

II. Influent and Effluent Data Summary.

The results of all analyses performed on the WWTP influent and effluent are summarized in tables with monthly and annual averages (and in some cases annual totals) calculated. Graphs of monthly averages are presented.

- A. Influent and Effluent Data Summaries
- B. Influent and Effluent Graphs
- C. 6-Year Tables
- D. Daily Values of Selected Parameters

Mass Emissions of Effluent Using 2001 Monthly Averages

DISCHARGE SPECIFICATIONS from NPDES Permit No. CA0107409/RWQCB Order No. 95-106 effective on December 15, 1995 with limits on pollutant discharges.				
Constituent/Property	Benchmarks	2001 Mass Emissions	2001 Concentration	
	(mt/yr)	(mt/yr)		Units
Flow (MGD)			174.8	MGD
Suspended Solids	--	10,392	43	mg/L
BOD	--	22,717	94	mg/L
Arsenic	0.88	0.19	0.8	ug/L
Cadmium	1.4	0.02	0.1	ug/L
Chromium	14.2	0.36	1.5	ug/L
Copper	26	28	114	ug/L
Lead	14.2	0.00	0	ug/L
Mercury	0.19	0.00	0	ug/L
Nickel	11.3	0.00	0	ug/L
Selenium	0.44	0.27	1.12	ug/L
Silver	2.8	0.15	0.6	ug/L
Zinc	18.3	7.7	32	ug/L
cyanide	0.57	0.63	0.0026	mg/L
Residual Chlorine	--			
Ammonia	8018	6,767	28	mg/L
Non-Chor. Phenols	2.57	2.7	11.0	ug/L
Chlorinated Phenols	1.73	0.0	0.0	ug/L
Endosulfan	0.006	0	0	ng/L
Endrin	0.008	0	0	ng/L
hexachlorocyclohexanes *(HCH)	0.025	0.0039	16.0	ng/L
* (all as Lindane)				
LIMITATIONS FOR PROTECTION OF HUMAN HEALTH--NONCARCINOGENS				
Acrolein	17.6	0.0000	0	ug/L
Antimony	56.6	5.32	22	ug/L
Bis(2-chloroethoxy) methane	1.5	0.0000	0	ug/L
Bis(2-chloroisopropyl) ether	1.61	0.0000	0	ug/L
Chlorobenzene	1.7	0.0000	0	ug/L
Chromium (III)	--			
di-n-butyl phthalate	1.33	0.0000	0	ug/L
dichlorobenzenes	2.8	0.0000	0	ug/L
1,1-dichloroethylene	0.79	0.0000	0	ug/L
Diethyl phthalate	6.23	0.9425	3.9	ug/L
Dimethyl phthalate	1.59	0.0000	0	ug/L
4,6-dinitro-2-methylphenol	6.8	0.0000	0	ug/L
2,4-dinitrophenol	11.9	0.0000	0	ug/L
Ethylbenzene	2.04	0.0000	0	ug/L
Fluoranthene	0.62	0.0000	0	ug/L
Hexachlorocyclopentadiene	--	0.0000	0	ug/L
Isophorone	0.71	0.0000	0	ug/L
Nitrobenzene	2.07	0.0000	0	ug/L
Thallium	36.8	0.0000	0	ug/L
Toluene	3.31	0.5075	2.1	ug/L
1,1,2,2-tetrachloroethane	1.95	0.0000	0	ug/L
Tributyltin	0.001	0.0000	0	ug/L
1,1,1-trichloroethane	2.51	0.0000	0	ug/L
1,1,2-trichloroethane	1.42	0.0000	0	ug/L

Constituent/Property	Benchmarks	2001	2001	Units
	(mt/yr)	Mass Emissions (mt/yr)	Concentration	
LIMITATIONS FOR PROTECTION OF HUMAN HEALTH-- CARCINOGENS				
Acrylonitrile	5.95	0.0000	0	ug/L
Aldrin	0.006	0.0000	0	ng/L
Benzene	1.25	0.0000	0	ug/L
Benzidine	12.5	0.0000	0	ug/L
Beryllium	1.42	0.0000	0	ug/L
Bis(2-chloroethyl)ether	1.61	0.0000	0	ug/L
Bis(2-ethylhexyl)phthalate	2.89	0.41	1.7	ug/L
Carbon Tetrachloride	0.79	0.0000	0	ug/L
Chlordane	0.014	0.0000	0	ng/L
Chloroform	2.19	1.79	7.4	ug/L
DDT	0.043	0.0000	0	ng/L
1,4-dichlorobenzene	1.25	0.0000	0	ug/L
3,3-dichlorobenzidine	4.67	0.0000	0	ug/L
1,2-dichloroethane	0.79	0.0000	0	ug/L
Dichloromethane (methylene chloride)	13.7	0.7250	3	ug/L
1,3-dichloropropene	1.42	0.0000	0	ug/L
Dieldrin	0.011	0.0000	0	ng/L
2,4-dinitrotoluene	1.61	0.0000	0	ug/L
1,2-diphenylhydrazine	1.52	0.0000	0	ug/L
Halomethanes	5.86	1.0150	4.2	ug/L
Heptachlor	0.025	0.0000	0	ng/L
Hexachlorobenzene	0.54	0.0000	0	ug/L
Hexachlorobutadiene	0.054	0.0000	0	ug/L
Hexachloroethane	1.13	0.0000	0	ug/L
N-nitrosodimethylamine	0.76	0.0000	0	ug/L
N-nitrosodiphenylamine	1.47	0.0000	0	ug/L
PAHs	15.45	0.0000	0	ug/L
PCBs	0.275	0.0000	0	ng/L
TCDD equivalents	--	0.0000000249	0.103	pg/L
Tetrachloroethylene	4	0.2900	1.2	ug/L
Toxaphene	0.068	0.0000	0	ng/L
Trichloroethylene	1.56	0.0000	0	ug/L
2,4,6-trichlorophenol	0.96	0.0000	0	ug/L
Vinyl Chloride	0.4	0.0000	0	ug/L

A. Influent and Effluent Data Summaries.

The results of all analyses performed on the WWTP influent and effluent are summarized in tables with monthly and annual averages (and in some cases annual totals) calculated.

Diagram of Pt. Loma WWTP

LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL
From 01-JAN-2001 To 31-DEC-2001

Biochemical Oxygen Demand Concentration (24-hour composite)						
	Daily Influent Value Flow	Daily Influent Value (mg/L)	Daily Influent Value (lbs/Day)	Daily Effluent Value (mg/L)	Daily Effluent Value (lbs/Day)	Percent Removal BOD (%)
JANUARY -2001	180.3	238	357881	82	123304	65.5
FEBRUARY -2001	184.3	230	353524	96	147558	58.3
MARCH -2001	184.1	235	360818	106	162752	54.9
APRIL -2001	174.9	271	395298	95	138573	64.9
MAY -2001	171.3	278	397162	101	144293	63.7
JUNE -2001	170.6	251	357124	94	133744	62.5
JULY -2001	171.8	266	381128	96	137550	63.9
AUGUST -2001	173.4	263	380339	101	146062	61.6
SEPTEMBER-2001	172.6	259	372826	94	135311	63.7
OCTOBER -2001	170.2	255	361964	90	127752	64.7
NOVEMBER -2001	171.9	258	369881	82	117559	68.2
DECEMBER -2001	171.6	243	347768	88	125941	63.8
Average	174.8	254	369643	94	136700	63.0

Annual Mass Emissions are calculated from monthly averages of flow and BOD, whereas Monthly Report average mass emissions are calculated from average daily mass emissions.

Total Suspended Solids Concentration (24-hour composite)											
	Daily Influent Value Flow	Daily Influent Value (mg/L)	Daily Influent Value (mg/L)	Percent Removal VSS (%)	Daily Influent Value (lbs/Day)	Daily Effluent Value (mg/L)	Daily Effluent Value (mg/L)	Percent Removal VSS (%)	Daily Effluent Value (lbs/Day)	Percent Removal TSS (%)	Percent Removal VSS (%)
JANUARY -2001	180.3	286	233	81.5	430059	33	24	72.7	49622	88.5	89.7
FEBRUARY -2001	184.3	273	222	81.3	419618	37	26	70.3	56871	86.4	88.3
MARCH -2001	184.1	268	219	81.7	411486	40	28	70.0	61416	85.1	87.2
APRIL -2001	174.9	275	226	82.2	401133	41	30	73.2	59805	85.1	86.7
MAY -2001	171.3	281	232	82.6	401448	42	31	73.8	60003	85.1	86.6
JUNE -2001	170.6	281	233	82.9	399808	44	33	75.0	62603	84.3	85.8
JULY -2001	171.8	275	225	81.8	394023	46	35	76.1	65909	83.3	84.4
AUGUST -2001	173.4	273	224	82.1	394801	47	36	76.6	67969	82.8	83.9
SEPTEMBER-2001	172.6	272	224	82.4	391540	50	38	76.0	71974	81.6	83.0
OCTOBER -2001	170.2	267	221	82.8	378998	50	39	78.0	70973	81.3	82.4
NOVEMBER -2001	171.9	273	225	82.4	391385	43	34	79.1	61647	84.2	84.9
DECEMBER -2001	171.6	275	225	81.8	393565	38	28	73.7	54383	86.2	87.6
Average	174.8	275	226		400655	43	32		61931	84.5	85.9

Annual Mass Emissions are calculated from monthly averages of flow and TSS, whereas Monthly Report average mass emissions are calculated from average daily mass emissions.

POINT LOMA WASTEWATER TREATMENT PLANT

Annual Systemwide BOD Removals

From 01-JAN-2001 To 31-DEC-2001

Date	Pt. Loma Influent Mass Emis. Contribution	PS64 Influent Mass Emis. Contribution	Penasquitos Influent Mass Emis. Contribution	N_Return Stream Mass Emis. Contribution	Pt. Loma Effluent Mass Emis. Contribution	Monthly Systemwide Percent Removal	Pt. Loma Daily Percent Removal
JANUARY	357881	32344	15734	24391	123304	67.7	65.5
FEBRUARY	353524	28003	11545	21632	147558	60.3	58.3
MARCH	360818	24559	14138	19444	162752	57.2	54.9
APRIL	395298	25288	13615	19955	138573	66.5	64.9
MAY	397162	27207	14221	20392	144293	65.5	63.7
JUNE	357124	28552	14880	15221	133744	65.3	62.5
JULY	381128	33165	8366	13588	137550	66.4	63.9
AUGUST	380339	27259	13033	9612	146062	64.5	61.6
SEPTEMBER	372826	28140	9755	10347	135311	66.2	63.7
OCTOBER	361964	27134	12521	14000	127752	67.0	64.7
NOVEMBER	369881	32778	8614	19042	117559	70.0	68.2
DECEMBER	347768	26927	11311	13742	125941	66.2	63.8
Average	369643	28446	12311	16780@	136700	65.2	63.0

@=These mass emissions may be as much as two times the actual amount returned. See the additional data in the "System Wide Removal Sampling System Evaluation Progress," in this report.

Annual Systemwide TSS Removals

From 01-JAN-2001 To 31-DEC-2001

Date	Pt. Loma Influent Mass Emis. Contribution	PS64 Influent Mass Emis. Contribution	Penasquitos Influent Mass Emis. Contribution	N_Return Stream Mass Emis. Contribution	Pt. Loma Effluent Mass Emis. Contribution	Monthly Systemwide Percent Removal	Pt. Loma Daily Percent Removal
JANUARY	430059	35791	18345	32134	49622	89.0	88.5
FEBRUARY	419618	30470	13201	35991	56871	86.7	86.4
MARCH	411486	26554	16158	22232	61416	85.8	85.1
APRIL	401133	24411	15620	24803	59805	85.6	85.1
MAY	401448	27466	18420	26822	60003	85.7	85.1
JUNE	399808	29094	19103	26692	62603	85.1	84.3
JULY	394023	34919	11141	26671	65909	84.1	83.3
AUGUST	394801	30530	17859	19078	67969	84.0	82.8
SEPTEMBER	391540	29778	12861	18713	71974	82.7	81.6
OCTOBER	378998	28730	17352	18752	70973	82.5	81.3
NOVEMBER	391385	34953	10738	30104	61647	84.9	84.2
DECEMBER	393565	27500	14244	17411	54383	87.0	86.2
Average	400655	30016	15420	24950@	61931	85.3	84.5

@=These mass emissions may be as much as two times the actual amount returned. See the additional data in the "System Wide Removal Sampling System Evaluation Progress," in this report.

POINT LOMA WASTEWATER TREATMENT PLANT

From 01-JAN-2001 To 31-DEC-2001

		Effluent to Ocean Outfall (PLE)						
		pH	Settleable Solids (ml/L)	Biochemical Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Temperature (C)	Floating Particulates (mg/L)	Turbidity (NTU)
JANUARY	-2001	7.35	<0.1	82	6.3	21.5	0.15	31
FEBRUARY	-2001	7.30	<0.1	96	8.8	21.1	0.19	36
MARCH	-2001	7.30	0.1	106	8.2	21.7	0.21	38
APRIL	-2001	7.30	0.1	95	8.8	22.6	0.10	43
MAY	-2001	7.33	0.1	101	8.8	23.9	0.10	43
JUNE	-2001	7.31	0.2	94	9.4	25.3	0.11	43
JULY	-2001	7.32	0.1	96	10.3	26.2	0.17	42
AUGUST	-2001	7.36	0.2	101	9.6	26.6	0.12	42
SEPTEMBER	-2001	7.37	0.1	94	8.8	26.8	<0.10	44
OCTOBER	-2001	7.36	0.1	90	8.6	26.0	<0.10	44
NOVEMBER	-2001	7.32	0.1	82	7.9	24.4	<0.10	39
DECEMBER	-2001	7.27	0.1	88	9.2	22.3	<0.10	39
Average		7.32	0.1	94	8.7	24.0	0.10	40

		Influent to Plant (PLR)				
		pH	Settleable Solids (ml/L)	Biochemical Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Temperature (C)
JANUARY	-2001	7.41	8.44	238	25.6	21.4
FEBRUARY	-2001	7.35	8.41	230	30.0	20.9
MARCH	-2001	7.34	9.48	235	27.7	21.7
APRIL	-2001	7.34	8.76	271	30.2	22.4
MAY	-2001	7.33	9.58	278	33.9	23.8
JUNE	-2001	7.36	9.75	251	36.5	25.1
JULY	-2001	7.35	9.37	266	33.6	25.8
AUGUST	-2001	7.36	10.50	263	39.8	26.8
SEPTEMBER	-2001	7.37	10.10	259	30.9	26.6
OCTOBER	-2001	7.41	9.34	255	35.2	25.6
NOVEMBER	-2001	7.42	8.96	258	30.8	24.3
DECEMBER	-2001	7.36	8.26	243	27.9	22.0
Average		7.37	9.2	254	31.8	23.9

ND=not detected; NS=not sampled; NA=not analyzed.

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL SEWAGE
Trace Metals

From: 01-JAN-2001 To: 31-DEC-2001

Sampled by: NDL,A4A,UFH,M5U
Analyzed by: BOA,G8C,JRF,IEN,LXP,SCV,JRV

Analyte:	Antimony	Antimony	Arsenic	Arsenic	Beryllium	Beryllium	Cadmium	Cadmium
MDL Units:	23 UG/L	23 UG/L	0.18 UG/L	0.18 UG/L	0.39 UG/L	0.39 UG/L	1 UG/L	1 UG/L
Source:	PLR	PLE	PLR	PLE	PLR	PLE	PLR	PLE
Lowest/Limit:				1030		6.77		205
=====								
JANUARY -2001	23	<23	1.18	0.79	ND	ND	<1.0	<1.0
FEBRUARY -2001	ND	26	1.22	0.79	ND	ND	2.0	ND
MARCH -2001	27	<23	0.93	0.60	ND	ND	<1.0	1.1
APRIL -2001	<23	<23	0.85	0.38	ND	ND	<1.0	<1.0
MAY -2001	<23	<23	1.14	0.90	ND	ND	2.6	<1.0
JUNE -2001	<23	ND	2.08	0.89	ND	ND	1.0	<1.0
JULY -2001	ND	ND	1.19	0.76	ND	ND	<1.0	ND
AUGUST -2001	ND	ND	1.53	1.06	ND	ND	1.6	<1.0
SEPTEMBER-2001	ND	ND	1.06	0.84	<0.39	ND	ND	ND
OCTOBER -2001	<23	<23	1.40	0.83	ND	ND	<1.0	<1.0
NOVEMBER -2001	<23	<23	1.50	1.03	ND	ND	<1.0	<1.0
DECEMBER -2001	<23	<23	1.34	0.77	ND	ND	ND	ND
=====								
AVERAGE	4	2	1.29	0.80	0.00	ND	0.6	0.1

Analyte:	Chromium	Chromium	Copper	Copper	Iron	Iron	Lead	Lead
MDL Units:	5 UG/L	5 UG/L	4 UG/L	4 UG/L	30 UG/L	30 UG/L	18 UG/L	18 UG/L
Source:	PLR	PLE	PLR	PLE	PLR	PLE	PLR	PLE
Lowest/Limit:		410		207				410
=====								
JANUARY -2001	10.9	17.5	194	115	6510	3800	<18.0	ND
FEBRUARY -2001	5.5	<5.0	180	153	6610	4150	ND	ND
MARCH -2001	6.7	<5.0	176	100	4990	4120	ND	ND
APRIL -2001	<5.0	ND	188	90	6300	4330	ND	ND
MAY -2001	7.1	<5.0	198	126	6840	4460	ND	ND
JUNE -2001	7.0	<5.0	192	119	8690	4550	ND	ND
JULY -2001	8.8	ND	167	105	7050	4150	ND	ND
AUGUST -2001	<5.0	<5.0	248	145	6720	3850	ND	ND
SEPTEMBER-2001	6.5	ND	215	117	6370	4130	ND	ND
OCTOBER -2001	6.2	ND	226	133	6350	4210	ND	ND
NOVEMBER -2001	<5.0	<5.0	142	85	6580	3820	<18.0	ND
DECEMBER -2001	ND	ND	190	85	6070	4310	ND	ND
=====								
AVERAGE	4.9	1.5	193	114	6590	4157	0.0	ND

Analyte:	Mercury	Mercury	Nickel	Nickel	Selenium	Selenium	Silver	Silver
MDL Units:	0.27 UG/L	0.27 UG/L	14 UG/L	14 UG/L	0.4 UG/L	0.4 UG/L	6.6 UG/L	6.6 UG/L
Source:	PLR	PLE	PLR	PLE	PLR	PLE	PLR	PLE
Lowest/Limit:		8.1		1030		3080		111
=====								
JANUARY -2001	ND	ND	<14	<14	1.68	1.25	ND	ND
FEBRUARY -2001	ND	ND	<14	<14	1.60	1.25	ND	6.7
MARCH -2001	ND	ND	<14	ND	1.26	1.18	<6.6	<6.6
APRIL -2001	ND	ND	<14	<14	1.61	1.08	ND	ND
MAY -2001	0.36	<0.27	<14	ND	1.34	1.10	<6.6	<6.6
JUNE -2001	0.32	ND	ND	<14	1.50	1.10	ND	ND
JULY -2001	<0.27	ND	18	<14	1.57	1.12	9.3	<6.6
AUGUST -2001	<0.27	<0.27	ND	ND	1.53	1.13	6.7	ND
SEPTEMBER-2001	<0.27	<0.27	<14	ND	1.19	0.92	ND	ND
OCTOBER -2001	<0.27	ND	ND	ND	1.25	0.86	ND	ND
NOVEMBER -2001	<0.27	<0.27	ND	ND	1.40	1.19	8.0	ND
DECEMBER -2001	<0.27	ND	ND	ND	1.61	1.26	ND	ND
=====								
AVERAGE	0.06	0.00	2	0	1.46	1.12	2.0	0.6

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL SEWAGE
Trace Metals

From: 01-JAN-2001 To: 31-DEC-2001

Sampled by: NDL,A4A
Analyzed by: BOA,G8C,JRF,IEN,LXP,SCV,JRV

Analyte:	Thallium	Thallium	Zinc	Zinc
MDL Units:	40 UG/L	40 UG/L	4 UG/L	4 UG/L
Source:	PLR	PLE	PLR	PLE
Lowest/Limit:		2870		2470
=====	=====	=====	=====	=====
JANUARY -2001	ND	ND	128	30
FEBRUARY -2001	ND	ND	136	35
MARCH -2001	ND	ND	123	33
APRIL -2001	ND	ND	168	41
MAY -2001	<40.0	ND	151	42
JUNE -2001	ND	ND	156	43
JULY -2001	ND	ND	139	26
AUGUST -2001	ND	ND	225	29
SEPTEMBER-2001	ND	ND	137	29
OCTOBER -2001	ND	ND	137	23
NOVEMBER -2001	ND	ND	145	26
DECEMBER -2001	ND	ND	123	24
=====	=====	=====	=====	=====
AVERAGE	0.0	ND	147	32

ND= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
 ANNUAL SEWAGE
 Ammonia-Nitrogen and Total Cyanides
 From: 01-JAN-2001 To: 31-DEC-2001

Sampled by: NDL,A4A,UFH,M5U
 Analyzed by: JJI,HHD,JRV

	Ammonia-N .2 MG/L PLR	Ammonia-N .2 MG/L PLE	Cyanides,Total .002 MG/L PLR	Cyanides,Total .002 MG/L PLE
Limit:		492		0.82
=====	=====	=====	=====	=====
JANUARY -2001	27.7	26.5	0.0038	0.0038
FEBRUARY -2001	27.0	27.9	0.0053	0.0048
MARCH -2001	26.0	26.1	0.0043	0.0039
APRIL -2001	29.9	29.5	0.0028	0.0034
MAY -2001	28.9	28.9	0.0033	0.0044
JUNE -2001	29.0	28.5	0.0033	0.0030
JULY -2001	29.6	27.7	0.0030	0.0028
AUGUST -2001	28.8	28.2	0.0020	0.0020
SEPTEMBER-2001	28.8	28.3	<0.0020	<0.0020
OCTOBER -2001	28.8	28.4	<0.0020	<0.0020
NOVEMBER -2001	29.0	28.8	0.0030	0.0029
DECEMBER -2001	28.0	27.5	0.0020	<0.0020
=====	=====	=====	=====	=====
Average:	28.5	28.0	0.0027	0.0026

ND= not detected
 NA= not analyzed
 NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL SEWAGE
Radioactivity

From: 01-JAN-2001 To: 31-DEC-2001

Sampled by: NDL,A4A,UFH,M5U
Analyzed by: Truesdail Labs Inc.

Source	Month	Gross Alpha Radiation	Gross Beta Radiation
PLE	JANUARY -2001	0.3 ± 1.2	28.0 ± 4.5
PLE	FEBRUARY -2001	2.1 ± 1.3	37.0 ± 4.5
PLE	MARCH -2001	2.6 ± 1.5	30.7 ± 4.4
PLE	APRIL -2001	1.6 ± 1.5	26.3 ± 3.8
PLE	MAY -2001	1.7 ± 1.4	37.2 ± 4.9
PLE	JUNE -2001	0.8 ± 1.2	31.2 ± 4.8
PLE	JULY -2001	0.9 ± 0.9	33.4 ± 4.7
PLE	AUGUST -2001	0.6 ± 1.4	31.1 ± 4.1
PLE	SEPTEMBER-2001	1.0 ± 1.2	37.4 ± 4.7
PLE	OCTOBER -2001	1.8 ± 1.5	35.3 ± 4.6
PLE	NOVEMBER -2001	1.4 ± 1.1	29.9 ± 4.8
PLE	DECEMBER -2001	2.9 ± 1.5	28.5 ± 4.2
AVERAGE		1.5 ± 1.3	32.2 ± 4.5

Source	Month	Gross Alpha Radiation	Gross Beta Radiation
PLR	JANUARY -2001	0.6 ± 1.3	26.3 ± 4.7
PLR	FEBRUARY -2001	0.6 ± 1.3	34.6 ± 4.6
PLR	MARCH -2001	-0.2 ± 1.2	30.0 ± 4.5
PLR	APRIL -2001	0.5 ± 1.3	31.3 ± 4.7
PLR	MAY -2001	-0.3 ± 1.2	39.2 ± 5.0
PLR	JUNE -2001	0.3 ± 1.1	33.1 ± 5.3
PLR	JULY -2001	1.9 ± 1.1	29.0 ± 4.5
PLR	AUGUST -2001	-1.0 ± 1.1	26.3 ± 4.1
PLR	SEPTEMBER-2001	1.3 ± 1.1	36.6 ± 4.5
PLR	OCTOBER -2001	0.9 ± 1.4	37.4 ± 4.7
PLR	NOVEMBER -2001	3.5 ± 1.6	28.0 ± 4.7
PLR	DECEMBER -2001	3.8 ± 1.7	35.3 ± 4.6
AVERAGE		1.0 ± 1.3	32.3 ± 4.6

ND= not detected
NA= not analyzed
NS= not sampled

Units in picocuries/liter (pCi/L)

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL - Chlorinated Pesticide Analysis

From 01-JAN-2001 To 31-DEC-2001

Analyte	MDL	Units	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	Average
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Aldrin	20	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	40	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	20	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	30	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	10	NG/L	13	10	13	15	18	21	23	19	18	16	15	15	16
BHC, Delta isomer	30	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDD	30	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDE	20	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDT	20	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDD	20	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDE	40	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDT	20	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	3	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	30	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	14	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	14	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha Chlordene		NG/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma Chlordene		NG/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	10	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans Nonachlor	10	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis Nonachlor		NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	20	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta Endosulfan		NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate		NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	30	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	23	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mirex	20	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor		NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	240	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1016	600	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1221		NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1232		NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1242	70	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1248		NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1254		NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1260	300	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1262		NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
=====															
Aldrin + Dieldrin	40	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Hexachlorocyclohexanes	30	NG/L	13	10	13	15	18	21	23	19	18	16	15	15	16
DDT and derivatives	40	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlordane + related cmpds.	14	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Polychlorinated biphenyls	600	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Endosulfans	20	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Heptachlors	30	NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
=====															
Chlorinated Hydrocarbons	600	NG/L	13	10	13	15	18	21	23	19	18	16	15	15	16

nd=not detected; NS=not sampled; NA=not analyzed

"Standards for alpha and gamma chlordene are no longer available in the U.S. for the analysis of these compounds."

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL - Chlorinated Pesticide Analysis

From 01-JAN-2001 To 31-DEC-2001

Analyte	MDL Units	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average
		Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Avg	Average
Aldrin	20 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	40 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Alpha isomer	20 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Beta isomer	30 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BHC, Gamma isomer	10 NG/L	41	35	26	50	44	37	27	46	54	43	45	41	41
BHC, Delta isomer	30 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDD	30 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDE	20 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p,p-DDT	20 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDD	20 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDE	40 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o,p-DDT	20 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	3 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	30 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha (cis) Chlordane	14 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma (trans) Chlordane	14 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha Chlordene	NG/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma Chlordene	NG/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	10 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans Nonachlor	10 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis Nonachlor	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha Endosulfan	20 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta Endosulfan	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	30 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin aldehyde	23 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mirex	20 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	240 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1016	600 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1221	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1232	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1242	70 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1248	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1254	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1260	300 NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCB 1262	NG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
=====														
Aldrin + Dieldrin	40 NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Hexachlorocyclohexanes	30 NG/L	41	35	26	50	44	37	27	46	54	43	45	41	41
DDT and derivatives	40 NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlordane + related cmpds.	14 NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Polychlorinated biphenyls	600 NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Endosulfans	20 NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
Heptachlors	30 NG/L	0	0	0	0	0	0	0	0	0	0	0	0	0
=====														
Chlorinated Hydrocarbons	600 NG/L	41	35	26	50	44	37	27	46	54	43	45	41	41

nd=not detected; NS=not sampled; NA=not analyzed

"Standards for alpha and gamma chlordene are no longer available in the U.S. for the analysis of these compounds."

POINT LOMA WASTEWATER TREATMENT PLANT

SEMI-ANNUAL SLUDGE PROJECT- Organophosphorus PesticidesEPA Method 614/622 (with additions)

From 01-JAN-2001 To 31-DEC-2001

Sampling: LC,MC,BGB,RJ,SKB,HHD,NC
 Analysis: CW,TB,KD

Analyte	MDL Units	PLE	PLR
		09-OCT-2001 P120742	09-OCT-2001 P120747
Demeton O	.09 UG/L	ND	ND
Demeton S	.05 UG/L	ND	ND
Diazinon	.07 UG/L	0.2	0.1
Guthion	.21 UG/L	ND	ND
Malathion	.04 UG/L	0.1	0.1
Parathion	.03 UG/L	ND	ND
Thiophosphorus Pesticides	.21 UG/L	0.1	0.1
Demeton -O, -S	.09 UG/L	0.0	0.0
Total Organophosphorus Pesticides	.21 UG/L	0.4	0.4

Additional Analytes.....

Tetraethylpyrophosphate	UG/L	ND	ND
Dichlorvos	UG/L	ND	ND
Dibrom	UG/L	ND	ND
Ethoprop	UG/L	ND	ND
Phorate	UG/L	ND	ND
Sulfotepp	UG/L	ND	ND
Disulfoton	UG/L	0.1	0.1
Monocrotophos	UG/L	ND	ND
Dimethoate	UG/L	ND	ND
Ronnel	UG/L	ND	ND
Trichloronate	UG/L	ND	ND
Merphos	UG/L	ND	ND
Dichlofenthion	UG/L	ND	ND
Tokuthion	UG/L	ND	ND
Stirophos	UG/L	ND	ND
Bolstar	UG/L	ND	ND
Fensulfothion	UG/L	ND	ND
EPN	UG/L	ND	ND
Coumaphos	UG/L	ND	ND
Mervinphos, e isomer	UG/L	ND	ND
Mervinphos, z isomer	UG/L	ND	ND
Chlorpyrifos	.05 UG/L	ND	0.1

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
ANNUAL SEWAGE MONTHLY - Tributyl Tin analysis

From 01-JAN-2001 To 31-DEC-2001
Sampling: LC,JF,JM,KW,PG,BGB Analysis:

Analyte	MDL	Units	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	Average
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Dibutyl tin	.007	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Monobutyl Tin	.01	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tributyl tin	.005	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Analyte	MDL	Units	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	Average
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	
Dibutyl tin	.007	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Monobutyl Tin	.01	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tributyl tin	.005	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

nd=not detected
NS=not sampled
NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL - Acid Extractables

From 01-JAN-2001 To 31-DEC-2001

Analyte	MDL	Units	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	Avg	Average
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV		
2-chlorophenol	3.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-dichlorophenol	6.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-chloro-3-methylphenol	3.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-trichlorophenol	3.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	5.87	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	2.53	UG/L	12.0	14.9	9.1	16.8	12.5	10.7	8.5	10.0	7.6	8.7	12.0	9.6	11.0
2-nitrophenol	4.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-dimethylphenol	4.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-dinitrophenol	6.07	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-nitrophenol	6.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-methyl-4,6-dinitrophenol	4.29	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Chlorinated Phenols	6.1	UG/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Non-Chlorinated Phenols	6.1	UG/L	12.0	14.9	9.1	16.8	12.5	10.7	8.5	10.0	7.6	8.7	12.0	9.6	11.0
Phenols	6.1	UG/L	12.0	14.9	9.1	16.8	12.5	10.7	8.5	10.0	7.6	8.7	12.0	9.6	11.0

Additional analytes determined;

2-methylphenol	5.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-methylphenol(4-MP is unresolved)	4.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methylphenol(3-MP is unresolved)	4.4	UG/L	39.8	43.9	27.3	56.1	37.4	25.6	24.3	23.6	14.8	22.1	29.5	31.9	31.4
2,4,5-trichlorophenol	3.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Analyte	MDL	Units	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	Avg	Average
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV		
2-chlorophenol	3.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-dichlorophenol	6.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-chloro-3-methylphenol	3.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-trichlorophenol	3.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	5.87	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	2.53	UG/L	15.4	16.6	15.0	22.2	17.2	18.3	16.6	16.2	16.1	12.4	20.0	16.2	16.9
2-nitrophenol	4.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-dimethylphenol	4.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-dinitrophenol	6.07	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-nitrophenol	6.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-methyl-4,6-dinitrophenol	4.29	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Chlorinated Phenols	6.1	UG/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Non-Chlorinated Phenols	6.1	UG/L	15.4	16.6	15.0	22.2	17.2	18.3	16.6	16.2	16.1	12.4	20.0	16.2	16.9
Phenols	6.1	UG/L	15.4	16.6	15.0	22.2	17.2	18.3	16.6	16.2	16.1	12.4	20.0	16.2	16.9

Additional analytes determined;

2-methylphenol	5.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-methylphenol(4-MP is unresolved)	4.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-methylphenol(3-MP is unresolved)	4.4	UG/L	53.2	51.1	49.0	76.9	57.6	56.8	47.4	39.7	38.7	35.7	52.8	60.0	51.6
2,4,5-trichlorophenol	3.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL Priority Pollutants Base/Neutrals

From 01-JAN-2001 To 31-DEC-2001

Analyte	MDL	Units	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	Average
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		
bis(2-chloroethyl) ether	2.62	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,3-dichlorobenzene	2.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-dichlorobenzene	2.8	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,4-dichlorobenzene	2.8	UG/L	<2.8	<2.8	<2.8	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	0.0	
Bis-(2-chloroisopropyl) ether	8.95	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
N-nitrosodi-n-propylamine	5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Nitrobenzene	7.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Hexachloroethane	4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Isophorone	2.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
bis(2-chloroethoxy)methane	2.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2,4-trichlorobenzene	1.44	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Naphthalene	1.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Hexachlorobutadiene	2.87	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Hexachlorocyclopentadiene		UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Acenaphthylene	2.02	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dimethyl phthalate	5.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2,6-dinitrotoluene	1.93	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Acenaphthene	2.2	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2,4-dinitrotoluene	1.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Fluorene	2.43	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
4-chlorophenyl phenyl ether	5.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Diethyl phthalate	8	UG/L	<8.0	12.5	ND	<7.0	13.6	ND	8.5	12.2	ND	ND	ND	ND	3.9	
N-nitrosodiphenylamine	5.2	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
4-bromophenyl phenyl ether	4.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Hexachlorobenzene	4.8	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Phenanthrene	4.15	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Anthracene	4.04	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Di-n-butyl phthalate	6.49	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
N-nitrosodimethylamine	2.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Fluoranthene	6.9	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Pyrene	5.19	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzidine	1.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Butyl benzyl phthalate	5.2	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chrysene	7.49	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzo[A]anthracene	7.68	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bis-(2-ethylhexyl) phthalate	10.43	UG/L	8.6	ND	11.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7	
Di-n-octyl phthalate	10.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
3,3-dichlorobenzidine	2.43	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzo[K]fluoranthene	7.36	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
3,4-benzo(B)fluoranthene	6.63	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzo[A]pyrene	7.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Indeno(1,2,3-CD)pyrene	7.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dibenzo(A,H)anthracene	7.8	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzo[G,H,I]perylene	7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-diphenylhydrazine	2.49	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Total Dichlorobenzenes	2.8	UG/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Polynuc. Aromatic Hydrocarbons	7.8	UG/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Base/Neutral Compounds	10.7	UG/L	8.6	12.5	11.3	0.0	13.6	0.0	8.5	12.2	0.0	0.0	0.0	0.0	5.6	

Additional analytes determined;

1-methylnaphthalene	2.18	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-methylnaphthalene	2.25	UG/L	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1
2,6-dimethylnaphthalene	3.31	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,5-trimethylnaphthalene	4.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-methylphenanthrene	6.29	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[e]pyrene	7.67	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perylene	6.61	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Biphenyl	2.43	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL Priority Pollutants Base/Neutrals
From 01-JAN-2001 To 31-DEC-2001

Analyte	MDL	Units	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	Avg	Average
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		
bis(2-chloroethyl) ether	2.62	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-dichlorobenzene	2.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichlorobenzene	2.8	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-dichlorobenzene	2.8	UG/L	<2.8	<2.8	<2.8	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	2.5	<2.3	0.2	
Bis-(2-chloroisopropyl) ether	8.95	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-nitrosodi-n-propylamine	5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	7.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	2.5	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-chloroethoxy)methane	2.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-trichlorobenzene	1.44	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	1.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	2.87	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene		UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	2.02	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl phthalate	5.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-dinitrotoluene	1.93	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	2.2	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-dinitrotoluene	1.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	2.43	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-chlorophenyl phenyl ether	5.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	8	UG/L	ND	10.8	ND	ND	13.0	ND	ND	ND	ND	ND	ND	ND	ND	2.0
N-nitrosodiphenylamine	5.2	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-bromophenyl phenyl ether	4.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	4.8	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	4.15	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	4.04	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	6.49	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-nitrosodimethylamine	2.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	6.9	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	5.19	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzidine	1.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	5.2	UG/L	ND	ND	ND	ND	ND	<4.8	ND	ND	ND	ND	ND	ND	ND	<0.0
Chrysene	7.49	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[A]anthracene	7.68	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis-(2-ethylhexyl) phthalate	10.43	UG/L	24.3	15.3	20.5	10.7	32.4	20.6	ND	11.2	10.6	ND	ND	14.6	13.4	
Di-n-octyl phthalate	10.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3-dichlorobenzidine	2.43	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[K]fluoranthene	7.36	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,4-benzo(B)fluoranthene	6.63	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[A]pyrene	7.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-CD)pyrene	7.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(A,H)anthracene	7.8	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[G,H,I]perylene	7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-diphenylhydrazine	2.49	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
=====																
Total Dichlorobenzenes	2.8	UG/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Polynuc. Aromatic Hydrocarbons	7.8	UG/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
=====																
Base/Neutral Compounds	10.7	UG/L	24.3	26.1	20.5	10.7	45.4	<20.6	0.0	11.2	10.6	0.0	2.5	14.6	15.5	
Additional dtermined determined;																
=====																
1-methylnaphthalene	2.18	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-methylnaphthalene	2.25	UG/L	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1
2,6-dimethylnaphthalene	3.31	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,5-trimethylnaphthalene	4.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-methylphenanthrene	6.29	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[e]pyrene	7.67	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perylene	6.61	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Biphenyl	2.43	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

nd=not detected; NS=not sampled; NA=not analyzed

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL Priority Pollutants Purgeables

From 01-JAN-2001 To 31-DEC-2001

Analyte	MDL	Units	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	PLE	Average
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Chloromethane	3.23	UG/L	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	0.1
Bromomethane	1.39	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.0
Vinyl chloride	1.04	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	1.09	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	3.92	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	1.29	UG/L	2.3	3.5	1.5	5.5	2.9	2.7	1.6	3.0	2.9	4.0	3.6	2.2	3.0
1,1-dichloroethane	1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	1	UG/L	5.8	7.0	8.3	7.8	9.3	8.1	6.3	5.6	9.2	9.1	7.0	5.6	7.4
1,2-dichloroethane	2.24	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	1.92	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1.79	UG/L	1.5	3.4	3.3	ND	1.2	1.7	1.3	ND	1.9	1.8	ND	2.1	1.5
1,2-dichloropropane	1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	1.27	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.32	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1.99	UG/L	1.2	2.8	2.5	ND	ND	1.3	18.4	ND	1.4	1.3	ND	1.9	2.6
1,1,2-trichloroethane	3.02	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	1.01	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-chloroethylvinyl ether	5	UG/L	ND	*	ND	ND	ND	*	ND	ND	ND	ND	ND	ND	ND
Bromoform	6.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	3.13	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.04	UG/L	ND	2.0	ND	1.5	ND	2.2	ND	ND	5.0	3.6	ND	ND	1.2
Toluene	1.01	UG/L	1.5	2.4	1.5	1.3	2.6	1.5	ND	1.5	1.5	7.5	2.2	1.4	2.1
Chlorobenzene	1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.46	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	13.8	UG/L	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
Acrolein	11.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
Halomethane Purgeable Cmpnds	6.1	UG/L	2.7	6.2	5.8	0.0	1.2	4.2	19.7	0.0	3.3	3.1	0.0	4.0	4.2
Purgeable Compounds	13.8	UG/L	12.3	21.1	17.1	16.1	16.0	18.7	27.6	10.1	21.9	27.3	12.8	13.2	17.9
Additional analytes determined;															
Allyl chloride	1.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND
4-methyl-2-pentanone	6.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND
meta,para xylenes	3.1	UG/L	ND	ND	ND	ND	ND	1.1	ND	ND	ND*	ND	ND	ND	0.1
Styrene	4.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND
1,2,4-trichlorobenzene	1.44	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND
Methyl Iodide	1.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND
Chloroprene	1.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND
Methyl methacrylate	4.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND
2-nitropropane	10	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND
1,2-dibromoethane	3.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND
Isopropylbenzene	4.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND
Benzyl chloride	7.2	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND
ortho-xylene	3.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND
Acetone	20	UG/L	613	1070	1410	2940	795	871	1150	1380	ND*	689	1465**	635	1155
Carbon disulfide	1	UG/L	1.2	5.7	2.1	21.6	1.9	1.7	1.5	2.0	ND*	2.5	2.0	1.5	4.0
2-butanone	4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND
Methyl tert-butyl ether	1	UG/L	2.2	5.3	2.7	5.4	17.6	8.8	ND	2.8	ND*	3.1	ND	3.1	4.6

nd=not detected; NS=not sampled; NA=not analyzed

* = Not reportable(Did not satisfy quality control criteria)

** = Not reportable(value exceeded calibration range)

POINT LOMA WASTEWATER TREATMENT PLANT
SEWAGE ANNUAL Priority Pollutants Purgeables

From 01-JAN-2001 To 31-DEC-2001

Analyte	MDL	Units	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	PLR	Avg	Average
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		
Chloromethane	3.23	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	1.39	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	ND	1.1	ND	0.1	ND
Vinyl chloride	1.04	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	1.09	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	3.92	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	1.29	UG/L	1.9	1.6	1.6	2.1	2.9	2.0	ND	ND	3.3	3.7	3.2	1.8	2.0	2.0
1,1-dichloroethane	1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	1	UG/L	5.7	8.2	7.4	8.4	10.6	7.6	8.0	6.8	11.1	9.7	7.4	6.5	8.1	8.1
1,2-dichloroethane	2.24	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	1.92	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1.79	UG/L	1.6	4.5	3.0	1.3	ND	2.6	1.9	ND	1.9	3.8	ND	2.8	2.0	2.0
1,2-dichloropropane	1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	1.27	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.32	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1.99	UG/L	1.2	3.4	2.4	1.2	ND	1.6	1.6	ND	1.3	2.7	ND	2.1	1.5	1.5
1,1,2-trichloroethane	3.02	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-dichloropropene	1.01	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-chloroethylvinyl ether	5	UG/L	ND	*	ND	ND	ND	*	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	6.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	3.13	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.04	UG/L	ND	1.3	1.2	ND	ND	1.3	ND	ND	3.5	3.9	ND	ND	0.9	0.9
Toluene	1.01	UG/L	ND	1.5	1.8	1.5	2.4	1.4	ND	1.1	1.3	1.1	1.5	ND	1.1	1.1
Chlorobenzene	1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.46	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	13.8	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
Acrolein	11.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
Halomethane Purgeable Cmpnds	6.1	UG/L	2.8	7.9	5.4	2.5	0.0	4.2	3.5	0.0	3.2	6.5	1.1	4.9	3.5	3.5
Purgeable Compounds	13.8	UG/L	10.4	20.5	17.4	14.5	15.9	16.5	11.5	7.9	22.4	24.9	13.2	13.2	15.7	15.7

Additional analytes determined;

Allyl chloride	1.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
4-methyl-2-pentanone	6.1	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
meta,para xylenes	3.1	UG/L	ND	ND	4.1	ND	ND	ND	ND	ND	ND*	ND	ND	ND	0.4	0.4
Styrene	4.7	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
1,2,4-trichlorobenzene	1.44	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
Methyl Iodide	1.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	29.5	<1.3	2.7	2.7
Chloroprene	1.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
Methyl methacrylate	4.6	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
2-nitropropane	10	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
1,2-dibromoethane	3.3	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
Isopropylbenzene	4.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
Benzyl chloride	7.2	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
ortho-xylene	3.4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
Acetone	20	UG/L	364	1800	916	2760	397	212	1040	1310	ND*	132	1425**	517	945	945
Carbon disulfide	1	UG/L	ND	1.0	1.4	21.3	1.3	ND	ND	2.0	ND*	1.3	2.8	1.6	3.0	3.0
2-butanone	4	UG/L	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND	ND	ND	ND	ND
Methyl tert-butyl ether	1	UG/L	2.2	3.2	1.8	11.2	4.8	21.6	ND	2.0	ND*	1.9	ND	3.6	4.8	4.8

nd=not detected; NS=not sampled; NA=not analyzed

* = Not reportable(Did not satisfy quality control criteria)

** = Not reportable(value exceeded calibration range)

POINT LOMA WASTEWATER TREATMENT PLANT
Annual Sewage Dioxin and Furan Analysis

From 01-JAN-2001 To 31-DEC-2001

Sampled by: M. Slattery
Analyzed by: Pacific Analytical Inc.

