

Appendix 5.10 - Summary of Otay Water Treatment Plant Effluent Drinking Water Constituents 2016 - 2020

CSD

			Federal/California Drinking Water Standards ¹			2016 - 2020 Drinking Water Quality			
Group/Constituents	Units	CSD MDL	DLR	Primary MCL	Secondary SMCL	No. of Samples	Min	Max	Mean
General Physical									
Alkalinity, (Total) (as CaCO3 equivalents)	MG/L	20				57	78.7	170	126
Calcium Hardness (CaCO3)	MG/L	10				56	83.8	185	127
Color, Apparent (Unfiltered)	COLOR	1			15	57	ND	4	1.1
Corrosivity ²	-					53	-0.65	0.93	0.367
Hydroxide Alkalinity	MG/L					58	ND	ND	ND
MBAS (Foaming Agents)	MG/L			0.5		5	ND	ND	ND
Odor Threshold @ 60 C (TON)	ODOR	1	1		3	1814	1	2	1.07
pH	PH					1252	6.52	8.74	8.06
Specific Conductance (E.C.)	UMHO/CM				1600	56	618	1110	922
Total Filterable Residue @ 180 C (TDS)	MG/L	10			1000	58	355	650	553
Total Hardness (CaCO3)	MG/L	10				56	156	299	232
Turbidity, Laboratory	NTU	0.07	0.1		5	1874	ND	0.3	ND
Microbiological									
Heterotrophic Bacteria (HPC)	CFU/ML					251	< 1	2	< 1
Escherichia Coli	/100 ML	1		Present		1190	A	A	A
Total Coliform	/100 ML	1		Present		1190	A	P	A
Radiologicals									
Gross Alpha	PCI/L		3	15		2	3.40	5.96	4.68
Gross Beta	PCI/L		4	50 ⁵		2	4.09	5.00	4.55
Uranium	PCI/L		1	20		1	ND	ND	ND

			Federal/California Drinking Water Standards ¹			2016 - 2020 Drinking Water Quality			
Group/Constituents	Units	CSD MDL	DLR	Primary MCL	Secondary SMCL	No. of Samples	Min	Max	Mean
Metals ³									
Aluminum (Al)	UG/L	5	50	1000	200	59	ND	13.2	ND
Antimony	UG/L	1	6	6		19	ND	1.07	ND
Arsenic	UG/L	1	2	10		22	ND	1.04	ND
Barium (Ba)	UG/L	2	100	1000		20	35.2	136	71.4
Beryllium	UG/L	0.5	1	4		20	ND	ND	ND
Boron	UG/L	5	100			20	51.7	211	164
Cadmium (Cd)	UG/L	0.5	1	5		20	ND	ND	ND
Calcium (Ca)	MG/L	5				59	33.5	74	50.6
Chromium (Total Cr)	UG/L	1	10	50		20	ND	ND	ND
Chromium, Hexavalent	UG/L	1				5	ND	ND	ND
Copper (Cu) ⁴	UG/L	1	50	1300	1000	59	ND	2.98	1.13
Iron (Fe)	UG/L	100	100		300	59	ND	ND	ND
Lead (Pb) ⁴	UG/L	0.5	5	15		59	ND	ND	ND
Magnesium (Mg)	MG/L	3				118	14.6	34.3	24.4
Manganese (Mn)	UG/L	0.5	20		50	63	ND	41	1.81
Mercury (Hg)	UG/L	0.2	1	2		19	ND	ND	ND
Nickel	UG/L	1	10	100		19	ND	5.01	ND
Potassium (K)	MG/L	0.5				58	3.55	6.14	5
Selenium (Se)	UG/L	2	5	50		20	ND	ND	ND
Silver	UG/L	1	10	50		20	ND	ND	ND
Sodium (Na)	MG/L	20				59	67.4	128	104
Thallium	UG/L	0.5	1	2		20	ND	ND	ND
Vanadium	UG/L	1	3			20	ND	ND	ND
Zinc (Zn)	UG/L	5	50		5000	59	ND	ND	ND

