	NTU	TT	N/S	0.03	N/D-.10	0.10
Radioactive Contaminants (2006)						
3 Gross Beta Activity DLR=3.00	pCi/L	50	0	N/D	N/D	N/D
4 Strontium 90	pCi/L	8	0.35	N/D	N/D	N/D
5 Tritium	pCi/L	20,000	400	N/D	N/D	N/D
6 Gross Alpha Activity	pCi/L	15	0	N/D	<3.00	N/D
7 Radium 226 & 228 (total)	pCi/L	5	0	N/D	N/D	N/D
8 Uranium	pCi/L	20	0.43	N/D	N/D	N/D
Inorganic Contaminants						
9 Antimony	ppb	6	20	N/D	N/D	N/D
10 Arsenic	ppb	10	0.004	N/D	N/D - 2.1	0.7
11 Asbestos	7 MFL	7	7	N/D	N/D	N/D
12 Barium	ppm	1	2	N/D	N/D-0.078	0.026
13 Beryllium	ppb	4	1	N/D	N/D	N/D
14 Cadmium	ppb	5	0.04	N/D	N/D	N/D
15 Chromium	ppb	50	(100)	N/D	N/D	N/D
16 Copper	ppm	1.3	0.3	N/D	N/D	N/D
17 Cyanide	ppb	150	150	N/D	N/D	N/D
18 Fluoride	ppm	2	1	N/D	N/D	N/D
19 Lead	ppb	15	0.2	N/D	N/D	N/D
20 Mercury (inorganic)	ppb	2	1.2	N/D	N/D	N/D
21 Nickel	ppb	100	12	N/D	N/D	N/D
22 Nitrate(as nitrite, NO3)	ppm	45	45	1.1	4.7-6.5	5.5
23 Nitrite(as nitrogen, N)	ppm	1	1	N/D	N/D	N/D
24 Perchlorate	ppb	6	6	N/D	N/D	N/D
25 Selenium	ppb	50	(50)	N/D	N/D	N/D
26 Thallium	ppb	2	0.1	N/D	N/D	N/D
Volatile Organic Contaminants						
27 Benzene	ppb	1	0.15	N/D	N/D	N/D
28 Carbon tetrachloride	ppt	500	100	N/D	N/D	N/D
29 1,2-Dichlorobenzene[o-DCB]	ppb	600	600	N/D	N/D	N/D
30 1,4-Dichlorobenzene[p-DCB]	ppb	5	6	N/D	N/D	N/D
31 1,1-Dichloroethane	ppb	5	3	N/D	N/D	N/D
32 1,2-Dichloroethane	ppt	500	400	N/D	N/D	N/D
33 1,1-Dichloroethylene	ppb	6	10	N/D	N/D	N/D
34 cis-1,2-Dichloroethylene	ppb	6	100	N/D	N/D	N/D
35 trans-1,2-Dichloroethylene	ppb	10	60	N/D	N/D	N/D
36 Dichloromethane	ppb	5	4	N/D	N/D	N/D
37 1,2-Dichloropropane	ppb	5	0.5	N/D	N/D	N/D
38 Dichloropropane	ppt	500	200	N/D	N/D	N/D
39 Ethylbenzene	ppb	300	300	N/D	N/D	N/D
40 Methyl-tert-butyl ether	ppb	13	13	N/D	N/D	N/D
41 Monochlorobenzene	ppb	70	200	N/D	N/D	N/D
42 Styrene	ppb	100	0.5	N/D	N/D	N/D
43 1,1,2,2-Tetrachlorethane	ppb	1	0.1	N/D	N/D	N/D
44 Tetrachloroethylene[PCE]	ppb	5	0.06	N/D	N/D-2.1	1.2
45 1,2,4-Trichlorobenzene	ppb	5	5	N/D	N/D	N/D
46 1,1,1-Trichloroethane	ppb	200	1000	N/D	N/D	N/D
47 1,1,2-Trichloroethane	ppb	5	0.3	N/D	N/D	N/D
48 Trichloroethylene[TCE]	ppb	5	1.7	N/D	N/D	N/D
49 Toluene	ppb	150	150	N/D	N/D	N/D
50 Trichlorofluoromethane	ppb	150	700	N/D	N/D	N/D
51 1,1,2-Trichloro1,2,2-trifluoroethane	ppb	1.2	4	N/D	N/D	N/D
52 Vinyl Chloride	ppt	500	50	N/D	N/D	N/D
53 Xylenes	ppm	1.75	1.8	N/D	N/D	N/D
Disinfection Byproducts (Distribution System)						
54 TTHM [Total Trihalomethanes] (Range)	ppb	80	N/S		8.0 - 32.0	
55 Haloacetic Acids (Range)	ppb	60	N/S		5.0 - 24.0	
56 Chlorine (Range)	ppm	4 [MRDL]	4 [MRDL]		.34 - 1.37	
57 Total Organic Carbon (TOC)	ppm	TT	N/S	0.79	N/A	N/A

Secondary Drinking Water Standards

58	Aluminum	ppb	200	N/S	N/D	N/D	N/D
59	Color	units	15 units	N/S	N/D	N/D	N/D
60	Copper	ppm	1	N/S	N/D	N/D	N/D
61	Foaming Agents [MBAS]	ppb	500	N/S	N/D	N/D	N/D
62	Iron	ppb	300	N/S	N/D	N/D	N/D
63	Manganese	ppb	50	N/S	N/D	N/D	N/D
64	Methyl-tert-butyl ether [MTBE]	ppb	5	N/S	N/D	N/D	N/D
65	Odor-Threshold	TON (units)	3	N/S	N/D	N/D	N/D
66	Silver	ppb	100	N/S	N/D	N/D	N/D
67	Thiobencarb	ppb	1	N/S	N/D	N/D	N/D
68	Turbidity	units	5 units	N/S	0.03	0.10-0.10	0.10
69	Zinc	ppm	5	N/S	N/D	N/D	N/D
70	Total Dissolved Solids	ppm	1000	N/S	48	130-210	170
71	Specific Conductance	micromhos	1600	N/S	78	140-190	167
72	Chloride	ppm	500	N/S	3.4	4.9-6.5	5.8
73	Sulfate	ppm	500	N/S	3.1	6.5-8.1	7.4

Synthetic Organic Contaminants including Pesticides and Herbicides (Sampled in 2011)

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

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

Unregulated Contaminants and Constituents of Interest

132 Sodium	ppm	N/S	N/S	6.4	7.7-10	8.8
133 Calcium	ppm	N/S	N/S	6.5	15.0- 22.0	18.3
134 Hardness	ppm	N/S	N/S	25	76-110	94.7
135 Magnesium	ppm	N/S	N/S	2.1	9.3-13	11.8
136 Potassium	ppm	N/S	N/S	N/D	2.3-3.0	2.5

Lead and Copper (Sampled in 2011)

		AL	PHG	90th Percentile	Number of sites exceeding AL	
137 Lead	ppb	15	0.2	N/D	1	
138 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 2013.
2. Groundwater samples collected in 2013.
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**