Jeffrey -

I pulled this file for our LA meeting last week and when I went to refile it, the whole drawer was empty. I am guessing you are doing something w/ these files.

- Jason

Appendix B. 2002-2003 Sampling Results for Ballona Creek

WEATHER CONDITION					Wet				Dry	
STATION NO.					S01	S01	S01	S01	S01	S01
STATION NAME					Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	2.3	10.7	1.8	2.9	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.005	0	0.028	0	0	0
pH	Comp	SM4500H B	0-14		8.84	7.86	7.7	7.87	8.66	8.18
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	12.7	9.3	8.64	1.3	9.67	9.91
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	80000	300000	240000	500000	5000	20
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	80000	300000	11000	140000	1500	20
Ratio Fecal Coliform/Total Coliform					1.0	1.0	0.046	0.28	0.3	1.0
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	300000	300	300000	170000	1700	20
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	300000	300	300000	110000	1700	20
General										
Chloride	Comp	EPA300.0	2	mg/L	123	38.6	20.8	80.8	110	69
Fluoride	Comp	EPA300.0	0.1	mg/L	0.34	0.23	0.39	0.53	0.46	0.7
Nitrate	Comp	EPA300.0	0.1	mg/L	3.26	6.3	3.26	0.45	7.09	1.61
Sulfate	Comp	EPA300.0	0.1	mg/L	203	46.8	21.5	97.6	173	95
Alkalinity	Comp	EPA310.1	4	mg/L	298	64	220	154	267	132
Hardness	Comp	EPA130.2	2	mg/L	530	117	110	290	420	190
COD	9i	EPA410.4	10	mg/L	44.5	52.1	176	42	21.8	51.6
TPH	Grab	EPA418.1	1	mg/L	0	1	3.6	2.2	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	1440	379	287	706	1235	669
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	898	258	202	472	810	426
Turbidity	Comp	EPA180.1	0.1	NTU	0.61	27.4	59	18.7	0.63	0.78
Total Suspended Solids	Comp	EPA160.2	2	mg/L	51	39	429	636	33	6
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	21	3	28.2	11	16	6
MBAS	Comp	EPA425.1	0.05	mg/L	0	0	0.179	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	4.92	7.79	15.2	6.11	6.43	3.54
BOD	Comp	SM5210B	2	mg/L	5.86	6.9	11.4	8.88	6.67	24.4
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.227	0	0.548	0.286	0.061	0.078
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.312	0.083	0.921	0.319	0.14	0.083
NH3-N	Comp	EPA350.3	0.1	mg/L	0.375	0	2.64	0	0	0
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.736	1.42	0.735	0.1016	1.6	0.364
Nitrite-N	Comp	SM4110B	0.03	mg/L	4.53	0.088	0.76	0.56	0	0
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	0.512	0.25	12	4.18	1.526	0.49
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	123	119	0	0	0	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.87	1.09	0.73	0.8	0.99	0
Total Antimony	Comp	EPA200.8	5	ug/l	1.87	1.15	1.19	0.89	0.99	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	2.53	0	1.14	0	2.45	1.89
Total Arsenic	Comp	EPA200.8	5	ug/l	3.42	1.8	1.32	2.68	2.45	2.19
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0.25	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0.25	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0.91	1.3	3.28	4.61	3.82	0
Total Chromium	Comp	EPA200.8	5	ug/l	2.17	12.5	3.95	7.88	13.7	1.91
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	8.76	9.44	2.56	7.26	9.14	5.5
Total Copper	Comp	EPA200.8	5	ug/l	15	15.3	11.8	8.83	14	8.25

WEATHER CONDITION					Wet				Dry	
STATION NO.					S01	S01	S01	S01	S01	S01
STATION NAME					Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	0	0	430	0	0	0
Total Iron	Comp	EPA200.8	100	ug/l	182	222	432	226	196	170
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	1.3	1.3	0	0	0
Total Lead	Comp	EPA200.8	5	ug/l	1.83	2.1	7.28	1.08	1.21	0
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	5.36	3.33	7.95	5.88	5.94	3.52
Total Nickel	Comp	EPA200.8	5	ug/l	5.36	19	8.64	6.68	23.6	4.19
Dissolved Selenium	Comp	EPA200.8	5	ug/l	6.81	0	0	0	3.08	0
Total Selenium	Comp	EPA200.8	5	ug/l	6.81	0	0	0	3.08	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	13.4	59	41	3	16.6	47
Total Zinc	Comp	EPA200.8	50	ug/l	31	78	54	41	21.2	73
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S01	S01	S01	S01	S01	S01
STATION NAME					Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.217	0	0	0.07

WEATHER CONDITION					Wet				Dry	
STATION NO.					S01	S01	S01	S01	S01	S01
STATION NAME					Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S02	S02	S02	S02	S02	S02
STATION NAME					Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	11.5	0	1.5	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0	0	0	0	0	0
pH	Comp	SM4500H B	0-14		8.5	7.85	8.43	7.9	8.69	8.11
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	7.5	9.16	9.1	2.95	8.68	10.18
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	7000	11000	7000	80000	14000	1100
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	7000	700	3000	22000	14000	80
Ratio Fecal Coliform/Total Coliform					1.0	0.064	0.43	0.275	1.0	0.073
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	33000	14000	2400	30000	300	40
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	21000	14000	2400	30000	300	40
General										
Chloride	Comp	EPA300.0	2	mg/L	102	62.2	145	76.1	179	99
Fluoride	Comp	EPA300.0	0.1	mg/L	0.3	0.12	0.24	0.24	0.19	0.3
Nitrate	Comp	EPA300.0	0.1	mg/L	4.11	4.58	15	5.89	1.4	1.3
Sulfate	Comp	EPA300.0	0.1	mg/L	723	200	755	262	1144	481
Alkalinity	Comp	EPA310.1	4	mg/L	176	123	212	169	314	286
Hardness	Comp	EPA130.2	2	mg/L	805	306	842	300	1420	700
COD	9i	EPA410.4	10	mg/L	78.1	48.8	108	37	254.5	60.8
TPH	Grab	EPA418.1	1	mg/L	0	1.5	0	1.3	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	2238	903	2475	801	1530	1984
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	1602	624	1666	556	928	1294
Turbidity	Comp	EPA180.1	0.1	NTU	1.3	88.1	25.1	200.5	0.81	0.87
Total Suspended Solids	Comp	EPA160.2	2	mg/L	654	355	62	1393	36	6
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	65	32	4.5	12	16	6
MBAS	Comp	EPA425.1	0.05	mg/L	0.102	0	0	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	21.2	7.68	8.73	9.46	7.71	7.12
BOD	Comp	SM5210B	2	mg/L	18.42	10.5	11.7	8.13	7.77	26
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.213	0.103	0.636	0.378	0.261	0.076
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.539	0.423	0.789	0.635	0.389	0.103
NH3-N	Comp	EPA350.3	0.1	mg/L	0.701	0.11	0	0	0	0.214
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.928	1.03	3.38	1.33	0.316	0.294
Nitrite-N	Comp	SM4110B	0.03	mg/L	0	0	0	0	0	0.304
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	2.06	0.394	3.66	6.92	1.525	0.56
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	3180	282	0	165	0	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.5	0.51	0	0.51	0	0
Total Antimony	Comp	EPA200.8	5	ug/l	2.78	0.54	0.52	0.62	0	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	1.8	1.06	1.84	0	2.43	0
Total Arsenic	Comp	EPA200.8	5	ug/l	5.78	1.21	1.91	1.93	2.43	0
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0.27	0.32	0	1.46	0
Total Cadmium	Comp	EPA200.8	1	ug/l	7.17	0.33	0.32	0.43	1.46	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0	1.52	1.43	3.5	3.37	0
Total Chromium	Comp	EPA200.8	5	ug/l	21.2	11.4	2.68	8.36	11.7	1.67
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	5.68	3.12	5.71	6.57	6.05	2.59
Total Copper	Comp	EPA200.8	5	ug/l	33.2	8.18	10.9	8.78	13.5	5.33

MALIBU CREEK

WEATHER CONDITION					Wet				Dry	
STATION NO.					S02	S02	S02	S02	S02	S02
STATION NAME					Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	0	284	0	0	0	0
Total Iron	Comp	EPA200.8	100	ug/l	4480	571	0	677	202	128
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Lead	Comp	EPA200.8	5	ug/l	10.9	0.72	0	0.87	1.56	0
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	19.4	5.34	11.2	9.51	1.9	5.62
Total Nickel	Comp	EPA200.8	5	ug/l	41.9	18.1	13.1	17.7	26.6	6.17
Dissolved Selenium	Comp	EPA200.8	5	ug/l	17.8	0	4.78	0	5.27	0
Total Selenium	Comp	EPA200.8	5	ug/l	17.8	0	4.98	0	5.27	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0.46	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	11.3	25	58	0	11.7	53
Total Zinc	Comp	EPA200.8	50	ug/l	94.4	41	75	29	25.3	82
Semi-Volatiles Organics (EPA 625).										
2- Chloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S02	S02	S02	S02	S02	S02
STATION NAME					Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.565	0.017	0	0.037

WEATHER CONDITION					Wet				Dry	
STATION NO.					S02	S02	S02	S02	S02	S02
STATION NAME					Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0
					0	0	0			

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S10	S10	S10	S10	S10	S10
STATION NAME					Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	4.1	11.9	1.9	1.4	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.016	0	0.0763	0	0	0.051
pH	Comp	SM4500H B	0-14		8.85	7.01	7.44	7.09	8.44	9.87
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	14.2	8.34	7.6	6.74	8.6	5.04
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	2200000	50000	900000	1300000	22000	500
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	1400000	30000	11000	800000	1100	20
Ratio Fecal Coliform/Total Coliform					0.64	0.6	0.012	0.62	0.05	0.04
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	700000	240000	230000	300000	500	700
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	170000	80000	80000	300000	500	300
General										
Chloride	Comp	EPA300.0	2	mg/L	111	6.73	10.9	13.2	121	108
Fluoride	Comp	EPA300.0	0.1	mg/L	0.48	0.11	0.24	0.15	0.49	0.6
Nitrate	Comp	EPA300.0	0.1	mg/L	29.9	2.99	3.84	2.52	1.45	3.6
Sulfate	Comp	EPA300.0	0.1	mg/L	123.8	9.42	13.8	22.6	147	124
Alkalinity	Comp	EPA310.1	4	mg/L	139	32	55	53.9	213	94
Hardness	Comp	EPA130.2	2	mg/L	210	48	52.8	76	340	230
COD	9i	EPA410.4	10	mg/L	101.9	21.8	93	34	176.3	110.5
TPH	Grab	EPA418.1	1	mg/L	1.6	0	4.3	1.5	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	996	133.2	175.1	212	1100	1146
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	572	96	108	146	732	780
Turbidity	Comp	EPA180.1	0.1	NTU	5.33	140	73.7	118.2	1.48	6.19
Total Suspended Solids	Comp	EPA160.2	2	mg/L	11	172	197	1045	105	97
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	10	20	14	10	42	44
MBAS	Comp	EPA425.1	0.05	mg/L	0.127	0	0.104	0.062	0.079	0.138
Total Organic Carbon	Comp	EPA415.1	1	mg/L	14.4	6.51	10.1	5.65	11.3	17.1
BOD	Comp	SM5210B	2	mg/L	65.86	16.2	12.2	7.6	62.9	198
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.684	0.087	0.37	0.181	0.78	0.288
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.774	0.441	0.491	0.193	0.809	0.356
NH3-N	Comp	EPA350.3	0.1	mg/L	2.34	0.184	0.373	0	1.47	3.59
Nitrate-N	Comp	SM4110B	0.5	mg/L	6.75	0.675	0.87	0.569	0.327	0.813
Nitrite-N	Comp	SM4110B	0.03	mg/L	0	0	0.63	0	0.609	1.34
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	4	0.135	3.26	12.5	1.98	3.9
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	126	118	0	185	0	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.37	1.06	1	0.71	0.69	0.76
Total Antimony	Comp	EPA200.8	5	ug/l	1.37	1.09	1.05	0.86	0.69	0.77
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	2.06	2.61	1.25	0	3.43	0
Total Arsenic	Comp	EPA200.8	5	ug/l	2.06	5.84	1.32	1.48	3.43	0
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0.27	0	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.42	0	0	0	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	2.01	0.94	3.1	6.99	3.05	1.24
Total Chromium	Comp	EPA200.8	5	ug/l	3.15	11.8	4.64	9.47	12.5	2.63
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	14.1	5.21	5.51	7.07	4.77	10.4
Total Copper	Comp	EPA200.8	5	ug/l	25.9	19	12.9	9.56	10	14

L.A. RIVER

WEATHER CONDITION					Wet				Dry	
STATION NO.					S10	S10	S10	S10	S10	S10
STATION NAME					Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	0	276	679	0	0	0
Total Iron	Comp	EPA200.8	100	ug/l	306	375	686	404	206	166
Dissolved Lead	Comp	EPA200.8	5	ug/l	0.76	3.1	4.29	0	0.63	0
Total Lead	Comp	EPA200.8	5	ug/l	5.35	9.91	4.62	2.26	1.82	0.97
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	7.22	3.24	7.52	5.54	5.62	6.29
Total Nickel	Comp	EPA200.8	5	ug/l	10	16.1	8.61	6.84	21.8	6.99
Dissolved Selenium	Comp	EPA200.8	5	ug/l	4.07	0	0	0	2.04	0
Total Selenium	Comp	EPA200.8	5	ug/l	4.07	0	0	0	2.04	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	45.3	35	74	10	25.1	54
Total Zinc	Comp	EPA200.8	50	ug/l	54	50	83	46	25.1	85
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S10	S10	S10	S10	S10	S10
STATION NAME					Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.179	0.05	0.155	0.037

WEATHER CONDITION					Wet				Dry	
STATION NO.					S10	S10	S10	S10	S10	S10
STATION NAME					Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S13	S13	S13	S13	S13	S13
STATION NAME					Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	2.6	0	1	0	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.126	0	0.018	0	0	0.019
pH	Comp	SM4500H B	0-14		7.82	7.06	8.03	7.02	8.75	8.65
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	5.5	8.2	8.58	9.38	9.18	9.61
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	300000	500000	800000	500000	8000	3500
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	300000	300000	9000	300000	1700	70
Ratio Fecal Coliform/Total Coliform					1.0	0.6	0.011	0.6	0.21	0.02
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	800000	110000	170000	130000	800	800
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	800000	50000	170000	130000	800	800
General										
Chloride	Comp	EPA300.0	2	mg/L	29.5	9.13	78	14.8	88	87
Fluoride	Comp	EPA300.0	0.1	mg/L	0.36	0.14	0.54	0.1	0.46	1
Nitrate	Comp	EPA300.0	0.1	mg/L	7.32	1.61	8.31	2.89	2.28	8.9
Sulfate	Comp	EPA300.0	0.1	mg/L	44.5	10.4	114	22.1	125	129
Alkalinity	Comp	EPA310.1	4	mg/L	69	43	137.5	27.5	155	220
Hardness	Comp	EPA130.2	2	mg/L	130	60	180	45.6	195	340
COD	9i	EPA410.4	10	mg/L	96.1	24.4	148	24	28	87.6
TPH	Grab	EPA418.1	1	mg/L	1.4	1	2.8	0	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	522	160.8	792	171.1	831	2020
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	370	114	522	112	518	1250
Turbidity	Comp	EPA180.1	0.1	NTU	48	54.5	45.1	67.4	0.73	1.98
Total Suspended Solids	Comp	EPA160.2	2	mg/L	648	351	204	181	63	12
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	123	68	14.8	2.4	15	9
MBAS	Comp	EPA425.1	0.05	mg/L	0.27	0.053	0.151	0	0	0.062
Total Organic Carbon	Comp	EPA415.1	1	mg/L	29.3	7.81	17.9	4.27	5.35	10.1
BOD	Comp	SM5210B	2	mg/L	52.1	9.4	12.1	6.03	6.62	42.4
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.442	0.096	0.441	0.242	0	0
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.46	0.155	0.524	0.259	0	0
NH3-N	Comp	EPA350.3	0.1	mg/L	2.51	0.158	2.11	0	0	0.298
Nitrate-N	Comp	SM4110B	0.5	mg/L	1.65	0.364	1.87	0.6525	0.515	2.01
Nitrite-N	Comp	SM4110B	0.03	mg/L	1.01	0.198	1.42	0	0	0.365
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	3.36	0.558	6.84	1.16	0.82	1.87
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	1118	0	0	134	0	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	2.99	0.83	1.22	0	0.64	0.68
Total Antimony	Comp	EPA200.8	5	ug/l	3.56	0.87	1.27	0	0.64	0.7
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	2.48	0	2.28	0	6.19	2.27
Total Arsenic	Comp	EPA200.8	5	ug/l	3.01	1.42	2.43	1.19	6.19	3.46
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.97	0	0	0	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	3.15	1.16	4.11	3.37	2.06	1.02
Total Chromium	Comp	EPA200.8	5	ug/l	8.49	11.7	4.55	9.25	12.5	2.6
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	11.7	4.21	4.83	4.76	3.98	6.9
Total Copper	Comp	EPA200.8	5	ug/l	45.9	9.91	17.9	12.1	9.94	10.1

COYOTE CREEK

WEATHER CONDITION					Wet				Dry	
STATION NO.					S13	S13	S13	S13	S13	S13
STATION NAME					Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	0	109	163	213	0	0
Total Iron	Comp	EPA200.8	100	ug/l	1420	225	209	581	203	145
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	0.62	0.58	0	0	0
Total Lead	Comp	EPA200.8	5	ug/l	20.9	1.44	1.27	2.05	1.25	0.54
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	14.2	2.25	7.65	2.68	2.29	3.37
Total Nickel	Comp	EPA200.8	5	ug/l	17	15.5	9.57	6.01	18.9	4.3
Dissolved Selenium	Comp	EPA200.8	5	ug/l	2.37	0	0	0	1.92	0
Total Selenium	Comp	EPA200.8	5	ug/l	2.37	0	0	0	1.92	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	84.5	32	52	6	9.32	53
Total Zinc	Comp	EPA200.8	50	ug/l	219	52	61	41	11.6	84
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S13	S13	S13	S13	S13	S13
STATION NAME					Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0.31	0	0.085	0.07	0	0.038

WEATHER CONDITION					Wet				Dry	
STATION NO.					S13	S13	S13	S13	S13	S13
STATION NAME					Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S14	S14	S14	S14	S14	S14
STATION NAME					San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	12.9	0	0	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.029	0.005	0.047	0	0	0.019
pH	Comp	SM4500H B	0-14		8.26	7.24	7.79	7.4	8.32	
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	7.1	8.4	9.39	8.26	8	8.9
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	300000	300000	240000	500000	17000	50000
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	50000	300000	17000	220000	500	50000
Ratio Fecal Coliform/Total Coliform					0.17	1.0	0.071	0.44	0.029	1.0
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	24000	300000	130000	500000	230	1700
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	3000	300000	130000	500000	80	1300
General										
Chloride	Comp	EPA300.0	2	mg/L	74	25.4	20.6	23.2	167	93.2
Fluoride	Comp	EPA300.0	0.1	mg/L	0.35	0.19	0.13	0.19	0.23	0.21
Nitrate	Comp	EPA300.0	0.1	mg/L	2.5	6.63	3.87	3.88	34.9	30.9
Sulfate	Comp	EPA300.0	0.1	mg/L	102	38.3	21.9	36.1	150	117
Alkalinity	Comp	EPA310.1	4	mg/L	69	64	55	60.5	107	
Hardness	Comp	EPA130.2	2	mg/L	210	108	80	103	270	250
COD	9i	EPA410.4	10	mg/L	83.7	41.4	121	36	37.5	66.6
TPH	Grab	EPA418.1	1	mg/L	0	1	1.1	1	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	732	313	229	281	1215	1012
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	464	206	152	190	806	636
Turbidity	Comp	EPA180.1	0.1	NTU	143	963	46	457.5	0.13	9.8
Total Suspended Solids	Comp	EPA160.2	2	mg/L	630	1258	543	794	5	28
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	437	63	48.1	7	3	8
MBAS	Comp	EPA425.1	0.05	mg/L	0.209	0	0	0	0.085	0.088
Total Organic Carbon	Comp	EPA415.1	1	mg/L	10.2	6.44	6.75	6.77	7.77	7.95
BOD	Comp	SM5210B	2	mg/L	21.46	21.3	11.9	6.46	69.9	50.6
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.343	0.195	0.218	0.347	0.362	
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.356	0.713	0.236	0.349	0.411	
NH3-N	Comp	EPA350.3	0.1	mg/L	0.466	0	0	0	0.314	
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.565	1.5	0.87	0.876	7.88	9.4
Nitrite-N	Comp	SM4110B	0.03	mg/L	0	0	0	0	5.81	0
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	3.58	0.372	2.44	7.64	0.314	
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	
Total Aluminum	Comp	EPA200.8	100	ug/l	2780	158	100	122	0	
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.68	0.98	0.78	0.51	0.55	
Total Antimony	Comp	EPA200.8	5	ug/l	3.87	1.02	0.81	0.58	0.58	
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	3.15	1.3	1.94	1.05	
Total Arsenic	Comp	EPA200.8	5	ug/l	4.49	6.1	1.39	2.18	1.05	
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	
Total Cadmium	Comp	EPA200.8	1	ug/l	2.15	0	0	0	0	
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0	0.97	1.88	6.18	3.54	
Total Chromium	Comp	EPA200.8	5	ug/l	17.5	12.5	4.36	10.1	12.3	
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	8.98	4.23	6.01	5.82	4.39	
Total Copper	Comp	EPA200.8	5	ug/l	81.4	10.5	11.9	13.1	18.1	

SAN GABRIEL RIVER

WEATHER CONDITION					Wet				Dry	
STATION NO.					S14	S14	S14	S14	S14	S14
STATION NAME					San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	221	220	311	953	0	
Total Iron	Comp	EPA200.8	100	ug/l	3680	540	431	1730	207	
Dissolved Lead	Comp	EPA200.8	5	ug/l	0.67	1.21	1.55	0	0	
Total Lead	Comp	EPA200.8	5	ug/l	56	2.52	2.16	5.39	1.38	
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	9.92	2.9	3.22	4.29	7.46	
Total Nickel	Comp	EPA200.8	5	ug/l	21.1	15.9	5.76	8.22	23.5	
Dissolved Selenium	Comp	EPA200.8	5	ug/l	2.61	0	0	0	1.95	
Total Selenium	Comp	EPA200.8	5	ug/l	3.86	0	0	0	1.95	
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	
Total Silver	Comp	EPA200.8	1	ug/l	0.43	0	0	0	0	
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	
Dissolved Zinc	Comp	EPA200.8	50	ug/l	23.8	26	22	4	36.4	
Total Zinc	Comp	EPA200.8	50	ug/l	440	74	41	48	36.4	
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S14	S14	S14	S14	S14	S14
STATION NAME					San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0.34	0	0.41	0.035	0	0.047

WEATHER CONDITION					Wet				Dry	
STATION NO.					S14	S14	S14	S14	S14	S14
STATION NAME					San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S28	S28	S28	S28	S28	S28
STATION NAME					Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	1.5	3.5	2.1	1.7	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0	0	0	0	0	0
pH	Comp	SM4500H B	0-14		8.26	7.14	7.71	6.74	8.44	8.03
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	7.9	9.1	8.98	9.39	9.05	10.06
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	130000	240000	230000	500000	22000	3500
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	130000	240000	230000	170000	2300	80
Ratio Fecal Coliform/Total Coliform					1.0	1.0	1.0	0.34	0.10	0.02
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	300000	210000	70000	170000	300	1400
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	110000	210000	50000	80000	170	700
General										
Chloride	Comp	EPA300.0	2	mg/L	57.9	19.5	13.1	2.58	99.9	166
Fluoride	Comp	EPA300.0	0.1	mg/L	0.42	0.1	0.19	0	0.14	0.5
Nitrate	Comp	EPA300.0	0.1	mg/L	0	4.02	5.11	2.31	2.47	3.7
Sulfate	Comp	EPA300.0	0.1	mg/L	48.1	10.7	11.8	2.89	56.5	78
Alkalinity	Comp	EPA310.1	4	mg/L	96	21	33	11	112	55
Hardness	Comp	EPA130.2	2	mg/L	140	40	48	15.2	170	230
COD	9i	EPA410.4	10	mg/L	87.9	30.2	97	20	30.9	67.1
TPH	Grab	EPA418.1	1	mg/L	0	2.2	3.3	1.2	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	500	162.8	157.5	47.6	657	1020
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	342	110	106	28	424	622
Turbidity	Comp	EPA180.1	0.1	NTU	2.76	21	75.7	39.4	0.61	1.89
Total Suspended Solids	Comp	EPA160.2	2	mg/L	1123	118	246	80	32	16
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	184	24	16.2	1.3	17	10
MBAS	Comp	EPA425.1	0.05	mg/L	0.387	0	0.118	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	32.1	7.55	10.8	3.96	12.2	6.74
BOD	Comp	SM5210B	2	mg/L	44.31	9.7	10.5	5	5.91	29.6
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.742	0	0.355	0.29	0.135	0.077
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.874	0	0.456	0.29	0.173	0.094
NH3-N	Comp	EPA350.3	0.1	mg/L	3.26	0	1.42	0	0.207	0.285
Nitrate-N	Comp	SM4110B	0.5	mg/L	0	0.908	1.15	0.5216	0.558	0.835
Nitrite-N	Comp	SM4110B	0.03	mg/L	0	0	0.06	0	0.064	0.457
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	3.26	0.193	5.9	1.02	0.76	0.6
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	1120	134	0	348	0	104
Dissolved Antimony	Comp	EPA200.8	5	ug/l	6.94	1.74	1.46	0.83	0.52	0
Total Antimony	Comp	EPA200.8	5	ug/l	7.42	1.75	1.51	1.11	0.54	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	1.89	2.8	1.5	0	1.69	0
Total Arsenic	Comp	EPA200.8	5	ug/l	3.41	5.02	1.61	1.04	1.69	0
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0.67	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.77	0.68	0	0	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	1.74	1.72	2.99	2.2	2.62	0.71
Total Chromium	Comp	EPA200.8	5	ug/l	7.48	12.3	4.17	9.32	12.4	2.08
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	19	17.2	14.3	8.03	6.84	7.11
Total Copper	Comp	EPA200.8	5	ug/l	56.3	24.5	17.1	12.2	13.8	11.8

DOMINGUEZ CHANNEL

WEATHER CONDITION					Wet				Dry	
STATION NO.					S28	S28	S28	S28	S28	S28
STATION NAME					Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	162	166	435	460	0	0
Total Iron	Comp	EPA200.8	100	ug/l	1290	413	438	742	204	165
Dissolved Lead	Comp	EPA200.8	5	ug/l	1.02	1.76	2.1	0	0	0.66
Total Lead	Comp	EPA200.8	5	ug/l	20.4	2.75	2.1	2.8	0.85	2.54
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	14	3.8	7.18	2.39	2.07	2.85
Total Nickel	Comp	EPA200.8	5	ug/l	15.3	16	8.7	5.26	18.1	2.87
Dissolved Selenium	Comp	EPA200.8	5	ug/l	1.53	0	0	0	1.27	0
Total Selenium	Comp	EPA200.8	5	ug/l	2.47	0	0	0	1.29	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	77.3	99	103	27	8.32	52
Total Zinc	Comp	EPA200.8	50	ug/l	229	114	112	61	10.4	83
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S01	S01	S01	S01	S01	S01
STATION NAME					Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	2.3	10.7	1.8	2.9	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.005	0	0.028	0	0	0
pH	Comp	SM4500H B	0-14		8.84	7.86	7.7	7.87	8.66	8.18
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	12.7	9.3	8.64	1.3	9.67	9.91
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	80000	300000	240000	500000	5000	20
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	80000	300000	11000	140000	1500	20
Ratio Fecal Coliform/Total Coliform					1.0	1.0	0.046	0.28	0.3	1.0
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	300000	300	300000	170000	1700	20
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	300000	300	300000	110000	1700	20
General										
Chloride	Comp	EPA300.0	2	mg/L	123	38.6	20.8	80.8	110	69
Fluoride	Comp	EPA300.0	0.1	mg/L	0.34	0.23	0.39	0.53	0.46	0.7
Nitrate	Comp	EPA300.0	0.1	mg/L	3.26	6.3	3.26	0.45	7.09	1.61
Sulfate	Comp	EPA300.0	0.1	mg/L	203	46.8	21.5	97.6	173	95
Alkalinity	Comp	EPA310.1	4	mg/L	298	64	220	154	267	132
Hardness	Comp	EPA130.2	2	mg/L	530	117	110	290	420	190
COD	9i	EPA410.4	10	mg/L	44.5	52.1	176	42	21.8	51.6
TPH	Grab	EPA418.1	1	mg/L	0	1	3.6	2.2	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	1440	379	287	706	1235	669
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	898	258	202	472	810	426
Turbidity	Comp	EPA180.1	0.1	NTU	0.61	27.4	59	18.7	0.63	0.78
Total Suspended Solids	Comp	EPA160.2	2	mg/L	51	39	429	636	33	6
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	21	3	28.2	11	16	6
MBAS	Comp	EPA425.1	0.05	mg/L	0	0	0.179	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	4.92	7.79	15.2	6.11	6.43	3.54
BOD	Comp	SM5210B	2	mg/L	5.86	6.9	11.4	8.88	6.67	24.4
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.227	0	0.548	0.286	0.061	0.078
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.312	0.083	0.921	0.319	0.14	0.083
NH3-N	Comp	EPA350.3	0.1	mg/L	0.375	0	2.64	0	0	0
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.736	1.42	0.735	0.1016	1.6	0.364
Nitrite-N	Comp	SM4110B	0.03	mg/L	4.53	0.088	0.76	0.56	0	0
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	0.512	0.25	12	4.18	1.526	0.49
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	123	119	0	0	0	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.87	1.09	0.73	0.8	0.99	0
Total Antimony	Comp	EPA200.8	5	ug/l	1.87	1.15	1.19	0.89	0.99	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	2.53	0	1.14	0	2.45	1.89
Total Arsenic	Comp	EPA200.8	5	ug/l	3.42	1.8	1.32	2.68	2.45	2.19
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0.25	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0.25	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0.91	1.3	3.28	4.61	3.82	0
Total Chromium	Comp	EPA200.8	5	ug/l	2.17	12.5	3.95	7.88	13.7	1.91
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	8.76	9.44	2.56	7.26	9.14	5.5
Total Copper	Comp	EPA200.8	5	ug/l	15	15.3	11.8	8.83	14	8.25

WEATHER CONDITION					Wet				Dry	
STATION NO.					S01	S01	S01	S01	S01	S01
STATION NAME					Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	0	0	430	0	0	0
Total Iron	Comp	EPA200.8	100	ug/l	182	222	432	226	196	170
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	1.3	1.3	0	0	0
Total Lead	Comp	EPA200.8	5	ug/l	1.83	2.1	7.28	1.08	1.21	0
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	5.36	3.33	7.95	5.88	5.94	3.52
Total Nickel	Comp	EPA200.8	5	ug/l	5.36	19	8.64	6.68	23.6	4.19
Dissolved Selenium	Comp	EPA200.8	5	ug/l	6.81	0	0	0	3.08	0
Total Selenium	Comp	EPA200.8	5	ug/l	6.81	0	0	0	3.08	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	13.4	59	41	3	16.6	47
Total Zinc	Comp	EPA200.8	50	ug/l	31	78	54	41	21.2	73
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S01	S01	S01	S01	S01	S01
STATION NAME					Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.217	0	0	0.07

WEATHER CONDITION					Wet				Dry	
STATION NO.					S01	S01	S01	S01	S01	S01
STATION NAME					Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S02	S02	S02	S02	S02	S02
STATION NAME					Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	11.5	0	1.5	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0	0	0	0	0	0
pH	Comp	SM4500H B	0-14		8.5	7.85	8.43	7.9	8.69	8.11
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	7.5	9.16	9.1	2.95	8.68	10.18
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	7000	11000	7000	80000	14000	1100
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	7000	700	3000	22000	14000	80
Ratio Fecal Coliform/Total Coliform					1.0	0.064	0.43	0.275	1.0	0.073
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	33000	14000	2400	30000	300	40
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	21000	14000	2400	30000	300	40
General										
Chloride	Comp	EPA300.0	2	mg/L	102	62.2	145	76.1	179	99
Fluoride	Comp	EPA300.0	0.1	mg/L	0.3	0.12	0.24	0.24	0.19	0.3
Nitrate	Comp	EPA300.0	0.1	mg/L	4.11	4.58	15	5.89	1.4	1.3
Sulfate	Comp	EPA300.0	0.1	mg/L	723	200	755	262	1144	481
Alkalinity	Comp	EPA310.1	4	mg/L	176	123	212	169	314	286
Hardness	Comp	EPA130.2	2	mg/L	805	306	842	300	1420	700
COD	9i	EPA410.4	10	mg/L	78.1	48.8	108	37	254.5	60.8
TPH	Grab	EPA418.1	1	mg/L	0	1.5	0	1.3	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	2238	903	2475	801	1530	1984
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	1602	624	1666	556	928	1294
Turbidity	Comp	EPA180.1	0.1	NTU	1.3	88.1	25.1	200.5	0.81	0.87
Total Suspended Solids	Comp	EPA160.2	2	mg/L	654	355	62	1393	36	6
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	65	32	4.5	12	16	6
MBAS	Comp	EPA425.1	0.05	mg/L	0.102	0	0	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	21.2	7.68	8.73	9.46	7.71	7.12
BOD	Comp	SM5210B	2	mg/L	18.42	10.5	11.7	8.13	7.77	26
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.213	0.103	0.636	0.378	0.261	0.076
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.539	0.423	0.789	0.635	0.389	0.103
NH3-N	Comp	EPA350.3	0.1	mg/L	0.701	0.11	0	0	0	0.214
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.928	1.03	3.38	1.33	0.316	0.294
Nitrite-N	Comp	SM4110B	0.03	mg/L	0	0	0	0	0	0.304
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	2.06	0.394	3.66	6.92	1.525	0.56
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	3180	282	0	165	0	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.5	0.51	0	0.51	0	0
Total Antimony	Comp	EPA200.8	5	ug/l	2.78	0.54	0.52	0.62	0	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	1.8	1.06	1.84	0	2.43	0
Total Arsenic	Comp	EPA200.8	5	ug/l	5.78	1.21	1.91	1.93	2.43	0
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0.27	0.32	0	1.46	0
Total Cadmium	Comp	EPA200.8	1	ug/l	7.17	0.33	0.32	0.43	1.46	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0	1.52	1.43	3.5	3.37	0
Total Chromium	Comp	EPA200.8	5	ug/l	21.2	11.4	2.68	8.36	11.7	1.67
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	5.68	3.12	5.71	6.57	6.05	2.59
Total Copper	Comp	EPA200.8	5	ug/l	33.2	8.18	10.9	8.78	13.5	5.33

WEATHER CONDITION					Wet				Dry	
STATION NO.					S02	S02	S02	S02	S02	S02
STATION NAME					Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	0	284	0	0	0	0
Total Iron	Comp	EPA200.8	100	ug/l	4480	571	0	677	202	128
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Lead	Comp	EPA200.8	5	ug/l	10.9	0.72	0	0.87	1.56	0
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	19.4	5.34	11.2	9.51	1.9	5.62
Total Nickel	Comp	EPA200.8	5	ug/l	41.9	18.1	13.1	17.7	26.6	6.17
Dissolved Selenium	Comp	EPA200.8	5	ug/l	17.8	0	4.78	0	5.27	0
Total Selenium	Comp	EPA200.8	5	ug/l	17.8	0	4.98	0	5.27	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0.46	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	11.3	25	58	0	11.7	53
Total Zinc	Comp	EPA200.8	50	ug/l	94.4	41	75	29	25.3	82
Semi-Volatiles Organics (EPA 625)										
2- Chloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S02	S02	S02	S02	S02	S02
STATION NAME					Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.565	0.017	0	0.037

WEATHER CONDITION					Wet				Dry	
STATION NO.					S02	S02	S02	S02	S02	S02
STATION NAME					Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0
					0	0	0			

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S10	S10	S10	S10	S10	S10
STATION NAME					Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	4.1	11.9	1.9	1.4	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.016	0	0.0763	0	0	0.051
pH	Comp	SM4500H B	0-14		8.85	7.01	7.44	7.09	8.44	9.87
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	14.2	8.34	7.6	6.74	8.6	5.04
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	2200000	50000	900000	1300000	22000	500
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	1400000	30000	11000	800000	1100	20
Ratio Fecal Coliform/Total Coliform					0.64	0.6	0.012	0.62	0.05	0.04
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	700000	240000	230000	300000	500	700
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	170000	80000	80000	300000	500	300
General										
Chloride	Comp	EPA300.0	2	mg/L	111	6.73	10.9	13.2	121	108
Fluoride	Comp	EPA300.0	0.1	mg/L	0.48	0.11	0.24	0.15	0.49	0.6
Nitrate	Comp	EPA300.0	0.1	mg/L	29.9	2.99	3.84	2.52	1.45	3.6
Sulfate	Comp	EPA300.0	0.1	mg/L	123.8	9.42	13.8	22.6	147	124
Alkalinity	Comp	EPA310.1	4	mg/L	139	32	55	53.9	213	94
Hardness	Comp	EPA130.2	2	mg/L	210	48	52.8	76	340	230
COD	9i	EPA410.4	10	mg/L	101.9	21.8	93	34	176.3	110.5
TPH	Grab	EPA418.1	1	mg/L	1.6	0	4.3	1.5	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	996	133.2	175.1	212	1100	1146
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	572	96	108	146	732	780
Turbidity	Comp	EPA180.1	0.1	NTU	5.33	140	73.7	118.2	1.48	6.19
Total Suspended Solids	Comp	EPA160.2	2	mg/L	11	172	197	1045	105	97
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	10	20	14	10	42	44
MBAS	Comp	EPA425.1	0.05	mg/L	0.127	0	0.104	0.062	0.079	0.138
Total Organic Carbon	Comp	EPA415.1	1	mg/L	14.4	6.51	10.1	5.65	11.3	17.1
BOD	Comp	SM5210B	2	mg/L	65.86	16.2	12.2	7.6	62.9	198
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.684	0.087	0.37	0.181	0.78	0.288
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.774	0.441	0.491	0.193	0.809	0.356
NH3-N	Comp	EPA350.3	0.1	mg/L	2.34	0.184	0.373	0	1.47	3.59
Nitrate-N	Comp	SM4110B	0.5	mg/L	6.75	0.675	0.87	0.569	0.327	0.813
Nitrite-N	Comp	SM4110B	0.03	mg/L	0	0	0.63	0	0.609	1.34
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	4	0.135	3.26	12.5	1.98	3.9
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	126	118	0	185	0	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.37	1.06	1	0.71	0.69	0.76
Total Antimony	Comp	EPA200.8	5	ug/l	1.37	1.09	1.05	0.86	0.69	0.77
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	2.06	2.61	1.25	0	3.43	0
Total Arsenic	Comp	EPA200.8	5	ug/l	2.06	5.84	1.32	1.48	3.43	0
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0.27	0	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.42	0	0	0	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	2.01	0.94	3.1	6.99	3.05	1.24
Total Chromium	Comp	EPA200.8	5	ug/l	3.15	11.8	4.64	9.47	12.5	2.63
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	14.1	5.21	5.51	7.07	4.77	10.4
Total Copper	Comp	EPA200.8	5	ug/l	25.9	19	12.9	9.56	10	14

WEATHER CONDITION					Wet				Dry	
STATION NO.					S10	S10	S10	S10	S10	S10
STATION NAME					Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	0	276	679	0	0	0
Total Iron	Comp	EPA200.8	100	ug/l	306	375	686	404	206	166
Dissolved Lead	Comp	EPA200.8	5	ug/l	0.76	3.1	4.29	0	0.63	0
Total Lead	Comp	EPA200.8	5	ug/l	5.35	9.91	4.62	2.26	1.82	0.97
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	7.22	3.24	7.52	5.54	5.62	6.29
Total Nickel	Comp	EPA200.8	5	ug/l	10	16.1	8.61	6.84	21.8	6.99
Dissolved Selenium	Comp	EPA200.8	5	ug/l	4.07	0	0	0	2.04	0
Total Selenium	Comp	EPA200.8	5	ug/l	4.07	0	0	0	2.04	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	45.3	35	74	10	25.1	54
Total Zinc	Comp	EPA200.8	50	ug/l	54	50	83	46	25.1	85
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S10	S10	S10	S10	S10	S10
STATION NAME					Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.179	0.05	0.155	0.037

WEATHER CONDITION					Wet				Dry	
STATION NO.					S10	S10	S10	S10	S10	S10
STATION NAME					Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S13	S13	S13	S13	S13	S13
STATION NAME					Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	2.6	0	1	0	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.126	0	0.018	0	0	0.019
pH	Comp	SM4500H B	0-14		7.82	7.06	8.03	7.02	8.75	8.65
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	5.5	8.2	8.58	9.38	9.18	9.61
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	300000	500000	800000	500000	8000	3500
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	300000	300000	9000	300000	1700	70
Ratio Fecal Coliform/Total Coliform					1.0	0.6	0.011	0.6	0.21	0.02
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	800000	110000	170000	130000	800	800
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	800000	50000	170000	130000	800	800
General										
Chloride	Comp	EPA300.0	2	mg/L	29.5	9.13	78	14.8	88	87
Fluoride	Comp	EPA300.0	0.1	mg/L	0.36	0.14	0.54	0.1	0.46	1
Nitrate	Comp	EPA300.0	0.1	mg/L	7.32	1.61	8.31	2.89	2.28	8.9
Sulfate	Comp	EPA300.0	0.1	mg/L	44.5	10.4	114	22.1	125	129
Alkalinity	Comp	EPA310.1	4	mg/L	69	43	137.5	27.5	155	220
Hardness	Comp	EPA130.2	2	mg/L	130	60	180	45.6	195	340
COD	9i	EPA410.4	10	mg/L	96.1	24.4	148	24	28	87.6
TPH	Grab	EPA418.1	1	mg/L	1.4	1	2.8	0	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	522	160.8	792	171.1	831	2020
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	370	114	522	112	518	1250
Turbidity	Comp	EPA180.1	0.1	NTU	48	54.5	45.1	67.4	0.73	1.98
Total Suspended Solids	Comp	EPA160.2	2	mg/L	648	351	204	181	63	12
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	123	68	14.8	2.4	15	9
MBAS	Comp	EPA425.1	0.05	mg/L	0.27	0.053	0.151	0	0	0.062
Total Organic Carbon	Comp	EPA415.1	1	mg/L	29.3	7.81	17.9	4.27	5.35	10.1
BOD	Comp	SM5210B	2	mg/L	52.1	9.4	12.1	6.03	6.62	42.4
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.442	0.096	0.441	0.242	0	0
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.46	0.155	0.524	0.259	0	0
NH3-N	Comp	EPA350.3	0.1	mg/L	2.51	0.158	2.11	0	0	0.298
Nitrate-N	Comp	SM4110B	0.5	mg/L	1.65	0.364	1.87	0.6525	0.515	2.01
Nitrite-N	Comp	SM4110B	0.03	mg/L	1.01	0.198	1.42	0	0	0.365
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	3.36	0.558	6.84	1.16	0.82	1.87
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	1118	0	0	134	0	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	2.99	0.83	1.22	0	0.64	0.68
Total Antimony	Comp	EPA200.8	5	ug/l	3.56	0.87	1.27	0	0.64	0.7
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	2.48	0	2.28	0	6.19	2.27
Total Arsenic	Comp	EPA200.8	5	ug/l	3.01	1.42	2.43	1.19	6.19	3.46
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.97	0	0	0	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	3.15	1.16	4.11	3.37	2.06	1.02
Total Chromium	Comp	EPA200.8	5	ug/l	8.49	11.7	4.55	9.25	12.5	2.6
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	11.7	4.21	4.83	4.76	3.98	6.9
Total Copper	Comp	EPA200.8	5	ug/l	45.9	9.91	17.9	12.1	9.94	10.1

WEATHER CONDITION					Wet				Dry	
STATION NO.					S13	S13	S13	S13	S13	S13
STATION NAME					Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	0	109	163	213	0	0
Total Iron	Comp	EPA200.8	100	ug/l	1420	225	209	581	203	145
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	0.62	0.58	0	0	0
Total Lead	Comp	EPA200.8	5	ug/l	20.9	1.44	1.27	2.05	1.25	0.54
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	14.2	2.25	7.65	2.68	2.29	3.37
Total Nickel	Comp	EPA200.8	5	ug/l	17	15.5	9.57	6.01	18.9	4.3
Dissolved Selenium	Comp	EPA200.8	5	ug/l	2.37	0	0	0	1.92	0
Total Selenium	Comp	EPA200.8	5	ug/l	2.37	0	0	0	1.92	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	84.5	32	52	6	9.32	53
Total Zinc	Comp	EPA200.8	50	ug/l	219	52	61	41	11.6	84
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S13	S13	S13	S13	S13	S13
STATION NAME					Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0.31	0	0.085	0.07	0	0.038

WEATHER CONDITION					Wet				Dry	
STATION NO.					S13	S13	S13	S13	S13	S13
STATION NAME					Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S14	S14	S14	S14	S14	S14
STATION NAME					San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	12.9	0	0	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.029	0.005	0.047	0	0	0.019
pH	Comp	SM4500H B	0-14		8.26	7.24	7.79	7.4	8.32	
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	7.1	8.4	9.39	8.26	8	8.9
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	300000	300000	240000	500000	17000	50000
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	50000	300000	17000	220000	500	50000
Ratio Fecal Coliform/Total Coliform					0.17	1.0	0.071	0.44	0.029	1.0
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	24000	300000	130000	500000	230	1700
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	3000	300000	130000	500000	80	1300
General										
Chloride	Comp	EPA300.0	2	mg/L	74	25.4	20.6	23.2	167	93.2
Fluoride	Comp	EPA300.0	0.1	mg/L	0.35	0.19	0.13	0.19	0.23	0.21
Nitrate	Comp	EPA300.0	0.1	mg/L	2.5	6.63	3.87	3.88	34.9	30.9
Sulfate	Comp	EPA300.0	0.1	mg/L	102	38.3	21.9	36.1	150	117
Alkalinity	Comp	EPA310.1	4	mg/L	69	64	55	60.5	107	
Hardness	Comp	EPA130.2	2	mg/L	210	108	80	103	270	250
COD	9i	EPA410.4	10	mg/L	83.7	41.4	121	36	37.5	66.6
TPH	Grab	EPA418.1	1	mg/L	0	1	1.1	1	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	732	313	229	281	1215	1012
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	464	206	152	190	806	636
Turbidity	Comp	EPA180.1	0.1	NTU	143	963	46	457.5	0.13	9.8
Total Suspended Solids	Comp	EPA160.2	2	mg/L	630	1258	543	794	5	28
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	437	63	48.1	7	3	8
MBAS	Comp	EPA425.1	0.05	mg/L	0.209	0	0	0	0.085	0.088
Total Organic Carbon	Comp	EPA415.1	1	mg/L	10.2	6.44	6.75	6.77	7.77	7.95
BOD	Comp	SM5210B	2	mg/L	21.46	21.3	11.9	6.46	69.9	50.6
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.343	0.195	0.218	0.347	0.362	
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.356	0.713	0.236	0.349	0.411	
NH3-N	Comp	EPA350.3	0.1	mg/L	0.466	0	0	0	0.314	
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.565	1.5	0.87	0.876	7.88	9.4
Nitrite-N	Comp	SM4110B	0.03	mg/L	0	0	0	0	5.81	0
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	3.58	0.372	2.44	7.64	0.314	
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	
Total Aluminum	Comp	EPA200.8	100	ug/l	2780	158	100	122	0	
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.68	0.98	0.78	0.51	0.55	
Total Antimony	Comp	EPA200.8	5	ug/l	3.87	1.02	0.81	0.58	0.58	
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	3.15	1.3	1.94	1.05	
Total Arsenic	Comp	EPA200.8	5	ug/l	4.49	6.1	1.39	2.18	1.05	
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	
Total Cadmium	Comp	EPA200.8	1	ug/l	2.15	0	0	0	0	
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0	0.97	1.88	6.18	3.54	
Total Chromium	Comp	EPA200.8	5	ug/l	17.5	12.5	4.36	10.1	12.3	
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	8.98	4.23	6.01	5.82	4.39	
Total Copper	Comp	EPA200.8	5	ug/l	81.4	10.5	11.9	13.1	18.1	