			Federal/California Drinking Water Standards ¹			2016 - 2020			
Group/Constituents	Units	CSD MDL				Drinking Water Quality			
			DLR	Primary MCL	Secondary SMCL	No. of Samples	Min	Max	Mean
Inorganic Constituents									
Ammonia-N	MG/L	0.031				209	0.278	1.87	0.598
Asbestos Chrysotile Fibers >10 microns	MFL	0.2	0.2	7		1	ND	ND	ND
Bicarbonate (as HCO3)	MG/L					59	93	204	152
Bromide	MG/L	0.1				58	ND	0.534	ND
Carbonate (as CO3)	MG/L					59	ND	3.28	0.42
Chlorate	UG/L		20			1430	ND	393	199
Chloride	MG/L	0.5			500	58	83.6	186	138
Chlorite	MG/L		0.02	1.0		1.416	ND	1.04	0.346
Cyanide	UG/L		100	150		5	ND	ND	ND
Fluoride	MG/L	0.02	0.1	2		58	0.239	0.633	0.457
Nitrate (as NO3)	MG/L		2	45		295	ND	3.81	ND
Nitrite (NO2)	MG/L	0.0156	0.131	0.328		240	ND	0.17	0.011
Perchlorate	UG/L	4	4	6		19	ND	ND	ND
Phosphate, Ortho (as PO4)	MG/L	0.2				55	ND	0.271	ND
Phosphorus	MG/L	0.078				51	ND	0.142	ND
Silica	MG/L	0.625				59	3.33	10	6.95
Sulfate (SO4)	MG/L	0.5	0.5		500	57	75.2	242	136
Total Nitrogen	MG/L	0.156				53	0.648	1.58	0.963

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Group/Constituents	Units	CSD MDL	DLR	Primary MCL	Secondary SMCL	No. of Samples	Min	Max	Mean
Organic Constituents, Regulated									
1,1,1-Trichloroethane (1,1,1-TCA)	UG/L	0.4	0.5	200		16	ND	ND	ND
1,1,2,2-Tetrachloroethane	UG/L	0.4	0.5	1		16	ND	ND	ND
1,1,2-Trichloroethane (1,1,2-TCA)	UG/L	0.4	0.5	5		16	ND	ND	ND
1,1-Dichloroethane (1,1-DCA)	UG/L	0.4	0.5	5		16	ND	ND	ND
1,1-Dichloroethylene (1,1-DCE)	UG/L	0.4	0.5	6		16	ND	ND	ND
1,2,4-Trichlorobenzene	UG/L	0.4	0.5	5		16	ND	ND	ND
1,2-Dichlorobenzene (o-DCB)	UG/L	0.4	0.5	600		16	ND	ND	ND
1,2-Dichloroethane (1,2-DCA)	UG/L	0.4	0.5	0.5		15	ND	ND	ND
1,2-Dichloropropane	UG/L	0.4	0.5	5		16	ND	ND	ND
1,4-Dichlorobenzene (p-DCB)	UG/L	0.4	0.5	5		16	ND	ND	ND
2,3,7,8-tetra CDD	UG/L		0.000005	0.00003		2	ND	ND	ND
2,4,5-TP (SILVEX)	UG/L	1	1	50		16	ND	ND	ND
2,4-D	UG/L	3	10	70		16	ND	ND	ND
Alachlor (ALANEX)	UG/L	0.5	1	2		11	ND	ND	ND
Atrazine (AATREX)	UG/L	0.4	0.5	1		11	ND	ND	ND
Bentazon (BASAGRAN)	UG/L	2	2	18		16	ND	ND	ND
Benzene	UG/L	0.4	0.5	1		15	ND	ND	ND
Benzo(a)pyrene	UG/L	0.1	0.1	0.2		11	ND	ND	ND
Bromodichloromethane	UG/L	0.4	1			313	4.38	20.7	9.05
Bromoform	UG/L	0.4	1			313	ND	33	12.6
Carbofuran (FURADAN)	UG/L	0.4	5	18		15	ND	ND	ND
Carbon Tetrachloride	UG/L	0.4	0.5	0.5		16	ND	ND	ND
Chlordane	UG/L	0.1	0.1	0.1		18	ND	ND	ND
Chlorodibromomethane	UG/L	0.4	1			313	6.26	38.8	16.6
Chloroform (Trichloromethane)	UG/L	1	1			313	1.09	17.8	4.26
cis-1,2-Dichloroethylene (c-1,2-DCE)	UG/L	0.4	0.5	6		16	ND	ND	ND
Dalapon	UG/L	2	10	200		52	ND	ND	ND
Di(2-ethylhexyl) Adipate	UG/L	2	5	400		11	ND	ND	ND
Di(2-ethylhexyl)phthalate (DEHP)	UG/L	3	3	4		11	ND	ND	ND
Dibromoacetic Acid (DBAA)	UG/L	1	1			53	ND	14.3	5.88
Dibromochloropropane (DBCP)	UG/L	0.01	0.01	0.2		33	ND	ND	ND