Analyte	MDL	Units	Equiv	PLE	PLE	PLE	PLE	PLE	PLE
				JAN	FEB	MAR	APR	MAY	JUN
				P94772	P96934	P99402	P101845	P106670	P109842
2,3,7,8-tetra CDD	10	PG/L	1.000	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	50	PG/L	0.500	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa_CDD	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	50	PG/L	0.010	ND	ND	ND	ND	ND	ND
octa CDD	100	PG/L	0.001	ND	ND	780.000	<100.000	ND	ND
2,3,7,8-tetra CDF	10	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDF	50	PG/L	0.050	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	50	PG/L	0.500	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDF	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	50	PG/L	0.010	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8,9-hepta CDF	50	PG/L	0.010	ND	ND	ND	ND	ND	ND
octa CDF	100	PG/L	0.001	ND	ND	ND	ND	ND	ND

Analyte	MDL	Units	Equiv	PLE	PLE	PLE	PLE	PLE	PLE
				JUL	AUG	SEP	OCT	NOV	DEC
				P112083	P115641	P117992	P120742	P123281	P125689
2,3,7,8-tetra CDD	10	PG/L	1.000	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	50	PG/L	0.500	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa_CDD	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	50	PG/L	0.010	ND	ND	ND	ND	ND	ND
octa CDD	100	PG/L	0.001	ND	200.000	ND	ND	<100.000	<100.000
2,3,7,8-tetra CDF	10	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDF	50	PG/L	0.050	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	50	PG/L	0.500	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDF	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	50	PG/L	0.010	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8,9-hepta CDF	50	PG/L	0.010	ND	ND	ND	ND	ND	ND
octa CDF	100	PG/L	0.001	ND	ND	ND	ND	ND	ND

Above are permit required CDD/CDF isomers.

nd= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Annual Sewage Dioxin and Furan Analysis

From 01-JAN-2001 To 31-DEC-2001

Sampled by: M. Slattery
Analyzed by: Pacific Analytical Inc.

Analyte	MDL	Units	PLE	PLE	PLE	PLE	PLE	PLE
			TCDD	TCDD	TCDD	TCDD	TCDD	TCDD
			JAN	FEB	MAR	APR	MAY	JUN
			P94772	P96934	P99402	P101845	P106670	P109842
2,3,7,8-tetra CDD	10	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	50	PG/L	ND	ND	ND	ND	ND	ND
octa CDD	100	PG/L	ND	ND	0.780	0.065	ND	ND
2,3,7,8-tetra CDF	10	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDF	50	PG/L	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDF	50	PG/L	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8,9-hepta CDF	50	PG/L	ND	ND	ND	ND	ND	ND
octa CDF	100	PG/L	ND	ND	ND	ND	ND	ND

Analyte	MDL	Units	PLE	PLE	PLE	PLE	PLE	PLE
			TCDD	TCDD	TCDD	TCDD	TCDD	TCDD
			JUL	AUG	SEP	OCT	NOV	DEC
			P112083	P115641	P117992	P120742	P123281	P125689
2,3,7,8-tetra CDD	10	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	50	PG/L	ND	ND	ND	ND	ND	ND
octa CDD	100	PG/L	ND	0.200	ND	ND	0.095	0.095
2,3,7,8-tetra CDF	10	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDF	50	PG/L	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDF	50	PG/L	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8,9-hepta CDF	50	PG/L	ND	ND	ND	ND	ND	ND
octa CDF	100	PG/L	ND	ND	ND	ND	ND	ND

Above are permit required CDD/CDF isomers.

nd= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Annual Sewage Dioxin and Furan Analysis

From 01-JAN-2001 To 31-DEC-2001

Sampled by: M. Slattery

Analyte	MDL	Units	Equiv	PLR	PLR	PLR	PLR	PLR	PLR
				JAN	FEB	MAR	APR	MAY	JUN
				P94775	P96939	P99405	P101848	P106675	P109845
2,3,7,8-tetra CDD	10	PG/L	1.000	ND	NA	ND	ND	ND	ND
1,2,3,7,8-penta CDD	50	PG/L	0.500	ND	NA	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	50	PG/L	0.100	ND	NA	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	50	PG/L	0.100	ND	NA	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	50	PG/L	0.100	ND	NA	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	50	PG/L	0.010	ND	NA	<50.000	ND	ND	ND
octa CDD	100	PG/L	0.001	ND	NA	630.000	220.000	180.000	580.000
2,3,7,8-tetra CDF	10	PG/L	0.100	ND	NA	ND	ND	ND	ND
1,2,3,7,8-penta CDF	50	PG/L	0.050	ND	NA	ND	ND	ND	ND
2,3,4,7,8-penta CDF	50	PG/L	0.500	ND	NA	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	50	PG/L	0.100	ND	NA	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	50	PG/L	0.100	ND	NA	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDF	50	PG/L	0.100	ND	NA	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	50	PG/L	0.100	ND	NA	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	50	PG/L	0.010	ND	NA	ND	ND	ND	ND
1,2,3,4,7,8,9-hepta CDF	50	PG/L	0.010	ND	NA	ND	ND	ND	ND
octa CDF	100	PG/L	0.001	ND	NA	ND	ND	ND	ND

Analyte	MDL	Units	Equiv	PLR	PLR	PLR	PLR	PLR	PLR
				JUL	AUG	SEP	OCT	NOV	DEC
				P112086	P115646	P117995	P120747	P123284	P125692
2,3,7,8-tetra CDD	10	PG/L	1.000	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	50	PG/L	0.500	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8_hexa_CDD	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	50	PG/L	0.010	ND	ND	ND	ND	430.000	ND
octa CDD	100	PG/L	0.001	ND	170.000	ND	ND	3800.000	ND
2,3,7,8-tetra CDF	10	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDF	50	PG/L	0.050	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	50	PG/L	0.500	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDF	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	50	PG/L	0.100	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	50	PG/L	0.010	ND	ND	ND	ND	73.000	ND
1,2,3,4,7,8,9-hepta CDF	50	PG/L	0.010	ND	ND	ND	ND	ND	ND
octa CDF	100	PG/L	0.001	ND	ND	ND	ND	330.000	ND

Above are permit required CDD/CDF isomers.

nd= not detected
NA= not analyzed
NS= not sampled

POINT LOMA WASTEWATER TREATMENT PLANT
Annual Sewage Dioxin and Furan Analysis

From 01-JAN-2001 To 31-DEC-2001

Analyte	MDL	Units	PLR	PLR	PLR	PLR	PLR	PLR
			TCDD	TCDD	TCDD	TCDD	TCDD	TCDD
			JAN	FEB	MAR	APR	MAY	JUN
			P94775	P96939	P99405	P101848	P106675	P109845
2,3,7,8-tetra CDD	10	PG/L	ND	NA	ND	ND	ND	ND
1,2,3,7,8-penta CDD	50	PG/L	ND	NA	ND	ND	ND	ND
1,2,3,4,7,8-hexa_CDD	50	PG/L	ND	NA	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	50	PG/L	ND	NA	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	50	PG/L	ND	NA	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	50	PG/L	ND	NA	0.370	ND	ND	ND
octa CDD	100	PG/L	ND	NA	0.630	0.220	0.180	0.580
2,3,7,8-tetra CDF	10	PG/L	ND	NA	ND	ND	ND	ND
1,2,3,7,8-penta CDF	50	PG/L	ND	NA	ND	ND	ND	ND
2,3,4,7,8-penta CDF	50	PG/L	ND	NA	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	50	PG/L	ND	NA	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	50	PG/L	ND	NA	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDF	50	PG/L	ND	NA	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	50	PG/L	ND	NA	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	50	PG/L	ND	NA	ND	ND	ND	ND
1,2,3,4,7,8,9-hepta CDF	50	PG/L	ND	NA	ND	ND	ND	ND
octa CDF	100	PG/L	ND	NA	ND	ND	ND	ND

Analyte	MDL	Units	PLR	PLR	PLR	PLR	PLR	PLR
			TCDD	TCDD	TCDD	TCDD	TCDD	TCDD
			JUL	AUG	SEP	OCT	NOV	DEC
			P112086	P115646	P117995	P120747	P123284	P125692
2,3,7,8-tetra CDD	10	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDD	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa_CDD	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDD	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDD	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDD	50	PG/L	ND	ND	ND	ND	4.300	ND
octa CDD	100	PG/L	ND	0.170	ND	ND	3.800	ND
2,3,7,8-tetra CDF	10	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,7,8-penta CDF	50	PG/L	ND	ND	ND	ND	ND	ND
2,3,4,7,8-penta CDF	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,4,7,8-hexa CDF	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,6,7,8-hexa CDF	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,7,8,9-hexa CDF	50	PG/L	ND	ND	ND	ND	ND	ND
2,3,4,6,7,8-hexa CDF	50	PG/L	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-hepta CDF	50	PG/L	ND	ND	ND	ND	0.730	ND
1,2,3,4,7,8,9-hepta CDF	50	PG/L	ND	ND	ND	ND	ND	ND
octa CDF	100	PG/L	ND	ND	ND	ND	0.330	ND

Above are permit required CDD/CDF isomers.

nd= not detected
NA= not analyzed
NS= not sampled

**2001
Point Loma Treatment Plant
Total Coliforms**

The following are the monthly Total Coliform results of the Point Loma Treatment Plant Effluent. The value is stated in terms of Most Probable Number (MPN) per 100 milliliters of sample.

SAMPLE SOURCE (Pt. Loma Treatment Plant Effluent)

DATE	TOTAL COLIFORM (MPN Index/100ml)
January 2, 2001	17,000,000
February 1, 2001	8,000,000
March 21, 2001	8,000,000
April 2, 2001	8,000,000
May 1, 2001	5,000,000
June 4, 2001	50,000,000
July 5, 2001	5,000,000
August 6, 2001	5,000,000
September 7, 2001	30,000,000
October 1, 2001	8,000,000
November 1, 2001	30,000,000
December 3, 2001	17,000,000
Average	15,916,667

POINT LOMA WASTEWATER TREATMENT PLANT
From 01-JAN-2001 To 31-DEC-2001

SAMPLED BY: NL,JC,GR,MS,MC
ANALYZED BY: HD,JC,MC,GR,GS,JW,FM

MDL:	Total Hardness		Calcium Hardness		Magnesium Hardness		Calcium		Magnesium	
	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
	.22	mg/L	.2	mg/L	.08	mg/L	.08	mg/L	.02	mg/L
JANUARY -2001	430	399	221	198	208	200	89	79	51	49
FEBRUARY -2001	394	391	207	202	187	189	83	81	45	46
MARCH -2001	408	400	211	199	197	200	85	80	48	49
APRIL -2001	421	405	221	208	200	197	89	83	49	48
MAY -2001	440	406	228	207	212	199	91	83	52	48
JUNE -2001	422	394	220	200	202	194	88	80	49	47
JULY -2001	406	381	217	196	189	185	87	78	46	45
AUGUST -2001	423	392	226	210	198	182	90	84	48	44
SEPTEMBER-2001	424	395	216	202	208	193	87	81	50	47
OCTOBER -2001	431	413	219	205	212	207	88	82	52	50
NOVEMBER -2001	408	398	206	198	201	200	83	79	49	49
DECEMBER -2001	392	358	199	178	193	180	80	71	47	44
Average:	417	394	216	200	201	194	87	80	49	47

MDL:	Alkalinity		Total Solids		Total Vol. Solids		Conductivity		Fluoride	
	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
	8	mg/L	100	mg/L	100	mg/L	10umhos/cm		.03	mg/L
JANUARY -2001	284	256	1730	1510	431	263	2520	2520	0.61	0.55
FEBRUARY -2001	283	259	1790	1590	460	261	2560	2630	0.55	0.63
MARCH -2001	291	271	1840	1590	444	278	2680	2690	0.74	0.75
APRIL -2001	297	272	1840	1610	502	291	2660	2680	0.70	0.69
MAY -2001	291	269	1860	1630	510	311	2690	2700	0.74	0.67
JUNE -2001	290	265	1730	1530	440	259	2510	2540	0.93	0.90
JULY -2001	288	263	1690	1460	443	270	2460	2480	0.84	0.82
AUGUST -2001	287	263	1720	1510	439	252	2470	2480	0.85	0.85
SEPTEMBER-2001	290	266	1820	1590	413	230	2650	2670	0.86	0.81
OCTOBER -2001	286	265	1810	1620	478	310	2660	2660	0.71	0.76
NOVEMBER -2001	284	235	1760	1530	457	269	2550	2570	0.84	0.80
DECEMBER -2001	278	231	1730	1530	436	274	2520	2550	0.65	0.68
Average:	287	260	1777	1558	454	272	2578	2598	0.75	0.74

MDL:	Chloride		Bromide		Sulfate		Nitrate		Ortho Phosphate	
	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
	.8	mg/L	.02	mg/L	.5	mg/L	.03	mg/L	.05	mg/L
JANUARY -2001	493	511	1.28	1.29	258	253	0.29	0.38	5.22	ND
FEBRUARY -2001	500	524	1.11	1.17	278	274	0.42	ND	5.84	ND
MARCH -2001	520	535	1.78	1.44	292	287	0.52	0.79	5.98	0.33
APRIL -2001	527	540	1.34	1.34	286	279	0.51	0.10	5.04	ND
MAY -2001	562	572	1.55	1.54	291	281	0.59	0.67	5.91	1.02
JUNE -2001	520	526	1.45	1.38	290	276	0.50	1.04	5.11	ND
JULY -2001	549	564	1.35	1.36	304	292	0.53	0.43	7.82	1.71
AUGUST -2001	529	538	1.38	1.36	277	265	0.29	0.26	6.89	1.40
SEPTEMBER-2001	588	592	1.57	1.53	275	265	ND	ND	6.09	1.79
OCTOBER -2001	542	553	1.39	1.40	281	272	1.00	1.04	6.46	1.90
NOVEMBER -2001	523	528	1.42	1.26	259	254	0.07	0.79	6.33	1.26
DECEMBER -2001	509	519	1.17	1.14	252	249	0.20	0.68	5.47	ND
Average:	530	542	1.40	1.35	279	271	0.41	0.52	6.01	0.78

ND=not detected; NS=not sampled; NA=not analyzed; NR=not required

POINT LOMA WASTEWATER TREATMENT PLANT
From 01-JAN-2001 To 31-DEC-2001

SAMPLED BY: NL,JC,GR,MS,MC
ANALYZED BY: HD,JC,MC,GR,GS,JW,FM

	Lithium		Sodium		Potassium		Chemical Oxygen Demand		Soluble BOD	
	MDL:	.01 mg/L	.3 mg/L	2 mg/L	22 mg/L	2 mg/L	Inf.	Eff.	Inf.	Eff.
	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
JANUARY -2001	0.05	0.04	336	322	26.4	23.5	529	205	74	62
FEBRUARY -2001	0.05	0.03	296	314	27.7	28.6	572	224	80	70
MARCH -2001	0.05	0.05	320	324	28.1	26.8	550	232	81	71
APRIL -2001	0.04	0.04	325	329	28.4	27.8	592	228	93	65
MAY -2001	0.04	0.06	342	334	33.2	30.4	596	239	96	66
JUNE -2001	0.05	0.05	309	310	29.4	28.4	562	240	75	57
JULY -2001	0.06	0.05	308	302	25.6	25.4	600	249	82	52
AUGUST -2001	0.06	0.05	314	285	28.3	27.0	574	238	85	50
SEPTEMBER-2001	0.06	0.05	338	314	31.1	28.4	579	231	88	51
OCTOBER -2001	0.06	0.06	348	337	34.0	32.9	561	214	93	50
NOVEMBER -2001	0.04	0.05	323	327	25.7	26.0	530	207	84	47
DECEMBER -2001	0.05	0.04	300	290	25.2	25.1	563	215	80	54
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Average:	0.05	0.05	322	316	28.6	27.5	567	227	84	58

	Total Dissolved Solids		Floatables		Turbidity		Aluminum		Barium	
	MDL:	42 mg/L	.1 mg/L	NTU	50 ug/L	10 ug/L	Inf.	Eff.	Inf.	Eff.
	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
JANUARY -2001	1440	1440	2.5	0.1	120	31	1920	85	107	30
FEBRUARY -2001	1460	1460	2.6	0.2	120	36	1790	191	112	34
MARCH -2001	1510	1510	2.2	0.2	120	38	1830	154	114	37
APRIL -2001	1520	1520	2.6	0.1	140	43	1760	68	123	33
MAY -2001	1540	1550	2.0	0.1	140	43	1730	86	118	34
JUNE -2001	1430	1440	1.4	0.1	140	43	1790	113	123	36
JULY -2001	1400	1400	1.4	0.2	140	42	1860	157	119	33
AUGUST -2001	1410	1420	1.5	0.1	140	42	1730	260	123	37
SEPTEMBER-2001	1500	1500	1.2	0.1	140	44	4210	256	124	39
OCTOBER -2001	1510	1530	1.0	0.1	140	44	1730	270	115	38
NOVEMBER -2001	1470	1500	1.2	0.1	140	39	1800	246	120	35
DECEMBER -2001	1450	1460	1.8	0.1	140	39	1770	208	117	35
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Average:	1470	1478	1.8	0.1	135	40	1993	175	118	35

	Boron		Cobalt		Molybdenum		Manganese		Vanadium	
	MDL:	15 ug/L	4 ug/L	3 ug/L	4 ug/L	7 ug/L	Inf.	Eff.	Inf.	Eff.
	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.	Inf.	Eff.
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
JANUARY -2001	533	505	ND	ND	5	6	155	164	ND	ND
FEBRUARY -2001	497	492	ND	ND	9	<3	149	166	ND	ND
MARCH -2001	532	543	NR	NR	NR	NR	140	157	NR	NR
APRIL -2001	484	409	NR	NR	NR	NR	155	153	NR	NR
MAY -2001	537	462	ND	ND	11	12	146	161	ND	ND
JUNE -2001	499	501	NR	NR	NR	NR	205	175	NR	NR
JULY -2001	458	354	ND	ND	7	12	146	153	ND	ND
AUGUST -2001	493	458	ND	<4	8	7	156	160	<7	ND
SEPTEMBER-2001	1500	470	ND	ND	13	8	149	165	<7	ND
OCTOBER -2001	535	486	ND	ND	9	7	160	171	<7	ND
NOVEMBER -2001	474	383	NR	NR	NR	NR	155	146	NR	NR
DECEMBER -2001	515	440	<4	ND	<3	ND	148	156	<7	ND
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Average:	588	459	0	0	8	7	155	161	0	ND

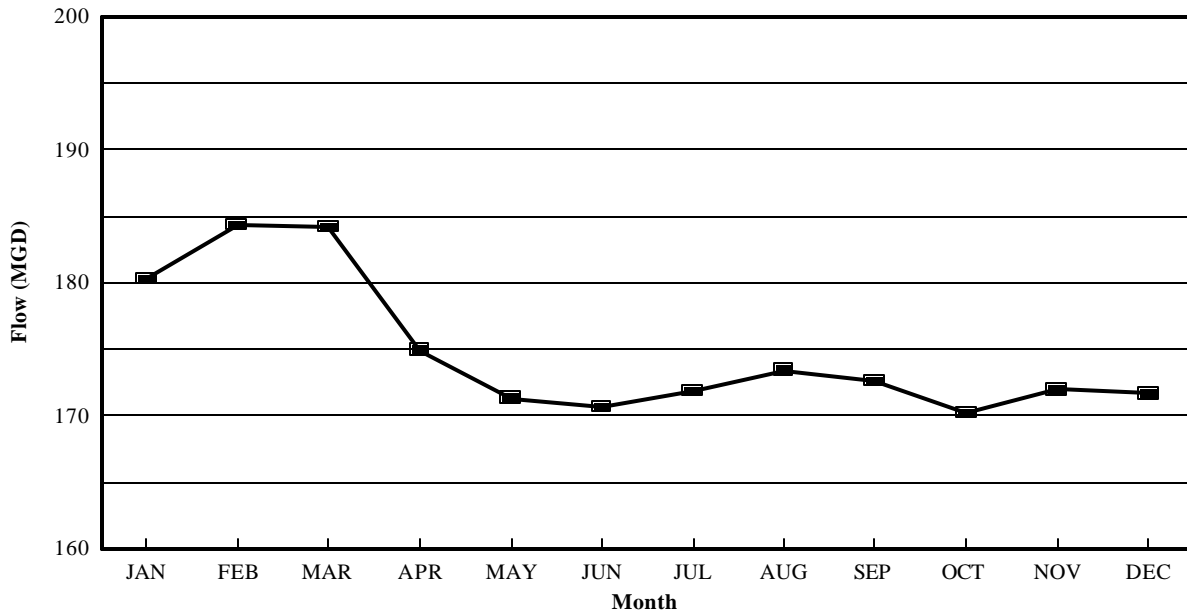
ND=not detected; NS=not sampled; NA=not analyzed; NR=not required

B. Influent and Effluent Graphs.

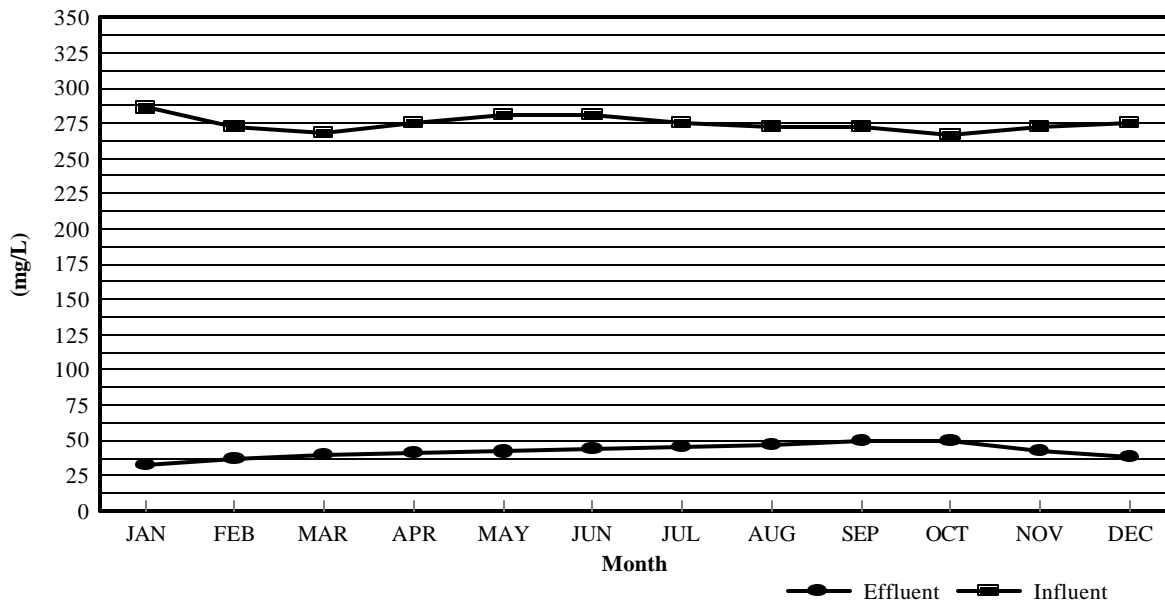
Graphs of monthly averages for permit parameters with measurable concentration averages.

Where possible, the influent and effluent values of a given parameter have been included on the same graph so that removals and other relationships are readily apparent. Please note that many of the graphs are on expanded scales, that is they normally don't go to zero concentrations but show, in magnified scale, that range of concentrations where variation takes place. This makes differences and some trends obvious that might normally not be noticed, however, it also provides the temptation to interpret minor changes or trends as being of more significance than they are. Frequent reference to the scales and the actual differences in concentrations is therefore necessary.

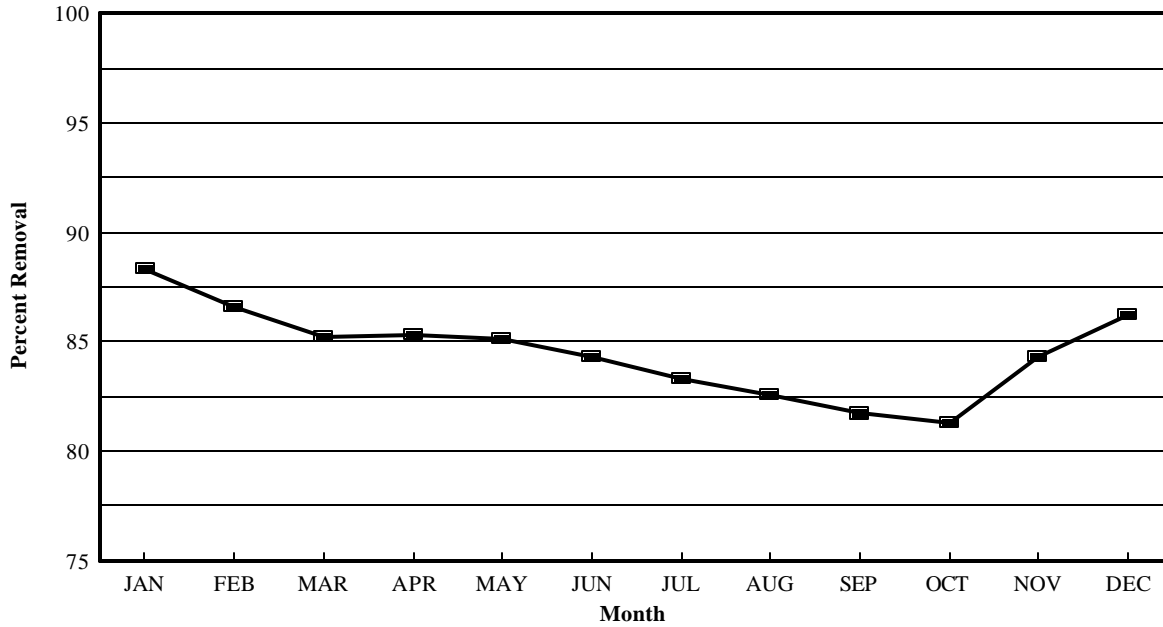
Flows (MGD) 2001 Monthly Averages



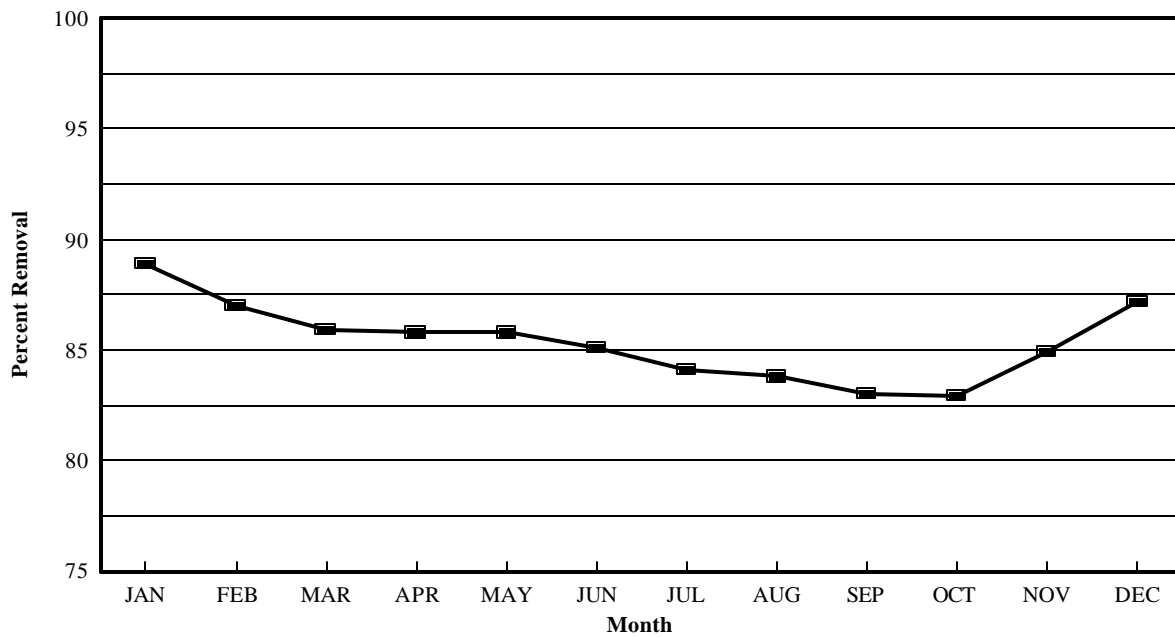
Total Suspended Solids (mg/L) 2001 Monthly Averages



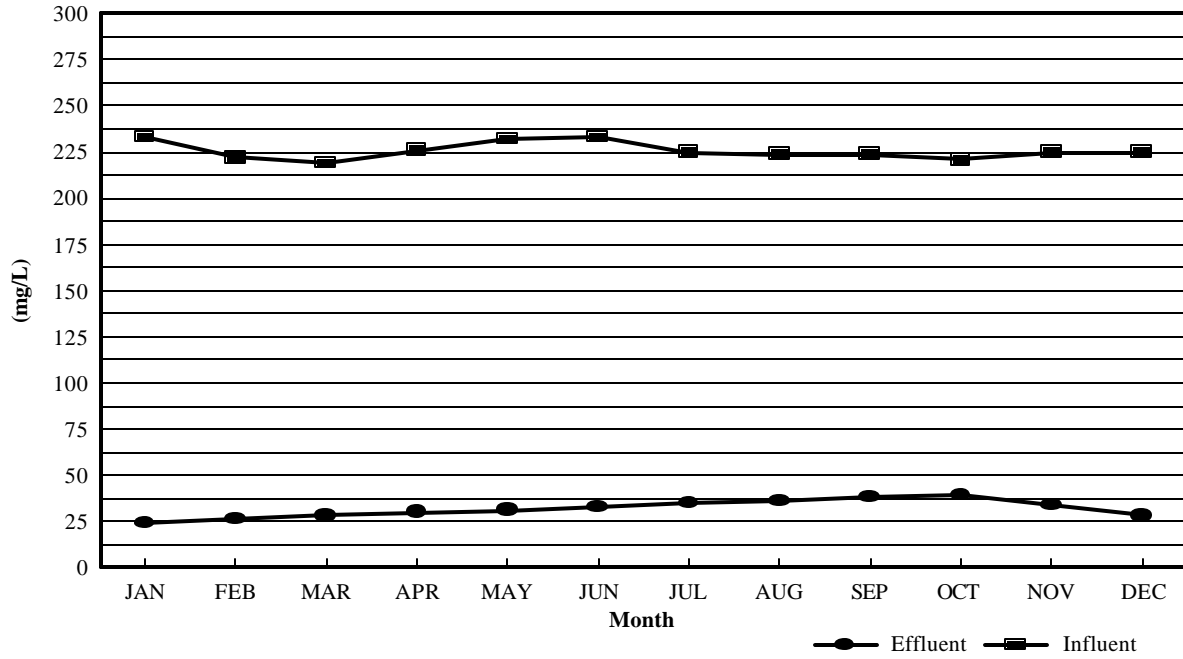
**Total Suspended Solids (%) Removal
2001 Monthly Averages at Point Loma**



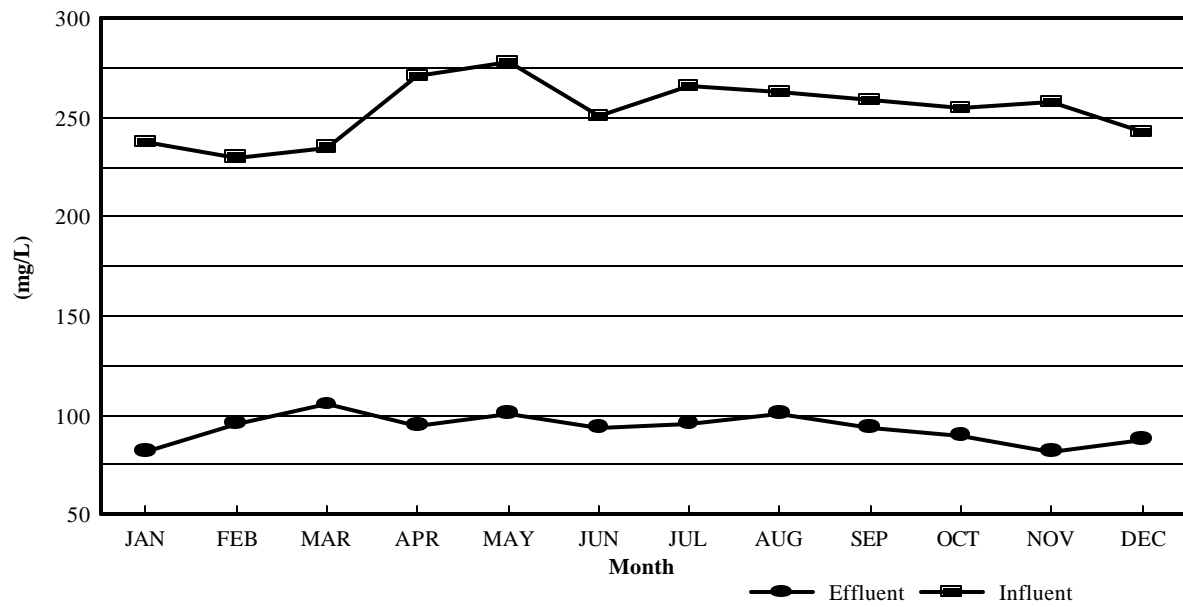
**Total Suspended Solids (%) Removal
2001 Monthly Averages Systemwide**



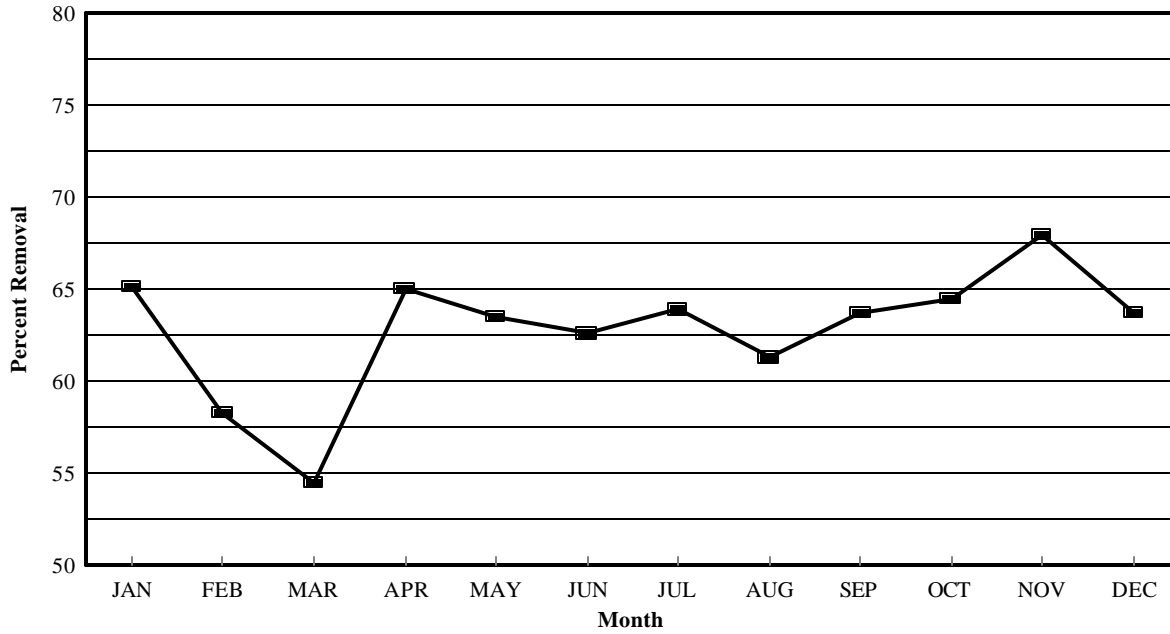
**Volatile Suspended Solids (mg/L)
2001 Monthly Averages**



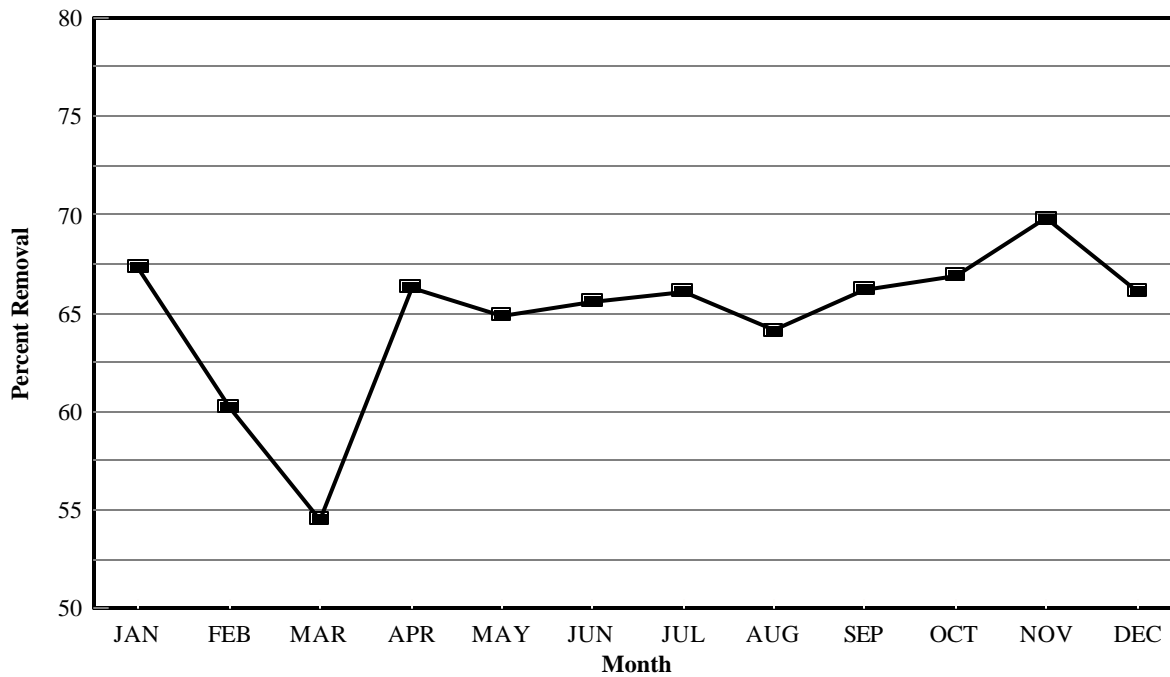
**Biochemical Oxygen Demand (mg/L)
2001 Monthly Averages**



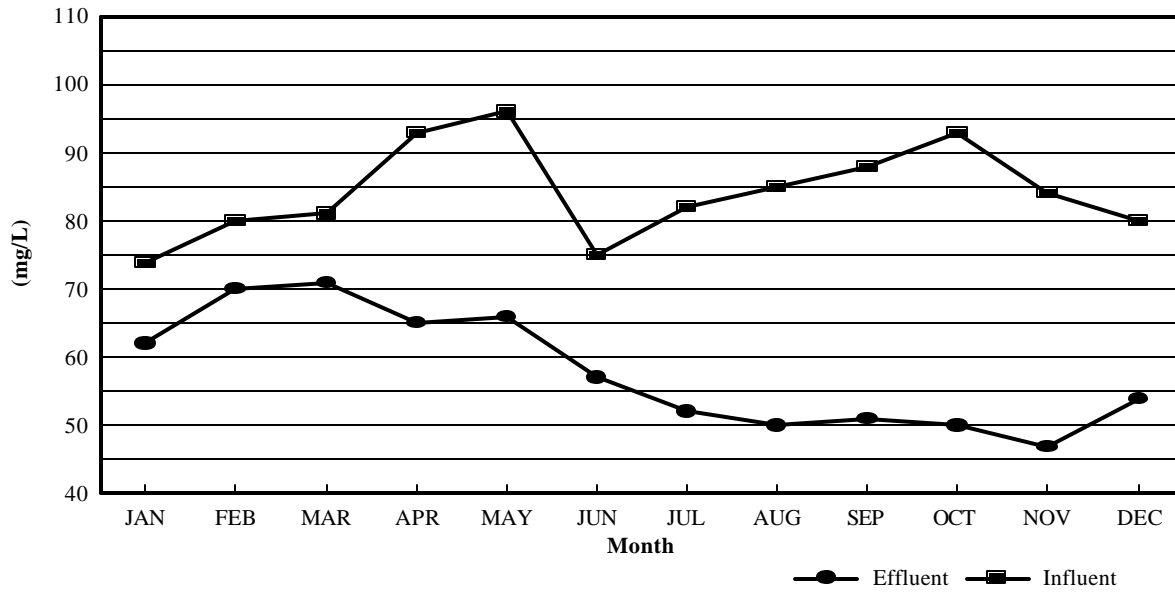
**Biochemical Oxygen Demand (%) Removal
2001 Monthly Averages at Point Loma**



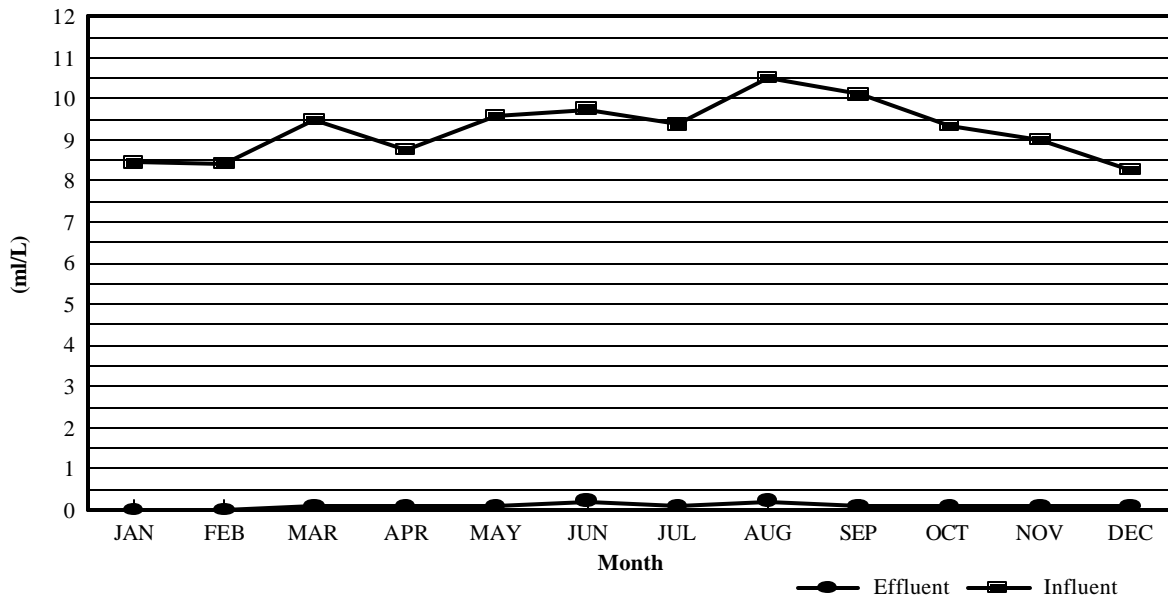
**Biochemical Oxygen Demand (%) Removal
2001 Monthly Averages Systemwide**