WEATHER CONDITION					Wet				Dry	
STATION NO.					S14	S14	S14	S14	S14	S14
STATION NAME					San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	221	220	311	953	0	
Total Iron	Comp	EPA200.8	100	ug/l	3680	540	431	1730	207	
Dissolved Lead	Comp	EPA200.8	5	ug/l	0.67	1.21	1.55	0	0	
Total Lead	Comp	EPA200.8	5	ug/l	56	2.52	2.16	5.39	1.38	
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	9.92	2.9	3.22	4.29	7.46	
Total Nickel	Comp	EPA200.8	5	ug/l	21.1	15.9	5.76	8.22	23.5	
Dissolved Selenium	Comp	EPA200.8	5	ug/l	2.61	0	0	0	1.95	
Total Selenium	Comp	EPA200.8	5	ug/l	3.86	0	0	0	1.95	
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	
Total Silver	Comp	EPA200.8	1	ug/l	0.43	0	0	0	0	
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	
Dissolved Zinc	Comp	EPA200.8	50	ug/l	23.8	26	22	4	36.4	
Total Zinc	Comp	EPA200.8	50	ug/l	440	74	41	48	36.4	
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S14	S14	S14	S14	S14	S14
STATION NAME					San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0.34	0	0.41	0.035	0	0.047

WEATHER CONDITION					Wet				Dry	
STATION NO.					S14	S14	S14	S14	S14	S14
STATION NAME					San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S28	S28	S28	S28	S28	S28
STATION NAME					Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	1.5	3.5	2.1	1.7	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0	0	0	0	0	0
pH	Comp	SM4500H B	0-14		8.26	7.14	7.71	6.74	8.44	9.03
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	7.9	9.1	8.98	9.39	9.05	10.06
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	130000	240000	230000	500000	22000	3500
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	130000	240000	230000	170000	2300	80
Ratio Fecal Coliform/Total Coliform					1.0	1.0	1.0	0.34	0.10	0.02
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	300000	210000	70000	170000	300	1400
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	110000	210000	50000	80000	170	700
General										
Chloride	Comp	EPA300.0	2	mg/L	57.9	19.5	13.1	2.58	99.9	166
Fluoride	Comp	EPA300.0	0.1	mg/L	0.42	0.1	0.19	0	0.14	0.5
Nitrate	Comp	EPA300.0	0.1	mg/L	0	4.02	5.11	2.31	2.47	3.7
Sulfate	Comp	EPA300.0	0.1	mg/L	48.1	10.7	11.8	2.89	56.5	78
Alkalinity	Comp	EPA310.1	4	mg/L	96	21	33	11	112	55
Hardness	Comp	EPA130.2	2	mg/L	140	40	48	15.2	170	230
COD	9i	EPA410.4	10	mg/L	87.9	30.2	97	20	30.9	67.1
TPH	Grab	EPA418.1	1	mg/L	0	2.2	3.3	1.2	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	500	162.8	157.5	47.6	657	1020
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	342	110	106	28	424	622
Turbidity	Comp	EPA180.1	0.1	NTU	2.76	21	75.7	39.4	0.61	1.89
Total Suspended Solids	Comp	EPA160.2	2	mg/L	1123	118	246	80	32	16
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	184	24	16.2	1.3	17	10
MBAS	Comp	EPA425.1	0.05	mg/L	0.387	0	0.118	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	32.1	7.55	10.8	3.96	12.2	6.74
BOD	Comp	SM5210B	2	mg/L	44.31	9.7	10.5	5	5.91	29.6
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.742	0	0.355	0.29	0.135	0.077
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.874	0	0.456	0.29	0.173	0.094
NH3-N	Comp	EPA350.3	0.1	mg/L	3.26	0	1.42	0	0.207	0.285
Nitrate-N	Comp	SM4110B	0.5	mg/L	0	0.908	1.15	0.5216	0.558	0.835
Nitrite-N	Comp	SM4110B	0.03	mg/L	0	0	0.06	0	0.064	0.457
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	3.26	0.193	5.9	1.02	0.76	0.6
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	1120	134	0	348	0	104
Dissolved Antimony	Comp	EPA200.8	5	ug/l	6.94	1.74	1.46	0.83	0.52	0
Total Antimony	Comp	EPA200.8	5	ug/l	7.42	1.75	1.51	1.11	0.54	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	1.89	2.8	1.5	0	1.69	0
Total Arsenic	Comp	EPA200.8	5	ug/l	3.41	5.02	1.61	1.04	1.69	0
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0.67	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.77	0.68	0	0	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	1.74	1.72	2.99	2.2	2.62	0.71
Total Chromium	Comp	EPA200.8	5	ug/l	7.48	12.3	4.17	9.32	12.4	2.08
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	19	17.2	14.3	8.03	6.84	7.11
Total Copper	Comp	EPA200.8	5	ug/l	56.3	24.5	17.1	12.2	13.8	11.8

WEATHER CONDITION					Wet				Dry	
STATION NO.					S28	S28	S28	S28	S28	S28
STATION NAME					Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	162	166	435	460	0	0
Total Iron	Comp	EPA200.8	100	ug/l	1290	413	438	742	204	165
Dissolved Lead	Comp	EPA200.8	5	ug/l	1.02	1.76	2.1	0	0	0.66
Total Lead	Comp	EPA200.8	5	ug/l	20.4	2.75	2.1	2.8	0.85	2.54
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	14	3.8	7.18	2.39	2.07	2.85
Total Nickel	Comp	EPA200.8	5	ug/l	15.3	16	8.7	5.26	18.1	2.87
Dissolved Selenium	Comp	EPA200.8	5	ug/l	1.53	0	0	0	1.27	0
Total Selenium	Comp	EPA200.8	5	ug/l	2.47	0	0	0	1.29	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	77.3	99	103	27	8.32	52
Total Zinc	Comp	EPA200.8	50	ug/l	229	114	112	61	10.4	83
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S28	S28	S28	S28	S28	S28
STATION NAME					Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.415	0.05	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S28	S28	S28	S28	S28	S28
STATION NAME					Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S29	S29	S29	S29	S29	S29
STATION NAME					Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	3.1	0	1.7	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.008	0	0.008	0	0	0
pH	Comp	SM4500H B	0-14		7.51	7.18	7.86	6.74	8.54	8.24
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	5.74	3.12	8.44	9.39	8.5	8.02
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	50000	300000	240000	500000	8000	500
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	22000	170000	9000	170000	5000	170
Ratio Fecal Coliform/Total Coliform					0.44	0.57	0.038	0.34	0.63	0.34
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	170000	240000	50000	170000	300	230
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	17000	240000	50000	80000	0	230
General										
Chloride	Comp	EPA300.0	2	mg/L	33.8	13	39.8	2.58	125	106
Fluoride	Comp	EPA300.0	0.1	mg/L	0.21	0.13	0.26	0	0.46	0.5
Nitrate	Comp	EPA300.0	0.1	mg/L	4.91	2.73	4.65	2.31	5.7	5.6
Sulfate	Comp	EPA300.0	0.1	mg/L	50.3	26.9	51.6	2.89	208	153
Alkalinity	Comp	EPA310.1	4	mg/L	75	59	49.5	11	122	292
Hardness	Comp	EPA130.2	2	mg/L	122	99.2	131	15.2	330	410
COD	9i	EPA410.4	10	mg/L	71.6	28.5	45	20	62.6	60.3
TPH	Grab	EPA418.1	1	mg/L	0	1.3	0	1.2	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	410	255	427	47.6	1420	1388
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	268	214	278	28	942	838
Turbidity	Comp	EPA180.1	0.1	NTU	32.9	107	470	39.4	0.23	1.38
Total Suspended Solids	Comp	EPA160.2	2	mg/L	712	53	568	80	8	11
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	76	3	4.1	1.3	3	7
MBAS	Comp	EPA425.1	0.05	mg/L	0.174	0	0	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	25.5	7.52	11.2	3.96	4.58	3.89
BOD	Comp	SM5210B	2	mg/L	55.56	6.3	21.1	5	2.91	27.1
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.379	0.311	0.159	0.29	0.071	0.183
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.438	0.351	0.359	0.29	0.097	0.208
NH3-N	Comp	EPA350.3	0.1	mg/L	1.09	0.338	0	0	0	0
Nitrate-N	Comp	SM4110B	0.5	mg/L	1.11	0.616	1.05	0.5216	1.29	1.26
Nitrite-N	Comp	SM4110B	0.03	mg/L	0.867	0	0.26	0	0	0
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	2.62	0.662	2.56	1.02	0.484	0.35
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	131	130	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	2340	1350	131	348	0	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.63	0.73	0.99	0.83	0	0
Total Antimony	Comp	EPA200.8	5	ug/l	2.01	0.76	0.99	1.11	0	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	2.28	1.38	0	1.42	0
Total Arsenic	Comp	EPA200.8	5	ug/l	2.72	4.16	1.55	1.04	1.42	0
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.6	0.25	0	0	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0.61	0.97	3.39	2.2	3.33	0
Total Chromium	Comp	EPA200.8	5	ug/l	9.36	12.8	3.45	9.32	11.6	1.97
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	8.39	3.75	6.31	8.03	3.5	2.55
Total Copper	Comp	EPA200.8	5	ug/l	32.9	9.58	9.43	12.2	6.96	7.38

WEATHER CONDITION					Wet				Dry	
STATION NO.					S29	S29	S29	S29	S29	S29
STATION NAME					Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	0	434	193	460	0	0
Total Iron	Comp	EPA200.8	100	ug/l	3010	1910	399	742	172	191
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	2.3	0.99	0	0	0
Total Lead	Comp	EPA200.8	5	ug/l	14.5	4.12	1.14	2.8	0.6	0.63
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	7.68	2.67	6.03	2.39	12.7	12.5
Total Nickel	Comp	EPA200.8	5	ug/l	13.2	16.1	7	5.26	26.6	13.8
Dissolved Selenium	Comp	EPA200.8	5	ug/l	1.14	0	0	0	2.43	0
Total Selenium	Comp	EPA200.8	5	ug/l	1.29	0	0	0	2.43	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	31.6	37	33	27	7.64	41
Total Zinc	Comp	EPA200.8	50	ug/l	103	45	42	61	7.64	72
Semi-Volatiles Organics (EPA 625)										
2- Chloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	3.7	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	13.4	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	3.1	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	17.6	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S29	S29	S29	S29	S29	S29
STATION NAME					Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0.43	0	0.265	0.05	0	0.023

WEATHER CONDITION					Wet				Dry	
STATION NO.					S29	S29	S29	S29	S29	S29
STATION NAME					Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

Steele - Sep 19, 02
→ CWA - Sept 25, 02

(Aliso Canyon Wash) trip to LA River

Appendix B. 2002-2003 Sampling Results for Aliso Creek

Tributary Monitoring

WEATHER CONDITION					Wet					Dry
STATION NO.					TS01	TS01	TS01	TS01	TS01	TS01
STATION NAME					Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	16.4	1.3	1	1	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0	0	0	0	0	0
pH	Comp	SM4500H B	0-14		7.29	7.06		8.12	6.82	8.07
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	9.2	5	8.02	8.2	7.62	8.14
Indicator Bacteria										
Total Coliform (obs suspended)	Grab	SM9230B	20	MPN/100ml	80000	240000	240000	240000	110000	8000
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	30000	80000	80000	34000	11000	500
Ratio Fecal Coliform/Total Coliform					0.38	0.33	0.33	0.14	0.10	0.063
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	130000	500000	130000	130000	110000	5000
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	80000	500000	80000	130000	70000	1300
General										
Chloride	Comp	EPA300.0	2	mg/L	10.2	6.68	29.9	25.3	2.37	90
Fluoride	Comp	EPA300.0	0.1	mg/L	0.16	0.11	0.28	0.25	0.17	0.7
Nitrate	Comp	EPA300.0	0.1	mg/L	5.27	0.91	0	5.45	3.07	19.1
Sulfate	Comp	EPA300.0	0.1	mg/L	13.4	7.9	20.7	36.2	57.2	133
Alkalinity	Comp	EPA310.1	4	mg/L	32	59		143	22	165
Hardness	Comp	EPA130.2	2	mg/L	55.2	44	103	95	29.6	340
COD	9i	EPA410.4	10	mg/L	53.7	23.1	359	125	15	76.7
TPH	Grab	EPA418.1	1	mg/L	0	1	1.7	0	1	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	184.4	176.3	311	304	76.7	1026
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	128	118	212	208	50	686
Turbidity	Comp	EPA180.1	0.1	NTU	91	33.6	81.3	36.9	41	3.63
Total Suspended Solids	Comp	EPA160.2	2	mg/L	102	138	279	1209	232	131
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	12	24	8.5	86.2	3.2	27
MBAS	Comp	EPA425.1	0.05	mg/L	0.069	0.072			0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	12.3	6.14	23.3	26.2	4.24	11.4
BOD	Comp	SM5210B	2	mg/L	17.97	6.4	36.1	51.4	5.8	14.9
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.378	0.29		0.354	0.475	0.161
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.434	0.38		0.662	2.247	0.172
NH3-N	Comp	EPA350.3	0.1	mg/L	0.475	0.137		12.1	0	0
Nitrate-N	Comp	SM4110B	0.5	mg/L	1.19	0.205	0	1.23	0.198	4.31
Nitrite-N	Comp	SM4110B	0.03	mg/L	0.347	0.33	0	0.93	0	0
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	1.182	0.568		13	4.4	2.5
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0		127	0
Total Aluminum	Comp	EPA200.8	100	ug/l	261	175	0		185	107
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.31	1.17	1.51		0	1.12
Total Antimony	Comp	EPA200.8	5	ug/l	1.31	1.21	1.57		0	1.12
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	1.24	1.35		0	0
Total Arsenic	Comp	EPA200.8	5	ug/l	1.66	1.87	1.52		0	5.66
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.398	0	0		0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0.88	1.09	4.34		3.48	0.8
Total Chromium	Comp	EPA200.8	5	ug/l	1.93	11.2	4.49		9.06	2.34
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	13.3	2.28	6.81		5.45	15.5
Total Copper (1 Feet SL)	Comp	EPA200.8	5	ug/l	22.1	11.9	12.6		41.1	20

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WEATHER CONDITION					Wet					Dry
STATION NO.					TS01	TS01	TS01	TS01	TS01	TS01
STATION NAME					Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	755	296	435		273	0
Total Iron	Comp	EPA200.8	100	ug/l	755	417	689		628	164
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	0.62	0.92		0	0.5
Total Lead	Comp	EPA200.8	5	ug/l	4.47	1.71	1.58		5.04	0.74
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0		0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0		0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	3.64	4.75	6.68		2.27	4.08
Total Nickel	Comp	EPA200.8	5	ug/l	5.14	17.8	9.03		5.44	4.68
Dissolved Selenium	Comp	EPA200.8	5	ug/l	0	0	0		0	0
Total Selenium	Comp	EPA200.8	5	ug/l	0	0	0		0	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0		0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0		0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	66.6	15	47		0	31
Total Zinc	Comp	EPA200.8	50	ug/l	117	48	64		67	39
Semi-Volatiles Organics (EPA 625)										
2- Chloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l		0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS01	TS01	TS01	TS01	TS01	TS01
STATION NAME					Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l		0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l		0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l		0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l		0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.23	0.152	0.093	0.072

WEATHER CONDITION					Wet					Dry
STATION NO.					TS01	TS01	TS01	TS01	TS01	TS01
STATION NAME					Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet					Dry
STATION NO.					TS02	TS02	TS02	TS02	TS02	TS02
STATION NAME					Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	11.9	0	1.2	1	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0	0	0	0	0	0
pH	Comp	SM4500H B	0-14		7.16	6.91	7.15	7.55	6.76	8.51
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	9.36	6.64	9.85	9.37	6.57	9.87
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	1700000	210000	240000	170000	50000	1100
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	110000	140000	30000	11000	5000	80
Ratio Fecal Coliform/Total Coliform					0.06	0.67	0.125	0.065	0.1	0.073
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	600000	110000	17000	130000	300000	300
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	400000	28000	17000	130000	300000	300
General										
Chloride	Comp	EPA300.0	2	mg/L	11.8	3.65	11.6	4.75	7.16	73
Fluoride	Comp	EPA300.0	0.1	mg/L	0.32	0.12	0.21	0.27	0	0.8
Nitrate	Comp	EPA300.0	0.1	mg/L	5.32	2.06	2.13	3.13	5.28	0.14
Sulfate	Comp	EPA300.0	0.1	mg/L	73.8	17.7	59	138	5.99	128
Alkalinity	Comp	EPA310.1	4	mg/L	37	27	16.5	16.5	25.3	165
Hardness	Comp	EPA130.2	2	mg/L	108	76	88	145	76	240
COD	9i	EPA410.4	10	mg/L	19.9	28.5	43	54	15	67.8
TPH	Grab	EPA418.1	1	mg/L	0	1.3	1.2	0	1.2	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	320	160.5	253	360	186	789
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	222	108	170	254	112	486
Turbidity	Comp	EPA180.1	0.1	NTU	990	30.9	654	4220	710	1.68
Total Suspended Solids	Comp	EPA160.2	2	mg/L	625	170	1487	4152	1566	17
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	30	16	6.9	386	9.4	9
MBAS	Comp	EPA425.1	0.05	mg/L	0.114	0	0	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	12.6	4.98	6.47	5.6	4.07	6.45
BOD	Comp	SM5210B	2	mg/L	27.42	11.5	8.7	22.2	7	12.3
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.162	0.302	0.196	0	0.147	0.101
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.248	369	0.252	0.054	1.386	0.11
NH3-N	Comp	EPA350.3	0.1	mg/L	0.84	0	0	0.225	0	0.146
Nitrate-N	Comp	SM4110B	0.5	mg/L	1.2	0.627	0.48	0.71	1.1923	0
Nitrite-N	Comp	SM4110B	0.03	mg/L	0.161	0	0.06	0.1	0	0
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	0.908	0.156	8.18	2.44	2.88	0.676
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	173	0	130	0
Total Aluminum	Comp	EPA200.8	100	ug/l	1493	238	173	795	501	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.04	0.9	0	0.54	0.66	0
Total Antimony	Comp	EPA200.8	5	ug/l	1.16	0.93	0	0.58	0.66	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	0	0	0	0	1.98
Total Arsenic	Comp	EPA200.8	5	ug/l	2.33	0	0	0	0	5.52
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.86	0	0	0.29	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0.95	0	2.64	0.97	2.8	0
Total Chromium	Comp	EPA200.8	5	ug/l	6.06	11.7	3.65	6.83	9.16	1.74
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	11.8	2.66	5.65	3.09	2.98	5.62
Total Copper	Comp	EPA200.8	5	ug/l	29.7	6.73	8.35	8.26	7.49	7.56

WEATHER CONDITION					Wet					Dry
STATION NO.					TS02	TS02	TS02	TS02	TS02	TS02
STATION NAME					Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	1445	510	491	694	215	0
Total Iron	Comp	EPA200.8	100	ug/l	3066	598	782	1460	880	160
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	0.73	0.75	0.57	0	0
Total Lead	Comp	EPA200.8	5	ug/l	9.18	2.02	0.96	1.31	1.09	0
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	12.7	2.58	8.2	10.7	6.58	1.87
Total Nickel	Comp	EPA200.8	5	ug/l	18.6	15.3	9.14	15.3	10.7	2.67
Dissolved Selenium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Selenium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	15.4	19	21	10	0	25
Total Zinc	Comp	EPA200.8	50	ug/l	82.5	33	37	10	33	33
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l		0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS02	TS02	TS02	TS02	TS02	TS02
STATION NAME					Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l		0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l		0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l		0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l		0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.198	0.04	0.065	0.023

Not in Data base

WEATHER CONDITION					Wet					Dry
STATION NO.					TS02	TS02	TS02	TS02	TS02	TS02
STATION NAME					Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek
EVENT NO.					*0203-01*	*0203-02*	*0203-03*	*0203-04*	*0203-05*	*0203-02*
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

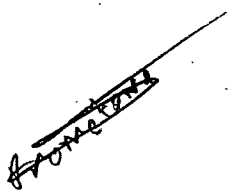
WEATHER CONDITION					Wet					Dry
STATION NO.					TS03	TS03	TS03	TS03	TS03	TS03
STATION NAME					Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE	Sample Type	EPA Method	PQL	Units	11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	6.6	0	1.2	2.3	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.009	0	0.0055	0	0	0
pH	Comp	SM4500H B	0-14		7.49	6.83	7.31	7.83	6.78	8.16
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	9.19	3.72	7.82	9.76	8.49	8.84
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	500000	240000	80000	170000	130000	800000
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	17000	130000	17000	80000	28000	50000
Ratio Fecal Coliform/Total Coliform					0.034	0.54	0.21	0.47	0.22	0.063
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	170000	50000	80000	50000	170000	3000
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	170000	30000	80000	50000	170000	2300
General										
Chloride	Comp	EPA300.0	2	mg/L	7.27	11.8	23.8	29	7.27	110
Fluoride	Comp	EPA300.0	0.1	mg/L	0.2	0.16	0.17	0.13	0.17	0.4
Nitrate	Comp	EPA300.0	0.1	mg/L	3.18	0.55	2.74	3.49	0.55	24.1
Sulfate	Comp	EPA300.0	0.1	mg/L	8.31	7.59	16.8	21.9	19.6	114
Alkalinity	Comp	EPA310.1	4	mg/L	113	27	22	60.5	22	182
Hardness	Comp	EPA130.2	2	mg/L	56	48	140	65	26	240
COD	9i	EPA410.4	10	mg/L	31	34.1	273	87	14	59.3
TPH	Grab	EPA418.1	1	mg/L	0	1.7	1	0	1.5	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	161.4	181.9	245	303	99.9	978
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	112	130	146	182	70	602
Turbidity	Comp	EPA180.1	0.1	NTU	34.8	34.8	58.7	58.8	65	1.74
Total Suspended Solids	Comp	EPA160.2	2	mg/L	199	132	150	252	141	43
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	51	33	4.2	21.6	3	14
MBAS	Comp	EPA425.1	0.05	mg/L	0.119	0.2	0	0.069	0	0.065
Total Organic Carbon	Comp	EPA415.1	1	mg/L	16.7	12	15.2	6.62	4.43	9.59
BOD	Comp	SM5210B	2	mg/L	26.34	7.3	22.3	20.5	10.9	16.3
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.476		0.21	0.443	0.229	1.22
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.487		0.549	0.51	0.309	1.46
NH3-N	Comp	EPA350.3	0.1	mg/L	1.34		0.216	0	0	0.807
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.718	0.124	0.62	0.78	0.124	5.44
Nitrite-N	Comp	SM4110B	0.03	mg/L	0.228	0.453	0.07	1.996	0.0335	0.1
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	2.78	4.82	16	6.36	2.3	1.41
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	419	0	102	4890	137	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.17	1.92	0.99	0.7	0.58	0
Total Antimony	Comp	EPA200.8	5	ug/l	1.23	1.92	1.08	1.57	0.58	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	1.38	1.04	1.19	0	0
Total Arsenic	Comp	EPA200.8	5	ug/l	1.14	2.15	1.13	2.26	0	0
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0.44	0.28	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.78	0.3	0.44	1.2	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	1.21	1.39	3.41	2.01	3.31	1.49
Total Chromium	Comp	EPA200.8	5	ug/l	3.83	12.5	4.1	16.6	9.37	2.97
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	24.7	6.42	21.5	14.8	9.46	29.9
Total Copper	Comp	EPA200.8	5	ug/l	103	16.1	28.5	41.8	13.9	32.4

					Wet					Dry
WEATHER CONDITION										
STATION NO.					TS03	TS03	TS03	TS03	TS03	TS03
STATION NAME					Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	954	669	120	222	298	0
Total Iron	Comp	EPA200.8	100	ug/l	954	766	164	7770	465	175
Dissolved Lead	Comp	EPA200.8	5	ug/l	3.83	3.25	1.62	0.86	0	1.36
Total Lead	Comp	EPA200.8	5	ug/l	23	5.15	1.62	33.5	1.95	1.68
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	5.35	4.78	5.66	4.26	2.62	4.52
Total Nickel	Comp	EPA200.8	5	ug/l	7.51	17.7	6.66	13.8	5.36	5.38
Dissolved Selenium	Comp	EPA200.8	5	ug/l	0	0	0	1.07	0	0
Total Selenium	Comp	EPA200.8	5	ug/l	0	0	0	1.21	0	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0.73
Total Silver	Comp	EPA200.8	1	ug/l	0.34	0	0	3.15	0	0.73
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	100	71	115	87.5	29	102
Total Zinc	Comp	EPA200.8	50	ug/l	240	73	126	240	53	137
Semi-Volatiles Organics (EPA 625)										
2-Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	24.4	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroethoxy) Methane	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l		0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS03	TS03	TS03	TS03	TS03	TS03
STATION NAME					Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l		0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l		0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l		0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l		0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l		5	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organophosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.19	0	0.066	0.074

WEATHER CONDITION					Wet					Dry
STATION NO.					TS03	TS03	TS03	TS03	TS03	TS03
STATION NAME					Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
~~Atrazine~~	Comp	EPA507	2	ug/l	0	0	0	0	0	0
~~Simazine~~	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
~~Metathion~~	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
~~Glyphosate~~	Comp	EPA547	25	ug/l	0	0	0	0	0	0
~~2,4-D~~	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
~~2,4,5-TP SILVEX~~	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances



WEATHER CONDITION					Wet					Dry
STATION NO.					TS04	TS04	TS04	TS04	TS04	TS04
STATION NAME					Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	14.3	1.9	1	9.1	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.02	0	0	0	0	0
pH	Comp	SM4500H B	0-14		7.69	6.81	7.8	7.44	7.48	8.28
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	8.98	6.25	9.4	9.92	8.07	9.53
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	500000	800000	300000	240000	800000	13000
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	130000	300000	170000	80000	220000	230
Ratio Fecal Coliform/Total Coliform					0.26	0.38	0.57	0.33	0.28	0.018
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	170000	2200000	130000	300000	2800000	5000
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	30000	500000	80000	24000	1400000	3000
General										
Chloride	Comp	EPA300.0	2	mg/L	10	13.6	9.61	8.6	7.81	100
Fluoride	Comp	EPA300.0	0.1	mg/L	0.37	0.15	0.13	0	0.11	0.3
Nitrate	Comp	EPA300.0	0.1	mg/L	2.08	1.03	1.46	2.49	1.03	3.92
Sulfate	Comp	EPA300.0	0.1	mg/L	10.5	23.7	15.4	13.8	9.56	104
Alkalinity	Comp	EPA310.1	4	mg/L	64	48	22	27.5	41.8	198
Hardness	Comp	EPA130.2	2	mg/L	79.2	72	72	45	72	430
COD	9i	EPA410.4	10	mg/L	46.4	26.3	93	58	52	66.4
TPH	Grab	EPA418.1	1	mg/L	1.3	2.3	4.3	0	2.3	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	215	215	168.9	129.5	165.3	1470
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	148	458	104	90	114	830
Turbidity	Comp	EPA180.1	0.1	NTU	200	971	1740	437.5	1700	3.97
Total Suspended Solids	Comp	EPA160.2	2	mg/L	318	581	1516	588	2039	32
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	76	35	9.4	51.7	12.3	17
MBAS	Comp	EPA425.1	0.05	mg/L	0.111	0	0	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	16.7	6.67	5.52	5.46	5.08	6.04
BOD	Comp	SM5210B	2	mg/L	38.52	13.7	4.9	10.2	10.7	15.5
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.275	0.502	0.148	0.107	0	0.097
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.275	0.589	0.563	0.302	1.05	0.101
NH3-N	Comp	EPA350.3	0.1	mg/L	0.826	0	0	0.154	0.396	0
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.47	0.233	0.329	0.56	0.233	0.885
Nitrite-N	Comp	SM4110B	0.03	mg/L	0.298	0	0.14	0.17	0.4534	0.183
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	1.908	1.18	5	1.7	0.544	0.72
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	287	143	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	415	13000	143	7900	5900	180
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.35	0.5	0	0.52	0	0
Total Antimony	Comp	EPA200.8	5	ug/l	1.8	0.83	0.55	0.96	0.73	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	1.89	1.7	0	2.02	0
Total Arsenic	Comp	EPA200.8	5	ug/l	1.55	4.28	2.27	2.27	3.08	0
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0.5	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.31	0.72	0	0.3	0.32	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0.85	0.97	2.17	1.09	3.79	0.54
Total Chromium	Comp	EPA200.8	5	ug/l	2.66	23.2	7.41	13.2	15.2	2.08
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	16.5	5.73	13.7	4.43	3.89	5.42
Total Copper	Comp	EPA200.8	5	ug/l	30.9	26.6	17.5	22.4	17.6	10.9

WEATHER CONDITION					Wet					Dry
STATION NO.					TS04	TS04	TS04	TS04	TS04	TS04
STATION NAME					Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	1297	2100	1980	319	1500	0
Total Iron	Comp	EPA200.8	100	ug/l	1430	18100	3620	8800	7510	163
Dissolved Lead	Comp	EPA200.8	5	ug/l	0.89	6	7.62	1.07	0	0
Total Lead	Comp	EPA200.8	5	ug/l	15.9	26.3	7.64	17.3	14.3	0.76
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	3.74	2.9	3.95	1.44	2.57	2.22
Total Nickel	Comp	EPA200.8	5	ug/l	4.86	22.5	6.91	11.2	11.1	3.01
Dissolved Selenium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Selenium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	60.1	90	39	16.7	0	38
Total Zinc	Comp	EPA200.8	50	ug/l	175	147	52	75	71	57
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l		0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS04	TS04	TS04	TS04	TS04	TS04
STATION NAME					Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l		0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l		0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l		0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l		0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0.51	0	0.047	0.077	0.079	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS04	TS04	TS04	TS04	TS04	TS04
STATION NAME					Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet					Dry
STATION NO.					TS05	TS05	TS05	TS05	TS05	TS05
STATION NAME					Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	8.1	0	1.3	2.5	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.031	0	0	0	0	0
pH	Comp	SM4500H B	0-14		7.74	7.48	7.69		7.18	8.87
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	8.7	8.65	6.55	9.03	4.32	9.59
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	700000	800000	500000	240000	140000	5000
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	90000	140000	300000	130000	70000	300
Ratio Fecal Coliform/Total Coliform					0.13	0.18	0.6	0.542	0.5	0.06
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	240000	300000	130000	220000	50000	300
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	80000	240000	130000	220000	30000	170
General										
Chloride	Comp	EPA300.0	2	mg/L	89.8	46.3	29.5	17.8	2.84	90
Fluoride	Comp	EPA300.0	0.1	mg/L	0.53	0.15	0.36	0.16	0	0.3
Nitrate	Comp	EPA300.0	0.1	mg/L	4.11	9.68	0	1.09	4.32	8.57
Sulfate	Comp	EPA300.0	0.1	mg/L	89.7	64.4	35.5	15.7	4.16	121
Alkalinity	Comp	EPA310.1	4	mg/L	117	64	126.5		49.5	49.5
Hardness	Comp	EPA130.2	2	mg/L	210	140	140	73	66.4	280
COD	9i	EPA410.4	10	mg/L	105.6	92.1	80	94	25	62.4
TPH	Grab	EPA418.1	1	mg/L	2	1	0	0	1	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	766	410	373	192.7	164.3	1128
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	510	298	260	118	108	622
Turbidity	Comp	EPA180.1	0.1	NTU	187	148	131	36.3	78.3	0.44
Total Suspended Solids	Comp	EPA160.2	2	mg/L	262	829	407		188	7
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	60	109	11.5		5.1	7
MBAS	Comp	EPA425.1	0.05	mg/L	0.209	0	0.169	0	0.066	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	36.9	7.68	22.9	10.9	6.74	5.02
BOD	Comp	SM5210B	2	mg/L	66.34	6.8	33.6	36.4	24.4	31
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.44		0.718	0.133	0	0
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.487		0.855	1.431	0.201	0
NH3-N	Comp	EPA350.3	0.1	mg/L	0.921	0.158	1.6		0	0
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.928	2.19	0	0.25	0.975	1.94
Nitrite-N	Comp	SM4110B	0.03	mg/L	1.87	0	0	0.57	0	0
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	3.52	0.448	7.46	2.42	4.34	0.39
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0		0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	271	8350	0		0	117
Dissolved Antimony	Comp	EPA200.8	5	ug/l	2.22	0.58	0.64		0.72	0
Total Antimony	Comp	EPA200.8	5	ug/l	2.68	1.16	0.76		0.73	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	1.24	1.12		0	0
Total Arsenic	Comp	EPA200.8	5	ug/l	2.1	2.71	1.2		0	0
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.4	0.62	0		0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	2.68	0.87	3.11		5.67	0
Total Chromium	Comp	EPA200.8	5	ug/l	2.7	17.3	3.66		8.6	9.08
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	11.5	6.41	5.7		5.82	3.63
Total Copper	Comp	EPA200.8	5	ug/l	34.8	36.8	12.3		10.8	12.4

WEATHER CONDITION					Wet					Dry
STATION NO.					TS05	TS05	TS05	TS05	TS05	TS05
STATION NAME					Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	1168	170	288		0	0
Total Iron	Comp	EPA200.8	100	ug/l	1270	10900	358		254	194
Dissolved Lead	Comp	EPA200.8	5	ug/l	1.51	0.61	1.91		0	0
Total Lead	Comp	EPA200.8	5	ug/l	15.4	30.3	2.54		1.94	0.86
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0		0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0		0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	8.47	1.95	6.03		3.49	1.69
Total Nickel	Comp	EPA200.8	5	ug/l	10.5	17.5	6.82		5.9	2.91
Dissolved Selenium	Comp	EPA200.8	5	ug/l	1.84	0	0		0	0
Total Selenium	Comp	EPA200.8	5	ug/l	2.2	0	0		0	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0		0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0		0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	118	78	31		0	41
Total Zinc	Comp	EPA200.8	50	ug/l	243	258	66		40	60
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l		0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS05	TS05	TS05	TS05	TS05	TS05
STATION NAME					Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l		0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l		0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l		0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l		0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	3.3	0	0.063	0.092	0.077	0.026

WEATHER CONDITION					Wet					Dry
STATION NO.					TS05	TS05	TS05	TS05	TS05	TS05
STATION NAME					Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	65	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet					Dry
STATION NO.					TS06	TS06	TS06	TS06	TS06	TS06
STATION NAME					Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	12	0	1.3	1.6	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.043	0	0.009	0	0	0.009
pH	Comp	SM4500H B	0-14		7.67	6.95	7.64	7.37	6.57	9.36
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	8.6	8.3	9.83	9.58	7.29	16.57
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	1300000	170000	500000	170000	130000	2300
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	300000	80000	300000	80000	80000	40
Ratio Fecal Coliform/Total Coliform					0.23	0.47	0.6	0.47	0.62	0.017
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	500000	300000	240000	90000	300000	40
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	300000	80000	130000	90000	130000	40
General										
Chloride	Comp	EPA300.0	2	mg/L	15.7	4.56	17.5	759	27.2	90
Fluoride	Comp	EPA300.0	0.1	mg/L	0.33	0.11	0.21	0	0	0.3
Nitrate	Comp	EPA300.0	0.1	mg/L	7.03	4.79	5.04	7.06	23.7	14.2
Sulfate	Comp	EPA300.0	0.1	mg/L	20.2	9.17	17.5	12.8	12.1	87
Alkalinity	Comp	EPA310.1	4	mg/L	75	16	44	27.5	16.5	77
Hardness	Comp	EPA130.2	2	mg/L	110	40	119	40	20.8	210
COD	9i	EPA410.4	10	mg/L	101.1	29.9	113	117	25	67.9
TPH	Grab	EPA418.1	1	mg/L	1.1	1.2	1.1	0	1.2	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	395	122.3	209	160	93.3	912
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	224	86	116	98	64	556
Turbidity	Comp	EPA180.1	0.1	NTU	244	82.5	36.5	47.3	58.3	0.72
Total Suspended Solids	Comp	EPA160.2	2	mg/L	266	72	79	305	109	7
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	64	11	4.9	26	1	7
MBAS	Comp	EPA425.1	0.05	mg/L	0.156	0	0.056	0	0	0.055
Total Organic Carbon	Comp	EPA415.1	1	mg/L	27.9	5.11	8.79	4.39	4.74	5.89
BOD	Comp	SM5210B	2	mg/L	66.08	11.3	11.8	16	31.5	76.1
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.471	0.393	0.264	0.253		0.057
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.59	0.443	0.276	0.4		0.065
NH3-N	Comp	EPA350.3	0.1	mg/L	1.02	0.124	0	0		0.181
Nitrate-N	Comp	SM4110B	0.5	mg/L	1.59	1.08	1.14	1.29	5.352	3.21
Nitrite-N	Comp	SM4110B	0.03	mg/L	0.816	0	0.12	0	0	0.213
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	1.81	0.322	1.58	3.46	4.08	0.98
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	335	182	123	140	484	117
Dissolved Antimony	Comp	EPA200.8	5	ug/l	2.53	0.89	1.16	0.64	0.6	0
Total Antimony	Comp	EPA200.8	5	ug/l	2.7	0.91	1.2	0.65	0.66	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	1.26	1.11	0	0	0
Total Arsenic	Comp	EPA200.8	5	ug/l	2.41	1.34	1.19	0	0	0
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.33	0	0	0	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	1.42	0.83	2.23	1.33	2.17	0.66
Total Chromium	Comp	EPA200.8	5	ug/l	3.25	11.8	6.05	5.81	9.44	2.15
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	19.9	4.43	12.3	4.78	5.9	3.51
Total Copper	Comp	EPA200.8	5	ug/l	34	10.7	19.3	11.6	12.1	5.58

WEATHER CONDITION					Wet					Dry
STATION NO.					TS06	TS06	TS06	TS06	TS06	TS06
STATION NAME					Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	1070	181	283	0	218	0
Total Iron	Comp	EPA200.8	100	ug/l	1070	401	392	564	620	131
Dissolved Lead	Comp	EPA200.8	5	ug/l	2.25	1.46	2.74	0	0	0
Total Lead	Comp	EPA200.8	5	ug/l	20	2.48	2.82	3.14	3.85	0.71
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	7.55	1.63	4.05	2.05	1.51	3.76
Total Nickel	Comp	EPA200.8	5	ug/l	8.04	14.9	9.26	5.89	5.2	4.75
Dissolved Selenium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Selenium	Comp	EPA200.8	5	ug/l	1.27	0	0	0	0	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	61.3	29	55	15	19	66
Total Zinc	Comp	EPA200.8	50	ug/l	128	86	68	39	53	76
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l		0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS06	TS06	TS06	TS06	TS06	TS06
STATION NAME					Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l		0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l		0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l		0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l		0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0.54	0	0.49	0.042	0.065	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS06	TS06	TS06	TS06	TS06	TS06
STATION NAME					Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

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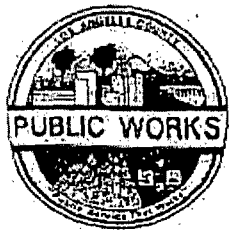
ATTACHMENT
R4 (131)

FINAL

EVALUATION OF ANALYTES AND QA/QC SPECIFICATIONS FOR MONITORING PROGRAM

December 1996

Prepared for



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SECTIONONE Introduction

Following sixteen years of stormwater monitoring, two of which were under an NPDES permit (Permit), the Los Angeles County Department of Public Works (LACDPW) is evaluating the adequacy and appropriateness of its Monitoring Program. The purpose of this report is to provide a refined constituent list that reflects our current understanding of pollutants of concern in the receiving waters, and to specify the quality assurance and quality control (QA/QC) procedures required for reliable monitoring of these constituents.

The Monitoring Program was established with an overall goal to develop and support effective watershed stormwater quality management programs in order to reduce pollutants to the maximum extent practicable. There are seven major specific objectives listed in the Permit:

Track water quality status, pollutant trends and loads, and identify pollutants of concern.

- Monitor and assess pollutant loads from specific land uses and watersheds.
- Identify, monitor, and assess significant water quality problems related to stormwater discharges.

Identify pollutant sources in stormwater runoff.

- Identify and eliminate illicit discharges.
- Evaluate the effectiveness of management programs.

Assess the impacts of stormwater runoff on receiving waters.

To address this spectrum of objectives, initial permit monitoring in Los Angeles County included a broad analytical suite that provided detailed information on urban pollutants in the water as well as major ions, nutrients, and chemical and biological properties. Some of these water quality parameters are related to natural processes rather than to human activity. Furthermore, many constituents in the analytical suite are not thought to be posing any ecological risk or human health risk in the receiving waters. To focus future monitoring on relevant constituents, the data collected during the winters of 1994/95 and 1995/96 were reviewed with the following questions in mind:

- What are the pollutants of concern?
- What are the levels of concern (e.g., toxic concentrations) for each pollutant?

  Are those pollutants found in stormwater runoff in Los Angeles County?
- Is the existing analytical methodology adequate for detecting pollutants at the levels of concern?

  Should analysis for some constituents be done to achieve lower detection levels? For which constituents?

  Are there analyses which could be discontinued?
- Are there other constituents that should be added?

Section 2 describes pollutants of concern in freshwater and marine receiving waters. Section 3 summarizes the findings of the last two years of stormwater monitoring in Los Angeles County and identifies the pollutants that have been detected consistently. Section 4 presents recommended constituents for chemical monitoring in stormwater, and provides a rationale for the recommendations. Section 5 describes recommended sampling and shipping procedures. Section 6 delineates recommended QA/QC procedures and Section 7 lists the references used in writing this report.

SECTION TWO Pollutants Of Concern In Los Angeles County Water Bodies

Stormwater runoff from urban catchments in Los Angeles County ultimately flows into rivers, lagoons, bays, and the ocean. Pollutants exhibit different impacts in the water column or the sediment, as well as in freshwater, brackish, or sea water. Some pollutants (e.g., silver) are very toxic, i.e., they may poison aquatic life at very low concentrations, whereas other pollutants (e.g., zinc) can be tolerated at relatively high concentrations without causing harm. Conservative elements, such as metals, do not degrade and may pose more long-term risks than non-conservative compounds, such as petroleum hydrocarbons that can be broken down by microorganisms.

Table 2-1 lists pollutants of concern for seven major receiving water bodies in the portion of Los Angeles County covered under the NPDES Permit and the corresponding USEPA Water Quality Criteria for the Protection of (1) Freshwater Aquatic Life and (2) Saltwater Aquatic Life. These water quality criteria are hereafter referred to collectively as criteria. Concentrations in the listed water bodies are uncertain and may not exceed the criteria given in the table. The constituents listed in Table 2-1 are pollutants of concern in local water bodies, however, they may not be present in stormwater, and if present, may not exceed the criteria.

The most obvious feature of Table 2-1 is the number of pollutants, both organic and inorganic, that are associated with past and present human activity in Los Angeles County watersheds. Some pollutants are typical of residential, industrial and commercial sources (e.g., copper, lead, and zinc), while others reflect special activities (e.g., tributyltin, which is used as an antifouling agent in boat hull paints). Some pollutants of concern may originate in one location and migrate to other watersheds. For example, it is conceivable that DDT found in sediments in the mouths of Los Angeles County rivers could have been washed in by ocean currents from Palos Verdes (B.H. Jones, personal communication).

The criteria (supplied for informational purposes only) vary in magnitude among pollutants and depend on whether the receiving water is fresh or marine. For some pollutants, the criteria are lower than the detection limits of the laboratory analytical methods used in previous years of the Monitoring Program. As a rule of thumb, it is typically recommended that laboratory analytical methods which have detection limits several times lower than the criteria be used to assure detection of potentially harmful substances at the criteria concentration.

TABLE 2-1
POLLUTANTS OF CONCERN IN LOCAL WATER BODIES AND WATER QUALITY CRITERIA FOR SELECTED CONSTITUENTS

Pollutant	Ballona Creek and Wetlands	Los Angeles River	San Gabriel River	Malibu Creek	Malibu Lagoon	Marina del Rey	Santa Monica Bay	Freshwater EPA Criteria (1)	Saltwater EPA Criteria (2)	Units
Conventional Pollutants										
Oil & Grease	x	x					x			
Cyanide	x	x						5.2	1	ug/l
pH		x						6.5 - 9	6.5 - 8.5	
Bacteria and other Pathogens										
Coliform	x	x	x		x	x	x			
Enteric viruses					x					
General										
Phosphorus	x		x							
Turbidity		x								
TSS				x						
TDS		x			x					
TPH	x	x		x						
Ammonia	x	x	x	x				2.2	0.44	mg/l
Nitrogen	x		x							
Metals										
Arsenic	x	x	x	x				190	36	ug/l
Barium	x	x	x	x						
Beryllium		x								
Cadmium	x	x	x	x			x	0.37	9.3	ug/l
Chromium	x	x	x	x		x		57	50	ug/l
Copper	x	x	x	x		x	x	3.5	2.4	ug/l
Lead	x	x	x	x		x	x	0.54	8.1	ug/l
Mercury	x	x		x			x	0.012	0.025	ug/l
Nickel	x	x	x	x			x	49	8.2	ug/l
Selenium	x	x	x	x				5	71	ug/l
Silver	x		x					0.32	0.92	ug/l
Zinc	x	x	x	x			x	32	81	ug/l
Organics										
Bromodichloromethane			x							
Carbon tetrachloride			x							
Chloroform		x	x	x						
Dichlorobenzenes			x							
Methylene chloride		x	x							
PCBs	x						x	0.014		ug/l
Tetrachloroethene (PCE)			x							
Trichloroethene (TCE)		x								
Tributyl tin (TBT)	x					x		0.026		ug/l
Toluene		x								
Xylenes		x								

TABLE 2-1
POLLUTANTS OF CONCERN IN LOCAL WATER BODIES AND WATER QUALITY CRITERIA FOR SELECTED CONSTITUENTS

Pollutant	Ballona Creek and Wetlands	Los Angeles River	San Gabriel River	Malibu Creek	Malibu Lagoon	Marina del Rey	Santa Monica Bay	Freshwater EPA Criteria (1)	Saltwater EPA Criteria (2)	Units
Organics (continued)										
PAHs	x						x			
Naphthalene		x								
Pesticides						x	x			
Aldrin		x						3		ug/l
Chlordane	x					x	x	0.0043		ug/l
DDT/DDE/DDD	x			x		x	x	0.001		ug/l
Priority Organics		x	x							

Data Source: RWQCB, Los Angeles Region, 1996.