Group/Constituents	Units	CSD MDL	Federal/California Drinking Water Standards ¹			2016 - 2020 Drinking Water Quality			
			DLR	Primary MCL	Secondary SMCL	No. of Samples	Min	Max	Mean
Dichloroacetic Acid (DCAA)	UG/L	1	1			53	ND	5.24	2.3
Dichloromethane (Methylene Chloride)	UG/L	0.4	0.5	5		16	ND	ND	ND
Dinoseb (DNBP)	UG/L	2	2	7		16	ND	ND	ND
Diquat	UG/L	3	4	20		14	ND	ND	ND
Endothall	UG/L	15	45	100		10	ND	ND	ND
Endrin	UG/L	0.1	0.1	2		29	ND	ND	ND
Ethyl Benzene	UG/L	0.4	0.5	300		16	ND	ND	ND
Ethylene Dibromide (EDB)	UG/L	0.02	0.02	0.05		33	ND	ND	ND
Glyphosate	UG/L	10	25	700		15	ND	ND	ND
Haloacetic Acids (five) (HAA5) ⁶	UG/L	1		60		53	ND	21	8.59
Heptachlor	UG/L	0.01	0.01	0.01		18	ND	ND	ND
Heptachlor Epoxide	UG/L	0.01	0.01	0.01		16	ND	ND	ND
Hexachlorobenzene	UG/L	0.5	0.5	1		29	ND	ND	ND
Hexachlorocyclopentadiene	UG/L	0.211	1	50		28	ND	ND	ND
Lindane (gamma-BHC)	UG/L	0.2	0.2	0.2		18	ND	ND	ND
meta,para xylenes	UG/L	0.4	0.5			16	ND	ND	ND
Methoxychlor	UG/L	0.5	10	30		28	ND	ND	ND
Methyl tert-Butyl Ether (MTBE)	UG/L	0.4	3	13	5	16	ND	ND	ND
Molinate (ORDRAM)	UG/L	0.5	2	20		10	ND	ND	ND
Monobromoacetic Acid (MBAA)	UG/L	1	1			53	ND	1.74	ND
Monochloroacetic Acid (MCAA)	UG/L	2	2			53	ND	ND	ND
Monochlorobenzene (Chlorobenzene)	UG/L	0.4	0.5	70		16	ND	ND	ND
Oxamyl (Vydate)	UG/L	0.4	20	50		15	ND	ND	ND
o-Xylene	UG/L	0.4	0.5			16	ND	ND	ND
Pentachlorophenol (PCP)	UG/L	0.2	0.2	1		16	ND	ND	ND
Picloram	UG/L	1	1	500		16	ND	ND	ND
Polychlorinated Biphenyls, Total, as DCB	UG/L	0.5		0.5		10	ND	ND	ND
Simazine (PRINCEP)	UG/L	0.5	1	4		11	ND	ND	ND
Styrene	UG/L	0.4	0.5	100		16	ND	ND	ND
Tetrachloroethylene (PCE)	UG/L	0.4	0.5	5		16	ND	ND	ND
Thiobencarb (BOLERO)	UG/L	0.5	1	70	1	11	ND	ND	ND
Toluene	UG/L	0.4	0.5	150		16	ND	ND	ND

Group/Constituents	Units	CSD MDL	Federal/California Drinking Water Standards ¹			2016 - 2020 Drinking Water Quality			
			DLR	Primary MCL	Secondary SMCL	No. of Samples	Min	Max	Mean
Total Organic Carbon (TOC)	MG/L	0.3				240	1.73	6.74	3.78
Total Toxaphene	UG/L	1	1	3		18	ND	ND	ND
Total Trihalomethanes (TTHMs) ⁶	UG/L	0.4		80		243	16.2	77.6	41.8
trans-1,2-Dichloroethylene (t-1,2-DCE)	UG/L	0.4	0.5	10		16	ND	ND	ND
Trichloroacetic Acid (TCAA)	UG/L	1	1			53	ND	1.64	ND
Trichloroethylene (TCE)	UG/L	0.4	0.5	5		16	ND	ND	ND
Trichlorofluoromethane (FREON 11)	UG/L	0.4	5	150		16	ND	ND	ND
Trichlorotrifluoroethane (FREON 113)	UG/L	0.4	10	1200		16	ND	ND	ND
Vinyl Chloride (VC)	UG/L	0.4	0.5	0.5		16	ND	ND	ND