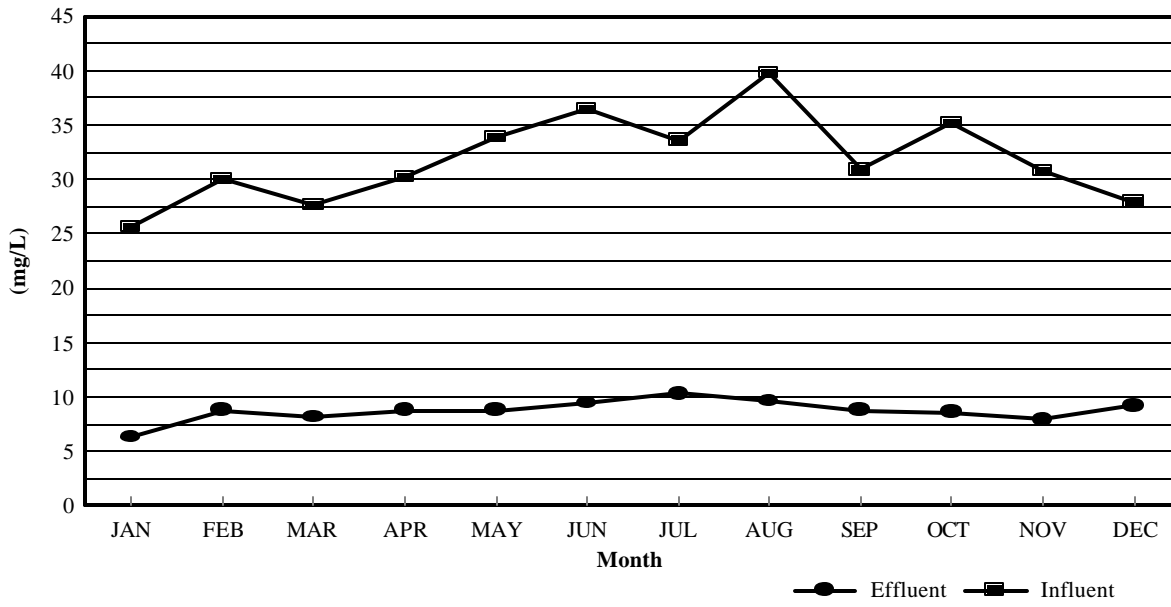
**Soluble Biochemical Oxygen Demand
2001 Monthly Averages**



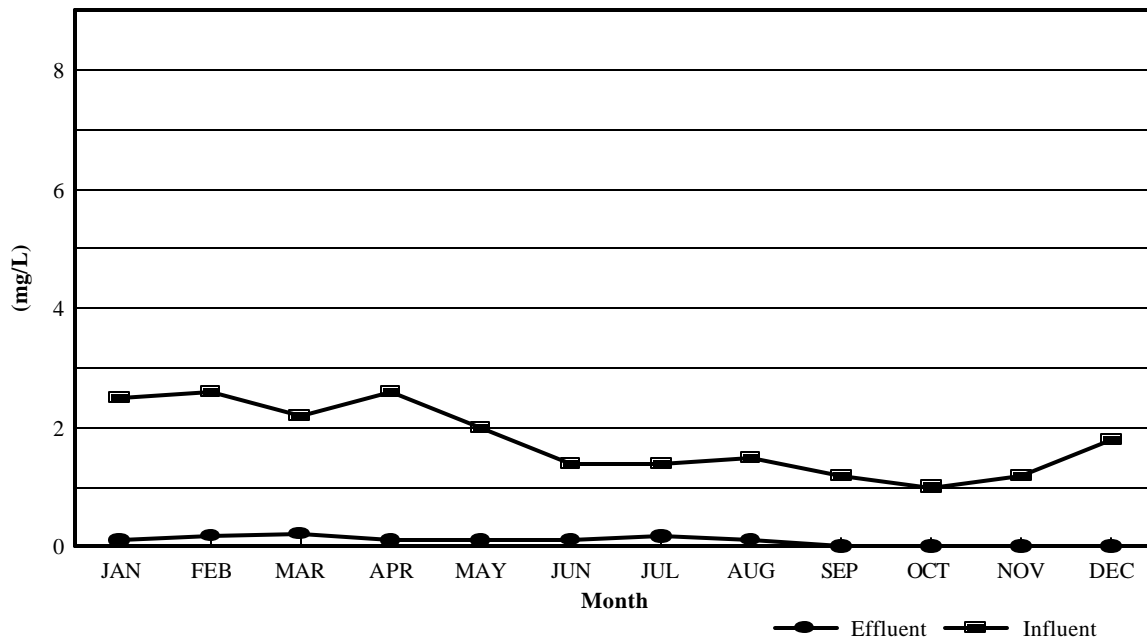
**Settleable Solids (ml/L)
2001 Monthly Averages**



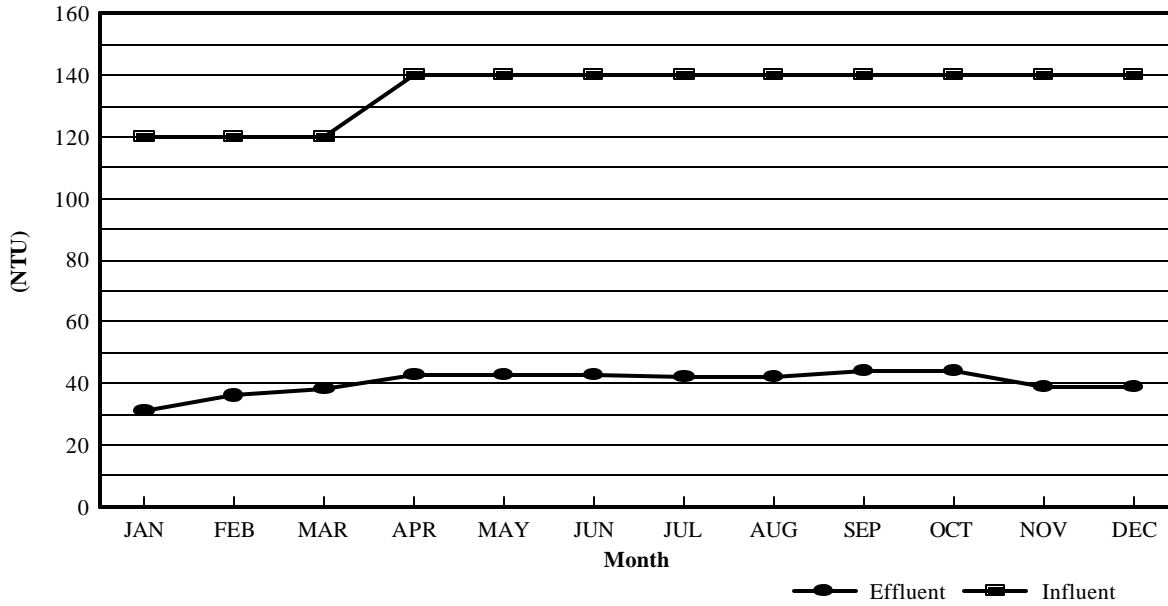
**Oil and Grease (mg/L)
2001 Monthly Averages**



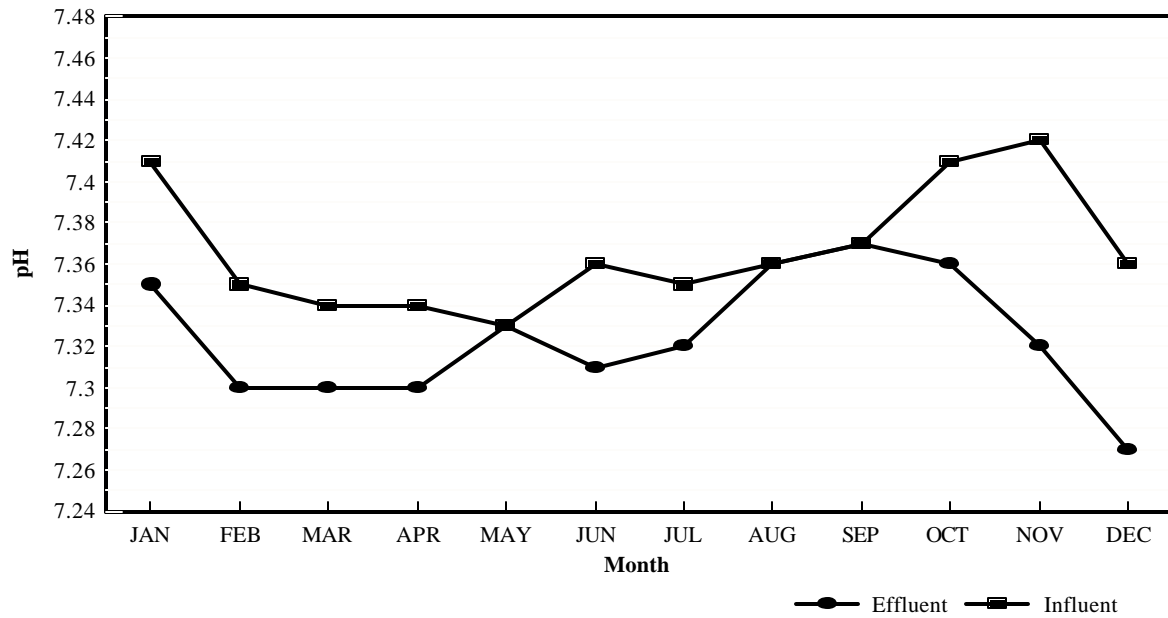
**Floatables (mg/L)
2001 Monthly Averages**



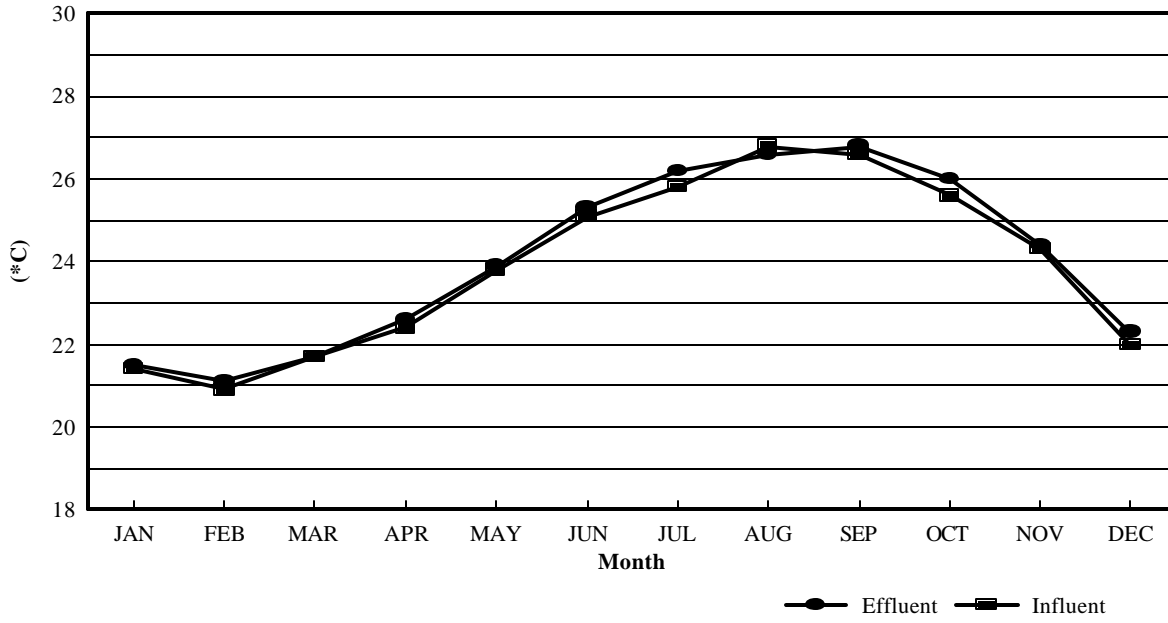
**Turbidity (NTU)
2001 Monthly Averages**



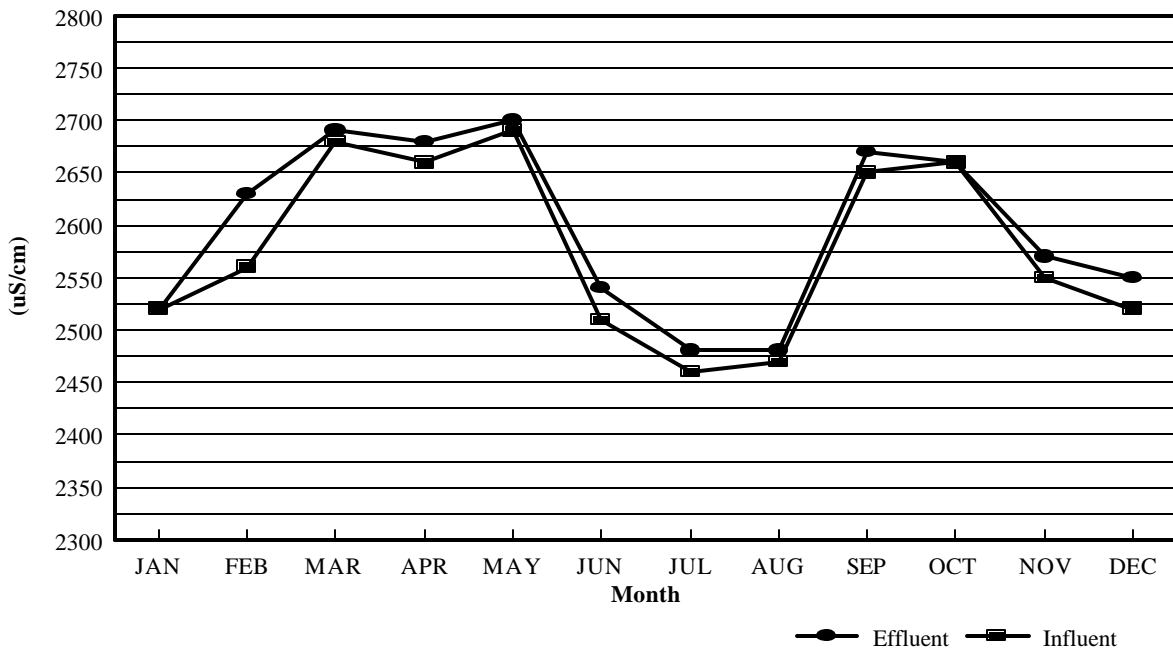
**pH
2001 Monthly Averages**



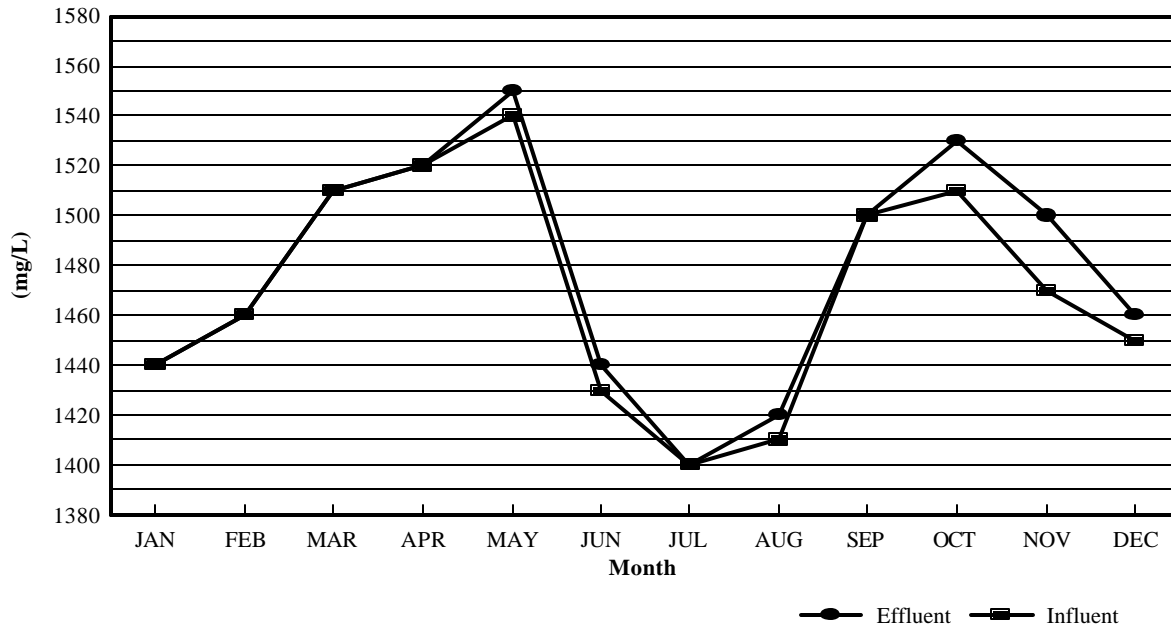
**Temperature (*C)
2001 Monthly Averages**



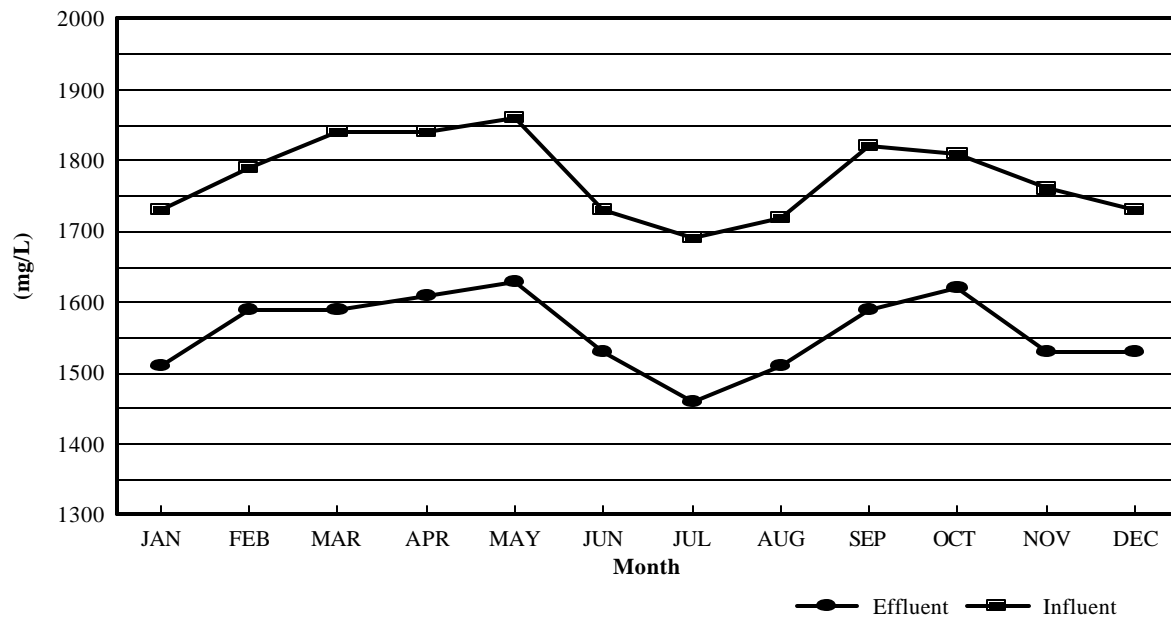
**Conductivity (uS/cm)
2001 Monthly Averages**



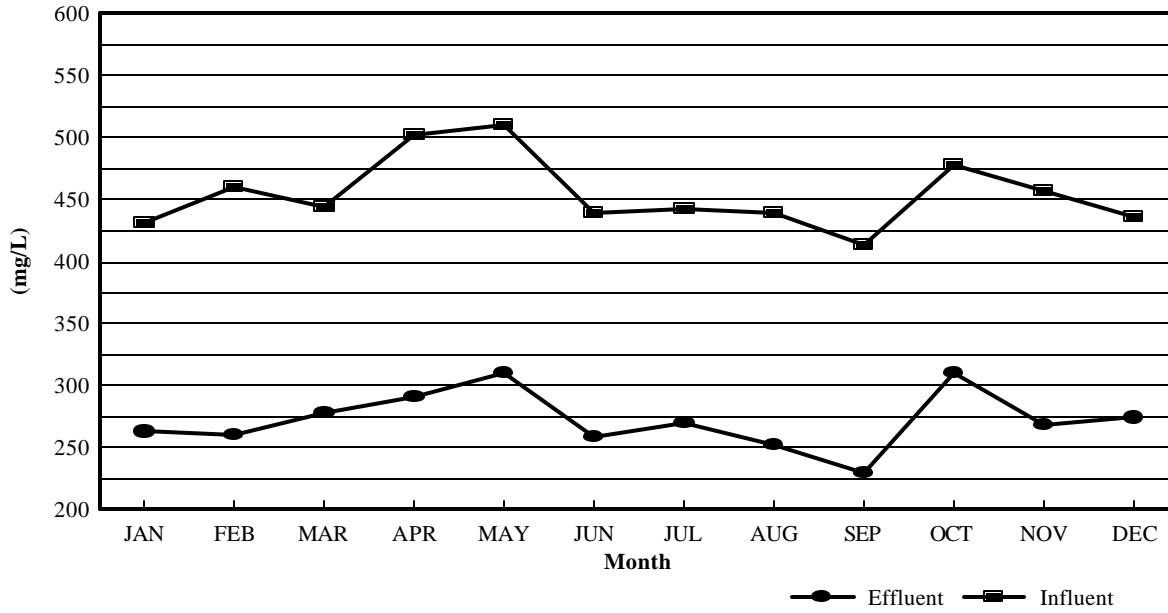
**Total Dissolved Solids (mg/L)
2001 Monthly Averages**



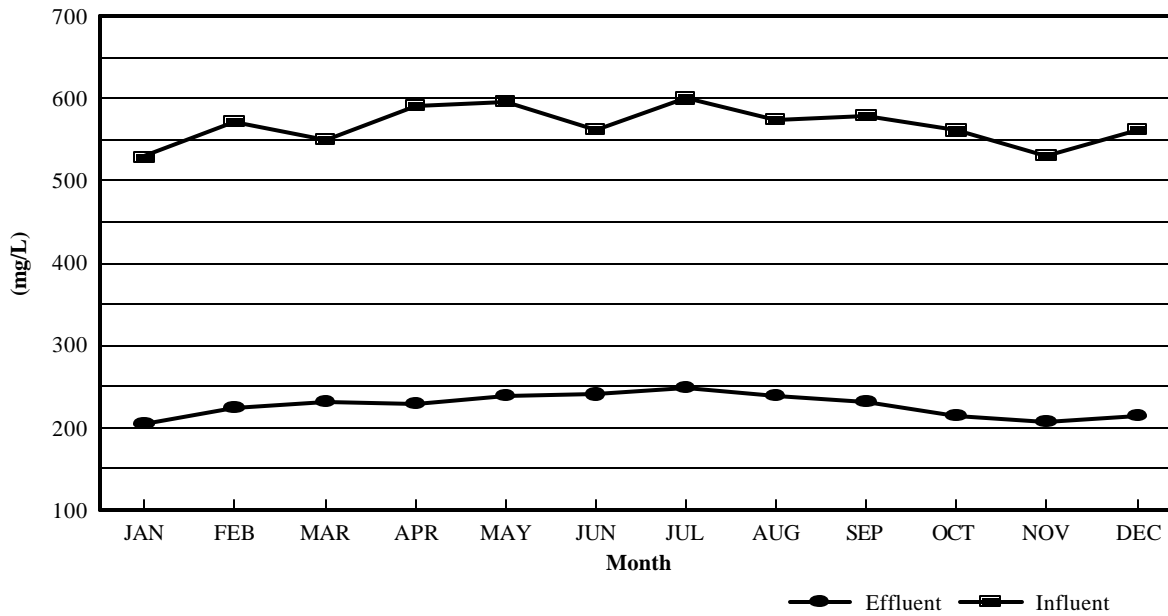
**Total Solids (mg/L)
2001 Monthly Averages**



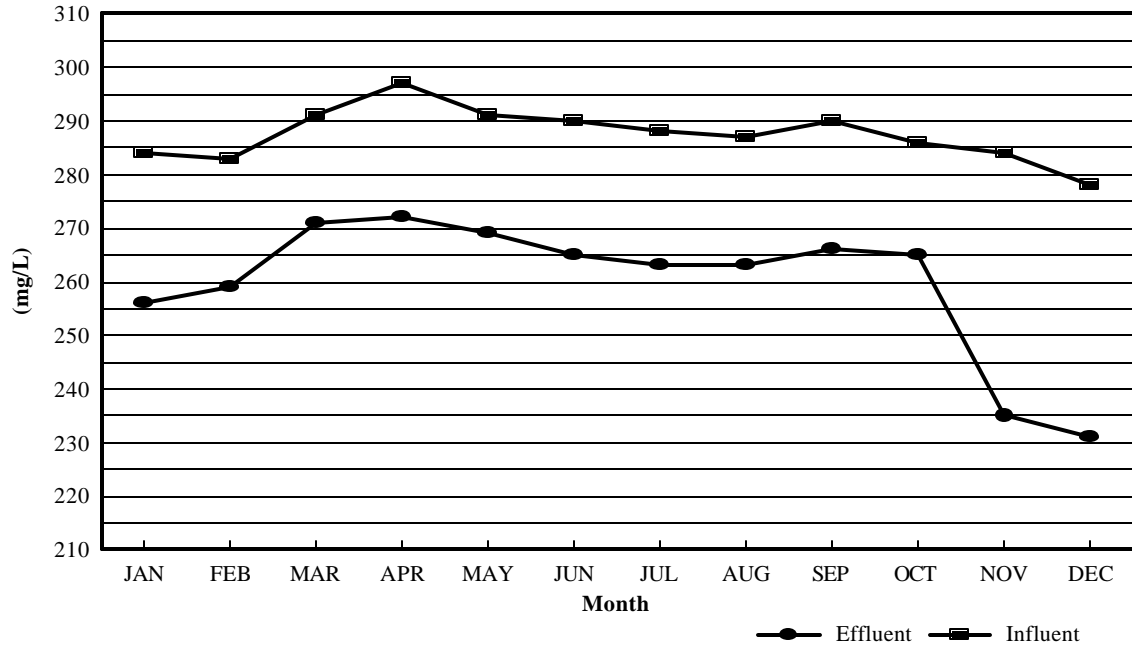
**Total Volatile Solids (mg/L)
2001 Monthly Averages**



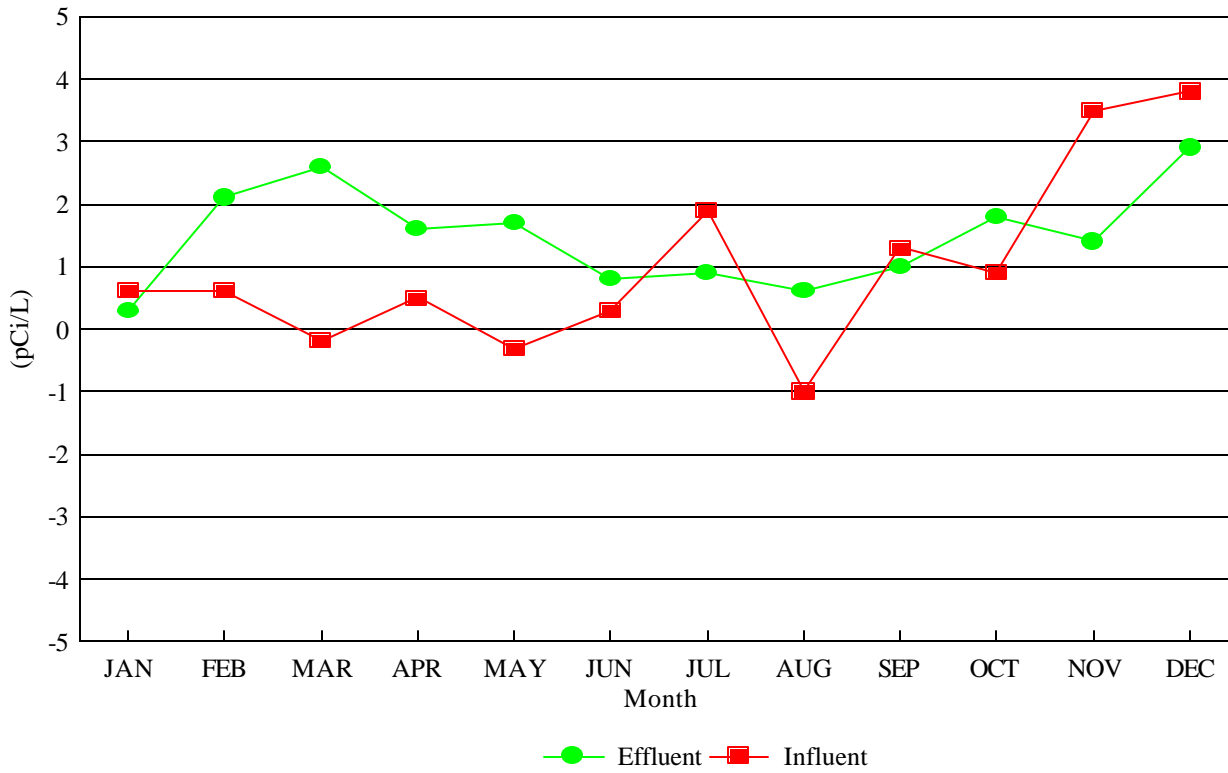
**Chemical Oxygen Demand (mg/L)
2001 Monthly Averages**



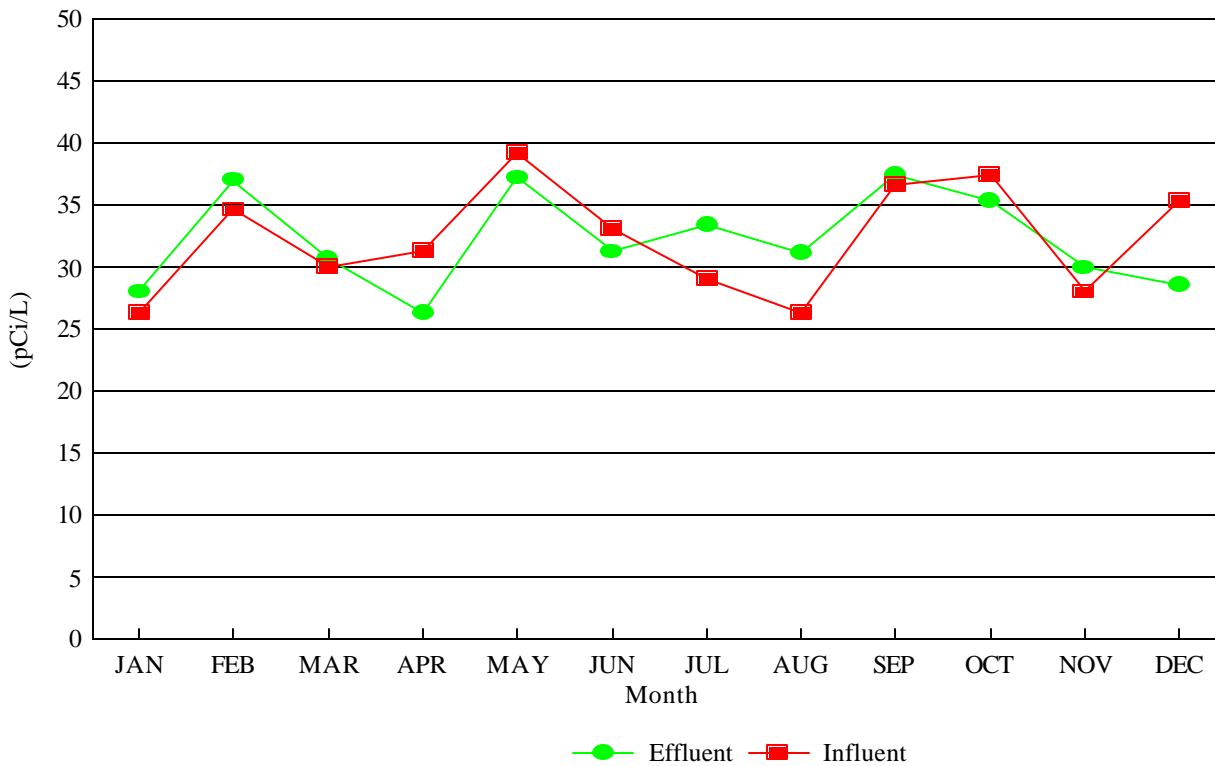
Alkalinity (mg/L)
2001 Monthly Averages



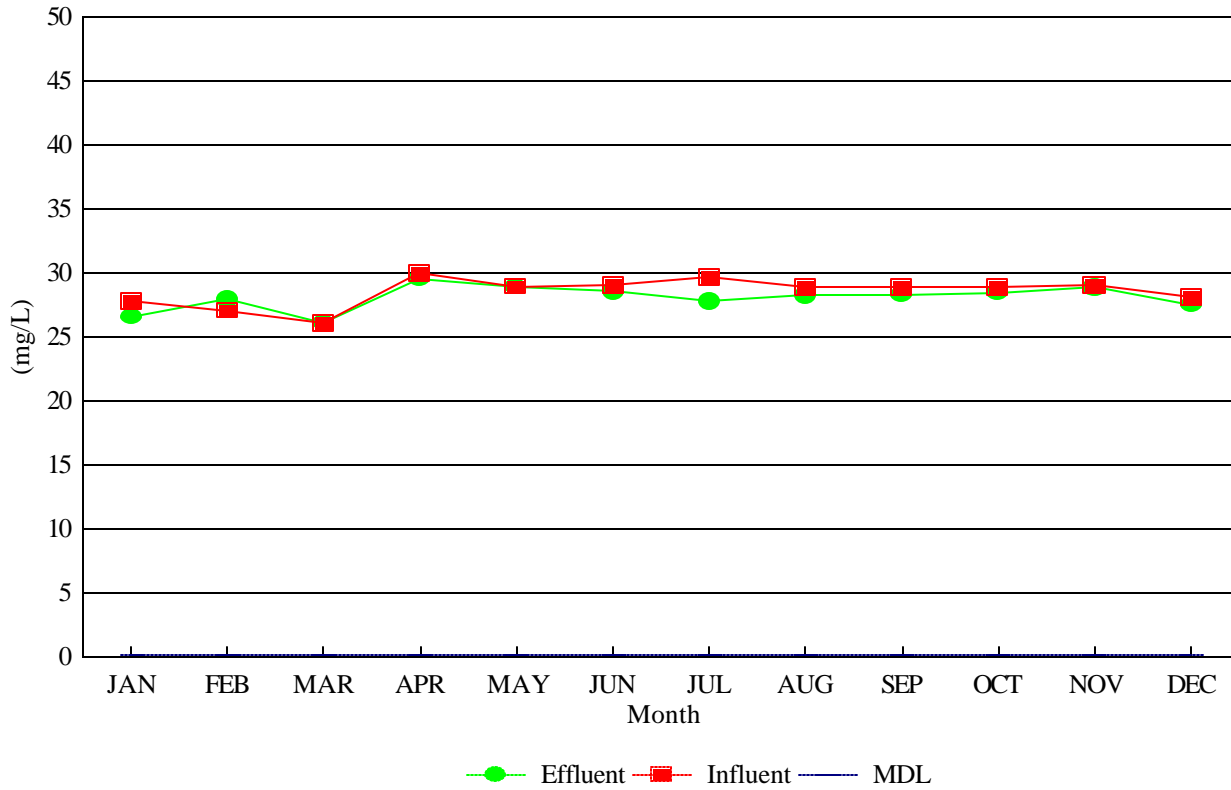
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES -Alpha Radiation



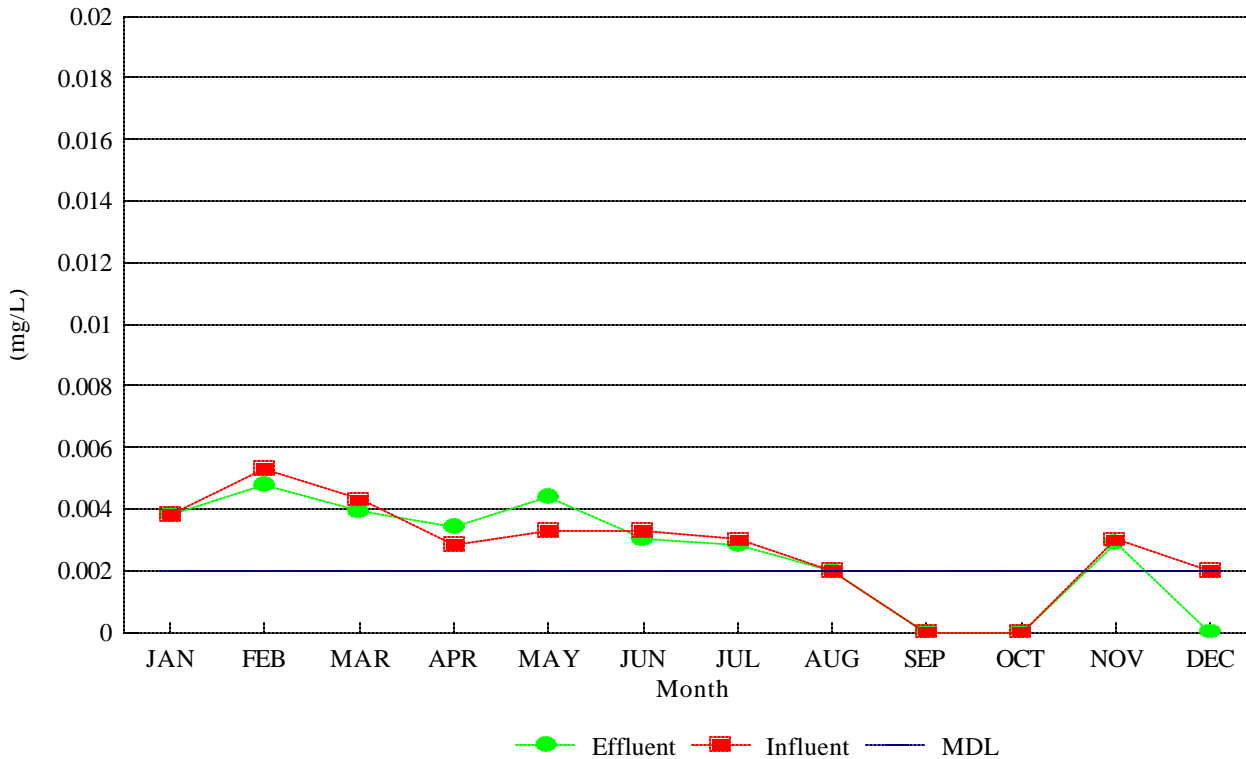
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES -Beta Radiation



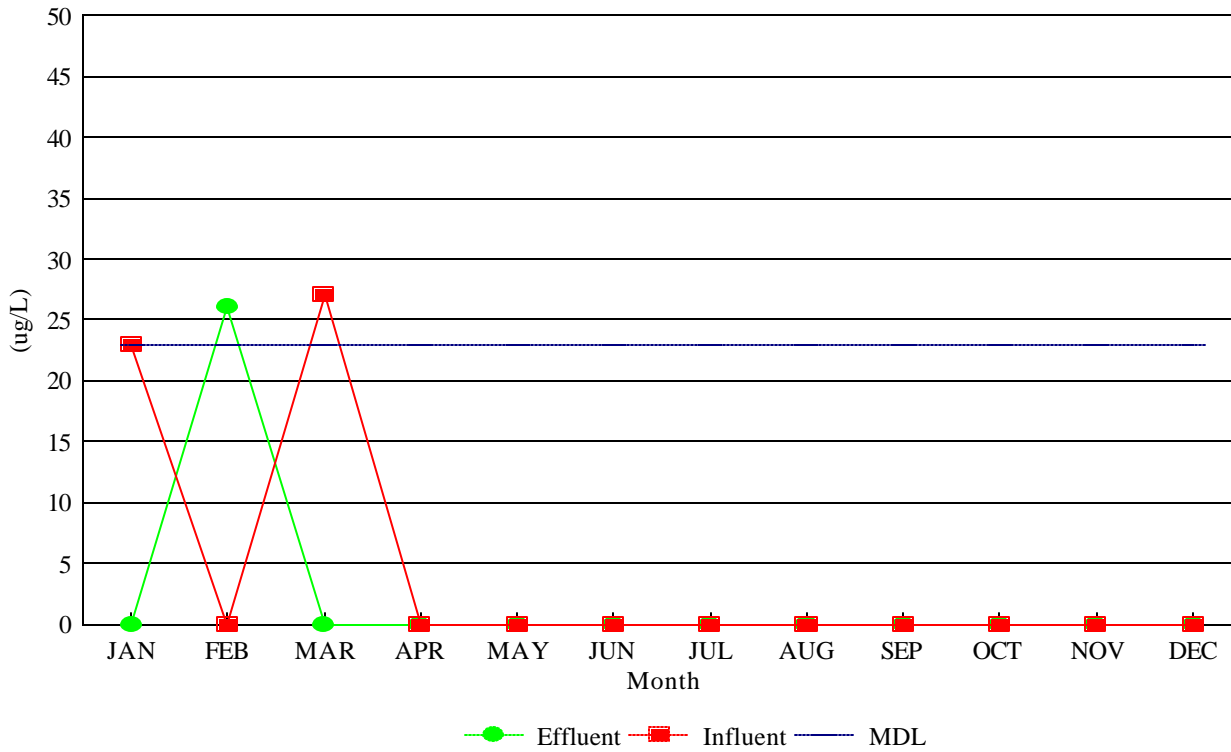
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Ammonia-N



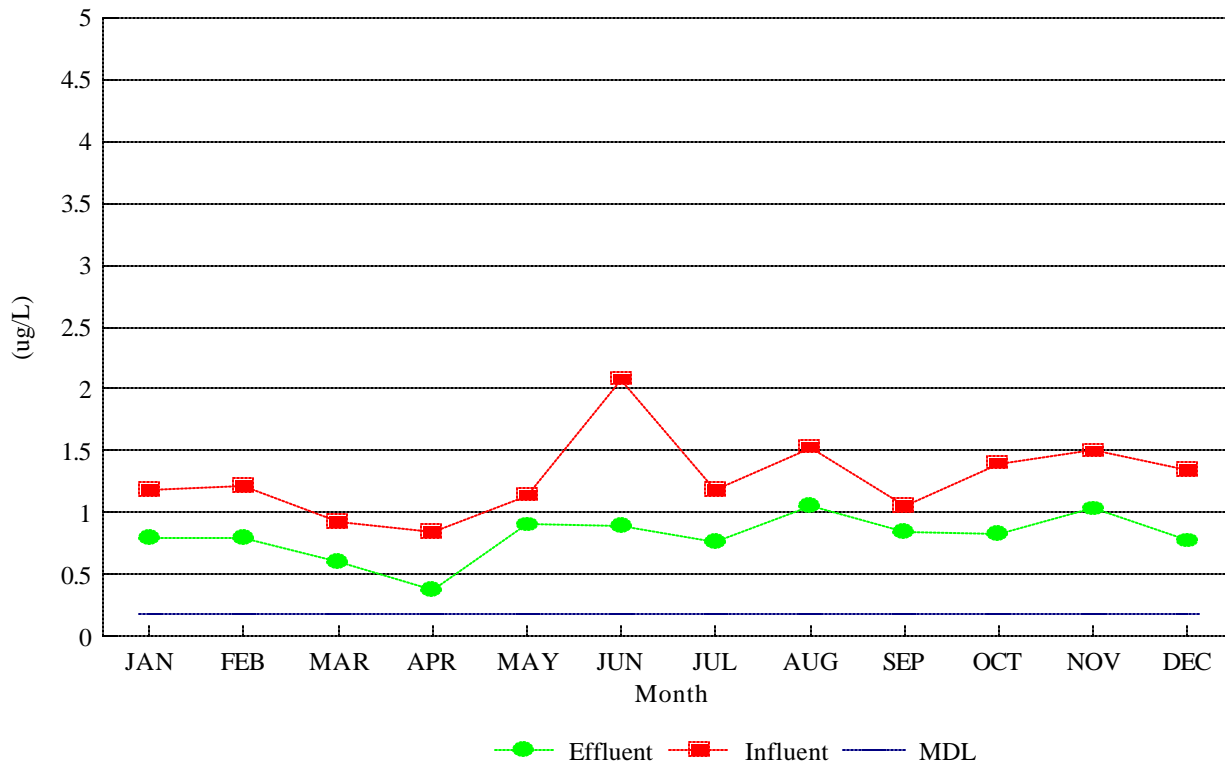
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Total Cyanides