Notes:

(1) USEPA Water Quality Criteria for the Protection of Freshwater Aquatic Life
Criteria are chronic except those marked with an asterisk, which denotes acute criteria.
Hardness is assumed to be 25 mg/l for those metals whose WQC depends on hardness, specifically Cd, Cr, Cu, Pb, Ni, Ag, and Zn.
All metals criteria are for the dissolved fraction with the exceptions of Hg and Se, which are total.
Ammonia criteria assumes pH of 6.5 and temperature of 15 C for salmonid habitat.

(2) USEPA Water Quality Criteria for the Protection of Saltwater Aquatic Life (chronic)
All metals criteria are for the dissolved fraction with the exception of Hg.
Ammonia criteria assumes pH of 8.4, temperature of 20 C, and salinity of 20 g/kg.

x Pollutant is present at unspecified concentration, **not necessarily** exceeding criteria.

A data review was conducted which included historical data used for mass loading assessment (Stenstrom and Strecker, 1993), pathogen and indicators data reported by the Santa Monica Bay Restoration Project (Gold et al., 1992), LACDPW Monitoring Program data obtained during 1994/95 (Los Angeles County Department of Public Works, 1996), and raw data from the 1995/96 wet season as provided by the LACDPW. The LACDPW data were summarized in Table 3-1 as received, i.e., we did not perform any QA/QC evaluation of the data. The analytical suite, detection limits, and frequencies of detection at these limits are included in Table 3-1 for both the 1994/95 and 1995/96 data. The range of station means for 1994/95, and the maximum concentrations detected in the 1995/96 wet season were also included in Table 3-1. For the 1995/96 wet season, the data were pooled for all urban catchments and reported separately from the open space data.

3.1 CONVENTIONAL AND GENERAL WATER QUALITY PARAMETERS

Oil and grease and total petroleum hydrocarbons (TPH), were detected in more than 50% of the urban runoff samples and were not detected in runoff from open space catchments.

Total suspended solids (TSS) and turbidity were always detected in the stormwater runoff samples collected at all monitoring stations. However, TSS and turbidity values were generally higher in open space stations, indicating that a major source of solids could be soil erosion in the upper, open space portions of the watersheds. Cyanide was not detected in any of the samples at a detection limit of 50 µg/l; however, the criteria for cyanide are in the range of 1-5 µg/l (see Table 2-1) so there is no way to assess potential harmful effects of cyanide in the stormwater runoff samples analyzed.

Nutrients (nitrogen and phosphorous compounds) were detected in a high percentage or in all of the samples, both from urban and open space catchments, at levels that could support rapid growth of algae and aquatic plants. Maximum ammonia concentrations are not expected to cause toxicity at the maximum pH values reported.

TABLE 3-1
SUMMARY OF 1994/95 AND 1995/96 LACDPW STORMWATER MONITORING DATA

Class	Constituent	Detection Limit	Units	Mixed Urban Land Use			Open Space	
				94/95	95/96		95/96	
				Range of Means	Maximum	% of Detects	Maximum	% of Detects
Conventional								
	O&G	1	mg/l	ND - 3.30	37.5	54.2	ND	0
	Total Phenols	0.1	mg/l		0.1	1.7	ND	0
	Cyanide	0.05	mg/l		ND	0	ND	0
	pH	NA	pH	6.88 - 8.19	8.4	100	8.43	100
Indicator Bacteria								
	Total Coliform	20	MPN/100 ml	9740 - 514,464	>1,600,000	100	1,600,000	100
	Fecal Coliform	20	MPN/100 ml	6640 - 166,692	>1,600,000	96.8	280,000	100
	Fecal Streptococcus	20	MPN/100 ml	2235 - 202,076	2,400,000	100	1,400,000	100
	Fecal Enterococcus	20	MPN/100 ml	688 - 109,476	>1,600,000	100	1,100,000	100
General								
	Phosphorus, dissolved	0.05	mg/l	ND - 0.307	1.95	88.1	0.44	60
	Phosphorous, total	0.05	mg/l	ND - 0.984	1.95	100	0.5	100
	Turbidity	0.1	NTU		90	100	1800	100
	TSS	1	mg/l	17 - 609	880	100	8728	100
	TDS	5	mg/l	16 - 910	1240	100	1160	100
	VSS	1	mg/l/hr		300	100	600	100
	TOC	1	mg/l	11.1 - 31.3	102	100	13.1	100
	TPH	1	mg/l		37.5	52.5	ND	0
	BOD	1	mg/l	ND - 45.2	97.8	100	90.3	100
	COD	50	mg/l	ND - 63.1	140	17.1	ND	0
	Ammonium-N	0.1	mg/l	ND - 3.05	6.19	57.5	2.09	20
	NH3-N	0.1	mg/l		5.12	71.8	1.73	50
	TKN	0.03	mg/l	ND - 1.84	5.86	97.4	13.7	100
	Nitrate	0.1	mg/l		96.3	100	11.4	100
	Nitrate-N	0.03	mg/l		21.7	100	2.58	100
	Nitrite-N	0.03	mg/l		6.54	67.4	0.11	50
	Nitrate & Nitrite		mg/l	0.19 - 3.37				
	Alkalinity	4	mg/l		262.3	100	242.7	100
	Specific Conductivity	1	umhos/cm		1920	100	1660	100
	Hardness	5	mg/l		640	100	700	100
	Chloride	2	mg/l	1 - 105	218	100	52.4	100
	Fluoride	0.1	mg/l	0.103 - 0.428	0.66	100	0.38	100
	Sulfate	0.1	mg/l	2 - 382	452	100	518	100
	Bicarbonate	2	mg/l		273	100	232	100
	Carbonate	2	mg/l		10.7	4.8	10.7	20

TABLE 3-1
SUMMARY OF 1994/95 AND 1995/96 LACDPW STORMWATER MONITORING DATA

Class	Constituent	Detection Limit	Units	Mixed Urban Land Use			Open Space	
				94/95	95/96		95/96	
				Range of Means	Maximum	% of Detects	Maximum	% of Detects
Total Metals								
	Antimony	10	ug/l	ND - 16	49	6.3	ND	0
	Arsenic	10	ug/l	ND - 17	17	3.1	ND	0
	Barium	100	ug/l		126	4.7	723	22.2
	Beryllium	5	ug/l	ND	ND	0	7	11.1
	Boron	250	ug/l		510	27.1	45	20
	Cadmium	10	ug/l	ND - 15	ND	0	31	11.1
	Calcium	2	mg/l		156	100	158	100
	Chromium	10	ug/l	ND - 52	35	24.6	200	33.3
	Copper	10	ug/l	20 - 49	168	92.2	305	77.8
	Iron	100	ug/l	ND - 718	7280	83.6	187,000	77.8
	Lead	10	ug/l	ND - 504	188	48.4	42	33.3
	Manganese	30	ug/l		504	51.6	4550	66.7
	Magnesium	2	mg/l		68.3	83.7	60.8	90
	Mercury	1	ug/l	ND	1	1.6	ND	0
	Nickel	10	ug/l		47	43.8	226	55.6
	Potassium	1	mg/l		20.7	100	6.78	100
	Selenium	5	ug/l	ND	24	9.4	ND	0
	Silver	10	ug/l	ND	ND	0	19	11.1
	Sodium	5	mg/l		156	100	83.6	100
	Thallium	10	ug/l		ND	0	ND	0
	Zinc	50	ug/l	56 - 272	876	82.8	651	55.6
Dissolved Metals								
	Antimony	10	ug/l	ND	4	1.6	ND	0
	Arsenic	10	ug/l	ND	ND	0	ND	0
	Barium	100	ug/l		ND	0	ND	0
	Beryllium	5	ug/l	ND	ND	0	ND	0
	Boron	250	ug/l		400	17	450	14.3
	Cadmium	10	ug/l	ND	ND	0	ND	0
	Chromium	10	ug/l	ND - 10	10	1.6	ND	0
	Copper	10	ug/l	ND - 17	42	50.8	ND	0
	Iron	100	ug/l		1550	27.1	ND	0
	Lead	10	ug/l	ND - 17	100	10.8	ND	0
	Manganese	30	ug/l		70	17.2	32	11.1
	Mercury	1	ug/l	ND	ND	0	ND	0
	Nickel	10	ug/l		15	6.2	ND	0
	Selenium	5	ug/l	ND	24	4.6	ND	0
	Silver	10	ug/l	ND	ND	0	ND	0
	Thallium	10	ug/l		ND	0	ND	0
	Zinc	50	ug/l	ND - 116	600	56.9	ND	0
Organic Compounds								
	Volatile Organics (8240)	varies	ug/l			0.26		0
	Bis(2-ethylhexyl)phthalate (625)	3	ug/l	ND - 81.3	236	77.3	38.9	100
	Other Semi-Volatile Organics (625)	varies	ug/l			0.91		1.12
	Organochlorine Pesticides (608)	varies	ug/l			0		0
	Organonitrogen Herbicides (619)	varies	ug/l			0		0

Method used for analysis of organic constituents is in parentheses.

3.2 BACTERIA

Indicator bacteria of fecal origin were detected in virtually all samples, sometimes at densities higher than were quantifiable by the dilution procedures employed. Opportunistic pathogens including coliforms and fecal coliforms, streptococci and enterococci were detected in runoff from open space stations as well as mixed land use stations.

METALS

Of the metals of concern, arsenic, barium, beryllium, cadmium, mercury, and silver were below the detection limit in the dissolved fraction, and were sporadically detected in the total fraction. However, the detection limits used for cadmium, copper, lead, mercury, silver, and zinc are higher than the corresponding criteria (see Table 2-1), so it is not possible to assess the potential for harmful effects due to metal contamination of stormwater.

ORGANIC COMPOUNDS

Volatile organic compounds (VOCs, EPA Method 8240), semivolatile organic compounds (SVOCs, EPA Method 625), organochlorine pesticides and PCBs (OCs, EPA Method 608), and organonitrogen herbicides (EPA Method 619) were not detected (with a few exceptions) at the detection limits attainable by these methods. The exceptions include bis(2-ethyhexyl)phthalate, which was detected in most samples at concentrations that were not correlated to any land use, and other plasticizers known as persistent lab and field equipment contaminants.

After reviewing the data collected by LACDPW over the past two years, recommended analytical suites for mass emission stations and land use stations were developed. Special studies may be developed using an additional analytical suite (referred to as the special studies suite) in conjunction with the mass emission and land use suites to choose appropriate analytes for the specific questions being asked. This section presents the three analytical suites and provides justification for the recommendation to lower detection limits.

The Permit requires that stormwater collected from mass emission and land use stations be analyzed for specific constituents which don't correspond to the analytical suites recommended in this report. Table 4-1 presents an overview of the analyses required by the Permit and the analyses recommended by this report for both mass emission and land use stations. Tables 4-2, 4-3, and 4-4 present the suggested analytical suites for the Monitoring Program. The major modifications from previous years are as follows:

Detection limits have been reduced for many constituents.

Analyses of VOCs (EPA Method 8240), SVOCs (EPA Method 625), organochlorine pesticides (OCs) and PCBs (EPA Method 608), and organonitrogen herbicides (EPA Method 619) at the detection limits attainable by these methods, are no longer recommended.

- Alternative methods for analyses of polycyclic aromatic hydrocarbons (PAHs) and selected organophosphorus pesticides have been added.

Use of the recommended analytical suites for mass emission and land use station monitoring would require negotiation with the Regional Water Quality Control Board (RWQCB) since the recommended analytical suites deviate from the analytical suites set forth in Attachment C (Monitoring Program Requirements) of the Permit.

4.1 DETECTION LIMITS

The concentrations of pollutants which can be detected are controlled by detection limits. When comparing pollutant concentrations to criteria, detection limits several times lower than the criteria are recommended. If inappropriate detection limits are chosen, analytes which are

TABLE 4-1
Comparison of Permit Requirements with Recommended Analyte Suites and Detection Limits

Constituent	Units	Detection Limits		Analytical Suites: Mass Emission Stations		Analytical Suites: Land Use Stations	
		Permit	Recommended	Permit	Recommended	Permit	Recommended
ıtional							
O&G	mg/l	1	1	x	x		x
Total Phenols	mg/l	0.1		x			
Cyanide	mg/l	0.01	0.01	x	x		x
pH	pH	0 - 14	sens. ± 0.1 pH uni	x	x		x
Temperature	no units given	None	sens. ± 1 degree	x	x		x
Dissolved Oxygen	mg/l	5	0.5	x			
or Bacteria							
Total Coliform	MPN	< 20	< 20	x	x		x
Fecal Coliform	MPN	< 20	< 20	x	x		x
Fecal Streptococcus	MPN	< 20	< 20	x	x		x
il							
Phosphorus, dissolved	mg/l	0.05	0.05	x	x		
Phosphorous, total	mg/l	0.05	0.05	x	x	x	x
Turbidity	NTU	0.1	1	x	x		x
TSS	mg/l	2	2	x	x	x	x
TDS	mg/l	2	2	x	x		x
VSS	mg/l	2	10	x			
TOC	mg/l	1	1	x			
TPH	mg/l	1	1	x	x		x
BOD	mg/l	2	4	x	x		x
COD	mg/l	20-900	5	x	x		x
Ammonium-N	mg/l	0.1	0.1	x	x	x	x
TKN	mg/l	0.1	0.1	x	x	x	x
Nitrate-Nitrite	mg/l	0.1	0.1	x	x	x	x
Alkalinity	mg/l	2	2	x			
Specific Conductivity	umho/cm	1	10	x	x		x
Hardness	mg/l	2	2	x	x		x
MBAS	mg/l	0.5	0.5	x			
Chlonde	mg/l	2	2	x			
Fluonde	mg/l	0.1	0.1	x			
Sulfate	mg/l	2	2	x			
(total and dissolved)							
Aluminum	ug/l	100,000	1000	x			
Antimony	ug/l	10	10	x			
Arsenic	ug/l	10	1	x	x		x
Barium	ug/l	100	1	x	x		x
Beryllium	ug/l	5	1	x	x		x
Boron	ug/l	250	100	x			
Cadmium	ug/l	10	1	x	x	x	x
Calcium	ug/l	200	1000	x			
Chromium	ug/l	10	1	x	x	x	x
Copper	ug/l	10	1	x	x	x	x
Hex. Chromium	ug/l	< 10,000 *	1	x			
Iron	ug/l	100	100	x	x		
Lead	ug/l	10	1	x	x	x	x
Magnesium	ug/l	200	1000	x			
Manganese	ug/l	30	100	x			
Mercury	ug/l	1	0.1	x	x	x	x
Nickel	ug/l	10	1	x	x	x	x
Potassium	ug/l	1000	1000	x			
Selenium	ug/l	5	0.2	x	x	x	x
Silver	ug/l	10	0.2	x	x	x	x
Sodium	ug/l	5	1000	x			
Thallium	ug/l	10	10	x			
Zinc	ug/l	50	10	x	x	x	x
atile Organic Compounds	ug/l	< 0.5 to <5		x			
es and PCBs	ug/l	< 0.02 to <5		x			
les	ug/l	< 10 to < 2000		x			
	ng/l	no DL given	10		x		x
rifos	ng/l	no DL given	50		x		x
Organic Compounds	no units given	< 0.01 to 10		x			
	ng/l	-	10 - 50		x		x

ection Limit

n limits required by the Permit are given in the "Permit" column under the heading "Detection Limits".
n limits recommended in this report are given in the "Recommended" column under the heading "Detection Limits".
s required by the Permit for the mass emission and land use stations are indicated by x's in the corresponding "Permit" columns under the "Analytical Suites" headings.
s recommended in this report for the mass emission and land use stations are indicated by x's in the corresponding "Recommended" columns under the "Analytical Suites" heading.

tection limit for hexavalent chromium is listed in the Permit as < 10 mg/L

TABLE 4-2
SUGGESTED ANALYTE SUITE FOR MASS EMISSION MONITORING STATIONS

Class	Constituent	Method	Detection Limit	Units	Preservation	Holding Time	Sample Type
Conventional							
	O&G	413.2	1	mg/l	4°C	28 days	grab
	Cyanide	335.1	0.01	mg/l	4°C pH>12 NaOH 0.6 g ascorbic acid	14 days	grab
	pH			pH		ASAP	grab
	Temperature [1]			degrees C		Field	grab
Bacteria							
	Total Coliform	MTF	< 20	MPN/100 ml	4°C	6 hours	grab
	Fecal Coliform	MTF	< 20	MPN/100 ml	4°C	6 hours	grab
	Fecal Streptococcus	MTF	< 20	MPN/100 ml	4°C	6 hours	grab
General							
	Phosphorus, dissolved	365.3	0.05	mg/l	filter	48 hours	composite
	Phosphorus, total	365.3	0.05	mg/l	4°C pH<2 H_2SO_4	28 days	composite
	Turbidity	180.1	1	NTU	4°C	48 hours	composite
	TSS	160.2	2	mg/l	4°C	7 days	composite
	TDS	160.1	2	mg/l	4°C	7 days	composite
	TPH	418.1	1	mg/l	4°C	28 days	grab
	BOD	405.1	4	mg/l	4°C	48 hours	composite
	COD	410.4	5	mg/l	4°C pH<2 H_2SO_4	28 days	composite
	Ammonia-N	350.3	0.1	mg/l	4°C pH<2 H_2SO_4	28 days	composite
	TKN	351.4	0.1	mg/l	4°C pH<2 H_2SO_4	28 days	composite
	Nitrate-N	4110 [2]	0.1	mg/l	4°C	48 hours	composite
	Nitrite-N	4110 [2]	0.1	mg/l	4°C	48 hours	composite
	Electrical Conductivity		10	umhos/cm	4°C	ASAP	composite
	Hardness	130.2	2	mg/l	4°C	6 months	composite
Metals (total and dissolved)							
	Arsenic	206.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Barium	208.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Beryllium	210.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Cadmium	213.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Chromium	218.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Copper	220.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Iron	236.1	100	ug/l	pH<2 HNO_3	6 months	composite
	Lead	239.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Mercury	245.1	0.1	ug/l	pH<2 HNO_3	28 days	composite
	Nickel	249.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Selenium	270.2	0.2	ug/l	pH<2 HNO_3	6 months	composite
	Silver	272.2	0.2	ug/l	pH<2 HNO_3	6 months	composite
	Zinc	289.1	10	ug/l	pH<2 HNO_3	6 months	composite
Organics							
	Diazinon	507	10	ng/l	4°C	7 days	composite
	Chlorpyrifos	507	50	ng/l	4°C	7 days	composite
	PAHs	Texas A&M	10 - 50	ng/l	4°C	7 days	composite
Toxicity							
	Sea Urchin Fertilization				4°C	72 hours	composite

[1] Temperature must be measured in the field immediately after taking the sample

[2] Standard Methods for the Examination of Water and Wastewater, 19th ed.

TABLE 4-3
SUGGESTED ANALYTE SUITE FOR LAND USE MONITORING STATIONS

lass	Constituent	Method	Detection Limit	Units	Preservation	Holding Time	Sample Type
onventional							
	O&G	413.2	1	mg/l	4°C	28 days	grab
	Cyanide	335.1	0.01	mg/l	4 C pH>12 NaOH 0.6 g ascorbic acid	14 days	grab
	pH			pH		ASAP	grab
	Temperature [1]			degrees C		Field	grab
acteria							
	Total Coliform	MTF	< 20	MPN/100 ml	4°C	6 hours	grab
	Fecal Coliform	MTF	< 20	MPN/100 ml	4°C	6 hours	grab
	Fecal Streptococcus	MTF	< 20	MPN/100 ml	4°C	6 hours	grab
ieneral							
	Phosphorus, total	365.3	0.05	mg/l	4°C pH<2 H_2SO_4	28 days	composite
	Turbidity	180.1	1	NTU		48 hours	composite
	TSS	160.2	2	mg/l	4°C	7 days	composite
	TDS	160.1	2	mg/l	4°C	7 days	composite
	TPH	418.1	1	mg/l	4°C	28 days	grab
	BOD	405.1	4	mg/l	4°C	48 hours	composite
	COD	410.4	5	mg/l	4°C pH<2 H_2SO_4	28 days	composite
	Ammonia-N	350.3	0.1	mg/l	4°C pH<2 H_2SO_4	28 days	composite
	TKN	351.4	0.1	mg/l	4°C pH<2 H_2SO_4	28 days	composite
	Nitrate-N	4110 [2]	0.1	mg/l	4°C	48 hours	composite
	Nitrite-N	4110 [2]	0.1	mg/l	4°C	48 hours	composite
	Electrical Conductivity		10	umhos/cm	4°C	ASAP	composite
	Hardness	130.2	2	mg/l	4°C	6 months	composite
letals (total)							
	Arsenic	206.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Barium	208.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Beryllium	210.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Cadmium	213.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Chromium	218.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Copper	220.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Lead	239.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Mercury	245.1	0.1	ug/l	pH<2 HNO_3	28 days	composite
	Nickel	249.2	1	ug/l	pH<2 HNO_3	6 months	composite
	Selenium	270.2	0.2	ug/l	pH<2 HNO_3	6 months	composite
	Silver	272.2	0.2	ug/l	pH<2 HNO_3	6 months	composite
	Zinc	289.1	10	ug/l	pH<2 HNO_3	6 months	composite
rganics							
	Diazinon	507	10	ng/l	4°C	7 days	composite
	Chlorpyrifos	507	50	ng/l	4°C	7 days	composite
	PAHs	Texas A&M	10 - 50	ng/l	4°C	7 days	composite
ıxicity							
	Sea Urchin Fertilization				4°C	72 hours	composite

Temperature must be measured in the field immediately after taking the sample.
Standard Methods for the Examination of Water and Wastewater, 19th ed.

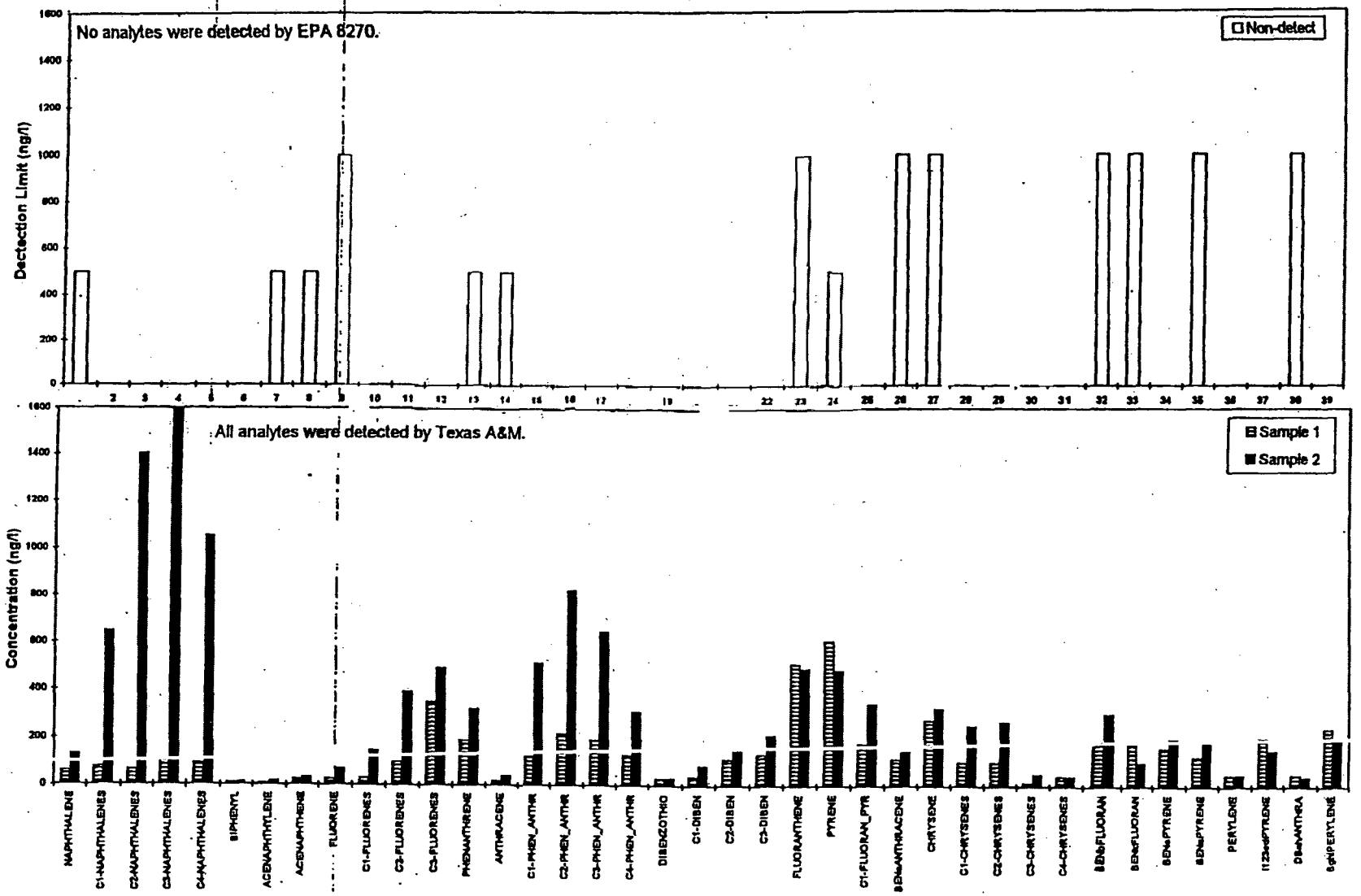
4.2.3 O&G, TPH, and PAHs

Oil and grease (O&G) compounds are operationally defined by the method of detecting them, that is the ability to detect and/or measure them by extracting them into an organic solvent, evaporating the solvent and measuring the number of carbon-hydrogen bonds using infra-red light (EPA Method 413.2) or weighing the residue (EPA Method 413.1). The O&G group is comprised of a variety of fatty compounds including petroleum hydrocarbons, vegetable oils, animal fats, etc. Total petroleum hydrocarbons (TPH) and total recoverable petroleum hydrocarbons (TRPH) are subsets of the O&G compounds (EPA Methods 8015M and 418.1, respectively). Polynuclear aromatic hydrocarbons (PAHs) are a specific group within the O&G class, which are dominated by ringed aromatic carbon structures. All PAHs have two or more rings, hence the name "polynuclear aromatic hydrocarbons". Potential sources of PAHs include petroleum products (raw and used motor oil, diesel, and gasoline) and combustion byproducts of petroleum hydrocarbons, wood, and other organic materials. Some PAHs, namely benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-c)pyrene, and dibenzo(ah)anthracene, are known to be carcinogenic, and some exert outright toxicity, depending on their concentrations. The PAHs have been analyzed for by the SVOC method (EPA 625) in 1994/95 and 1995/96, but the SVOC method did not detect any.

Stormwater programs in Portland, Eugene, San Diego, and the San Francisco Bay Area have been utilizing a low-level detection method developed by Texas A&M. The peaks include both the parent molecules and the methylated molecules derived from them, which have similar environmental effects and are of similar concern. The Texas A&M method reports the concentrations of 39 individual compounds at detection levels of 0.01 - 0.05 µg/l for each peak. The methylated PAH compounds currently are not regulated by the United States Environmental Protection Agency (EPA) or the San Francisco Basin Plan.

Figure 4-1 shows a plot presenting the concentrations for each of 39 individual compounds in two samples as measured by EPA Method 8270 (upper plot) and by the Texas A&M method (lower plot). The open bars represent the detection limits of EPA Method 8270 while the striped and solid bars represent the concentrations of specific PAHs as determined by the Texas A&M method. The relative abundance of the different compounds found in Sample #1 provides a "fingerprint" typical of urban runoff where the lighter, more volatile compounds (left of the plot) are present at very low concentrations due to weathering. This pattern was seen in most of the other samples collected in

FIGURE 4-1
COMPARISON OF PAH DATA AVAILABLE FROM DIFFERENT METHODS



non-detect can not be dismissed as unimportant in the sample analyzed. Lower detection limits lead to greater accuracy at low concentrations, better estimates of mass emissions, and more accurate determination of risks to aquatic life and human health.

For many constituents (e.g., copper, lead, zinc) the laboratory currently utilized is capable of calibrating the instrument for the recommended detection limits using current EPA-approved analytical methods. However, for some organic constituents (e.g., PAHs, diazinon) the standard EPA approved methodology cannot achieve the recommended detection limits, even with modifications. There are laboratories which specialize in these low-level analytical techniques but the use of these methods would need to be negotiated with the RWQCB.

4.2 CHEMICAL AND PHYSICAL ANALYSES

4.2.1 Metals, Anions, and Cations

Metals that are considered pollutants of concern are recommended for analysis in mass emission stations (total and dissolved fractions) and land use stations (total fraction), at the detection limits specified (Tables 4-2 and 4-3). Other metals, anions, and cations that are neither toxic nor macro-nutrients are recommended only for special studies which require their analysis (Table 4-4). Iron, especially the fraction bound to particles, has an effect on the ratio between total and dissolved copper by providing binding sites for copper and decreasing the dissolved (toxic) fraction. It is recommended that iron be measured at mass emission stations and that "particulate iron" concentrations be calculated from total and dissolved data.

4.2.2 VOCs and SVOCs

With the exception of bis(2-ethylhexyl)phthalate and other plasticizers, volatile and semivolatile organic compounds were not detected at the detection limits used in the past two years. Continued monitoring of VOCs and SVOCs is not anticipated to yield any useful data. These methods may be appropriate for special studies or, in specified areas, in response to spills or mass discharges of organic constituents. Additionally, in accordance with the Permit, the LACDPW may exclude VOCs from the list of constituents [Attachment C, provision B(2)(b)] for mass emission monitoring sites.

TABLE 4-4
SUGGESTED ANALYTE SUITE FOR SPECIAL STUDIES

Class	Constituent	Method	Detection Limit	Units	Preservation	Holding Time	Sample Type
Conventional							
	Total Phenols	420.1		mg/l	°C, 0.008% Na_2S_2O	7 days	grab
	Dissolved Oxygen			mg/l	none required	immed.	grab
Bacteria and Viruses							
	Fecal Enterococcus	MTF	< 20	MPN/100 ml	4°C	6 hours	grab
	Enteric Viruses	9510 (1)	1	PFU	4°C	48 hours	grab
General							
	VSS	160.4		mg/l	4°C	7 days	
	TOC	415.1		mg/l	4°C pH<2 HCl or H_2SO_4 or H_3PO_4	28 days	
	MBAS	425.1		mg/l	4°C		
	Chloride	4110		mg/l	none required		
	Fluoride	4110		mg/l	none required	28 days	
	Sulfate	4110		mg/l	none required		
Metals (total and/or dissolved)							
	Aluminum	202.1	1000	ug/l	pH<2 HNO_3	6 months	composite
	Antimony	204.2	10	ug/l	pH<2 HNO_3	6 months	composite
	Boron	212.3	100	ug/l	pH<2 HNO_3	6 months	composite
	Calcium	215.2	1000	ug/l	pH<2 HNO_3	6 months	composite
	Iron	236.1	100	ug/l	pH<2 HNO_3	6 months	composite
	Magnesium	3500 (1)	1000	ug/l	pH<2 HNO_3	6 months	composite
	Manganese	243.1	100	ug/l	pH<2 HNO_3	6 months	composite
	Potassium	258.1	1000	ug/l	pH<2 HNO_3	6 months	composite
	Sodium	273.1	1000	ug/l	pH<2 HNO_3	6 months	composite
	Thallium	279.1	10	ug/l	pH<2 HNO_3	6 months	composite
Semivolatile Organic Compounds		8250	varies	ug/l	4°C	7 days	composite
Pesticides and PCBs		608	varies	ug/l	4°C	7 days	composite
		507	varies	ug/l	4°C	7 days	composite
Volatile Organic Compounds		8240	varies	ug/l	4°C	7 days	composite

(1) Standard Methods for the Examination of Water and Wastewater, 19th ed.

stormwater was consistently toxic to test organisms (*Ceriodaphnia dubia*, a small crustacean) and diazinon was identified as the cause, exhibiting toxicity at concentrations of 0.3 µg/l. Diazinon was detected in all samples tested from San Francisco Bay Area watersheds using LC/MS (a more sensitive method), sometimes at concentrations that are known to be toxic, while chlorpyrifos was detected less often. Diazinon is much more soluble (about 40 mg/l in water at 20° C) than chlorpyrifos (2 mg/l) and other pesticides used by homeowners.

4.2.6 Bacteria

The data reported previously does not specify the meaning of numbers reported as "higher than", e.g., >1,600,000 MPN/100 ml. For all microbial parameters, it is recommended that stormwater samples be given sufficient decimal dilutions in the most probable number (MPN) method to provide definitive values. Results indicating the order of magnitude (e.g., 2.4×10^3, or 2.4E+3) are easier to comprehend and use in statistical analysis where logarithmic transformations are desired. As for different species of human fecal indicators, it is recommended that the "traditional" indicators (total coliform, fecal coliform, and fecal stretococcus) be used in routine monitoring, and that other indicators be used in focused studies to answer specific questions, in coordination and possible collaboration with other agencies that conduct epidemiological studies. Specifically, coordination and consolidation with the Santa Monica Bay Restoration Project (SMBRP) Technical Advisory Committee beach testing may be beneficial to LACDPW.

4.2.7 Toxicity Testing

The sea urchin fertilization test specified in the Permit is a suitable toxicity test to predict the potential impact of stormwater runoff on marine receiving waters. The same test can also be used to predict problems associated with sediment contamination through the examination of sediment pore (interstitial) water samples.

4.3 SPECIAL STUDIES

Special studies have been used to address a vast array of stormwater-related problems and questions, and in many situations have provided extremely valuable information at a relatively low cost. The most important features of special studies are their focused design and their being

the San Francisco Bay Area in recent years. On the other hand, unusually high concentrations of naphthalene and its substituted derivatives (the original molecule with additional carbon sidechains) were seen at one of the monitoring stations (Sample #2) for one event. This may reflect fresh inputs of some light mixture such as diesel fuel, and could imply that a spill had occurred somewhere in the watershed. In comparison, the same data are plotted as if the sample had been analyzed by EPA Method 8270 at the detection limits previously used in the LACDPW Monitoring Program. This hypothetical analysis results in no detections for any PAHs.

Samples analyzed by EPA Method 8270 which are reported as non-detects may contain parent PAH molecules (e.g., napthalene) at concentrations below the detection limit and/or substituted compounds at any concentration. For example, in Figure 4-1 compound 1 in the upper plot corresponds with napthalene in the lower plot. Napthalene, the parent molecule, is present at a concentration of about 150 ng/l in Sample #2 (lower plot), however it would go undetected if the sample had been analyzed by EPA Method 8270 with a detection limit of 500 ng/l (upper plot). Substituted napthalene compounds, which have similar environmental effects as napthalene, are present at concentrations ranging from about 650 ng/l to about 1600 ng/l in Sample #2 (lower plot). However, because EPA Method 8270 does not measure substituted PAHs, these napthalene-derived compounds would go undetected in the hypothetical analysis pictured in the upper plot.

4.2.4 Chlorinated Pesticides and PCBs

Chlorinated pesticides and PCBs were not detected in any of the stormwater samples analyzed. Most of the compounds that this method (EPA 608) quantifies have been banned in the U.S. for years. They persist in the environment (very few bacteria have enzymes that can metabolize these synthetic molecules) and some can accumulate and bioconcentrate in the food chain. Although some of the banned chlorinated organics are retained in sediments, they are very insoluble and tend to stay attached to particles. If there is no massive resuspension of deep sediments in the watersheds, it is unlikely that these compounds will be detected in stormwater.

4.2.5 Organophosphorus Pesticides (OPs)

Organophosphorus pesticides have widely replaced chlorinated pesticides because they are broken down rather quickly in the environment and they are very effective (toxic to insects) at low concentrations. Unfortunately, these compounds are also very toxic to aquatic life, particularly to crustaceans and insect larvae. Routine analysis of stormwater in the San Francisco Bay Area using EPA Method 8140 at a detection limit of 1 µg/l consistently resulted in no detections. However,

amenable to a tiered approach, in which each phase of the study is designed based on the conclusions drawn from the previous phase.

Table 4-4 includes the recommended methodology and detection limits for constituents that may be relevant to specific special studies. These constituents are not recommended for routine monitoring, either because they have not been detected in the past, or because it is not clear what the past detections actually meant and how such data could be used. Additional analytes could be chosen from Table 4-2 as desired.

For example, metals, anions, and cations that are not considered pollutants of concern have been quantified in the past and an extensive database has been compiled. If desired, the existing data could be analyzed and questions could be formulated based on that analysis. A special study could be designed, a limited study area selected, and new data analyzed to try to answer the formulated questions. Topics of interest may include ionic balance in stormwater, effects on speciation of trace metals, etc.

The background concentrations of trace metals within a watershed is of interest for many stormwater monitoring programs. For example, monitoring in the San Francisco Bay Area watershed indicated that peak concentrations of mercury and other metals were observed when the contribution of runoff and suspended solids from open land began, after the hills were saturated (Contra Costa Clean Water Program, 1995). An open space special study was designed to provide data that allowed comparison of metals concentrations in the runoff from open space, upper watershed areas with metals concentrations from the urban portion of the same watershed.

Plasticizers, particularly bis(2-ethylhexyl)phthalate, have typically been detected by stormwater monitoring programs that used EPA Method 8270. The plasticizers could be coming from the watershed, the sampling equipment, the laboratory reagents, or even from the laboratory distilled water. If deemed necessary, a focused, highly controlled special study could be conducted to identify the source of plasticizers, rather than extending monitoring resources to continue analyzing for plasticizers in all stormwater samples.

Appropriate sampling procedures are essential to obtaining representative samples which yield quality data.

5.1 PREPARATION AND TRAINING

Adequate preparation and training will support the efficient collection of uncontaminated stormwater samples. Prior to beginning stormwater sampling, members of the sampling crews should:

- be trained by experienced personnel in the use of all sampling equipment;
- maintain an adequate supply of sample bottles, coolers, ziplock bags, chain-of-custody forms, etc.;
- clean any equipment that will come into contact with the samples using laboratory grade soap (Alconox) and thoroughly rinse with distilled water;
- label all sample bottles prior to collection; and
- check all equipment to ensure that it is in proper working order.

The sampling crews should be instructed on proper sampling techniques for stormwater sampling, appropriate sample containers for each analyte, sample preservation, sample bottle labeling, and field measurement of temperature.

5.2 SAMPLE COLLECTION

Appropriate sampling procedures must be followed during the collection of stormwater samples to help minimize the potential for sample contamination. The recommended sampling methodology is given below:

- Wear clean latex gloves and avoid contact with the inside of sample bottles, bottle caps, and sampling tubing.

Grab samples are collected for several analyses. The use of grab samples is intended to minimize the loss of PAHs and Oil and Grease (O&G) to the walls of the composite bottle and improve data quality. Bacterial samples must be collected directly into sterile sample containers. The *NPDES Storm Water Sampling Guidance Document* (EPA, July 1992) states:

> "The regulations at 40 CFR 122.21(g)(7) identify certain pollutants for which grab sampling is required. Monitoring by grab sample must be conducted for pH, temperature, cyanide, total phenols, residual chlorine, O&G, fecal coliform, fecal streptococcus. Composite samples are not appropriate for these parameters due to their tendency to transform to different substances or change in concentration after a short period of time. Such transformations may be particularly likely in the presence of other reactive pollutants."

However, in accordance with the Permit, for land use monitoring sites the LACDPW may exclude constituents that require grab sampling [Attachment C, provision B(1)(d)].

All other recommended laboratory analyses are performed on aliquots of composite samples.

5.3 SAMPLE COMPOSITING AND DISPENSING

The automatic samplers used by the LACDPW accommodate four bottles of 10 liters each that are filled in rounds during the storm event. This arrangement allows for collection of any volume up to 40 liters, and assures a good capture of the storm event even when it is not possible to accurately predict rainfall and storm duration. Moreover, it is not necessary to replace bottles during a storm event. Compositing is simple if the entire volume from each of the four bottles can be combined into one 10-liter bottle. However, if this is not the case, care must be taken to obtain representative subsamples for analysis.

Flow-weighted sampling results in larger volumes of sample being collected in high flow conditions as compared to low flow conditions. An accurate representation of the EMC can be obtained by combining equal percentages of the volume from each of the four bottles into one container. For example, if the four bottles contained 5L, 7L, 3L, and 4L, a representative sample

- Fill sample bottles directly from the stormwater discharge (if possible) or from the appropriate sample collection container. Dip the sample bottle or sample collection container into the center of flow with the opening facing upstream. Prevent the sample bottle or sample collection container from coming into contact with or collecting uncharacteristic floating debris or disturbed sediment.

  Do not rinse or overfill sample bottles to prevent loss of any preservative (often an acid).

- Cap sample bottles tightly and place in a cooler for preservation.

  Rinse sample collection containers with deionized water between sample collection sites and with local stormwater once immediately before beginning sample collection for the next site. This process is intended to prevent cross-contamination between sites.

When it is not possible to collect a sample with the sample bottle, it is essential to use a sample collection container which will not contaminate the sample. In other words, do not use a metallic container to collect samples which will be analyzed for metals and don't use a plastic container to collect samples which will be analyzed for organics. Appropriate containers for the collection of organic samples include teflon bailers, bottles, or pump tubing; and metal buckets.

Some analyte concentrations will change over time unless the samples are preserved. Required sample containers, preservation techniques, and maximum holding times for various types of analytical parameters are provided in Tables 4-2, 4-3, and 4-4.

Samples must be tracked from the time of collection through laboratory analysis. All sample custody and transfer procedures will be based on EPA-recommended procedures for documenting sample collection and handling processes. Chain-of-custody forms will be used to document the relevant information for each sample bottle and the transfer of bottles to the laboratory.

Two types of samples are collected in stormwater monitoring programs: grab and composite. A grab sample represents a snapshot at one point in time during an event, while a flow-weighted composite sample provides the event mean concentration (EMC) for parameters analyzed and provides the best overall representation of analyte concentrations resulting from the storm event.

could be obtained by combining 50% of the sample from each bottle into a fifth 10-liter bottle. In this case, 2.5L, 3.5L, 1.5L, and 2L would be combined for a total composite sample of 9.5L.

Since most stormwater pollutants are known to be adsorbed to particulate matter to some extent, it is important to obtain a representative distribution of suspended solids when samples are composited and subsequently subsampled into different aliquots. Failure to do so may affect the observed ratio between dissolved and total metals, the toxicity of dissolved substances, and the observed relationships between various analytes. Representative subsamples can be obtained by siphoning each composite sample into the subsample containers in small, repetitive increments while constantly stirring the composite sample.

5.4 SHIPPING

Samples must be properly packed to eliminate the possibility of breakage or contamination. The appropriate shipping or transport procedures are as follows:

Place blue ice (frozen) or regular ice (in ziplock bags) in the cooler to maintain sample temperature at 4°C.

- Wrap glass sample bottles in bubble wrap or similar protective material to eliminate movement and breakage during transport. Plastic bottles do not need to be wrapped. Make sure all caps are tightened.

Verify that filled sample bottles correspond to the completed chain-of-custody form.

- Place all sample bottles securely in the cooler. Enclose sampling records (including chain-of-custody forms) in a ziplock bag inside the cooler.
- Deliver samples to the laboratory immediately.

A Quality Assurance/Quality Control (QA/QC) plan is an important component of a stormwater monitoring program involving field sampling and laboratory analyses. Because of the inherent variability in stormwater samples, it is important to minimize additional variability introduced by sample collection, handling, and analytical techniques. It is also important to minimize inaccuracy introduced by contamination or poor calibration of laboratory instruments. This section reviews current QA/QC practices and presents specific recommendations for QA/QC procedures to be performed as part of the Monitoring Program.

The objectives of a QA/QC plan are threefold: (1) to assure completeness, i.e., all elements of a stormwater monitoring program are conducted, (2) to help identify and minimize potential sources of introduced error in the stormwater sampling and analysis process, and (3) to assure that reported results meet data quality objectives of accuracy, precision, sensitivity, and detection limits. Implementation of a sound QA/QC plan ensures that the data collected are of high quality and defensible in regulatory proceedings.

6.1 FIELD QA/QC SAMPLES

Field QA/QC procedures include the collection and analysis of predeployment blanks, field blanks, and field duplicates.

Predeployment Blanks: Potential sample contamination due to sample collection equipment is assessed through the collection and analysis of predeployment blanks. At the beginning of the storm season, all sample collection tubing should be cleaned. A predeployment blank for each set of sample collection tubing (all tubing associated with one sampler or pump is a set) should be collected and analyzed. Clean reagent-grade laboratory water is pumped through the clean tubing, collected in sample bottles, labeled as "predeployment blanks", and analyzed. Results are checked prior to the deployment and if not clean, equipment is recleaned until acceptable blanks are achieved.

- *Field Blanks*: Potential sample contamination due to sample handling and storage methods is assessed through the collection and analysis of field blanks. Clean reagent-grade laboratory water is collected using the standard sampling procedure (where possible), labeled as "field blank", and analyzed. If the standard collection procedure at a site utilizes fixed intake lines, predeployment blanks rather than field blanks are collected and analyzed. One field blank should be collected for each storm event from one of the sites sampled during that event.

- *Field Duplicates*: Sample representativeness, accuracy, and precision are assessed through the collection and analysis of duplicate stormwater samples. Accuracy refers to how close the measured value is to the true value. Precision reflects the reproducibility of a measurement; how close repeated measurements are to one another. An additional set of grab sample bottles are collected at the chosen QA/QC site, labeled, and analyzed. All grab sample duplicates are treated as "blind field" duplicates and given a fictitious station identification and collection time. For those water quality parameters being analyzed with flow-weighted composites, sample duplicates are prepared by the laboratory by replicate subsampling of the composite bottle. Field duplicates should be collected from one site during one storm event of the season.

LABORATORY PROCEDURES

In order to assure quality data, the laboratory must strictly adhere to QA/QC protocols conforming to or exceeding those set forth in EPA/DOHS guidelines. Specifically, the laboratory must follow all QA/QC procedures outlined in their QA/QC manual. This manual includes equipment calibration procedures, preventative maintenance, data validation procedures, and corrective actions. Required quality control procedures, as given in the laboratory QA/QC manual, are summarized in Tables 6-1a through 6-1d. Every effort to meet target detection limits, holding times, and sample preservation techniques must be made by the laboratory.

INDEPENDENT QA/QC EVALUATION

The accuracy and precision of the stormwater data should be evaluated. The evaluation should include a review of the results of field QA/QC samples as well as the following aspects of laboratory procedures and analytical performance: holding times, method blanks, duplicates, matrix spikes and matrix spike duplicates, surrogate recoveries, laboratory control samples, and standard reference materials as required by the specific analytical method used.