			Federal/California Drinking Water Standards ¹			2016 - 2020 Drinking Water Quality			
Group/Constituents	Units	CSD MDL	DLR	Primary MCL	Secondary SMCL	No. of Samples	Min	Max	Mean
Organic Constituents, Unregulated									
1,1,1,2-Tetrachloroethane	UG/L	0.4	0.5			16	ND	ND	ND
1,1-Dichloropropene	UG/L	0.4	0.5			16	ND	ND	ND
1,2,3-Trichlorobenzene	UG/L	0.4	0.5			16	ND	ND	ND
1,2,3-Trichloropropane	NG/L	5	5			5	ND	ND	ND
1,2,4-Trimethylbenzene	UG/L	0.4	0.5			16	ND	ND	ND
1,3,5-Trimethylbenzene	UG/L	0.4	0.5			16	ND	ND	ND
1,3-Dichlorobenzene (m-DCB)	UG/L	0.4	0.5			16	ND	ND	ND
1,3-Dichloropropane	UG/L	0.4	0.5			16	ND	ND	ND
2,2-Dichloropropane	UG/L	0.4	0.5			16	ND	ND	ND
2,4,5-T	UG/L	3				16	ND	ND	ND
2,4-DB	UG/L	3				16	ND	ND	ND
2-Chlorotoluene	UG/L	0.4	0.5			16	ND	ND	ND
2-Methylisoborneol	NG/L	5				244	ND	11	ND
3,5-Dichlorobenzoic Acid	UG/L	3				16	ND	ND	ND
3-Hydroxycarbofuran	UG/L	0.4	3			15	ND	ND	ND
4-Chlorotoluene	UG/L	0.4	0.5			16	ND	ND	ND
4-Nitrophenol	UG/L	3	5			16	ND	ND	ND
Acenaphthylene	UG/L	0.5				10	ND	ND	ND
Acifluorfen	UG/L	3				16	ND	ND	ND
Aldicarb (TEMIK)	UG/L	0.4	3			15	ND	ND	ND
Aldicarb Sulfone	UG/L	0.4	4			15	ND	ND	ND
Aldicarb Sulfoxide	UG/L	0.4	3			15	ND	ND	ND
Aldrin	UG/L	0.1	0.075			18	ND	ND	ND
Anthracene	UG/L	0.5				10	ND	ND	ND
Baygon	UG/L	0.4				15	ND	ND	ND
Benzo (a) Anthracene	UG/L	0.5				10	ND	ND	ND
Benzo (b) Fluoranthene	UG/L	0.5				10	ND	ND	ND
Benzo (ghi) Perylene	UG/L	0.5				10	ND	ND	ND
Benzo (k) Fluoranthene	UG/L	0.5				10	ND	ND	ND
Benzyl Butyl Phthalate	UG/L	0.5				10	ND	ND	ND
Bromobenzene	UG/L	0.4	0.5			16	ND	ND	ND