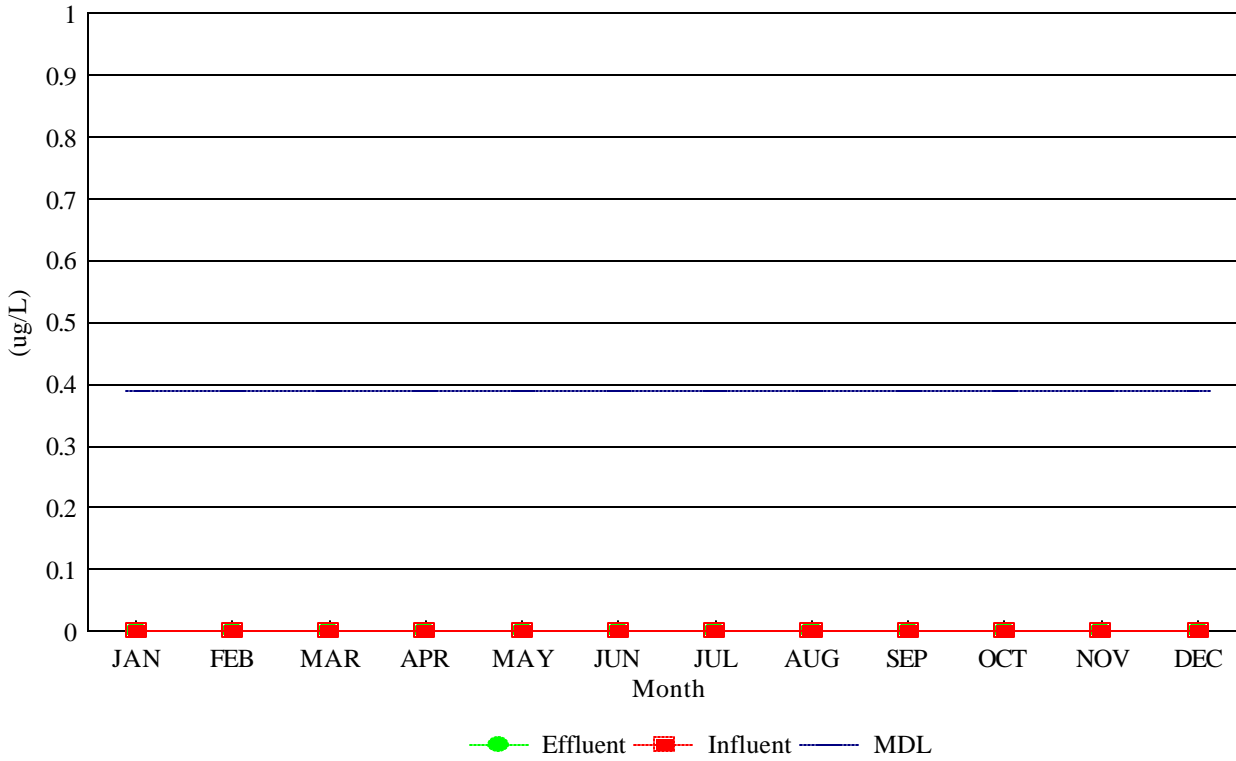
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Antimony



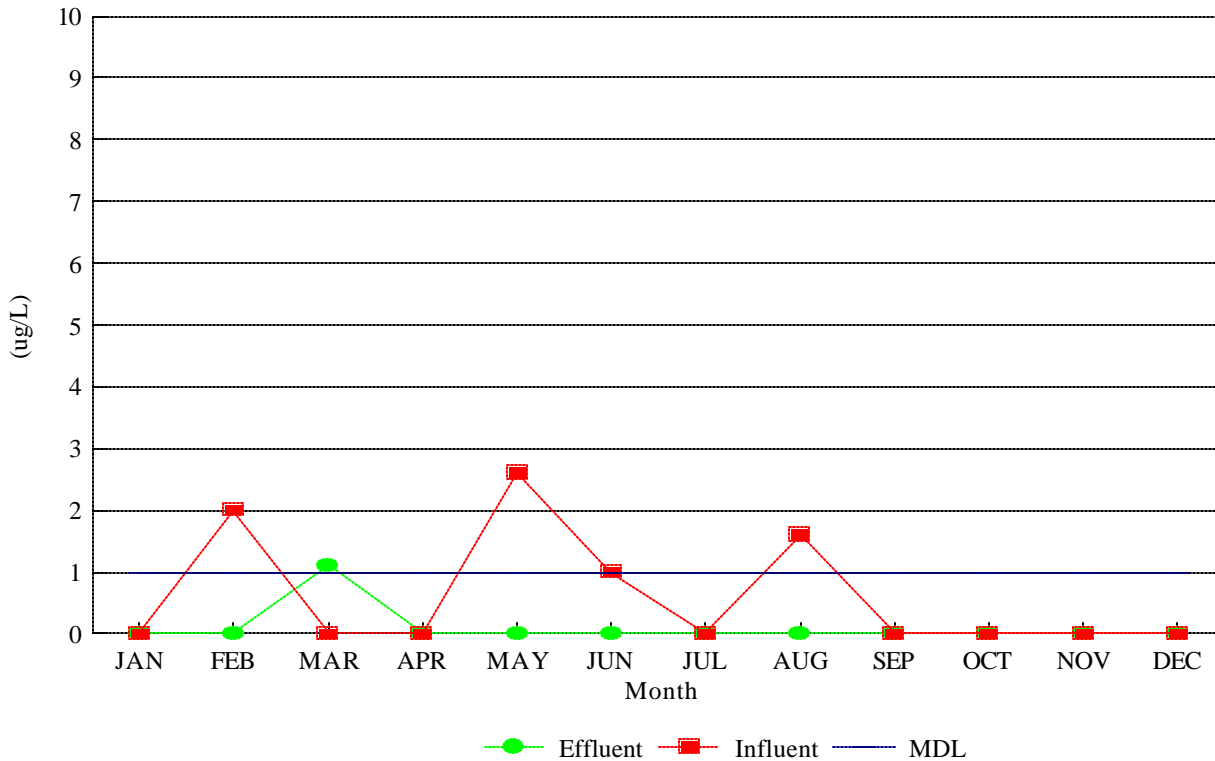
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Arsenic



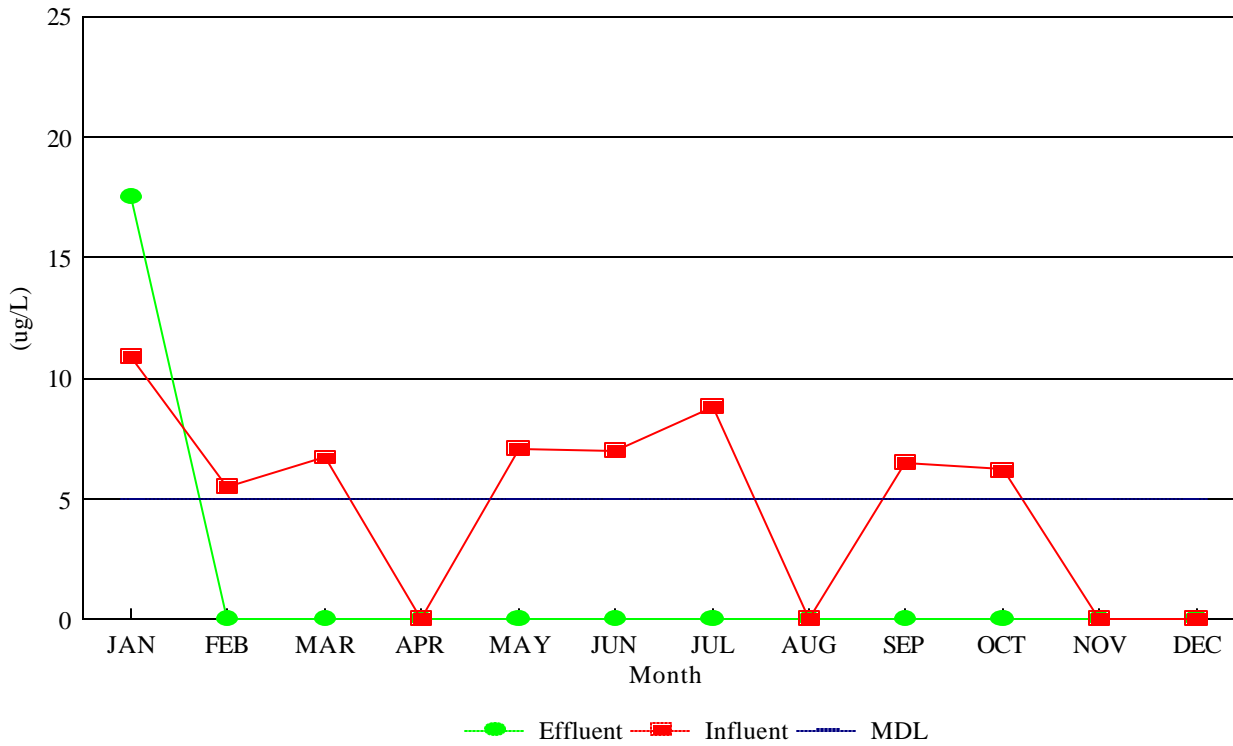
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Beryllium



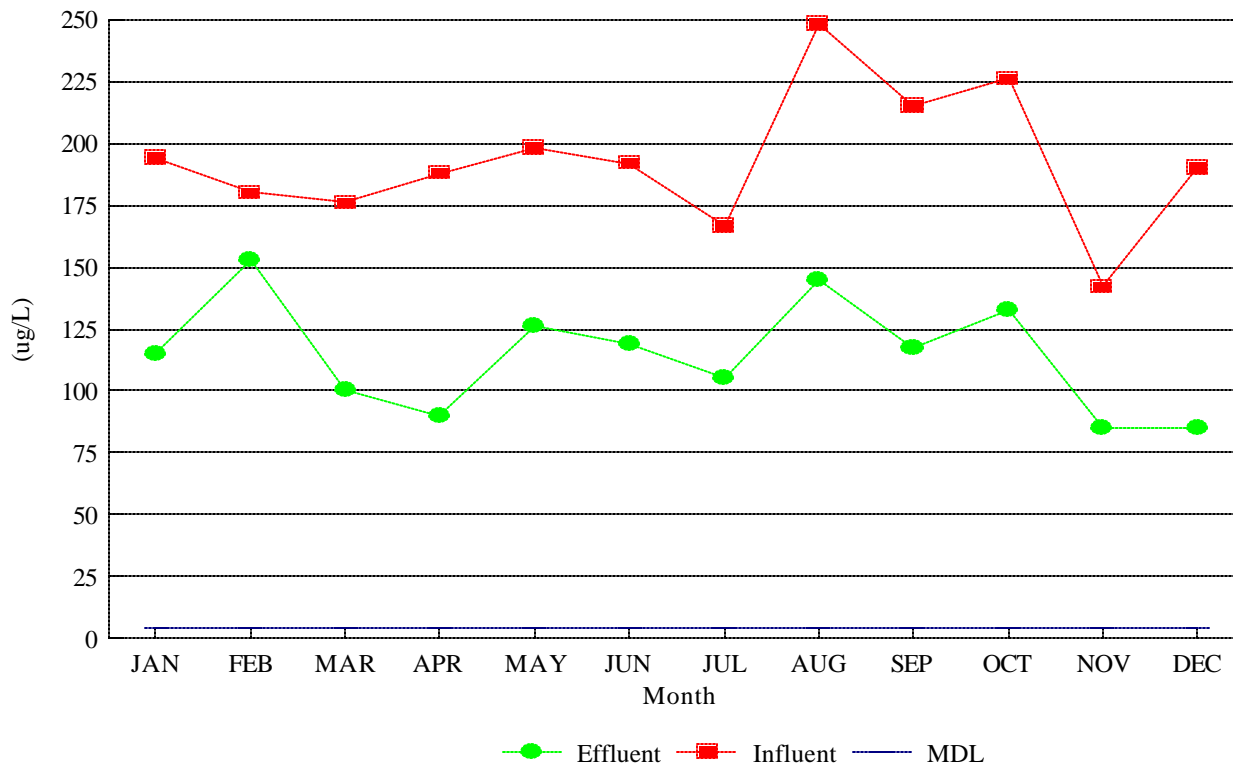
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Cadmium



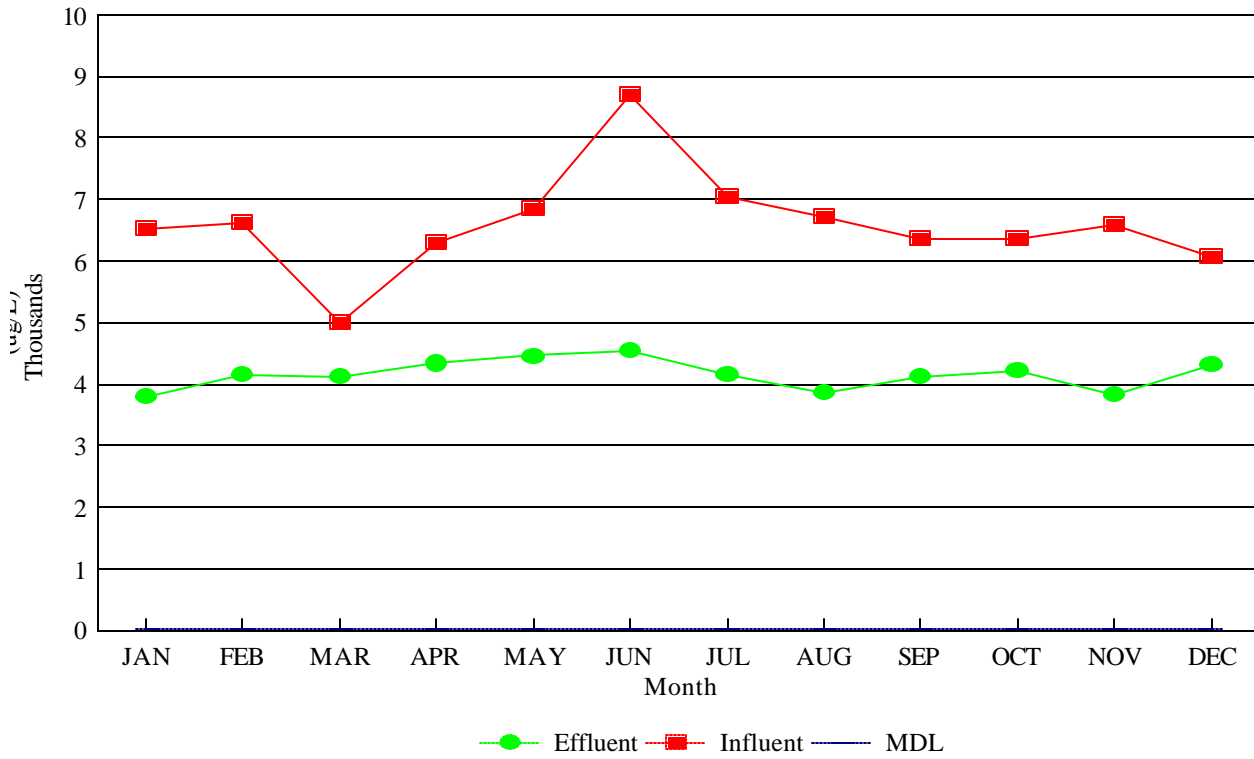
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Chromium



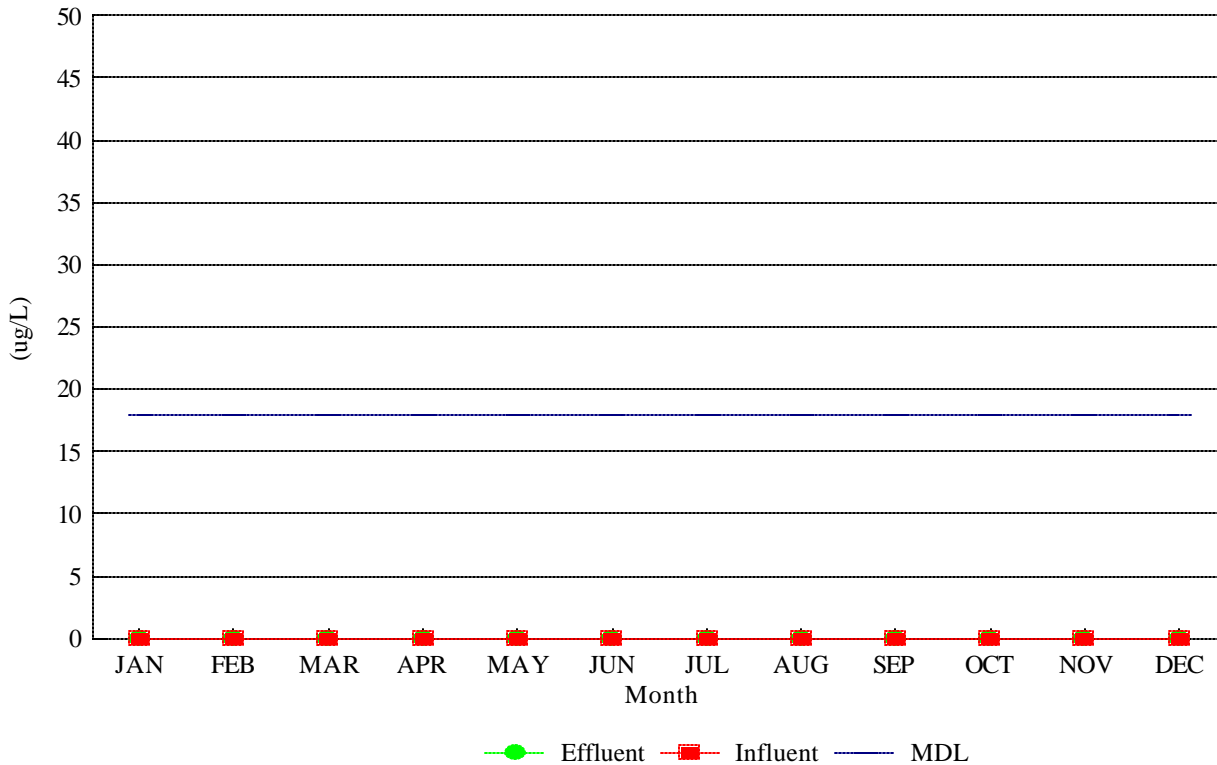
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Copper



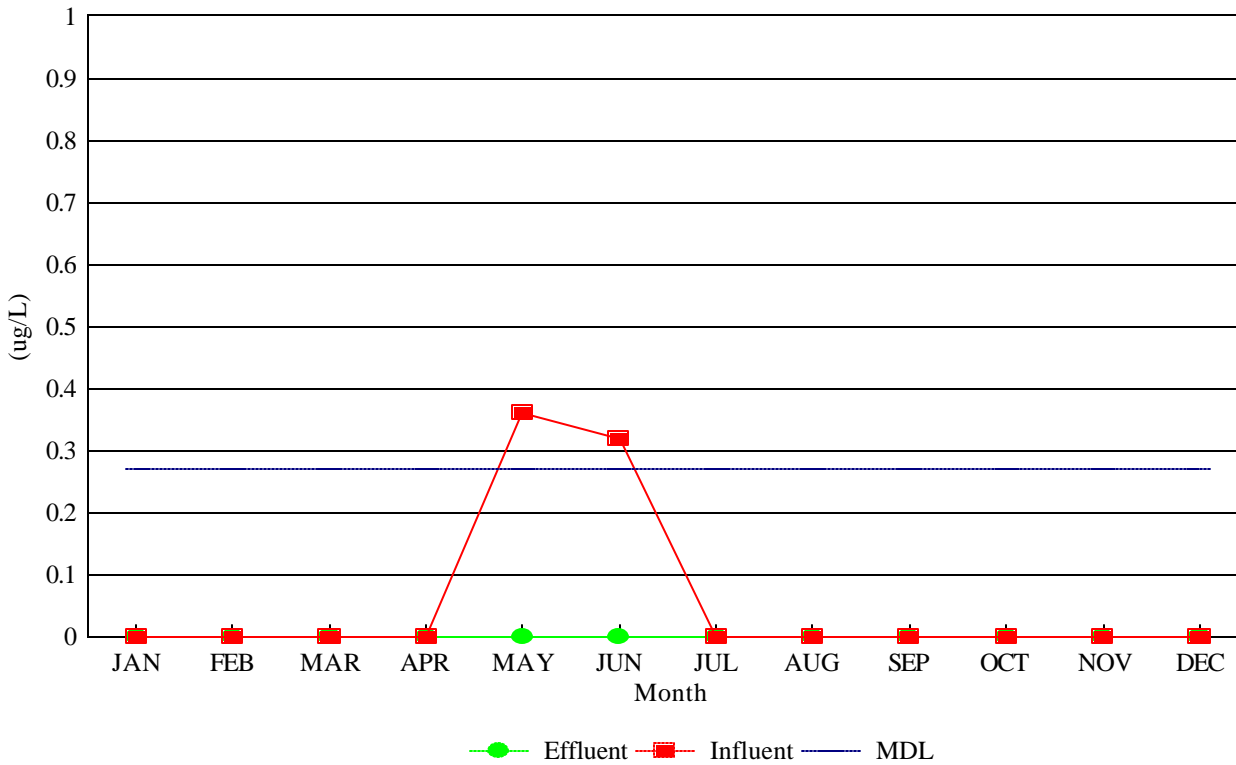
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Iron



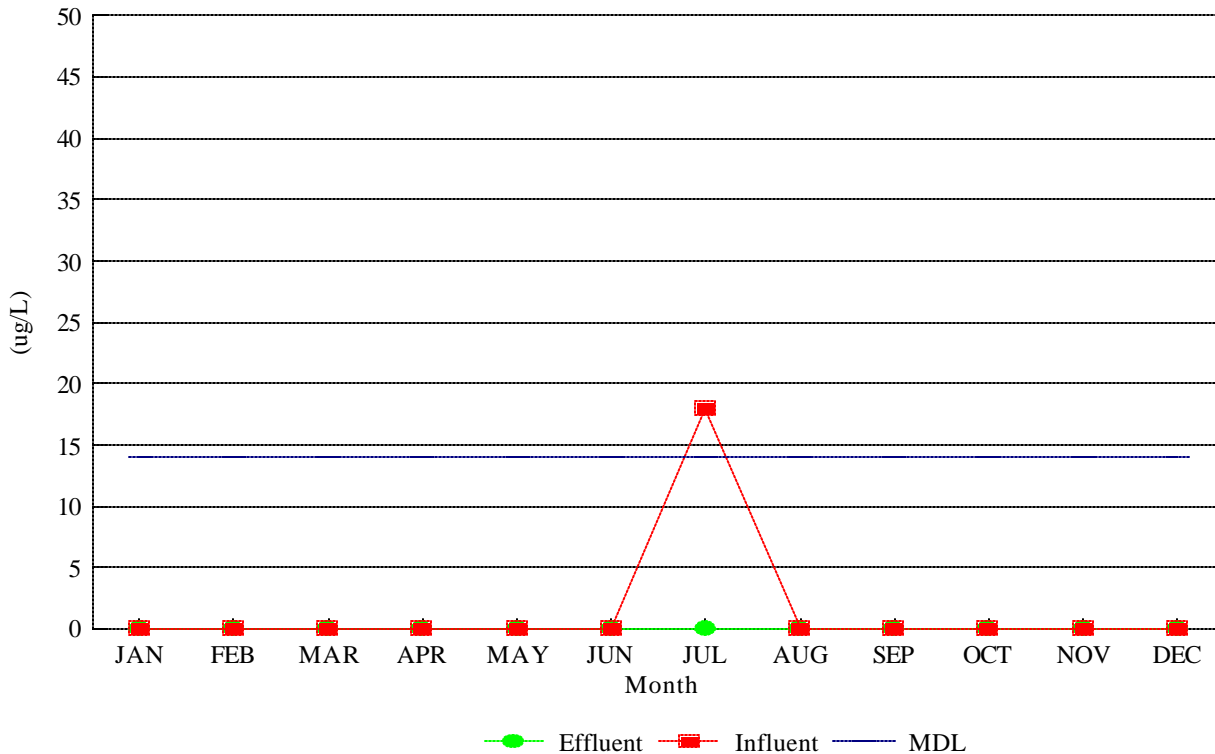
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Lead



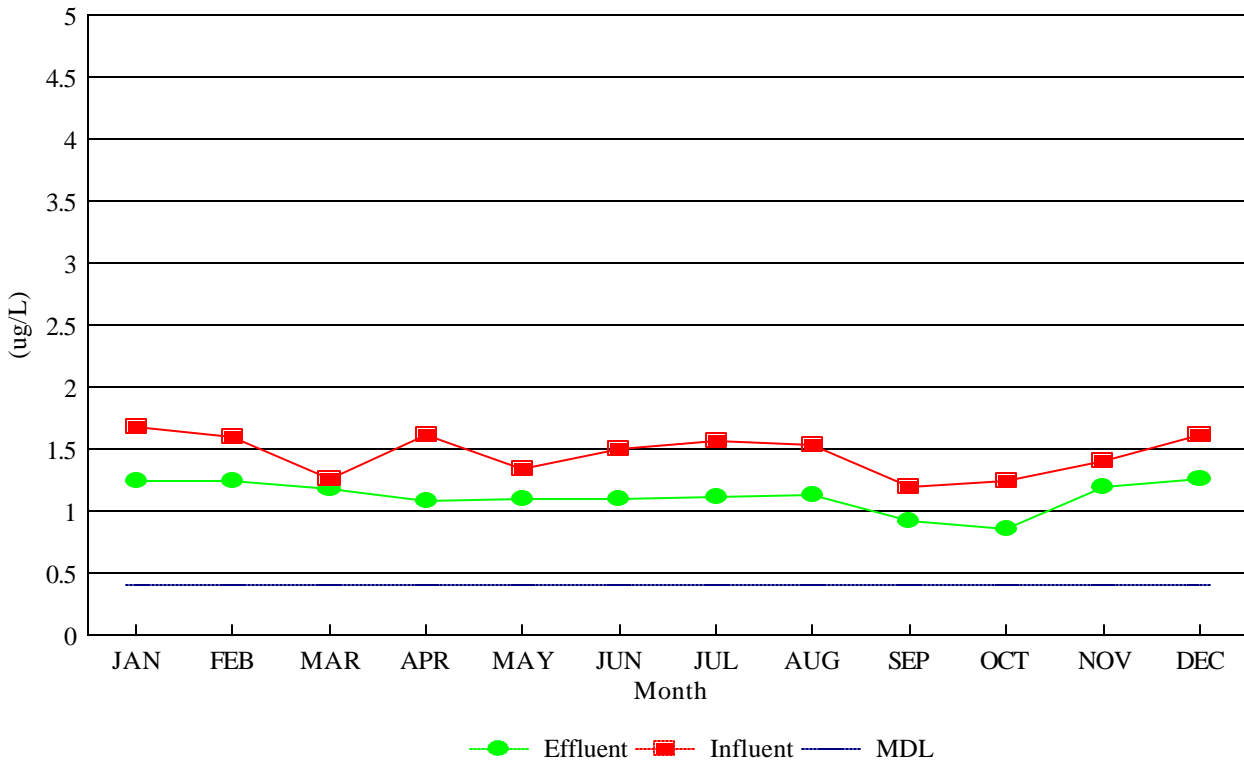
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Mercury



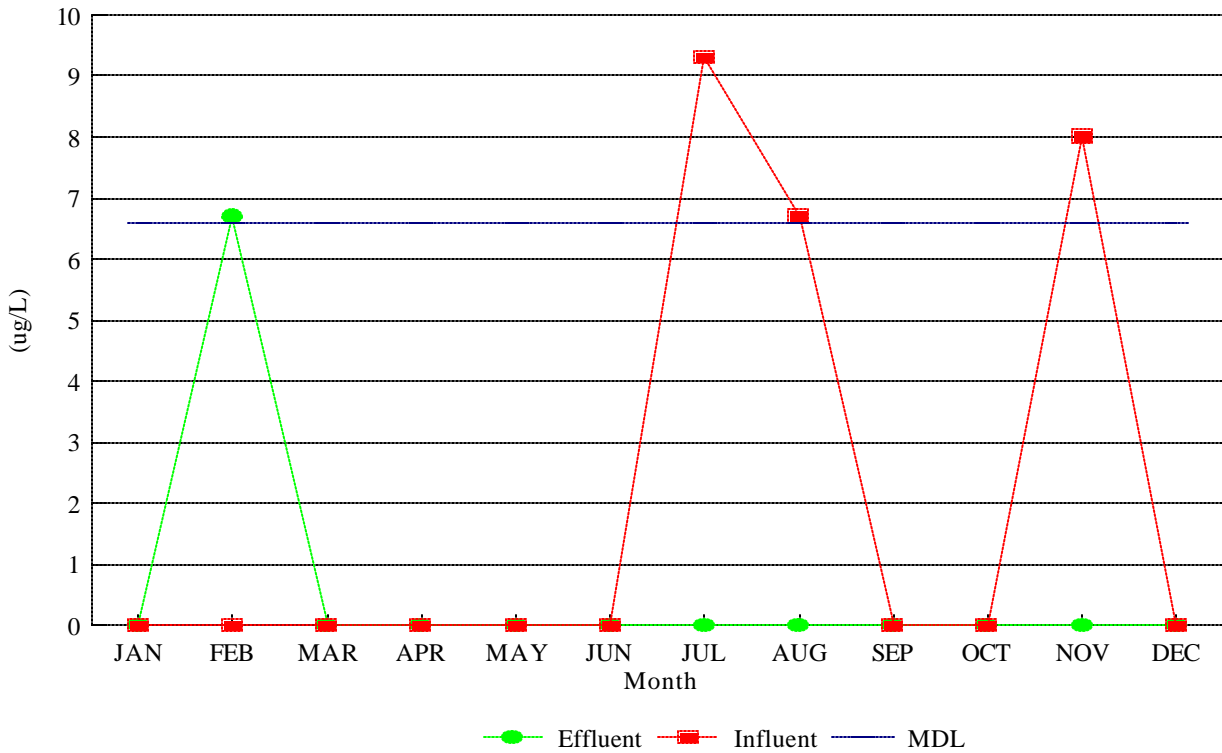
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Nickel



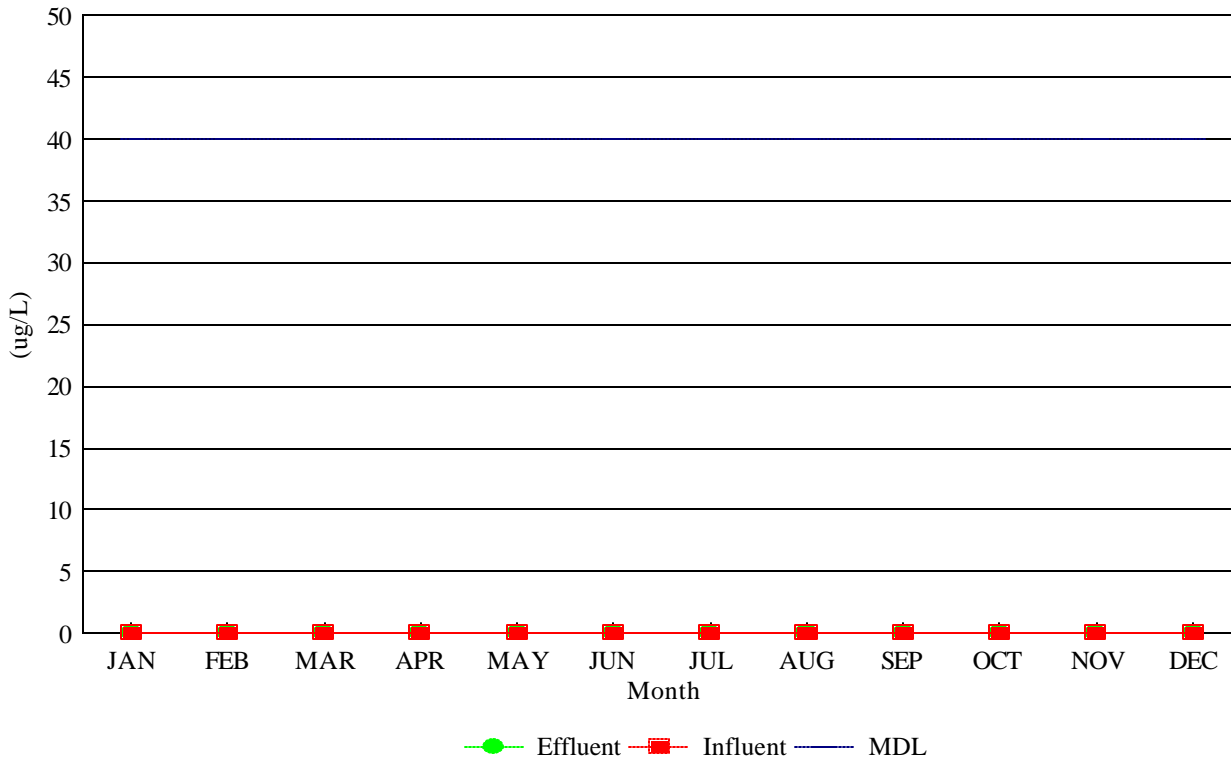
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Selenium



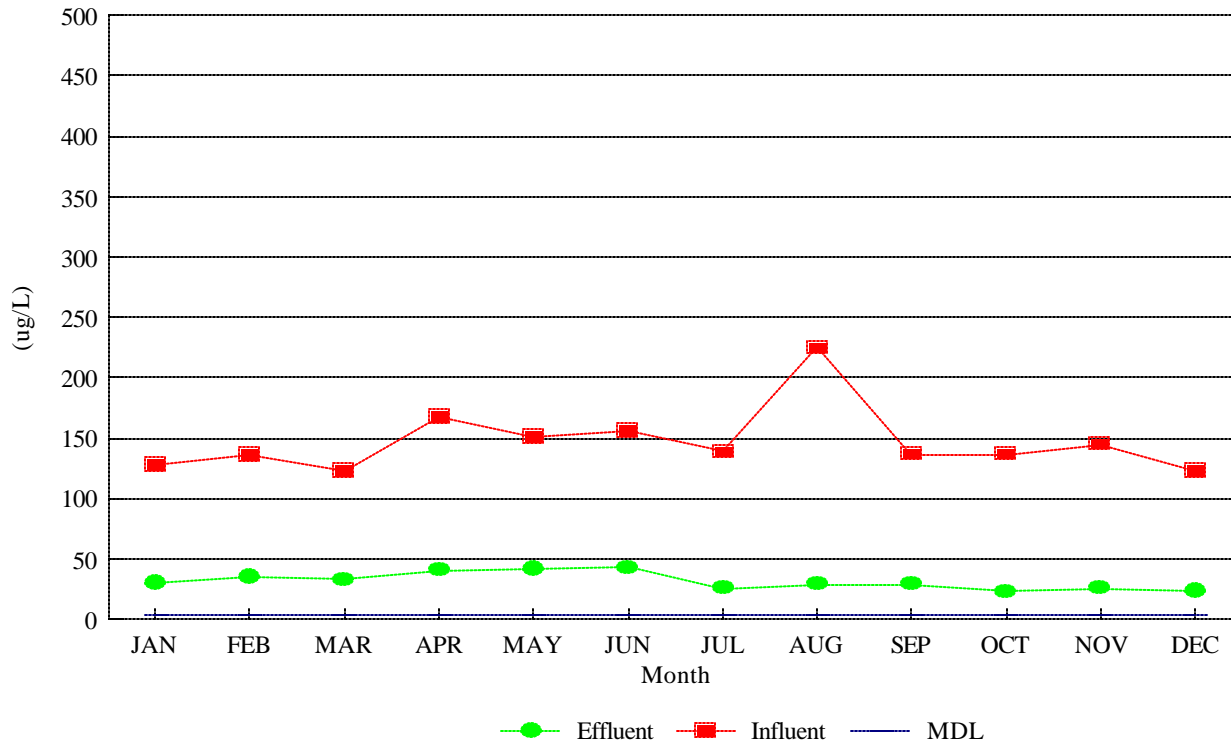
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Silver



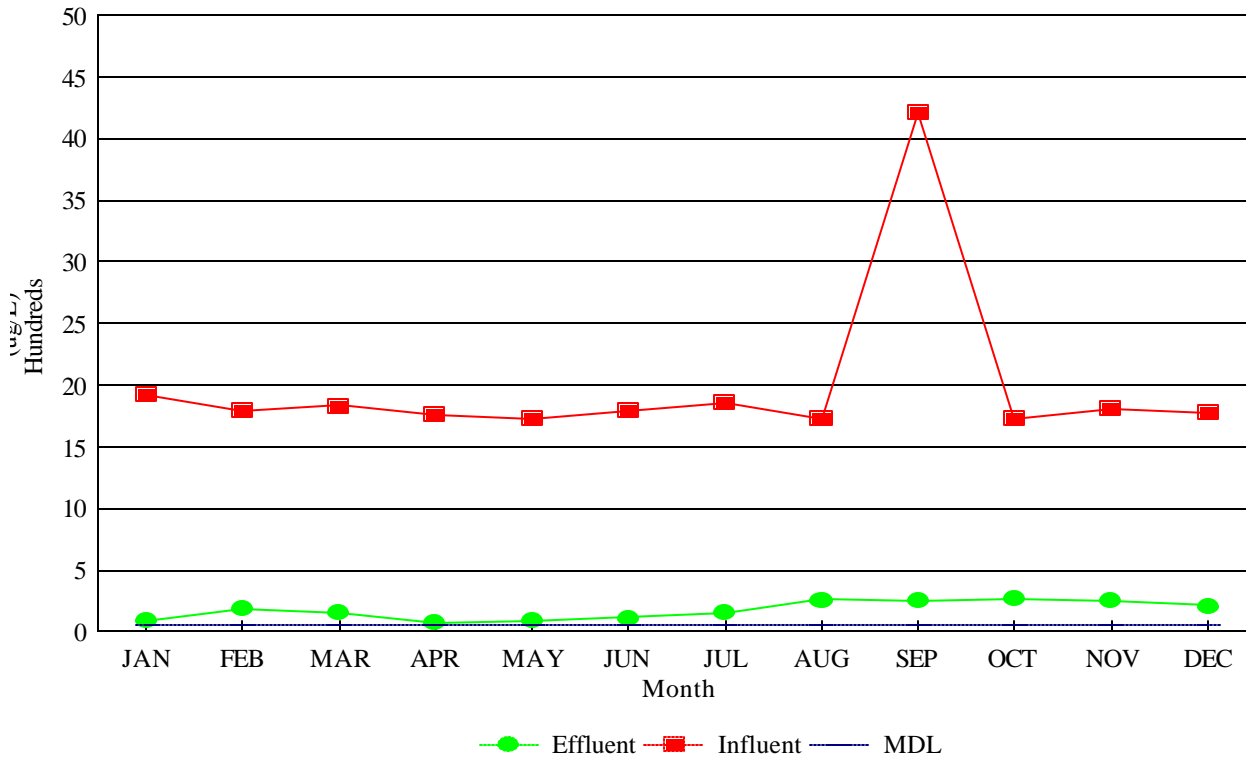
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Thallium



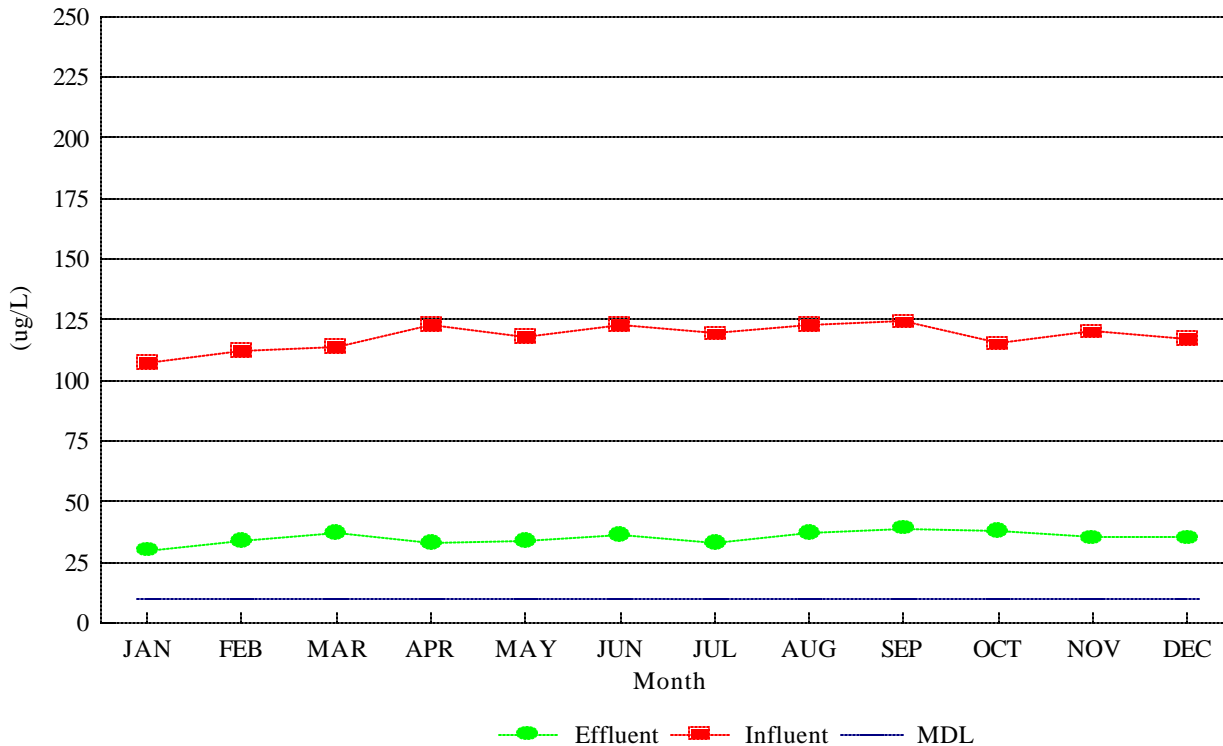
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Zinc



