2023 Annual Water Quality Report

Microbiological Contaminants	Unit Measurement	MCL/MRDL	PHG (MCLG)	Surface Water	Ground Water Range	Ground Water Average
Total Coliform Bacteria	% of tests positive	5%	(zero)	0.0%	N/D	N/D
Turbidity	NTU	TT	N/S	0.02	N/D-0.22	0.07
Radioactive Contaminants (2023)						
Gross Alpha Activity	pCi/L	15	0	N/D	N/D-1.74	0.58
Uranium	pCi/L	20	0.43	N/D	N/D -2.8	0.93
Inorganic Contaminants (SW 2023 - GW 2023)						
Aluminum	ppm	1	0.6	N/D	N/D	N/D
Antimony	ppb	6	20	N/D	N/D	N/D
Arsenic	ppb	10	0.004	N/D	N/D-2.5	0.833
Asbestos	7 MFL	7	7	N/D	N/D	N/D
Barium	ppm	1	2	N/D	N/D-.180	0.32
Beryllium	ppb	4	1	N/D	N/D	N/D
Cadmium	ppb	5	0.04	N/D	N/D	N/D
Chromium (Total)	ppb	50	(100)	N/D	N/D	N/D
Copper	ppm	1.3	0.3	N/D	N/D	N/D
Cyanide	ppb	150	150	N/D	N/D-6.9	2.3
Fluoride	ppm	2	1	N/D	N/D	N/D
Lead	ppb	15	0.2	N/D	N/D	N/D
Mercury (inorganic)	ppb	2	1.2	N/D	N/D	N/D
Nickel	ppb	100	12	N/D	N/D	N/D
Nitrate(as N)	ppm	10	10	N/D	.36 - 5.4	1.9
Nitrite(as N)	ppm	1	1	N/D	N/D	N/D
Perchlorate	ppb	6	1	N/D	N/D - .62	0.06
Selenium	ppb	50	(30)	N/D	N/D	N/D
Thallium	ppb	2	0.1	N/D	N/D	N/D
Volatile Organic Contaminants (2023)						
Benzene	ppb	1	0.15	N/D	N/D	N/D
Carbon tetrachloride	ppt	500	100	N/D	N/D	N/D

1,2-Dichlorobenzene[o-DCB]	ppb	600	600	N/D	N/D	N/D
1,4-Dichlorobenzene[p-DCB	ppb	5	6	N/D	N/D	N/D
1,1-Dichloroethane	ppb	5	3	N/D	N/D	N/D
1,2-Dichloroethane	ppt	500	400	N/D	N/D	N/D
1,1-Dichloroethylene	ppb	6	10	N/D	N/D	N/D
cis-1,2-Dichloroethylene	ppb	6	100	N/D	N/D	N/D
trans-1,2-Dichloroethylene	ppb	10	60	N/D	N/D	N/D
Dichloromethane	ppb	5	4	N/D	N/D	N/D
1,2-Dichloropropane	ppb	5	0.5	N/D	N/D	N/D
1,3 Dichloropropene	ppt	500	200	N/D	N/D	N/D
Ethylbenzene	ppb	300	300	N/D	N/D	N/D
Methyl-tert-butyl ether	ppb	13	13	N/D	N/D	N/D
Styrene	ppb	100	0.5	N/D	N/D	N/D
1,1,2,2-Tetrachlorethane	ppb	1	0.1	N/D	N/D	N/D
Tetrachloroethene [PCE]	ppb	5	0.06	N/D	N/D - 5.2	2.4
1,2,4-Trichlorobenzene	ppb	5	5	N/D	N/D	N/D
1,1,1-Trichloroethane	ppb	200	1000	N/D	N/D	N/D
1,1,2-Trichloroethane	ppb	5	0.3	N/D	N/D	N/D
Trichloroethene [TCE]	ppb	5	1.7	N/D	N/D	N/D
Toluene	ppb	150	150	N/D	N/D	N/D
Trichlorofluoromethane	ppb	150	1300	N/D	N/D	N/D
1,1,2-Trichloro-1,2,2-trifluoroethane	ppm	1.2	4	N/D	N/D	N/D
Vinyl Chloride	ppt	500	50	N/D	N/D	N/D
Xylenes	ppm	1.75	1.8	N/D	N/D	N/D

Disinfection Byproducts (Distribution System) (2023)				**Avg**	**Range**	
TTHM [Total Trihalomethanes] (Avg) (Range)	ppb	80	N/S	17.5	N/D-49	
Haloacetic Acids (Avg) (Range)	ppb	60	N/S	11	N/D - 31	
Chlorine (Avg) (Range)	ppm	4 [MRDL]	4 [MRDL]	0.91	.34 - 1.26	
Total Organic Carbon (TOC)	ppm	TT	N/S	0.9	N/A	N/A

Secondary Drinking Water Standards (SW2023-GW2023)						
Aluminum	ppb	200	N/S	N/D	N/D	N/D
Color	units	15 units	N/S	5	N/D	N/D

Copper	ppm	1	N/S	N/D	N/D	N/D
Foaming Agents [MBAS]	ppb	500	N/S	N/D	N/D	N/D
Iron	ppb	300	N/S	N/D	N/D	N/D
Manganese	ppb	50	N/S	N/D	N/D - 85	28
Methyl-tert-butyl ether [MTBE]	ppb	5	N/S	N/D	N/D	N/D
Odor-Threshold	TON (units)	3	N/S	N/D	N/D	N/D
Silver	ppb	100	N/S	N/D	N/D	N/D
Thiobencarb	ppb	1	N/S	N/D	N/D	N/D
Turbidity	units	5 units	N/S	0.02	N/D-.22	0.10
Zinc	ppm	5	N/S	N/D	N/D	N/D
Total Dissolved Solids	ppm	1000	N/S	55	120-330	217
Specific Conductance	micromhos	1600	N/S	60	130-440	273
Chloride	ppm	500	N/S	2.6	2.5-25	11.4
Sulfate	ppm	500	N/S	1.3	3.5-16	8.6