- *Holding Time*: Analytical methods have an associated prescribed holding time, that is the maximum amount of time after collection that a sample may be held prior to extraction and/or analysis. Sample integrity becomes questionable for samples extracted and/or analyzed outside of the holding times due to physical and chemical changes to the sample (e.g. degradation or volatilization). The results of such analyses are suspect. Sample preparation

TABLE 6-1a
LABORATORY'S ANALYTICAL QUALITY CONTROL REQUIREMENTS FOR WASTEWATER

Reference	MICROBIOLOGICAL ANALYSES	Sterility Control	Positive Control	Air Control	API 20E (for≥5%)	Completed Test	Duplicate Samples
	Frequency of Analyses					(Quarterly or all +)	(for 10% of samples)
	(OF WASTEWATER)						
BB9221B	Total Coliforms by MTF	✓	✓				✓
BB9221C	Fecal Coliforms by MTF	✓	✓				✓
BB9222B	Total Coliforms by MF	✓(before and after each run)	✓(before each run)				✓
BB9222D	Fecal Coliforms by MF	✓(before and after each run)	✓(before each run)				✓
BB9230B	Fecal Streptococci/Enterococci by MTF	✓	✓				✓
BB9230C	Fecal Streptococci/Enterococci by MF	✓	✓				✓

TABLE 6-1d
LABORATORY'S ANALYTICAL QUALITY CONTROL REQUIREMENTS FOR WASTEWATER

Reference	ORGANIC ANALYSES	Calibration Curve[14]	Laboratory Blank[15]	Laboratory Fortified Blank[16]	Laboratory Fortified Matrix[17]	Laboratory Fortified Matrix Dup.[18]
Frequency of Analyses		Each Analyses	Each Analyses	Each Analyses	Each Analyses	Each Analyses
EPA 601	Volatile Halogenated Compounds	3-point	✓	✓	✓	✓
EPA 602	Volatile Aromatic Compounds	3-point	✓	✓	✓	✓
EPA 603	Acrolein, Acrylonitrile	3-point	✓	✓	✓	✓
EPA 604	Phenols	3-point	✓	✓	✓	✓
EPA 605	Benzidine	3-point	✓	✓	✓	✓
EPA 606	Phthalate esters	3-point	✓	✓	✓	✓
EPA 607	Nitrosamines	3-point	✓	✓	✓	✓
EPA 608	OrgAnochlorines/PCBs	3-point	✓	✓	✓	✓
EPA 609	Nitroaromatics and Cyclic Ketones	3-point	✓	✓	✓	✓
EPA 610	Polynuclear Aromatics	3-point	✓	✓	✓	✓
EPA 632	Carbamates	3-point	✓	✓	✓	✓
EPA 619	Triazine Pesticides	3-point	✓	✓	✓	✓
EPA 608	PCBs only	3-point	✓	✓	✓	✓
EPA 608	Pesticides Only	3-point	✓	✓	✓	✓
EPA 624	Volatile Organic Compounds by GCMS	3-point	✓	✓	✓	✓
EPA 625	BNA by GCMS	3-point	✓	✓	✓	✓

14. It is assumed that external standard calibration is performed. The number of calibration standards given is the minimum recommended by the specific method. Consult individual methods for recommended standard concentrations. Run a standard check every 15 samples and at the end of each run.
15. A laboratory blank is DI water processed the same way as an actual sample.
16. A laboratory fortified blank (LFB) is DI water spiked with the analyte of interest at 10 times the MDL (method detection limit) or at MCL (maximum contaminant level) whichever is less.
17. A laboratory fortified matrix (LFM) is an actual sample spiked with the analyte of interest at 10 times MDL or MCL concentrations whichever is less.
18. A laboratory fortified matrix duplicate (LFMD) is identical to the LFM.

TABLE 6-1b
LABORATORY'S ANALYTICAL QUALITY CONTROL REQUIREMENTS FOR WASTEWATER

Reference	INORGANIC CHEMISTRY, NUTRIENTS, & DEMAND	Calibration Curve[1]	Method Standard[2]	Matrix Spike[3]	Matrix Spike Dup[4]	Duplicate Analyses[5]	Reagent Blank[6]	External Reference[7]
Frequency of Analyses		Each Analyses	Each Analyses	5% for WW 10% for DW		5% for WW 10% for DW	Each Analyses	Each Analyses
A310.1	Alkalinity					✓		
A350.3-3	Ammonia	✓		✓	*	✓		✓
A405.1	BOD			✓	*	✓		
A212.3	Boron	✓		✓	*	✓		✓
A215.2	Calcium				*	✓		
A410.4	COD	✓		✓	*	✓		✓
B429	Chloride	✓		✓	*	✓		✓
A335.2	Cyanide	✓	✓	✓	✓	✓	✓	✓
BB4110B	Fluoride	✓		✓	*	✓		✓
A130.2	Hardness				*	✓		
A351.3-4	Kjeldahl Nitrogen	✓	✓	✓	✓	✓	✓	✓
BB3500M	Magnesium				*	✓		
A425.1	MBAS	✓		✓	*	✓		✓
BB4110B	Nitrate	✓		✓	*	✓		✓
BB4110B	Nitrite	✓		✓	*	✓		✓
A413.1	Oil and Grease				*	✓	✓	
A415.1	Organic Carbon, Total	✓		✓	*	✓		✓
A150.1	pH	✓		✓	*	✓		✓
A420.1	Phenols	✓	✓	✓	✓	✓	✓	✓
BB4110B	Phosphate, Ortho	✓		✓	*	✓		✓
A365.2	Phosphorus, Total	✓		✓	*	✓		✓
A258.1	Potassium	✓		✓	*	✓		✓
A273.1	Sodium	✓		✓	*	✓		✓
A120.1	Specific Conductance	✓		✓	*	✓		✓
BB4110B	Sulfate	✓		✓	*	✓		✓
A160.1	Total Dissolved Solids (TDS)				*	✓	✓	
A160.5	Total Settleable Solids				*	✓		
A160.2	Total Suspended Solids				*	✓	✓	
A160.4	Volatile Suspended Solids				*	✓	✓	
A418.1	TPH	✓		✓	*	✓		✓
A180.1	Turbidity	✓		✓	*	✓		✓

1. A calibration curve is required for all spectrophotometric, ISE, IC, and automated wet chemical methods. See QA Manual for calibration curve requirements. Run a standard check every 15 samples or at the end of the run.
2. Two calibration standards (high and low concentration) must be taken through the complete analytical process to verify the reliability of the technique.
3. Matrix spike recovery analysis is not required for gravimetric or titrimetric methods. Spiked level should not exceed action level, if established, or should be at midrange standard.
4. For analyses with an asterisk (*), duplicate matrix spike is recommended, not required.
5. Replicate analyses of actual sample is required for all analyses performed.
6. A reagent blank (method blank) is DI water processed the same way as an actual sample.
7. An external reference sample should be run with each sample batch.

TABLE 6-1c
LABORATORY'S ANALYTICAL QUALITY CONTROL REQUIREMENTS FOR WASTEWATER

Reference	TOXIC CHEMICAL ELEMENTS	Calibration Curve[8]	Method Blank[9]	Duplicate Analyses[10]	Matrix Spike[11]	Matrix Spike Dup.[12]	External Reference[13]
Frequency of Analyses		Each Analyses	Each Analyses	5% for WW 10% for DW	5% for WW 10% for DW		Each Analyses
A202.2	Aluminum	✓	✓	✓	✓	See note 12	✓
A204.2	Antimony	✓	✓	✓	✓	See note 12	✓
A206.2	Arsenic	✓	✓	✓	✓	See note 12	✓
A208.2	Barium	✓	✓	✓	✓	See note 12	✓
A210.2	Beryllium	✓	✓	✓	✓	See note 12	✓
A213.2	Cadmium	✓	✓	✓	✓	See note 12	✓
A218.6	Chromium (VI)	✓	✓	✓	✓	See note 12	✓
A218.2	Chromium, Total	✓	✓	✓	✓	See note 12	✓
A219.2	Cobalt	✓	✓	✓	✓	See note 12	✓
A220.1	Copper	✓	✓	✓	✓	See note 12	✓
A236.1	Iron	✓	✓	✓	✓	See note 12	✓
A239.2	Lead	✓	✓	✓	✓	See note 12	✓
A243.1	Manganese	✓	✓	✓	✓	See note 12	✓
A245.1	Mercury	✓	✓	✓	✓	See note 12	✓
A246.2	Molybdenum	✓	✓	✓	✓	See note 12	✓
A249.2	Nickel	✓	✓	✓	✓	See note 12	✓
A270.2	Selenium	✓	✓	✓	✓	See note 12	✓
A272.2	Silver	✓	✓	✓	✓	See note 12	✓
B326A	Strontium	✓	✓	✓	✓	See note 12	✓
A279.2	Thallium	✓	✓	✓	✓	See note 12	✓
A282.2	Tin	✓	✓	✓	✓	See note 12	✓
A283.2	Titanium	✓	✓	✓	✓	See note 12	✓
A286.2	Vanadium	✓	✓	✓	✓	See note 12	✓
A289.1	Zinc	✓	✓	✓	✓	See note 12	✓

8. A calibration curve must be established for each analyses from a calibration blank and a minimum of three standards. A calibration blank is DI water with the same amount of acids or other reagents as the actual samples and standards. Run a standard check every 15 samples or at the end of the run.
9. A method blank is DI water processed the same way as an actual sample.
10. Replicate analyses of actual sample is required for all analyses performed.
11. Samples should be spiked at levels not exceeding the action level or maximum contaminant level (MCL) for the analyte. Spiking standard must be from a source separate from the calibration standard.
12. Duplicate matrix spike is recommended, not required.
13. An external reference sample should be run with each sample batch.

and holding times prior to analysis should be reviewed for exceedances of the method prescribed holding times. For composite samples, the holding time begins when the last portion of the sample is taken. For example, a composite sample which is collected from 8:00 am on Thursday to 6:00 pm on Friday has a holding time which begins on Friday at 6:00 pm.

Method Blanks: Potential sample contamination due to laboratory contamination (e.g. contaminated reagents, improperly cleaned laboratory equipment, or persistent contamination due to the presence of certain compounds in the ambient laboratory air) can be assessed through the analysis of method blanks. Method blanks consist of deionized, distilled water that is extracted and analyzed as a sample. Method blanks are also called laboratory blanks. One method blank should be analyzed per analytical batch per matrix type for the appropriate methods.

- *Duplicates*: An evaluation of analytical precision can be obtained through the analysis of duplicates. Duplicates are two aliquots of the same sample that are analyzed for the same constituent. The relative percent difference (RPD) between the duplicates is calculated by dividing the difference between the results by the average of the results as a percentage. Duplicate RPDs are reviewed to assure that they are below the control limit (20%). Duplicates should be analyzed on a 5% basis for the appropriate methods.

  Matrix Spike and Matrix Spike Duplicates (MS/MSD): An evaluation of analytical accuracy and precision can be obtained through the analysis of matrix spikes and matrix spike duplicates. Matrix spikes are necessary because matrix interference (interference from the sample matrix - water, soil, or other) may have widely varying impacts on the accuracy and precision of the sample analysis. A sample aliquot is spiked with a known quantity of the analyte, then it is extracted and analyzed. The results of the analysis are compared with the known additions and a matrix spike recovery is calculated. The recovery gives an evaluation of the accuracy of the extraction and analysis procedures. Typically matrix spikes are performed in duplicate in order to also evaluate the precision of the methods. Matrix spike recoveries are reviewed to assure that they are within the acceptable range (80% to 120%). Matrix spike RPDs are reviewed to assure that they are below the control limit (20%). The frequency suggested is one MS/MSD pair per analytical batch for each analyte for the appropriate methods.

- *Surrogate Recoveries*: Surrogates of complex organics are added to samples to monitor the effect of the matrix on the accuracy of the analysis. Accuracy refers to how close the measured value is to the true value. Surrogate spikes are compounds very similar to target

analytes, but are not normally found in environmental samples. Surrogates should be spiked into every method blank, laboratory control sample, sample, and MS/MSD for the organic compounds for which they are used.

Laboratory Fortified Matrices: Laboratory Fortified Matrices can be used to monitor the accuracy of a given method. The laboratory fortified matrix is prepared similarly to the matrix spike, except a fortified matrix (contaminant free) is used in place of the sample matrix. The recovery of the laboratory fortified matrix spike gives an evaluation of laboratory accuracy independent of matrix interference. Laboratory fortified matrices are used to determine the overall performance of methods used. Laboratory fortified matrix recoveries are reviewed to assure that they are within the acceptable range (80% to 120%). Laboratory fortified matrices should be analyzed once per analytical batch for the appropriate methods.

- *External References*: External References are samples of known concentrations from a source external to the laboratory, and are used to provide a measure of the accuracy of the analytical methods used by the laboratory. External reference recoveries are reviewed to assure that they are within the acceptable range (80% to 120%). External references should be analyzed once per analytical batch for the appropriate methods.

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This section describes the results, data analysis, and recommendations for the 2002-2003 Monitoring Program.

4.1 HYDROLOGY: PRECIPITATION AND FLOW

The monthly rainfall during the 2002-2003 storm season was compared to the long-term pattern of rainfall in Figure 4-1. During this storm season, the total rainfall was about 15.45 inches, which is about three times more than the rainfall recorded during the 2001-2002 storm season. Figure 4-2 shows that the total annual rainfall of 15.45 inches during the 2002-2003 storm season in Los Angeles County was very close and just below the average annual rainfall. The average annual rainfall over 130 years at Station # 716, Ducommun Street in downtown Los Angeles is about 15.51 inches.

Table 4-1 summarizes the hydrologic and meteorologic conditions of each station-event monitored during this storm season. A collection of 2002-2003 season hydrographs for each storm event from the monitored sites is included in Appendix A. Each hydrograph includes the time of the first and last composite sample aliquot collection, the number of aliquots per composite, the sample volume interval, and the percent of storm sampled.

4.2 STORM WATER QUALITY

An inventory of the composite and grab samples taken for the chemical and biological analysis and toxicity analysis during the 2002-2003 monitoring season is included in Tables 4-2, 4-2a, and 4-3.

4.2.1 Mass Emission Analysis

This section provides a description of wet weather and dry weather mass emission results generated during the 2002-2003 monitoring season.

The County analyzes for an extensive number of individual water quality constituents, the results of which are included in Appendix B. A comparison was made between mass emission water quality results and the water quality objectives outlined in the Ocean Plan, the Basin Plan, and the CTR. The freshwater final acute criteria set by the California Department of Fish and Game was also used to provide water quality standards for chlorpyrifos and diazinon. The Municipal Storm Water Permit specifically requires the County to assess the pollutant loading for the sampling events that are analyzed for the complete list of constituents following the 2002-2003 storm season. In addition, the Municipal Storm Water Permit requires the identification and analysis of any long-term trends in storm water or receiving water runoff. An analysis of the correlation between pollutants of concern (metals and PAHs) and TSS loadings for the sampling events was also performed.

4.2.1.1 Comparison Study

As required by the Municipal Storm Water Permit, a comparison to the applicable water quality standards from the Basin Plan, the Ocean Plan, or the CTR for mass emission monitoring was conducted. The lowest possible standard of the three documents was used for the comparison study. The California Department of Fish and Game provided freshwater final acute criteria

water quality standards for chlorpyrifos and diazinon. The Basin Plan is designed to enhance water quality and protect the beneficial uses of all regional waters. The Ocean Plan is applicable to point source discharges to the ocean. The CTR promulgates criteria for priority toxic pollutants in the State of California for inland surface waters and enclosed bays and estuaries. Constituents that exceeded the applicable water quality standards are highlighted in Appendix B and Table 4-4. Table 4-4 and Figure 4-3 summarize this comparison analysis.

The following conclusions were drawn from the mass emission comparison study:

Wet Weather

- The monitoring program has identified the nearly ubiquitous existence of bacteria in wet weather for all seven of the mass emission monitoring stations. Densities of total coliform, fecal coliform, and fecal enterococcus exceeded the public health criteria of the Basin Plan for each storm at each monitoring station 100% of the time, with the exception of Malibu Creek, which only exceeded the total coliform objective half of the time. As during the 2001-2002 storm season, the Malibu Creek station shows generally lower indicator bacteria counts than the other mass emission stations.
- The ratio of fecal coliform to total coliform Basin Plan standard was exceeded 75% of the time in all watersheds, except in Ballona Creek and Dominguez Channel where it was exceeded 100% of the time.
- For all monitoring stations, there was no clear trend between bacteria densities and storm events. However, Ballona Creek, Malibu Creek, San Gabriel River, Dominguez Channel, and Santa Clara River monitoring stations each had the highest total coliform density during the March 15, 2003 storm.
- For all monitoring stations except Malibu Creek, 50-100% of the total copper samples exceeded the Ocean Plan water quality standard.
- Coyote Creek, San Gabriel River, and Santa Clara River exceeded the California Department of Fish and Game's water quality criteria for diazinon 50% of the time.
- 50% of the dissolved copper samples taken at the Los Angeles River and Coyote Creek monitoring stations and 100% of the dissolved copper samples taken at the Dominguez Channel monitoring station exceeded the CTR water quality standard.
- 50% of the dissolved lead samples collected at the Dominguez Channel monitoring station exceeded the CTR water quality standard. This is the only monitoring station that showed exceedances.
- San Gabriel River exceeded the cyanide Ocean Plan water quality standard in 75% of the samples. Ballona Creek, Los Angeles River, Coyote Creek, and Santa Clara River exceeded the standard in 50% of the samples.
- 75% of the total zinc samples from the Dominguez Channel monitoring station exceeded the Ocean Plan water quality standard. All the other stations except Ballona Creek had exceedances in 25% of the samples. Dominguez Channel also exceeded the CTR water quality standard for dissolved zinc in 50% samples.

- Sulfate and TDS were each exceeded in 50% of the samples at the Malibu Creek monitoring station. No other monitoring stations had any exceedances for these constituents.
- The Ocean Plan water quality standard for turbidity was exceeded in 50% of the samples at the San Gabriel River monitoring station.
- 50% of the total aluminum samples at the Santa Clara River monitoring station exceeded the Basin Plan water quality standard.
- Nitrite-N exceeded the Basin Plan water quality standard in 50% of the samples at the Coyote Creek monitoring station.

Dry Weather

Since the Municipal Storm Water Permit requires only two dry weather samples at each monitoring station, a 50% exceedance indicates only one sample exceeded the water quality standard and a 100% exceedance indicates both samples exceeded the water quality standard.

- There were no exceedances for any of the dissolved metals or diazinon during dry weather.
- Overall, there were a smaller percentage of exceedances for total coliform, fecal coliform, and fecal enterococcus during dry weather at all seven of the monitoring stations. Also, for most of the dry weather samples, the coliform densities were significantly lower than the densities for the wet weather samples. The total coliform criteria set in the Basin Plan was exceeded in 100% of the samples at the San Gabriel River and Dominguez Channel monitoring stations and in 50% of the samples at the Malibu Creek and Los Angeles River monitoring stations. No other monitoring station exceeded the total coliform criteria. The fecal coliform criteria was exceeded in 50% of the samples for all of the monitoring stations except San Gabriel River which exceeded the criteria in 100% of the samples. Fecal enterococcus criteria was exceeded in 100% of the samples at the Los Angeles River, Coyote Creek, and Dominguez Channel monitoring stations and in 50% of the samples at the other four monitoring stations.
- The ratio of fecal coliform to total coliform Basin Plan standard was exceeded in 50% of the samples at all of the monitoring stations except at Los Angeles River and Dominguez Channel, which had no exceedances.
- Unlike the wet weather samples, the Basin Plan water quality criteria for chloride was exceeded at three of the mass emission stations during dry weather. San Gabriel River and Dominguez Channel exceeded in 50% of the samples and Santa Clara River exceeded in 100% of the samples.
- 50% of the total copper samples exceeded the Ocean Plan water quality standard at the Ballona Creek, Malibu Creek, Los Angeles River, and Dominguez Channel monitoring stations. The San Gabriel River exceeded the standard in 100% of the samples.
- Ballona Creek, Malibu Creek, Los Angeles River, and Dominguez Channel were not within the pH water quality standard limits for 50% of the samples and Coyote Creek was not within the pH water quality standard limits for 100% of the samples. All of samples not within the pH limits showed high alkalinity. During wet weather, only 25% of the pH samples showed exceedances at Ballona Creek and Los Angeles River monitoring stations.

- The Ocean Plan water quality standard for total zinc was exceeded in 50% of the samples at the Malibu Creek, Los Angeles River, Coyote Creek, and Dominguez Channel monitoring stations.
- 100% of the total nickel samples exceeded the Ocean Plan water quality standard at the San Gabriel River monitoring station. 50% of the total nickel samples exceeded the standard at Ballona Creek, Los Angeles River, and Santa Clara River monitoring stations.
- Los Angeles River, Coyote Creek, and San Gabriel River exceeded the Ocean Plan water quality standard for cyanide in 50% of the samples.
- 50% of the dissolved oxygen samples at the Santa Clara River monitoring station were below the minimum water quality objective in the Basin Plan.
- Malibu Creek exceeded the Basin Plan water quality objective for sulfate in 50% of the samples.

4.2.1.2 Loading and Trend Analysis

An estimation of the total pollutant loads due to storm water and urban runoff for each mass emission station is shown on Table 4-11. As required by the Municipal Storm Water Permit, samples were collected and analyzed for TSS at all mass emission stations equipped with automated samplers for all storm events that resulted in at least 0.25 inches of rainfall. The concentrations for TSS for each storm is shown on Table 4-9 and the total pollutant loading for TSS for each mass emission station is shown on Table 4-10. By analyzing the pollutant loading at each mass emission station, it is possible to see if there is any correlation between storm events and the amount of pollutant loading. An analysis of trends in storm water or receiving water quality is represented in Figure 4-4. Although it is difficult to see any sustained trends at this time, they will become more apparent in years to come as sampling continues.

The following conclusions were deduced from the loading analysis:

- The total runoff volume at the Los Angeles River monitoring station was consistently higher than at the other monitoring stations. Los Angeles River also has approximately two times or more surface runoff area than the other watersheds. This creates more potential for surface runoff pollution and likely explains, in part, the increased loading of constituents at the Los Angeles River monitoring station when compared to the other monitoring stations.
- The storm on March 15, 2003 at the Ballona Creek, Malibu Creek, and Los Angeles River monitoring stations produced TSS loadings of 9,619 tons, 5,236 tons, and 53,027 tons, respectively. Ballona Creek and Los Angeles River also produced loadings of 6,395 tons and 12,181 tons, respectively, during the February 11, 2003 storm. The loading during all other storm events at all the monitoring stations was below 4,000 tons.
- The Los Angeles River is the largest contributor of TSSs out of the seven mass emission stations monitored.
- San Gabriel River, Dominguez Channel, and Santa Clara River had generally lower TSS and metals loadings than the other monitoring sites.

- The February 11, 2003 storm produced the highest TDSs loadings at the Malibu Creek, Coyote Creek, Dominguez Channel, and Santa Clara River monitoring stations. The storm on December 16, 2002 produced the lowest TDS loading at all stations.
- Metal loading was the greatest for the Los Angeles River.
- Total and dissolved zinc appear to have the greatest loading during the February 11, 2003 storm at all of the monitoring stations except San Gabriel River.

The following conclusions were drawn from the trend analysis:

- The high levels of zinc found at monitoring stations between 1994-2000 were not present in the samples taken during the 2001-2002 storm season. During the 2002-2003 storm season the high levels of zinc were not present again, except for several exceedances at the Dominguez Channel monitoring station.
- The rainfall during the 2002-2003 storm season was only 0.06 inches below the annual rainfall average. However, it was about three times higher than amount of rainfall recorded during the 2001-2002 storm season. This may explain, in part, the increased loading as compared to the 2001-2002 storm season.

Pollutant Loading Example

At the request of the RWQCB, below is an example of the pollutant loading calculation:

Site: Malibu Creek Mass Emission Station

Storm event: 12/16/2002

Constituent: Nitrate

Concentration: 4.6 mg/L

Runoff Volume: 36.5 acre-ft (Runoff = 28.4 acre-ft + Base Flow = 8.1 acre-ft)

1lb = 454 g

1g = 1,000 mg = $1x10^6$ µg

1L = 0.03531467 ft^3

1 ft^3 ≈ 2.2957×10^{-5} acre-ft

Pollutant Loading = (Pollutant Concentration)(Runoff Volume)

Pollutant Load = (4.6 mg/L)(36.5 acre-ft)(1g/1,000 mg)(1 lb/454g)(1 ft^3/2.2957×10^{-5} acre-ft)(1L/0.03531467 ft^3)

Pollutant Load = 456.2

Conversion factors

4.1.2.3 Correlation Study

An analysis of the correlation between metals and TSS levels for the mass emission monitoring was performed. The study was only conducted on metals because the PAH samples at all of the monitoring stations were non-detects.

A trend line was projected on each of the metals-versus-TSS plots and the coefficient of determination (R^2) was calculated to see if there was any correlation between the concentrations for each metal and TSSs for the mass emission monitoring stations (Figure 4-5). The closer the value of R^2 is to the number one, the stronger the correlation of the two variables.

The following conclusions were deduced from the correlation study analysis:

- Unlike other watersheds, the Malibu Creek and San Gabriel River watersheds showed no strong correlation between metals and TSSs, except for dissolved arsenic and in the case of Malibu, dissolved zinc. Besides the R^2 values for dissolved arsenic and dissolved zinc, all of Malibu Creek's and San Gabriel River's R^2 values were below 0.3852 and below 0.5823, respectively.
- There were no strong correlations from any of the watersheds for the following constituents: total arsenic, total chromium, dissolved lead, and total nickel.
- Excluding Malibu Creek and San Gabriel River, all of the monitoring sites showed a strong correlation between total copper and TSSs, with R^2 values ranging from 0.4445 to 0.9856 (most of them closer to the upper range).
- Three of the mass emission monitoring sites, Ballona Creek, Coyote Creek, and Dominguez Channel, showed a correlation between total aluminum and TSSs, with R^2 values of 0.9158, 0.8199, and 0.8294, respectively.
- Five of the mass emission stations showed a strong correlation between dissolved antimony and TSSs. Ballona Creek and Los Angeles River showed a negative correlation, with R^2 values of 0.5347 and 0.799, respectively. Coyote Creek, Dominguez Channel, and Santa Clara River showed positive correlations, with R^2 values of 0.8151, 0.9777, and 0.7409, respectively.

4.2.2 Tributary Monitoring Analysis

This section provides a description and analysis of wet weather and dry weather tributary results generated during the 2002-2003 monitoring season.

Though only a requirement for the first storm of the season, tributary monitoring analyzes included all of the water quality constituents monitored under the mass emission monitoring program, the results of which are included in Appendix B. Flow was also measured and is reported as hydrographs, which can be found in Appendix A. In order to identify the sub-watersheds where storm water discharges are causing or contributing to exceedances of water quality standards, a comparison was made between tributary water quality results and the water quality objectives outlined in the Ocean Plan, the Basin Plan, and the CTR. The lowest possible standard of the three documents was used for the comparison study. The freshwater final acute criteria set by the California Department of Fish and Game was also used to provide water quality standards for chlorpyrifos and diazinon.

Since the tributary monitoring stations collect samples from sub-watersheds within the Los Angeles River watershed, the results from the Los Angeles River mass emission station were also used in the analysis. It was not possible to accurately identify any problems based on dry weather results since only one sample was taken at each tributary monitoring station, as required by the Municipal Storm Water Permit. Constituents that exceeded the applicable water quality standards are highlighted in Appendix B and Table 4-5. Table 4-5 and Figure 4-3 summarize this comparison analysis.

The following conclusions were drawn from the wet weather tributary comparison study:

- As with the mass emission monitoring program, the tributary monitoring program identified the nearly ubiquitous existence of bacteria during wet weather at all six stations. Densities of total coliform, fecal coliform, and fecal enterococcus exceeded the public health criteria of the Basin Plan for each storm at each monitoring station 100% of the time. This corresponds to the results obtained from the Los Angeles River mass emission station.
- The ratio of fecal coliform to total coliform Basin Plan water quality standard was exceeded 80-100% of the time in all sub-watersheds, except Bull Creek which only exceeded in 40% of the samples.
- Bull Creek and Verdugo Wash exceeded the Ocean Plan water quality standard for turbidity in 80% of the samples. Rio Hondo exceeded the turbidity standard in 40% of the samples.
- Diazinon criteria was exceeded at each tributary monitoring station. 60% of the samples were exceeded at Aliso Creek monitoring station, 40% of the samples were exceeded at Arroyo Seco Channel and Rio Hondo Channel monitoring stations, and 20% of the samples were exceeded at Bull Creek, Burbank Western Channel, and Verdugo Wash monitoring stations. Los Angeles River only exceeded the diazinon criteria in 25% of the samples.
- 60% of the samples at the Verdugo Wash monitoring station exceeded the Basin Plan water quality standard for total aluminum. There were no exceedances at Los Angeles River monitoring station.
- Total Copper exceeded the Ocean Plan water quality standard in more than 60% of the samples at all of the tributary stations except Bull Creek, which exceeded the standard in 20% of the samples.
- Total Zinc exceed the Ocean Plan water quality standard in 40-60% of the samples at Burbank Western Channel, Verdugo Wash, Arroyo Seco Channel, and Rio Hondo Channel.
- 80%, 50%, and 40% of the total lead samples exceeded the Ocean Plan water quality standard at Verdugo Wash, Arroyo Seco Channel, and Burbank Western Channel, respectively.
- Rio Hondo Channel exceeded the CTR water quality standard for dissolved copper in 100% of the samples. Burbank Western Channel exceeded in 80% of the samples, Aliso Creek exceeded in 50% of the samples, and Arroyo Seco Channel exceeded in 25% of the samples. The other tributary monitoring stations exceeded the standard in 20% of the samples.
- 40% of the samples at Burbank Western System and Rio Hondo Channel exceeded the Ocean Plan water quality standard for cyanide.

- Though there were no dissolved oxygen or nitrite-N exceedances at Los Angeles River monitoring station, 20% of the samples at Burbank Western Channel and Arroyo Seco Channel exceeded the Basin Plan criteria for each constituent.
- Burbank Western Channel and Verdugo Wash exceeded the CTR water quality standard for dissolved lead in 40% of the samples and Rio Hondo Channel exceeded in 20% of the samples. There were no exceedances at the Los Angeles River monitoring station.

4.2.3 Water Column Toxicity Analysis

This section describes the water column toxicity results generated during the 2002-2003 storm season. Water column toxicity monitoring was performed at all mass emission site in accordance with the Municipal Storm Water Permit. In total, four samples were analyzed for toxicity at each site. Dry weather samples were collected on October 9, 2002, and April 23, 2003. The results obtained from these samples are found in Table 4-8a. Wet weather samples were collected during the first rain event of the season on November 8, 2002, and also on December 12, 2002. The results obtained from these samples are found in Table 4-8b.

A minimum of one freshwater and one marine species was used for toxicity testing, specifically Ceriodaphnia dubia (water flea) 7-day survival/reproduction and Strongylocentrotus purpuratus (sea urchin) fertilization. The sea urchin fertilization test could not be performed on the October 9, 2002 wet weather sample because the purple sea urchin did not spawn due to seasonal variability.

Results calculated from the Ceriodaphnia dubia and sea urchin tests included the No Observed Effect Concentration (NOEC), 50% Lethal Concentration (LC50), 50% Inhibitory Concentration (IC50), and toxicity unit (TU). NOEC is the highest concentration causing no effect on the test organisms. LC50 is the concentration that produces a 50% reduction in survival. IC50 is the concentration causing 50% inhibition in growth or reproduction. TU is defined in the permit as 100/(LC50 or IC50). A TU value greater than or equal to one is considered substantially toxic and requires a toxicity identification evaluation (TIE).

The following conclusions were deduced from water column toxicity testing:

- Ceriodaphnia dubia survival was only significantly affected by exposure to the wet weather samples collected from the Coyote Creek and Dominguez Channel mass emission stations on November 8, 2002. These samples from Coyote Creek and the Dominguez Channel had a TU value equal to 4.40 and 1.33, respectively. In accordance with the Permit, a TIE was performed on these samples. The TIE for the sample collected from Coyote Creek found that the toxicity was due to one or more non-polar organic compounds as well as metabolically-activated organophosphates. The TIE for the sample collected from the Dominguez Channel found that the toxicity was due to one or more non-polar organic compounds and cationic metals as well as metabolically-activated organophosphates. The remaining samples were not substantially toxic to Ceriodaphnia dubia survival.
- Ceriodaphnia dubia reproduction was only significantly affected by exposure to the wet weather samples collected from the Coyote Creek and Dominguez Channel mass emission stations on November 8, 2002. These samples from Coyote Creek and the Dominguez Channel had a TU value equal to 3.65 and 1.33, respectively. In accordance with the Permit,

- Based on the total amount of trash collected for the Los Angeles River watershed during the 2002-2003 storm season, the largest contributors by landuse were the industrial and the commercial landuses with 46.4%, and 33.9 %, respectively, for a combined 80.3% of the total trash collected. High Density Single Family Residential and Open Space/Parks contributed 8.6% and 8.8%, respectively. Low Density Single Family Residential produced only 2.3%.
- Based on the total amount of trash collected for the Ballona Creek watershed during the 2002-2003 storm season, the Low Density Single Family Residential and the commercial landuses combined to produce about half of the total trash collected. Low Density Single Family Residential produced 26.0% and the commercial landuse produced 25.1%. Open Space/Parks and industrial produced 17.8% and 16.5%, respectively. High Density Single Family Residential produced the least trash with 14.5% of the total.

4.2.5 Identification of Possible Sources

This section describes the possible sources of the constituents that did not meet the water quality standards during the 2002-2003 monitoring season in all or most of the watersheds, as discussed above in Section 4.2.1 and 4.2.2.

The source of bacteria is hard to pinpoint. According to the *Draft Total Maximum Daily Load to Reduce Bacterial Indicator Densities at Santa Monica Bay Beaches* published on November 8, 2001 by the California Regional Water Quality Control Board, Los Angeles Region, urban runoff from the storm drain system may have elevated levels of bacterial indicators due to sanitary sewer leaks and spills, illicit connections of sanitary lines to the storm drain system, runoff from homeless encampments, illegal discharges from recreational vehicle holding tanks, and malfunctioning septic tanks among other things. Fecal matter from animals and birds can also elevate bacteria levels.

An article titled *Residential Sources of Contamination* on EPA's website states that elevated levels of chloride may be a result of fertilizers, animal sewage, industrial wastes, minerals, or seawater. It also shows that many metals, such as aluminum, silver, iron, and zinc, could be a result of natural deposits.

According to the report *Regulating Copper in Urban Stormwater Runoff* by G. Fred Lee, PhD and Anne Jones-Lee, PhD, copper can come from brake pads or industrial (such as the textile industry) and mining sources. A metals source study is discussed in the article *Loadings of Lead, Copper, Cadmium, and Zinc in Urban Runoff from Specific Sources* by A.P. Davis, M. Shokouhian, and S. Ni. The study concludes that significant levels of metals were found from urban areas, especially in highway runoff. The abstract identifies important sources, such as building siding for lead, copper, cadmium, and zinc, vehicle brake emissions for copper and tire wear for zinc. Atmospheric deposition was also identified as an important source of cadmium, copper, and lead.

4.2.6 Recommendations

New monitoring components conducted during the 2002-2003 monitoring season included tributary monitoring and trash monitoring at mass emission stations. The Santa Clara River mass emission monitoring station was also added to the monitoring program. In addition, all required

a TIE was performed on these samples. The TIE for the sample collected from Coyote Creek found that the toxicity was due to one or more non-polar organic compounds as well as metabolically-activated organophosphates. The TIE for the sample collected from the Dominguez Channel found that the toxicity was due to one or more non-polar organic compounds and cationic metals as well as metabolically-activated organophosphates. The remaining samples were not substantially toxic to Ceriodaphnia dubia reproduction.

- Sea urchin fertilization was only significantly affected by exposure to the wet weather samples collected from the Coyote Creek and Ballona Creek mass emission stations on November 8, 2002. These samples from Coyote Creek and Ballona Creek had TU values equal to 1.16 and 1.45, respectively. In accordance with the Permit, a TIE was performed on these samples. The TIE for the sample collected from Coyote Creek found that the toxicity was due to one or more non-polar organic compounds and cationic metals as well as metabolically-activated organophosphates. The TIE for the sample collected from Ballona Creek found that the toxicity was due to particulate-bound toxicants, one or more non-polar organic compounds and cationic metals. The remaining samples were not substantially toxic to sea urchin fertilization.

4.2.4 Trash Monitoring Analysis

This section describes the trash monitoring results generated during the 2002-2003 storm season. For each catch basin insert and Continuous Deflective System (CDS) devices, the anthropogenic trash was separated from the sediment and vegetation and weights were recorded per device. The land uses monitored were commercial, high density single family residential, industrial, low density single family residential, and open space/parks. Three CDS units were installed during the 2002-2003 storm season and monitoring of two additional CDS units will commence during the 2003-2004 storm season. Table 4-12 summarizes the results of the sampling events with totals for the collected anthropogenic trash and the sediment/vegetation per land use. The Municipal Storm Water Permit requires a minimum of one photograph at each mass emission station after the first storm event and three additional storm events per year. Pictures can be found in Appendix C.

The following conclusions were drawn from the sampling results for anthropogenic trash:

- The amount of trash collected for the first storm event of the season constituted 39.4% of the total trash collected during the entire season for the Los Angeles River and the Ballona Creek watersheds combined.
- In the Los Angeles River watershed, the commercial landuse was the largest contributor of trash during the first storm of the season with 40.5%. The industrial landuse was the second largest contributor with 35.8% of the total trash collected. Open Space/Parks, High Density Single Family Residential, and Low Density Single Family Residential combined to produce 23.7 % of the trash with Low Density Single Family Residential producing only 2.6%.
- In the Ballona Creek watershed, the Low Density Single Family Residential was the largest contributor of trash during the first storm of the season with 32.1%. The remaining landuses combined for the remaining 67.9% with a relatively even distribution of approximately 17% each, on average.

samples were taken, including dry weather and toxicity samples. Below are some recommendations that were identified based on results from the 2002-2003 monitoring season.

The Municipal Storm Water Permit requires only one dry weather sample to be taken at each tributary monitoring station. Although it was possible to see the various concentrations from each subwatershed, these values may not be entirely reliable due to the inherent variability of many constituents, especially bacteria. LACDPW recommends taking at least two dry weather samples at each tributary station to better characterize the concentrations of each constituent and verify the accuracy of the results of the first sample.

Many of the polychlorinated biphenyls, SOVs, and chlorinated pesticides cannot be compared to the water quality standards because there are no standards listed in the Basin Plan, Ocean Plan, or CTR. However, even if there were water quality standards, all of these constituents were not detected at any of the mass emission or tributary monitoring stations. We recommend sampling for these constituents for one more year. If they are not detected, we recommend to discontinue sampling for these constituents, except during the first storm event of every year.

Some constituents sampled at the tributary stations showed exceedances of water quality standards. The Municipal Storm Water Permit requires the initiation of a focused effort to identify sources of pollutant within that subwatershed when a constituent exceeds a water quality standard in three out of four samples. We recommend looking at the landuse make up of the watersheds and use water quality data collected from the landuse monitoring stations to begin identifying possible trends or correlations based on landuse. We also recommend using water quality data collected by SCCWRP in their landuse studies.

We collected valuable data from the first year of the tributary monitoring in the Los Angeles River Watershed. We believe that one year worth of data is not sufficient as there can be variability from year to year. Based on discussions with staff from the RWQCB, we recommend performing a second year of monitoring in the Los Angeles River Watershed in order to make better use of the data we collect in order to assist us in prioritizing drainage and sub-drainage areas that need management actions.

In order to identify and better understand the source(s) of pollution, mass emission monitoring, toxicity monitoring, trash monitoring, and tributary monitoring will be continued in the future in addition to the regional monitoring and special studies, as required by the Municipal Storm Water Permit.

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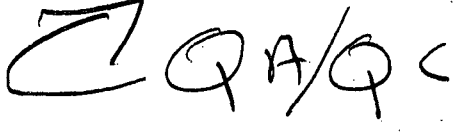

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Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - BALLONA CREEK

Beneficial Uses[1]: MUN, REC-1, REC-2, WARM, WILD

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) -Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			2.3
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0.005
pH	Comp	0-14			6.5< pH < 8.5		8.64
Dissolved Oxygen	Grab	1.00	mg/L		> 5		12.7
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (instantaneous)		80000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (instantaneous)		80000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		1.00
Fecal Streptococcus	Grab	20.00	MPN/100ml				300000
Fecal Enterococcus	Grab		MPN/100ml		104		300000
General							
Chloride	Comp	2.00	mg/L		500		123
Fluoride f(temp)l	Comp	0.10	mg/L		1.8		0.34
Nitrate	Comp	0.10	mg/L				3.26
Sulfate	Comp	0.10	mg/L		500		203
Alkalinity	Comp	4.00	mg/L				298
Hardness	Comp	2.00	mg/L				530
COD	Comp	10.00	mg/L				44.5
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				1440
Total Dissolved Solids	Comp	2.00	mg/L		2000		898
Turbidity	Comp	0.10	NTU	225a			0.61
Total Suspended Solids	Comp	2.00	mg/L				51
Volatile Suspended Solids	Comp	1.00	mg/L				21
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				4.92
BOD	Comp	2.00	mg/L				5.86
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.227
Total Phosphorus	Comp	0.05	mg/L				0.312
NH3-N	Comp	0.10	mg/L				0.375
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.736
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		4.53
Kjeldahl-N	Comp	0.10	mg/L				0.512
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		123
Dissolved Antimony	Comp	5.00	ug/l				1.87
Total Antimony	Comp	5.00	ug/l		6		1.87
Dissolved Arsenic	Comp	5.00	ug/l				2.53
Total Arsenic	Comp	5.00	ug/l	32a	50		3.42
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			7.7	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			697.6	0.91
Total Chromium	Comp	5.00	ug/l		50		2.17
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			37.2	8.76
Total Copper	Comp	5.00	ug/l	12a			15
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				182
Dissolved Lead	Comp	5.00	ug/l			21.0	0
Total Lead	Comp	5.00	ug/l	8a			1.83
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			213.2	5.36
Total Nickel	Comp	5.00	ug/l	20a	100		5.36
Dissolved Selenium	Comp	5.00	ug/l				6.81
Total Selenium	Comp	5.00	ug/l	60a	50		6.81
Dissolved Silver	Comp	1.00	ug/l			60.8	0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) -Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			485.4	13.4
Total Zinc	Comp	50.00	ug/l	80a			31
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro_3_methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) -Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b (80ng/L)		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

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Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - BALLONA CREEK

Beneficial Uses[j]: MUN, REC-1, REC-2, WARM, WILD

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			10.7
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		7.86
Dissolved Oxygen	Grab	1.00	mg/L		> 5		9.3
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (instantaneous)		300000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (instantaneous)		300000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.07
Fecal Streptococcus	Grab	20.00	MPN/100ml				300
Fecal Enterococcus	Grab		MPN/100ml		104		300
General							
Chloride	Comp	2.00	mg/L		500		38.6
Fluoride f(temp)[l]	Comp	0.10	mg/L		2		0.23
Nitrate	Comp	0.10	mg/L				6.3
Sulfate	Comp	0.10	mg/L		500		46.8
Alkalinity	Comp	4.00	mg/L				64
Hardness	Comp	2.00	mg/L				117
COD	Comp	10.00	mg/L				52.1
TPH	Grab	1.00	mg/L				1
Specific Conductance	Comp	1.00	umhos/cm				379
Total Dissolved Solids	Comp	2.00	mg/L		2000		258
Turbidity	Comp	0.10	NTU	225a			27.4
Total Suspended Solids	Comp	2.00	mg/L				39
Volatile Suspended Solids	Comp	1.00	mg/L				3
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				7.79
BOD	Comp	2.00	mg/L				6.9
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0
Total Phosphorus	Comp	0.05	mg/L				0.083
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		1.42
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0.088
Kjeldahl-N	Comp	0.10	mg/L				0.25
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		119
Dissolved Antimony	Comp	5.00	ug/l				1.09
Total Antimony	Comp	5.00	ug/l		6		1.15
Dissolved Arsenic	Comp	5.00	ug/l				0
Total Arsenic	Comp	5.00	ug/l	32a	50		1.8
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			2.5	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			202.4	1.3
Total Chromium	Comp	5.00	ug/l		50		12.5
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			10.2	9.44
Total Copper	Comp	5.00	ug/l	12a			15.3
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				222
Dissolved Lead	Comp	5.00	ug/l			3.1	1.3
Total Lead	Comp	5.00	ug/l	8a			2.1
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			59.4	3.33
Total Nickel	Comp	5.00	ug/l	20a	100		19
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			4.5	0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			134.9	59
Total Zinc	Comp	50.00	ug/l	80a			78
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro_3_methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	*Basin Plan*	California Toxics Rule (freshwater)[d]	Ballona Creek
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l				0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l		0.03k		0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = *minimum level*

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

h) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#2_BALLONA

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - BALLONA CREEK

Beneficial Uses[i]: MUN, REC-1, REC-2, WARM, WILD

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			1.8
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0.028
pH	Comp	0-14			6.5 < pH < 8.5		7.7
Dissolved Oxygen	Grab	1.00	mg/L		> 5		8.64
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (instantaneous)		240000
Fecal Coliform	Grab	20.00	MPN/100ml	400i	400 (instantaneous)		11000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.05
Fecal Streptococcus	*Grab*	*20.00*	*MPN/100ml*				*300000*
Fecal Enterococcus	Grab		MPN/100ml		104		0.07
General							
Chloride	Comp	2.00	mg/L		500		20.8
Fluoride f(temp)[l]	Comp	0.10	mg/L		2		0.39
Nitrate	Comp	0.10	mg/L				3.26
Sulfate	Comp	0.10	mg/L		*500*		21.5
Alkalinity	Comp	4.00	mg/L				220
Hardness	Comp	2.00	mg/L				110
COD	Comp	10.00	mg/L				176
TPH	Grab	1.00	mg/L				3.6
Specific Conductance	Comp	1.00	umhos/cm				287
Total Dissolved Solids	Comp	2.00	mg/L		2000		202
Turbidity	Comp	0.10	NTU	225a			59
Total Suspended Solids	Comp	2.00	mg/L				429
Volatile Suspended Solids	Comp	1.00	mg/L				28.2
MBAS	Comp	0.05	mg/L		0.5		0.179
Total Organic Carbon	Comp	1.00	mg/L				15.2
BOD	Comp	2.00	mg/L				11.4
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.548
Total Phosphorus	Comp	0.05	mg/L				0.921
NH3-N	Comp	0.10	mg/L				2.64
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.735
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0.76
Kjeldahl-N	Comp	0.10	mg/L				12
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0.73
Total Antimony	Comp	5.00	ug/l		6		1.19
Dissolved Arsenic	Comp	5.00	ug/l				1.14
Total Arsenic	Comp	5.00	ug/l	32a	50		1.32
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			2.4	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			192.5	3.28
Total Chromium	Comp	5.00	ug/l		50		3.95
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			9.7	2.56
Total Copper	Comp	5.00	ug/l	12a			11.8
Dissolved Iron	Comp	100.00	ug/l				430
Total Iron	Comp	100.00	ug/l				432
Dissolved Lead	Comp	5.00	ug/l			2.8	1.3
Total Lead	Comp	5.00	ug/l	8a			7.28
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			56.4	7.95
Total Nickel	Comp	5.00	ug/l	20a	100		8.64
Dissolved Selenium	Comp	5.00	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
Total Selenium	Comp	5.00	ug/l	60a	50		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
Dissolved Silver[f]	Comp	1.00	ug/l			4.1	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			128.1	41
Total Zinc	Comp	50.00	ug/l	80a			54
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l				0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l	0.008k			0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.217
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#3BALLONA

