

Summary of Treated Water Quality Miramar WTP Effluent 2011-2015

Parameters	Units	DLR*/MD L	Drinking Water Standards ¹	No. of Samples	Finished Water Quality**			
			MCL	SMCL	Min	Max	Mean	Median
General Physical								
Alkalinity, (Total) (as CaCO ₃ equivalents)	MG/L	10		33	68.1	155	106	105
Calcium Hardness (CaCO ₃)	MG/L	10		36	74.1	188	136	147
Color, Apparent (Unfiltered)	COLOR	1	15	32	ND	5	ND	ND
Corrosivity ²	.			32	-0.81	0.72	0.312	0.405
Hydroxide Alkalinity	MG/L			32	0	0	0	0
MBAS (Foaming Agents)	MG/L	0.04	0.5	5	ND	ND	ND	ND
Odor Threshold @ 60 C	ODOR	1	3	1789	<1	1.4	<1	<1
pH	PH			1206	7.26	8.83	8.14	8.15
Specific Conductance (E.C.)	UMHO/CM		1600	33	465	1080	764	776
Total Filterable Residue @ 180 C (TDS)	MG/L	10	1000	33	269	646	488	525
Total Hardness (CaCO ₃)	MG/L	10		34	116	311	220	237
Total Suspended Solids (TSS)	MG/L	1		15	<1	<1	<1	<1
Turbidity, Laboratory	NTU	0.07	5	1822	0.04	0.2	0.067	0.07
			MCL	SMCL	Min	Max	Mean	Median
Microbiological								
Escherichia Coli	/100 ML	1		1183	A	P	A	A
Heterotrophic Bacteria (HPC)	CFU/ML			247	<1	63	<1	<1
Total Coliform	/100 ML	1		1182	A	P	A	A
Total Crypto Oocyst Count	/L	0.1		1	ND	ND	ND	ND
Total Giardia Cyst Count	/L	0.1		1	ND	ND	ND	ND
			MCL	SMCL	Min	Max	Mean	Median
Metals								
Aluminum (Al)	UG/L	50	1000	200	40	ND	ND	ND
Antimony	UG/L	6	6		5	ND	ND	ND
Arsenic	UG/L	2	10		16	ND	ND	ND
Barium (Ba)	UG/L	100	1000		5	ND	ND	ND
Beryllium	UG/L	1	4		3	ND	ND	ND
Boron	UG/L	100			4	110	124	118
Cadmium (Cd)	UG/L	1	5		5	ND	ND	ND
Calcium (Ca)	MG/L	5			34	29.6	75.2	54.4
Chromium (Total Cr)	UG/L	1	50		9	ND	ND	ND
Chromium, Hexavalent	UG/L	1			4	ND	ND	ND
Cobalt	UG/L	1			40	ND	ND	ND
Copper (Cu)	UG/L	50	1300	1000	8	ND	ND	ND
Iron (Fe)	UG/L	100		300	32	ND	ND	ND
Lead (Pb)	UG/L	5	15		40	ND	ND	ND
Magnesium (Mg)	MG/L	3			36	ND	29.5	21.4
Manganese (Mn)	UG/L	20		50	40	ND	ND	ND
Mercury (Hg)	UG/L	1	2		16	ND	ND	ND
Molybdenum	UG/L	1			4	3.4	4.2	3.9
Nickel	UG/L	10	100		5	ND	ND	ND
Potassium (K)	MG/L	0.5			33	2.87	5.02	4.04
Selenium (Se)	UG/L	5	50		5	ND	ND	ND
Silver	UG/L	10		100	5	ND	ND	ND
Sodium (Na)	MG/L	20			33	49.8	96.1	78
Strontium	UG/L	0.3			4	750	920	843
Thallium	UG/L	1	2		5	ND	ND	ND
Vanadium	UG/L	3			5	ND	ND	ND
Vanadium (UCMR3 Study)	UG/L	0.2			4	ND	0.26	ND
Zinc (Zn)	UG/L	50		5000	25	ND	ND	ND
			MCL	SMCL	Min	Max	Mean	Median
Radiologicals								
Gross Alpha	PCI/L	3	15		2	2.61	4.45	3.53
Gross Beta	PCI/L	4	50		2	ND	ND	ND
Uranium	PCI/L	1	20		2	1.7	2.4	2.05
			MCL	SMCL	Min	Max	Mean	Median
Inorganic Constituents								
Ammonia-N	MG/L	0.031			243	ND	1.54	0.649
Asbestos Chrysotile Fibers >10 microns	MFL	0.2	7		1	<0.2	<0.2	<0.2
Bicarbonate (as HCO ₃)	MG/L				33	83	154	126