Synthetic Organic Contaminants including Pesticides and Herbicides (SW2023-GW2023)

2,4-D	ppb	70	20	N/D	N/D	N/D
2,4,5-TP (Silvex)	ppb	50	3	N/D	N/D	N/D
Alachlor	ppb	2	4	N/D	N/D	N/D
Atrazine	ppb	1	0.15	N/D	N/D	N/D
Bentazon	ppb	18	200	N/D	N/D	N/D
Benzo(a)pyrene [PAH]	ppt	200	7	N/D	N/D	N/D
Carbofuran	ppb	18	0.7	N/D	N/D	N/D
Chlordane	ppt	100	30	N/D	N/D	N/D
Dalapon	ppb	200	790	N/D	N/D	N/D
Di(2-ethylhexyl) Adipate	ppb	400	200	N/D	N/D	N/D
Di(2-ethylhexyl) phthalate	ppb	4	12	N/D	N/D	N/D
Dibromochloropropane [DBCP]	ppt	200	1.7	N/D	N/D	N/D
Dinoseb	ppb	7	14	N/D	N/D	N/D
Dioxane [2,3,7,8-TCDD]	ppq	30	0.05	N/D	N/D	N/D
Diquat	ppb	20	6	N/D	N/D	N/D
Endothall	ppb	100	94	N/D	N/D	N/D
Endrin	ppb	2	0.3	N/D	N/D	N/D
Ethylene Dibromide [EDB]	ppt	50	10	N/D	N/D	N/D

Glyphosate	ppb	700	900	N/D	N/D	N/D
Heptachlor	ppt	10	8	N/D	N/D	N/D
Heptachlor Epoxide	ppt	10	6	N/D	N/D	N/D
Hexachlorobenzene	ppb	1	0.03	N/D	N/D	N/D
Hexachlorocyclopentadiene	ppb	50	2	N/D	N/D	N/D
Lindane	ppt	200	32	N/D	N/D	N/D
Methoxychlor	ppb	30	0.09	N/D	N/D	N/D
Molinate [Ordram]	ppb	20	1	N/D	N/D	N/D
Oxamyl [Vydate]	ppb	50	26	N/D	N/D	N/D
PCBs [Polychlorinated Biphenyls]	ppt	500	90	N/D	N/D	N/D
Pentachlorophenol	ppb	1	0.3	N/D	N/D	N/D
Picloram	ppb	500	166	N/D	N/D	N/D
Simazine	ppb	4	4	N/D	N/D	N/D
Thiobencarb	ppb	70	70	N/D	N/D	N/D
Toxaphene	ppb	3	0.03	N/D	N/D	N/D
1,2,3 - Trichloropropane	ppb	0.005	0.0007	N/D	N/D	N/D
Aldrin	ppb	N/S	N/S	N/D	N/D	N/D
Aldicarb	ppb	N/S	N/S	N/D	N/D	N/D
Aldicarb Sulfone	ppb	N/S	N/S	N/D	N/D	N/D
Aldicarb Sulfoxide	ppb	N/S	N/S	N/D	N/D	N/D
Bis(2-ethylhexyl) adipate	ppb	N/S	N/S	N/D	N/D	N/D
Bis(2-ethylhexyl) phthalate	ppb	N/S	N/S	N/D	N/D	N/D
Bromacil	ppb	N/S	N/S	N/D	N/D	N/D
Butachlor	ppb	N/S	N/S	N/D	N/D	N/D
Carbaryl	ppb	N/S	N/S	N/D	N/D	N/D
Diazinon	ppb	N/S	N/S	N/D	N/D	N/D
Dimethoate	ppb	N/S	N/S	N/D	N/D	N/D
Methomyl	ppb	N/S	N/S	N/D	N/D	N/D
Metolachlor	ppb	N/S	N/S	N/D	N/D	N/D
Metribuzin	ppb	N/S	N/S	N/D	N/D	N/D
Propachlor	ppb	N/S	N/S	N/D	N/D	N/D
3-Hydroxycarbofuran	ppb	N/S	N/S	N/D	N/D	N/D

Unregulated Constituents of Interest (SW2023-GW2023)

Sodium	ppm	N/S	N/S	1.6	6.0-17	10.1
Alkalinity	ppm	N/S	N/S	23	69-170	119
Calcium	ppm	N/S	N/S	4.5	10-45	25
Hardness	ppm	N/S	N/S	23	53-210	121
Magnesium	ppm	N/S	N/S	1.5	6.5-23	14
NDMA	ppt	N/S	N/S	N/A	N/D	N/D

Lead and Copper (Sampled in 2024)		AL	PHG	90th Percentile	Number of sites exceeding AL
Lead	ppb	15	0.2	N/D	2
Copper	ppm	1.3	0.3	N/D	1

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 Bromochlichloromethane

Notes:

1. Surface water samples collected in 2023.
2. Groundwater samples collected in 2023, except when indicated
3. Groundwater nitrates sampled quarterly.
4. Groundwater samples for NDMA, Pechlorate, and VOC's are collected quarterly.

For additional water quality data, contact:
Carmichael Water District at 916-483-2452