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - BALLONA CREEK

Beneficial Uses[1]: MUN, REC-1, REC-2, WARM, WILD

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			2.9
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		7.87
Dissolved Oxygen	Grab	1.00	mg/L		> 5		15
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		500000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		140000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.28
Fecal Streptococcus	Grab	20.00	MPN/100ml				170000
Fecal Enterococcus	Grab		MPN/100ml		104		110000
General							
Chloride	Comp	2.00	mg/L		500		80.8
Fluoride f(temp)[1]	Comp	0.10	mg/L		2		0.53
Nitrate	Comp	0.10	mg/L				0.45
Sulfate	Comp	0.10	mg/L		500		97.6
Alkalinity	Comp	4.00	mg/L				154
Hardness	Comp	2.00	mg/L				290
COD	Comp	10.00	mg/L				42
TPH	Grab	1.00	mg/L				2.2
Specific Conductance	Comp	1.00	umhos/cm				706
Total Dissolved Solids	Comp	2.00	mg/L		2000		472
Turbidity	Comp	0.10	NTU	225a			18.7
Total Suspended Solids	Comp	2.00	mg/L				636
Volatile Suspended Solids	Comp	1.00	mg/L				11
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				6.11
BOD	Comp	2.00	mg/L				8.88
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.286
Total Phosphorus	Comp	0.05	mg/L				0.319
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.1016
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0.56
Kjeldahl-N	Comp	0.10	mg/L				4.18
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0.8
Total Antimony	Comp	5.00	ug/l		6		0.89
Dissolved Arsenic	Comp	5.00	ug/l				0
Total Arsenic	Comp	5.00	ug/l	32a	50		2.68
Dissolved Berylium	Comp	1.00	ug/l				0
Total Berylllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			4.9	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			425.7	4.61
Total Chromium	Comp	5.00	ug/l		50		7.88
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			22.2	7.26
Total Copper	Comp	5.00	ug/l	12a			8.83
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				226
Dissolved Lead	Comp	5.00	ug/l			9.8	0
Total Lead	Comp	5.00	ug/l	8a			1.08
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			128.0	5.88
Total Nickel	Comp	5.00	ug/l	20a	100		6.68
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
Dissolved Silver[f]	Comp	1.00	ug/l			21.5	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			128.1	3
Total Zinc	Comp	50.00	ug/l	80a			41
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) *0 indicates level not detected*							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#4BALLONA

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - BALLONA CREEK

Beneficial Uses[j]: MUN, REC-1, REC-2, WARM, WILD

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a		0.07	0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		8.66
Dissolved Oxygen	Grab	1.00	mg/L		> 5		9.67
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (instantaneous)		5000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (instantaneous)		1500
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.30
Fecal Streptococcus	Grab	20.00	MPN/100ml				1700
Fecal Enterococcus	Grab		MPN/100ml		104		1700
General							
Chloride	Comp	2.00	mg/L		500		110
Fluoride f(temp)[l]	Comp	0.10	mg/L		1.6		0.46
Nitrate	Comp	0.10	mg/L				7.09
Sulfate	Comp	0.10	mg/L		500		173
Alkalinity	Comp	4.00	mg/L				267
Hardness	Comp	2.00	mg/L				420
COD	Comp	10.00	mg/L				21.8
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				1235
Total Dissolved Solids	Comp	2.00	mg/L		2000		810
Turbidity	Comp	0.10	NTU	225a			0.83
Total Suspended Solids	Comp	2.00	mg/L				33
Volatile Suspended Solids	Comp	1.00	mg/L				18
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				6.43
BOD	Comp	2.00	mg/L				6.67
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.061
Total Phosphorus	Comp	0.05	mg/L				0.14
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		1.6
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				1.526
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0.99
Total Antimony	Comp	5.00	ug/l		6		0.99
Dissolved Arsenic	Comp	5.00	ug/l				2.45
Total Arsenic	Comp	5.00	ug/l	32a	50		2.45
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			6.4	0.25
Total Cadmium	Comp	1.00	ug/l	4a	5		0.25
Dissolved Chromium	Comp	5.00	ug/l			576.6	3.82
Total Chromium	Comp	5.00	ug/l		50		13.7
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			30.5	9.14
Total Copper	Comp	5.00	ug/l	12a			14
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				196
Dissolved Lead	Comp	5.00	ug/l			15.6	0
Total Lead	Comp	5.00	ug/l	8a			1.21
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			175.1	5.94
Total Nickel	Comp	5.00	ug/l	20a	100		23.6
Dissolved Selenium	Comp	5.00	ug/l				3.08
Total Selenium	Comp	5.00	ug/l	60a	50		3.08

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
Dissolved Silver[f]	Comp	1.00	ug/l			40.7	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			398.5	16.6
Total Zinc	Comp	50.00	ug/l	80a			21.2
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	*Comp*	*1.00*	*ug/l*				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l				0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l	0.008k			0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Ballona Creek
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l				0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l		0.03k		0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) *Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.*

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataDRYWEATHER#1_BALLONA

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - MALIBU CREEK

Beneficial Uses[j]: MUN, REC-1, REC-2, COLD, RARE, MIGR, SPWN, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		8.5
Dissolved Oxygen	Grab	1.00	mg/L		> 7		7.5
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		7000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		7000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		1.00
Fecal Streptococcus	Grab	20.00	MPN/100ml				33000
Fecal Enterococcus	Grab		MPN/100ml		104		21000
General							
Chloride	Comp	2.00	mg/L		500		102
Fluoride f(temp)[l]	Comp	0.10	mg/L		2		0.3
Nitrate	Comp	0.10	mg/L				4.11
Sulfate	Comp	0.10	mg/L		500		723
Alkalinity	Comp	4.00	mg/L				176
Hardness	Comp	2.00	mg/L				805
COD	Comp	10.00	mg/L				78.1
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				2238
Total Dissolved Solids	Comp	2.00	mg/L		1500		1602
Turbidity	Comp	0.10	NTU	225a			1.3
Total Suspended Solids	Comp	2.00	mg/L				654
Volatile Suspended Solids	Comp	1.00	mg/L				65
MBAS	Comp	0.05	mg/L		0.5		0.102
Total Organic Carbon	Comp	1.00	mg/L				21.2
BOD	Comp	2.00	mg/L				18.42
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.213
Total Phosphorus	Comp	0.05	mg/L				0.539
NH3-N	Comp	0.10	mg/L				0.701
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.928
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				2.06
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		3180
Dissolved Antimony	Comp	5.00	ug/l				1.5
Total Antimony	Comp	5.00	ug/l		6		2.78
Dissolved Arsenic	Comp	5.00	ug/l			150	1.8
Total Arsenic	Comp	5.00	ug/l	32a	50		5.78
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			10.4	0
Total Cadmium	Comp	1.00	ug/l	4a	5		7.17
Dissolved Chromium	Comp	5.00	ug/l			982.4	0
Total Chromium	Comp	5.00	ug/l		50		21.2
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			53.2	5.68
Total Copper	Comp	5.00	ug/l	12a			33.2
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				4480
Dissolved Lead	Comp	5.00	ug/l			35.8	0
Total Lead	Comp	5.00	ug/l	8a			10.9
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			303.6	19.4

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
Total Nickel	Comp	5.00	ug/l	20a	100		41.9
Dissolved Selenium	Comp	5.00	ug/l				17.8
Total Selenium	Comp	5.00	ug/l	60a	50		17.8
Dissolved Silver[f]	Comp	1.00	ug/l			124.7	0
Total Silver	Comp	1.00	ug/l	2.8a			0.46
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			691.6	11.3
Total Zinc	Comp	50.00	ug/l	80a			94.4
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							0
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#1_MALIBU

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - MALIBU CREEK

Beneficial Uses[j]: MUN, REC-1, REC-2, COLD, RARE, MIGR, SPWN, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			11.5
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		7.85
Dissolved Oxygen	Grab	1.00	mg/L		0.07		9.16
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		11000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		700
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.06
Fecal Streptococcus	Grab	20.00	MPN/100ml				14000
Fecal Enterococcus	Grab		MPN/100ml		104		14000
General							
Chloride	Comp	2.00	mg/L		500		62.2
Fluoride f(temp)[l]	Comp	0.10	mg/L		2		0.12
Nitrate	Comp	0.10	mg/L				4.58
Sulfate	Comp	0.10	mg/L		500		200
Alkalinity	Comp	4.00	mg/L				123
Hardness	Comp	2.00	mg/L				306
COD	Comp	10.00	mg/L				48.8
TPH	Grab	1.00	mg/L				1.5
Specific Conductance	Comp	1.00	umhos/cm				903
Total Dissolved Solids	Comp	2.00	mg/L		1500		624
Turbidity	Comp	0.10	NTU	225a			88.1
Total Suspended Solids	Comp	2.00	mg/L				355
Volatile Suspended Solids	Comp	1.00	mg/L				32
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				7.68
BOD	Comp	2.00	mg/L				10.5
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.103
Total Phosphorus	Comp	0.05	mg/L				0.423
NH3-N	Comp	0.10	mg/L				0.11
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		1.03
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				0.394
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		282
Dissolved Antimony	Comp	5.00	ug/l				0.51
Total Antimony	Comp	5.00	ug/l		6		0.54
Dissolved Arsenic	Comp	5.00	ug/l			150	1.06
Total Arsenic	Comp	5.00	ug/l	32a	50		1.21
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			5.1	0.27
Total Cadmium	Comp	1.00	ug/l	4a	5		0.33
Dissolved Chromium	Comp	5.00	ug/l			444.9	1.52
Total Chromium	Comp	5.00	ug/l		50		11.4
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			23.3	3.12
Total Copper	Comp	5.00	ug/l	12a			8.18
Dissolved Iron	Comp	100.00	ug/l				284
Total Iron	Comp	100.00	ug/l				571
Dissolved Lead	Comp	5.00	ug/l			10.5	0
Total Lead	Comp	5.00	ug/l	8a			0.72
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			134.0	5.34
Total Nickel	Comp	5.00	ug/l	20a	100		18.1
Dissolved Selenium	Comp	5.00	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			23.6	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			304.8	25
Total Zinc	Comp	50.00	ug/l	80a			41
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l				0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l		0.03k		0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							0
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) *The sum of these constituents must be less than the standard shown.*

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#2_MALIBU

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - MALIBU CREEK

Beneficial Uses[1]: MUN, REC-1, REC-2, COLD, RARE, MIGR, SPWN, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		8.43
Dissolved Oxygen	Grab	1.00	mg/L		> 7		9.1
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		7000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		3000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.43
Fecal Streptococcus	Grab	20.00	MPN/100ml				2400
Fecal Enterococcus	Grab		MPN/100ml		104		2400
General							
Chloride	Comp	2.00	mg/L		500		145
Fluoride f(temp)[l]	Comp	0.10	mg/L		2		0.24
Nitrate	Comp	0.10	mg/L				15
Sulfate	Comp	0.10	mg/L		500		755
Alkalinity	Comp	4.00	mg/L				212
Hardness	Comp	2.00	mg/L				842
COD	Comp	10.00	mg/L				108
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				2475
Total Dissolved Solids	Comp	2.00	mg/L		1500		1666
Turbidity	Comp	0.10	NTU	225a			25.1
Total Suspended Solids	Comp	2.00	mg/L				62
Volatile Suspended Solids	Comp	1.00	mg/L				4.5
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				8.73
BOD	Comp	2.00	mg/L				11.7
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.636
Total Phosphorus	Comp	0.05	mg/L				0.789
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		3.38
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				3.66
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0
Total Antimony	Comp	5.00	ug/l		6		0.52
Dissolved Arsenic	Comp	5.00	ug/l			150	1.84
Total Arsenic	Comp	5.00	ug/l	32a	50		1.91
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			10.8	0.32
Total Cadmium	Comp	1.00	ug/l	4a	5		0.32
Dissolved Chromium	Comp	5.00	ug/l			1019.2	1.43
Total Chromium	Comp	5.00	ug/l		50		2.68
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			55.3	5.71
Total Copper	Comp	5.00	ug/l	12a			10.9
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				0
Dissolved Lead	Comp	5.00	ug/l			37.9	0
Total Lead	Comp	5.00	ug/l	8a			0
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			315.4	11.2
Total Nickel	Comp	5.00	ug/l	20a	100		13.1

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
Dissolved Selenium	Comp	5.00	ug/l				4.78
Total Selenium	Comp	5.00	ug/l	60a	50		4.98
Dissolved Silver[f]	Comp	1.00	ug/l			134.7	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			718.5	58
Total Zinc	Comp	50.00	ug/l	80a			75
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l				0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l	0.008k			0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l				0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l		0.03k		0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.565
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							0
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#3_MALIBU

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - MALIBU CREEK

Beneficial Uses[j]: MUN, REC-1, REC-2, COLD, RARE, MIGR, SPWN, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			1.5
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		7.9
Dissolved Oxygen	Grab	1.00	mg/L		> 7		2.95
Indicator Bacteria						0.07	
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		60000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		22000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.28
Fecal Streptococcus	Grab	20.00	MPN/100ml				30000
Fecal Enterococcus	Grab		MPN/100ml		104		30000
General							
Chloride	Comp	2.00	mg/L		500		76.1
Fluoride f(temp)[l]	Comp	0.10	mg/L		2		0.24
Nitrate	Comp	0.10	mg/L				5.89
Sulfate	Comp	0.10	mg/L		500		262
Alkalinity	Comp	4.00	mg/L				169
Hardness	Comp	2.00	mg/L				300
COD	Comp	10.00	mg/L				37
TPH	Grab	1.00	mg/L				1.3
Specific Conductance	Comp	1.00	umhos/cm				801
Total Dissolved Solids	Comp	2.00	mg/L		1500		556
Turbidity	Comp	0.10	NTU	225a			200.5
Total Suspended Solids	Comp	2.00	mg/L				1393
Volatile Suspended Solids	Comp	1.00	mg/L				12
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				9.46
BOD	Comp	2.00	mg/L				8.13
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.378
Total Phosphorus	Comp	0.05	mg/L				0.635
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		1.33
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				6.92
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		165
Dissolved Antimony	Comp	5.00	ug/l				0.51
Total Antimony	Comp	5.00	ug/l		6		0.62
Dissolved Arsenic	Comp	5.00	ug/l			150	0
Total Arsenic	Comp	5.00	ug/l	32a	50		1.93
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			5.0	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0.43
Dissolved Chromium	Comp	5.00	ug/l			437.7	3.5
Total Chromium	Comp	5.00	ug/l		50		8.36
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			22.9	6.57
Total Copper	Comp	5.00	ug/l	12a			8.78
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				677
Dissolved Lead	Comp	5.00	ug/l			10.2	0
Total Lead	Comp	5.00	ug/l	8a			0.87
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			131.7	9.51
Total Nickel	Comp	5.00	ug/l	20a	100		17.7

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			22.8	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			718.5	0
Total Zinc	Comp	50.00	ug/l	80a			29
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l				0
beta-BHC	Comp	0.05	ug/l	0.008k			0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.017
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							0
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#4_MALIBU

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - MALIBU CREEK

Beneficial Uses[j]: MUN, REC-1, REC-2, COLD, RARE, MIGR, SPWN, WET

Class Constituent	Sample Type	PQL[e]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		8.69
Dissolved Oxygen	Grab	1.00	mg/L		> 7		8.68
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		14000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		14000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		1.00
Fecal Streptococcus	Grab	20.00	MPN/100ml				300
Fecal Enterococcus	Grab		MPN/100ml		104		300
General							
Chloride	Comp	2.00	mg/L		500		179
Fluoride f(temp)[f]	Comp	0.10	mg/L		1.6		0.19
Nitrate	Comp	0.10	mg/L				1.4
Sulfate	Comp	0.10	mg/L		500		1144
Alkalinity	Comp	4.00	mg/L				314
Hardness	Comp	2.00	mg/L				1420
COD	Comp	10.00	mg/L				254.5
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				1530
Total Dissolved Solids	Comp	2.00	mg/L		1500		928
Turbidity	Comp	0.10	NTU	225a			0.81
Total Suspended Solids	Comp	2.00	mg/L				36
Volatile Suspended Solids	Comp	1.00	mg/L				16
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				7.71
BOD	Comp	2.00	mg/L				7.77
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.261
Total Phosphorus	Comp	0.05	mg/L				0.389
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.316
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				1.525
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0
Total Antimony	Comp	5.00	ug/l		6		0
Dissolved Arsenic	Comp	5.00	ug/l			150	2.43
Total Arsenic	Comp	5.00	ug/l	32a	50		2.43
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			15.8	1.46
Total Cadmium	Comp	1.00	ug/l	4a	5		1.46
Dissolved Chromium	Comp	5.00	ug/l			1563.7	3.37
Total Chromium	Comp	5.00	ug/l		50		11.7
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			86.4	6.05
Total Copper	Comp	5.00	ug/l	12a			13.5
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				202
Dissolved Lead	Comp	5.00	ug/l			73.7	0
Total Lead	Comp	5.00	ug/l	8a			1.56

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			490.8	1.9
Total Nickel	Comp	5.00	ug/l	20a	100		26.6
Dissolved Selenium	Comp	5.00	ug/l				5.27
Total Selenium	Comp	5.00	ug/l	60a	50		5.27
Dissolved Silver[f]	Comp	1.00	ug/l			330.9	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			1118.7	11.7
Total Zinc	Comp	50.00	ug/l	80a			25.3
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
alpha-BHC	Comp	0.05	ug/l				0
beta-BHC	Comp	0.05	ug/l	0.008k			0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l				0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l		0.03k		0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							0
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) *Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.*

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataDRYWEATHER#1_MALIBU

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - MALIBU CREEK

Beneficial Uses[1]: MUN, REC-1, REC-2, COLD, RARE, MIGR, SPWN, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		8.11
Dissolved Oxygen	Grab	1.00	mg/L		> 7		10.18
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (instantaneous)		1100
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (instantaneous)		80
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.07
Fecal Streptococcus	Grab	20.00	MPN/100ml				40
Fecal Enterococcus	Grab		MPN/100ml		104		40
General							
Chloride	Comp	2.00	mg/L		500		99
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.4		0.3
Nitrate	Comp	0.10	mg/L				1.3
Sulfate	Comp	0.10	mg/L		500		481
Alkalinity	Comp	4.00	mg/L				286
Hardness	Comp	2.00	mg/L				700
COD	Comp	10.00	mg/L				60.8
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				1984
Total Dissolved Solids	Comp	2.00	mg/L		1500		1294
Turbidity	Comp	0.10	NTU	225a			0.87
Total Suspended Solids	Comp	2.00	mg/L				6
Volatile Suspended Solids	Comp	1.00	mg/L				6
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				7.12
BOD	Comp	2.00	mg/L				26
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.076
Total Phosphorus	Comp	0.05	mg/L				0.103
NH3-N	Comp	0.10	mg/L				0.214
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.294
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0.304
Kjeldahl-N	Comp	0.10	mg/L				0.56
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0
Total Antimony	Comp	5.00	ug/l		6		0
Dissolved Arsenic	Comp	5.00	ug/l			150	0
Total Arsenic	Comp	5.00	ug/l	32a	50		0
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			9.4	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			876.1	0
Total Chromium	Comp	5.00	ug/l		50		1.67
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			47.2	2.59
Total Copper	Comp	5.00	ug/l	12a			5.33
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				128
Dissolved Lead	Comp	5.00	ug/l			30.0	0
Total Lead	Comp	5.00	ug/l	8a			0
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			269.8	5.62
Total Nickel	Comp	5.00	ug/l	20a	100		6.17
Dissolved Selenium	Comp	5.00	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[e]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			98.0	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			614.4	53
Total Zinc	Comp	50.00	ug/l	80a			82
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Malibu Creek
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l				0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l		0.03k		0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.037
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							0
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSDRYWEATHER#2_MALIBU

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING-L.A. RIVER

Beneficial Uses[b]: MUN, AGR, REC-1, REC-2, WARM, WILD, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # I (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			4.1
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2 MCL	0.0052	0.016
pH	Comp	0-14			6.5 < pH < 8.5		8.65
Dissolved Oxygen	Grab	1.00	mg/L		> 5		14.2
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		2200000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		1400000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.64
Fecal Streptococcus	Grab	20.00	MPN/100ml				700000
Fecal Enterococcus	Grab		MPN/100ml		104		170000
General							
Chloride	Comp	2.00	mg/L		150		111
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.2		0.48
Nitrate	Comp	0.10	mg/L				29.9
Sulfate	Comp	0.10	mg/L		350		123.8
Alkalinity	Comp	4.00	mg/L				139
Hardness	Comp	2.00	mg/L				210
COD	Comp	10.00	mg/L				101.9
TPH	Grab	1.00	mg/L				1.6
Specific Conductance	Comp	1.00	umhos/cm				996
Total Dissolved Solids	Comp	2.00	mg/L		1500		572
Turbidity	Comp	0.10	NTU	225a			5.33
Total Suspended Solids	Comp	2.00	mg/L				11
Volatile Suspended Solids	Comp	1.00	mg/L				10
MBAS	Comp	0.05	mg/L		0.5		0.127
Total Organic Carbon	Comp	1.00	mg/L				14.4
BOD	Comp	2.00	mg/L				65.86
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.684
Total Phosphorus	Comp	0.05	mg/L				0.774
NH3-N	Comp	0.10	mg/L				2.34
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		6.75
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				4
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		126
Dissolved Antimony	Comp	5.00	ug/l				1.37
Total Antimony	Comp	5.00	ug/l		6		1.37
Dissolved Arsenic	Comp	5.00	ug/l			150	2.06
Total Arsenic	Comp	5.00	ug/l	32a	50		2.06
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			3.9	0.27
Total Cadmium	Comp	1.00	ug/l	4a	5		0.42
Dissolved Chromium	Comp	5.00	ug/l			326.8	2.01
Total Chromium	Comp	5.00	ug/l		50		3.15
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			16.9	14.1
Total Copper	Comp	5.00	ug/l	12a			25.9
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				306
Dissolved Lead	Comp	5.00	ug/l			6.5	0.76
Total Lead	Comp	5.00	ug/l	8a			5.35
Dissolved Mercury	Comp	1.00	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			97.4	7.22
Total Nickel	Comp	5.00	ug/l	20a	100		10
Dissolved Selenium	Comp	5.00	ug/l				4.07
Total Selenium	Comp	5.00	ug/l	60a	50		4.07
Dissolved Silver[f]	Comp	1.00	ug/l			12.4	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			221.5	45.3
Total Zinc	Comp	50.00	ug/l	80a			54
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
Pyrene	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # I (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l				0
beta-BHC	Comp	0.05	ug/l	0.008k			0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#1_L.A. RIVER

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING- L.A. RIVER

Beneficial Uses[b]: MUN, AGR, REC-1, REC-2, WARM, WILD, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
Conventional							
Oil and Grease	Grab	*1.00*	*mg/L*	*75a*			11.9
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		7.01
Dissolved Oxygen	*Grab*	*1.00*	*mg/L*		*> 5*		8.34
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		50000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		30000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.60
Fecal Streptococcus	Grab	20.00	MPN/100ml				240000
Fecal Enterococcus	Grab		MPN/100ml		104		80000
General							
Chloride	Comp	2.00	mg/L		150		6.73
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.2		0.11
Nitrate	Comp	0.10	mg/L				2.99
Sulfate	Comp	0.10	mg/L		350		9.42
Alkalinity	Comp	4.00	mg/L				32
Hardness	Comp	2.00	mg/L				48
COD	Comp	10.00	mg/L				21.8
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				133.2
Total Dissolved Solids	Comp	2.00	mg/L		1500		96
Turbidity	Comp	0.10	NTU	225a			140
Total Suspended Solids	Comp	2.00	mg/L				172
Volatile Suspended Solids	Comp	1.00	mg/L				20
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				6.51
BOD	Comp	2.00	mg/L				16.2
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.087
Total Phosphorus	Comp	0.05	mg/L				0.441
NH3-N	Comp	0.10	mg/L				0.184
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.675
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				0.135
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		118
Dissolved Antimony	Comp	5.00	ug/l				1.06
Total Antimony	Comp	5.00	ug/l		6		1.09
Dissolved Arsenic	Comp	5.00	ug/l			150	2.61
Total Arsenic	Comp	5.00	ug/l	32a	50		5.84
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			1.3	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			97.6	0.94
Total Chromium	Comp	5.00	ug/l		50		11.8
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			4.8	5.21
Total Copper	Comp	5.00	ug/l	12a			19
Dissolved Iron	Comp	*100.00*	*ug/l*				276
Total Iron	Comp	100.00	ug/l				375
Dissolved Lead	Comp	5.00	ug/l			1.0	3.1
Total Lead	Comp	5.00	ug/l	8a			9.91
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
Dissolved Nickel	Comp	5.00	ug/l			28.0	3.24
Total Nickel	Comp	5.00	ug/l	20a	100		16.1
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			1.0	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			63.4	35
Total Zinc	Comp	50.00	ug/l	80a			50
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland

k) The sum of these constituents must be less than the standard shown.

l) *The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed* this objective during any 60-day period.

File: wq_dataSTORM#2_L.A. RIVER

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING- L.A. RIVER

Beneficial Uses[j]: MUN, AGR, REC-1, REC-2, WARM, WILD, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			1.9
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0.0763
pH	Comp	0-14			6.5 < pH < 8.5		7.44
Dissolved Oxygen	Grab	1.00	mg/L		> 5		7.6
Indicator Bacteria						0.07	
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		900000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		11000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.01
Fecal Streptococcus	Grab	20.00	MPN/100ml				230000
Fecal Enterococcus	Grab		MPN/100ml		104		80000
General							
Chloride	Comp	2.00	mg/L		150		10.9
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.2		0.24
Nitrate	Comp	0.10	mg/L				3.84
Sulfate	Comp	0.10	mg/L		350		13.8
Alkalinity	Comp	4.00	mg/L				55
Hardness	Comp	2.00	mg/L				52.8
COD	Comp	10.00	mg/L				93
TPH	Grab	1.00	mg/L				4.3
Specific Conductance	Comp	1.00	umhos/cm				175.1
Total Dissolved Solids	Comp	2.00	mg/L		1500		108
Turbidity	Comp	0.10	NTU	225a			73.7
Total Suspended Solids	Comp	2.00	mg/L				197
Volatile Suspended Solids	Comp	1.00	mg/L				14
MBAS	Comp	0.05	mg/L		0.5		0.104
Total Organic Carbon	Comp	1.00	mg/L				10.1
BOD	Comp	2.00	mg/L				12.2
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.37
Total Phosphorus	Comp	0.05	mg/L				0.491
NH3-N	Comp	0.10	mg/L				0.373
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.87
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0.63
Kjeldahl-N	Comp	0.10	mg/L				3.26
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				1
Total Antimony	Comp	5.00	ug/l		6		1.05
Dissolved Arsenic	Comp	5.00	ug/l			150	1.25
Total Arsenic	Comp	5.00	ug/l	32a	50		1.32
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			1.4	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			105.5	3.1
Total Chromium	Comp	5.00	ug/l		50		4.64
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			5.2	5.51
Total Copper	Comp	5.00	ug/l	12a			12.9
Dissolved Iron	Comp	100.00	ug/l				679
Total Iron	Comp	100.00	ug/l				686
Dissolved Lead	Comp	5.00	ug/l			1.1	4.29
Total Lead	Comp	5.00	ug/l	8a			4.62
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
Dissolved Nickel	Comp	5.00	ug/l			30.3	7.52
Total Nickel	Comp	5.00	ug/l	20a	100		8.61
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			1.2	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			68.8	74
Total Zinc	Comp	50.00	ug/l	80a			83
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.179
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#3_L.A. RIVER

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING- L.A. RIVER

Beneficial Uses[b]: MUN, AGR, REC-1, REC-2, WARM, WILD, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			1.4
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		7.09
Dissolved Oxygen	Grab	1.00	mg/L		> 5		6.74
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		1300000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		800000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.62
Fecal Streptococcus	Grab	20.00	MPN/100ml				300000
Fecal Enterococcus	Grab		MPN/100ml		104		300000
General							
Chloride	Comp	2.00	mg/L		150		13.2
Fluoride f(temp)[f]	Comp	0.10	mg/L		2.2		0.15
Nitrate	Comp	0.10	mg/L				2.52
Sulfate	Comp	0.10	mg/L		350		22.6
Alkalinity	Comp	4.00	mg/L				53.9
Hardness	Comp	2.00	mg/L				76
COD	Comp	10.00	mg/L				34
TPH	Grab	1.00	mg/L				1.5
Specific Conductance	Comp	1.00	umhos/cm				212
Total Dissolved Solids	Comp	2.00	mg/L		1500		146
Turbidity	Comp	0.10	NTU	225a			118.2
Total Suspended Solids	Comp	2.00	mg/L				1045
Volatile Suspended Solids	Comp	1.00	mg/L				10
MBAS	Comp	0.05	mg/L		0.5		0.062
Total Organic Carbon	Comp	1.00	mg/L				5.65
BOD	Comp	2.00	mg/L				7.6
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.181
Total Phosphorus	Comp	0.05	mg/L				0.193
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.569
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				12.5
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		185
Dissolved Antimony	Comp	5.00	ug/l				0.71
Total Antimony	Comp	5.00	ug/l		6		0.86
Dissolved Arsenic	Comp	5.00	ug/l			150	0
Total Arsenic	Comp	5.00	ug/l	32a	50		1.48
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			1.8	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			142.2	6.99
Total Chromium	Comp	5.00	ug/l		50		9.47
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			7.1	7.07
Total Copper	Comp	5.00	ug/l	12a			9.56
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				404
Dissolved Lead	Comp	5.00	ug/l			1.8	0
Total Lead	Comp	5.00	ug/l	8a			2.26
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			41.2	5.54

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
Total Nickel	Comp	5.00	ug/l	20a	100		6.84
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			2.2	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			68.8	10
Total Zinc	Comp	50.00	ug/l	80a			46
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.05
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#4_L.A. RIVER

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING- L.A. RIVER

Beneficial Uses[j]: MUN, AGR, REC-1, REC-2, WARM, WILD, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		8.44
Dissolved Oxygen	Grab	1.00	mg/L		> 5		8.6
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		22000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		1100
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.05
Fecal Streptococcus	Grab	20.00	MPN/100ml				500
Fecal Enterococcus	Grab	-	MPN/100ml		104		500
General							
Chloride	Comp	2.00	mg/L		150		121
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.2		0.49
Nitrate	Comp	0.10	mg/L				1.45
Sulfate	Comp	0.10	mg/L		350		147
Alkalinity	Comp	4.00	mg/L				213
Hardness	Comp	2.00	mg/L				340
COD	Comp	10.00	mg/L				176.3
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				1100
Total Dissolved Solids	Comp	2.00	mg/L		1500		732
Turbidity	Comp	0.10	NTU	225a			1.48
Total Suspended Solids	Comp	2.00	mg/L				105
Volatile Suspended Solids	Comp	1.00	mg/L				42
MBAS	Comp	0.05	mg/L		0.5		0.079
Total Organic Carbon	Comp	1.00	mg/L				11.3
BOD	Comp	2.00	mg/L				62.9
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.78
Total Phosphorus	Comp	0.05	mg/L				0.809
NH3-N	Comp	0.10	mg/L				1.47
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.327
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0.609
Kjeldahl-N	Comp	0.10	mg/L				1.98
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0.69
Total Antimony	Comp	5.00	ug/l		6		0.69
Dissolved Arsenic	Comp	5.00	ug/l			150	3.43
Total Arsenic	Comp	5.00	ug/l	32a	50		3.43
Dissolved Berylium	Comp	1.00	ug/l				0
Total Berylium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			5.5	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			485.0	3.05
Total Chromium	Comp	5.00	ug/l		50		12.5
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			25.5	4.77
Total Copper	Comp	5.00	ug/l	12a			10
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				206
Dissolved Lead	Comp	5.00	ug/l			12.0	0.63
Total Lead	Comp	5.00	ug/l	8a			1.82
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			146.4	5.62

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
Total Nickel	Comp	5.00	ug/l	20a	100		21.8
Dissolved Selenium	Comp	5.00	ug/l				2.04
Total Selenium	Comp	5.00	ug/l	60a	50		2.04
Dissolved Silver[f]	Comp	1.00	ug/l			28.3	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			333.2	25.1
Total Zinc	Comp	50.00	ug/l	80a			25.1
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.155
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) *This constituent is a function of the parameter(s) in parentheses.*

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataDRYWEATHER#1_LARIVER3

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING- L.A. RIVER

Beneficial Uses[f]: MUN, AGR, REC-1, REC-2, WARM, WILD, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0.051
pH	Comp	0-14			6.5 < pH < 8.5		8.87
Dissolved Oxygen	Grab	1.00	mg/L		> 5		5.04
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		500
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		20
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.04
Fecal Streptococcus	Grab	20.00	MPN/100ml				700
Fecal Enterococcus	Grab		MPN/100ml		104		300
General							
Chloride	Comp	2.00	mg/L		150		108
Fluoride f(temp)[f]	Comp	0.10	mg/L		2.2		0.6
Nitrate	Comp	0.10	mg/L				3.6
Sulfate	Comp	0.10	mg/L		350		124
Alkalinity	Comp	4.00	mg/L				94
Hardness	Comp	2.00	mg/L				230
COD	Comp	10.00	mg/L				110.5
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				1146
Total Dissolved Solids	Comp	2.00	mg/L		1500		780
Turbidity	Comp	0.10	NTU	225a			6.19
Total Suspended Solids	Comp	2.00	mg/L				97
Volatile Suspended Solids	Comp	1.00	mg/L				44
MBAS	Comp	0.05	mg/L		0.5		0.138
Total Organic Carbon	Comp	1.00	mg/L				17.1
BOD	Comp	2.00	mg/L				198
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.288
Total Phosphorus	Comp	0.05	mg/L				0.356
NH3-N	Comp	0.10	mg/L				3.59
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.813
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		1.34
Kjeldahl-N	Comp	0.10	mg/L				3.9
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0.76
Total Antimony	Comp	5.00	ug/l		6		0.77
Dissolved Arsenic	Comp	5.00	ug/l			150	0
Total Arsenic	Comp	5.00	ug/l	32a	50		0
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			4.1	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			352.1	1.24
Total Chromium	Comp	5.00	ug/l		50		2.63
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			18.2	10.4
Total Copper	Comp	5.00	ug/l	12a			14
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				166
Dissolved Lead	Comp	5.00	ug/l			7.3	0
Total Lead	Comp	5.00	ug/l	8a			0.97
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			105.2	6.29

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
Total Nickel	Comp	5.00	ug/l	20a	100		6.99
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			14.5	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			239.3	54
Total Zinc	Comp	50.00	ug/l	80a			[redacted]85[redacted]
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro_3_methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	L.A. River
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.037
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) *Based on the freshwater acute criteria set by the Department of Fish and Game.*

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife *Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland* Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataDRYWEATHER#2_LARIVER

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - COYOTE CREEK

Beneficial Uses[b]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			2.6
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0.126
pH	Comp	0-14			6.5 < pH < 8.5		7.82
Dissolved Oxygen	Grab	1.00	mg/L		> 5		5.5
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		300000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		300000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		1.00
Fecal Streptococcus	Grab	20.00	MPN/100ml				800000
Fecal Enterococcus	Grab		MPN/100ml		104		800000
General							
Chloride	Comp	2.00	mg/L		150		29.5
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.2		0.36
Nitrate	Comp	0.10	mg/L				7.32
Sulfate	Comp	0.10	mg/L		350		44.5
Alkalinity	Comp	4.00	mg/L				69
Hardness	Comp	2.00	mg/L				130
COD	Comp	10.00	mg/L				96.1
TPH	Grab	1.00	mg/L				1.4
Specific Conductance	Comp	1.00	umhos/cm				522
Total Dissolved Solids	Comp	2.00	mg/L		1500		370
Turbidity	Comp	0.10	NTU	225a			48
Total Suspended Solids	Comp	2.00	mg/L				648
Volatile Suspended Solids	Comp	1.00	mg/L				123
MBAS	Comp	0.05	mg/L		0.5		0.27
Total Organic Carbon	Comp	1.00	mg/L				29.3
BOD	Comp	2.00	mg/L				52.1
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.442
Total Phosphorus	Comp	0.05	mg/L				0.46
NH3-N	Comp	0.10	mg/L				2.51
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		1.65
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		1.01
Kjeldahl-N	Comp	0.10	mg/L				3.36
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		1118
Dissolved Antimony	Comp	5.00	ug/l				2.99
Total Antimony	Comp	5.00	ug/l		6		3.56
Dissolved Arsenic	Comp	5.00	ug/l			150	2.48
Total Arsenic	Comp	5.00	ug/l	32a	50		3.01
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			2.7	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0.97
Dissolved Chromium	Comp	5.00	ug/l			220.7	3.15
Total Chromium	Comp	5.00	ug/l		50		8.49
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			11.2	11.7
Total Copper	Comp	5.00	ug/l	12a			45.9
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				1420
Dissolved Lead	Comp	5.00	ug/l			3.5	0
Total Lead	Comp	5.00	ug/l	8a			20.9
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			64.9	14.2
Total Nickel	Comp	5.00	ug/l	20a	100		17

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
Dissolved Selenium	Comp	5.00	ug/l				2.37
Total Selenium	Comp	5.00	ug/l	60a	50		2.37
Dissolved Silver[j]	Comp	1.00	ug/l			5.4	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			147.5	84.5
Total Zinc	Comp	50.00	ug/l	80a			219
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l				0
beta-BHC	Comp	0.05	ug/l	0.008k			0
delta-BHC	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.31
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level.

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) *The sum of these constituents must be less than the standard shown.*

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#1_COYOTE

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - COYOTE CREEK

Beneficial Uses[b]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		7.06
Dissolved Oxygen	Grab	1.00	mg/L		> 5		8.2
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		500000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		300000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.60
Fecal Streptococcus	Grab	20.00	MPN/100ml				110000
Fecal Enterococcus	Grab		MPN/100ml		104		50000
General							
Chloride	Comp	2.00	mg/L		150		9.13
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.2		0.14
Nitrate	Comp	0.10	mg/L				1.61
Sulfate	Comp	0.10	mg/L		350		10.4
Alkalinity	Comp	4.00	mg/L				43
Hardness	Comp	2.00	mg/L				60
COD	Comp	10.00	mg/L				24.4
TPH	Grab	1.00	mg/L				1
Specific Conductance	Comp	1.00	umhos/cm				160.8
Total Dissolved Solids	Comp	2.00	mg/L		1500		114
Turbidity	Comp	0.10	NTU	225a			54.5
Total Suspended Solids	Comp	2.00	mg/L				351
Volatile Suspended Solids	Comp	1.00	mg/L				68
MBAS	Comp	0.05	mg/L		0.5		0.053
Total Organic Carbon	Comp	1.00	mg/L				7.81
BOD	Comp	2.00	mg/L				9.4
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.096
Total Phosphorus	Comp	0.05	mg/L				0.155
NH3-N	Comp	0.10	mg/L				0.158
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.364
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0.198
Kjeldahl-N	Comp	0.10	mg/L				0.558
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0.83
Total Antimony	Comp	5.00	ug/l		6		0.87
Dissolved Arsenic	Comp	5.00	ug/l			150	0
Total Arsenic	Comp	5.00	ug/l	32a	50		1.42
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			1.5	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			117.1	1.16
Total Chromium	Comp	5.00	ug/l		50		11.7
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			5.8	4.21
Total Copper	Comp	5.00	ug/l	12a			9.91
Dissolved Iron	Comp	100.00	ug/l				109
Total Iron	Comp	100.00	ug/l				225
Dissolved Lead	Comp	5.00	ug/l			1.3	0.62
Total Lead	Comp	5.00	ug/l	8a			1.44
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
Dissolved Nickel	Comp	5.00	ug/l			33.8	2.25
Total Nickel	Comp	5.00	ug/l	20a	100		15.5
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			1.4	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			76.6	32
Total Zinc	Comp	50.00	ug/l	80a			52
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
alpha-BHC	Comp	0.05	ug/l				0
beta-BHC	Comp	0.05	ug/l	0.008k			0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls						0.014	
Aroclor-1016	Comp	0.50	ug/l				0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l		0.03k		0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat,

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#2_COYOTE

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - COYOTE CREEK

Beneficial Uses[j]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			1
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0.018
pH	Comp	0-14			6.5 < pH < 8.5		8.03
Dissolved Oxygen	Grab	1.00	mg/L		> 5		8.58
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		800000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		9000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 If the ratio of fecal-to-total coliform exceeds 0.1		0.01
Fecal Streptococcus	Grab	20.00	MPN/100ml				170000
Fecal Enterococcus	Grab		MPN/100ml		104		170000
General							
Chloride	Comp	2.00	mg/L		150		78
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.2		0.54
Nitrate	Comp	0.10	mg/L				8.31
Sulfate	Comp	0.10	mg/L		350		114
Alkalinity	Comp	4.00	mg/L				137.5
Hardness	Comp	2.00	mg/L				180
COD	Comp	10.00	mg/L				148
TPH	Grab	1.00	mg/L				2.8
Specific Conductance	Comp	1.00	umhos/cm				792
Total Dissolved Solids	Comp	2.00	mg/L		1500		522
Turbidity	Comp	0.10	NTU	225a			45.1
Total Suspended Solids	Comp	2.00	mg/L				204
Volatile Suspended Solids	Comp	1.00	mg/L				14.8
MBAS	Comp	0.05	mg/L		0.5		0.151
Total Organic Carbon	Comp	1.00	mg/L				17.9
BOD	Comp	2.00	mg/L				12.1
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.441
Total Phosphorus	Comp	0.05	mg/L				0.524
NH3-N	Comp	0.10	mg/L				2.11
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		1.87
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		1.42
Kjeldahl-N	Comp	0.10	mg/L				6.84
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				1.22
Total Antimony	Comp	5.00	ug/l		6		1.27
Dissolved Arsenic	Comp	5.00	ug/l			150	2.28
Total Arsenic	Comp	5.00	ug/l	32a	50		2.43
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			3.5	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			288.1	4.11
Total Chromium	Comp	5.00	ug/l		50		4.55
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			14.8	4.83
Total Copper	Comp	5.00	ug/l	12a			17.9
Dissolved Iron	Comp	100.00	ug/l				163
Total Iron	Comp	100.00	ug/l				209
Dissolved Lead	Comp	5.00	ug/l			5.3	0.58
Total Lead	Comp	5.00	ug/l	8a			1.27
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			85.5	7.65
Total Nickel	Comp	5.00	ug/l	20a	100		9.57

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver	Comp	1.00	ug/l			9.5	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			194.4	52
Total Zinc	Comp	50.00	ug/l	80a			61
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro_3_methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l				0
beta-BHC	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
delta-BHC	Comp	0.05	ug/l	0.008k			0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.085
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#3_COYOTE

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - COYOTE CREEK

Beneficial Uses[j]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		7.02
Dissolved Oxygen	Grab	1.00	mg/L		> 5		9.38
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		500000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		300000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.60
Fecal Streptococcus	Grab	20.00	MPN/100ml				130000
Fecal Enterococcus	Grab		MPN/100ml		104		130000
General							
Chloride	Comp	2.00	mg/L		150		14.8
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.2		0.1
Nitrate	Comp	0.10	mg/L				2.89
Sulfate	Comp	0.10	mg/L		350		22.1
Alkalinity	Comp	4.00	mg/L				27.5
Hardness	Comp	2.00	mg/L				45.6
COD	Comp	10.00	mg/L				24
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				171.1
Total Dissolved Solids	Comp	2.00	mg/L		1500		112
Turbidity	Comp	0.10	NTU	225a			67.4
Total Suspended Solids	Comp	2.00	mg/L				181
Volatile Suspended Solids	Comp	1.00	mg/L				2.4
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				4.27
BOD	Comp	2.00	mg/L				6.03
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.242
Total Phosphorus	Comp	0.05	mg/L				0.259
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.6525
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				1.16
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	*Comp*	*100.00*	*ug/l*		*1000*		134
Dissolved Antimony	Comp	5.00	ug/l				0
Total Antimony	Comp	5.00	ug/l		6		0
Dissolved Arsenic	Comp	5.00	ug/l			150	0
Total Arsenic	*Comp*	*5.00*	*ug/l*	32a	*50*		1.19
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			1.3	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			93.6	3.37
Total Chromium	Comp	5.00	ug/l		50		9.25
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			4.6	4.78
Total Copper	Comp	5.00	ug/l	12a			12.1
Dissolved Iron	Comp	100.00	ug/l				213
Total Iron	Comp	100.00	ug/l				581
Dissolved Lead	Comp	5.00	ug/l			0.9	0
Total Lead	Comp	5.00	ug/l	8a			2.05
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
Dissolved Nickel	Comp	5.00	ug/l			26.8	2.68
Total Nickel	Comp	5.00	ug/l	20a	100		6.01
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			0.9	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			194.4	6
Total Zinc	Comp	50.00	ug/l	80a			41
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.07
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this

File: wq_dataSTORM#4_COYOTE

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - COYOTE CREEK

Beneficial Uses[j]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		6.75
Dissolved Oxygen	Grab	1.00	mg/L		> 5		9.18
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		8000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		1700
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.21
Fecal Streptococcus	Grab	20.00	MPN/100ml				800
Fecal Enterococcus	Grab		MPN/100ml		104		800
General							
Chloride	Comp	2.00	mg/L		150		88
Fluoride f(temp)[l]	Comp	0.10	mg/L		1.6		0.46
Nitrate	Comp	0.10	mg/L				2.28
Sulfate	Comp	0.10	mg/L		350		125
Alkalinity	Comp	4.00	mg/L				155
Hardness	Comp	2.00	mg/L				195
COD	Comp	10.00	mg/L				28
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				831
Total Dissolved Solids	Comp	2.00	mg/L		1500		518
Turbidity	Comp	0.10	NTU	225a			0.73
Total Suspended Solids	Comp	2.00	mg/L				63
Volatile Suspended Solids	Comp	1.00	mg/L				15
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				5.35
BOD	Comp	2.00	mg/L				6.62
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0
Total Phosphorus	Comp	0.05	mg/L				0
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.515
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				0.82
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0.64
Total Antimony	Comp	5.00	ug/l		6		0.64
Dissolved Arsenic	Comp	5.00	ug/l			150	6.19
Total Arsenic	Comp	5.00	ug/l	32a	50		6.19
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			3.7	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			307.6	2.06
Total Chromium	Comp	5.00	ug/l		50		12.5
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			15.8	3.98
Total Copper	Comp	5.00	ug/l	12a			9.94
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				203
Dissolved Lead	Comp	5.00	ug/l			5.9	0
Total Lead	Comp	5.00	ug/l	8a			1.25
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			91.5	2.29

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
Total Nickel	Comp	5.00	ug/l	20a	100		18.9
Dissolved Selenium	Comp	5.00	ug/l				1.92
Total Selenium	Comp	5.00	ug/l	60a	50		1.92
Dissolved Silver[f]	Comp	1.00	ug/l			10.9	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			208.0	9.32
Total Zinc	Comp	50.00	ug/l	80a			11.6
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = *minimum level*