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Bromate	UG/L	5	10	240	ND	ND	ND	ND
Bromide	MG/L	0.1		275	ND	0.271	ND	ND
Carbonate (as CO3)	MG/L			33	0	22.7	1.06	0
Chlorate	UG/L	20		4	ND	25	6.25	ND
Chloride	MG/L	0.5	500	33	65	103	87.4	87.6
Cyanide	UG/L	100	150	4	ND	ND	ND	ND
Fluoride	MG/L	0.1	2	36	0.169	0.969	0.719	0.747
Nitrate (as NO3)	MG/L	0.4	45	277	ND	ND	ND	ND
Nitrite (NO2)	MG/L	1.31	3.42	244	ND	ND	ND	ND
Perchlorate	UG/L	4	6	19	ND	ND	ND	ND
Phosphate, Ortho (as PO4)	MG/L	0.2		34	ND	ND	ND	ND
Phosphorus	MG/L	0.078		32	ND	ND	ND	ND
Silica	MG/L	0.625		33	6.99	11.1	8.86	8.66
Sulfate (SO4)	MG/L	0.5	500	33	57.6	264	163	181
Total Nitrogen	MG/L	0.156		33	0.413	1.17	0.637	0.638
Organic Constituents, Regulated			MCL	SMCL	Min	Max	Mean	Median
1,1,1-Trichloroethane (1,1,1-TCA)	UG/L	0.5	200	19	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	UG/L	0.5	1	19	ND	ND	ND	ND
1,1,2-Trichloroethane (1,1,2-TCA)	UG/L	0.5	5	19	ND	ND	ND	ND
1,1-Dichloroethane (1,1-DCA)	UG/L	0.5	5	23	ND	ND	ND	ND
1,1-Dichloroethylene (1,1-DCE)	UG/L	0.5	6	19	ND	ND	ND	ND
1,2,4-Trichlorobenzene	UG/L	0.5	5	19	ND	ND	ND	ND
1,2-Dichlorobenzene (o-DCB)	UG/L	0.5	600	19	ND	ND	ND	ND
1,2-Dichloroethane (1,2-DCA)	UG/L	0.5	0.5	19	ND	ND	ND	ND
1,2-Dichloropropane	UG/L	0.5	5	19	ND	ND	ND	ND
1,4-Dichlorobenzene (p-DCB)	UG/L	0.5	5	19	ND	ND	ND	ND
2,4,5-TP (SILVEX)	UG/L	1	50	18	ND	ND	ND	ND
2,4-D	UG/L	10	70	18	ND	ND	ND	ND
Alachlor (ALANEX)	UG/L	1	2	18	ND	ND	ND	ND
Atrazine (AATREX)	UG/L	0.5	1	18	ND	ND	ND	ND
Bentazon (BASAGRAN)	UG/L	2	18	18	ND	ND	ND	ND
Benzene	UG/L	0.5	1	19	ND	ND	ND	ND
Benzo(a)pyrene	UG/L	0.1	0.2	18	ND	ND	ND	ND
Bromodichloromethane	UG/L	1		315	4.17	28.9	14.7	14.5
Bromoform	UG/L	1		315	1.16	14.3	5.37	5.11
Carbofuran (FURADAN)	UG/L	5	18	17	ND	ND	ND	ND
Carbon Tetrachloride	UG/L	0.5	0.5	19	ND	ND	ND	ND
Chlordane	UG/L	0.1	0.1	11	ND	ND	ND	ND
Chlorodibromomethane	UG/L	1		315	4.71	33.2	16.3	16.4
Chloroform (Trichloromethane)	UG/L	1		315	2.53	38.2	11.1	10.4
cis-1,2-Dichloroethylene (c-1,2-DCE)	UG/L	0.5	6	19	ND	ND	ND	ND
Dalapon	UG/L	10	200	52	ND	ND	ND	ND
Di(2-ethylhexyl) Adipate	UG/L	5	400	18	ND	ND	ND	ND
Di(2-ethylhexyl)phthalate (DEHP)	UG/L	3	4	18	ND	ND	ND	ND
Dibromoacetic Acid (DBAA)	UG/L	1		51	1.14	5.28	3.11	3.18
Dibromochloropropane (DBCP)	UG/L	0.01	0.2	29	ND	ND	ND	ND
Dichloroacetic Acid (DCAA)	UG/L	1		53	3.63	13.2	7.75	7.85
Dichloromethane (Methylene Chloride)	UG/L	0.5	5	19	ND	ND	ND	ND
Dinoseb (DNBP)	UG/L	2	7	18	ND	ND	ND	ND
Diquat	UG/L	4	20	14	ND	ND	ND	ND
Endothall	UG/L	45	100	14	ND	ND	ND	ND
Endrin	UG/L	0.1	2	29	ND	ND	ND	ND
Ethyl Benzene	UG/L	0.5	300	19	ND	ND	ND	ND
Ethylene Dibromide (EDB)	UG/L	0.02	0.05	29	ND	ND	ND	ND
Glyphosate	UG/L	25	700	17	ND	ND	ND	ND
Haloacetic Acids (five) (HAA5)	UG/L	1	60	52	8.25	23.3	14.5	14.4
Heptachlor	UG/L	0.01	0.01	10	ND	ND	ND	ND

