

**IRVINE RANCH WATER DISTRICT  
2009 MICHELSON WATER RECLAMATION PLANT FINAL EFFLUENT (REC-001)**

CONSTITUENT	UNITS		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	NPDES PERMIT LIMIT
Flow	MGD	Daily Max.	20.95	22.03	19.55	19.50	20.93	19.68	18.99	22.87	20.83	20.45	19.66	19.71	-
		Average	18.85	16.70	18.16	18.56	18.80	18.18	17.54	17.89	18.48	18.79	18.18	17.95	-
Specific Conductance <i>(daily 90th percentile of continuous monitoring)</i>	umhos/cm	Daily Max.	1155	1094	1184	1385	1240	1229	1266	1479	1178	1405	1305	1168	-
		Average	1073	958	1065	1124	1177	1133	1167	1192	1112	1156	1120	1109	-
pH	S.U.	Inst. Min.	6.1	6.0	6.0	6.0	6.2	6.3	6.5	6.2	6.7	6.4	6.4	6.1	6.0
		Inst. Max.	7.0	6.9	7.4	7.1	7.0	7.4	7.5	8.7	7.4	8.2	8.4	8.7	9.0
		Total Hours Out of Spec.	0	0	0	0	0	0	0	0	0	0	0	0	7.43
		Incidents > 60 Min/Day	0	0	0	0	0	0	0	0	0	0	0	0	0
Turbidity <i>(daily mean of continuous monitoring)</i>	NTU	Daily Max.	1.7	1.7	1.7	1.2	1.5	1.1	0.7	0.8	0.9	1.3	0.7	1.2	2
		Average	0.8	0.8	1.3	0.7	1.0	0.7	0.5	0.6	0.6	0.7	0.5	0.4	-
		Inst. Max.	2.9	4.6	4.8	1.5	2.6	1.4	1.6	1.4	2.7	1.9	1.3	2.2	10
Total Residual Chlorine <i>(daily mean of continuous monitoring)</i>	mg/L	Min	8.0	7.8	6.9	5.8	5.6	5.5	5.7	5.7	6.3	6.1	6.9	7.4	-
		Average	8.8	8.9	7.8	7.4	7.1	6.8	6.2	6.7	6.9	6.7	7.6	8.4	-
Total Suspended Solids	mg/L	Daily Max.	2.1	3.2	3.4	2.4	2.2	2.3	2.6	6.0	3.2	1.7	1.5	1.6	30
		Monthly Avg.	<1.0	<1.0	1.9	<1.0	1.3	<1.0	1.4	1.5	<1.0	<1.0	<1.0	<1.0	20
		% Removal	100.0	99.8	99.4	99.9	99.6	99.7	99.6	99.5	99.8	99.8	99.9	99.7	85
BOD	mg/L	Daily Max.	<3.0	<3.0	3.6	4.6	<3.0	3.5	3.1	4.9	<3.0	<3.0	<3.0	<3.0	30
		Monthly Avg.	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	20
		% Removal	100	100	99.8	99.9	100	99.9	100	99.9	100	100	100	85	
Total Coliforms	MPN/100ml	Daily Max.	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.5	2.0	240
		7-Day Median	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	2.2
		No. of Samples >3	0	0	0	0	0	0	0	0	0	0	0	1	
CT Value	mg-min/L	Inst. Min.	0	0	54	1	216	245	374	0	3	211	12	2	450
		Average	1150	1477	1059	918	879	838	831	983	971	968	1011	1036	-
		Number of Incidences <450	3	9	4	7	8	4	3	6	7	3	5	5	-
		Total Minutes <450	10	640	95	148	61	7	97	100	584	3	112	10	-
TDS	mg/L	Monthly Avg.	682	638	590	776	690	692	688	706	660	636	624	620	-
		12-Month Avg.	669	664	650	656	663	669	673	674	673	670	667	667	910
Chronic Toxicity - Survival <i>Ceriodaphnia dubia</i>	TUc	Daily Max.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.7*
		2-Month Median	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0*
Chronic Toxicity - Reproduction <i>Ceriodaphnia dubia</i>	TUc	Daily Max.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.25	-
		2-Month Median	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0*

**INORGANICS**

Antimony	ug/L	Daily Max.	0.677	0.702	0.755	DNQ	ND	DNQ	DNQ	DNQ	0.563	DNQ	DNQ	DNQ	-
Arsenic	ug/L	Daily Max.	1.21	DNQ	2.81	1.25	1.69	DNQ	DNQ	1.09	1.22	1.02	1.35	DNQ	-
Barium	ug/L	Daily Max.	12.6	11.6	17.7	17.8	15.2	13.2	16.5	12.3	12.0	12.3	11.4	8.8	-
Beryllium	ug/L	Daily Max.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Cadmium	ug/L	Daily Max.	DNQ	DNQ	DNQ	DNQ	DNQ	DNQ	DNQ	DNQ	DNQ	DNQ	DNQ	DNQ	-
Total Chromium	ug/L	Daily Max.	1.23	DNQ	ND	3.18	ND	DNQ	2.14	DNQ	0.600	0.677	0.586	DNQ	-
Chromium VI (Conditional)	ug/L	Daily Max.	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	ug/L	Daily Max.	DNQ	DNQ	0.598	0.905	DNQ	DNQ	0.546	DNQ	DNQ	DNQ	DNQ	DNQ	-
Copper	ug/L	Daily Max.	6.48	12.5	12.6	10.6	5.30	10.6	4.07	4.48	4.00	4.67	3.08	4.17	23/12
Lead	ug/L	Daily Max.	DNQ	DNQ	DNQ	DNQ	DNQ	DNQ	ND	DNQ	DNQ	DNQ	DNQ	DNQ	-
Mercury	ug/L	Daily Max.	0.034	ND	ND	0.044	ND	ND	ND	ND	ND	ND	ND	ND	.102/0.05
Nickel	ug/L	Daily Max.	3.10	2.14	6.40	3.94	3.73	3.43	4.24	2.74	2.91	3.04	2.73	2.12	-
Selenium	ug/L	Daily Max.	2.89	2.83	3.89	3.05	2.92	2.68	2.51	2.35	2.34	2.04	2.47	2.20	-
Silver	ug/L	Daily Max.	DNQ	DNQ	DNQ	ND	ND	ND	ND	ND	ND	ND	ND	DNQ	-
Thallium	ug/L	Daily Max.	DNQ	DNQ	DNQ	ND	ND	ND	ND	ND	ND	DNQ	DNQ	DNQ	-
Zinc	ug/L	Daily Max.	46.5	21.5	44.7	32.4	23.6	32.3	27.4	30.2	36.8	33.2	28.0	27.5	-