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataDRYWEATHER#1_COYOTE CK

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - COYOTE CREEK

Beneficial Uses[j]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0.019
pH	Comp	0-14			6.5 < pH < 8.5		8.65
Dissolved Oxygen	Grab	1.00	mg/L		> 5		9.61
Indicator Bacteria							
Total Coliform	*Grab*	*20.00*	*MPN/100ml*	*10000*	*10,000 (Instantaneous)*	*0.07*	*3500*
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		70
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.02
Fecal Streptococcus	Grab	20.00	MPN/100ml				800
Fecal Enterococcus	*Grab*		*MPN/100ml*		*104*		*800*
General							
Chloride	Comp	2.00	mg/L		150		87
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.2		1
Nitrate	Comp	0.10	mg/L				8.9
Sulfate	Comp	0.10	mg/L		350		129
Alkalinity	Comp	4.00	mg/L				220
Hardness	Comp	2.00	mg/L				340
COD	Comp	10.00	mg/L				87.6
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				2020
Total Dissolved Solids	Comp	2.00	mg/L		1500		1250
Turbidity	Comp	0.10	NTU	225a			1.98
Total Suspended Solids	Comp	2.00	mg/L				12
Volatile Suspended Solids	Comp	1.00	mg/L				9
MBAS	Comp	0.05	mg/L		0.5		0.062
Total Organic Carbon	Comp	1.00	mg/L				10.1
BOD	Comp	2.00	mg/L				42.4
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0
Total Phosphorus	Comp	0.05	mg/L				0
NH3-N	Comp	0.10	mg/L				0.298
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		2.01
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0.365
Kjeldahl-N	Comp	0.10	mg/L				1.87
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0.68
Total Antimony	Comp	5.00	ug/l		6		0.7
Dissolved Arsenic	Comp	5.00	ug/l			150	2.27
Total Arsenic	Comp	5.00	ug/l	32a	50		3.46
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			5.5	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			485.0	1.02
Total Chromium	Comp	5.00	ug/l		50		2.6
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			25.5	6.9
Total Copper	Comp	5.00	ug/l	12a			10.1
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				145
Dissolved Lead	Comp	5.00	ug/l			12.0	0
Total Lead	Comp	5.00	ug/l	8a			0.54
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			146.4	3.37

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
Total Nickel	Comp	5.00	ug/l	20a	100		4.3
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			28.3	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			333.2	53
Total Zinc	Comp	50.00	ug/l	80a			[redacted] 84 [redacted]
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Coyote Creek
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.038
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataDRYWEATHER#2_COYOTE CK

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - SAN GABRIEL RIVER

Beneficial Uses[i]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0.029
pH	Comp	0-14			6.5 < pH < 8.5		8.26
Dissolved Oxygen	Grab	1.00	mg/L		> 5		7.1
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		300000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		90000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.17
Fecal Streptococcus	Grab	20.00	MPN/100ml				24000
Fecal Enterococcus	Grab		MPN/100ml		104		3000
General							
Chloride	Comp	2.00	mg/L		150		74
Fluoride f(temp)[i]	Comp	0.10	mg/L		2.2		0.35
Nitrate	Comp	0.10	mg/L				2.5
Sulfate	Comp	0.10	mg/L		350		102
Alkalinity	Comp	4.00	mg/L				89
Hardness	Comp	2.00	mg/L				210
COD	Comp	10.00	mg/L				83.7
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				732
Total Dissolved Solids	Comp	2.00	mg/L		1500		464
Turbidity	Comp	0.10	NTU	225a			143
Total Suspended Solids	Comp	2.00	mg/L				630
Volatile Suspended Solids	Comp	1.00	mg/L				437
MBAS	Comp	0.05	mg/L		0.5		0.209
Total Organic Carbon	Comp	1.00	mg/L				10.2
BOD	Comp	2.00	mg/L				21.46
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.343
Total Phosphorus	Comp	0.05	mg/L				0.356
NH3-N	Comp	0.10	mg/L				0.466
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.565
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				3.58
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		2780
Dissolved Antimony	Comp	5.00	ug/l				1.68
Total Antimony	Comp	5.00	ug/l		6		3.87
Dissolved Arsenic	Comp	5.00	ug/l			150	0
Total Arsenic	Comp	5.00	ug/l	32a	50		4.49
Dissolved Berylium	Comp	1.00	ug/l				0
Total Berylllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			3.9	0
Total Cadmium	Comp	1.00	ug/l	4a	5		2.15
Dissolved Chromium	Comp	5.00	ug/l			326.8	0
Total Chromium	Comp	5.00	ug/l		50		17.5
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			16.9	8.98
Total Copper	Comp	5.00	ug/l	12a			81.4
Dissolved Iron	Comp	100.00	ug/l				221
Total Iron	Comp	100.00	ug/l				3680
Dissolved Lead	Comp	5.00	ug/l			6.5	0.87
Total Lead	Comp	5.00	ug/l	8a			56
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
Dissolved Nickel	Comp	5.00	ug/l			97.4	9.92
Total Nickel	Comp	5.00	ug/l	20a	100		21.0
Dissolved Selenium	Comp	5.00	ug/l				2.61
Total Selenium	Comp	5.00	ug/l	60a	50		3.86
Dissolved Silver[f]	Comp	1.00	ug/l			12.4	0
Total Silver	Comp	1.00	ug/l	2.8a			0.43
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			221.5	23.8
Total Zinc	Comp	50.00	ug/l	80a			440
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l				0
beta-BHC	Comp	0.05	ug/l	0.008k			0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l				0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l		0.03k		0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.34
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#1_SAN GABRIEL

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - SAN GABRIEL RIVER

Beneficial Uses[1]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			12.9
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0.005
pH	Comp	0-14			6.5 < pH < 8.5		7.24
Dissolved Oxygen	Grab	1.00	mg/L		> 5		8.4
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		300000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		300000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		1.00
Fecal Streptococcus	Grab	20.00	MPN/100ml				300000
Fecal Enterococcus	Grab		MPN/100ml		104		300000
General							
Chloride	Comp	2.00	mg/L		150		25.4
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.2		0.19
Nitrate	Comp	0.10	mg/L				6.63
Sulfate	Comp	0.10	mg/L		350		38.3
Alkalinity	Comp	4.00	mg/L				64
Hardness	Comp	2.00	mg/L				108
COD	Comp	10.00	mg/L				41.4
TPH	Grab	1.00	mg/L				1
Specific Conductance	Comp	1.00	umhos/cm				313
Total Dissolved Solids	Comp	2.00	mg/L		1500		206
Turbidity	Comp	0.10	NTU	225a			963
Total Suspended Solids	Comp	2.00	mg/L				1258
Volatile Suspended Solids	Comp	1.00	mg/L				63
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				6.44
BOD	Comp	2.00	mg/L				21.3
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.195
Total Phosphorus	Comp	0.05	mg/L				0.713
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		1.5
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				0.372
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		158
Dissolved Antimony	Comp	5.00	ug/l				0.98
Total Antimony	Comp	5.00	ug/l		6		1.02
Dissolved Arsenic	Comp	5.00	ug/l			150	3.15
Total Arsenic	Comp	5.00	ug/l	32a	50		6.1
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			2.4	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			189.6	0.97
Total Chromium	Comp	5.00	ug/l		50		12.5
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			9.6	4.23
Total Copper	Comp	5.00	ug/l	12a			10.5
Dissolved Iron	Comp	100.00	ug/l				220
Total Iron	Comp	100.00	ug/l				540
Dissolved Lead	Comp	5.00	ug/l			2.8	1.21
Total Lead	Comp	5.00	ug/l	8a			2.52
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			55.5	2.9
Total Nickel	Comp	5.00	ug/l	20a	100		15.9
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/18/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
Dissolved Silver[f]	Comp	1.00	ug/l			3.9	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			126.1	26
Total Zinc	Comp	50.00	ug/l	80a			74
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro_3_methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#2_SAN GABRIEL

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - SAN GABRIEL RIVER

Beneficial Uses[b]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0.047
pH	Comp	0-14			6.5 < pH < 8.5		7.79
Dissolved Oxygen	Grab	1.00	mg/L		> 5		9.39
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		240000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		17000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.07
Fecal Streptococcus	Grab	20.00	MPN/100ml				130000
Fecal Enterococcus	Grab		MPN/100ml		104		130000
General							
Chloride	Comp	2.00	mg/L		150		20.6
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.2		0.13
Nitrate	Comp	0.10	mg/L				3.87
Sulfate	Comp	0.10	mg/L		350		21.9
Alkalinity	Comp	4.00	mg/L				55
Hardness	Comp	2.00	mg/L				80
COD	Comp	10.00	mg/L				121
TPH	Grab	1.00	mg/L				1.1
Specific Conductance	Comp	1.00	umhos/cm				229
Total Dissolved Solids	Comp	2.00	mg/L		1500		152
Turbidity	Comp	0.10	NTU	225a			46
Total Suspended Solids	Comp	2.00	mg/L				543
Volatile Suspended Solids	Comp	1.00	mg/L				48.1
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				6.75
BOD	Comp	2.00	mg/L				11.9
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.218
Total Phosphorus	Comp	0.05	mg/L				0.236
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.87
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				2.44
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		100
Dissolved Antimony	Comp	5.00	ug/l				0.78
Total Antimony	Comp	5.00	ug/l		6		0.81
Dissolved Arsenic	Comp	5.00	ug/l			150	1.3
Total Arsenic	Comp	5.00	ug/l	32a	50		1.39
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			1.9	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			148.3	1.88
Total Chromium	Comp	5.00	ug/l		50		4.36
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			7.4	6.01
Total Copper	Comp	5.00	ug/l	12a			11.9
Dissolved Iron	Comp	100.00	ug/l				311
Total Iron	Comp	100.00	ug/l				431
Dissolved Lead	Comp	5.00	ug/l			1.9	1.55
Total Lead	Comp	5.00	ug/l	8a			2.16
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
Dissolved Nickel	Comp	5.00	ug/l			43.1	3.22
Total Nickel	Comp	5.00	ug/l	20a	100		5.76
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			2.4	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			97.8	22
Total Zinc	Comp	50.00	ug/l	80a			41
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.41
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#3_SAN GABRIEL

Table 4-4. *Comparison of 2002-2003 Mass Emission Results with Standards*

MASS EMISSION MONITORING - SAN GABRIEL RIVER

Beneficial Uses[j]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		7.4
Dissolved Oxygen	Grab	1.00	mg/L		> 5		8.26
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (instantaneous)		500000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (instantaneous)		220000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.44
Fecal Streptococcus	Grab	20.00	MPN/100ml				500000
Fecal Enterococcus	Grab		MPN/100ml		104		500000
General							
Chloride	Comp	2.00	mg/L		150		23.2
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.2		0.19
Nitrate	Comp	0.10	mg/L				3.88
Sulfate	Comp	0.10	mg/L		350		36.1
Alkalinity	Comp	4.00	mg/L				60.5
Hardness	Comp	2.00	mg/L				103
COD	Comp	10.00	mg/L				36
TPH	Grab	1.00	mg/L				1
Specific Conductance	Comp	1.00	umhos/cm				281
Total Dissolved Solids	Comp	2.00	mg/L		1500		190
Turbidity	Comp	0.10	NTU	225a			457.5
Total Suspended Solids	Comp	2.00	mg/L				794
Volatile Suspended Solids	Comp	1.00	mg/L				7
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				6.77
BOD	Comp	2.00	mg/L				6.46
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.347
Total Phosphorus	Comp	0.05	mg/L				0.349
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.876
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				7.64
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		122
Dissolved Antimony	Comp	5.00	ug/l				0.51
Total Antimony	Comp	5.00	ug/l		6		0.58
Dissolved Arsenic	Comp	5.00	ug/l			150	1.94
Total Arsenic	Comp	5.00	ug/l	32a	50		2.18
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	*Comp*	*1.00*	*ug/l*		4		0
Dissolved Cadmium	Comp	1.00	ug/l			2.3	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			182.4	6.18
Total Chromium	Comp	5.00	ug/l		50		10.1
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			9.2	5.82
Total Copper	Comp	5.00	ug/l	12a			13.1
Dissolved Iron	Comp	100.00	ug/l				953
Total Iron	Comp	100.00	ug/l				1730
Dissolved Lead	Comp	5.00	ug/l			2.6	0
Total Lead	Comp	5.00	ug/l	8a			5.39
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			53.3	4.29

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
Total Nickel	Comp	5.00	ug/l	20a	100		8.22
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			3.6	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			97.8	4
Total Zinc	Comp	50.00	ug/l	80a			48
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.035
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#4_SAN GABRIEL

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - SAN GABRIEL RIVER

Beneficial Uses[b]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		8.32
Dissolved Oxygen	Grab	1.00	mg/L		> 5		8
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		17000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		500
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.03
Fecal Streptococcus	Grab	20.00	MPN/100ml				230
Fecal Enterococcus	Grab		MPN/100ml		104		80
General							
Chloride	Comp	2.00	mg/L		150		167
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.2		0.23
Nitrate	Comp	0.10	mg/L				34.9
Sulfate	Comp	0.10	mg/L		350		150
Alkalinity	Comp	4.00	mg/L				107
Hardness	Comp	2.00	mg/L				270
COD	Comp	10.00	mg/L				37.5
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				1215
Total Dissolved Solids	Comp	2.00	mg/L		1500		806
Turbidity	Comp	0.10	NTU	225a			0.13
Total Suspended Solids	Comp	2.00	mg/L				5
Volatile Suspended Solids	Comp	1.00	mg/L				3
MBAS	Comp	0.05	mg/L		0.5		0.085
Total Organic Carbon	Comp	1.00	mg/L				7.77
BOD	Comp	2.00	mg/L				69.9
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.38
Total Phosphorus	Comp	0.05	mg/L				0.41
NH3-N	Comp	0.10	mg/L				0.31
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		7.88
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N	0.07	5.81
Kjeldahl-N	Comp	0.10	mg/L				0.31
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0.55
Total Antimony	Comp	5.00	ug/l		6		0.58
Dissolved Arsenic	Comp	5.00	ug/l			150	1.05
Total Arsenic	Comp	5.00	ug/l	32a	50		1.05
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			4.7	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			401.5	3.54
Total Chromium	Comp	5.00	ug/l		50		12.3
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			20.9	4.39
Total Copper	Comp	5.00	ug/l	12a			18.1
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				207
Dissolved Lead	Comp	5.00	ug/l			8.9	0
Total Lead	Comp	5.00	ug/l	8a			1.38
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
Dissolved Nickel	Comp	5.00	ug/l			120.5	7.46
Total Nickel	Comp	5.00	ug/l	20a	100		23.5
Dissolved Selenium	Comp	5.00	ug/l				1.95
Total Selenium	Comp	5.00	ug/l	60a	50		1.95
Dissolved Silver[f]	Comp	1.00	ug/l			19.0	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			274.1	36.4
Total Zinc	Comp	50.00	ug/l	80a			36.4
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro_3_methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, *RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat*

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataDRYwEATHER#1_SAN GABRIEL

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - SAN GABRIEL RIVER

Beneficial Uses[j]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0.019
pH	Comp	0-14			6.5 < pH < 8.5		
Dissolved Oxygen	Grab	1.00	mg/L		> 5		8.9
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		50000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		50000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		1.00
Fecal Streptococcus	Grab	20.00	MPN/100ml				1700
Fecal Enterococcus	Grab		MPN/100ml		104		1300
General							
Chloride	Comp	2.00	mg/L		150		93.2
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.2		0.21
Nitrate	Comp	0.10	mg/L				30.9
Sulfate	Comp	0.10	mg/L		350		117
Alkalinity	Comp	4.00	mg/L				
Hardness	Comp	2.00	mg/L				250
COD	Comp	10.00	mg/L				66.6
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				1012
Total Dissolved Solids	Comp	2.00	mg/L		1500		636
Turbidity	Comp	0.10	NTU	225a			9.8
Total Suspended Solids	Comp	2.00	mg/L				28
Volatile Suspended Solids	Comp	1.00	mg/L				8
MBAS	Comp	0.05	mg/L		0.5		0.088
Total Organic Carbon	Comp	1.00	mg/L				7.95
BOD	Comp	2.00	mg/L				50.6
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				
Total Phosphorus	Comp	0.05	mg/L				
NH3-N	Comp	0.10	mg/L				
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		9.4
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				
Total Aluminum	Comp	100.00	ug/l		1000		
Dissolved Antimony	Comp	5.00	ug/l				
Total Antimony	Comp	5.00	ug/l		6		
Dissolved Arsenic	Comp	5.00	ug/l			150	
Total Arsenic	Comp	5.00	ug/l	32a	50		
Dissolved Berylium	Comp	1.00	ug/l				
Total Beryllium	Comp	1.00	ug/l		4		
Dissolved Cadmium	Comp	1.00	ug/l			4.4	
Total Cadmium	Comp	1.00	ug/l	4a	5		
Dissolved Chromium	Comp	5.00	ug/l			377.0	
Total Chromium	Comp	5.00	ug/l		50		
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			19.6	
Total Copper	Comp	5.00	ug/l	12a			
Dissolved Iron	Comp	100.00	ug/l				
Total Iron	Comp	100.00	ug/l				
Dissolved Lead	Comp	5.00	ug/l			8.1	
Total Lead	Comp	5.00	ug/l	8a			
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
Dissolved Nickel	Comp	5.00	ug/l			112.9	
Total Nickel	Comp	5.00	ug/l	20a	100		
Dissolved Selenium	Comp	5.00	ug/l				
Total Selenium	Comp	5.00	ug/l	60a	50		
Dissolved Silver[f]	Comp	1.00	ug/l			16.7	
Total Silver	Comp	1.00	ug/l	2.8a			
Dissolved Thallium	Comp	5.00	ug/l				
Total Thallium	Comp	5.00	ug/l		2		
Dissolved Zinc	Comp	50.00	ug/l			256.8	
Total Zinc	Comp	50.00	ug/l	80a			
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	San Gabriel River
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.047
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataDRYWEATHER#2_SAN GABRIEL RIVER

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - DOMINGUEZ CHANNEL

Beneficial Uses[j]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			1.5
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		8.26
Dissolved Oxygen	Grab	1.00	mg/L		> 6		7.9
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		130000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		130000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		1.00
Fecal Streptococcus	Grab	20.00	MPN/100ml				300000
Fecal Enterococcus	Grab		MPN/100ml		104		110000
General							
Chloride	Comp	2.00	mg/L		150		57.9
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.4		0.42
Nitrate	Comp	0.10	mg/L				0
Sulfate	Comp	0.10	mg/L		350		48.1
Alkalinity	Comp	4.00	mg/L				96
Hardness	Comp	2.00	mg/L				140
COD	Comp	10.00	mg/L				87.9
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				500
Total Dissolved Solids	Comp	2.00	mg/L		1500		342
Turbidity	Comp	0.10	NTU	225a			2.76
Total Suspended Solids	Comp	2.00	mg/L				1123
Volatile Suspended Solids	Comp	1.00	mg/L				184
MBAS	Comp	0.05	mg/L		0.5		0.387
Total Organic Carbon	Comp	1.00	mg/L				32.1
BOD	Comp	2.00	mg/L				44.31
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.742
Total Phosphorus	Comp	0.05	mg/L				0.874
NH3-N	Comp	0.10	mg/L				3.26
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				3.26
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		1120
Dissolved Antimony	Comp	5.00	ug/l				6.94
Total Antimony	Comp	5.00	ug/l		6		7.42
Dissolved Arsenic	Comp	5.00	ug/l			150	1.89
Total Arsenic	Comp	5.00	ug/l	32a	50		3.41
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			2.9	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0.77
Dissolved Chromium	Comp	5.00	ug/l			234.5	1.74
Total Chromium	Comp	5.00	ug/l		50		7.48
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			11.9	19
Total Copper	Comp	5.00	ug/l	12a			56.3
Dissolved Iron	Comp	100.00	ug/l				162
Total Iron	Comp	100.00	ug/l				1290
Dissolved Lead	Comp	5.00	ug/l			3.9	1.02
Total Lead	Comp	5.00	ug/l	8a			20.4
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			69.1	14

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
Total Nickel	Comp	5.00	ug/l	20a	100		15.3
Dissolved Selenium	Comp	5.00	ug/l				1.53
Total Selenium	Comp	5.00	ug/l	60a	50		2.47
Dissolved Silver[f]	Comp	1.00	ug/l			6.2	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			157.1	77.3
Total Zinc	Comp	50.00	ug/l	80a			220
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
alpha-BHC	Comp	0.05	ug/l				0
beta-BHC	Comp	0.05	ug/l	0.008k			0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l				0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l		0.03k		0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) *Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.*

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) *Beneficial uses are defined as follows:* MUN - *Municipal and Domestic Supply,* IND - *Industrial Service Supply,* PROC - *Industrial Process Supply,* GWR - *Ground Water Recharge,* REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#1_DOMINGUEZ

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - DOMINGUEZ CHANNEL

Beneficial Uses[b]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			3.5
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		7.14
Dissolved Oxygen	Grab	1.00	mg/L		> 6		9.1
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		240000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		240000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		1.00
Fecal Streptococcus	Grab	20.00	MPN/100ml				210000
Fecal Enterococcus	Grab		MPN/100ml		104		210000
General							
Chloride	Comp	2.00	mg/L		150		19.5
Fluoride f(temp)[f]	Comp	0.10	mg/L		2.4		0.1
Nitrate	Comp	0.10	mg/L				4.02
Sulfate	Comp	0.10	mg/L		350		10.7
Alkalinity	Comp	4.00	mg/L				21
Hardness	Comp	2.00	mg/L				40
COD	Comp	10.00	mg/L				30.2
TPH	Grab	1.00	mg/L				2.2
Specific Conductance	Comp	1.00	umhos/cm				162.8
Total Dissolved Solids	Comp	2.00	mg/L		1500		110
Turbidity	Comp	0.10	NTU	225a			21
Total Suspended Solids	Comp	2.00	mg/L				118
Volatile Suspended Solids	Comp	1.00	mg/L				24
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				7.55
BOD	Comp	2.00	mg/L				9.7
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0
Total Phosphorus	Comp	0.05	mg/L				0
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.908
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				0.193
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		134
Dissolved Antimony	Comp	5.00	ug/l				1.74
Total Antimony	Comp	5.00	ug/l		6		1.75
Dissolved Arsenic	Comp	5.00	ug/l			150	2.8
Total Arsenic	Comp	5.00	ug/l	32a	50		5.02
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			1.1	0.67
Total Cadmium	Comp	1.00	ug/l	4a	5		0.68
Dissolved Chromium	Comp	5.00	ug/l			84.0	1.72
Total Chromium	Comp	5.00	ug/l		50		12.3
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			4.1	17.2
Total Copper	Comp	5.00	ug/l	12a			24.5
Dissolved Iron	Comp	100.00	ug/l				166
Total Iron	Comp	100.00	ug/l				413
Dissolved Lead	Comp	5.00	ug/l			0.1	1.76
Total Lead	Comp	5.00	ug/l	8a			2.75
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
Dissolved Nickel	Comp	5.00	ug/l			24.0	3.8
Total Nickel	Comp	5.00	ug/l	20a	100		16
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			0.7	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			54.4	[redacted]98
Total Zinc	Comp	50.00	ug/l	80a			[redacted]114
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat,

k) The sum of these constituents must be less than the standard shown.

l) *The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this* objective during any 60-day period.

File: wq_dataSTORM#2_DOMINGUEZ

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - DOMINGUEZ CHANNEL

Beneficial Uses[j]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			2.1
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		7.71
Dissolved Oxygen	Grab	1.00	mg/L		> 6		8.98
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		230000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		230000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		1.00
Fecal Streptococcus	Grab	20.00	MPN/100ml				70000
Fecal Enterococcus	Grab		MPN/100ml		104		50000
General							
Chloride	Comp	2.00	mg/L		150		13.1
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.4		0.19
Nitrate	Comp	0.10	mg/L				5.11
Sulfate	Comp	0.10	mg/L		350		11.8
Alkalinity	Comp	4.00	mg/L				33
Hardness	Comp	2.00	mg/L				48
COD	Comp	10.00	mg/L				97
TPH	Grab	1.00	mg/L				3.3
Specific Conductance	Comp	1.00	umhos/cm				157.5
Total Dissolved Solids	Comp	2.00	mg/L		1500		106
Turbidity	Comp	0.10	NTU	225a			75.7
Total Suspended Solids	Comp	2.00	mg/L				246
Volatile Suspended Solids	Comp	1.00	mg/L				16.2
MBAS	Comp	0.05	mg/L		0.5		0.118
Total Organic Carbon	Comp	1.00	mg/L				10.8
BOD	Comp	2.00	mg/L				10.5
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.355
Total Phosphorus	Comp	0.05	mg/L				0.456
NH3-N	Comp	0.10	mg/L				1.42
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		1.15
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0.06
Kjeldahl-N	Comp	0.10	mg/L				5.9
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				1.46
Total Antimony	Comp	5.00	ug/l		6		1.51
Dissolved Arsenic	Comp	5.00	ug/l			150	1.5
Total Arsenic	Comp	5.00	ug/l	32a	50		1.61
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			1.3	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			97.6	2.99
Total Chromium	Comp	5.00	ug/l		50		4.17
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			4.8	14.3
Total Copper	Comp	5.00	ug/l	12a			17.1
Dissolved Iron	Comp	100.00	ug/l				435
Total Iron	Comp	100.00	ug/l				438
Dissolved Lead	Comp	5.00	ug/l			1.0	2.1
Total Lead	Comp	5.00	ug/l	8a			2.1
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
Dissolved Nickel	Comp	5.00	ug/l			28.0	7.18
Total Nickel	Comp	5.00	ug/l	20a	100		8.7
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			1.0	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			63.4	103
Total Zinc	Comp	50.00	ug/l	80a			112
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.415
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat,

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#3_DOMINGUEZ

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - DOMINGUEZ CHANNEL

Beneficial Uses[1]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			1.7
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		6.74
Dissolved Oxygen	Grab	1.00	mg/L		> 6		9.39
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		500000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		170000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.34
Fecal Streptococcus	Grab	20.00	MPN/100ml				170000
Fecal Enterococcus	Grab		MPN/100ml		104		80000
General							
Chloride	Comp	2.00	mg/L		150		2.58
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.4		0
Nitrate	Comp	0.10	mg/L				2.31
Sulfate	Comp	0.10	mg/L		350		2.89
Alkalinity	Comp	4.00	mg/L				11
Hardness	Comp	2.00	mg/L				15.2
COD	Comp	10.00	mg/L				20
TPH	Grab	1.00	mg/L				1.2
Specific Conductance	Comp	1.00	umhos/cm				47.6
Total Dissolved Solids	Comp	2.00	mg/L		1500		28
Turbidity	Comp	0.10	NTU	225a			39.4
Total Suspended Solids	Comp	2.00	mg/L				80
Volatile Suspended Solids	Comp	1.00	mg/L				1.3
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				3.96
BOD	Comp	2.00	mg/L				5
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.29
Total Phosphorus	Comp	0.05	mg/L				0.29
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.5216
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				1.02
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		348
Dissolved Antimony	Comp	5.00	ug/l				0.83
Total Antimony	Comp	5.00	ug/l		6		1.11
Dissolved Arsenic	Comp	5.00	ug/l			150	0
Total Arsenic	Comp	5.00	ug/l	32a	50		1.04
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			0.6	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			38.1	2.2
Total Chromium	Comp	5.00	ug/l		50		9.32
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			1.8	8.03
Total Copper	Comp	5.00	ug/l	12a			12.2
Dissolved Iron	Comp	100.00	ug/l				460
Total Iron	Comp	100.00	ug/l				742
Dissolved Lead	Comp	5.00	ug/l			0.2	0
Total Lead	Comp	5.00	ug/l	8a			2.8
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			10.6	2.39

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
Total Nickel	Comp	5.00	ug/l	20a	100		5.26
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			0.1	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			63.4	27
Total Zinc	Comp	50.00	ug/l	80a			61
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
alpha-BHC	Comp	0.05	ug/l				0
beta-BHC	Comp	0.05	ug/l	0.008k			0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l				0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l		0.03k		0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.05
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#4_DOMINGUEZ

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - DOMINGUEZ CHANNEL

Beneficial Uses[j]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		8.44
Dissolved Oxygen	Grab	1.00	mg/L		> 5		9.05
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		22000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)	0.07	2300
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.10
Fecal Streptococcus	Grab	20.00	MPN/100ml				300
Fecal Enterococcus	Grab		MPN/100ml		104		170
General							
Chloride	Comp	2.00	mg/L		150		99.9
Fluoride f(temp)[l]	Comp	0.10	mg/L		1.6		0.14
Nitrate	Comp	0.10	mg/L				2.47
Sulfate	Comp	0.10	mg/L		350		58.5
Alkalinity	Comp	4.00	mg/L				112
Hardness	Comp	2.00	mg/L				170
COD	Comp	10.00	mg/L				30.9
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				657
Total Dissolved Solids	Comp	2.00	mg/L		1500		424
Turbidity	Comp	0.10	NTU	225a			0.61
Total Suspended Solids	Comp	2.00	mg/L				32
Volatile Suspended Solids	Comp	1.00	mg/L				17
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				12.2
BOD	Comp	2.00	mg/L				5.91
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.135
Total Phosphorus	Comp	0.05	mg/L				0.173
NH3-N	Comp	0.10	mg/L				0.207
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.558
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0.064
Kjeldahl-N	Comp	0.10	mg/L				0.76
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0.52
Total Antimony	Comp	5.00	ug/l		6		0.54
Dissolved Arsenic	Comp	5.00	ug/l			150	1.69
Total Arsenic	Comp	5.00	ug/l	32a	50		1.69
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			3.3	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			274.9	2.62
Total Chromium	Comp	5.00	ug/l		50		12.4
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			14.1	6.84
Total Copper	Comp	5.00	ug/l	12a			13.8
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				204
Dissolved Lead	Comp	5.00	ug/l			4.9	0
Total Lead	Comp	5.00	ug/l	8a			0.85
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			81.5	2.07

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
Total Nickel	Comp	5.00	ug/l	20a	100		18.1
Dissolved Selenium	Comp	5.00	ug/l				1.27
Total Selenium	Comp	5.00	ug/l	60a	50		1.29
Dissolved Silver[f]	Comp	1.00	ug/l			8.6	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			185.2	8.32
Total Zinc	Comp	50.00	ug/l	80a			10.4
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataDRYWEATHER#1_DOMINGUEZ Z

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - DOMINGUEZ CHANNEL

Beneficial Uses[i]: MUN, IND, PROC, REC-1, REC-2, WARM, WILD, RARE

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		9.03
Dissolved Oxygen	Grab	1.00	mg/L		> 5		10.06
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		3500
Fecal Coliform	Grab	20.00	MPN/100ml	400i	400 (Instantaneous)		80
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.02
Fecal Streptococcus	Grab	20.00	MPN/100ml				1400
Fecal Enterococcus	Grab		MPN/100ml		104		700
General							
Chloride	Comp	2.00	mg/L		150		166
Fluoride f(temp)[j]	Comp	0.10	mg/L		2.4		0.5
Nitrate	Comp	0.10	mg/L				3.7
Sulfate	Comp	0.10	mg/L		350		78
Alkalinity	Comp	4.00	mg/L				55
Hardness	Comp	2.00	mg/L				230
COD	Comp	10.00	mg/L				67.1
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				1020
Total Dissolved Solids	Comp	2.00	mg/L		1500		622
Turbidity	Comp	0.10	NTU	225a			1.89
Total Suspended Solids	Comp	2.00	mg/L				18
Volatile Suspended Solids	Comp	1.00	mg/L				10
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				6.74
BOD	Comp	2.00	mg/L				29.6
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.077
Total Phosphorus	Comp	0.05	mg/L				0.094
NH3-N	Comp	0.10	mg/L				0.285
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.835
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0.457
Kjeldahl-N	Comp	0.10	mg/L				0.6
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		104
Dissolved Antimony	Comp	5.00	ug/l				0
Total Antimony	Comp	5.00	ug/l		6		0
Dissolved Arsenic	Comp	5.00	ug/l			150	0
Total Arsenic	Comp	5.00	ug/l	32a	50		0
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			4.1	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			352.1	0.71
Total Chromium	Comp	5.00	ug/l		50		2.08
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			18.2	7.11
Total Copper	Comp	5.00	ug/l	12a			11.8
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				165
Dissolved Lead	Comp	5.00	ug/l			7.3	0.66
Total Lead	Comp	5.00	ug/l	8a			2.54
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			105.2	2.85

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
Total Nickel	Comp	5.00	ug/l	20a	100		2.87
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			14.5	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			239.3	52
Total Zinc	Comp	50.00	ug/l	80a			83
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Dominguez Channel
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataDRYWEATHER#2_DOMINGUEZ

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - SANTA CLARA RIVER

Beneficial Uses[b]: MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0.008
pH	Comp	0-14			6.5 < pH < 8.5		7.51
Dissolved Oxygen	Grab	1.00	mg/L		> 5		5.74
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		50000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		22000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.44
Fecal Streptococcus	Grab	20.00	MPN/100ml				170000
Fecal Enterococcus	Grab		MPN/100ml		104		17000
General							
Chloride	Comp	2.00	mg/L		100		33.8
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.4		0.21
Nitrate	Comp	0.10	mg/L				4.91
Sulfate	Comp	0.10	mg/L		300		50.3
Alkalinity	Comp	4.00	mg/L				75
Hardness	Comp	2.00	mg/L				122
COD	Comp	10.00	mg/L				71.6
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				410
Total Dissolved Solids	Comp	2.00	mg/L		1500		268
Turbidity	Comp	0.10	NTU	225a			32.9
Total Suspended Solids	Comp	2.00	mg/L				712
Volatile Suspended Solids	Comp	1.00	mg/L				76
MBAS	Comp	0.05	mg/L		0.5		0.174
Total Organic Carbon	Comp	1.00	mg/L				25.5
BOD	Comp	2.00	mg/L				55.56
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.379
Total Phosphorus	Comp	0.05	mg/L				0.438
NH3-N	Comp	0.10	mg/L				1.09
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		1.11
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0.867
Kjeldahl-N	Comp	0.10	mg/L				2.62
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		2340
Dissolved Antimony	Comp	5.00	ug/l				1.63
Total Antimony	Comp	5.00	ug/l		6		2.01
Dissolved Arsenic	Comp	5.00	ug/l			150	0
Total Arsenic	Comp	5.00	ug/l	32a	50		2.72
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			2.6	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0.6
Dissolved Chromium	Comp	5.00	ug/l			209.5	0.61
Total Chromium	Comp	5.00	ug/l		50		9.36
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			10.6	8.39
Total Copper	Comp	5.00	ug/l	12a			32.9
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				3010
Dissolved Lead	Comp	5.00	ug/l			3.2	0
Total Lead	Comp	5.00	ug/l	8a			14.5

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # 1 (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			61.5	7.68
Total Nickel	Comp	5.00	ug/l	20a	100		13.2
Dissolved Selenium	Comp	5.00	ug/l				1.14
Total Selenium	Comp	5.00	ug/l	60a	50		1.29
Dissolved Silver[f]	Comp	1.00	ug/l			4.9	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			139.8	31.6
Total Zinc	Comp	50.00	ug/l	80a			103
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				3.7
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				13.4
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				3.1
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				17.6
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm # I (11/08/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l				0
beta-BHC	Comp	0.05	ug/l	0.008k			0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l				0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l		0.03k		0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.43
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this *objective during any 60-day period.*

File: wq_dataSTORM#1_SANTACLARA

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - SANTA CLARA RIVER

Beneficial Uses[j]: MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			3.1
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		7.18
Dissolved Oxygen	Grab	1.00	mg/L		> 5		3.12
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		300000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		170000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 If the ratio of fecal-to-total coliform exceeds 0.1		0.57
Fecal Streptococcus	Grab	20.00	MPN/100ml				240000
Fecal Enterococcus	Grab		MPN/100ml		104		240000
General							
Chloride	Comp	2.00	mg/L		100		13
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.4		0.13
Nitrate	Comp	0.10	mg/L				2.73
Sulfate	Comp	0.10	mg/L		300		26.9
Alkalinity	Comp	4.00	mg/L				59
Hardness	Comp	2.00	mg/L				99.2
COD	Comp	10.00	mg/L				28.5
TPH	Grab	1.00	mg/L				1.3
Specific Conductance	Comp	1.00	umhos/cm				255
Total Dissolved Solids	Comp	2.00	mg/L		1500		214
Turbidity	Comp	0.10	NTU	225a			107
Total Suspended Solids	Comp	2.00	mg/L				53
Volatile Suspended Solids	Comp	1.00	mg/L				3
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				7.52
BOD	Comp	2.00	mg/L				6.3
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.311
Total Phosphorus	Comp	0.05	mg/L				0.351
NH3-N	Comp	0.10	mg/L				0.338
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.616
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				0.662
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				131
Total Aluminum	Comp	100.00	ug/l		1000		1350
Dissolved Antimony	Comp	5.00	ug/l				0.73
Total Antimony	Comp	5.00	ug/l		6		0.76
Dissolved Arsenic	Comp	5.00	ug/l			150	2.28
Total Arsenic	Comp	5.00	ug/l	32a	50		4.16
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			2.2	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0.25
Dissolved Chromium	Comp	5.00	ug/l			176.8	0.97
Total Chromium	Comp	5.00	ug/l		50		12.8
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			8.9	3.75
Total Copper	Comp	5.00	ug/l	12a			9.58
Dissolved Iron	Comp	100.00	ug/l				434
Total Iron	Comp	100.00	ug/l				1910
Dissolved Lead	Comp	5.00	ug/l			2.5	2.3
Total Lead	Comp	5.00	ug/l	8a			4.12
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			51.7	2.67

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
Total Nickel	Comp	5.00	ug/l	20a	100		16.1
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			3.4	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			117.3	37
Total Zinc	Comp	50.00	ug/l	80a			45
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm #2: (12/16/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls						0.014	
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#2_SANTACLARA

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - SANTA CLARA RIVER

Beneficial Uses[j]: MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0.008
pH	Comp	0-14			6.5 < pH < 8.5		7.86
Dissolved Oxygen	Grab	1.00	mg/L		> 5		8.44
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		240000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		9000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.04
Fecal Streptococcus	Grab	20.00	MPN/100ml				50000
Fecal Enterococcus	Grab		MPN/100ml		104		50000
General							
Chloride	Comp	2.00	mg/L		100		39.8
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.4		0.26
Nitrate	Comp	0.10	mg/L				4.65
Sulfate	Comp	0.10	mg/L		300		51.6
Alkalinity	Comp	4.00	mg/L				49.5
Hardness	Comp	2.00	mg/L				131
COD	Comp	10.00	mg/L				45
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				427
Total Dissolved Solids	Comp	2.00	mg/L		1500		278
Turbidity	Comp	0.10	NTU	225a			470
Total Suspended Solids	*Comp*	*2.00*	*mg/L*				*568*
Volatile Suspended Solids	Comp	1.00	mg/L				4.1
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				11.2
BOD	Comp	2.00	mg/L				21.1
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.159
Total Phosphorus	Comp	0.05	mg/L				0.359
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		1.05
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0.26
Kjeldahl-N	Comp	0.10	mg/L				2.56
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				130
Total Aluminum	Comp	100.00	ug/l		1000		131
Dissolved Antimony	Comp	5.00	ug/l				0.99
Total Antimony	Comp	5.00	ug/l		6		0.99
Dissolved Arsenic	Comp	5.00	ug/l			150	1.38
Total Arsenic	Comp	5.00	ug/l	32a	50		1.55
Dissolved Berylium	*Comp*	*1.00*	*ug/l*				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			2.7	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			222.1	3.39
Total Chromium	Comp	5.00	ug/l		50		3.45
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			11.3	6.31
Total Copper	Comp	5.00	ug/l	12a			9.43
Dissolved Iron	Comp	100.00	ug/l				193
Total Iron	Comp	100.00	ug/l				399
Dissolved Lead	Comp	5.00	ug/l			3.5	0.99
Total Lead	Comp	5.00	ug/l	8a			1.14
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
Dissolved Nickel	Comp	5.00	ug/l			65.4	6.03
Total Nickel	Comp	5.00	ug/l	20a	100		7
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			5.5	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			148.5	33
Total Zinc	Comp	50.00	ug/l	80a			42
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#3: (2/11/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l	0.018k			0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.265
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#3_SANTACLARA

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - SANTA CLARA RIVER

Beneficial Uses[1]: MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			1.7
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		6.74
Dissolved Oxygen	Grab	1.00	mg/L		> 5		9.39
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		500000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		170000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.34
Fecal Streptococcus	Grab	20.00	MPN/100ml				170000
Fecal Enterococcus	Grab		MPN/100ml		104		80000
General							
Chloride	Comp	2.00	mg/L		100		2.58
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.4		0
Nitrate	Comp	0.10	mg/L				2.31
Sulfate	Comp	0.10	mg/L		300		2.89
Alkalinity	Comp	4.00	mg/L				11
Hardness	Comp	2.00	mg/L				15.2
COD	Comp	10.00	mg/L				20
TPH	Grab	1.00	mg/L				1.2
Specific Conductance	Comp	1.00	umhos/cm				47.6
Total Dissolved Solids	Comp	2.00	mg/L		1500		28
Turbidity	Comp	0.10	NTU	225a			39.4
Total Suspended Solids	Comp	2.00	mg/L				80
Volatile Suspended Solids	Comp	1.00	mg/L				1.3
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				3.96
BOD	Comp	2.00	mg/L				5
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.29
Total Phosphorus	Comp	0.05	mg/L				0.29
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		0.5216
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				1.02
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		348
Dissolved Antimony	Comp	5.00	ug/l				0.83
Total Antimony	Comp	5.00	ug/l		6		1.11
Dissolved Arsenic	Comp	5.00	ug/l			150	0
Total Arsenic	Comp	5.00	ug/l	32a	50		1.04
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			2.0	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			154.3	2.2
Total Chromium	Comp	5.00	ug/l		50		9.32
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			7.7	8.03
Total Copper	Comp	5.00	ug/l	12a			12.2
Dissolved Iron	Comp	100.00	ug/l				460
Total Iron	Comp	100.00	ug/l				742
Dissolved Lead	Comp	5.00	ug/l			2.0	0
Total Lead	Comp	5.00	ug/l	8a			2.8
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			44.9	2.39
Total Nickel	Comp	5.00	ug/l	20a	100		5.26

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			2.6	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			148.5	27
Total Zinc	Comp	50.00	ug/l	80a			61
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0
alpha-BHC	Comp	0.05	ug/l				0
beta-BHC	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Storm#4: (3/15/2003) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
delta-BHC	Comp	0.05	ug/l	0.008k			0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l				0
beta-Endosulfan	Comp	0.10	ug/l	0.018k			0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.05
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) *The sum of these constituents must be less than the standard shown.*

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataSTORM#4_SANTACLARA

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - SANTA CLARA RIVER

Beneficial Uses[b]: MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		8.54
Dissolved Oxygen	Grab	1.00	mg/L		> 5		8.5
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		8000
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		5000
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.63
Fecal Streptococcus	Grab	20.00	MPN/100ml				300
Fecal Enterococcus	Grab		MPN/100ml		104		0
General							
Chloride	Comp	2.00	mg/L		100		125
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.4		0.46
Nitrate	Comp	0.10	mg/L				5.7
Sulfate	Comp	0.10	mg/L		300		208
Alkalinity	Comp	4.00	mg/L				122
Hardness	Comp	2.00	mg/L				330
COD	Comp	10.00	mg/L				62.6
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				1420
Total Dissolved Solids	Comp	2.00	mg/L		1500		942
Turbidity	Comp	0.10	NTU	225a			0.23
Total Suspended Solids	Comp	2.00	mg/L				8
Volatile Suspended Solids	Comp	1.00	mg/L				3
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				4.58
BOD	Comp	2.00	mg/L				2.91
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.071
Total Phosphorus	Comp	0.05	mg/L				0.097
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		1.29
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				0.484
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0
Total Antimony	Comp	5.00	ug/l		6		0
Dissolved Arsenic	Comp	5.00	ug/l			150	1.42
Total Arsenic	Comp	5.00	ug/l	32a	50		1.42
Dissolved Beryllium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			5.4	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			473.3	3.33
Total Chromium	Comp	5.00	ug/l		50		11.6
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			24.8	3.5
Total Copper	Comp	5.00	ug/l	12a			6.96
Dissolved Iron	Comp	100.0	ug/l				0
Total Iron	Comp	100.0	ug/l				172
Dissolved Lead	Comp	5.00	ug/l			11.5	0
Total Lead	Comp	5.00	ug/l	8a			0.6
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
Dissolved Nickel	Comp	5.00	ug/l			142.8	12.7
Total Nickel	Comp	5.00	ug/l	20a	100		26.6
Dissolved Selenium	Comp	5.00	ug/l				2.43
Total Selenium	Comp	5.00	ug/l	60a	50		2.43
Dissolved Silver[f]	Comp	1.00	ug/l			26.9	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			324.9	7.64
Total Zinc	Comp	50.00	ug/l	80a			7.64
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp.	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #1: (10/10/2002) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

l) This constituent is a function of the parameter(s) in parentheses.

j) *Beneficial uses are defined as follows:* MUN - *Municipal and Domestic Supply,* IND - *Industrial Service Supply,* PROC - *Industrial Process Supply,* GWR - *Ground Water Recharge,* REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataDRYWEATHER#1_SANTACLARA

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

MASS EMISSION MONITORING - SANTA CLARA RIVER

Beneficial Uses[1]: MUN, IND, PROC, AGR, GWR, FRSH, REC-1, REC-2, WARM, WILD, RARE, WET