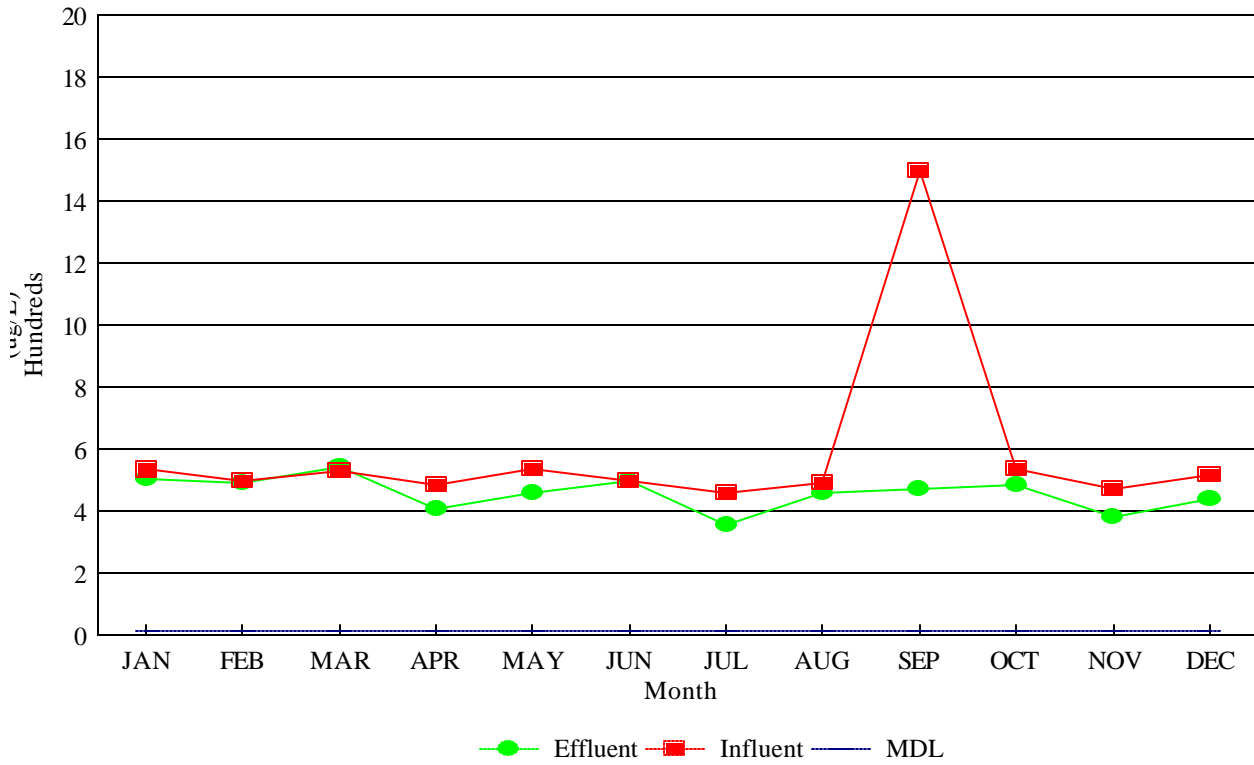
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Aluminum



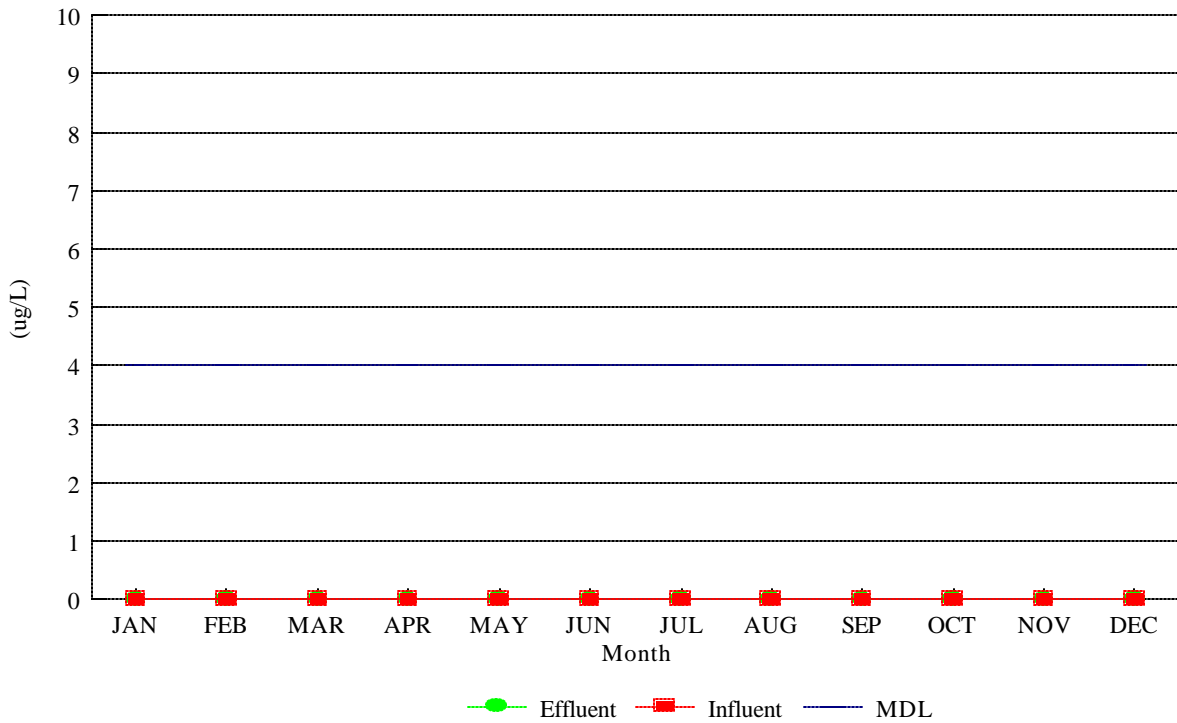
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Barium



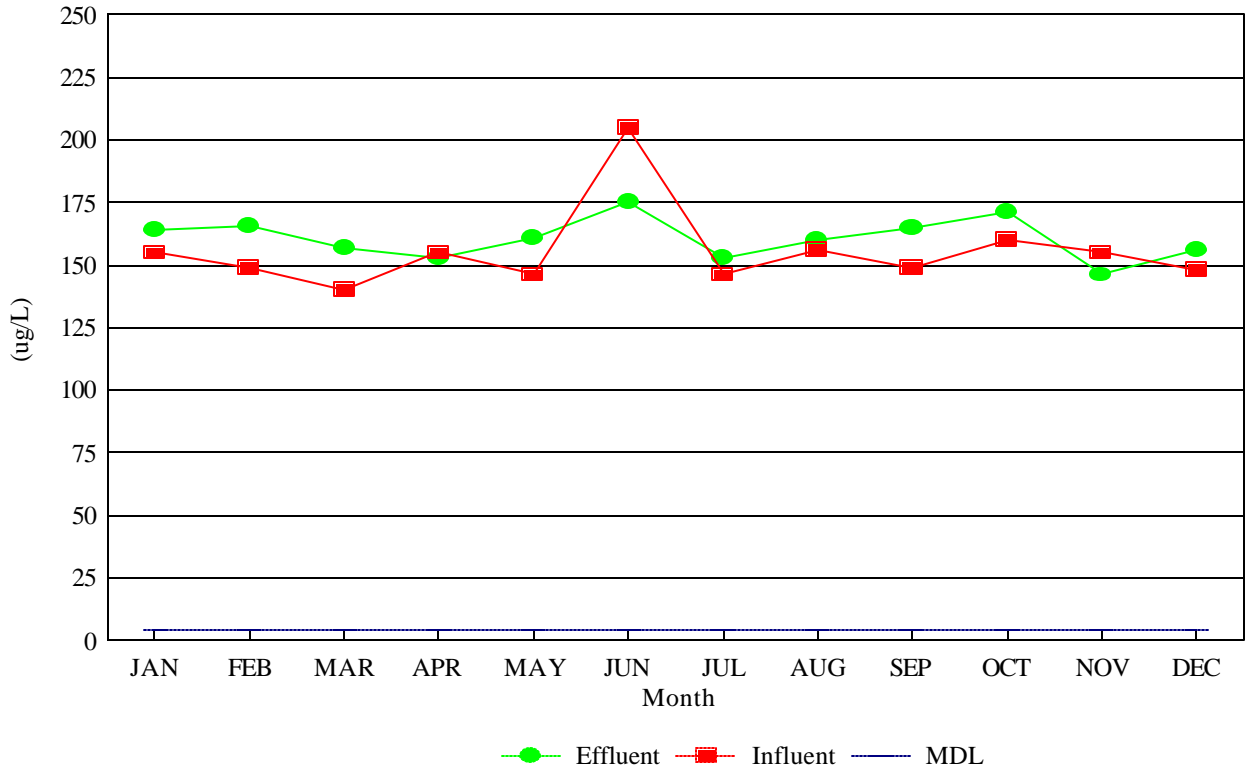
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Boron



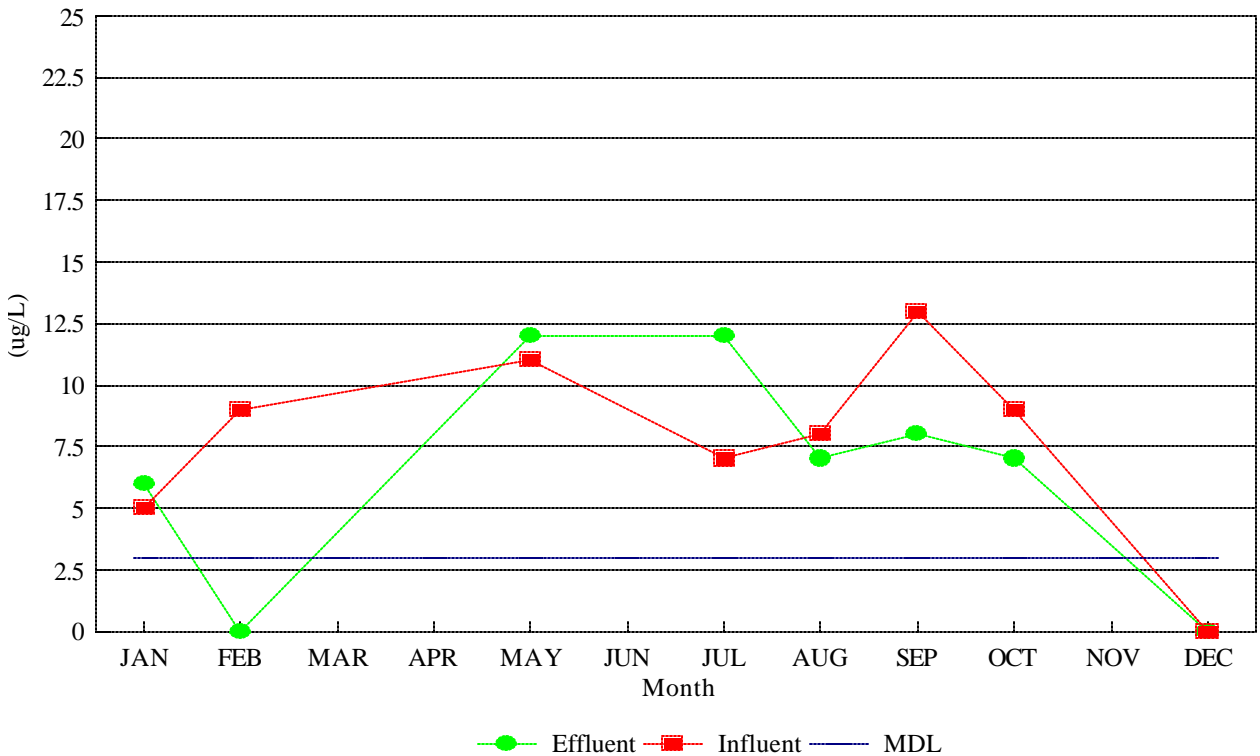
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Cobalt



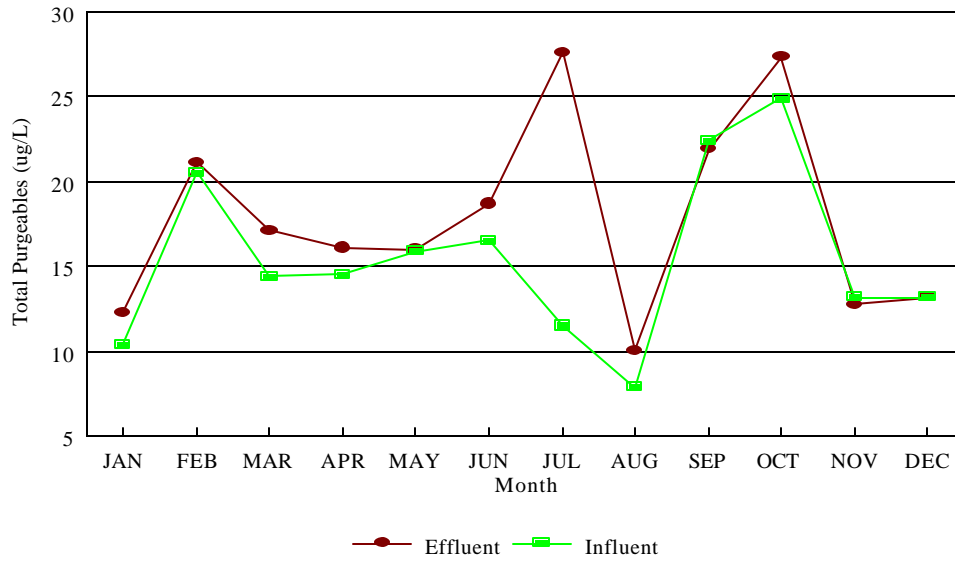
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Manganese



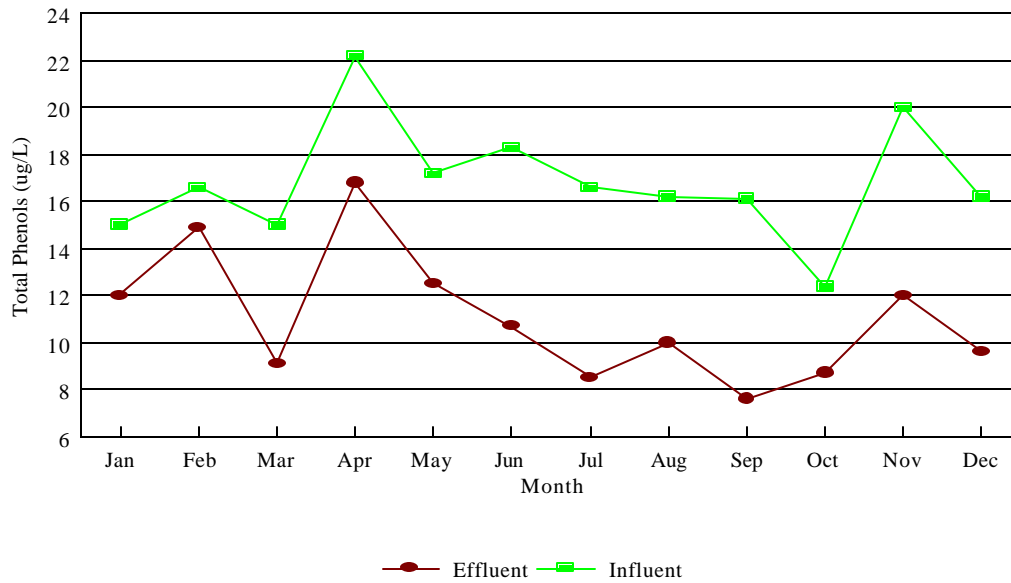
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Molybdenum



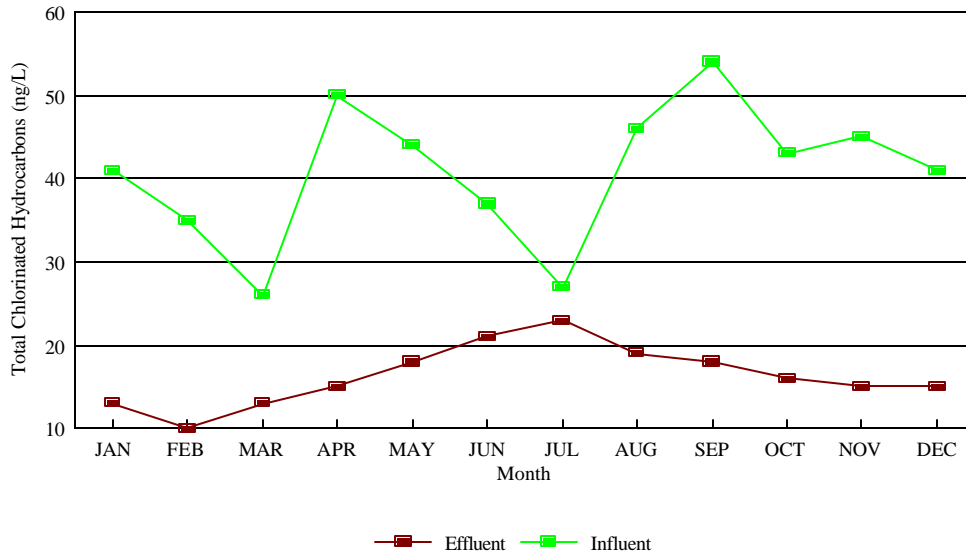
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Purgeables



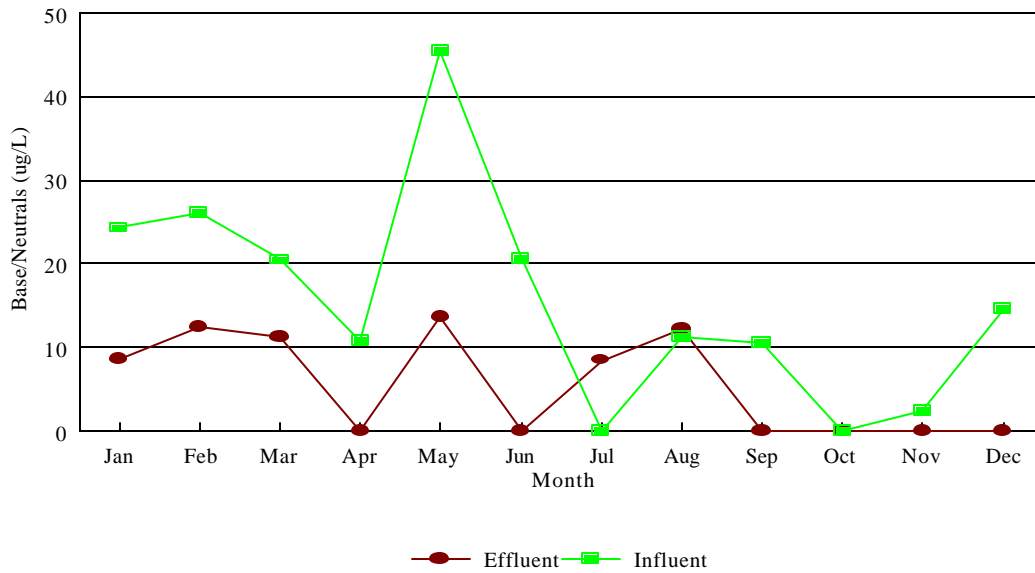
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Phenols (ug/L)



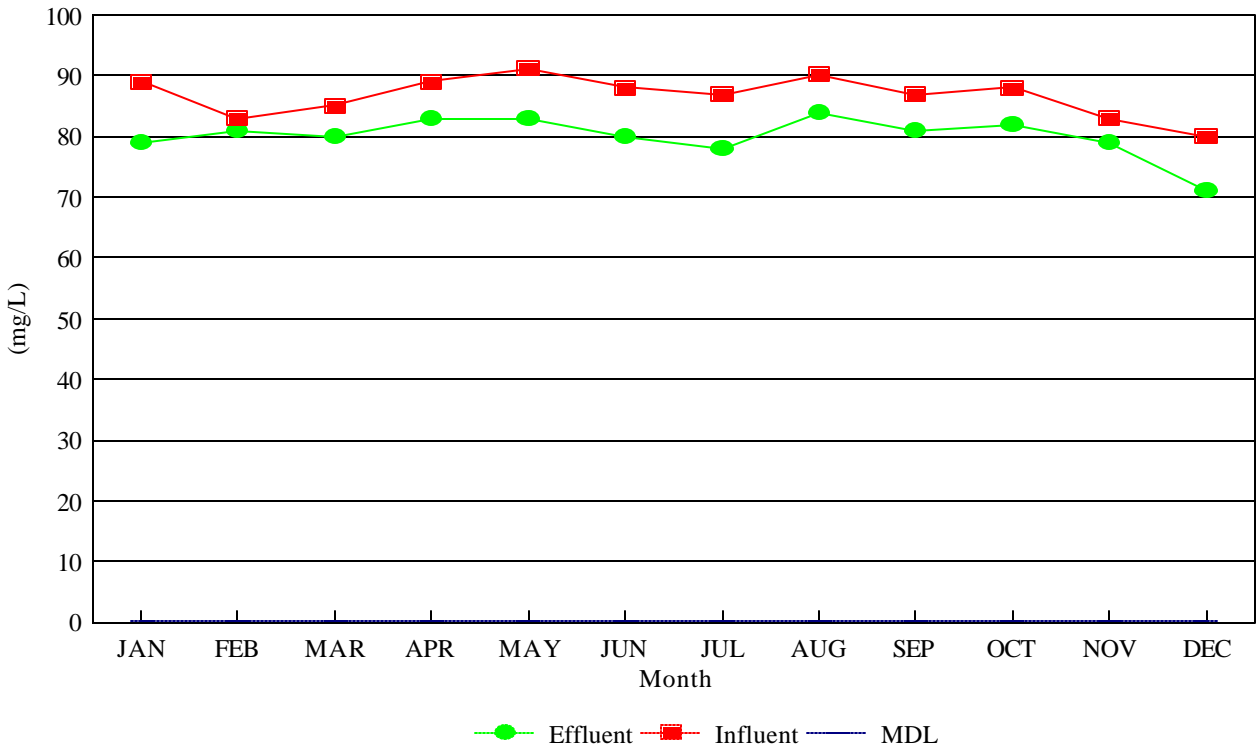
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - TCH (ng/L)



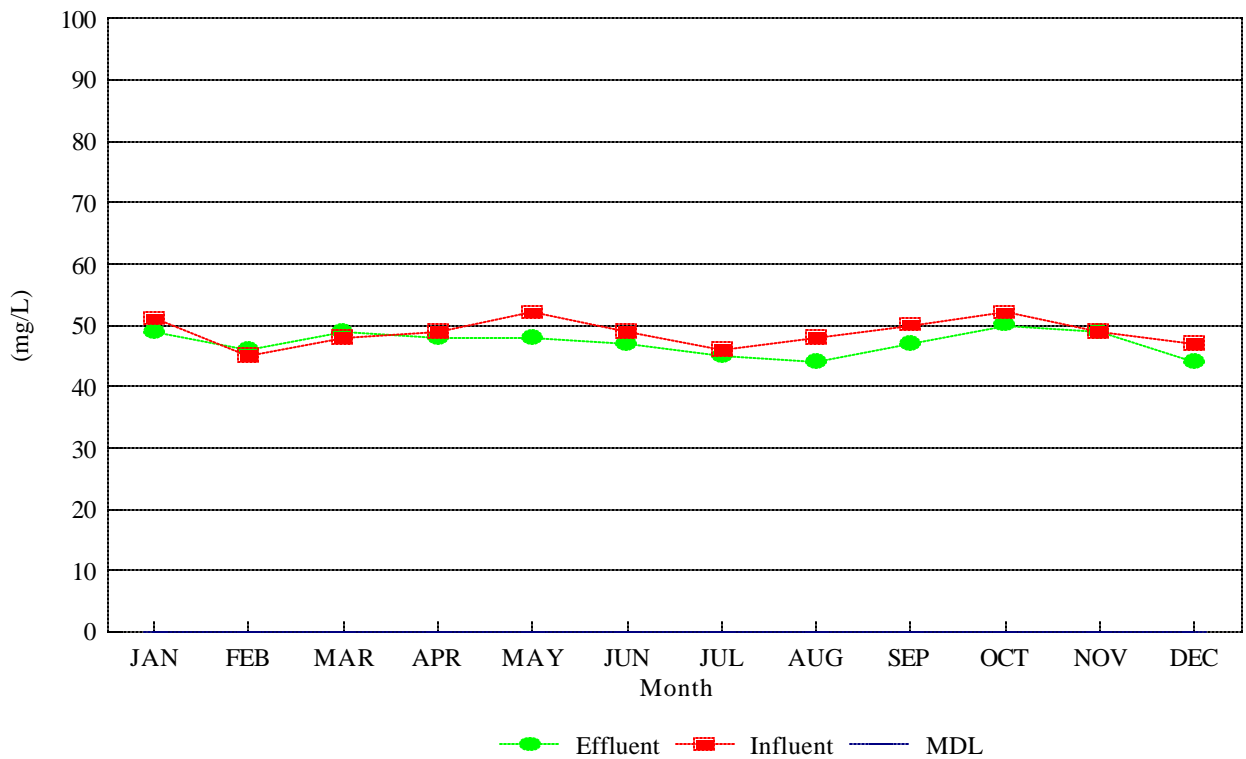
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Base/Neutrals



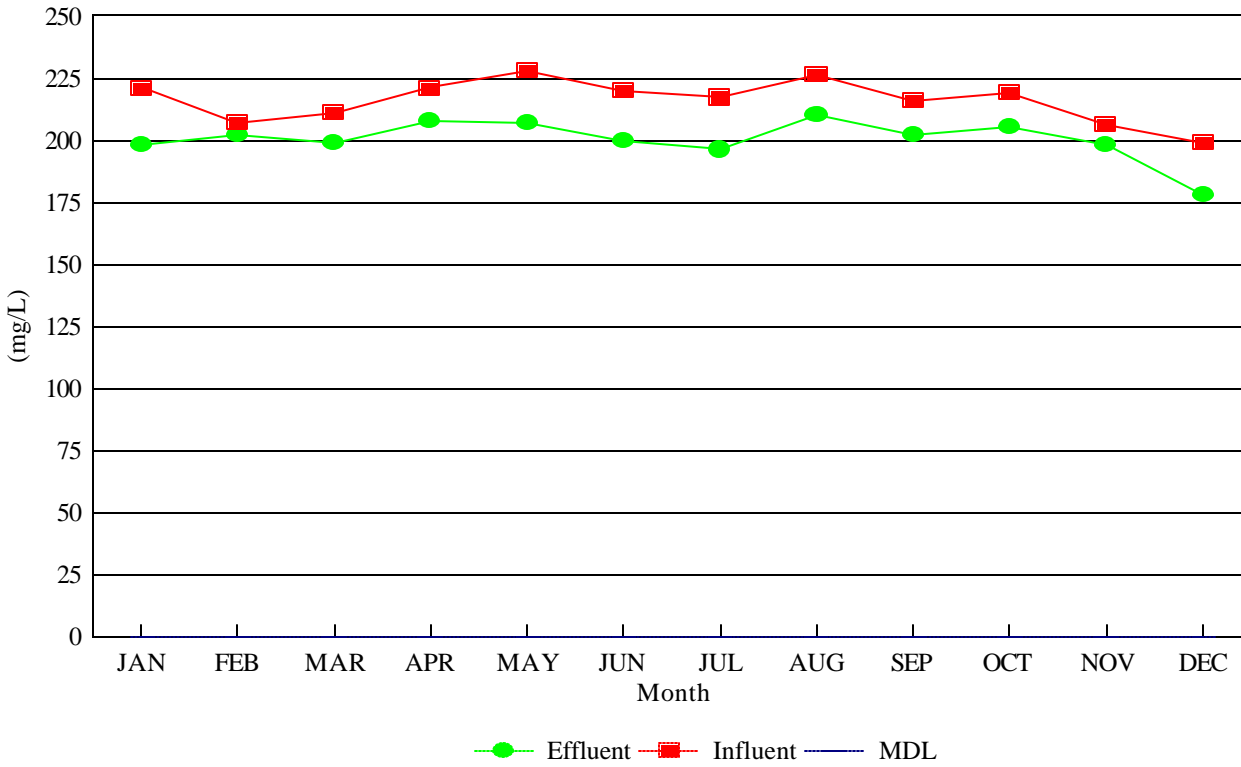
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Calcium



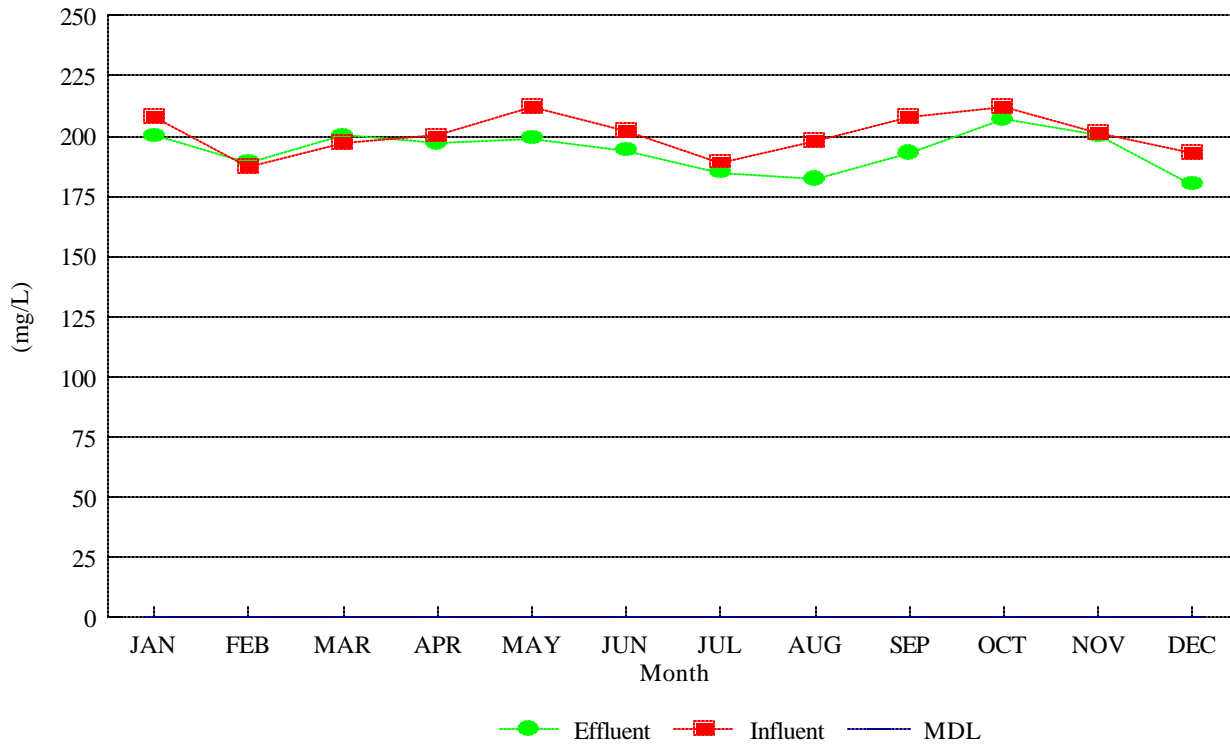
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Magnesium



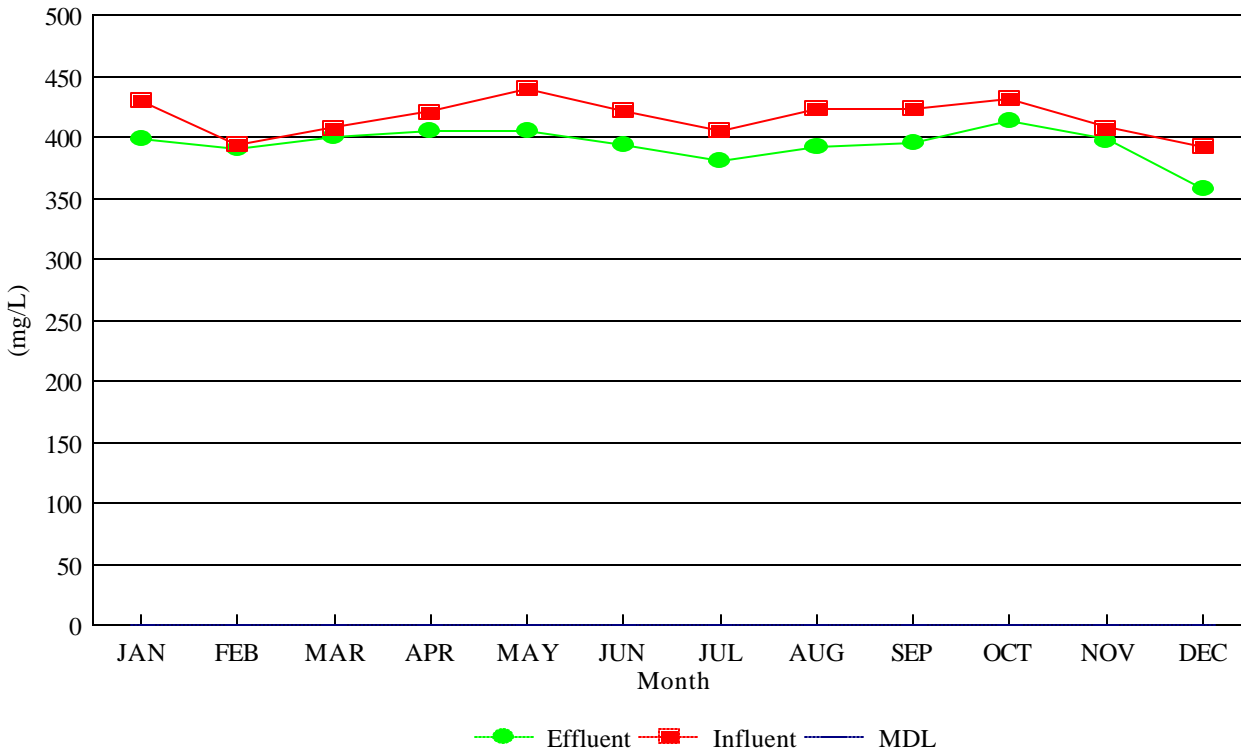
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES-Calcium Hardness



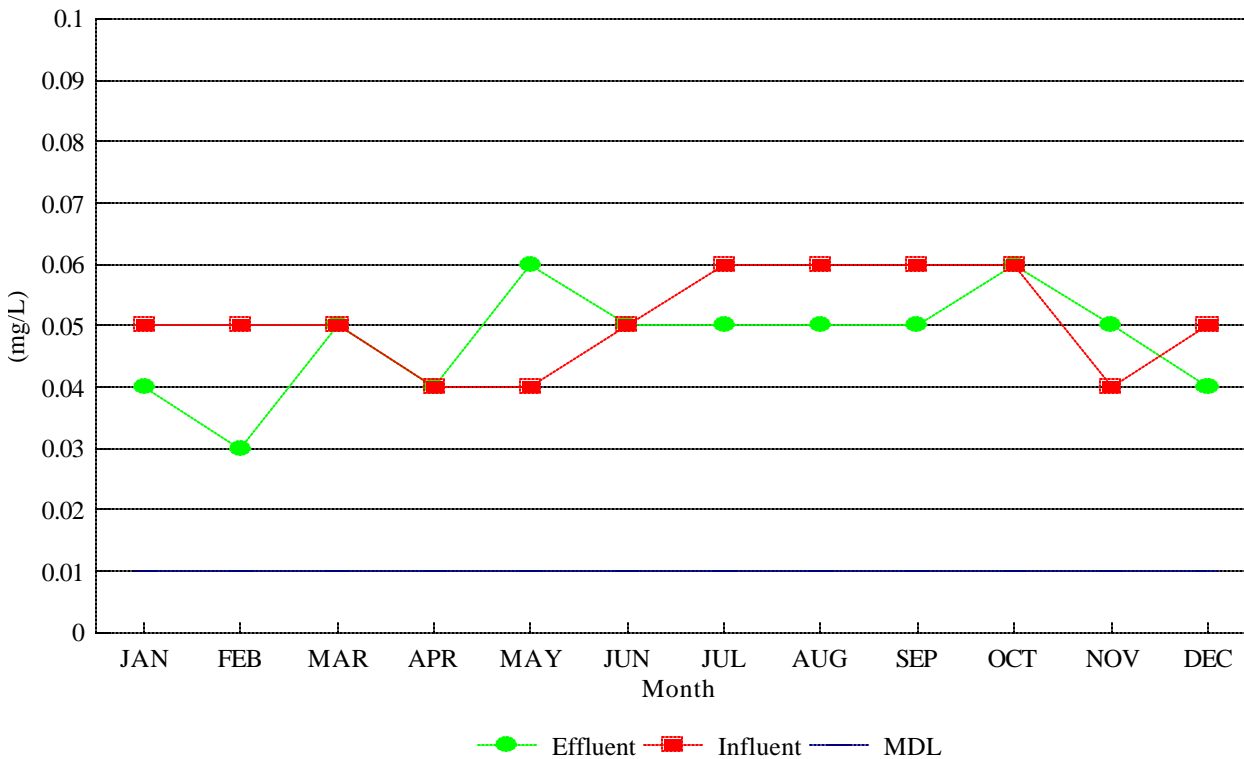
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES-Magnesium Hard



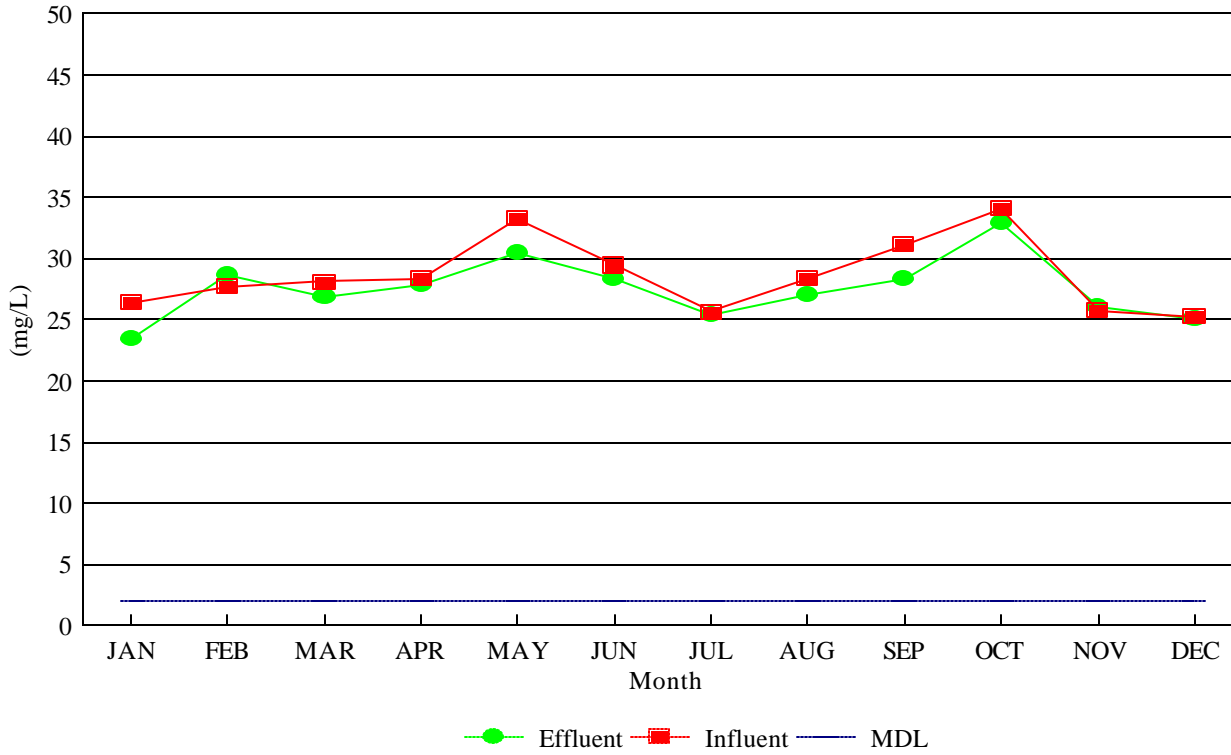
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Total Hardness



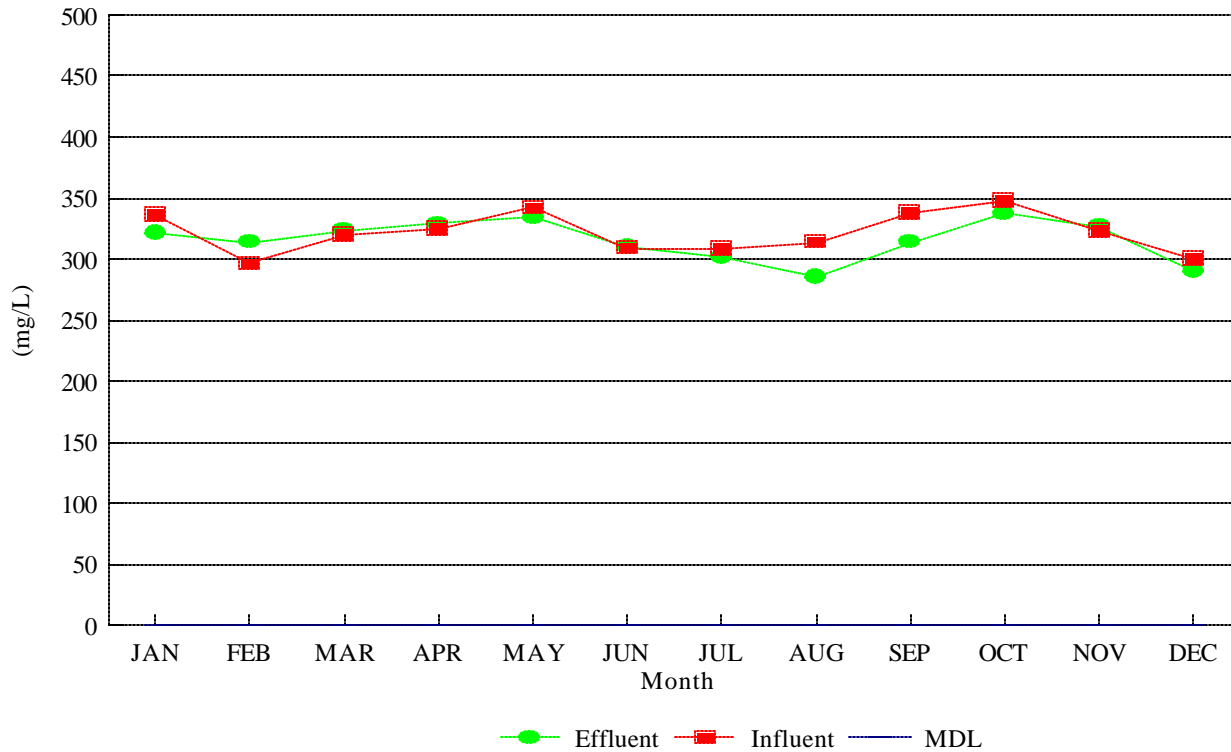
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Lithium



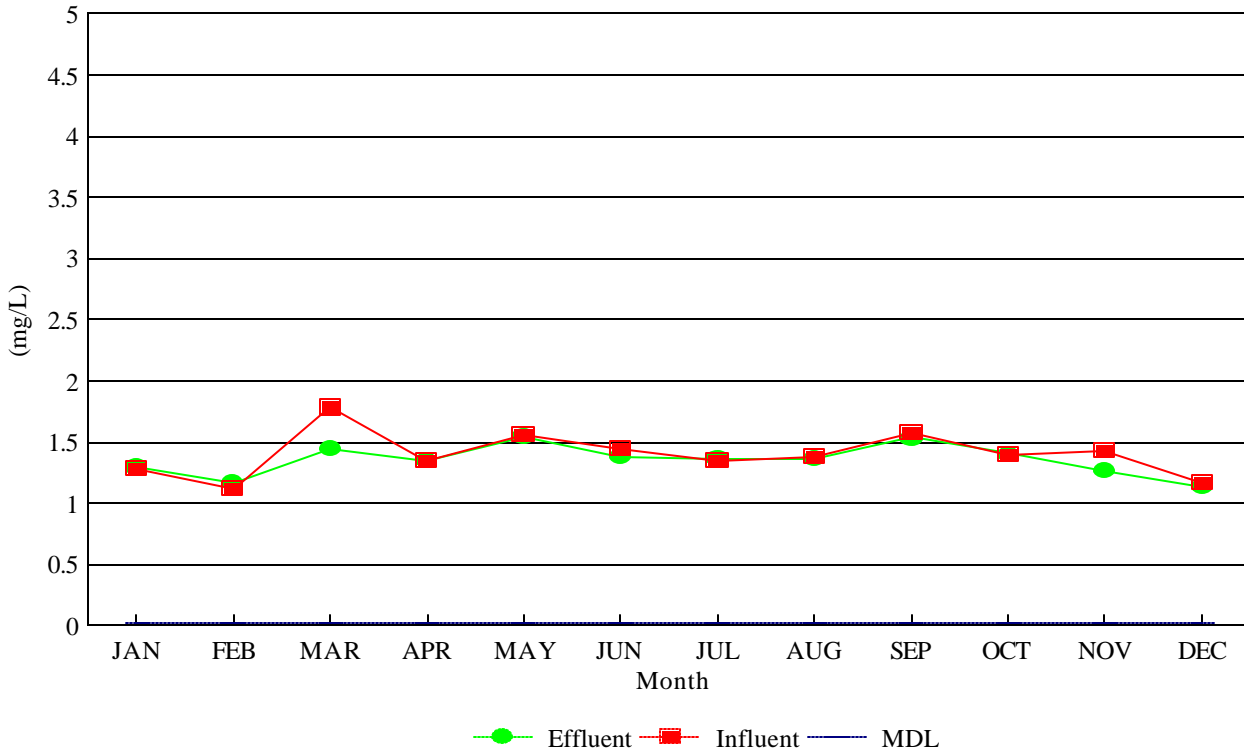
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Potassium