**MISCELLANEOUS**

Cyanide (Free)	mg/L	Daily Max.	ND	ND	ND	DNQ	ND	ND	ND	ND	ND	ND	ND	ND	-
2,3,7,8-TCDD	pg/L	Daily Max.	-	-	-	ND	-	-	-	-	-	-	-	-	-

**CONSTITUENT UNITS JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC NPDES PERMIT LIMIT**

**VOLATILE ORGANICS**

Acrolein	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Acrylonitrile	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	DNQ	ND	ND	ND	ND	-
Benzene	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Bromoform	ug/L	Daily Max.	ND	-	-	DNQ	DNQ	DNQ	2.3	2.2	DNQ	DNQ	DNQ	DNQ	-
Carbon Tetrachloride	ug/L	Daily Max.	ND	-	-	DNQ	DNQ	DNQ	DNQ	DNQ	DNQ	DNQ	DNQ	DNQ	-
Chlorobenzene	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Chlorodibromomethane	ug/L	Daily Max.	ND	-	-	12	18	16	18	22	17	17	16	12	-
Chloroethane	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
2-Chloroethyl Vinyl Ether	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Chloroform	ug/L	Daily Max.	ND	-	-	42	59	35	43	50	40	51	44	42	-
Dichlorobromomethane	ug/L	Daily Max.	ND	-	-	29	40	31	35	46	37	39	42	29	-
1,2-Dichlorobenzene	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,3-Dichlorobenzene	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,4-Dichlorobenzene	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,1-Dichloroethane	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,2-Dichloroethane	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,1-Dichloroethylene	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,2-Dichloropropane	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,3-Dichloropropylene	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Ethylbenzene	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Methyl Bromide	ug/L	Daily Max.	3.7	-	-	ND	ND	ND	ND	ND	DNQ	ND	ND	ND	-
Methyl Chloride	ug/L	Daily Max.	DNQ	-	-	ND	ND	ND	ND	ND	ND	ND	DNQ	ND	-
Methylene Chloride	ug/L	Daily Max.	2.2	-	-	ND	ND	ND	ND	DNQ	ND	ND	ND	ND	-
1,1,2,2-Tetrachloroethane	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Tetrachloroethylene	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Toluene	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
trans-1,2-Dichloroethylene	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,1,1-Trichloroethane	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
1,1,2-Trichloroethane	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Trichloroethylene	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Vinyl Chloride	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
Total Trihalomethanes	ug/L	Daily Max.	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-

**ACID EXTRACTABLES**

2-Chlorophenol	ug/L	Daily Max.	ND	-	-	ND	-	-	ND	-	-	ND	-	-	-
2,4-Dichlorophenol	ug/L	Daily Max.	ND	-	-	ND	-	-	ND	-	-	ND	-	-	-
2,4-Dimethylphenol	ug/L	Daily Max.	ND	-	-	ND	-	-	ND	-	-	ND	-	-	-
2-Methyl-4,6-Dinitrophenol	ug/L	Daily Max.	ND	-	-	ND	-	-	ND	-	-	ND	-	-	-
2,4-Dinitrophenol	ug/L	Daily Max.	ND	-	-	ND	-	-	ND	-	-	ND	-	-	-
2-Nitrophenol	ug/L	Daily Max.	ND	-	-	ND	-	-	ND	-	-	ND	-	-	-
4-Nitrophenol	ug/L	Daily Max.	ND	-	-	ND	-	-	ND	-	-	ND	-	-	-
3-Methyl-4-Chlorophenol	ug/L	Daily Max.	ND	-	-	ND	-	-	ND	-	-	ND	-	-	-
Pentachlorophenol	ug/L	Daily Max.	ND	-	-	ND	-	-	ND	-	-	ND	-	-	-
Phenol	ug/L	Daily Max.	ND	-	-	ND	-	-	ND	-	-	ND	-	-	-
2,4,6-Trichlorophenol	ug/L	Daily Max.	ND	-	-	DNQ	-	-	ND	-	-	ND	-	-	-

**BASE/NEUTRAL EXTRACTABLES**

Acenaphthene	ug/L	Daily Max.	ND	-	-	ND	-	-	ND	-	-	ND	-	-	-
Acenaphthylene	ug/L	Daily Max.	ND	-	-	ND	-	-	ND	-	-	ND	-	-	-