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
Conventional							
Oil and Grease	Grab	1.00	mg/L	75a			0
Total Phenols	Grab	0.10	mg/L				0
Cyanide	Grab	0.01	mg/L	0.004a	0.2	0.0052	0
pH	Comp	0-14			6.5 < pH < 8.5		8.24
Dissolved Oxygen	Grab	1.00	mg/L		> 5		8.02
Indicator Bacteria							
Total Coliform	Grab	20.00	MPN/100ml	10000	10,000 (Instantaneous)		500
Fecal Coliform	Grab	20.00	MPN/100ml	400l	400 (Instantaneous)		170
Ratio Fecal Coliform/Total Coliform					Total coliform density 1,000 if the ratio of fecal-to-total coliform exceeds 0.1		0.34
Fecal Streptococcus	Grab	20.00	MPN/100ml				230
Fecal Enterococcus	Grab		MPN/100ml		104		230
General							
Chloride	Comp	2.00	mg/L		100		106
Fluoride f(temp)[l]	Comp	0.10	mg/L		2.4		0.5
Nitrate	Comp	0.10	mg/L				5.6
Sulfate	Comp	0.10	mg/L		300		153
Alkalinity	Comp	4.00	mg/L				292
Hardness	Comp	2.00	mg/L				410
COD	Comp	10.00	mg/L				60.3
TPH	Grab	1.00	mg/L				0
Specific Conductance	Comp	1.00	umhos/cm				1388
Total Dissolved Solids	Comp	2.00	mg/L		1500		838
Turbidity	Comp	0.10	NTU	225a			1.38
Total Suspended Solids	Comp	2.00	mg/L				11
Volatile Suspended Solids	Comp	1.00	mg/L				7
MBAS	Comp	0.05	mg/L		0.5		0
Total Organic Carbon	Comp	1.00	mg/L				3.89
BOD	Comp	2.00	mg/L				27.1
Nutrients							
Dissolved Phosphorus	Comp	0.05	mg/L				0.183
Total Phosphorus	Comp	0.05	mg/L				0.208
NH3-N	Comp	0.10	mg/L				0
Nitrate-N	Comp	0.50	mg/L		10 and also must not exceed 10 when added to Nitrite-N		1.26
Nitrite-N	Comp	0.03	mg/L		1 and also must not exceed 10 when added to Nitrate-N		0
Kjeldahl-N	Comp	0.10	mg/L				0.35
Metals							
Dissolved Aluminum	Comp	100.00	ug/l				0
Total Aluminum	Comp	100.00	ug/l		1000		0
Dissolved Antimony	Comp	5.00	ug/l				0
Total Antimony	Comp	5.00	ug/l		6		0
Dissolved Arsenic	Comp	5.00	ug/l			150	0
Total Arsenic	Comp	5.00	ug/l	32a	50		0
Dissolved Berylium	Comp	1.00	ug/l				0
Total Beryllium	Comp	1.00	ug/l		4		0
Dissolved Cadmium	Comp	1.00	ug/l			6.3	0
Total Cadmium	Comp	1.00	ug/l	4a	5		0
Dissolved Chromium	Comp	5.00	ug/l			565.3	0
Total Chromium	Comp	5.00	ug/l		50		1.97
Dissolved Chromium +6	Comp	10.00	ug/l				0
Total Chromium +6	Comp	10.00	ug/l	8a			0
Dissolved Copper	Comp	5.00	ug/l			29.9	2.55
Total Copper	Comp	5.00	ug/l	12a			7.38
Dissolved Iron	Comp	100.00	ug/l				0
Total Iron	Comp	100.00	ug/l				191
Dissolved Lead	Comp	5.00	ug/l			15.2	0
Total Lead	Comp	5.00	ug/l	8a			0.63
Dissolved Mercury	Comp	1.00	ug/l				0
Total Mercury	Comp	1.00	ug/l	0.16a	2		0
Dissolved Nickel	Comp	5.00	ug/l			171.6	12.5

BALLONA CREEK

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
Total Nickel	Comp	5.00	ug/l	20a	100		13.8
Dissolved Selenium	Comp	5.00	ug/l				0
Total Selenium	Comp	5.00	ug/l	60a	50		0
Dissolved Silver[f]	Comp	1.00	ug/l			39.1	0
Total Silver	Comp	1.00	ug/l	2.8a			0
Dissolved Thallium	Comp	5.00	ug/l				0
Total Thallium	Comp	5.00	ug/l		2		0
Dissolved Zinc	Comp	50.00	ug/l			390.5	41
Total Zinc	Comp	50.00	ug/l	80a			72
Semi-Volatiles Organics (EPA 625)							
2- Chlorophenol	Comp	2.00	ug/l				0
2,4-dichlorophenol	Comp	2.00	ug/l				0
2,4-dimethylphenol	Comp	2.00	ug/l				0
2,4-dinitrophenol	Comp	3.00	ug/l				0
2-nitrophenol	Comp	3.00	ug/l				0
4-nitrophenol	Comp	3.00	ug/l				0
4-chloro 3 methylphenol	Comp	3.00	ug/l				0
Pentachlorophenol	Comp	2.00	ug/l				0
Phenol	Comp	1.00	ug/l				0
2,4,6-trichlophenol	Comp	1.00	ug/l				0
Base/Neutral							
Acenaphthene	Comp	0.05	ug/l				0
Acenaphthylene	Comp	0.05	ug/l				0
Anthracene	Comp	0.05	ug/l				0
Benzidine	Comp	3.00	ug/l				0
1,2 Benzanthracene	Comp	0.10	ug/l				0
Benzo(a)pyrene	Comp	0.10	ug/l		0.2		0
Benzo(k)flouranthene	Comp	0.10	ug/l				0
Bis(2-Chloroethoxy) methane	Comp	0.10	ug/l				0
Bis(2-Chloroisopropyl) ether	Comp	1.00	ug/l				0
Bis(2-Chloroethyl) ether	Comp	0.10	ug/l				0
Bis(2-Ethylhexl) phthalate	Comp	1.00	ug/l				0
4-Bromophenyl phenyl ether	Comp	1.00	ug/l				0
Butyl benzyl phthalate	Comp	0.30	ug/l				0
2-Chloronaphthalene	Comp	0.10	ug/l				0
4-Chlorophenyl phenyl ether	Comp	0.10	ug/l				0
Chrysene	Comp	0.10	ug/l				0
Dibenzo(a,h)anthracene	Comp	0.10	ug/l				0
1,3-Dichlorobenzene	Comp	0.05	ug/l				0
1,4-Dichlorobenzene	Comp	0.05	ug/l		5		0
1,2-Dichlorobenzene	Comp	0.05	ug/l		600		0
3,3-Dichlorobenzidine	Comp	3.00	ug/l				0
Diethyl phthalate	Comp	0.50	ug/l				0
Dimethyl phthalate	Comp	0.50	ug/l				0
di-n-Butyl phthalate	Comp	1.00	ug/l				0
2,4-Dinitrotoluene	Comp	0.05	ug/l				0
2,6-Dinitrotoluene	Comp	0.05	ug/l				0
4,6 Dinitro-2-methylphenol	Comp	3.00	ug/l				0
1,2-Diphenylhydrazine	Comp	3.00	ug/l				0
di-n-Octyl phthalate	Comp	1.00	ug/l				0
Fluoranthene	Comp	0.10	ug/l				0
Fluorene	Comp	0.10	ug/l				0
Hexachlorobenzene	Comp	0.50	ug/l		1		0
Hexachlorobutadiene	Comp	1.00	ug/l				0
Hexachloro-cyclopentadiene	Comp	3.00	ug/l		50		0
Hexachloroethane	Comp	1.00	ug/l				0
Indeno(1,2,3-cd)pyrene	Comp	0.10	ug/l				0
Isophorone	Comp	0.05	ug/l				0
Naphthalene	Comp	0.05	ug/l				0
Nitrobenzene	Comp	0.05	ug/l				0
N-Nitroso-dimethyl amine	Comp	0.30	ug/l				0
N-Nitroso-diphenyl amine	Comp	0.30	ug/l				0
N-Nitroso-di-n-propyl amine	Comp	0.30	ug/l				0
Phenanthrene	Comp	0.05	ug/l				0
Pyrene	Comp	0.05	ug/l				0
1,2,4-Trichlorobenzene	Comp	0.50	ug/l				0
Chlorinated Pesticides							
Aldrin	Comp	0.05	ug/l				0

Table 4-4. Comparison of 2002-2003 Mass Emission Results with Standards

Class Constituent	Sample Type	PQL[c]	Units	Guidelines and Standards			Dry Weather #2: (4/30/03) Water Quality Data
				Ocean Plan	Basin Plan	California Toxics Rule (freshwater)[d]	Santa Clara River
alpha-BHC	Comp	0.05	ug/l	0.008k			0
beta-BHC	Comp	0.05	ug/l				0
delta-BHC	Comp	0.05	ug/l				0
gamma-BHC (lindane)	Comp	0.05	ug/l		0.2		0
alpha-chlordane	Comp	0.05	ug/l				0
gamma-chlordane	Comp	0.05	ug/l				0
4,4'-DDD	Comp	0.10	ug/l				0
4,4'-DDE	Comp	0.10	ug/l				0
4,4'-DDT	Comp	0.10	ug/l				0
Dieldrin	Comp	0.10	ug/l				0
alpha-Endosulfan	Comp	0.10	ug/l	0.018k			0
beta-Endosulfan	Comp	0.10	ug/l				0
Endosulfan sulfate	Comp	0.10	ug/l				0
Endrin	Comp	0.10	ug/l	0.004	2		0
Endrin aldehyde	Comp	0.10	ug/l				0
Heptachlor	Comp	0.05	ug/l		0.01		0
Heptachlor Epoxide	Comp	0.05	ug/l		0.01		0
Toxaphene	Comp	1.00	ug/l		3		0
Polychlorinated Biphenyls							
Aroclor-1016	Comp	0.50	ug/l		0.03k		0
Aroclor-1221	Comp	0.50	ug/l				0
Aroclor-1232	Comp	0.50	ug/l				0
Aroclor-1242	Comp	0.50	ug/l				0
Aroclor-1248	Comp	0.50	ug/l				0
Aroclor-1254	Comp	0.50	ug/l				0
Aroclor-1260	Comp	0.50	ug/l				0
Organohosphate Pesticides							
Chlorpyrifos	Comp	0.05	ug/l		0.07b		0
Diazinon	Comp	0.01	ug/l		0.08b		0.023
Prometryn	Comp	2.00	ug/l				0
Atrazine	Comp	2.00	ug/l		3		0
Simazine	Comp	2.00	ug/l				0
Cyanazine	Comp	2.00	ug/l				0
Malathion	Comp	2.00	ug/l				0
Herbicides							
Glyphosate	Comp	25.00	ug/l		700		0
2,4-D	Comp	10.00	ug/l		70		0
2,4,5-TP-SILVEX	Comp	1.00	ug/l		50		0
Note:							
1) blank cell indicates sample was not analyzed							
2) 0 indicates level not detected							

a) Criteria based on daily maximum

b) Based on the freshwater acute criteria set by the Department of Fish and Game.

c) PQL = minimum level

d) Criteria continuous concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for an extended period time (4 days) without deleterious effects.

f) Criteria maximum concentration which equals the highest concentration of pollutant to which aquatic life can be exposed for a short period time without deleterious effects.

i) This constituent is a function of the parameter(s) in parentheses.

j) Beneficial uses are defined as follows: MUN - Municipal and Domestic Supply, IND - Industrial Service Supply, PROC - Industrial Process Supply, GWR - Ground Water Recharge, REC1 - Water Contact Recreation, REC2 - Non-Contact Water Recreation, WARM - Warm Freshwater Habitat, COLD - Cold Freshwater Habitat, WILD - Wildlife Habitat, RARE - Rare, Threatened, or Endangered Species, MIGR - Migration of Aquatic Organisms, SPWN - Spawning, Reproduction, and/or Early Development, WET - Wetland Habitat

k) The sum of these constituents must be less than the standard shown.

l) The fecal coliform density standard is based on a minimum of not less than five samples for any 30-day period, where not more than 10 percent of the total samples exceed this objective during any 60-day period.

File: wq_dataDRY WEATHER#2_SANTACLARA

Arroyo Seco Channel 4-40 LACDPW (31)

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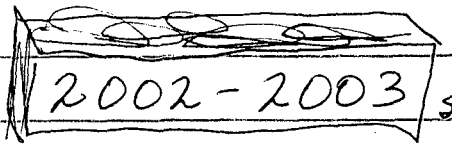

SAMPLING RESULTS

FOR:

- BALLONA CREEK
- MALIBU "
- L.A. RIVER
- COYOTE CREEK
- SAN GABRIEL RIVER
- DOMINGUEZ CHANNEL
- SANTA CLARA RIVER
- ALISO CREEK
- BULL CREEK
- BURBANK WESTERN SYSTEM
- VERDUGO WASH
- ARROYO SECO CHANNEL
- RIO HONDO "

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ACOE	Army Corps of Engineers
ACWM	Department of Agricultural Commissioner/Weights and Measures
BMPs	Best Management Practices
BOD_5	Biochemical Oxygen Demand (five day)
CDS	Continuous Deflective System
COD	Chemical Oxygen Demand
CTR	California Toxics Rule
2,4-D	2,4-dichlorophenoxy
GIS	Geographical Information Systems
IC50	50% Inhibitory Concentration
ID	Identification
LACDPW	Los Angeles County Department of Public Works
LC50	50% Lethal Concentration
MBAS	Methylene Blue Active Substances
MDL	Method Detection Limit
mg/l	milligrams per liter
µg/l	micrograms per liter
ML	Minimum Level
MPN	Most Probable Number
MS4	Municipal Separate Storm Sewer System
NOEC	No Observed Effects Concentration
NPDES	National Pollutant Discharge Elimination System
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
pH	negative logarithm of hydrogen ion concentration
PQL	minimum level
QA/QC	Quality Assurance/Quality Control
R^2	coefficient of determination
RWQCB	Regional Water Quality Control Board
SCB	Southern California Bight
SCCWRP	Southern California Coastal Waters Research Project
SMBRC	Santa Monica Bay Restoration Commission

SQMP	Stormwater Quality Management Program
SUSMP	Standard Urban Storm Water Mitigation Plan
SVOC	Semi-Volatile Organic Compounds
TIE	Toxicity Identification Evaluation
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
2,4,5-TP	2-(2,4,5-trichorophenoxy) propanoic acid
TPH	Total Petroleum Hydrocarbons
TRE	Toxicity Reduction Evaluation
TSS	Total Suspended Solids
TU	Toxicity Units
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WMA	Watershed Management Area

MONITORING PROGRAM OBJECTIVES

The major objectives of the Monitoring Program outlined in the Municipal Storm Water Permit are to:

- Assess compliance with the Los Angeles County Municipal Storm Water Permit No. CAS004001;
- Measure and improve the effectiveness of the Stormwater Quality Management Plans (SQMPs);
- Assess the chemical, physical, and biological impacts of receiving waters resulting from urban runoff;
- Characterize storm water discharges;
- Identify sources of pollutants; and
- Assess the overall health and evaluate long-term trends in receiving water quality.

The Monitoring Program, developed to address these objectives, has several elements: core monitoring, which includes mass emission monitoring, water column toxicity monitoring, tributary monitoring, shoreline monitoring, and trash monitoring; regional monitoring, which includes estuary sampling and bioassessment; and three special studies, which include the new development impacts study in the Santa Clara watershed, the peak discharge impact study, and the Best Management Practice (BMP) effectiveness study.

SUMMARY OF MONITORING RESULTS

CORE MONITORING

Mass Emission Monitoring

The purpose of mass emission monitoring is to estimate the mass emissions from the Municipal Separate Storm Sewer System (MS4), assess trends in the mass emissions over time, and determine if the MS4 is contributing to exceedances of water quality standards by comparing results to applicable standards in the Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan), the California Ocean Plan (Ocean Plan), or the California Toxics Rule (CTR), and with emissions from other discharges.

During the 2002-2003 monitoring season, flows were measured and water quality samples were taken at the following seven mass emission monitoring sites: Ballona Creek, Malibu Creek, Los Angeles River, Coyote Creek, San Gabriel River, Dominguez Channel, and Santa Clara River. All mass emission sites, except the Santa Clara River site, are equipped with automated samplers with integral flow meters for collecting flow-composite samples. Four storm events and two dry weather events were sampled at each mass emission site. Total Suspended Solids (TSS) were collected from five storm events at the Santa Clara mass emission site, six storm events at Malibu Creek, San Gabriel River, and Dominguez Channel mass emission sites, seven storm

events at Ballona Creek and Coyote Creek mass emission sites, and from eight storm events at the Los Angeles River mass emission site.

Based on results of the mass emission monitoring, three different water quality analyses, i.e., a comparison to appropriate water quality standards, an analysis of pollutant loadings and trends, and an evaluation of the correlation between metals/polycyclic aromatic hydrocarbons (PAHs) and total suspended solids (TSSs), were conducted.

Summaries of the analyses are as follows:

Comparison Study

A comparison of the monitoring results to the applicable water quality standards in the Basin Plan, the Ocean Plan, or the CTR was conducted. The lowest possible standard of the three documents was used for the comparison study. The California Department of Fish and Game provided fresh water final acute criteria water quality standards for chlorpyrifos and diazinon. The Basin Plan is designed to enhance water quality and protect the beneficial uses of all regional waters. The Ocean Plan is applicable to point source discharges to the ocean. The CTR promulgates criteria for priority toxic pollutants in the State of California for inland surface waters and enclosed bays and estuaries.

The following conclusions were drawn from the mass emission comparison study:

Wet Weather

- The monitoring program has identified the nearly ubiquitous existence of bacteria in wet weather for all seven of the mass emission monitoring stations. Densities of total coliform, fecal coliform, and fecal enterococcus exceeded the public health criteria of the Basin Plan for each storm at each monitoring station 100% of the time, with the exception of Malibu Creek, which only exceeded the total coliform objective half of the time. As during the 2001-2002 storm season, the Malibu Creek station shows generally lower indicator bacteria counts than the other mass emission stations.
- The ratio of fecal coliform to total coliform Basin Plan standard was exceeded 75% of the time in all watersheds, except in Ballona Creek and Dominguez Channel where it was exceeded 100% of the time.
- For all monitoring stations, there was no clear trend between bacteria densities and storm events. However, Ballona Creek, Malibu Creek, San Gabriel River, Dominguez Channel, and Santa Clara River monitoring stations each had the highest total coliform density during the March 15, 2003 storm.
- For all monitoring stations except Malibu Creek, 50-100% of the total copper samples exceeded the Ocean Plan water quality standard.
- Coyote Creek, San Gabriel River, and Santa Clara River exceeded the California Department of Fish and Game's water quality criteria for diazinon 50% of the time.
- 50% of the dissolved copper samples taken at the Los Angeles River and Coyote Creek monitoring stations and 100% of the dissolved copper samples taken at the Dominguez Channel monitoring station exceeded the CTR water quality standard.

- 50% of the dissolved lead samples collected at the Dominguez Channel monitoring station exceeded the CTR water quality standard. This is the only monitoring station that showed exceedances.
- San Gabriel River exceeded the cyanide Ocean Plan water quality standard in 75% of the samples. Ballona Creek, Los Angeles River, Coyote Creek, and Santa Clara River exceeded the standard in 50% of the samples.
- 75% of the total zinc samples from the Dominguez Channel monitoring station exceeded the Ocean Plan water quality standard. All the other stations except Ballona Creek had exceedances in 25% of the samples. Dominguez Channel also exceeded the CTR water quality standard for dissolved zinc in 50% samples.
- Sulfate and TDS were each exceeded in 50% of the samples at the Malibu Creek monitoring station. No other monitoring stations had any exceedances for these constituents.
- The Ocean Plan water quality standard for turbidity was exceeded in 50% of the samples at the San Gabriel River monitoring station.
- 50% of the total aluminum samples at the Santa Clara River monitoring station exceeded the Basin Plan water quality standard.
- Nitrite-N exceeded the Basin Plan water quality standard in 50% of the samples at the Coyote Creek monitoring station.

Dry Weather

Since the Municipal Storm Water Permit requires only two dry weather samples at each mass emission monitoring station, a 50% exceedance indicates that only one sample exceeded the water quality standard and a 100% exceedance indicates that both samples exceeded the water quality standard.

- There were no exceedances for any of the dissolved metals or diazinon during dry weather.
- Overall, there were a smaller percentage of exceedances for total coliform, fecal coliform, and fecal enterococcus during dry weather at all seven of the monitoring stations. Also, for most of the dry weather samples, the coliform densities were significantly lower than the densities for the wet weather samples. The total coliform criteria set in the Basin Plan was exceeded in 100% of the samples at the San Gabriel River and Dominguez Channel monitoring stations and in 50% of the samples at the Malibu Creek and Los Angeles River monitoring stations. No other monitoring station exceeded the total coliform criteria. The fecal coliform criteria was exceeded in 50% of the samples for all of the monitoring stations except San Gabriel River which exceeded the criteria in 100% of the samples. Fecal enterococcus criteria was exceeded in 100% of the samples at the Los Angeles River, Coyote Creek, and Dominguez Channel monitoring stations and in 50% of the samples at the other four monitoring stations.
- The ratio of fecal coliform to total coliform Basin Plan standard was exceeded in 50% of the samples at all of the monitoring stations except at Los Angeles River and Dominguez Channel, which had no exceedances.

- Unlike the wet weather samples, the Basin Plan water quality criteria for chloride was exceeded at three of the mass emission stations during dry weather. San Gabriel River and Dominguez Channel exceeded in 50% of the samples and Santa Clara River exceeded in 100% of the samples.
- 50% of the total copper samples exceeded the Ocean Plan water quality standard at the Ballona Creek, Malibu Creek, Los Angeles River, and Dominguez Channel monitoring stations. The San Gabriel River exceeded the standard in 100% of the samples.
- Ballona Creek, Malibu Creek, Los Angeles River, and Dominguez Channel were not within the pH water quality standard limits for 50% of the samples and Coyote Creek was not within the pH water quality standard limits for 100% of the samples. All of samples not within the pH limits showed high alkalinity. During wet weather, only 25% of the pH samples showed exceedances at Ballona Creek and Los Angeles River monitoring stations.
- The Ocean Plan water quality standard for total zinc was exceeded in 50% of the samples at the Malibu Creek, Los Angeles River, Coyote Creek, and Dominguez Channel monitoring stations.
- 100% of the total nickel samples exceeded the Ocean Plan water quality standard at the San Gabriel River monitoring station. 50% of the total nickel samples exceeded the standard at Ballona Creek, Los Angeles River, and Santa Clara River monitoring stations.
- Los Angeles River, Coyote Creek, and San Gabriel River exceeded the Ocean Plan water quality standard for cyanide in 50% of the samples.
- 50% of the dissolved oxygen samples at the Santa Clara River monitoring station were below the minimum water quality objective in the Basin Plan.
- Malibu Creek exceeded the Basin Plan water quality objective for sulfate in 50% of the samples.

Loading and Trend Analysis

An estimation was made of the total pollutant loads due to storm water and urban runoff for each mass emission station. An analysis of trends in storm water or receiving water quality was also conducted.

The following conclusions were deduced from the loading analysis:

- The total runoff volume at the Los Angeles River monitoring station was consistently higher than at the other monitoring stations. Los Angeles River also has approximately two times or more surface runoff area than the other watersheds. This creates more potential for surface runoff pollution and likely explains, in part, the increased loading of constituents at the Los Angeles River monitoring station when compared to the other monitoring stations.
- The storm on March 15, 2003 at the Ballona Creek, Malibu Creek, and Los Angeles River monitoring stations produced TSS loadings of 9,619 tons, 5,236 tons, and 53,027 tons, respectively. Ballona Creek and Los Angeles River also produced loadings of 6,395 tons and 12,181 tons, respectively, during the February 11, 2003 storm. The loading during all other storm events at all the monitoring stations was below 4,000 tons.

- The Los Angeles River is the largest contributor of TSSs out of the seven mass emission stations monitored.
- San Gabriel River, Dominguez Channel, and Santa Clara River had generally lower TSS and metals loadings than the other monitoring sites.
- The February 11, 2003 storm produced the highest TDSs loadings at the Malibu Creek, Coyote Creek, Dominguez Channel, and Santa Clara River monitoring stations. The storm on December 16, 2002 produced the lowest TDS loading at all stations.
- Metal loading was the greatest for the Los Angeles River.
- Total and dissolved zinc appear to have the greatest loading during the February 11, 2003 storm at all of the monitoring stations except San Gabriel River.

The following conclusions were drawn from the trend analysis:

- The high levels of zinc found at monitoring stations between 1994-2000 were not present in the samples taken during the 2001-2002 storm season. During the 2002-2003 storm season the high levels of zinc were not present again, except for several exceedances at the Dominguez Channel monitoring station.
- The rainfall during the 2002-2003 storm season was only 0.06 inches below the annual rainfall average. However, it was about three times higher than amount of rainfall recorded during the 2001-2002 storm season. This may explain, in part, the increased loading as compared to the 2001-2002 storm season.

Correlation Study

An analysis of the correlation between metals/PAHs and TSS levels was performed. The study focused on metals because the PAH samples at all of the mass emission monitoring stations were non-detects.

A trend line was projected on each of the metals-versus-TSS plots and the coefficient of determination (R^2) was calculated to see if there was any correlation between the concentrations for each metal and TSSs. The closer the value of R^2 is to the number one, the stronger the correlation of the two variables.

The following conclusions were deduced from the correlation study analysis:

- Unlike other watersheds, the Malibu Creek and San Gabriel River watersheds showed no strong correlation between metals and TSSs, except for dissolved arsenic and in the case of Malibu, dissolved zinc. Besides the R^2 values for dissolved arsenic and dissolved zinc, all of Malibu Creek's and San Gabriel River's R^2 values were below 0.3852 and below 0.5823, respectively.
- There were no strong correlations from any of the watersheds for the following constituents: total arsenic, total chromium, dissolved lead, and total nickel.
- Excluding Malibu Creek and San Gabriel River, all of the monitoring sites showed a strong correlation between total copper and TSSs, with R^2 values ranging from 0.4445 to 0.9856 (most of them closer to the upper range).

- Three of the mass emission monitoring sites, Ballona Creek, Coyote Creek, and Dominguez Channel, showed a correlation between total aluminum and TSSs, with R^2 values of 0.9158, 0.8199, and 0.8294, respectively.
- Five of the mass emission stations showed a strong correlation between dissolved antimony and TSSs. Ballona Creek and Los Angeles River showed a negative correlation, with R^2 values of 0.5347 and 0.799, respectively. Coyote Creek, Dominguez Channel, and Santa Clara River showed positive correlations, with R^2 values of 0.8151, 0.9777, and 0.7409, respectively.

Water Column Toxicity Monitoring

The purpose of water column toxicity monitoring is to evaluate the extent and causes of toxicity in receiving waters and to modify and utilize the SQMP to implement practices that eliminate or reduce sources of toxicity in storm water.

Composite samples were taken at all mass emission monitoring stations. In total, four samples were analyzed for toxicity at each site. Dry weather samples were collected on October 9, 2002, and April 23, 2003. Wet weather samples were collected during the first rain event of the season on November 8, 2002, and also on December 12, 2002.

A minimum of one freshwater and one marine species was used for toxicity testing, specifically Ceriodaphnia dubia (water flea) 7-day survival/reproduction and Strongylocentrotus purpuratus (sea urchin) fertilization. The sea urchin fertilization test could not be performed on the October 9, 2002 wet weather sample because the purple sea urchin did not spawn due to seasonal variability.

Results calculated from the Ceriodaphnia dubia and sea urchin tests included the No Observed Effect Concentration (NOEC), 50% Lethal Concentration (LC50), 50% Inhibitory Concentration (IC50), and toxicity unit (TU). NOEC is the highest concentration causing no effect on the test organisms. LC50 is the concentration that produces a 50% reduction in survival. IC50 is the concentration causing 50% inhibition in growth or reproduction. TU is defined in the permit as 100/(LC50 or IC50). A TU value greater than or equal to one is considered substantially toxic and requires a toxicity identification evaluation (TIE).

The following conclusions were deduced from water column toxicity testing:

- Ceriodaphnia dubia survival was only significantly affected by exposure to the wet weather samples collected from the Coyote Creek and Dominguez Channel mass emission stations on November 8, 2002. These samples from Coyote Creek and the Dominguez Channel had a TU value equal to 4.40 and 1.33, respectively. In accordance with the Permit, a TIE was performed on these samples. The TIE for the sample collected from Coyote Creek found that the toxicity was due to one or more non-polar organic compounds as well as metabolically-activated organophosphates. The TIE for the sample collected from the Dominguez Channel found that the toxicity was due to one or more non-polar organic compounds and cationic metals as well as metabolically-activated organophosphates. The remaining samples were not substantially toxic to Ceriodaphnia dubia survival.
- Ceriodaphnia dubia reproduction was only significantly affected by exposure to the wet weather samples collected from the Coyote Creek and Dominguez Channel mass emission

stations on November 8, 2002. These samples from Coyote Creek and the Dominguez Channel had a TU value equal to 3.65 and 1.33, respectively. In accordance with the Permit, a TIE was performed on these samples. The TIE for the sample collected from Coyote Creek found that the toxicity was due to one or more non-polar organic compounds as well as metabolically-activated organophosphates. The TIE for the sample collected from the Dominguez Channel found that the toxicity was due to one or more non-polar organic compounds and cationic metals as well as metabolically-activated organophosphates. The remaining samples were not substantially toxic to Ceriodaphnia dubia reproduction.

- Sea urchin fertilization was only significantly affected by exposure to the wet weather samples collected from the Coyote Creek and Ballona Creek mass emission stations on November 8, 2002. These samples from Coyote Creek and Ballona Creek had TU values equal to 1.16 and 1.45, respectively. In accordance with the Permit, a TIE was performed on these samples. The TIE for the sample collected from Coyote Creek found that the toxicity was due to one or more non-polar organic compounds and cationic metals as well as metabolically-activated organophosphates. The TIE for the sample collected from Ballona Creek found that the toxicity was due to particulate-bound toxicants, one or more non-polar organic compounds and cationic metals. The remaining samples were not substantially toxic to sea urchin fertilization.

Tributary Monitoring

The purpose of tributary monitoring is to identify sub-watersheds where storm water discharges are causing or contributing to exceedances of water quality standards, and to prioritize drainage and sub-drainage areas that need management actions.

Sampling for the 2002-2003 season was conducted at six tributary monitoring stations in the Los Angeles River Watershed. The tributaries monitored included Aliso Creek, Bull Creek, Burbank Western System Channel, Verdugo Wash, Arroyo Seco Channel, and Rio Hondo Channel. Five storm events and one dry event were sampled at each tributary monitoring site.

In order to identify the sub-watersheds where storm water discharges are causing or contributing to exceedances of water quality standards, a comparison was made between tributary water quality results and the water quality objectives outlined in the Ocean Plan, the Basin Plan, and the CTR. The freshwater final acute criteria set by the California Department of Fish and Game was also used to provide water quality standards for chlorpyrifos and diazinon. Since the tributary monitoring stations collect samples from sub-watersheds within the Los Angeles River watershed, the results from the Los Angeles River mass emission station were also used in the analysis. It was not possible to accurately identify any problems based on the dry weather results since only one sample was taken at each tributary monitoring station, as required by the Municipal Storm Water Permit.

The following conclusions were drawn from the wet weather tributary comparison study:

- As with the mass emission monitoring program, the tributary monitoring program identified the nearly ubiquitous existence of bacteria during wet weather at all six stations. Densities of total coliform, fecal coliform, and fecal enterococcus exceeded the public health criteria of the Basin Plan for each storm at each monitoring station 100% of the time. This corresponds to the results obtained from the Los Angeles River mass emission station.

- The ratio of fecal coliform to total coliform Basin Plan water quality standard was exceeded 80-100% of the time in all sub-watersheds, except Bull Creek which only exceeded in 40% of the samples.
- Bull Creek and Verdugo Wash exceeded the Ocean Plan water quality standard for turbidity in 80% of the samples. Rio Hondo exceeded the turbidity standard in 40% of the samples.
- Diazinon criteria was exceeded at each tributary monitoring station. 60% of the samples were exceeded at Aliso Creek monitoring station, 40% of the samples were exceeded at Arroyo Seco Channel and Rio Hondo Channel monitoring stations, and 20% of the samples were exceeded at Bull Creek, Burbank Western Channel, and Verdugo Wash monitoring stations. Los Angeles River only exceeded the diazinon criteria in 25% of the samples.
- 60% of the samples at the Verdugo Wash monitoring station exceeded the Basin Plan water quality standard for total aluminum. There were no exceedances at Los Angeles River monitoring station.
- Total Copper exceeded the Ocean Plan water quality standard in more than 60% of the samples at all of the tributary stations except Bull Creek, which exceeded the standard in 20% of the samples.
- Total Zinc exceed the Ocean Plan water quality standard in 40-60% of the samples at Burbank Western Channel, Verdugo Wash, Arroyo Seco Channel, and Rio Hondo Channel.
- 80%, 50%, and 40% of the total lead samples exceeded the Ocean Plan water quality standard at Verdugo Wash, Arroyo Seco Channel, and Burbank Western Channel, respectively.
- Rio Hondo Channel exceeded the CTR water quality standard for dissolved copper in 100% of the samples. Burbank Western Channel exceeded in 80% of the samples, Aliso Creek exceeded in 50% of the samples, and Arroyo Seco Channel exceeded in 25% of the samples. The other tributary monitoring stations exceeded the standard in 20% of the samples.
- 40% of the samples at Burbank Western System and Rio Hondo Channel exceeded the Ocean Plan water quality standard for cyanide.
- Though there were no dissolved oxygen or nitrite-N exceedances at Los Angeles River monitoring station, 20% of the samples at Burbank Western Channel and Arroyo Seco Channel exceeded the Basin Plan criteria for each constituent.
- Burbank Western Channel and Verdugo Wash exceeded the CTR water quality standard for dissolved lead in 40% of the samples and Rio Hondo Channel exceeded in 20% of the samples. There were no exceedances at the Los Angeles River monitoring station.

Shoreline Monitoring

The City of Los Angeles is required to monitor shoreline stations to evaluate the impacts to coastal receiving waters and the loss of recreational beneficial uses resulting from storm water/urban runoff. Also, the Municipal Storm Water Permit requires the City of Los Angeles to annually assess shoreline water quality data and submit it to the Principal Permittee for inclusion

in the monitoring report. Therefore, the City of Los Angeles' assessment is included in Appendix D of this monitoring report.

Trash Monitoring

The objectives of trash monitoring are to assess the quantities of trash in receiving waters after storm events and to identify areas impaired for trash. Visual observations of trash were made and a minimum of one photograph at each mass emission station was taken after four storm events including the first storm event.

In addition, a minimum of ten representative sites for each land use monitored were sampled. On average, each sampling site contained a minimum of five catch basins fitted with inserts with a total of 256 inserts within the Los Angeles Watershed Management Area (WMA) and 309 inserts within the Ballona Creek WMA. Three structural full capture devices were installed downstream of three separate sampling sites within the Ballona Creek WMA. All of the upstream catch basins were fitted with inserts. Each insert and the full capture devices were emptied within 72 hours of every rain event of 0.25 inches or greater.

For each catch basin insert and Continuous Deflective System (CDS) devices, the anthropogenic trash was separated from the sediment and vegetation and weights were recorded per device. The land uses monitored were commercial, high density single family residential, industrial, low density single family residential, and open space/parks. Three CDS units were installed during the 2002-2003 storm season and monitoring of two additional CDS units will commence during the 2003-2004 storm season.

The following conclusions were drawn from the sampling results for anthropogenic trash:

- The amount of trash collected for the first storm event of the season constituted 39.4% of the total trash collected during the entire season for the Los Angeles River and the Ballona Creek watersheds combined.
- In the Los Angeles River watershed, the commercial landuse was the largest contributor of trash during the first storm of the season with 40.5%. The industrial landuse was the second largest contributor with 35.8% of the total trash collected. Open Space/Parks, High Density Single Family Residential, and Low Density Single Family Residential combined to produce 23.7 % of the trash with Low Density Single Family Residential producing only 2.6%.
- In the Ballona Creek watershed, the Low Density Single Family Residential was the largest contributor of trash during the first storm of the season with 32.1%. The remaining landuses combined for the remaining 67.9% with a relatively even distribution of approximately 17% each, on average.
- Based on the total amount of trash collected for the Los Angeles River watershed during the 2002-2003 storm season, the largest contributors by landuse were the industrial and the commercial landuses with 46.4%, and 33.9 %, respectively, for a combined 80.3% of the total trash collected. High Density Single Family Residential and Open Space/Parks contributed 8.6% and 8.8%, respectively. Low Density Single Family Residential produced only 2.3%.

- Based on the total amount of trash collected for the Ballona Creek watershed during the 2002-2003 storm season, the Low Density Single Family Residential and the commercial landuses combined to produce about half of the total trash collected. Low Density Single Family Residential produced 26.0% and the commercial landuse produced 25.1%. Open Space/Parks and industrial produced 17.8% and 16.5%, respectively. High Density Single Family Residential produced the least trash with 14.5% of the total.

REGIONAL MONITORING

Estuary Sampling

The LACDPW is participating in the coastal ecology committee of the Bight 2003 project coordinated by the Southern California Coastal Waters Research Project (SCCWRP). The two primary objectives of Bight '03 are to estimate the extent and magnitude of ecological change in the Southern California Bight (SCB) and to determine the mass balance of pollutants that currently reside within the SCB. The goal of the estuary monitoring program is to sample estuaries for sediment chemistry, sediment toxicity, and benthic macroinvertebrate diversity to determine the spatial extent of sediment fate from storm water, and the magnitudes of its effects. In Los Angeles County, the estuaries being sampled are those of: Malibu Creek, Ballona Creek, Los Angeles River, San Gabriel River, and Dominguez Channel.

Since the beginning of 2003, LACDPW staff has been involved in the design of the sampling program through regular attendance of the Bight '03 Coastline Ecology Committee meetings. To date, SCCWRP and the Committee have developed a work plan, which includes the following schedule:

- Collect samples by September 2003
- Submit data by September 2004
- Submit reports to SCCWRP by September 2006
- SCCWRP to complete executive summary no later than December 2006

Bioassessment

The LACDPW must perform annual bioassessments on streams in Los Angeles County beginning in October 2003. On May 22, 2003, a list of 20 stream sampling sites was approved by the Los Angeles Regional Water Quality Control Board (RWQCB). The sampling sites are located in each of the six major watersheds throughout Los Angeles County.

SPECIAL STUDIES

New Development Impacts Study in the Santa Clara Watershed

The objective of the New Development Impacts Study in the Santa Clara watershed is to evaluate the effectiveness of the Standard Urban Storm Water Mitigation Plan (SUSMP) Best Management Practices at reducing pollutants in storm water runoff. This evaluation will be

accomplished by comparing the water quality of runoff from a new development constructed in accordance with SUSMP requirements to a development similar in size and land use constructed prior to the adoption of SUSMP requirements.

On August 1, 2002, with the assistance of the City of Santa Clarita, LACDPW submitted a work plan for the study to the Los Angeles RWQCB for approval. Following discussions and revisions to the proposal, the RWQCB accepted a revised work plan on April 10, 2003. Sampling will begin in the 2003-04 storm season, and results will be included in the 2003-2004 storm water monitoring report.

Peak Discharge Impact Study

The goal of this study is to assess the potential cause and effect relationships between stream erosion and urbanization in watersheds in Los Angeles County and to create, if possible, an Index of Biological Indicators with data from surrounding counties. The Southern California Coastal Waters Research Project (SCCWRP) is managing the project on behalf of the County and Flood Control District. A committee comprised of members of the Southern California Stormwater Monitoring Coalition is overseeing progress of the study.

In March, 2003, the contractor developed a set of site-selection criteria in coordination with the Stormwater Monitoring Coalition. As of July 2003, the contractor reported having tentatively selected three out of the ten required test sites. A draft work plan is scheduled for submission to the Stormwater Monitoring Coalition in September 2003. Final report submittal is scheduled for Spring 2004.

BMP Effectiveness Study

The Flood Control District is participating in the Santa Monica Bay Restoration Commission's (SMBRC) "Performance Evaluation of Structural BMPs for Stormwater Pollution Control in the Santa Monica Bay Watershed" study to fulfill this requirement. The SMBRC's study is in the site selection stage.

Recommendations

New monitoring components conducted during the 2002-2003 monitoring season included tributary monitoring and trash monitoring at mass emission stations. The Santa Clara River mass emission monitoring station was also added to the monitoring program. In addition, all required samples were taken, including dry weather and toxicity samples. Below are some recommendations that were identified based on results from the 2002-2003 monitoring season.

The Municipal Storm Water Permit requires only one dry weather sample to be taken at each tributary monitoring station. Although it was possible to see the various concentrations from each subwatershed, these values may not be entirely reliable due to the inherent variability of many constituents, especially bacteria. LACDPW recommends taking at least two dry weather samples at each tributary station to better characterize the concentrations of each constituent and verify the accuracy of the results of the first sample.

Many of the polychlorinated biphenyls, SOVs, and chlorinated pesticides cannot be compared to the water quality standards because there are no standards listed in the Basin Plan, Ocean Plan,

or CTR. However, even if there were water quality standards, all of these constituents were not detected at any of the mass emission or tributary monitoring stations. We recommend sampling for these constituents for one more year. If they are not detected, we recommend to discontinue sampling for these constituents, except during the first storm event of every year.

Some constituents sampled at the tributary stations showed exceedances of water quality standards. The Municipal Storm Water Permit requires the initiation of a focused effort to identify sources of pollutant within that subwatershed when a constituent exceeds a water quality standard in three out of four samples. We recommend looking at the landuse make up of the watersheds and use water quality data collected from the landuse monitoring stations to begin identifying possible trends or correlations based on landuse. We also recommend using water quality data collected by SCCWRP in their landuse studies.

We collected valuable data from the first year of the tributary monitoring in the Los Angeles River Watershed. We believe that one year worth of data is not sufficient as there can be variability from year to year. Based on discussions with staff from the RWQCB, we recommend performing a second year of monitoring in the Los Angeles River Watershed in order to make better use of the data we collect in order to assist us in prioritizing drainage and sub-drainage areas that need management actions.

In order to identify and better understand the source(s) of pollution, mass emission monitoring, toxicity monitoring, trash monitoring, and tributary monitoring will be continued in the future in addition to the regional monitoring and special studies, as required by the Municipal Storm Water Permit.

1.1 MONITORING PROGRAM OBJECTIVES

The major objectives of the Monitoring Program outlined in the Municipal Storm Water Permit are to:

- Assess compliance with the Los Angeles County Municipal Storm Water Permit No. CAS004001;
- Measure and improve the effectiveness of the Stormwater Quality Management Plans (SQMPs);
- Assess the chemical, physical, and biological impacts of receiving waters resulting from urban runoff;
- Characterize storm water discharges;
- Identify sources of pollutants; and
- Assess the overall health and evaluate long-term trends in receiving water quality.

The Monitoring Program, developed to address these objectives, has several elements: core monitoring, which includes mass emission monitoring, water column toxicity monitoring, tributary monitoring, shoreline monitoring, and trash monitoring; regional monitoring, which includes estuary sampling and bioassessment; and three special studies, which include the new development impacts study in the Santa Clara Watershed, the peak discharge impact study, and the Best Management Practice (BMP) effectiveness study.

1.2 MONITORING PROGRAM STATUS

The 1994-95 storm season was the first for which storm water monitoring was required under the 1990 Los Angeles County National Pollutant Discharge Elimination System (NPDES) Municipal Storm Water Permit (No. CA0061654). During the 1994-95 and 1995-96 seasons, automated and manual sampling was conducted to characterize storm water quality and quantity in accordance with the 1990 Municipal Storm Water Permit.

The 1996-97 season was the first storm season in which storm water monitoring was conducted under the 1996 Municipal Storm Water Permit (No. CAS614001). Under the 1996 Municipal Storm Water Permit, the scope of the Monitoring Program was expanded to incorporate further data collection through the Mass Emission, Land Use, and Critical Source Monitoring Programs, and new pilot studies, such as "Wide Channel" and "Low Flow" analyses.

Under the 2001 Municipal Storm Water Permit (No. CAS004001) adopted on December 13, 2001, the Monitoring Program eliminated Land Use and Critical Source elements and focused on core monitoring, regional monitoring, and three special studies. Due to varying compliance dates for each element, only mass emission, water column toxicity, and shoreline monitoring under the core monitoring program were addressed in the 2001-2002 Monitoring Report. The 2002-2003 Monitoring Report addresses mass emission monitoring, tributary monitoring, water column toxicity monitoring, shoreline monitoring, and trash monitoring under the core monitoring program, estuary sampling and bioassessment under the regional monitoring program, and the progress of the three special studies.

1.2.1 Core Monitoring

1.2.1.1 Mass Emission Monitoring

The objectives of mass emission monitoring are to estimate the mass emissions from the Municipal Separate Storm Sewer System (MS4), assess trends in the mass emissions over time, and determine if the MS4 is contributing to exceedances of water quality standards by comparing results to applicable standards in the Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan), the California Ocean Plan (Ocean Plan), or the California Toxics Rule (CTR), and with emissions from other discharges.

Seven mass emission monitoring sites, Ballona Creek, Malibu Creek, Los Angeles River, Coyote Creek, San Gabriel River, Dominguez Channel, and Santa Clara River, were utilized to achieve the objectives outlined above during the 2002-2003 reporting period. Mass emission stations capture runoff from major Los Angeles County watersheds that generally have heterogeneous land use. All mass emission sites, except the Santa Clara River site, are equipped with automated samplers with integral flow meters for collecting flow-composite samples. Sampling at the Santa Clara River began during the 2002-2003 storm season. Although sample collections at the Santa Clara River station are performed manually, composite samples are achieved using the flow measurements by a United States Geological Survey (USGS) stream gage on-site. Four storm events and two dry weather events were sampled at each mass emission site. Total Suspended Solids (TSS) were collected from five storm events at the Santa Clara mass emission site, six storm events at Malibu Creek, San Gabriel River, and Dominguez Channel mass emission sites, seven storm events at Ballona Creek and Coyote Creek mass emission sites, and from eight storm events at the Los Angeles River mass emission site.

1.2.1.2 Water Column Toxicity Monitoring

The objectives of water column toxicity monitoring are to evaluate the extent and causes of toxicity in receiving waters and to modify and utilize the SQMP to implement practices that eliminate or reduce sources of toxicity in storm water.

Composite samples were taken at the mass emission monitoring stations. Two storm events and two dry weather events were sampled at each mass emission site during the 2002-2003 season. The sea urchin fertilization test could not be performed on the October 9, 2002 wet weather sample because the purple sea urchin did not spawn due to seasonal variability.

1.2.1.3 Tributary Monitoring

The objectives of tributary monitoring are to identify sub-watersheds where storm water discharges are causing or contributing to exceedances of water quality standards, and to prioritize drainage and sub-drainage areas that need management actions.

Sampling for the 2002-2003 season was conducted at six tributary monitoring stations in the Los Angeles River Watershed. The tributaries monitored included Aliso Creek, Bull Creek, Burbank Western System Channel, Verdugo Wash, Arroyo Seco Channel, and Rio Hondo Channel. Automatic flow weighted composite samples were taken from each tributary location. Grab

samples were also taken at these locations. Five storm events and one dry event were sampled at each tributary monitoring site.

1.2.1.4 Shoreline Monitoring

The City of Los Angeles is required to monitor shoreline stations to evaluate the impacts to coastal receiving waters and the loss of recreational beneficial uses resulting from storm water/urban runoff. Also, the Municipal Storm Water Permit requires the City of Los Angeles to annually assess shoreline water quality data and submit it to the Principal Permittee for inclusion in the monitoring report. Therefore, the City of Los Angeles' assessment is included in Appendix D of this monitoring report.

1.2.1.5 Trash Monitoring

The objectives of trash monitoring are to assess the quantities of trash in receiving waters after storm events and to identify areas impaired for trash. Visual observations of trash were made and a minimum of one photograph at each mass emission station was taken after four storm events including the first storm event.

In addition, a minimum of ten representative sites for each land use monitored were sampled. On average, each sampling site contained a minimum of five catch basins fitted with inserts with a total of 256 inserts within the Los Angeles Watershed Management Area (WMA) and 309 inserts within the Ballona Creek WMA. Three structural full capture devices were installed downstream of three separate sampling sites within the Ballona Creek WMA. All of the upstream catch basins were fitted with inserts. Each insert and the full capture devices were emptied within 72 hours of every rain event of 0.25 inches or greater.