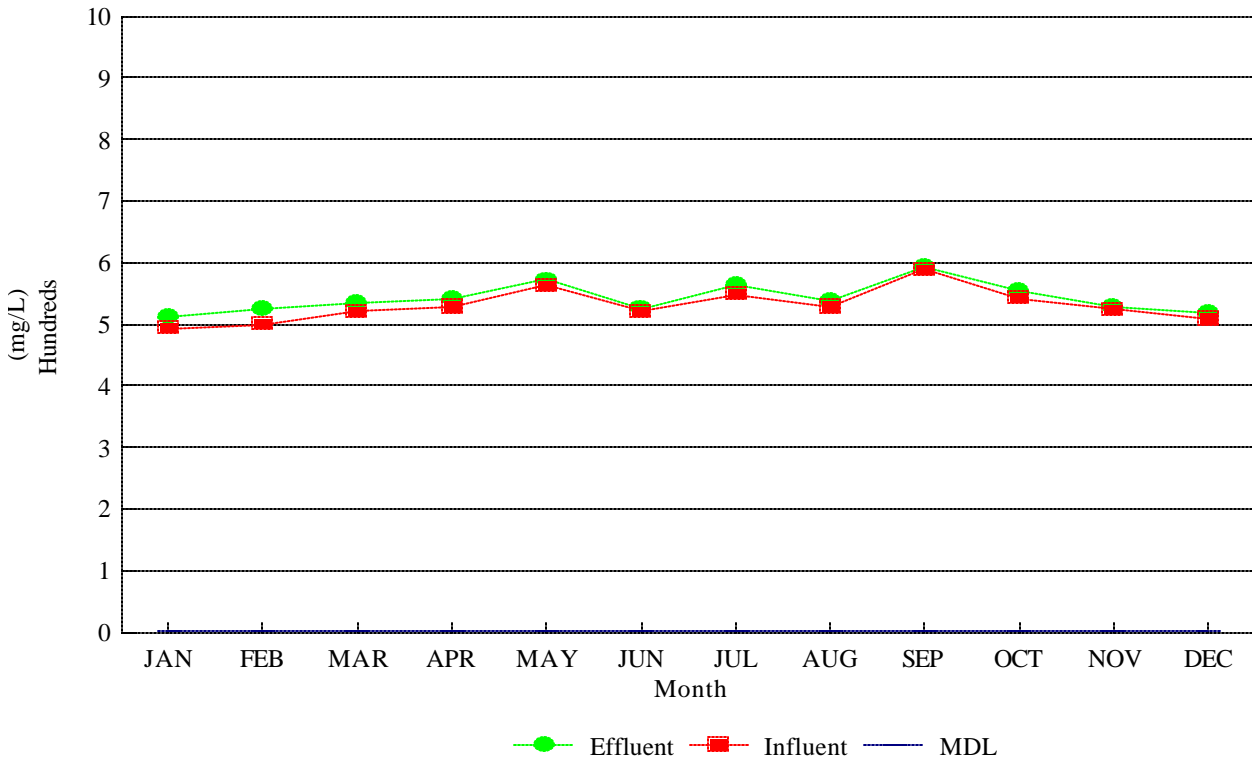
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Sodium



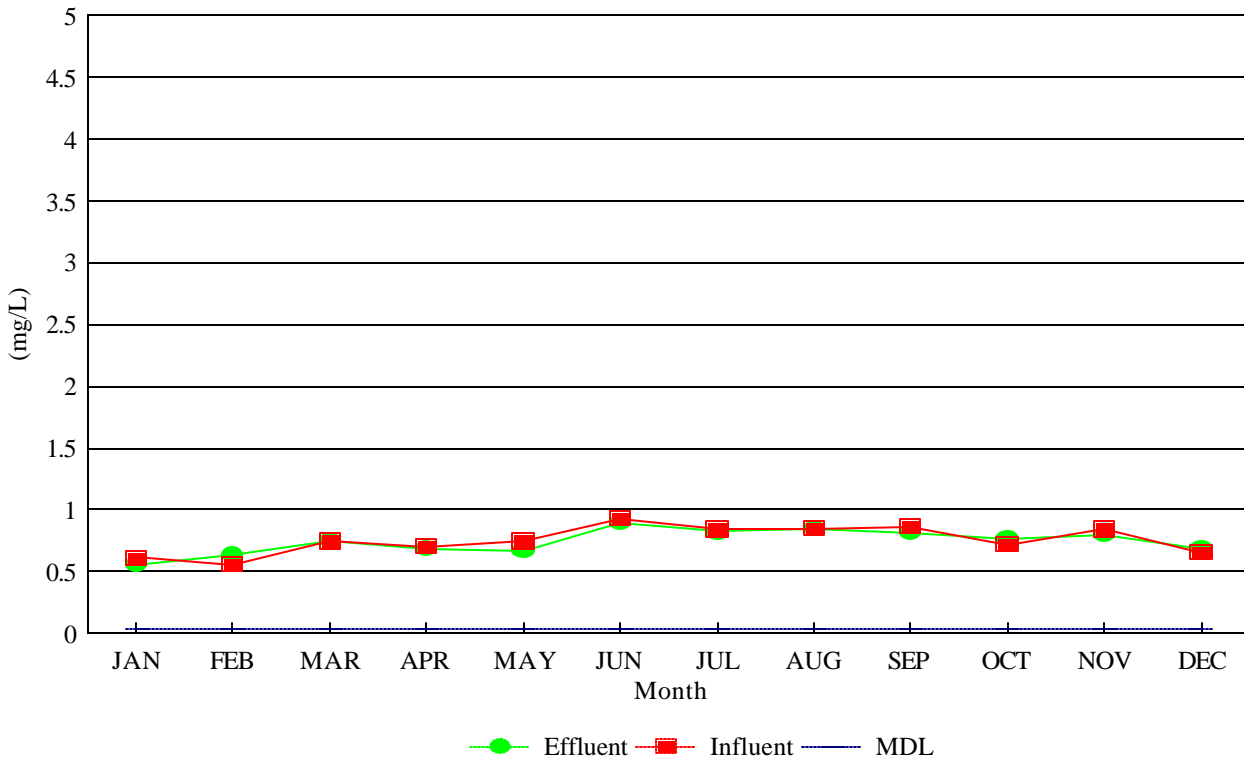
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Bromide



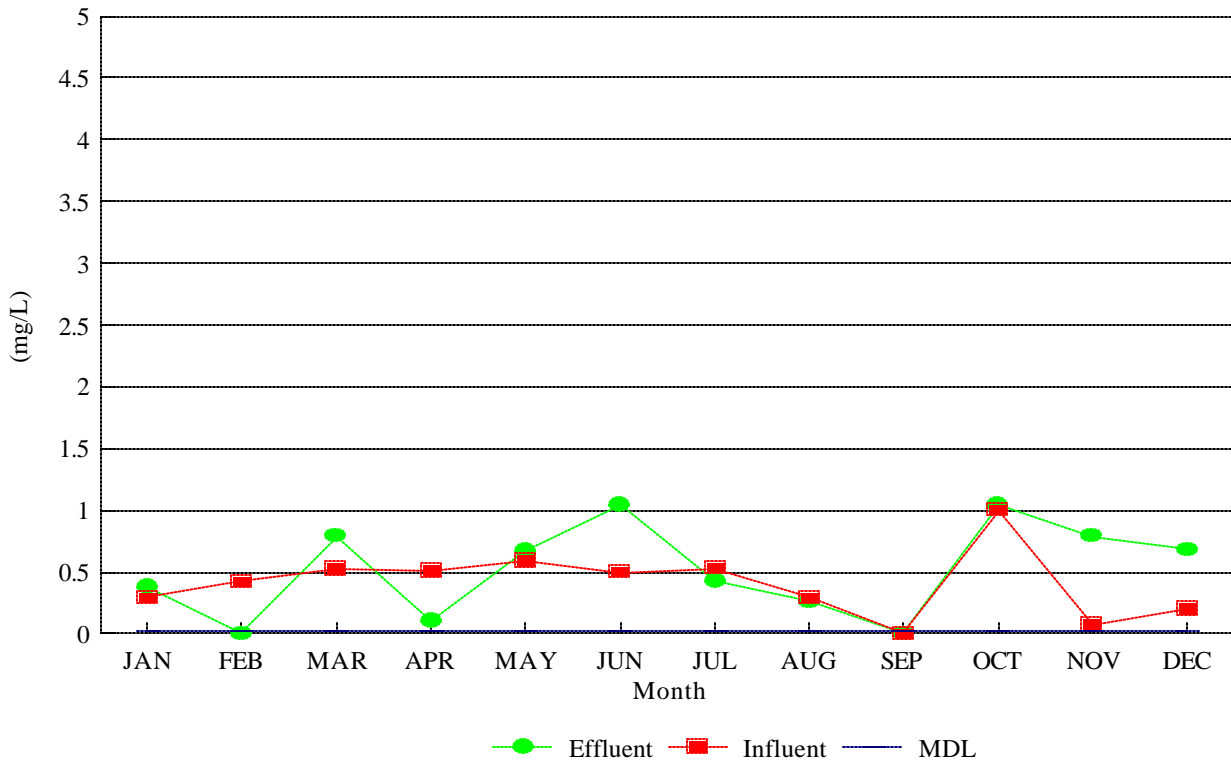
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Chloride



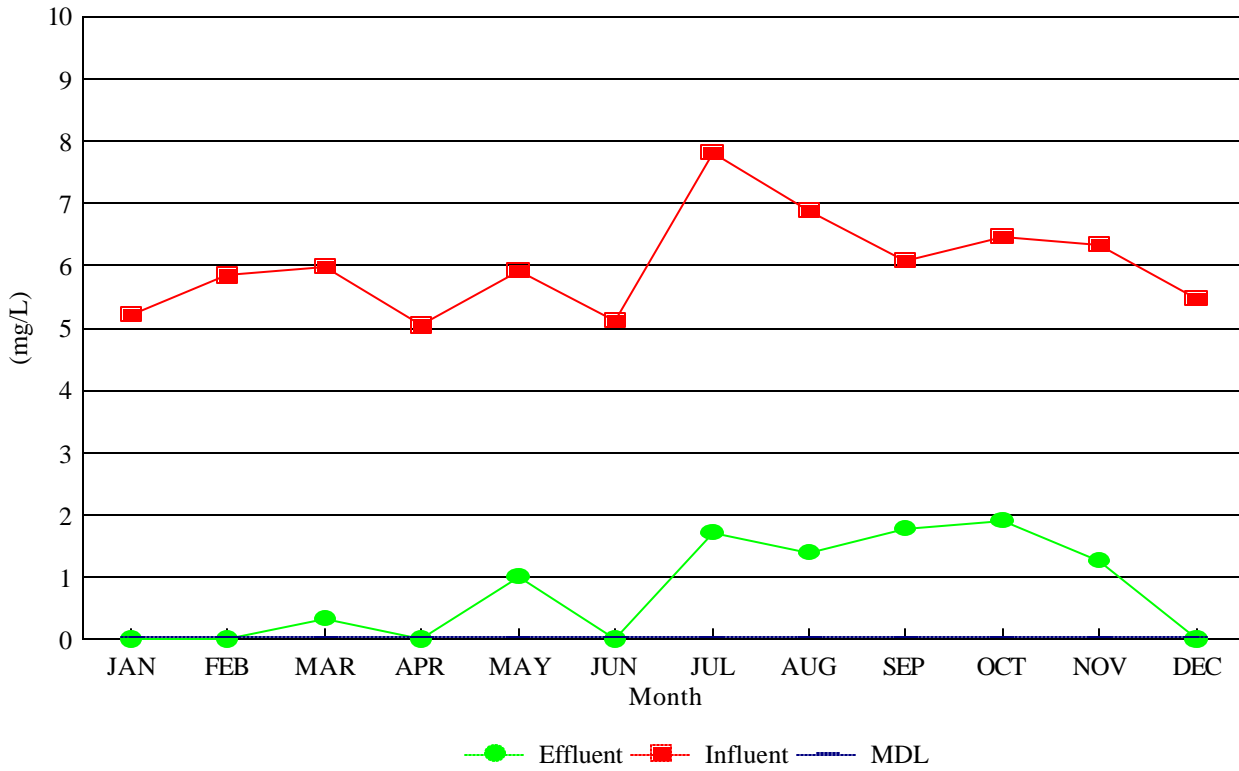
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Fluoride



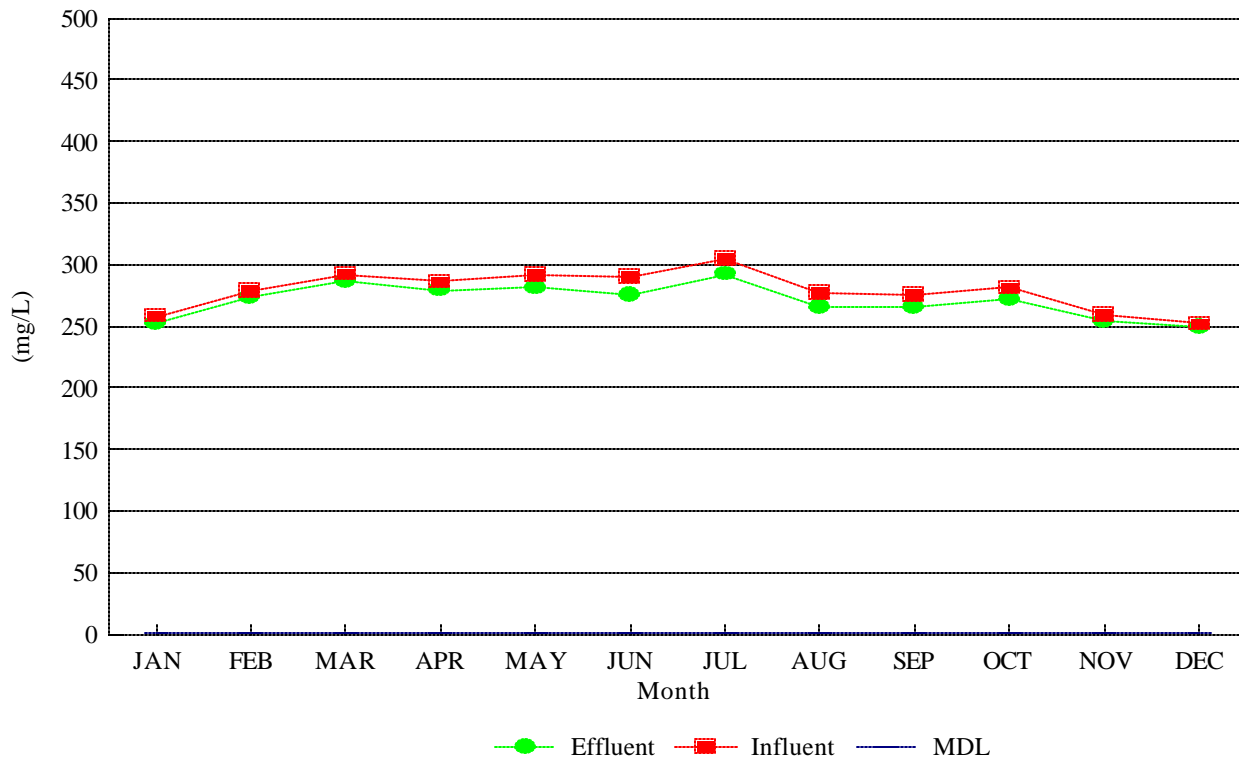
Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Nitrate



Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - O-Phosphate



Point Loma Wastewater Treatment Plant
2001 MONTHLY AVERAGES - Sulfate



C. 6-Year Tables.

Results of the determination of selected parameters on a weekly basis for the past 6-years.

ARSENIC (ug/L) 1996																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	1.8	1.1	1.4	1.1	1.2	0.9	2.0	1.3	1.9	1.1	2.7	1.6	2.1	1.4	2.8	1.3	2.0	1.3	2.6	2.1	1.7	1.2	1.6	1.1
2	2.2	1.2	1.1	1.0	1.3	0.8	1.9	1.5	2.0	1.0	1.9	1.2	2.4	1.5	2.0	1.1	1.5	1.1	2.2	1.9	2.3	1.8	1.9	1.5
3	3.4	1.1	1.3	0.6	1.3	0.7	2.2	1.9	1.8	1.2	2.1	1.5	2.4	1.4	2.1	1.7	1.5	1.2	3.5	2.7	3.0	1.4	2.3	1.5
4			1.4	0.7	1.6	1.2	2.1	1.6	1.8	1.3			1.7	1.4	2.5	1.6	1.9	1.3	3.2	2.1			1.6	1.0
Average	2.4	1.1	1.3	0.8	1.3	0.9	2.0	1.6	1.9	1.1	2.3	1.4	2.2	1.4	2.4	1.4	1.7	1.2	2.9	2.2	2.3	1.5	1.8	1.3

ARSENIC (ug/L) 1997																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	2.1	1.3	2.3	1.3	1.4	1.1	1.8	1.3	2.6	1.3	2.1	1.6	2.8	2.2	2.1	0.7	2.7	2.0	2.8	1.6	2.8	1.6	1.3	1.1
2	2.2	1.4	2.6	1.2	2.0	2.3	2.2	1.4	2.1	1.6	2.2	1.9	3.5	1.5	1.4	0.8	2.6	2.6	2.3	1.4	2.2	1.6	1.0	1.0
3	2.5	1.5	1.7	1.1	2.0	2.4	2.4	1.8	2.6	1.8	2.0	1.6	2.9	1.5	1.2	0.8	2.6	1.7	2.1	1.9	2.1	1.5	1.4	1.0
4	4.6	1.8	2.1	1.4	1.6	1.2			2.3	2.1	2.1	1.4	2.7	1.4	1.3	1.1			3.2	1.8	2.4	1.7	1.5	0.7
Average	2.8	1.5	2.2	1.3	1.7	1.8	2.1	1.5	2.4	1.7	2.1	1.6	2.9	1.6	1.5	0.8	2.6	2.1	2.6	1.6	2.4	1.6	1.3	1.0

ARSENIC (ug/L) 1998																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	1.8	1.0	2.6	1.3	2.1	1.6	2.0	1.2	1.9	0.9	1.5	0.9	1.7	1.2	2.3	1.3	2.2	1.2	2.1	1.2	1.9	1.3	3.6	1.2
2	1.8	0.8	3.3	1.3	1.9	1.2	1.8	1.1	2.2	1.2	1.3	1.1	1.9	1.2	2.4	1.5	3.2	1.3	2.2	1.0	1.5	1.2	2.1	1.6
3	1.8	0.8	2.8	2.3	1.9	1.4	1.4	0.9	1.6	0.9	1.3	1.1	1.7	1.2	2.2	1.4	2.9	1.4	2.3	1.6	2.1	1.1	1.3	0.8
4	2.8	1.1			2.1	1.0	1.4	0.8	1.4	1.1	1.8	0.7			2.4	1.4	1.9	1.2	2.0	1.1	1.8	1.1	1.4	0.7
Average	2.0	0.9	2.9	1.6	2.0	1.3	1.7	1.0	1.8	1.0	1.5	1.0	1.7	1.2	2.3	1.4	2.6	1.3	2.1	1.2	1.9	1.2	2.1	1.1

ARSENIC (ug/L) 1999																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	1.5	0.8	1.8	1.0	1.4	0.8	1.3	0.8	1.3	0.9	1.7	1.0	1.6	1.1	1.7	1.1	1.8	1.1	1.9	1.5	1.5	0.7	1.7	0.9
2	1.6	0.8	1.7	0.8	1.6	0.9	1.6	1.0	1.6	0.9	1.9	1.2	2.0	1.2	2.0	1.1	1.7	1.1	1.6	1.2	1.9	1.0	1.5	1.0
3	1.6	0.9	1.6	0.8	1.4	0.8	1.7	0.7	1.5	1.2	1.5	1.0	1.6	1.1	1.9	1.1	1.8	1.2	2.1	1.4	2.0	1.2	1.2	1.0
4			1.7	1.1	2.9	1.3	2.0	1.1			1.5	1.0	1.5	1.4	1.7	1.1	1.4	1.0	2.1	1.0			1.1	0.9
Average	1.6	0.8	1.7	0.9	2.0	1.3	1.7	0.9	1.5	1.0	1.6	1.1	1.7	1.2	1.8	1.1	1.7	1.1	1.9	1.3	1.8	1.0	1.4	0.9

ARSENIC (ug/L) 2000																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	1.4	0.6	1.6	0.9	1.1	1.2	1.5	0.8	2.1	<0.2	0.3	<0.2	1.2	0.7	1.2	0.9	1.2	1.0	1.3	1.1	1.6	0.9	1.0	0.4
2	1.5	0.7	1.4	1.0	1.2	0.8	1.5	0.9	1.5	<0.2	1.4	1.1	1.5	0.8	1.1	1.0	1.3	1.0	1.3	0.8	1.2	1.1	1.2	0.7
3	1.3	0.8	1.5	1.1	0.9	0.7	1.4	0.9	2.3	0.2	1.1	0.9	1.3	0.8	1.0	0.7	0.8	0.7	1.4	1.0	1.3	0.9	1.0	0.7
4	1.2	0.7	1.4	0.8	1.1	0.6			0.2	0.7	1.5	0.8	1.3	1.2	2.2	1.4			1.5	1.1	0.9	0.8	1.2	0.9
Average	1.3	0.8	1.5	0.9	1.1	0.8	1.5	0.9	1.5	0.2	1.1	0.7	1.3	0.9	1.8	1.1	1.1	0.9	1.4	1.0	1.2	0.9	1.1	0.7

ARSENIC (ug/L) 2001																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	1.1	0.7	1.3	0.8	1.3	1.0	0.9	<0.2	1.2	0.8	4.3	1.0	1.2	0.7	1.6	1.1	1.6	1.1	2.0	0.9	1.0	1.1	1.7	0.9
2	1.5	0.8	1.5	0.9	0.7	1.0	0.7	0.5	1.2	1.0	1.1	0.7	1.1	0.7	1.4	0.9	0.7	1.2	1.0	0.3	1.7	1.1	1.3	0.6
3	0.8	0.6	0.9	0.6	1.1	<0.2	1.1	0.6	1.0	1.0	1.4	1.0	1.3	0.9	1.6	1.1	1.4	0.8	1.1	1.0	1.8	1.1	1.1	0.8
4	1.4	1.0			0.6	0.4	0.8	0.4	1.2	0.8	1.4	1.0			1.5	1.1	0.6	0.2	1.5	1.1	1.5	0.9	1.4	0.8
Average	1.2	0.8	1.2	0.8	0.9	0.6	0.9	0.4	1.1	0.9	2.1	0.9	1.2	0.8	1.5	1.1	1.1	0.8	1.4	0.8	1.5	1.0	1.3	0.8

CADMIUM (ug/L) 1996																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	1.9	<1.0	<1.0	<1.0	<1.0	<1.0	4.3	1.9	1.6	4.0	1.2	<1.0	<1.0	<1.0	<1.0	
2	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	1.1	1.3	2.7	3.2	1.4	<1.0	<1.0	<1.0	
3	<1.0	<1.0	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	1.7	<1.0	<1.0	<1.0	<1.0	1.2	3.1	2.6	<1.0	6.1	3.6	<1.0	<1.0	<1.0	
4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	1.2	<1.0	<1.0	<1.0	1.1	<1.0	1.1	3.8	1.5	4.4	6.1	<1.0	<1.0	<1.0	
Average	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	2.4	1.5	4.4	3.1	<1.0	<1.0	<1.0	

CADMIUM (ug/L) 1997																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	1.2	<1.0	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	
2	<1.0	<1.0	3.0	<1.0	1.1	1.5	1.9	<1.0	<1.0	<1.0	1.7	1.0	<1.0	1.5	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
3	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	
4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	
Average	<1.0	<1.0	1.1	<1.0	0.3	<1.0	<1.0	<1.0	0.3	0.3	0.9	0.3	<1.0	0.4	<1.0	<1.0	0.4	<1.0	<1.0	<1.0	0.4	<1.0	<1.0	

CADMIUM (ug/L) 1998																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	
2	<1.0	<1.0	<1.0	<1.0	2.1	1.6	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	
3	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	1.4	<1.0	<1.0	<1.0	<1.0	2.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
4	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Average	<1.0	<1.0	<1.0	<1.0	1.2	0.4	<1.0	<1.0	<1.0	<1.0	1.5	0.4	<1.0	<1.0	<1.0	<1.0	1.6	0.9	<1.0	<1.0	<1.0	<1.0	<1.0	

CADMIUM (ug/L) 1999																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Average	<1.0	<1.0	<1.0	<1.0	0.3	<1.0	0.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.3	0.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	

CADMIUM (ug/L) 2000																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	1.0	1.1	1.7	<1.0	1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	1.3	<1.0	1.6	<1.0	<1.0	<1.0	
2	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	1.5	<1.0	<1.0	1.7	<1.0	1.4	<1.0	<1.0	
3	1.2	<1.0	1.0	<1.0	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	1.4	<1.0	1.3	<1.0	<1.0	<1.0	1.2	<1.0	2.8	
4	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	14.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	
Average	1.3	0.3	0.7	<1.0	0.8	<1.0	<1.0	<1.0	<1.0	<1.0	3.7	<1.0	<1.0	0.4	0.7	0.4	0.4	0.5	0.8	0.4	<1.0	<1.0	0.7	

CADMIUM (ug/L) 2001																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
2	<1.0	<1.0	2.8	<1.0	<1.0	2.2	1.3	<1.0	2.8	<1.0	2.2	<1.0	<1.0	<1.0	2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
3	<1.0	2.5	2.6	<1.0	<1.0	<1.0	<1.0	<1.0	3.7	2.8	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
4	<1.0	<1.0	<1.0	<1.0	<1.0	2.3	1.4	<1.0	2.5	<1.0	1.8	1.3	<1.0	<1.0	2.8	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	
Average	<1.0	0.6	1.8	<1.0	<1.0	1.10	0.7	<1.0	2.6	0.7	1.0	0.3	<1.0	<1.0	1.6	0.3	<1.0	<1.0	<1.0	<1.0	<1.0	0.4	<1.0	

CHROMIUM (ug/L) 1996																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	<5	<5	11	<5	7	<5	8	<5	9	<5	14	<5	12	7	<5	<5	9	<5	<5	<5	6	<5	<5	<5
2	<5	<5	7	<5	<5	<5	6	<5	6	<5	<5	<5	11	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5
3	8	<5	8	<5	<5	<5	8	<5	<5	<5	7	<5	13	<5	<5	<5	<5	<5	<5	<5	7	<5	<5	<5
4			<5	<5	<5	<5	11	<5	9	<5			11	7	<5	<5	8	<5	10	<5			<5	<5
Average	<5	<5	6	<5	<5	<5	8	<5	6	<5	7	<5	12	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

CHROMIUM (ug/L) 1997																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	<5	<5	10	<5	10	<5	<5	<5	7	<5	7	<5	12	<5	<5	<5	<5	<5	10	<5	21	6	11	<5
2	8	6	16	<5	13	<5	<5	<5	<5	<5	12	<5	8	<5	<5	<5	5	<5	9	<5	7	<5	10	<5
3	9	<5	12	<5	7	<5	<5	<5	7	<5	12	<5	<5	<5	<5	<5	<5	<5	11	<5	7	<5	12	<5
4	8	<5	10	<5	<5	<5			<5	<5	10	<5	10	<5	<5	<5			26	<5	18	<5	5	<5
Average	6	2	12	<5	8	<5	<5	<5	6	<5	10	<5	7	<5	<5	<5	2	<5	14	<5	13	2	10	<5

CHROMIUM (ug/L) 1998																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	9	<5	7	<5	7	<5	<5	<5	58	<5	<5	<5	13	<5	<5	<5	16	<5	7	<5	12	<5	13	<5
2	14	<5	10	<5	<5	9	<5	<5	6	<5	<5	<5	13	<5	8	<5	12	<5	<5	<5	11	<5	10	<5
3	11	<5	9	9	10	8	<5	<5	<5	<5	<5	<5	14	<5	14	<5	12	<5	9	<5	15	<5	14	<5
4	15	<5			11	<5	<5	<5	<5	<5	<5	<5			12	<5	14	5	12	<5	9	<5	8	<5
Average	12	<5	9	3	7	4	<5	<5	16	<5	<5	<5	13	<5	9	<5	14	1	7	<5	11	<5	11	<5

CHROMIUM (ug/L) 1999																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	65	<5	8	<5	18	<5	<5	<5	<5	<5	8	<5	7	<5	10	6	<5	<5	<5	<5	<5	<5	<5	<5
2	13	<5	17	<5	9	6	<5	<5	<5	<5	12	<5	<5	<5	14	<5	8	8	<5	<5	<5	<5	7	<5
3	10	<5	12	<5	13	<5	<5	<5	8	<5	11	<5	5	<5	9	<5	<5	<5	<5	<5	<5	<5	7	<5
4			9	<5	10	<5	<5	<5	<5	<5	6	<5	<5	<5	14	7	<5	<5	<5	<5	<5	<5	7	<5
Average	29	<5	11	<5	13	2	<5	<5	3	<5	9	<5	3	<5	12	3	2	2	<5	<5	<5	<5	5	<5

CHROMIUM (ug/L) 2000																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	6	<5	<5	<5	<5	<5	14	<5	11	<5	12	<5	<5	<5	6	<5	8	<5	7	<5	6	<5	15	<5
2	8	<5	<5	<5	<5	<5	7	<5	9	<5	7	<5	<5	<5	<5	<5	11	<5	13	<5	9	<5	16	<5
3	10	<5	8	<5	<5	<5	7	<5	9	<5	8	<5	<5	30	9	<5	11	<5	7	<5	<5	<5	16	9
4	<5	<5	<5	<5	<5	<5			13	<5	10	<5	<5	<5	7	<5			<5	<5	<5	<5	17	7
Average	6	<5	2	<5	<5	<5	9	<5	10	<5	9	<5	<5	7	6	<5	10	<5	7	<5	<5	<5	16	4

CHROMIUM (ug/L) 2001																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	15	32	16	12	<5	<5	<5	<5	11	<5	8	<5	<5	<5	5	<5	14	<5	8	<5	15	<5	<5	<5
2	9	9	<5	<5	9	<5	<5	<5	<5	<5	11	<5	12	<5	6	<5	7	<5	<5	<5	<5	<5	<5	<5
3	<5	8	<5	<5	7	<5	<5	<5	11	<5	9	<5	11	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5
4	16	21			11	6	<5	<5	6	<5	<5	6			<5	<5	6	<5	8	<5	<5	<5	<5	<5
Average	11	18	5	4	7	2	<5	<5	7	<5	7	1	8	<5	3	<5	7	<5	<5	<5	4	<5	<5	<5

COPPER (ug/L) 1996																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	73	28	107	70	80	27	82	59	88	29	81	59	100	69	78	31	92	89	67	79	88	71	35	70
2	134	80	123	26	90	24	81	53	106	30	76	55	98	27	55	31	75	51	83	91	74	21	123	42
3	91	26	99	NA	110	29	60	37	111	40	100	44	105	24	52	23	78	53	94	80	86	26	59	32
4			91	40	120	23	102	29	93	42			100	24	87	66	117	58	99	22			38	17
Average	99	45	105	34	100	26	81	45	100	35	86	53	101	36	68	38	91	63	86	68	83	39	64	40

COPPER (ug/L) 1997																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	2	60	95	49	69	27	121	69	166	108	169	115	139	72	166	123	100	145	89	37	87	54	165	306
2	73	33	117	67	77	26	128	79	207	68	127	64	115	83	123	99	92	39	76	60	117	53	118	103
3	67	26	102	48	69	39	113	45	151	21	135	80	116	52	65	54	93	64	87	87	61	43	135	95
4	79	48	112	46	131	28			108	45	166	234	104	63	64	151			94	29	130	59	124	100
Average	55	42	107	53	87	30	121	64	158	61	149	123	119	68	105	107	95	83	87	53	99	52	136	151

COPPER (ug/L) 1998																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	97	198	99	31	75	48	74	56	192	51	88	46	122	62	96	82	132	48	81	58	121	49	107	68
2	117	66	129	36	165	40	111	38	85	18	76	40	123	57	93	69	108	58	87	45	114	41	116	44
3	159	59	126	63	98	49	101	96	131	27	100	30	94	35	137	48	150	55	111	29	95	30	127	74
4	114	28			103	49	89	70	92	43	142	222			113	32	129	29	104	16	83	29	113	21
Average	122	88	118	43	110	47	94	65	125	35	102	85	113	51	110	58	130	48	96	37	103	37	116	52

COPPER (ug/L) 1999																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	96	60	97	98	159	75	117	46	149	55	103	72	133	64	99	44	118	45	108	75	136	73	93	31
2	119	88	110	40	156	43	88	40	133	45	129	70	133	159	143	24	169	60	104	72	137	53	116	120
3	90	29	91	65	121	40	112	70	246	124	178	45	167	58	107	117	116	34	130	33	142	46	97	31
4			120	66	106	37	82	46			119	33	128	56	96	38	235	155	131	115			112	68
Average	102	59	105	67	136	49	100	51	176	75	132	55	140	84	111	56	160	74	118	74	138	57	105	63

COPPER (ug/L) 2000																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	150	49	158	58	206	47	88	32	215	45	203	95	156	199	156	52	280	74	137	60	209	106	167	155
2	153	60	125	51	154	72	185	29	219	59	139	133	73	213	191	133	192	56	291	66	215	150	135	67
3	115	47	157	73	164	56	198	93	131	41	147	53	210	366	162	48	133	39	217	149	137	83	204	58
4	127	75	107	57	180	79			169	120	250	52	197	98	174	66			201	85	188	147	157	51
Average	136	58	137	60	176	64	157	51	184	66	185	83	159	219	171	75	202	56	212	90	187	122	166	83

COPPER (ug/L) 2001																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	193	114	185	98	174	121	223	99	152	63	165	226	160	90	185	79	253	73	329	63	129	26	196	84
2	202	141	158	205	162	61	168	90	178	177	268	69	164	68	327	185	138	70	234	121	169	110	181	81
3	194	93	197	157	204	127	177	84	192	163	207	95	178	159	323	174	274	149	122	256	109	94	198	91
4	186	112			165	92	185	88	270	102	131	88			157	141	197	176	218	91	162	109	185	85
Average	194	115	180	153	176	100	188	90	198	126	193	120	167	106	248	145	216	117	226	133	142	85	190	85

NICKEL (ug/L) 1996																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	<14	<14	17	20	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	
2	<14	<14	<14	<14	<14	<14	<14	<14	16	15	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	
3	<14	<14	32	23	<14	<14	<14	<14	18	17	<14	<14	17	<14	<14	<14	<14	<14	30	<14	<14	<14	17	
4	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	16	<14	<14	<14	<14	<14	19	<14	<14	<14	<14	
Average	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	

NICKEL (ug/L) 1997																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	<14	<14	18	<14	25	<14	<14	<14	<14	<14	<14	<14	<14	22	20	<14	<14	<14	16	17	<14	<14	<14	
2	<14	<14	20	19	18	<14	<14	<14	<14	<14	24	<14	<14	<14	23	22	28	<14	<14	18	<14	<14	18	
3	<14	<14	20	<14	<14	<14	<14	<14	<14	<14	24	<14	<14	<14	<14	<14	20	<14	<14	<14	<14	<14	<14	
4	<14	<14	<14	<14	<14	17	<14	<14	<14	<14	17	<14	<14	<14	<14	<14	32	<14	<14	<14	17	<14	<14	
Average	<14	<14	15	5	11	4	<14	<14	<14	<14	16	<14	<14	<14	11	11	<14	<14	8	9	4	4	5	

NICKEL (ug/L) 1998																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	29	20	<14	<14	29	<14	<14	<14	
2	19	<14	<14	<14	21	<14	31	<14	<14	<14	<14	<14	<14	<14	<14	26	<14	<14	<14	<14	<14	<14	<14	
3	20	<14	<14	<14	17	<14	<14	<14	18	<14	<14	<14	<14	<14	<14	<14	<14	<14	22	<14	31	<14	<14	
4	<14	<14	<14	<14	<14	<14	16	<14	14	<14	<14	<14	<14	<14	<14	20	<14	<14	17	<14	25	<14	<14	
Average	10	<14	<14	<14	10	<14	12	<14	8	<14	<14	<14	<14	<14	5	<14	14	9	6	<14	21	<14	<14	

NICKEL (ug/L) 1999																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	45	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	20	<14	<14	<14	<14	<14	<14	<14	20	<14	
2	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	16	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	
3	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	21	<14	
4	<14	<14	<14	<14	<14	<14	17	<14	<14	<14	17	<14	<14	<14	<14	<14	15	<14	<14	<14	<14	<14	29	
Average	15	<14	<14	<14	<14	<14	4	<14	<14	<14	8	<14	<14	<14	5	<14	<14	4	<14	<14	<14	<14	7	

NICKEL (ug/L) 2000																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	<14	<14	<14	<14	<14	<14	<14	19	15	<14	<14	<14	19	19	<14	<14	<14	<14	15	<14	<14	<14	<14	
2	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	16	19	31	72	<14	<14	30	<14	<14	<14	<14	
3	<14	<14	<14	<14	<14	<14	16	<14	19	24	<14	<14	<14	26	34	33	<14	<14	<14	<14	<14	<14	<14	
4	<14	<14	<14	<14	<14	16	<14	<14	19	<14	15	<14	16	<14	26	<14	<14	<14	<14	<14	<14	<14	<14	
Average	<14	<14	<14	<14	<14	4	5	6	13	6	4	<14	13	16	28	26	<14	<14	11	<14	<14	<14	<14	

NICKEL (ug/L) 2001																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	<14	22	17	<14	<14	<14	<14	17	<14	<14	<14	<14	15	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	
2	<14	15	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	29	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	
3	<14	<14	21	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	18	<14	<14	<14	<14	<14	<14	<14	
4	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	
Average	<14	9	13	<14	<14	<14	<14	4	<14	<14	<14	<14	15	<14	<14	5	<14	<14	<14	<14	<14	<14	<14	

MERCURY (ug/L) 1996																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	<0.27	<0.27	0.46	<0.27	<0.27	<0.27	0.48	<0.27	0.37	<0.27	<0.27	<0.27	0.39	<0.27	0.29	<0.27	<0.27	<0.27	<0.27	<0.27	0.32	<0.27	<0.27	

2	99	34	147	54	185	169	131	13	159	45	226	93	225	187	167	45	143	48	119	26	144	28	159	43
3	71	36	135	30	258	151	117	17	196	50	218	93	188	70	139	51	663	152	115	27	98	23	169	59
4	115	34	161	37	323	154			129	43	194	91	176	70	118	40			276	21	193	25	120	31
Average	94	36	144	51	251	161	125	17	158	45	206	92	193	125	147	58	307	86	160	29	135	24	149	46

ZINC (ug/L) 1998

		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
Week	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	
1	116	45	134	29	117	4	124	241	148	15	127	52	128	32	135	40	179	38	126	154	158	33	196	44	
2	174	36	147	43	168	40	132	33	132	27	131	63	127	31	124	35	327	27	157	75	155	33	148	40	
3	129	44	146	60	148	57	130	31	160	20	148	54	132	30	184	29	169	29	186	61	184	108	163	42	
4	185	32			144	50	132	33	138	104	173	60			175	30	207	31	180	56	141	46	143	60	
Average	151	39	142	44	144	38	130	85	145	42	145	57	129	31	155	34	221	31	162	87	160	55	163	47	

ZINC (ug/L) 1999

		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
Week	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	
1	140	29	107	32	154	40	112	31	140	41	159	40	182	29	176	70	307	35	162	33	118	46	132	25	
2	153	44	182	38	146	36	119	34	122	26	181	34	142	37	185	62	182	48	184	36	160	43	139	257	
3	122	31	147	30	124	33	118	36	143	34	165	45	147	36	169	47	146	54	148	38	147	68	125	56	
4			139	38	161	33	124	26			174	77	163	52	143	42	151	34	140	34			108	42	
Average	138	35	144	35	146	36	118	32	135	34	170	49	159	39	168	55	197	43	159	35	142	52	126	95	

ZINC (ug/L) 2000

		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
Week	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	
1	126	32	182	62	142	37	136	35	182	39	144	24	226	135	166	25	140	27	115	22	152	26	165	42	
2	181	33	190	69	179	33	110	26	179	33	126	23	261	150	154	21	169	25	270	23	141	27	175	31	
3	152	50	151	67	148	30	116	27	148	39	155	23	249	151	158	27	130	20	137	29	134	34	171	33	
4	150	43	175	69	147	58			154	31	170	28	222	127	144	23			129	29	117	33	171	35	
Average	152	40	175	67	154	40	121	29	166	36	149	25	240	141	156	24	146	24	163	26	136	30	171	35	

ZINC (ug/L) 2001

		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
Week	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	
1	145	28	142	34	124	36	166	29	157	41	188	66	133	25	152	29	111	20	153	26	163	30	142	29	
2	124	30	129	36	123	34	141	29	133	39	157	27	141	28	277	30	135	25	142	22	160	24	113	25	
3	122	31	138	35	109	33	225	57	160	46	154	39	143	24	269	29	158	37	132	23	124	25	102	21	
4	121	31			135	28	142	46	155	42	124	41			204	27	147	35	121	20	134	24	135	21	
Average	128	30	136	35	123	33	169	40	151	42	156	43	139	26	226	29	138	29	137	23	145	26	123	24	

AMMONIA (mg/L) 1996

		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
Week	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	
1	28.0	27.3	21.6	20.7	28.8	26.0	24.8	26.2	25.5	27.6	26.2	26.5	26.3	25.7	26.0	26.9	24.5	24.3	24.0	23.9	28.1	27.7	31.8	30.6	
2	26.0	25.5	30.4	30.3	26.0	24.3	27.0	26.5	25.9	24.2	27.9	27.5	26.3	26.0	26.7	27.1	25.4	25.2	28.0	27.7	29.6	30.3	28.5	27.6	
3	26.4	29.2	28.6	30.2	27.3	26.5	27.8	28.2	26.9	27.2	27.3	27.1	26.7	27.5	26.5	25.5	27.0	26.1	25.5	26.2	24.4	25.9	28.9	28.5	
4			25.8	24.1	28.3	27.6	28.5	30.3	26.9	27.8			25.8	27.9	23.8	24.2	24.9	24.3	23.3	24.5			28.9	27.6	
Average	26.8	27.3	26.6	26.3	27.6	26.1	27.0	27.8	26.3	26.7	27.1	27.0	26.3	26.8	25.8	25.9	25.5	25.0	25.2	25.6	27.4	28.0	29.5	28.6	

AMMONIA (mg/L) 1997

		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
Week	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	
1	29.3	28.2	29.9	29.7	30.5	29.1			28.5	28.3	28.5	27.1	27.9	27.4	26.0	24.5			22.6	20.8	24.4	24.0	24.7	24.3	
2	30.2	29.0	27.5	26.6	30.3	30.2	31.5	30.3	30.0	31.1	27.1	26.0	26.6	29.2	30.9	27.0	23.5	20.9	23.3	22.8	24.4	24.7	25.3	25.3	
3	28.0	27.6	27.8	26.3	28.8	29.4	30.5	29.7	26.7	27.1	31.5	30.3	23.6	22.9	23.5	24.8	22.8	22.9	24.5	22.0	24.8	23.8	24.7	26.2	
4	18.3	19.1	30.4	29.4	31.1	29.6	30.5	30.0	27.5	27.6	27.2	26.9	30.6	30.4	24.4	24.6	22.4	22.2	26.0	26.8	25.1	25.0	25.3	24.7	
Average	26.5	26.0	28.9	28.0	30.2	29.6	30.8	30.0	28.2	28.5	28.6	27.6	27.2	27.5	26.2	25.2	22.9	22.0	24.1	23.1	24.7	24.4	25.0	25.1	

AMMONIA (mg/L) 1998

Table with 23 columns (Week, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC) and 5 rows (Week 1-4, Average). Columns are split by month with 'Inf' and 'Eff' sub-headers. Data ranges from 23.5 to 27.3.