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Heptachlor Epoxide	UG/L	0.01	0.01	11	ND	ND	ND	ND
Hexachlorobenzene	UG/L	0.5	1	29	ND	ND	ND	ND
Hexachlorocyclopentadiene	UG/L	1	50	29	ND	ND	ND	ND
Lindane (gamma-BHC)	UG/L	0.2	0.2	11	ND	ND	ND	ND
meta,para xylenes	UG/L	0.5		19	ND	ND	ND	ND
Methoxychlor	UG/L	10	30	29	ND	ND	ND	ND
Methyl tert-Butyl Ether (MTBE)	UG/L	3	13	5	19	ND	ND	ND
Molinate (ORDRAM)	UG/L	2	20	18	ND	ND	ND	ND
Monobromoacetic Acid (MBAA)	UG/L	1		53	ND	4.915	ND	ND
Monochloroacetic Acid (MCAA)	UG/L	2		53	ND	ND	ND	ND
Monochlorobenzene (Chlorobenzene)	UG/L	0.5	70	19	ND	ND	ND	ND
Oxamyl (Vydate)	UG/L	20	50	17	ND	ND	ND	ND
o-Xylene	UG/L	0.5		19	ND	ND	ND	ND
Pentachlorophenol (PCP)	UG/L	0.2	1	18	ND	ND	ND	ND
Picloram	UG/L	1	500	18	ND	ND	ND	ND
Polychlorinated Biphenyls, Total, as DCB	UG/L	0.5	0.5	16	ND	ND	ND	ND
Simazine (PRINCEP)	UG/L	1	4	18	ND	ND	ND	ND
Styrene	UG/L	0.5	100	19	ND	ND	ND	ND
Tetrachloroethylene (PCE)	UG/L	0.5	5	19	ND	ND	ND	ND
Thiobencarb (BOLERO)	UG/L	1	70	1	18	ND	ND	ND
Toluene	UG/L	0.5	150	19	ND	ND	ND	ND
Total Organic Carbon (TOC)	MG/L	0.3		249	1.88	3.86	2.38	2.36
Total Toxaphene	UG/L	1	3	11	ND	ND	ND	ND
Total Trihalomethanes (THMs)	UG/L	1	80	243	14.8	89	46.4	46.2
trans-1,2-Dichloroethylene (t-1,2-DCE)	UG/L	0.5	10	19	ND	ND	ND	ND
Trichloroacetic Acid (TCAA)	UG/L	1		53	1.38	5.47	3.46	3.4
Trichloroethylene (TCE)	UG/L	0.5	5	19	ND	ND	ND	ND
Trichlorofluoromethane (FREON 11)	UG/L	5	150	19	ND	ND	ND	ND
Trichlorotrifluoroethane (FREON 113)	UG/L	10	1200	19	ND	ND	ND	ND
Vinyl Chloride (VC)	UG/L	0.5	0.5	19	ND	ND	ND	ND
Organic Constituents, Unregulated			MCL	SMCL	Min	Max	Mean	Median
1,1,1,2-Tetrachloroethane	UG/L	0.5		19	ND	ND	ND	ND
1,1-Dichloropropene	UG/L	0.5		19	ND	ND	ND	ND
1,2,3-Trichlorobenzene	UG/L	0.5		19	ND	ND	ND	ND
1,2,3-Trichloropropane	NG/L	0.5		19	ND	ND	ND	ND
1,2,4-Trimethylbenzene	UG/L	0.4		19	ND	ND	ND	ND
1,3,5-Trimethylbenzene	UG/L	0.5		19	ND	ND	ND	ND
1,3-Butadiene	UG/L	0.1		4	ND	ND	ND	ND
1,3-Dichlorobenzene (m-DCB)	UG/L	0.5		19	ND	ND	ND	ND
1,3-Dichloropropane	UG/L	0.5		19	ND	ND	ND	ND
1,4-Dioxane	UG/L	0.071		4	ND	ND	ND	ND
16-alpha-hydroxyestradiol (estriol)	UG/L	0.001		4	ND	ND	ND	ND
17-alpha-ethynylestradiol (ethinyl estradiol)	UG/L	0.0009		4	ND	ND	ND	ND
17-beta-estradiol	UG/L	0.0004		4	ND	ND	ND	ND
2,2-Dichloropropane	UG/L	0.5		19	ND	ND	ND	ND
2,4,5-T	UG/L	3		18	ND	ND	ND	ND
2,4-DB	UG/L	3		18	ND	ND	ND	ND
2-Chlorotoluene	UG/L	0.5		19	ND	ND	ND	ND
2-Methylisoborneol	NG/L	5		242	ND	6.15	ND	ND
3,5-Dichlorobenzoic Acid	UG/L	3		18	ND	ND	ND	ND
3-Hydroxycarbofuran	UG/L	3		17	ND	ND	ND	ND
4-androstene-3,17-dione	UG/L	0.0003		4	ND	ND	ND	ND
4-Chlorotoluene	UG/L	0.5		19	ND	ND	ND	ND
4-Nitrophenol	UG/L	5		18	ND	ND	ND	ND
Acenaphthylene	UG/L	5		16	ND	ND	ND	ND
Acifluorfen	UG/L	3		18	ND	ND	ND	ND
Aldicarb (TEMIK)	UG/L	3		17	ND	ND	ND	ND

