

2023 ANNUAL REPORT

INDUSTRIAL WASTE PRETREATMENT PROGRAM

LOS ANGELES COUNTY SANITATION DISTRICTS

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APPENDIX I
WWRF MASS EMISSION BENCHMARKS

**Table 4.6
A.K. WARREN WATER RESOURCE FACILITY
2023 CALCULATED MASS EMISSION RATE**

Ocean Plan Constituent	Annual Average Concentration (ug/L)	Annual Average Flow (MGD)	Calculated Mass Emission Rate (MT/yr)	12-month Average Mass Emission Benchmarks From Permit (MT/yr)	Ratio, Mass Emission Rate to Benchmark (%)
Marine Aquatic Life Toxicants					
Arsenic	1.95	247	0.664	1.3	51%
Cadmium	ND	247	ND	0.1	ND
Chromium (hexavalent)	0.09	247	0.03	0.8	4%
Copper	2.34	247	0.80	2.6	31%
Lead	ND	247	ND	0.2	ND
Mercury	ND	247	ND	0.02	ND
Nickel	6.79	247	2.32	6.9	34%
Selenium	4.64	247	1.58	5.9	27%
Silver	ND	247	ND	0.1	ND
Zinc	12.7	247	4.34	9.0	48%
Cyanide	1.62	247	0.553	5.3	10%
Ammonia as N	42,700	247	14,584	25,000	58%
Phenolic compounds (non-chlorinated)	0.83	247	0.28	1.9	15%
Phenolic compounds (chlorinated)	0.37	247	0.13	1.0	13%
Endosulfan	0.003	247	0.001	0.008	13%
HCH	ND	247	ND	0.008	ND
Endrin	ND	247	ND	0.005	ND
Human Health Toxicants - Non Carcinogens					
Acrolein	ND	247	ND	2.7	ND
Antimony	1.80	247	0.615	3.6	17%
Bis(2chloroethoxy)methane	ND	247	ND	0.7	ND
Bis(2chloroisopropyl)ether	ND	247	ND	0.8	ND
Chlorobenzene	ND	247	ND	0.6	ND
Chromium (III)	1.46	247	0.499	1.5	33%
Di-n-butyl-phthalate	ND	247	ND	2.3	ND
Dichlorobenzenes	ND	247	ND	0.3	ND
Diethyl phthalate	ND	247	ND	1.1	ND
Dimethyl phthalate	ND	247	ND	1.0	ND
2-Methyl-4,6-dinitrophenol	ND	247	ND	6.9	ND
2,4-Dinitrophenol	ND	247	ND	9.0	ND
Ethylbenzene	ND	247	ND	1.0	ND
Fluoranthene	ND	247	ND	1.0	ND
Hexachlorocyclopentadiene	ND	247	ND	4.0	ND
Nitrobenzene	ND	247	ND	1.2	ND
Thallium	ND	247	ND	0.3	ND
Toluene	ND	247	ND	0.3	ND
Tributyltin	ND	247	ND	0.005	ND
1,1,1-Trichloroethane	ND	247	ND	1.0	ND
Human Health Toxicants - Carcinogens					
Acrylonitrile	ND	247	ND	1.4	ND
Aldrin	ND	247	ND	0.002	ND
Benzene	ND	247	ND	0.399	ND
Beryllium	ND	247	ND	0.1	ND
Bis(2-chloroethyl) ether	ND	247	ND	0.5	ND
Bis(2-ethylhexyl) phthalate	ND	247	ND	7.4	ND
Carbon tetrachloride	ND	247	ND	0.5	ND
Chlorodibromomethane	ND	247	ND	1.3	ND
Chloroform	10	247	3.4	13.5	25%
1,4-Dichlorobenzene	ND	247	ND	0.5	ND
1,2-Dichloroethane	ND	247	ND	0.3	ND
1,1-Dichloroethylene	ND	247	ND	0.6	ND
Bromodichloromethane	ND	247	ND	0.8	ND
Dichloromethane	1.1	247	0.38	1.6	23%
1,3-Dichloropropene	ND	247	ND	0.3	ND
2,4-Dinitrotoluene	ND	247	ND	0.5	ND
1,2-Diphenylhydrazine	ND	247	ND	0.3	ND
Halomethanes	ND	247	ND	0.5	ND
Hexachlorobutadiene	ND	247	ND	0.4	ND
Hexachloroethane	ND	247	ND	0.4	ND
Isophorone	ND	247	ND	0.3	ND
N-Nitrosodimethylamine	0.012	247	0.0041	0.4	1%
N-Nitrosodi-N-propylamine	ND	247	ND	0.3	ND
N-Nitrosodiphenylamine	ND	247	ND	0.4	ND
PAHs	ND	247	ND	0.5	ND
1,1,2,2-Tetrachloroethane	ND	247	ND	0.2	ND
Tetrachloroethylene	ND	247	ND	10.6	ND
Trichloroethylene	ND	247	ND	0.5	ND
1,1,2-Trichloroethane	ND	247	ND	0.2	ND
2,4,6-Trichlorophenol	0.37	247	0.13	0.3	42%
Vinyl Chloride	ND	247	ND	0.7	ND

1. ND = Not Detected

2. Mass Emission Rates were calculated using the annual average concentration and annual average flow and have been rounded in the above table. Values were not rounded when calculating the Ratio.