AMMONIA (mg/L) 1999

Table with 23 columns (Week, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC) and 5 rows (Week 1-4, Average). Columns are split by month with 'Inf' and 'Eff' sub-headers. Data ranges from 27.7 to 31.4.

AMMONIA (mg/L) 2000

Table with 23 columns (Week, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC) and 5 rows (Week 1-4, Average). Columns are split by month with 'Inf' and 'Eff' sub-headers. Data ranges from 27.0 to 29.9.

AMMONIA (mg/L) 2001

Table with 23 columns (Week, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC) and 5 rows (Week 1-4, Average). Columns are split by month with 'Inf' and 'Eff' sub-headers. Data ranges from 24.4 to 31.5.

CYANIDE (mg/L) 1996

Table with 23 columns (Week, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC) and 5 rows (Week 1-4, Average). Columns are split by month with 'Inf' and 'Eff' sub-headers. Data ranges from <0.002 to 0.012.

CYANIDE (mg/L) 1997

Table with 23 columns (Week, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC) and 5 rows (Week 1-4, Average). Columns are split by month with 'Inf' and 'Eff' sub-headers. Data ranges from <0.002 to 0.012.

CYANIDE (mg/L) 1998

Table with 23 columns (Week, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC) and 1 row (Average). Columns are split by month with 'Inf' and 'Eff' sub-headers.

1	0.003	0.004	0.002	<0.002	0.003	0.004	0.008	0.009	0.004	0.004	0.004	0.012	0.003	0.007	0.007	0.008	0.003	0.003	0.004	0.010	0.004	0.004	0.004	0.004
2	0.003	0.005	0.003	0.003	0.004	0.004	0.002	0.003	0.005	0.005	0.004	0.007	0.004	0.004	0.009	0.006	0.003	0.002	0.004	0.003	0.009	0.006	0.005	0.005
3	0.005	0.003	0.002	0.003	0.007	0.013	0.002	<0.002	0.004	0.005	0.004	0.003	0.004	0.004	0.004	0.009	0.026	0.018	0.010	0.008	0.004	0.003	0.005	0.005
4	0.004	0.004			0.008	0.009	0.003	0.002	0.005	0.008	0.006	0.004			0.005	0.004	0.006	0.009	0.004	0.004	0.003	0.003	0.004	0.006
Average	0.004	0.004	0.002	0.002	0.006	0.007	0.004	0.004	0.005	0.005	0.005	0.006	0.004	0.005	0.006	0.007	0.010	0.008	0.006	0.006	0.005	0.004	0.005	0.005

CYANIDE (mg/L) 1999

Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	0.004	0.009	0.004	0.006	0.005	0.005	0.003	0.003	0.004	0.003	0.003	0.004	0.003	0.007	0.004	0.004	<0.002	<0.002	0.013	0.014	0.003	0.010	0.003	0.004
2	0.003	0.007	0.005	0.007	0.008	0.011	0.003	0.003	0.003	0.003	0.004	0.004	0.003	<0.002	0.004	0.004	0.004	0.004	0.005	0.004	0.004	0.006	0.005	0.004
3	0.003	0.007	0.004	0.005	0.002	0.003	0.003	0.005	0.003	0.004	0.006	0.007	0.004	0.004	<0.002	0.005	0.004	0.001	0.004	0.004	0.003	0.005	0.006	0.007
4			0.005	0.007	0.003	0.002	0.007	0.005			0.019	0.017	0.005	0.003	<0.002	<0.002	0.008	0.006	0.003	0.003			0.004	0.003
Average	0.003	0.008	0.005	0.006	0.005	0.005	0.004	0.004	0.003	0.003	0.008	0.008	0.004	0.003	0.002	0.003	0.004	0.003	0.006	0.006	0.003	0.007	0.005	0.005

CYANIDE (mg/L) 2000

Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	0.006	0.005	0.004	0.003	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.005	0.006	0.004	0.004	0.004	0.003	0.013	0.014	0.004	0.003	0.002	0.003
2	0.004	0.004	0.007	0.006	0.004	0.003	0.004	0.003	0.005	0.004	0.004	0.004	0.002	0.003	0.003	0.003	0.005	0.003	0.005	0.004	0.004	0.004	0.003	0.003
3	0.003	0.003	0.003	0.013	0.005	0.004	0.004	0.003	0.003	0.005	0.003	0.006	0.003	0.003	0.004	0.003	0.003	0.003	0.004	0.004	0.004	0.003	0.007	0.006
4	0.004	0.003	0.004	0.003	0.005	0.005			0.003	0.002	0.004	0.006	0.039	0.003	0.002	0.003			0.003	0.003	0.003	0.003	0.003	0.003
Average	0.004	0.004	0.005	0.006	0.005	0.004	0.004	0.003	0.004	0.004	0.004	0.005	0.012	0.004	0.003	0.003	0.004	0.003	0.006	0.006	0.004	0.003	0.004	0.005

CYANIDE (mg/L) 2001

Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	0.005	0.005	0.006	0.006	0.006	0.005	0.003	0.004	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.003	<0.002	0.002	<0.002	0.003	0.003	0.004	0.003
2	0.004	0.004	0.004	0.003	0.003	0.004	0.004	0.004	0.002	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.003	0.003	<0.002	<0.002	0.003	0.003	0.004	0.003
3	0.003	0.003	0.006	0.006	0.004	0.004	0.002	0.003	0.007	0.009	0.003	0.003	0.003	0.003	<0.002	<0.002	<0.002	0.002	0.003	0.003	0.003	0.003	<0.002	<0.002
4	0.003	0.003			0.004	0.003	0.002	0.003	0.002	0.003	0.004	0.003			<0.002	<0.002	<0.002	0.002	<0.002	<0.002	0.003	0.003	<0.002	<0.002
Average	0.004	0.004	0.005	0.005	0.004	0.004	0.003	0.004	0.003	0.005	0.003	0.003	0.003	0.003	0.002	0.003	0.003	0.002	0.001	0.003	0.003	0.003	0.002	0.002

EFFLUENT RADIATION (pCi/L) 1996																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta
1	0.6	23.9	0.3	20.3							1.6	32.8					1.1	27.8	0.8	26.3				
2					1.9	26.7	0.4	29.2					0.6	35.7	1.1	20.7	1.5	28.8			1.7	33.1	0.6	33.7
3																								
4									1.5	37.6														
Average	0.6	23.9	0.3	20.3	1.9	26.7	0.4	29.2	1.5	37.6	1.6	32.8	0.6	35.7	1.1	20.7	1.3	28.3	0.8	26.3	1.7	33.1	0.6	33.7

EFFLUENT RADIATION (pCi/L) 1997																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta
1																								
2	2.2	23.8	0.9	25.4	1.3	28.9	1.2	28.2	0.2	31.2	0.9	23.9	2.6	32.1	0.7	33.9	2.9	33.2	6.7	25.3	2.2	27.9	2.9	30.0
3																								
4																								
Average	2.2	23.8	0.9	25.4	1.3	28.9	1.2	28.2	0.2	31.2	0.9	23.9	2.6	32.1	0.7	33.9	2.9	33.2	6.7	25.3	2.2	27.9	2.9	30.0

EFFLUENT RADIATION (pCi/L) 1998																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta
1																								
2	2.3	33.1	1.4	23.4	1.5	21.5	2.8	19.2	3.3	48.0	4.8	28.6	2.8	32.5	3.8	21.0	0.3	33.7	1.5	16.7	1.4	26.0	1.4	27.0
3																								
4																								
Average	2.3	33.1	1.4	23.4	1.5	21.5	2.8	19.2	3.3	48.0	4.8	28.6	2.8	32.5	3.8	21.0	0.3	33.7	1.5	16.7	1.4	26.0	1.4	27.0

EFFLUENT RADIATION (pCi/L) 1999																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta
1			1.4	26.1	2.8	18.7	4.2	28.9			1.7	29.2	0.7	21.7	0.7	21.7			2.0	43.4			4.3	31.8
2	1.5	30.1							-0.2	41.5							0.3	36.7			1.0	34.0		
3																								
4																								
Average	1.5	30.1	1.4	26.1	2.8	18.7	4.2	28.9	-0.2	41.5	1.7	29.2	0.7	21.7	0.7	21.7	0.3	36.7	2.0	43.4	1.0	34.0	4.3	31.8

EFFLUENT RADIATION (pCi/L) 2000																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta
1	3.1	29.6			2.5	32.9			2.8	36.4	1.8	28.1	3.3	33.7			1.3	36.2			0.7	25.2	1.7	29.2
2			1.9	35.8			2.0	30.4							2.5	34.6								
3																			1.8	31.9				
4																								
Average	3.1	29.6	1.9	35.8	2.5	32.9	2.0	30.4	2.8	36.4	1.8	28.1	3.3	33.7	2.5	34.6	1.3	36.2	1.8	31.9	0.7	25.2	1.7	29.2

EFFLUENT RADIATION (pCi/L) 1995																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta	alpha	beta
1	0.3	28.0	2.1	37.0	2.6	30.7	1.6	26.3			0.8	31.2			0.6	31.1	1.0	37.4			1.4	29.9	2.9	29.2
2									1.7	37.2			0.9	33.4					1.8	35.3				
3																								
4																								
Average	0.3	28.0	2.1	37.0	2.6	30.7	1.6	26.3	1.7	37.2	0.8	31.2	0.9	33.4	0.6	31.1	1.0	37.4	1.8	35.3	1.4	29.9	2.9	29.2

HCH-HEXACHLOROCYCLOHEXANES (ng/L) 1996																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	79	57	73	59	41	43	49	45	81	37	67	34	56	39	70	36	93	48	29	36	42	37	31	41
2	64	57	73	67	66	59	51	47	76	44	30	27	62	42	51	38	72	49	43	34	33	36	36	23
3	76	55	66	68	63	52	45	37	54	31	53	32	85	46	51	42	76	38	73	43	38	30	50	28
4			76	58	47	45	48	45	72	39			72	44	80	44	55	41	47	40			25	27
Average	73	56	72	63	54	50	48	44	71	38	50	31	69	43	63	40	74	44	48	38	38	34	36	30

HCH-HEXACHLOROCYCLOHEXANES (ng/L) 1997																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	71	67	51	47	59	61	50	30	nd	nd	60	28	65	39	62	36	57	48	50	39	55	33	57	36
2	68	78	72	50	51	50	44	36	nd	nd	76	25	80	40	63	58	64	44	53	35	54	30	47	27
3	85	50	76	63	70	62	47	27	60	24	83	31	73	35	59	32	160	120	69	33	50	43	71	43
4	52	41	97	85	41	59			47	13	75	33	70	34	65	40			47	31	64	40	41	29
Average	69	59	74	61	55	58	47	31	27	9	74	29	72	37	62	42	94	71	55	35	56	37	54	34

HCH-HEXACHLOROCYCLOHEXANES (ng/L) 1998																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	45	30	37	26	37	29	46	24	24	34	28	32	46	48	66	33	44	26	68	27	43	24	32	27
2	61	37	45	29	39	33	28	21	32	27	53	32	45	34	55	31	42	31	53	35	49	27	32	21
3	54	39	29	25	49	27	30	26	39	42	37	36	42	37	56	30	42	25	57	25	43	29	30	21
4	47	32			46	25	42	30	36	32					54	34	45	28	50	25	31	21	34	26
Average	52	35	37	27	43	29	37	25	33	34	39	33	44	40	58	32	43	28	57	28	42	25	32	24

HCH-HEXACHLOROCYCLOHEXANES (ng/L) 1999																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	32	23	28	16	22	15	70	37	15	11	38	32	41	25	42	26	41	30	68	36	44	27	34	18
2	26	23	26	22	20	15	25	18	15	13	63	36	38	29	50	35	50	33	44	27	47	25	57	60
3	29	20	33	21	15	14	24	17	31	22	34	25	38	26	43	24	45	29	40	30	36	24	39	20
4			39	17	22	12	21	18			43	31	39	33	57	26	96	39	48	26			31	13
Average	29	22	32	19	20	14	35	23	20	15	45	31	39	28	48	28	58	33	50	30	42	25	40	28

HCH-HEXACHLOROCYCLOHEXANES (ng/L) 2000																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	46	17	27	19	16	14	31	11	44	26	57	27	41	30	36	19	37	23	56	26	24	17	73	29
2	41	25	30	18	25	19	15	11	32	34	42	22	29	17	37	19	34	17	31	20	46	27	62	nd
3	42	22	32	17	33	19	31	13	48	28	41	23	23	19	52	25	25	15	37	24	60	25	60	20
4	24	18	50	20	24	16			46	26	42	25	22	15	46	26			34	24	36	35	53	21
Average	38	21	35	19	25	17	26	12	43	29	46	24	29	20	43	22	32	18	40	24	42	26	62	18

HCH-HEXACHLOROCYCLOHEXANES (ng/L) 2001																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	51	22	37	17	26	14	51	13	38	21	NA	28	30	15	38	21	NA	18	35	18	50	15	58	19
2	0	0	32	14	NA	15	55	19	47	14	20	14	24	16	40	14	59	19	42	13	21	15	38	18
3	42	17	36	0	34	12	43	12	47	17	38	18	28	38	44	16	54	15	49	20	38	21	0	0
4	30	0			18	11	49	15	43	21	54	27			61	26	49	19	46	13	70	11	68	24
Average	31	10	35	10	26	13	50	15	44	18	37	22	27	23	46	19	41	18	43	16	45	16	41	15

DDT AND DERIVATIVES (ng/L) 1996																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	27	nd	38	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	37	nd	nd	nd	nd	nd	nd	36	nd	nd
3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	33	nd	nd	nd	27	nd	nd	nd	nd	nd	nd	nd
4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	26	nd	32	nd	nd	nd	nd	nd	nd	nd	nd	nd
Average	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	9	nd	24	nd	17	nd	7	nd	nd	nd	nd	12	nd	nd

DDT AND DERIVATIVES (ng/L) 1997																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Average	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

DDT AND DERIVATIVES (ng/L) 1998																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Average	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

DDT AND DERIVATIVES (ng/L) 1999																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	52	nd	nd	nd	nd	nd	nd	nd
4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Average	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	13	nd	nd	nd	nd	nd	nd	nd

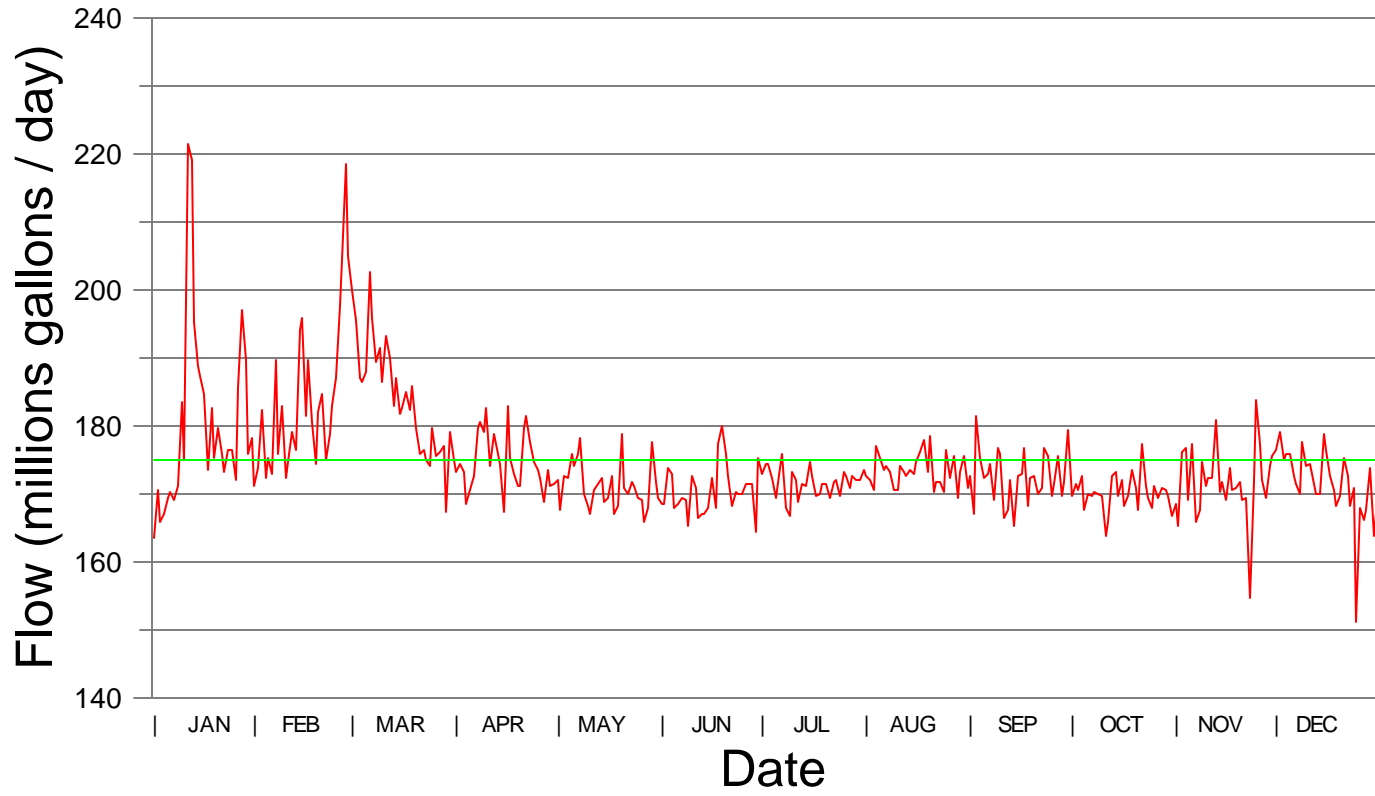
DDT AND DERIVATIVES (ng/L) 2000																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	nd	92	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
4	nd	nd	45	50	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Average	nd	23	11	13	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

DDT AND DERIVATIVES (ng/L) 2001																								
Week	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff	Inf	Eff
1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	NA	nd	nd	nd	nd	nd	NA	nd	nd	nd	nd	nd	nd	nd
2	nd	nd	nd	nd	NA	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Average	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

D. Daily Values of Selected Parameters.

Daily values of selected parameters (e.g. TSS, Flow, TSS Removals, etc.) are tabulated and presented graphically; statistical summary information is provided.

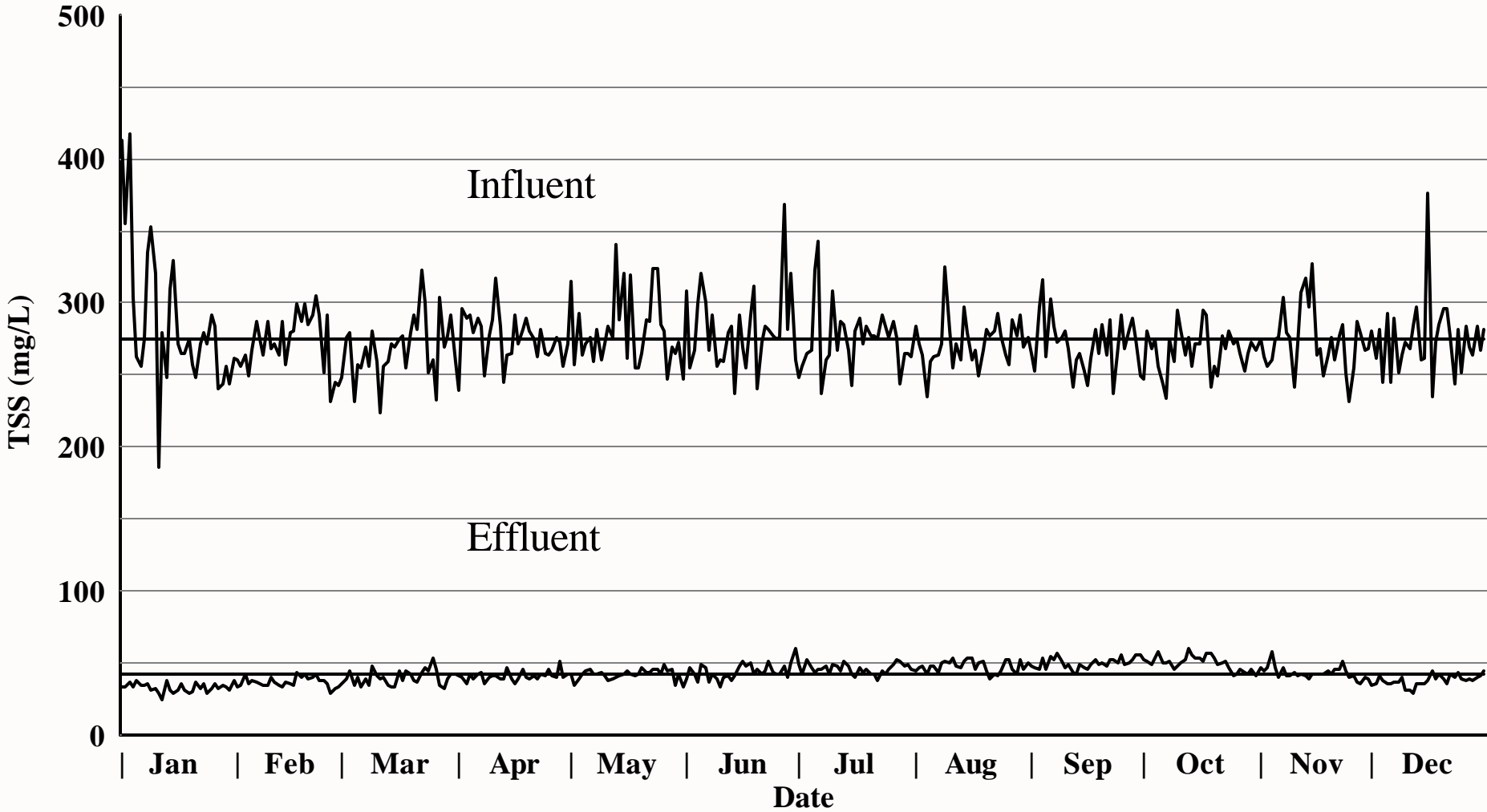
Point Loma Wastewater Treatment Plant 2001 Daily Flows (mgd)



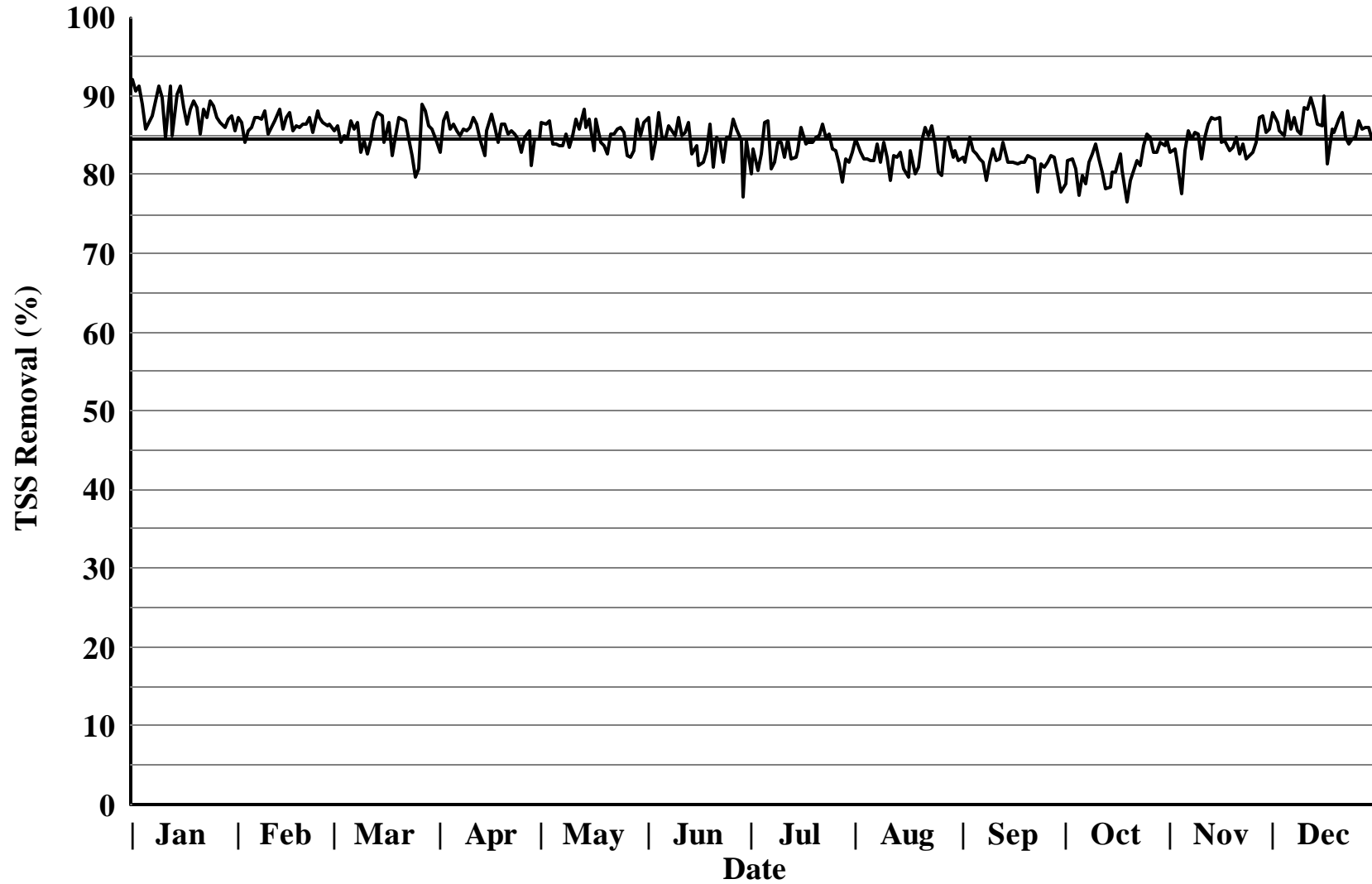
Daily Flows.

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	163.72	173.86	200.2	173.37	172.2	168.55	172.9	172.57	172.5	169.78	168.6	176.4	
2	170.7	182.36	195.7	174.44	167.6	168.46	174.5	172	167.2	171.43	165.4	179.08	
3	165.9	172.25	187.0	173.26	172.7	173.94	174.6	170.74	181.5	170.78	176.4	175.08	
4	167.1	175.33	186.5	168.69	172.3	172.86	172.4	177.11	175.2	172.56	177.0	176.08	
5	169.6	172.93	188.1	170.78	175.8	168.04	169.6	175.41	172.3	167.78	169.2	175.8	
6	170.5	189.74	202.8	172.65	174.1	168.63	173.9	173.61	173.0	169.93	177.6	172.79	
7	169.3	175.87	195.9	179.87	176.0	169.42	175.8	174.06	174.4	169.63	166.0	171.53	
8	171.2	183.1	189.6	180.75	178.2	169.15	167.9	173.41	169.2	170.37	167.7	170.22	
9	183.6	172.29	191.5	179.05	170.1	165.48	166.7	170.71	176.8	169.97	174.7	177.82	
10	175.1	174.71	186.5	182.64	168.2	172.63	173.3	170.81	175.9	169.8	171.4	174.15	
11	221.6	179.06	193.3	174.2	167.2	170.82	172.0	174.11	166.4	163.9	172.3	174.6	
12	219.3	176.62	190.2	178.91	170.7	166.58	168.8	173.31	167.7	165.94	172.3	171.6	
13	195.3	194.31	183.0	177.51	171.6	167.17	171.5	172.68	172.0	172.61	180.9	170.11	
14	188.9	196	187.1	174.53	172.3	167.15	171.3	173.68	165.4	173.18	170.5	170.12	
15	187.4	181.48	181.8	167.49	168.8	168.03	174.9	173.07	172.6	169.74	171.8	178.87	
16	184.8	189.9	182.9	182.94	169.4	172.48	172.5	174.71	172.9	172.19	169.3	176.55	
17	173.7	180.49	185.1	175.25	172.7	168.11	169.7	176.38	176.8	168.42	173.8	172.64	
18	182.7	174.58	182.5	173.08	167.2	177.53	170.1	177.9	168.2	169.87	170.6	170.76	
19	175.5	182.13	186.0	171.24	168.2	179.99	171.5	173.18	172.3	173.62	171.0	168.38	
20	179.6	184.82	179.7	171.22	178.9	175.85	171.7	178.53	172.6	171.02	171.9	169.68	
21	175.8	175.05	175.9	179.83	171.0	172.79	169.4	170.47	170.1	167.68	169.2	175.3	
22	173.4	178.93	176.4	181.65	170.1	168.2	171.7	171.82	171.1	177.31	169.4	172.63	
23	176.7	182.9	175.2	177.6	171.8	170.33	172.0	171.8	176.9	171.22	154.7	168.23	
24	176.6	186.98	174.3	174.9	171.3	169.95	169.7	170.45	175.7	169.5	171.7	171	
25	172.1	197.77	179.8	173.67	169.6	170.16	173.4	176.46	169.9	167.89	183.9	151.32	
26	185.6	204.34	175.6	172.41	169.1	171.71	172.7	172.41	171.7	171.24	177.5	167.94	
27	197.1	218.68	176.4	168.94	165.8	171.52	170.8	175.64	175.6	169.54	172.1	166.13	
28	189.8	204.97	177.2	173.45	168.1	171.49	172.6	169.5	169.7	170.92	169.4	167.55	
29	175.8		167.3	171.34	177.6	164.63	172.1	173.25	171.8	170.78	174.1	173.89	
30	178.2		179.2	171.53	171.7	175.41	172.1	175.6	179.6	169.68	175.7	163.94	Annual
31	171.4		175.1		169.4		173.7	170.9		166.9		170.7	Summary
Average	180.3	184.3	184.1	174.9	171.3	170.6	171.8	173.4	172.6	170.2	171.9	171.6	174.7
Minimum	163.7	172.3	167.3	167.5	165.8	164.6	166.7	169.5	165.4	163.9	154.7	151.3	151.3
Maximum	221.6	218.7	202.8	182.9	178.9	180.0	175.8	178.5	181.5	177.3	183.9	179.1	221.6
Total	5588	5161	5707.4	5247	5309.6	5117	5325.7	5376	5177	5275	5156	5321	63761

Point Loma Wastewater Treatment Plant 2001 Total Suspended Solids



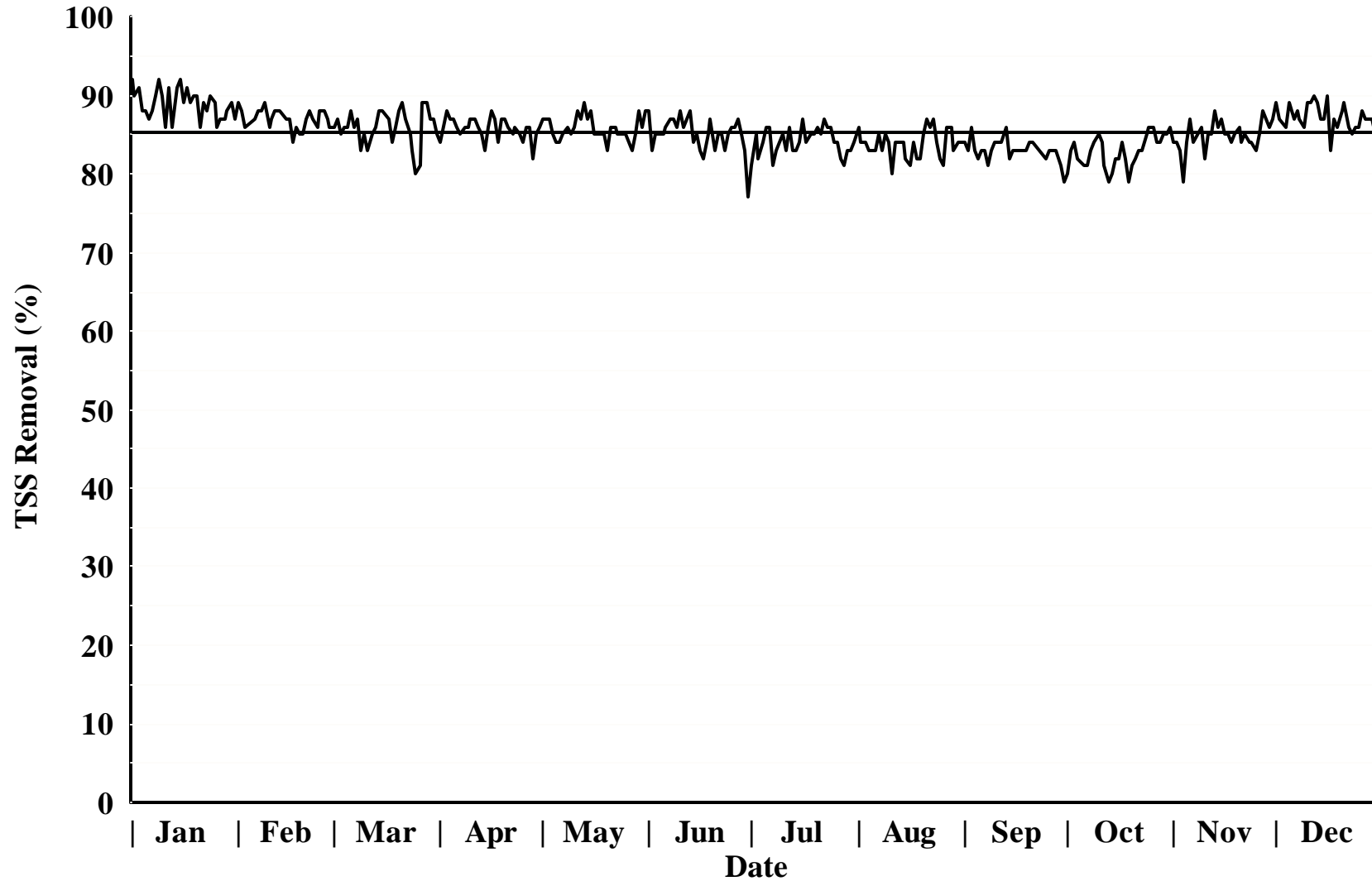
Point Loma Wastewater Treatment Plant 2001 TSS Removal (%) at Point Loma



Point Loma Wastewater Treatment Plant
2001 Total Suspended Solids Removals (%) at Pt. Loma

Day	Jan % Rem	Feb % Rem	Mar % Rem	Apr % Rem	May % Rem	Jun % Rem	Jul % Rem	Aug % Rem	Sep % Rem	Oct % Rem	Nov % Rem	Dec % Rem
1	92.0	87.3	85.6	82.8	86.7	87.4	80.2	84.5	82.2	78.9	82.9	87.8
2	90.7	86.6	86.2	86.8	86.5	82.0	83.4	82.9	81.7	81.8	83.4	86.6
3	91.3	84.0	84.1	87.8	86.9	84.2	80.5	82.1	84.8	82.0	82.0	85.6
4	89.0	85.5	85.0	85.8	83.9	87.9	82.7	82.0	83.2	80.8	77.6	84.9
5	85.7	86.0	84.7	86.4	83.8	84.7	86.7	81.8	82.6	77.3	83.0	88.0
6	86.6	87.2	86.9	85.6	83.7	84.5	86.9	81.9	82.0	79.8	85.5	85.7
7	87.5	87.2	85.7	84.9	83.7	86.3	80.7	83.9	81.7	78.8	84.6	87.4
8	89.3	87.1	86.7	85.7	85.1	85.5	81.6	81.7	79.3	81.7	85.3	85.6
9	91.4	88.0	82.9	85.6	83.5	84.9	84.1	84.2	81.7	82.7	85.2	85.1
10	89.9	85.1	84.4	86.0	84.9	87.3	84.1	82.2	83.3	83.8	82.1	88.6
11	84.7	86.5	82.6	87.2	87.0	84.9	82.3	79.3	81.9	82.1	84.8	88.4
12	91.3	86.9	84.4	86.4	85.9	85.3	84.5	82.4	82.1	80.4	86.4	89.7
13	85.0	88.4	86.9	84.5	88.3	86.7	82.1	82.3	84.1	78.2	87.3	88.2
14	90.2	85.9	87.8	82.4	86.0	82.7	82.3	82.8	81.5	78.4	87.1	86.4
15	91.3	87.3	87.6	85.5	87.0	83.7	83.0	80.8	81.7	80.3	87.2	86.3
16	88.5	87.8	84.0	87.7	83.1	81.1	86.0	79.6	81.5	80.3	84.2	90.0
17	86.5	85.5	86.7	86.0	87.0	81.5	83.8	83.2	81.3	82.6	84.4	81.4
18	88.4	86.3	82.5	84.1	84.0	83.1	84.2	80.0	81.6	80.6	83.2	85.9
19	89.4	86.1	84.9	86.4	83.7	86.4	84.0	80.9	81.5	76.6	83.5	85.3
20	88.6	86.4	87.3	86.4	82.6	81.0	84.8	84.4	82.5	79.3	84.7	87.0
21	85.2	86.5	87.1	85.1	85.2	84.7	85.0	86.0	82.2	80.6	82.6	87.8
22	88.4	87.3	86.8	85.5	85.1	84.4	86.5	84.9	82.1	81.9	83.9	84.8
23	87.4	85.4	84.5	85.1	85.9	81.7	84.7	86.2	77.9	81.2	82.1	83.9
24	89.3	88.0	82.4	84.5	86.1	84.7	85.2	83.9	81.3	83.6	82.5	84.6
25	88.8	87.4	79.7	82.8	85.3	84.7	83.4	80.4	81.0	85.1	82.9	84.8
26	87.3	86.7	80.7	84.8	82.5	87.1	83.0	79.8	81.7	84.7	84.2	86.9
27	86.7	86.2	88.9	85.5	82.3	85.8	81.3	84.3	82.5	82.9	87.2	85.7
28	86.1	86.4	88.0	81.2	83.2	84.4	79.0	84.8	82.2	82.9	87.5	86.0
29	87.0		86.3	84.6	87.0	77.1	82.0	82.3	80.0	84.2	85.3	86.1
30	87.5		85.8	84.6	84.9	84.4	81.7	83.0	77.8	83.6	85.8	84.6
31	85.6		84.1		86.6		82.9	81.9		84.6		84.3
Avg	88.3	86.6	85.2	85.3	85.1	84.3	83.3	82.6	81.7	81.3	84.3	86.2
Min	84.7	84.0	79.7	81.2	82.3	77.1	79.0	79.3	77.8	76.6	77.6	81.4
Max	92.0	88.4	88.9	87.8	88.3	87.9	86.9	86.2	84.8	85.1	87.5	90.0

**Point Loma Wastewater Treatment Plant
2001 Systemwide TSS Removal (%)
Combined Stream Sample Point**

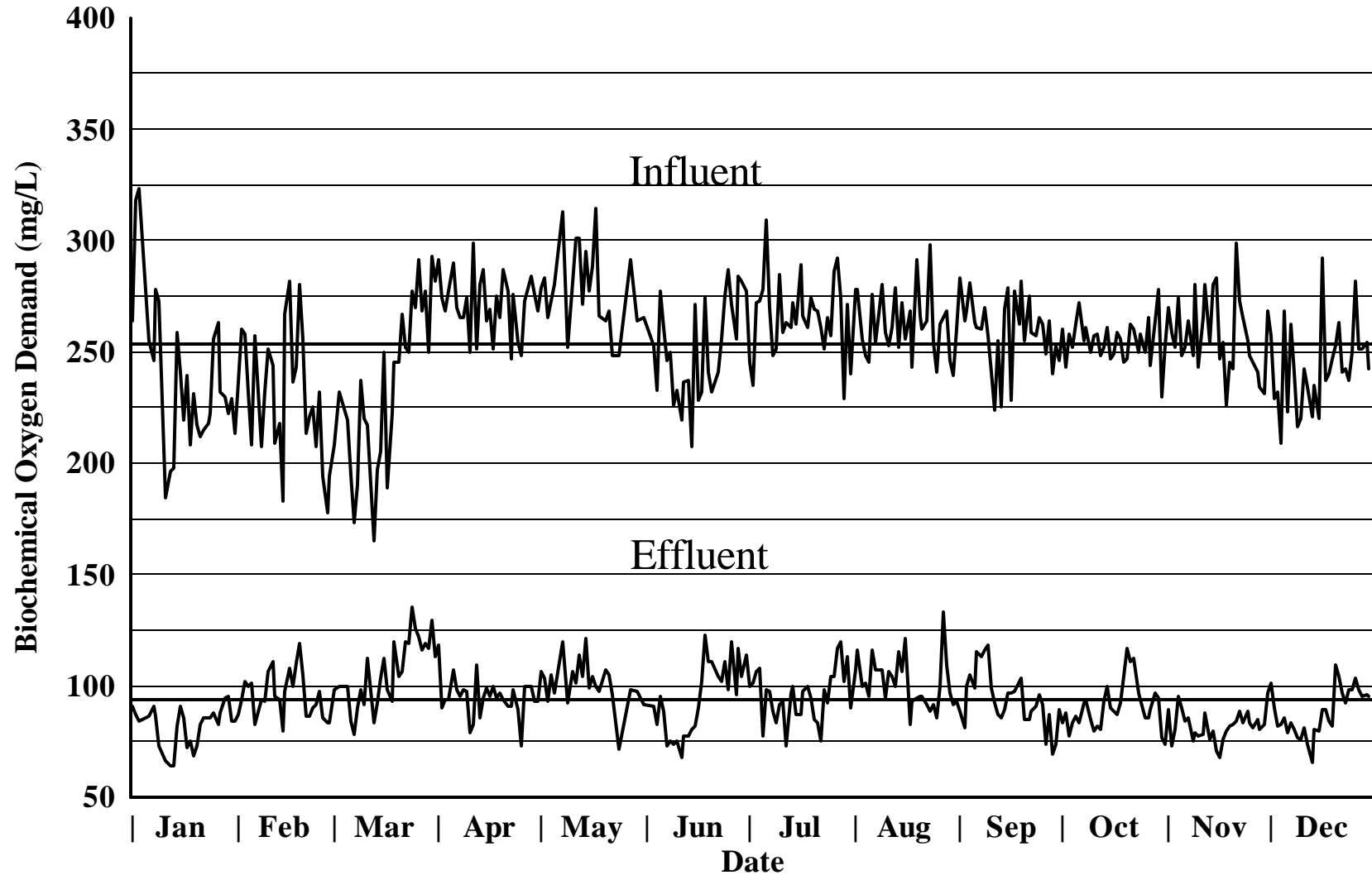


Point Loma Wastewater Treatment Plant

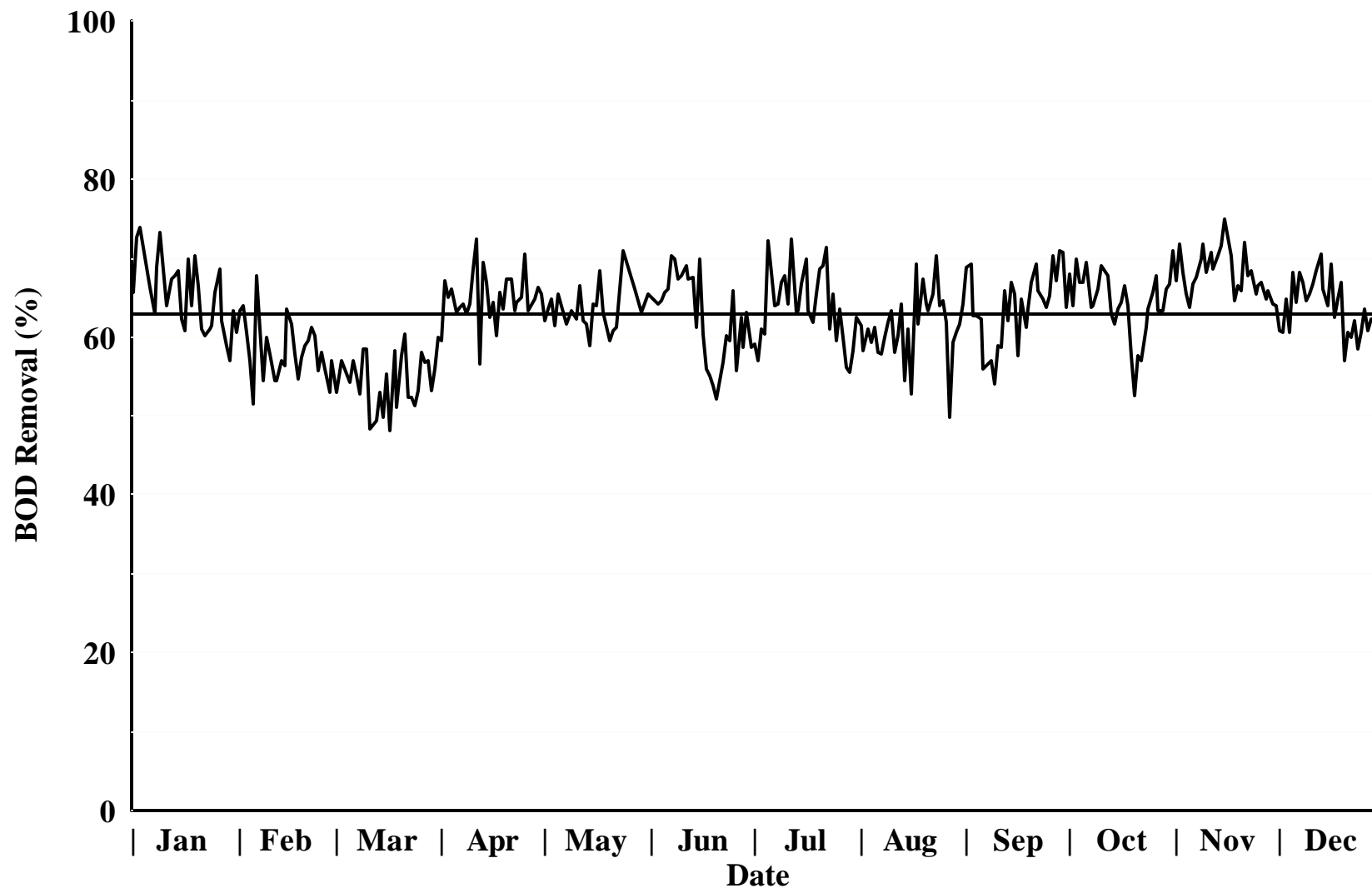
2001 Total Suspended Solids Systemwide Removals (%) Combined Stream Sample Point