Group/Constituents	Units	CSD MDL	Federal/California Drinking Water Standards ¹			2016 - 2020 Drinking Water Quality			
			DLR	Primary MCL	Secondary SMCL	No. of Samples	Min	Max	Mean
Bromochloromethane	UG/L	0.4	0.5			16	ND	ND	ND
Bromomethane (Methyl Bromide)	UG/L	0.4	0.5			16	ND	ND	ND
Carbaryl (Sevin)	UG/L	0.4	5			15	ND	ND	ND
Chloramben	UG/L	3				16	ND	ND	ND
Chloroethane	UG/L	0.4	0.5			16	ND	ND	ND
Chloromethane (Methyl Chloride)	UG/L	0.4	0.5			16	ND	ND	ND
Chrysene	UG/L	0.5				10	ND	ND	ND
cis-1,3-dichloropropene	UG/L	0.4	0.5			16	ND	ND	ND
Dibenzo (a,h) anthracene	UG/L	0.5				10	ND	ND	ND
Dibromomethane	UG/L	0.4	0.5			16	ND	ND	ND
Dicamba (BANVEL)	UG/L	1.5	1.5			16	ND	ND	ND
Dichlorodifluoromethane (Freon 12)	UG/L	0.4	0.5			16	ND	ND	ND
Dichloroprop	UG/L	3				16	ND	ND	ND
Dieldrin	UG/L	0.02	0.02			18	ND	ND	ND
Diethylphthalate	UG/L	0.5				10	ND	ND	ND
Diisopropyl Ether (DIPE)	UG/L	0.4	3			16	ND	ND	ND
Dimethyl phthalate	UG/L	0.5				10	ND	ND	ND
di-n-Butylphthalate	UG/L	2				10	ND	ND	ND
Ethyl-tert-Butyl Ether (ETBE)	UG/L	0.4	3			16	ND	ND	ND
Fluorene	UG/L	0.5				10	ND	ND	ND
Geosmin	NG/L	5				245	ND	ND	ND
Hexachlorobutadiene	UG/L	0.4	0.5			16	ND	ND	ND
Indeno (1,2,3-cd) Pyrene	UG/L	0.5				10	ND	ND	ND
Isopropylbenzene (Cumene)	UG/L	0.4	0.5			16	ND	ND	ND
MCPA	UG/L	3				16	ND	ND	ND
MCPP	UG/L	3				16	ND	ND	ND
Methiocarb	UG/L	0.4				15	ND	ND	ND
Methomyl	UG/L	0.4	2			15	ND	ND	ND
Naphthalene	UG/L	0.4	0.5			26	ND	ND	ND
n-Butylbenzene	UG/L	0.4	0.5			16	ND	ND	ND
n-Propylbenzene	UG/L	0.4	0.5			16	ND	ND	ND
Paraquat	UG/L	4	20			14	ND	ND	ND

Group/Constituents	Units	CSD MDL	Federal/California Drinking Water Standards ¹			2016 - 2020 Drinking Water Quality			
			DLR	Primary MCL	Secondary SMCL	No. of Samples	Min	Max	Mean
PCB-1016 (as DCB)	UG/L	0.26	0.5	0.5		10	ND	ND	ND
PCB-1221 (as DCB)	UG/L	0.19	0.5	0.5		10	ND	ND	ND
PCB-1232 (as DCB)	UG/L	0.23	0.5	0.5		10	ND	ND	ND
PCB-1242 (as DCB)	UG/L	0.26	0.5	0.5		10	ND	ND	ND
PCB-1248 (as DCB)	UG/L	0.3	0.5	0.5		10	ND	ND	ND
PCB-1254 (as DCB)	UG/L	0.33	0.5	0.5		10	ND	ND	ND
PCB-1260 (as DCB)	UG/L	0.36	0.5	0.5		10	ND	ND	ND
Phenanthrene	UG/L	0.5				10	ND	ND	ND
p-Isopropyltoluene	UG/L	0.4				16	ND	ND	ND
Propachlor	UG/L	0.5	0.5			27	ND	ND	ND
Pyrene	UG/L	0.5				10	ND	ND	ND
sec-Butylbenzene	UG/L	0.4	0.5			16	ND	ND	ND
tert-Amyl Methyl Ether (TAME)	UG/L	0.4	3			16	ND	ND	ND
tert-Butyl Alcohol (TBA)	UG/L	1	2			16	ND	ND	ND
tert-Butylbenzene	UG/L	0.4	0.5			16	ND	ND	ND
trans-1,3-dichloropropene	UG/L	0.4	0.5	0.5		16	ND	ND	ND
Trifluralin	UG/L	0.5				10	ND	ND	ND

End Notes:

CSD MDL: City of San Diego Water Quality Laboratory minimum detection level, DLR: detection level for reporting, MCL: maximum contaminant level, SMCL: Secondary MCL, ND: not detected. Calculated mean below CSD MDL reported as ND.

¹ DLR, MCL, SMCL are obtained from California OEHHA and SWRCB and apply to drinking water and are for reference only. California MCL and SMCL values may be more stringent than federal standards for drinking water.

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

³ Trace metal values were from filtered and unfiltered samples. Differences in values were negligible.

⁴ Values referred to as MCLs for Lead and Copper are actually called Action Levels under the Lead and Copper Rule.

⁵ DDW considers 50 pCi/L to be the level of concern for Beta particles.

⁶ Total Trihalomethane and HAA5 compliance is based on quarterly Locational Running Annual Averages (LRAA)