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Aldicarb Sulfone	UG/L	4		17	ND	ND	ND	ND
Aldicarb Sulfoxide	UG/L	3		17	ND	ND	ND	ND
Aldrin	UG/L	0.075		11	ND	ND	ND	ND
Anthracene	UG/L	5		18	ND	ND	ND	ND
Baygon	UG/L	0.4		17	ND	ND	ND	ND
Benzo (a) Anthracene	UG/L	10		18	ND	ND	ND	ND
Benzo (b) Fluoranthene	UG/L	10		18	ND	ND	ND	ND
Benzo (ghi) Perylene	UG/L	10		18	ND	ND	ND	ND
Benzo (k) Fluoranthene	UG/L	10		18	ND	ND	ND	ND
Benzyl Butyl Phthalate	UG/L	10		18	ND	ND	ND	ND
Bromobenzene	UG/L	0.5		19	ND	ND	ND	ND
Bromochloromethane	UG/L	0.5		23	ND	ND	ND	ND
Bromomethane (Methyl Bromide)	UG/L	0.5		23	ND	ND	ND	ND
Carbaryl (Sevin)	UG/L	5		17	ND	ND	ND	ND
Chloramben	UG/L	3		18	ND	ND	ND	ND
Chlorodifluoromethane	UG/L	0.08		4	ND	ND	ND	ND
Chloroethane	UG/L	0.5		19	ND	ND	ND	ND
Chloromethane (Methyl Chloride)	UG/L	0.5		23	ND	ND	ND	ND
Chrysene	UG/L	5		18	ND	ND	ND	ND
cis-1,3-dichloropropene	UG/L	0.5		19	ND	ND	ND	ND
Dibenzo (a,h) anthracene	UG/L	5		18	ND	ND	ND	ND
Dibromomethane	UG/L	0.5		19	ND	ND	ND	ND
Dicamba (BANVEL)	UG/L	1.5		18	ND	ND	ND	ND
Dichlorodifluoromethane (Freon 12)	UG/L	0.5		19	ND	ND	ND	ND
Dichloroprop	UG/L	3		18	ND	ND	ND	ND
Dieldrin	UG/L	0.02		11	ND	ND	ND	ND
Diethylphthalate	UG/L	5		18	ND	ND	ND	ND
Diisopropyl Ether (DIPE)	UG/L	3		19	ND	ND	ND	ND
Dimethyl phthalate	UG/L	5		18	ND	ND	ND	ND
di-n-Butylphthalate	UG/L	5		18	ND	ND	ND	ND
Equilin	UG/L	0.004		4	ND	ND	ND	ND
Estrone	UG/L	0.002		4	ND	ND	ND	ND
Ethyl-tert-Butyl Ether (ETBE)	UG/L	3		19	ND	ND	ND	ND
Fluorene	UG/L	5		18	ND	ND	ND	ND
Geosmin	NG/L	5		242	ND	15.9	ND	ND
Hexachlorobutadiene	UG/L	0.5		19	ND	ND	ND	ND
Indeno (1,2,3-cd) Pyrene	UG/L	10		18	ND	ND	ND	ND
Isopropylbenzene (Cumene)	UG/L	0.5		19	ND	ND	ND	ND
MCPA	UG/L	3		18	ND	ND	ND	ND
MCPP	UG/L	3		18	ND	ND	ND	ND
Methiocarb	UG/L	0.4		17	ND	ND	ND	ND
Methomyl	UG/L	2		17	ND	ND	ND	ND
Naphthalene	UG/L	0.5		37	ND	ND	ND	ND
n-Butylbenzene	UG/L	0.5		19	ND	ND	ND	ND
n-Propylbenzene	UG/L	0.5		19	ND	ND	ND	ND
Paraquat	UG/L	20		14	ND	ND	ND	ND
PCB-1016 (as DCB)	UG/L	0.26	0.5	18	ND	ND	ND	ND
PCB-1221 (as DCB)	UG/L	0.19	0.5	18	ND	ND	ND	ND
PCB-1232 (as DCB)	UG/L	0.23	0.5	18	ND	ND	ND	ND
PCB-1242 (as DCB)	UG/L	0.26	0.5	18	ND	ND	ND	ND
PCB-1248 (as DCB)	UG/L	0.3	0.5	18	ND	ND	ND	ND
PCB-1254 (as DCB)	UG/L	0.33	0.5	18	ND	ND	ND	ND
PCB-1260 (as DCB)	UG/L	0.36	0.5	18	ND	ND	ND	ND
perfluorobutanesulfonic acid (PFBS)	UG/L	0.083		4	ND	ND	ND	ND
perfluoroheptanoic acid (PFHpA)	UG/L	0.009		4	ND	ND	ND	ND
perfluorohexanesulfonic acid (PFHxS)	UG/L	0.028		4	ND	ND	ND	ND
perfluorononanoic acid (PFNA)	UG/L	0.019		4	ND	ND	ND	ND