Day	Jan % Rem	Feb % Rem	Mar % Rem	Apr % Rem	May % Rem	Jun % Rem	Jul % Rem	Aug % Rem	Sep % Rem	Oct % Rem	Nov % Rem	Dec % Rem
1	92.0	89.0	86.0	84.0	87.0	88.0	81.0	86.0	84.0	80.0	84.0	89.0
2	90.0	88.0	87.0		87.0	83.0	85.0	84.0	83.0	83.0	84.0	87.0
3	91.0	86.0	85.0	88.0	87.0	85.0	82.0	84.0	86.0	84.0	83.0	
4	88.0		86.0	87.0	85.0		84.0	83.0	83.0	82.0	79.0	86.0
5	88.0		86.0	87.0	84.0	85.0	86.0	83.0	82.0		84.0	89.0
6	87.0	87.0	88.0	86.0	84.0	86.0	86.0	83.0	83.0	81.0	87.0	87.0
7	88.0	88.0	86.0	85.0	85.0	87.0	81.0	85.0	83.0	81.0	84.0	88.0
8	90.0	88.0	87.0	86.0	86.0	87.0	83.0	83.0	81.0	83.0		87.0
9	92.0	89.0	83.0	86.0	85.0	86.0		85.0	83.0	84.0	86.0	86.0
10	90.0	86.0	85.0	87.0	86.0	88.0	85.0	84.0	84.0	85.0	82.0	89.0
11	86.0	87.0	83.0	87.0	88.0	86.0	83.0	80.0	84.0	84.0	85.0	89.0
12	91.0	88.0	85.0	86.0	87.0	87.0	86.0	84.0	84.0	81.0	85.0	90.0
13	86.0	88.0	86.0	85.0	89.0	88.0	83.0	84.0	86.0	79.0	88.0	89.0
14	91.0		88.0	83.0	87.0	84.0	83.0	84.0	82.0	80.0	86.0	87.0
15	92.0	87.0	88.0	86.0	88.0	85.0	84.0	82.0	83.0	82.0	87.0	87.0
16	89.0	87.0		88.0	85.0	83.0	87.0	81.0	83.0	82.0	85.0	90.0
17	91.0	84.0	87.0	87.0		82.0	84.0	84.0	83.0	84.0	85.0	83.0
18	89.0	86.0	84.0	84.0	85.0	85.0	85.0	82.0	83.0	82.0	84.0	87.0
19	90.0	85.0	86.0	87.0	85.0	87.0	85.0	82.0	83.0	79.0	85.0	86.0
20	90.0	85.0	88.0	87.0	83.0	83.0	86.0	85.0	84.0	81.0	86.0	88.0
21	86.0	87.0	89.0	86.0	86.0	85.0	85.0	87.0	84.0	82.0	84.0	89.0
22	89.0	88.0	87.0	85.0	86.0	85.0	87.0	86.0		83.0	85.0	86.0
23	88.0	87.0	85.0	86.0	85.0	83.0	86.0	87.0		83.0	84.0	85.0
24	90.0	86.0	83.0	85.0	85.0	85.0	86.0	84.0		85.0	84.0	86.0
25	89.0	88.0	80.0	84.0	85.0	86.0	84.0	82.0	82.0	86.0	83.0	86.0
26	86.0	88.0	81.0	86.0	84.0	86.0	84.0	81.0	83.0	86.0	85.0	88.0
27	87.0	87.0	89.0	86.0	83.0	87.0	82.0	86.0	83.0	84.0	88.0	87.0
28	87.0	86.0	89.0	82.0	85.0	85.0	81.0	86.0	83.0	84.0	87.0	87.0
29	88.0		87.0	85.0	88.0	83.0	83.0	83.0	81.0	85.0	86.0	87.0
30	89.0		87.0	86.0	86.0	77.0	83.0	84.0	79.0	85.0	87.0	85.0
31	87.0		85.0		88.0		84.0	84.0		86.0		85.0
Avg	88.9	87.0	85.9	85.8	85.8	85.1	84.1	83.8	83.0	82.9	84.9	87.2
Min	86.0	84.0	80.0	82.0	83.0	77.0	81.0	80.0	79.0	79.0	79.0	83.0
Max	92.0	89.0	89.0	88.0	89.0	88.0	87.0	87.0	86.0	86.0	88.0	90.0

Point Loma Wastewater Treatment Plant 2001 Biochemical Oxygen Demand



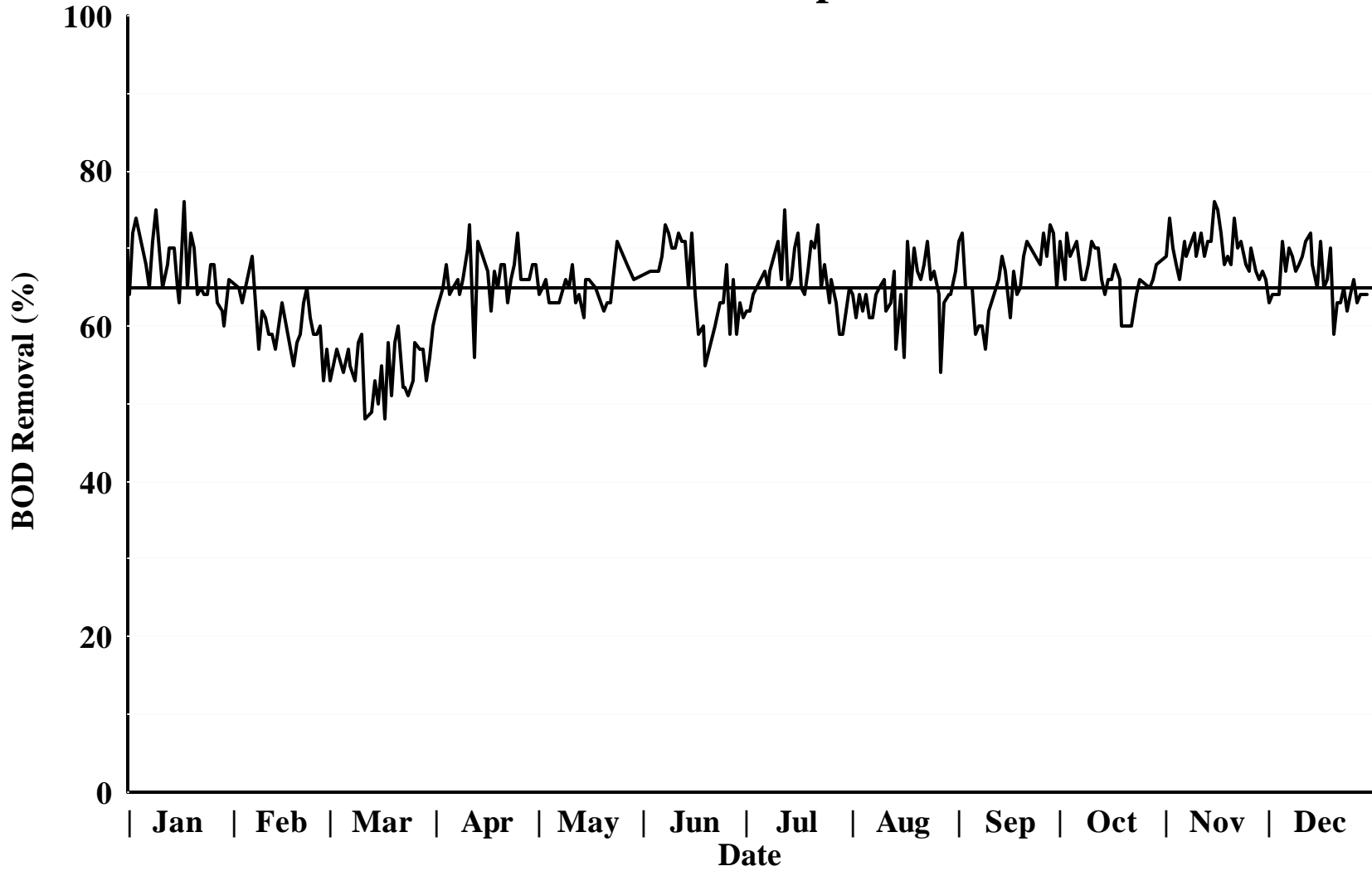
Point Loma Wastewater Treatment Plant 2001 BOD Removal (%) at Point Loma



Point Loma Wastewater Treatment Plant
2001 Biochemical Oxygen Demand Removals (%) at Pt. Loma

Day	Jan % Rem	Feb % Rem	Mar % Rem	Apr % Rem	May % Rem	Jun % Rem	Jul % Rem	Aug % Rem	Sep % Rem	Oct % Rem	Nov % Rem	Dec % Rem
1	65.6	63.3	52.9	59.5	62.0		59.2	61.5	68.8	68.0	67.1	60.7
2	72.7	64.0		67.2	63.6		57.0	58.3	69.3	64.0	71.8	60.6
3	74.0	60.5	56.9	65.0	64.8	64.3	61.0	61.0	62.7	70.0	68.2	64.8
4		56.9		66.1	61.5	64.6	60.4	59.3	62.6	66.8	65.3	60.6
5		51.4	54.3	63.1	65.3	65.6	72.1	61.1	62.2	67.0	63.7	68.2
6	66.2	67.8	57.0	63.7		66.0	68.2	58.0	55.9	69.4	66.7	64.5
7	63.0		55.0	64.2	61.7	70.2	64.0	57.9	56.5	63.8	67.5	68.2
8	68.8	54.6	52.7	63.0		70.0	64.3	59.9	57.0	63.9	69.8	66.8
9	73.2	60.0	58.4	64.3	63.3	67.4	66.8	61.8	54.1	66.0	71.8	64.6
10		57.8	58.5	68.6	62.3	67.8	67.8	63.4	58.9	69.1	68.1	65.5
11	63.9	54.5	48.4	72.5	66.4	69.1	64.1	58.1	58.8	68.3	70.6	66.6
12	67.4	54.4		56.6	62.1	67.3	72.4	60.2	65.8	67.7	68.6	68.5
13	67.8	57.0	49.4	69.5	61.6	67.5	63.1	64.3	62.1	63.0	70.3	70.5
14	68.5	56.4	53.0	67.0	59.0	61.3	63.4	54.4	66.9	61.7	71.5	66.0
15	62.3	63.6	49.8	62.4	64.3	69.8	66.7	61.0	65.4	63.6	75.0	63.9
16	60.8	61.7	55.2	64.5	63.9	60.4	69.9	52.7	57.7	64.4	72.6	69.3
17	69.9	57.8	48.1	60.2	68.3	56.0	63.3	69.2	64.8	66.5	70.2	62.4
18	63.9	54.7	58.2	65.6	63.2	55.1	61.8	61.6	61.1	64.0	64.7	64.9
19	70.2	57.5	51.0	63.6		53.9	65.4	67.4	63.5	57.6	66.5	67.0
20	66.4	59.0	57.6	67.4	59.5	52.2	68.6	64.3	66.8	52.6	65.8	56.9
21	61.0	59.5	60.3	67.3	60.8		69.1	63.3	69.3	57.6	72.0	60.5
22	60.1	61.1	52.4	63.3	61.2	56.8	71.3	65.5	65.8	56.9	67.7	60.0
23	60.9	60.1	52.4	64.5		60.2	60.9	70.3	64.8	61.2	68.5	62.0
24	61.4	55.8	51.3	65.0	71.0	59.6	65.3	63.9	63.7	63.6	65.3	58.5
25	65.6	58.0	53.3	70.5		65.8	59.5	64.6	65.2	65.7	66.5	60.6
26	68.6	56.0	58.1	63.4		55.7	63.6	61.8	70.3	67.8	66.8	63.5
27	62.0	53.0	56.7		66.1	62.5	59.9	49.8	67.1	63.4	64.8	60.7
28	58.9	57.0	57.0	64.9		58.8	56.2	59.3	71.0	63.4	65.8	62.2
29	56.9		53.2	66.3	63.2	63.1	55.5	60.6	70.7	66.0	64.2	62.1
30	63.4		56.0	65.3		58.8	58.3	61.6	63.7	66.7	64.0	60.8
31	60.6		59.9		65.4		62.5	64.2		70.8		
Avg	65.1	58.3	54.5	65.0	63.5	62.6	63.9	61.3	63.7	64.5	68.0	63.7
Min	56.9	51.4	48.1	56.6	59.0	52.2	55.5	49.8	54.1	52.6	63.7	56.9
Max	74.0	67.8	60.3	72.5	71.0	70.2	72.4	70.3	71.0	70.8	75.0	70.5

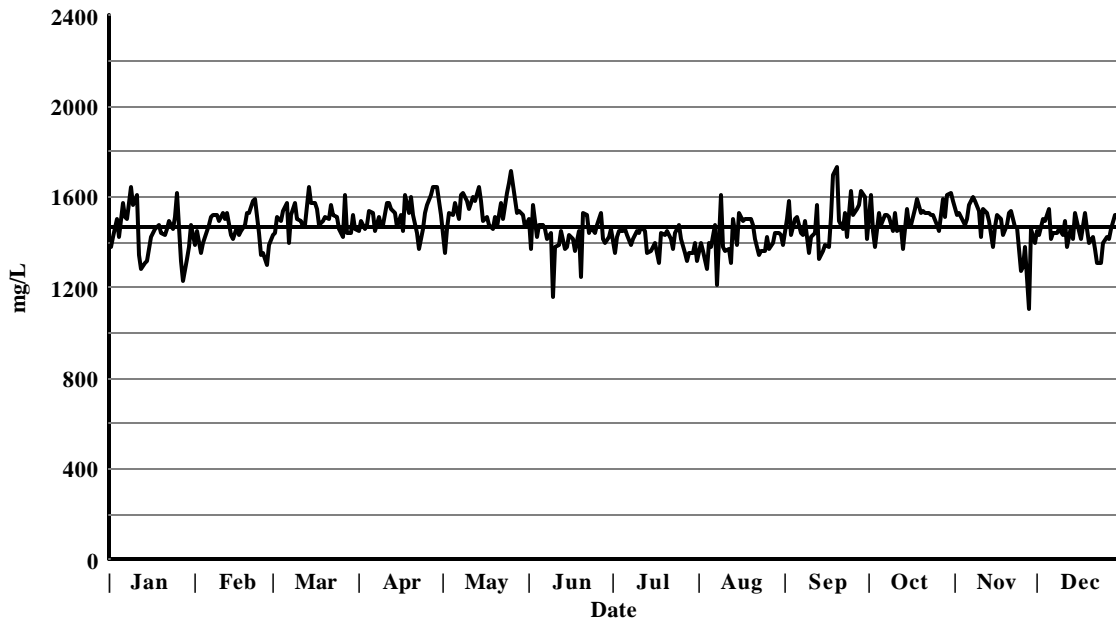
**Point Loma Wastewater Treatment Plant
2001 Systemwide BOD Removal (%)
Combined Stream Sample Point**



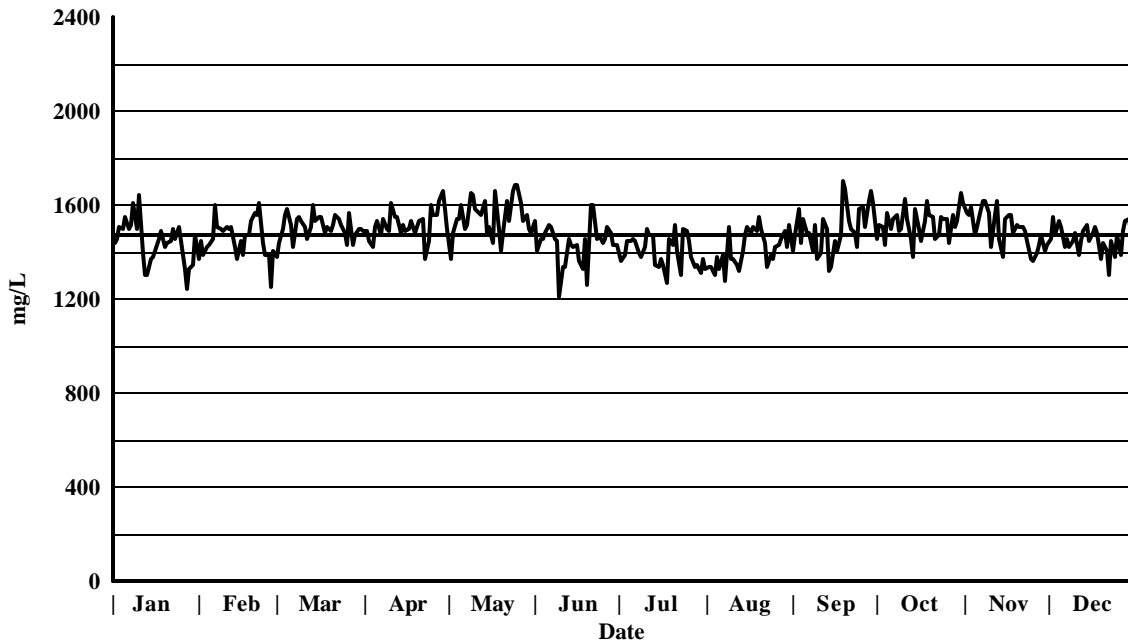
Point Loma Wastewater Treatment Plant
2001 BOD Systemwide Removals (%) Combined Stream Sample Point

Day	Jan % Rem	Feb % Rem	Mar % Rem	Apr % Rem	May % Rem	Jun % Rem	Jul % Rem	Aug % Rem	Sep % Rem	Oct % Rem	Nov % Rem	Dec % Rem
1	64.0		53.0	62.0	64.0		62.0	64.0	71.0	71.0	69.0	63.0
2	72.0	65.0			65.0		62.0	61.0	72.0	66.0	74.0	64.0
3	74.0	63.0	57.0	65.0	66.0	67.0	64.0	64.0	65.0	72.0	70.0	
4				68.0	63.0			62.0	65.0	69.0	68.0	64.0
5			54.0	64.0		67.0		64.0	65.0		66.0	71.0
6	68.0	69.0	57.0	65.0		69.0	67.0	61.0	59.0	71.0	71.0	67.0
7	65.0		55.0	66.0	63.0	73.0	65.0	61.0	60.0	66.0	69.0	70.0
8	71.0	57.0	53.0	64.0		72.0	67.0	64.0	60.0	66.0		69.0
9	75.0	62.0	58.0	66.0	66.0	70.0		65.0	57.0	68.0	72.0	67.0
10		61.0	59.0	70.0	65.0	70.0	71.0	66.0	62.0	71.0	69.0	68.0
11	65.0	59.0	48.0	73.0	68.0	72.0	66.0	62.0		70.0	72.0	69.0
12	68.0	59.0		56.0	63.0	71.0	75.0	63.0		70.0	69.0	71.0
13	70.0	57.0	49.0	71.0	64.0	71.0	65.0	67.0	66.0	66.0	71.0	72.0
14	70.0		53.0		61.0	65.0	66.0	57.0	69.0	64.0	71.0	68.0
15	65.0	63.0	50.0		66.0	72.0	70.0	64.0	67.0	66.0	76.0	65.0
16	63.0		55.0	67.0	66.0	64.0	72.0	56.0	61.0	66.0	75.0	71.0
17	76.0		48.0	62.0		59.0	65.0	71.0	67.0	68.0	72.0	65.0
18	65.0	55.0	58.0	67.0	65.0	60.0	64.0	65.0	64.0	66.0	68.0	66.0
19	72.0	58.0	51.0	65.0		55.0	67.0	70.0	65.0	60.0	69.0	70.0
20	70.0	59.0	58.0	68.0	62.0		71.0	67.0	69.0		68.0	59.0
21	64.0	63.0	60.0	68.0	63.0		70.0	66.0	71.0		74.0	63.0
22	65.0	65.0	52.0	63.0	63.0	60.0	73.0	68.0		60.0	70.0	63.0
23	64.0	61.0	52.0	66.0		63.0	65.0	71.0		64.0	71.0	65.0
24	64.0	59.0	51.0	68.0	71.0	63.0	68.0	66.0		66.0	68.0	62.0
25	68.0	59.0	53.0	72.0		68.0	63.0	67.0	68.0		67.0	64.0
26	68.0	60.0	58.0	66.0		59.0	66.0	64.0	72.0		70.0	66.0
27	63.0	53.0	57.0		68.0	66.0	63.0	54.0	69.0	65.0	67.0	63.0
28	62.0	57.0	57.0	66.0		59.0	59.0	63.0	73.0	66.0	66.0	64.0
29	60.0		53.0	68.0	66.0	63.0	59.0	64.0	72.0	68.0	67.0	64.0
30	66.0		56.0	68.0		61.0	62.0	64.0	65.0		66.0	64.0
31			60.0				65.0	67.0				
Avg	67.3	60.2	54.5	66.3	64.9	65.6	66.1	64.1	66.2	66.9	69.8	66.1
Min	60.0	53.0	48.0	56.0	61.0	55.0	59.0	54.0	57.0	60.0	66.0	59.0
Max	76.0	69.0	60.0	73.0	71.0	73.0	75.0	71.0	73.0	72.0	76.0	72.0

Point Loma Influent
2001 Total Dissolved Solids (mg/L)



Point Loma Effluent
2001 Total Dissolved Solids (mg/L)



E. Toxicity Bioassays.

Point Loma Ocean Outfall 2001 Toxicity Testing

The City of San Diego conducts aquatic bioassays as required by the City's National Pollutant Discharge Elimination System permit (No. CA0107409 and Order No. 95-106). This testing is designed to determine the acute and chronic toxicity of effluent samples collected from the Point Loma Wastewater Treatment Plant. This chapter presents summaries and discussion of toxicity testing conducted in 2001.

Toxicity testing of wastewater effluent measures the bioavailability of toxicants in a complex mixture, accounts for synergistic and antagonistic actions, and integrates any potentially adverse effects of the mixture. Acute and chronic toxicity tests are characterized by the duration of exposure to a toxicant as well as the adverse effect (measured response) produced as the result of exposure to a toxicant. Acute toxicity testing consists of a short-term exposure period, usually 96 hours or less, and the acute effect refers to mortality of the test organism.

Chronic toxicity testing, in the classic sense, refers to long-term exposure of the test organism to a potential toxicant. This may involve exposing the test organism for its entire reproductive life cycle which may exceed 12 months for organisms such as fish. In general, chronic tests are inherently more sensitive to toxicants than acute tests in that adverse effects are detected at lower toxicant concentrations. The City of San Diego is required to conduct critical, or early lifestage chronic tests that are intermediate between the acute and chronic toxicity testing protocols discussed above. These test results serve as short-term estimates of chronic toxicity.

MATERIALS & METHODS

Test Material

Twenty-four hour, flow-weighted, effluent composite samples were collected at the Point Loma Wastewater Treatment Plant and stored at 4EC until test initiation. All tests were conducted within 36 hours of sample collection. The acute toxicity test concentrations were 18, 32, 56, 75, and 100% effluent for the fathead minnow and *Ceriodaphnia* (water flea) tests, and 3.87, 7.75, 15.5, 31.0, and 62% (nominal) for the topsmelt and mysid tests. Dilution water for the effluent acute toxicity bioassays consisted of carbon filtered, aerated, and dechlorinated tap water for the fathead minnow tests, and dilute mineral water for the *Ceriodaphnia* tests. Dilution water for the acute topsmelt and mysid tests consisted of the same receiving water used in the chronic toxicity tests.

Chronic toxicity test concentrations were 0.15, 0.27, 0.49, 0.88, and 1.56% effluent. The protocols for the chronic bioassays specify the use of unimpacted receiving water as dilution water. Receiving water was collected within 24 hours of test initiation at water quality station B8 (see City of San Diego 2002). The receiving water samples were collected from a depth of 2 m and stored at 15EC until test initiation. Dilution water for chronic reference toxicant testing was obtained from the Scripps Institution of Oceanography (SIO) within 96 hours of test initiation, filtered, and held at 15EC. Detailed methodology for all toxicity testing can be found in the City of San Diego (2000).

Acute Bioassays

Fathead Minnow Survival Bioassay

Fathead minnow acute bioassays were conducted in accordance with USEPA protocol EPA/600/4-85/013 (USEPA 1985). The test organisms, *Pimephales promelas*, were purchased from Aquatic Bio Systems (Fort Collins, Colorado). Juvenile fish approximately 60-90 days old were exposed for 96 hours to the test material while being kept in a static non-renewal system where the test solutions were aerated, but otherwise left undisturbed throughout the test period.

Simultaneous reference toxicant testing was performed using sodium dodecyl sulfate (SDS). Test concentrations were 10, 18 and 32 mg/L SDS. Upon the conclusion of the exposure period, percent survival was recorded.

Tests were declared valid if control mortality did not exceed 10%. The data were analyzed using a multiple comparison procedure and linear interpolation method prescribed by USEPA (1985). ToxCalc software (Tidepool Scientific Software 1994) was used for all statistical analyses.

Ceriodaphnia Survival Bioassay

Ceriodaphnia acute bioassays were conducted in accordance with USEPA protocol EPA/600/4-90/027F (USEPA 1993). The test organisms, *Ceriodaphnia dubia*, were cultured in-house at the bioassay laboratory. Newly released (< 24 hr) neonates were exposed for 48 hours to a series of effluent and reference toxicant concentrations while being kept in a static system.

Simultaneous reference toxicant testing was performed using reagent grade copper chloride. The concentrations of copper in the exposure series were 3, 6, 12, 24 and 48 Fg/L. Upon conclusion of the exposure period, percent survival was recorded. Tests were declared valid if control mortality did not exceed 10%. The data were analyzed using a multiple comparison procedure and point estimation method prescribed by USEPA (1993). ToxCalc software (Tidepool Scientific Software 1994) was used for all statistical analyses.

Topsmelt Survival Bioassay

The topsmelt acute bioassay was conducted in accordance with USEPA protocol EPA/600/4-90/027F (USEPA 1993) by EVS Environment consultants (N. Vancouver, BC) and the City's bioassay laboratory. Larval *Atherinops affinis* (9-14 days old) were purchased from Aquatic Bio Systems (Fort Collins, CO), and were exposed for 48 hours in a static system to 3.83, 7.75, 15.5, 31.0 and 62% effluent (nominal).

Simultaneous reference toxicant testing was performed using reagent grade copper chloride. Test concentrations consisted of 56, 100, 180, 320 and 560 Fg/L copper. Dilution water for chronic reference toxicant testing was obtained from SIO within 96 hours of test initiation, filtered, and held at 15EC. Upon conclusion of the exposure period, percent survival was recorded. Tests were declared valid if control mortality did not exceed 10%. The data were analyzed using a multiple comparison procedure and point estimation method prescribed by USEPA (1993). ToxCalc software (Tidepool Scientific Software 1994) was used for all statistical analyses.

Mysid Survival Bioassay

The mysid acute bioassay was conducted in accordance with USEPA protocol EPA/600/4-90/027F (USEPA 1993) by EVS Environment consultants (N. Vancouver, BC) and the City's bioassay laboratory. Larval *Mysidopsis bahia* (4-5 days old) were purchased from Aquatic Bio Systems (Fort Collins, CO), and were exposed for 48 hours in a static system to 3.83, 7.75, 15.5, 31.0 and 62% effluent (nominal).

Simultaneous reference toxicant testing was performed using reagent grade copper chloride. Test concentrations consisted of 56, 100, 180, 320, and 560 Fg/L copper. Dilution water for chronic reference toxicant testing was obtained from SIO within 96 hours of test initiation, filtered, and held at 15EC. Upon conclusion of the exposure period, percent survival was recorded. Tests were declared valid if control mortality did not exceed 10%. The data were analyzed using a multiple comparison procedure and point estimation method prescribed by USEPA (1993). ToxCalc software (Tidepool Scientific Software 1994) was used for all statistical analyses.

Chronic Bioassays

Kelp Germination and Growth Test

Chronic bioassays using the giant kelp, *Macrocystis pyrifera*, were conducted in accordance with USEPA protocol EPA/600/R-95/136 (USEPA 1995). Kelp zoospores were kept in a static system and exposed for 48 hours to a series of effluent and reference toxicant concentrations. Zoospores were obtained one day prior to test initiation from the reproductive blades (sporophylls) of adult *Macrocystis* plants collected in the kelp beds near La Jolla, California.

Simultaneous reference toxicant testing was performed using reagent grade copper chloride. The concentrations of copper in the exposure series were 5.6, 10, 18, 32, 56, 100 and 180 Fg/L. A reference toxicant control consisting of SIO dilution water was also tested. Upon conclusion of the exposure period, percent germination and germ-tube length were recorded.

The data were analyzed in accordance with "Flowchart for statistical analysis of giant kelp, *Macrocystis pyrifera*, germination data" and "Flowchart for statistical analysis of giant kelp, *Macrocystis pyrifera*, growth data" (see USEPA 1995). ToxCalc software (Tidepool Scientific Software 1994) was used for all statistical analyses.

Red Abalone Development Bioassay

Chronic bioassays using the red abalone, *Haliotis rufescens*, were conducted in accordance with USEPA protocol EPA/600/R-95/136 (USEPA 1995). Test organisms were purchased from Cultured Abalone (Goleta, California), and shipped via overnight delivery to the City's bioassay laboratory. Mature male and female abalone were placed in natural seawater tanks at 15EC. Prior to test initiation, spawning was induced and abalone eggs and sperm were retained for the analysis. Subsequently, the eggs were fertilized, and a known quantity of fertilized embryos was added to each test replicate at the beginning of the exposure period. The resulting abalone larvae were then exposed to the test material for a period of 48 hours while being maintained in a static system.

Simultaneous reference toxicant testing was performed using reagent grade zinc sulfate. The concentrations of zinc in the exposure series were 10, 18, 32, 56 and 100 Fg/L. A reference toxicant control consisting of SIO dilution water was also tested. Upon the conclusion of the exposure period, percent normal embryo development was recorded.

The percentage of normally developed embryos for each replicate was arcsine square root transformed. The data were analyzed in accordance with "Flowchart for statistical analysis of red abalone *Haliotis rufescens*, development data" (see USEPA 1995). ToxCalc software (Tidepool Scientific Software 1994) was used for all statistical analyses.

Topsmelt Survival and Growth Bioassay

Chronic bioassays using larvae of the topsmelt, *Atherinops affinis*, were conducted in accordance with USEPA protocol EPA/600/R-95/136 (USEPA 1995). Fish larvae were purchased from Aquatic Bio Systems (Fort Collins, CO), and shipped via overnight delivery to the City's bioassay laboratory. Prior to test initiation, the test organisms were held in seawater tanks at 20EC. The bioassays were subsequently initiated when the topsmelt larvae were 9-14 days old. Larval fish were then exposed to a series of effluent and reference toxicant concentrations for a period of seven days while being maintained in a static system.

Reference toxicant testing was performed using reagent grade copper chloride. The concentrations of copper in the exposure series

were 32, 56, 100, 180 and 320 Fg/L. A separate control consisting of SIO dilution water was also tested. Upon conclusion of the exposure period, the percent survival and the percent growth (i.e., weight gain) of larval fish were recorded.

The survival data were arcsine square root transformed and then analyzed in accordance with the "Flowchart for statistical analysis of the topsmelt, *Atherinops affinis*, larval survival data" (USEPA 1995). Growth data were analyzed in accordance with the "Flowchart for statistical analysis of the topsmelt, *Atherinops affinis*, larval growth data" (USEPA 1995). ToxCalc software (Tidepool Scientific Software 1994) was used for all statistical analyses.

RESULTS & DISCUSSION

Acute Bioassays

Fathead minnows (*Pimephales promelas*) and freshwater water fleas (*Ceriodaphnia dubia*) were screened in February 2001 to verify test species sensitivity. The results demonstrated *Ceriodaphnia* to be the most sensitive test species (Table T.1). The City continued to perform toxicity test using both species, since fathead minnows had been the most sensitive test species until recent years. The toxic unit acute (TUa) values for the fathead minnows averaged 1.2 TUa and, with one exception, were within established NPDES limits throughout 2001 (Table T.2). In contrast, the *Ceriodaphnia* tests averaged 1.5 TUa for the year and exceeded the NPDES permit limits on a number of occasions, most notably in the 30-day average category (Table T.3). During calendar year 2001, the *Ceriodaphnia* acute toxicity tests were conducted on a weekly basis to better characterize the persistence and source of toxicity. The increased test frequency did not produce a discernable pattern of toxicity as the incidences of toxicity were clearly sporadic and short-lived.

As stated in the City's 2000 receiving water monitoring report (City of San Diego 2001), the State of California has revised acute testing procedures for ocean dischargers. The new California Ocean Plan (COP) requires utilization of marine species instead of freshwater species. The document was approved by the Office of Administrative Law (OAL) and the EPA in December of 2001.

The City initiated monthly testing using the new procedures and two marine species (i.e., the topsmelt, *Atherinops affinis* and mysid, *Mysidopsis bahia*) in December 2000. The average TUa value for both the topsmelt and mysid was 2.6, and the results for each test demonstrated complete compliance with the new standards (Table T.4).

Chronic Bioassays

An annual screening of three species was conducted to verify sensitivity of the selected test organisms to Point Loma effluent. Giant kelp (*Macrocystis pyrifera*), red abalone (*Haliotis rufescens*), and topsmelt (*Atherinops affinis*) were screened and the results of these comparative bioassays are summarized in Table T.1. The results indicated that giant kelp was the most sensitive to effluent from the Point Loma Wastewater Treatment Plant. However, the City has also continued to use red abalone as a routine test organism due to its ecological importance to the region. Consequently, monthly chronic bioassays on effluent samples were conducted using both kelp and abalone.

The giant kelp and red abalone chronic toxicity tests conducted during 2001 are summarized in Table T.5. These results indicated that, with one exception, all bioassays were within established NPDES permit limits throughout the year.

LITERATURE CITED

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Table T.1

Results of the annual screening bioassays conducted during February 2001 to verify the sensitivity of the selected test organisms. Data are presented as median lethal concentration (LC₅₀) for acute bioassays and as No Observed Effect Concentration (NOEC) for chronic bioassays.

Acute

Test Species	End-point determination	Test Results (LC ₅₀)
Fathead Minnow	Percent survival	79.4
<i>Ceriodaphnia dubia</i> (Water flea)	Percent survival	61.6

Chronic

Test Species	End-point determination	Test Results (NOEC)
Giant Kelp	Percent germination	0.88
	Germ-tube length	1.56
Red Abalone	Percent normal development	1.56
Topsmelt	Percent survival	1.56
	Growth	1.56

Table T.2

Results and compliance summary for the acute toxicity testing of Point Loma Wastewater Plant effluent using the fathead minnow, *Pimephales promelas*, from January to December 2001. Data are presented in toxic unit acute (TUA) values. Numbers in parentheses indicate NPDES limits.

Sample Date	Daily (2.5)	7-day average (2.0)	30-day average (1.5)
6-Jan	1.2	1.2	1.2
7-Feb	1.3	1.3	1.3
3-Mar	1.2	1.2	1.3
15-Apr	1.2	1.2	1.2
6-May	1.2	1.2	1.2
15-Jun	1.2	1.2	1.2
9-Jul	1.1	1.1	1.2
2-Aug	1.4	1.4	1.3
26-Sep	1.6	1.6	1.6
5-Oct	0.8	0.8	1.2
17-Oct	0.9	0.9	1.1
31-Oct	0.8	0.8	0.8
6-Nov	1.0	0.9	0.9
14-Nov	1.1	1.1	1.0
27-Nov	1.2	1.2	1.0
8-Dec	1.2	1.2	1.2
N	16	16	16
No. in Compliance	16	16	15

Table T.3

Results and compliance summary for the acute toxicity testing of Point Loma Wastewater Plant effluent using the water flea, *Ceriodaphnia dubia*, from January to December 2001. Data are presented in toxic unit acute (TUA) values. Numbers in parentheses indicate NPDES limits.

Sample Date	Daily (2.5)	7-day average (2.0)	30-day average (1.5)
3-Jan	1.1	1.1	1.9
6-Jan	1.4	1.3	2.0
9-Jan	1.9	1.6	2.0
17-Jan	1.5	1.5	1.9
24-Jan	1.4	1.4	1.6
30-Jan	1.8	1.6	1.5
7-Feb	1.6	1.6	1.6
12-Feb	1.9	1.8	1.6
22-Feb	1.6	1.6	1.7
26-Feb	1.7	1.7	1.7
3-Mar	1.8	1.8	1.7
13-Mar	1.4	1.4	1.6
21-Mar	1.7	1.7	1.6
28-Mar	1.6	1.7	1.6
4-Apr	1.9	1.9	1.7
11-Apr	1.8	1.8	1.7
18-Apr	1.4	1.4	1.7
25-Apr	1.2	1.2	1.6
2-May	1.6	1.6	1.6
6-May	1.2	1.4	1.5
16-May	1.3	1.3	1.3
22-May	2.7	2.0	1.6
30-May	1.2	1.2	1.6
6-Jun	1.1	1.1	1.6
15-Jun	1.3	1.3	1.6
20-Jun	1.3	1.3	1.5
27-Jun	1.4	1.4	1.3
3-Jul	1.8	1.6	1.4
9-Jul	1.7	1.8	1.5
18-Jul	1.2	1.2	1.5
24-Jul	1.3	1.3	1.5
2-Aug	2.4	2.4	1.7
8-Aug	2.4	2.4	1.8
15-Aug	1.4	1.4	1.7
22-Aug	2.4	2.4	2.0
27-Aug	1.4	1.9	2.0
5-Sep	1.2	1.2	1.8
11-Sep	1.2	1.2	1.5
19-Sep	1.3	1.3	1.5
25-Sep	1.1	1.2	1.2
5-Oct	1.0	1.0	1.2
8-Oct	1.1	1.1	1.1
17-Oct	0.7	0.7	1.0
24-Oct	1.2	1.2	1.0
31-Oct	2.2	2.2	1.2
6-Nov	1.3	1.8	1.3
14-Nov	0.9	0.9	1.3
19-Nov	1.1	1.0	1.3
27-Nov	1.0	1.0	1.3
5-Dec	1.3	1.3	1.1

Table T.3

Results and compliance summary for the acute toxicity testing of Point Loma Wastewater Plant effluent using the water flea, *Ceriodaphnia dubia*, from January to December 2001. Data are presented in toxic unit acute (TUa) values. Numbers in parentheses indicate NPDES limits.

Sample Date	Daily (2.5)	7-day average (2.0)	30-day average (1.5)
8-Dec	1.0	1.2	1.1
19-Dec	1.1	1.1	1.1
27-Dec	3.2	3.2	1.7
N	53	53	53
No. in compliance	51	48	24

Table T.4.

Results and compliance summary of acute bioassays conducted during January-December 2001 using the new California Ocean Plan approved marine species. Data are presented in toxic unit acute (TUa) values. The new California Ocean Plan compliance limit will be 6.5 TUa. All tests were conducted with B-8 receiving water as dilution unless otherwise indicated. n.t. = Not tested

Sample Date	Topsmelt 48-Hour Bioassay	Mysid 48-Hour Bioassay
17-Jan	3.0	3.7
7-Feb	2.8	6.1
3-Mar	2.6	3.4
14-Mar	3.2	2.9
4-Apr	1.7	<1.5
6-May	2.3	2.2
15-Jun	n.t.	2.1
27-Jun	3.7	n.t.
9-Jul	n.t.	1.9
18-Jul	3.2	n.t.
2-Aug	4.0	3.4
15-Aug	3.1 (2.5 with SIO dilution)	n.t.
22-Aug	2.3 (2.5 with SIO dilution)	n.t.
27-Aug	n.t. (2.4 with SIO dilution)	n.t.
11-Sep	2.1	2.1
5-Oct	<1.5	2.1
6-Nov	1.9	1.3
8-Dec	2.1	1.6
N	15	13
No. in compliance	15	13

Table T.5

Results of chronic toxicity testing of Point Loma Wastewater Plant effluent from January to December 2001. Data are presented in toxic unit chronic (TUc) values. NPDES permit limit is 205 Tuc. n.t. = Not tested. n.v. = Not valid

Sample date	Giant Kelp Bioassay		Red Abalone Bioassay
	% Germination	Germ-tube Length	% Normal Development
6-Jan	64	64	n.t.
30-Jan	n.t.	n.t.	64
7-Feb	114	64	64
3-Mar	114	204	64
1-Apr	114	64	64
6-May	64	204	64
15-Jun	64	114	n.v.
27-Jun	n.t.	n.t.	64
9-Jul	64	204	n.v.
18-Jul	n.t.	n.t.	64
2-Aug	64	204	64
11-Sep	204	64	64
5-Oct	114	64	n.v.
17-Oct	n.t.	n.t.	64
6-Nov	114	370	64
21-Nov	64	64	n.t.
8-Dec	64	64	n.v.
18-Dec	64	64	n.v.
N	14	14	11
No in compliance	14	13	11
Mean TUc	92	129	64