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perfluorooctanesulfonic acid (PFOS)	UG/L	0.037		4	ND	ND	ND	ND
perfluorooctanoic acid (PFOA)	UG/L	0.019		4	ND	ND	ND	ND
Phenanthrene	UG/L	5		18	ND	ND	ND	ND
p-Isopropyltoluene	UG/L	0.4		19	ND	ND	ND	ND
Propachlor	UG/L	0.5		29	ND	ND	ND	ND
Pyrene	UG/L	5		18	ND	ND	ND	ND
sec-Butylbenzene	UG/L	0.5		19	ND	ND	ND	ND
tert-Amyl Methyl Ether (TAME)	UG/L	3		19	ND	ND	ND	ND
tert-Butyl Alcohol (TBA)	UG/L	2		19	ND	ND	ND	ND
tert-Butylbenzene	UG/L	0.5		19	ND	ND	ND	ND
TESTOSTERONE	UG/L	0.0004		4	ND	ND	ND	ND
Total THM Potential	UG/L	0.5		55	22.8	83.3	55.1	54.4
trans-1,3-dichloropropene	UG/L	0.5		19	ND	ND	ND	ND
Trifluralin	UG/L			18	ND	ND	ND	ND

NOTES:

* The State of California DLR values are used when available. Parameters without DLR values were reported as MDL levels.

** The acceptance criteria in this table apply to finished, potable water, and are for reference only.

(1) State MCL and MCLG values may be more stringent than federal standards for treated water.

(2) Based on the Langelier index. A positive value indicates non-corrosive tendencies. A negative value indicates corrosive tendencies.

(3) Turbidity of treated water is not to exceed 0.3 NTU 95% of the time.

(4) No more than 5% of distribution samples can be total coliform positive.

(5) Haloacetic acids (five) are defined as the sum of the concentrations of mono-, di-, and trichloroacetic acids and mono- and dibromoacetic acids. MCL compliance is based on a running annual average.

(6) Total Trihalomethanes are defined as the sum of the concentrations of bromoform, chloroform, bromodichloromethane and chlorodibromomethane. MCL compliance is based on a running annual average.

(7) Lead and Copper Rule Action Levels.

ND: not detected