1.2.2 Regional Monitoring

Los Angeles County Department of Public Works (LACDPW), representing the Flood Control District, is participating in regional monitoring programs that address public health concerns, monitor trends in natural resources and near shore habitats, and assess regional impacts from storm water pollutant sources. Those regional programs include the following:

1.2.2.1 Estuary Sampling

In compliance with Section II.F of the storm water monitoring requirements, LACDPW is participating in the coastal ecology committee of the Bight 2003 project coordinated by the Southern California Coastal Waters Research Project (SCCWRP). The two primary objectives of Bight '03 are to estimate the extent and magnitude of ecological change in the Southern California Bight (SCB) and to determine the mass balance of pollutants that currently reside within the SCB. The goal of the estuary monitoring program is to sample estuaries for sediment chemistry, sediment toxicity, and benthic macroinvertebrate diversity to determine the spatial extent of sediment fate from storm water, and the magnitudes of its effects. In Los Angeles County, the estuaries being sampled are those of: Malibu Creek, Ballona Creek, Los Angeles River, San Gabriel River, and Dominguez Channel.

Since the beginning of 2003, LACDPW staff has been involved in the design of the sampling program through regular attendance of the Bight '03 Coastline Ecology Committee meetings. To date, SCCWRP and the Committee have developed a work plan, which includes the following schedule:

- Collect samples by September 2003
- Submit data by September 2004
- Submit reports to SCCWRP by September 2006
- SCCWRP to complete executive summary no later than December 2006

1.2.2.2 Bioassessment

Section II.G of the storm water monitoring requirements requires LACDPW to perform annual bioassessments on streams in Los Angeles County beginning in October 2003. On May 22, 2003, a list of 20 stream sampling sites was approved by the Los Angeles Regional Water Quality Control Board (RWQCB). The sampling sites are located in each of the six major watersheds throughout Los Angeles County. Table 1-1 lists the sampling station locations and Figure 1-1 is a map showing the geographical location of the sampling stations.

1.2.3 Special Studies

As required by the 2001 Municipal Storm Water Permit, LACDPW, representing the Flood Control District, is conducting special monitoring programs, including the following:

1.2.3.1 New Development Impacts Study in the Santa Clara Watershed

The objective of the New Development Impacts Study in the Santa Clara Watershed is to evaluate the effectiveness of the Standard Urban Storm Water Mitigation Plan (SUSMP) Best Management Practices at reducing pollutants in storm water runoff. This evaluation will be accomplished by comparing the water quality of runoff from a new development constructed in accordance with SUSMP requirements to a development similar in size and land use constructed prior to the adoption of SUSMP requirements.

On August 1, 2002, with the assistance of the City of Santa Clarita, LACDPW submitted a work plan for the study to the Los Angeles RWQCB for approval. Following discussions and revisions to the proposal, the RWQCB accepted a revised work plan on April 10, 2003. Sampling will begin in the 2003-04 storm season, and results will be included in the 2003-2004 storm water monitoring report.

1.2.3.2 Peak Discharge Impact Study

The goal of this study is to assess the potential cause and effect relationships between stream erosion and urbanization in watersheds in Los Angeles County and to create, if possible, an Index of Biological Indicators with data from surrounding counties. The Southern California Coastal Waters Research Project (SCCWRP) is managing the project on behalf of the County and Flood Control District. A committee comprised of members of the Southern California Stormwater Monitoring Coalition is overseeing progress of the study.

In March, 2003, the contractor developed a set of site-selection criteria in coordination with the Stormwater Monitoring Coalition. As of July 2003, the contractor reported having tentatively selected three out of the ten required test sites. A draft work plan is scheduled for submission to the Stormwater Monitoring Coalition in September 2003. Final report submittal is scheduled for Spring 2004.

1.2.3.3 BMP Effectiveness Study

The Flood Control District is participating in the Santa Monica Bay Restoration Commission's (SMBRC) "Performance Evaluation of Structural BMPs for Stormwater Pollution Control in the Santa Monica Bay Watershed" study to fulfill this requirement. The SMBRC's study is in the site selection stage.

To characterize the runoff quality in Los Angeles County, mass emission sites have been selected for monitoring. To evaluate the runoff quality of various subwatersheds, tributary sites were established in the Los Angeles River watershed.

2.1 MASS EMISSION SITE SELECTION

The LACDPW monitored at seven mass emission stations, Ballona Creek, Malibu Creek, Los Angeles River, Coyote Creek, San Gabriel River, Dominguez Channel, and Santa Clara River. Four of the mass emission monitoring stations installed under the original 1990 Permit were retained under the 1996 and the 2001 Municipal Storm Water Permit; specifically Ballona Creek, Malibu Creek, Los Angeles River, and San Gabriel River. The Coyote Creek monitoring station was monitored under the 1990, 1996, and 2001 Municipal Storm Water Permit, though monitoring was not required under the 1996 Municipal Storm Water Permit. Monitoring began at Dominguez Channel mass emission station during the 2001-2002 season. Sampling at the Santa Clara mass emission station began during the 2002-2003 season. The seven mass emission monitoring stations were used to collect water quality data from 2060 square miles.

2.2 MASS EMISSION MONITORING LOCATIONS AND DRAINAGE AREAS

Figure 2-1 is an overview of the study area with all mass emission monitoring sites shown. Table 2-1 also indicates the dominant land use associated with each monitoring site and the total drainage area.

Provided below is a description of the seven mass emission stations, Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, Coyote Creek, Dominguez Channel, and Santa Clara River, required by the Municipal Storm Water Permit for the 2002-2003 monitoring period. Figures 2-2 through 2-8 show the location of each monitoring station along with a description of its land use.

Ballona Creek Monitoring Station (S01)

The Ballona Creek monitoring station is located at the existing stream gage station (Stream Gage No. F38C-R) between Sawtelle Boulevard and Sepulveda Boulevard in the City of Los Angeles. At this location, which was chosen to avoid tidal influences, the upstream tributary watershed of Ballona Creek is 88.8 square miles. The entire Ballona Creek Watershed is 127.1 square miles. At the gauging station, Ballona Creek is a concrete lined trapezoidal channel.

Malibu Creek Monitoring Station (S02)

The Malibu Creek monitoring station is located at the existing stream gage station (Stream Gage No. F130-9-R) near Malibu Canyon Road, south of Piuma Road. At this location, the tributary watershed to Malibu Creek is 104.9 square miles. The entire Malibu Creek Watershed is 109.9 square miles.

Los Angeles River Monitoring Station (S10)

The Los Angeles River Monitoring Station is located at the existing stream gage station (Stream Gage No. F319-R) between Willow Street and Wardlow Road in the City of Long Beach. At

this location, which was chosen to avoid tidal influences, the total upstream tributary drainage area for the Los Angeles River is 825 square miles. This river is the largest watershed outlet to the Pacific Ocean in Los Angeles County. At the site, the river is a concrete lined trapezoidal channel.

Coyote Creek Monitoring Station (S13)

The Coyote Creek Monitoring Station is located at the existing ACOE stream gage station (Stream Gage No. F354-R) below Spring Street in the lower San Gabriel River watershed. The site assists in determining mass loading for the San Gabriel River watershed. At this location, the upstream tributary area is 150 square miles (extending into Orange County). The sampling site was chosen to avoid backwater effects from the San Gabriel River. Coyote Creek, at the gauging station, is a concrete lined trapezoidal channel. The Coyote Creek sampling location has been an active stream gauging station since 1963.

San Gabriel River Monitoring Station (S14)

The San Gabriel River Monitoring Station is located at an historic stream gage station (Stream Gage No. F263C-R), below San Gabriel River Parkway in Pico Rivera. At this location the upstream tributary area is 450 square miles. The San Gabriel River, at the gauging station, is a grouted rock-concrete stabilizer along the western levee and a natural section on the eastern side. Flow measurement and water sampling are conducted in the grouted rock area along the western levee of the river. The length of the concrete stabilizer is nearly 70 feet. The San Gabriel River sampling location has been an active stream gauging station since 1968.

Dominguez Channel Monitoring Station (S28)

The Dominguez Channel Monitoring Station is located at Dominguez Channel and Artesia Boulevard in the City of Torrance. At this location, which was chosen to avoid tidal influence, the upstream tributary area is 33 square miles. The portion of the river where the monitoring site is located is a concrete-lined rectangular channel.

Santa Clara River Monitoring Station (S29)

The Santa Clara monitoring station is located at the Santa Clara River and The Old Road in Santa Clara. The Santa Clara River has a soft bottom for the most part, which makes flow monitoring extremely difficult. This location was chosen because flow monitoring was possible from the existing USGS 11108000 Santa Clara River near Saugus California stream gauging station. The upstream tributary area is 411 square miles.

2.3 TRIBUTARY SITE SELECTION

All six of the tributary monitoring stations, Aliso Creek, Bull Creek, Burbank Western System, Verdugo Wash, Arroyo Seco Channel, and Rio Hondo Channel, were established under the 2001 Municipal Storm Water Permit. Monitoring began during the 2002-2003 season. The six tributary monitoring stations were used to collect water quality data from subwatersheds in the Los Angeles River WMA.

MASS EMISSIONS MONITORING REPORT

2.4 TRIBUTARY MONITORING LOCATIONS AND DRAINAGE AREAS

Figure 2-9 is an overview of the study area showing all the tributary monitoring sites. Figure 2-1 shows the location of the tributary monitoring sites in relation to the mass emission monitoring sites.

Provided below is a description of the six tributary monitoring stations required by the Municipal Storm Water Permit for the 2002-2003 monitoring period. The tributary stations include Aliso Creek, Bull Creek, Burbank Western System Channel, Verdugo Wash, Arroyo Seco Channel, and Rio Hondo Channel. Figures 2-10 through 2-15 show the location of each monitoring station.

Aliso Creek Tributary Monitoring Station (TS01)

Aliso Creek monitoring station is located at the southeast corner of the bridge on Saticoy over Aliso Creek Channel, in Reseda, California. The upstream tributary watershed area of Aliso Creek is approximately 21 square miles.

Bull Creek Tributary Monitoring Station (TS02)

Bull Creek monitoring station is located at the northeast corner of the bridge on Victory Boulevard over Bull Creek Channel, in Lake Balboa, California. The upstream tributary watershed area of Bull Creek is approximately 23 square miles.

Burbank Western System Monitoring Station (TS03)

Burbank Western monitoring station is located at the northwest corner of the bridge on Riverside Drive over the Burbank – Western Channel in Glendale, California. This is the same location as the Department's stream gaging station (E285-R). The upstream tributary watershed of the Burbank Western Channel is approximately 26 square miles.

Verdugo Wash Tributary Monitoring Station (TS04)

Verdugo Wash monitoring station is located at the south bank of Verdugo Wash, approximately 100 feet west of the bridge on Jackson Street, in the City of Glendale, California. The upstream tributary watershed area of the Verdugo Wash is approximately 30 square miles.

Arroyo Seco Channel Tributary Monitoring Station (TS05)

Arroyo Seco monitoring station is located on the east bank of the Arroyo Seco Channel, approximately ¼ mile south of the bridge on Avenue 52, and around the ramped entrance to the Arroyo Seco Channel at the Ernest Debs Regional Park, in the Montecito Heights area of Los Angeles City. The upstream tributary watershed area of the Arroyo Seco is approximately 47 square miles.

Rio Hondo Channel Tributary Monitoring Station (TS06)

Rio Hondo Channel monitoring station is located on Beverly Boulevard, downstream of Whitter Narrows dam, at the USGS – U.S. Army Corps of Engineers (ACOE) Stream gage No. 1102300 or E327-R. The upstream tributary watershed area is approximately 142 square miles.

This section describes the field and laboratory methods used to implement the Monitoring Program, which includes precipitation and flow monitoring, storm water sampling, and laboratory analyses.

3.1 PRECIPITATION AND FLOW MEASUREMENT

3.1.1 Precipitation Monitoring

For every monitoring station, a minimum of one automatic tipping bucket (intensity measuring) rain gage is located nearby or within the tributary watershed. Large watersheds may require multiple rain gages to accurately characterize the rainfall. The LACDPW operates various automatic rain gages throughout the county. Existing gages near the monitored watersheds are also utilized in calculating storm water runoff and are essential to develop runoff characteristics for these watersheds.

3.1.2 Flow Monitoring

Flow monitoring equipment is needed to trigger the automated samplers because the Monitoring Program requires flow-weighted composites for many constituents. Flows are determined from measurements of water elevation as described below.

The water elevation in a storm drain is measured by the stage monitoring equipment, and the flow rate is derived from a previously established rating table for the site or calculated with an equation such as Manning's. The LACDPW uses rating tables generated from analysis of storm drain cross sections and upstream/downstream flow characteristics. The rating tables are modified if it is demonstrated in the field through stream velocity measurements that calculated table values are incorrect. Previous storm water flow measurement efforts indicates that all stations will require multiple storm events to gather the data necessary for calibration of the measurement devices.

The automatic samplers utilize pressure transducers as the stage measurement device. However, pressure transducers are only accurate as flow measurement devices in open channel flow regimes. Therefore, for stations monitoring flows in underground storm drains, efforts were made to select drains that do not surcharge (flow under pressure) during events smaller than a 10-year storm event.

3.2 STORM WATER SAMPLING

3.2.1 Sample Collection Methods

Grab and composite sample collection methods, defined below, were used during the 2002-2003 storm season.

- **Grab Sample** - a discrete, individual sample taken within a short period of time, usually less than 15 minutes. This method is used to collect samples for constituents that have very short holding times and specific collection or preservation needs. For example, samples for

coliforms are taken directly into a sterile container to avoid non-resident bacterial contamination.

- **Composite Sample** - a mixed or combined sample created by combining a series of discrete samples (aliquots) of specific volume, collected at specific flow-volume intervals. Composite sampling is ideally conducted over the duration of the storm event.

During a storm event, grab samples were collected during the initial portion of the storm (on the rising limb of the hydrograph) and taken directly to the laboratory.

Flow composite storm samples were obtained using an automated sampler to collect samples at flow-paced intervals. Samples collected at each station were combined in the laboratory to create a single flow-weighted sample for analysis.

During the storm season, the sampler was programmed to start automatically when the water level in the channel or storm drain exceeded the maximum annual dry weather stage. A sample was collected each time a set volume of water had passed the monitoring point (this volume is referred to as the pacing volume or trigger volume). The sample was stored in glass containers within the refrigerated sampler. A minimum of eight liters of sample was required to conduct the necessary laboratory analyses for all the constituents. The automated sampler was deactivated by field personnel when the water level in the channel or storm drain fell to about 120 percent of the observed maximum annual dry weather flow stage.

Samples were retrieved from the automated samplers as soon as possible to meet laboratory analysis holding time requirements. As samples were collected, rainfall and runoff data were logged and stored for transfer to the office.

3.2.2 Field Quality Assurance/Quality Control Plan

Properly performed monitoring station set up, water sample collection, sample transport, and laboratory analyses are vital to the collection of accurate data. Quality Assurance/Quality Control (QA/QC) is an essential component of the monitoring program.

Evaluation of Analytes and QA/QC Specifications for Monitoring Program (Woodward-Clyde, 1996a) describes the procedures used for bottle labeling, chain-of-custody tracking, sampler equipment checkout and setup, sample collection, field blanks to assess field contamination, field duplicate samples, and transportation to the laboratory.

An important part of the QA/QC Plan is the continued education of all field personnel. Field personnel were adequately trained from the onset and informed about new information on storm water sampling techniques on a continuing basis. Field personnel also evaluate the field activities required by the QA/QC Plan, and the Plan is updated if necessary.

Bottle Preparation

For each monitoring station, a minimum of three sets of bottles was available so that up to two complete bottle change-outs could be made for each storm event. Bottle labels contained the following information:

- LACDPW Sample ID Number
- Station Number

- Station Name
- Sample Type (Grab or Composite)
- Laboratory Analysis Requested
- Date
- Time
- Preservative
- Temperature
- Sampler's Name

Bottles were cleaned at the laboratory prior to use, then they were labeled and stored in sets. Each station was provided with the same number, types, and volumes of bottles for each rotation unless special grab samples were required. Clean composite sample bottles were placed in the automated sampler when samples were collected. This practice ensured readiness for the next storm event. All bottles currently not in use were stored and later transported in plastic ice chests. Composite sample bottles were limited to a maximum of 2-1/2 gallons each, to ensure ease of handling.

Chain-of-Custody Procedure

Chain-of-custody forms were completed to ensure and document sample integrity. These procedures establish a written record which tracks sample possession from collection through analysis.

Field Setup Procedures

All field sampling locations were fixed sites, with the sampler placed on a public road or flood control right-of-way. After sample collection, field staff prepared the sampler for collection of the next set of samples either in storm mode or in dry weather mode. Inspection of visible hoses and cables was performed to ensure proper working conditions according to the site design. Inspection of the strainer, pressure transducer, and auxiliary pump was performed during daylight hours in non-storm conditions.

The automated sampler was checked at the beginning of the storm (during grab sample collection) to ensure proper working condition and to see if flow composite samples were being collected properly. Dry weather collection techniques were similar, with grab and 24-hour composite samples being collected.

Bottles were collected after each event and packed with ice and foam insulation inside individually marked ice chests. Chain-of-custody forms were completed by field staff before transportation of the samples to the laboratory. Under no circumstance were samples removed from the ice chest during transportation from the field to the laboratory.

Travel Blanks and Field Duplicates

Potential field contamination was assessed through analysis of travel blanks and duplicate grab samples. Field travel blanks were collected for each monitoring station during every sampling event to quantify post sampling contamination. The monitoring program also included field duplicates to assess the precision of laboratory results. A field duplicate, the origin of which was unknown to the laboratory, was collected for each sampling event. This methodology for assessing post sampling contamination and laboratory testing procedures provided data to measure the precision and accuracy of the laboratory results.

3.3 LABORATORY ANALYSES

The Department of Agricultural Commissioner/Weights and Measures (ACWM) Environmental Toxicology Laboratory provides water quality laboratory and related services to the LACDPW. The ACWM lab is state certified to perform the water quality analyses contracted by LACDPW. The ACWM Lab maintains a laboratory analysis program that includes Quality Assurance and Quality Control protocols consistent with the objectives of the monitoring program required by the Permit.

3.3.1 Chemical and Biological Analysis

The suite of analyses and associated minimum levels (MLs) for samples collected at mass emission stations are specified in the Municipal Storm Water Permit. All the laboratory methods used for analysis of the storm water samples are approved by the California Department of Health Services and are in conformance with U.S. Environmental Protection Agency (USEPA) approved methods.

Table 3-1 shows all the constituents monitored during the 2002-2003 reporting period, including constituents analyzed with composite or grab samples. The table lists the method number, the PQL (which is the same as ML as defined in the Municipal Storm Water Permit), the method detection limit (MDL), and other relevant information for each constituent.

The Municipal Storm Water Permit defines MDL and ML (i.e. PQL) as follows:
MDL means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero. ML means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed. Throughout this report, "0" for sample results indicates the analyte concentration is less than the ML.

The primary objective of the laboratory QA/QC program is to ensure that the analyses are scientifically valid, defensible, and of known precision and accuracy. The ACWM laboratory maintains QA/QC procedures (as described in their Quality Assurance Manual) in accordance with requirements of the California Department of Health Services. The ACWM laboratory standard operation procedures include method validation, equipment calibration, preventive maintenance, data validation procedures, assessment of accuracy and precision, corrective actions, and performance and system audits. ACWM Lab conducted the QA/QC review and data

validation for the 2002-2003 monitoring data, and the QA/QC documentation is available within the ACWM Lab files. The validated data as provided by the ACWM Lab were used for data analysis and interpretation with no further QA/QC review.

3.3.2 Toxicity Analysis

The samples were subjected to the Ceriodaphnia dubia 7-day survival and reproduction tests in addition to the Strongylocentrotus purpuratus (sea urchin) fertilization test as a measure of toxicity. Performed as multi-concentration tests, sample concentrations of 100%, 56%, 32%, 18%, 10% and 0% (N-control) were used to determine the level of toxicity. These tests were conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (US EPA, 1995).

Water quality measurements (temperature, pH, dissolved oxygen, hardness, conductivity, and alkalinity) were made for each sample at the beginning and throughout each test. These measurements were performed to ensure there were no large variations in water quality, which can affect the accuracy of the toxicity tests.

This section describes the results, data analysis, and recommendations for the 2002-2003 Monitoring Program.

4.1 HYDROLOGY: PRECIPITATION AND FLOW

The monthly rainfall during the 2002-2003 storm season was compared to the long-term pattern of rainfall in Figure 4-1. During this storm season, the total rainfall was about 15.45 inches, which is about three times more than the rainfall recorded during the 2001-2002 storm season. Figure 4-2 shows that the total annual rainfall of 15.45 inches during the 2002-2003 storm season in Los Angeles County was very close and just below the average annual rainfall. The average annual rainfall over 130 years at Station # 716, Ducommun Street in downtown Los Angeles is about 15.51 inches.

Table 4-1 summarizes the hydrologic and meteorologic conditions of each station-event monitored during this storm season. A collection of 2002-2003 season hydrographs for each storm event from the monitored sites is included in Appendix A. Each hydrograph includes the time of the first and last composite sample aliquot collection, the number of aliquots per composite, the sample volume interval, and the percent of storm sampled.

4.2 STORM WATER QUALITY

An inventory of the composite and grab samples taken for the chemical and biological analysis and toxicity analysis during the 2002-2003 monitoring season is included in Tables 4-2, 4-2a, and 4-3.

4.2.1 Mass Emission Analysis

This section provides a description of wet weather and dry weather mass emission results generated during the 2002-2003 monitoring season.

The County analyzes for an extensive number of individual water quality constituents, the results of which are included in Appendix B. A comparison was made between mass emission water quality results and the water quality objectives outlined in the Ocean Plan, the Basin Plan, and the CTR. The freshwater final acute criteria set by the California Department of Fish and Game was also used to provide water quality standards for chlorpyrifos and diazinon. The Municipal Storm Water Permit specifically requires the County to assess the pollutant loading for the sampling events that are analyzed for the complete list of constituents following the 2002-2003 storm season. In addition, the Municipal Storm Water Permit requires the identification and analysis of any long-term trends in storm water or receiving water runoff. An analysis of the correlation between pollutants of concern (metals and PAHs) and TSS loadings for the sampling events was also performed.

4.2.1.1 Comparison Study

As required by the Municipal Storm Water Permit, a comparison to the applicable water quality standards from the Basin Plan, the Ocean Plan, or the CTR for mass emission monitoring was conducted. The lowest possible standard of the three documents was used for the comparison study. The California Department of Fish and Game provided freshwater final acute criteria

water quality standards for chlorpyrifos and diazinon. The Basin Plan is designed to enhance water quality and protect the beneficial uses of all regional waters. The Ocean Plan is applicable to point source discharges to the ocean. The CTR promulgates criteria for priority toxic pollutants in the State of California for inland surface waters and enclosed bays and estuaries. Constituents that exceeded the applicable water quality standards are highlighted in Appendix B and Table 4-4. Table 4-4 and Figure 4-3 summarize this comparison analysis.

The following conclusions were drawn from the mass emission comparison study:

Wet Weather

- The monitoring program has identified the nearly ubiquitous existence of bacteria in wet weather for all seven of the mass emission monitoring stations. Densities of total coliform, fecal coliform, and fecal enterococcus exceeded the public health criteria of the Basin Plan for each storm at each monitoring station 100% of the time, with the exception of Malibu Creek, which only exceeded the total coliform objective half of the time. As during the 2001-2002 storm season, the Malibu Creek station shows generally lower indicator bacteria counts than the other mass emission stations.
- The ratio of fecal coliform to total coliform Basin Plan standard was exceeded 75% of the time in all watersheds, except in Ballona Creek and Dominguez Channel where it was exceeded 100% of the time.
- For all monitoring stations, there was no clear trend between bacteria densities and storm events. However, Ballona Creek, Malibu Creek, San Gabriel River, Dominguez Channel, and Santa Clara River monitoring stations each had the highest total coliform density during the March 15, 2003 storm.
- For all monitoring stations except Malibu Creek, 50-100% of the total copper samples exceeded the Ocean Plan water quality standard.
- Coyote Creek, San Gabriel River, and Santa Clara River exceeded the California Department of Fish and Game's water quality criteria for diazinon 50% of the time.
- 50% of the dissolved copper samples taken at the Los Angeles River and Coyote Creek monitoring stations and 100% of the dissolved copper samples taken at the Dominguez Channel monitoring station exceeded the CTR water quality standard.
- 50% of the dissolved lead samples collected at the Dominguez Channel monitoring station exceeded the CTR water quality standard. This is the only monitoring station that showed exceedances.
- San Gabriel River exceeded the cyanide Ocean Plan water quality standard in 75% of the samples. Ballona Creek, Los Angeles River, Coyote Creek, and Santa Clara River exceeded the standard in 50% of the samples.
- 75% of the total zinc samples from the Dominguez Channel monitoring station exceeded the Ocean Plan water quality standard. All the other stations except Ballona Creek had exceedances in 25% of the samples. Dominguez Channel also exceeded the CTR water quality standard for dissolved zinc in 50% samples.

- Sulfate and TDS were each exceeded in 50% of the samples at the Malibu Creek monitoring station. No other monitoring stations had any exceedances for these constituents.
- The Ocean Plan water quality standard for turbidity was exceeded in 50% of the samples at the San Gabriel River monitoring station.
- 50% of the total aluminum samples at the Santa Clara River monitoring station exceeded the Basin Plan water quality standard.
- Nitrite-N exceeded the Basin Plan water quality standard in 50% of the samples at the Coyote Creek monitoring station.

Dry Weather

Since the Municipal Storm Water Permit requires only two dry weather samples at each monitoring station, a 50% exceedance indicates only one sample exceeded the water quality standard and a 100% exceedance indicates both samples exceeded the water quality standard.

- There were no exceedances for any of the dissolved metals or diazinon during dry weather.
- Overall, there were a smaller percentage of exceedances for total coliform, fecal coliform, and fecal enterococcus during dry weather at all seven of the monitoring stations. Also, for most of the dry weather samples, the coliform densities were significantly lower than the densities for the wet weather samples. The total coliform criteria set in the Basin Plan was exceeded in 100% of the samples at the San Gabriel River and Dominguez Channel monitoring stations and in 50% of the samples at the Malibu Creek and Los Angeles River monitoring stations. No other monitoring station exceeded the total coliform criteria. The fecal coliform criteria was exceeded in 50% of the samples for all of the monitoring stations except San Gabriel River which exceeded the criteria in 100% of the samples. Fecal enterococcus criteria was exceeded in 100% of the samples at the Los Angeles River, Coyote Creek, and Dominguez Channel monitoring stations and in 50% of the samples at the other four monitoring stations.
- The ratio of fecal coliform to total coliform Basin Plan standard was exceeded in 50% of the samples at all of the monitoring stations except at Los Angeles River and Dominguez Channel, which had no exceedances.
- Unlike the wet weather samples, the Basin Plan water quality criteria for chloride was exceeded at three of the mass emission stations during dry weather. San Gabriel River and Dominguez Channel exceeded in 50% of the samples and Santa Clara River exceeded in 100% of the samples.
- 50% of the total copper samples exceeded the Ocean Plan water quality standard at the Ballona Creek, Malibu Creek, Los Angeles River, and Dominguez Channel monitoring stations. The San Gabriel River exceeded the standard in 100% of the samples.
- Ballona Creek, Malibu Creek, Los Angeles River, and Dominguez Channel were not within the pH water quality standard limits for 50% of the samples and Coyote Creek was not within the pH water quality standard limits for 100% of the samples. All of samples not within the pH limits showed high alkalinity. During wet weather, only 25% of the pH samples showed exceedances at Ballona Creek and Los Angeles River monitoring stations.

- The Ocean Plan water quality standard for total zinc was exceeded in 50% of the samples at the Malibu Creek, Los Angeles River, Coyote Creek, and Dominguez Channel monitoring stations.
- 100% of the total nickel samples exceeded the Ocean Plan water quality standard at the San Gabriel River monitoring station. 50% of the total nickel samples exceeded the standard at Ballona Creek, Los Angeles River, and Santa Clara River monitoring stations.
- Los Angeles River, Coyote Creek, and San Gabriel River exceeded the Ocean Plan water quality standard for cyanide in 50% of the samples.
- 50% of the dissolved oxygen samples at the Santa Clara River monitoring station were below the minimum water quality objective in the Basin Plan.
- Malibu Creek exceeded the Basin Plan water quality objective for sulfate in 50% of the samples.

4.2.1.2 Loading and Trend Analysis

An estimation of the total pollutant loads due to storm water and urban runoff for each mass emission station is shown on Table 4-11. As required by the Municipal Storm Water Permit, samples were collected and analyzed for TSS at all mass emission stations equipped with automated samplers for all storm events that resulted in at least 0.25 inches of rainfall. The concentrations for TSS for each storm is shown on Table 4-9 and the total pollutant loading for TSS for each mass emission station is shown on Table 4-10. By analyzing the pollutant loading at each mass emission station, it is possible to see if there is any correlation between storm events and the amount of pollutant loading. An analysis of trends in storm water or receiving water quality is represented in Figure 4-4. Although it is difficult to see any sustained trends at this time, they will become more apparent in years to come as sampling continues.

The following conclusions were deduced from the loading analysis:

- The total runoff volume at the Los Angeles River monitoring station was consistently higher than at the other monitoring stations. Los Angeles River also has approximately two times or more surface runoff area than the other watersheds. This creates more potential for surface runoff pollution and likely explains, in part, the increased loading of constituents at the Los Angeles River monitoring station when compared to the other monitoring stations.
- The storm on March 15, 2003 at the Ballona Creek, Malibu Creek, and Los Angeles River monitoring stations produced TSS loadings of 9,619 tons, 5,236 tons, and 53,027 tons, respectively. Ballona Creek and Los Angeles River also produced loadings of 6,395 tons and 12,181 tons, respectively, during the February 11, 2003 storm. The loading during all other storm events at all the monitoring stations was below 4,000 tons.
- The Los Angeles River is the largest contributor of TSSs out of the seven mass emission stations monitored.
- San Gabriel River, Dominguez Channel, and Santa Clara River had generally lower TSS and metals loadings than the other monitoring sites.

- The February 11, 2003 storm produced the highest TDSs loadings at the Malibu Creek, Coyote Creek, Dominguez Channel, and Santa Clara River monitoring stations. The storm on December 16, 2002 produced the lowest TDS loading at all stations.
- Metal loading was the greatest for the Los Angeles River.
- Total and dissolved zinc appear to have the greatest loading during the February 11, 2003 storm at all of the monitoring stations except San Gabriel River.

The following conclusions were drawn from the trend analysis:

- The high levels of zinc found at monitoring stations between 1994-2000 were not present in the samples taken during the 2001-2002 storm season. During the 2002-2003 storm season the high levels of zinc were not present again, except for several exceedances at the Dominguez Channel monitoring station.
- The rainfall during the 2002-2003 storm season was only 0.06 inches below the annual rainfall average. However, it was about three times higher than amount of rainfall recorded during the 2001-2002 storm season. This may explain, in part, the increased loading as compared to the 2001-2002 storm season.

Pollutant Loading Example

At the request of the RWQCB, below is an example of the pollutant loading calculation:

Site: Malibu Creek Mass Emission Station

Storm event: 12/16/2002

Constituent: Nitrate

Concentration: 4.6 mg/L

Runoff Volume: 36.5 acre-ft (Runoff = 28.4 acre-ft + Base Flow = 8.1 acre-ft)

1lb = 454 g

1g = 1,000 mg = $1x10^6$ µg

1L = 0.03531467 ft^3

1 ft^3 = 2.2957 x 10^{-5} acre-ft

Pollutant Loading = (Pollutant Concentration)(Runoff Volume)

Pollutant Load = (4.6 mg/L)(36.5 acre-ft)(1g/1,000 mg)(1 lb/454g)(1 ft^3/2.2957 x 10^{-5} acre-ft)(1L/0.03531467 ft^3)

Pollutant Load = 456.2

Conversion factors

4.1.2.3 Correlation Study

An analysis of the correlation between metals and TSS levels for the mass emission monitoring was performed. The study was only conducted on metals because the PAH samples at all of the monitoring stations were non-detects.

A trend line was projected on each of the metals-versus-TSS plots and the coefficient of determination (R^2) was calculated to see if there was any correlation between the concentrations for each metal and TSSs for the mass emission monitoring stations (Figure 4-5). The closer the value of R^2 is to the number one, the stronger the correlation of the two variables.

The following conclusions were deduced from the correlation study analysis:

- Unlike other watersheds, the Malibu Creek and San Gabriel River watersheds showed no strong correlation between metals and TSSs, except for dissolved arsenic and in the case of Malibu, dissolved zinc. Besides the R^2 values for dissolved arsenic and dissolved zinc, all of Malibu Creek's and San Gabriel River's R^2 values were below 0.3852 and below 0.5823, respectively.
- There were no strong correlations from any of the watersheds for the following constituents: total arsenic, total chromium, dissolved lead, and total nickel.
- Excluding Malibu Creek and San Gabriel River, all of the monitoring sites showed a strong correlation between total copper and TSSs, with R^2 values ranging from 0.4445 to 0.9856 (most of them closer to the upper range).
- Three of the mass emission monitoring sites, Ballona Creek, Coyote Creek, and Dominguez Channel, showed a correlation between total aluminum and TSSs, with R^2 values of 0.9158, 0.8199, and 0.8294, respectively.
- Five of the mass emission stations showed a strong correlation between dissolved antimony and TSSs. Ballona Creek and Los Angeles River showed a negative correlation, with R^2 values of 0.5347 and 0.799, respectively. Coyote Creek, Dominguez Channel, and Santa Clara River showed positive correlations, with R^2 values of 0.8151, 0.9777, and 0.7409, respectively.

4.2.2 Tributary Monitoring Analysis

This section provides a description and analysis of wet weather and dry weather tributary results generated during the 2002-2003 monitoring season.

Though only a requirement for the first storm of the season, tributary monitoring analyzes included all of the water quality constituents monitored under the mass emission monitoring program, the results of which are included in Appendix B. Flow was also measured and is reported as hydrographs, which can be found in Appendix A. In order to identify the sub-watersheds where storm water discharges are causing or contributing to exceedances of water quality standards, a comparison was made between tributary water quality results and the water quality objectives outlined in the Ocean Plan, the Basin Plan, and the CTR. The lowest possible standard of the three documents was used for the comparison study. The freshwater final acute criteria set by the California Department of Fish and Game was also used to provide water quality standards for chlorpyrifos and diazinon.

Since the tributary monitoring stations collect samples from sub-watersheds within the Los Angeles River watershed, the results from the Los Angeles River mass emission station were also used in the analysis. It was not possible to accurately identify any problems based on dry weather results since only one sample was taken at each tributary monitoring station, as required by the Municipal Storm Water Permit. Constituents that exceeded the applicable water quality standards are highlighted in Appendix B and Table 4-5. Table 4-5 and Figure 4-3 summarize this comparison analysis.

The following conclusions were drawn from the wet weather tributary comparison study:

- As with the mass emission monitoring program, the tributary monitoring program identified the nearly ubiquitous existence of bacteria during wet weather at all six stations. Densities of total coliform, fecal coliform, and fecal enterococcus exceeded the public health criteria of the Basin Plan for each storm at each monitoring station 100% of the time. This corresponds to the results obtained from the Los Angeles River mass emission station.
- The ratio of fecal coliform to total coliform Basin Plan water quality standard was exceeded 80-100% of the time in all sub-watersheds, except Bull Creek which only exceeded in 40% of the samples.
- Bull Creek and Verdugo Wash exceeded the Ocean Plan water quality standard for turbidity in 80% of the samples. Rio Hondo exceeded the turbidity standard in 40% of the samples.
- Diazinon criteria was exceeded at each tributary monitoring station. 60% of the samples were exceeded at Aliso Creek monitoring station, 40% of the samples were exceeded at Arroyo Seco Channel and Rio Hondo Channel monitoring stations, and 20% of the samples were exceeded at Bull Creek, Burbank Western Channel, and Verdugo Wash monitoring stations. Los Angeles River only exceeded the diazinon criteria in 25% of the samples.
- 60% of the samples at the Verdugo Wash monitoring station exceeded the Basin Plan water quality standard for total aluminum. There were no exceedances at Los Angeles River monitoring station.
- Total Copper exceeded the Ocean Plan water quality standard in more than 60% of the samples at all of the tributary stations except Bull Creek, which exceeded the standard in 20% of the samples.
- Total Zinc exceed the Ocean Plan water quality standard in 40-60% of the samples at Burbank Western Channel, Verdugo Wash, Arroyo Seco Channel, and Rio Hondo Channel.
- 80%, 50%, and 40% of the total lead samples exceeded the Ocean Plan water quality standard at Verdugo Wash, Arroyo Seco Channel, and Burbank Western Channel, respectively.
- Rio Hondo Channel exceeded the CTR water quality standard for dissolved copper in 100% of the samples. Burbank Western Channel exceeded in 80% of the samples, Aliso Creek exceeded in 50% of the samples, and Arroyo Seco Channel exceeded in 25% of the samples. The other tributary monitoring stations exceeded the standard in 20% of the samples.
- 40% of the samples at Burbank Western System and Rio Hondo Channel exceeded the Ocean Plan water quality standard for cyanide.

- Though there were no dissolved oxygen or nitrite-N exceedances at Los Angeles River monitoring station, 20% of the samples at Burbank Western Channel and Arroyo Seco Channel exceeded the Basin Plan criteria for each constituent.
- Burbank Western Channel and Verdugo Wash exceeded the CTR water quality standard for dissolved lead in 40% of the samples and Rio Hondo Channel exceeded in 20% of the samples. There were no exceedances at the Los Angeles River monitoring station.

4.2.3 Water Column Toxicity Analysis

This section describes the water column toxicity results generated during the 2002-2003 storm season. Water column toxicity monitoring was performed at all mass emission site in accordance with the Municipal Storm Water Permit. In total, four samples were analyzed for toxicity at each site. Dry weather samples were collected on October 9, 2002, and April 23, 2003. The results obtained from these samples are found in Table 4-8a. Wet weather samples were collected during the first rain event of the season on November 8, 2002, and also on December 12, 2002. The results obtained from these samples are found in Table 4-8b.

A minimum of one freshwater and one marine species was used for toxicity testing, specifically Ceriodaphnia dubia (water flea) 7-day survival/reproduction and Strongylocentrotus purpuratus (sea urchin) fertilization. The sea urchin fertilization test could not be performed on the October 9, 2002 wet weather sample because the purple sea urchin did not spawn due to seasonal variability.

Results calculated from the Ceriodaphnia dubia and sea urchin tests included the No Observed Effect Concentration (NOEC), 50% Lethal Concentration (LC50), 50% Inhibitory Concentration (IC50), and toxicity unit (TU). NOEC is the highest concentration causing no effect on the test organisms. LC50 is the concentration that produces a 50% reduction in survival. IC50 is the concentration causing 50% inhibition in growth or reproduction. TU is defined in the permit as 100/(LC50 or IC50). A TU value greater than or equal to one is considered substantially toxic and requires a toxicity identification evaluation (TIE).

The following conclusions were deduced from water column toxicity testing:

- Ceriodaphnia dubia survival was only significantly affected by exposure to the wet weather samples collected from the Coyote Creek and Dominguez Channel mass emission stations on November 8, 2002. These samples from Coyote Creek and the Dominguez Channel had a TU value equal to 4.40 and 1.33, respectively. In accordance with the Permit, a TIE was performed on these samples. The TIE for the sample collected from Coyote Creek found that the toxicity was due to one or more non-polar organic compounds as well as metabolically-activated organophosphates. The TIE for the sample collected from the Dominguez Channel found that the toxicity was due to one or more non-polar organic compounds and cationic metals as well as metabolically-activated organophosphates. The remaining samples were not substantially toxic to Ceriodaphnia dubia survival.
- Ceriodaphnia dubia reproduction was only significantly affected by exposure to the wet weather samples collected from the Coyote Creek and Dominguez Channel mass emission stations on November 8, 2002. These samples from Coyote Creek and the Dominguez Channel had a TU value equal to 3.65 and 1.33, respectively. In accordance with the Permit,

a TIE was performed on these samples. The TIE for the sample collected from Coyote Creek found that the toxicity was due to one or more non-polar organic compounds as well as metabolically-activated organophosphates. The TIE for the sample collected from the Dominguez Channel found that the toxicity was due to one or more non-polar organic compounds and cationic metals as well as metabolically-activated organophosphates. The remaining samples were not substantially toxic to Ceriodaphnia dubia reproduction.

- Sea urchin fertilization was only significantly affected by exposure to the wet weather samples collected from the Coyote Creek and Ballona Creek mass emission stations on November 8, 2002. These samples from Coyote Creek and Ballona Creek had TU values equal to 1.16 and 1.45, respectively. In accordance with the Permit, a TIE was performed on these samples. The TIE for the sample collected from Coyote Creek found that the toxicity was due to one or more non-polar organic compounds and cationic metals as well as metabolically-activated organophosphates. The TIE for the sample collected from Ballona Creek found that the toxicity was due to particulate-bound toxicants, one or more non-polar organic compounds and cationic metals. The remaining samples were not substantially toxic to sea urchin fertilization.

4.2.4 Trash Monitoring Analysis

This section describes the trash monitoring results generated during the 2002-2003 storm season. For each catch basin insert and Continuous Deflective System (CDS) devices, the anthropogenic trash was separated from the sediment and vegetation and weights were recorded per device. The land uses monitored were commercial, high density single family residential, industrial, low density single family residential, and open space/parks. Three CDS units were installed during the 2002-2003 storm season and monitoring of two additional CDS units will commence during the 2003-2004 storm season. Table 4-12 summarizes the results of the sampling events with totals for the collected anthropogenic trash and the sediment/vegetation per land use. The Municipal Storm Water Permit requires a minimum of one photograph at each mass emission station after the first storm event and three additional storm events per year. Pictures can be found in Appendix C.

The following conclusions were drawn from the sampling results for anthropogenic trash:

- The amount of trash collected for the first storm event of the season constituted 39.4% of the total trash collected during the entire season for the Los Angeles River and the Ballona Creek watersheds combined.
- In the Los Angeles River watershed, the commercial landuse was the largest contributor of trash during the first storm of the season with 40.5%. The industrial landuse was the second largest contributor with 35.8% of the total trash collected. Open Space/Parks, High Density Single Family Residential, and Low Density Single Family Residential combined to produce 23.7 % of the trash with Low Density Single Family Residential producing only 2.6%.
- In the Ballona Creek watershed, the Low Density Single Family Residential was the largest contributor of trash during the first storm of the season with 32.1%. The remaining landuses combined for the remaining 67.9% with a relatively even distribution of approximately 17% each, on average.

- Based on the total amount of trash collected for the Los Angeles River watershed during the 2002-2003 storm season, the largest contributors by landuse were the industrial and the commercial landuses with 46.4%, and 33.9 %, respectively, for a combined 80.3% of the total trash collected. High Density Single Family Residential and Open Space/Parks contributed 8.6% and 8.8%, respectively. Low Density Single Family Residential produced only 2.3%.
- Based on the total amount of trash collected for the Ballona Creek watershed during the 2002-2003 storm season, the Low Density Single Family Residential and the commercial landuses combined to produce about half of the total trash collected. Low Density Single Family Residential produced 26.0% and the commercial landuse produced 25.1%. Open Space/Parks and industrial produced 17.8% and 16.5%, respectively. High Density Single Family Residential produced the least trash with 14.5% of the total.

4.2.5 Identification of Possible Sources

This section describes the possible sources of the constituents that did not meet the water quality standards during the 2002-2003 monitoring season in all or most of the watersheds, as discussed above in Section 4.2.1 and 4.2.2.

The source of bacteria is hard to pinpoint. According to the *Draft Total Maximum Daily Load to Reduce Bacterial Indicator Densities at Santa Monica Bay Beaches* published on November 8, 2001 by the California Regional Water Quality Control Board, Los Angeles Region, urban runoff from the storm drain system may have elevated levels of bacterial indicators due to sanitary sewer leaks and spills, illicit connections of sanitary lines to the storm drain system, runoff from homeless encampments, illegal discharges from recreational vehicle holding tanks, and malfunctioning septic tanks among other things. Fecal matter from animals and birds can also elevate bacteria levels.

An article titled *Residential Sources of Contamination* on EPA's website states that elevated levels of chloride may be a result of fertilizers, animal sewage, industrial wastes, minerals, or seawater. It also shows that many metals, such as aluminum, silver, iron, and zinc, could be a result of natural deposits.

According to the report *Regulating Copper in Urban Stormwater Runoff* by G. Fred Lee, PhD and Anne Jones-Lee, PhD, copper can come from brake pads or industrial (such as the textile industry) and mining sources. A metals source study is discussed in the article *Loadings of Lead, Copper, Cadmium, and Zinc in Urban Runoff from Specific Sources* by A.P. Davis, M. Shokouhian, and S. Ni. The study concludes that significant levels of metals were found from urban areas, especially in highway runoff. The abstract identifies important sources, such as building siding for lead, copper, cadmium, and zinc, vehicle brake emissions for copper and tire wear for zinc. Atmospheric deposition was also identified as an important source of cadmium, copper, and lead.

4.2.6 Recommendations

New monitoring components conducted during the 2002-2003 monitoring season included tributary monitoring and trash monitoring at mass emission stations. The Santa Clara River mass emission monitoring station was also added to the monitoring program. In addition, all required

samples were taken, including dry weather and toxicity samples. Below are some recommendations that were identified based on results from the 2002-2003 monitoring season.

The Municipal Storm Water Permit requires only one dry weather sample to be taken at each tributary monitoring station. Although it was possible to see the various concentrations from each subwatershed, these values may not be entirely reliable due to the inherent variability of many constituents, especially bacteria. LACDPW recommends taking at least two dry weather samples at each tributary station to better characterize the concentrations of each constituent and verify the accuracy of the results of the first sample.

Many of the polychlorinated biphenyls, SOVs, and chlorinated pesticides cannot be compared to the water quality standards because there are no standards listed in the Basin Plan, Ocean Plan, or CTR. However, even if there were water quality standards, all of these constituents were not detected at any of the mass emission or tributary monitoring stations. We recommend sampling for these constituents for one more year. If they are not detected, we recommend to discontinue sampling for these constituents, except during the first storm event of every year.

Some constituents sampled at the tributary stations showed exceedances of water quality standards. The Municipal Storm Water Permit requires the initiation of a focused effort to identify sources of pollutant within that subwatershed when a constituent exceeds a water quality standard in three out of four samples. We recommend looking at the landuse make up of the watersheds and use water quality data collected from the landuse monitoring stations to begin identifying possible trends or correlations based on landuse. We also recommend using water quality data collected by SCCWRP in their landuse studies.

We collected valuable data from the first year of the tributary monitoring in the Los Angeles River Watershed. We believe that one year worth of data is not sufficient as there can be variability from year to year. Based on discussions with staff from the RWQCB, we recommend performing a second year of monitoring in the Los Angeles River Watershed in order to make better use of the data we collect in order to assist us in prioritizing drainage and sub-drainage areas that need management actions.

In order to identify and better understand the source(s) of pollution, mass emission monitoring, toxicity monitoring, trash monitoring, and tributary monitoring will be continued in the future in addition to the regional monitoring and special studies, as required by the Municipal Storm Water Permit.

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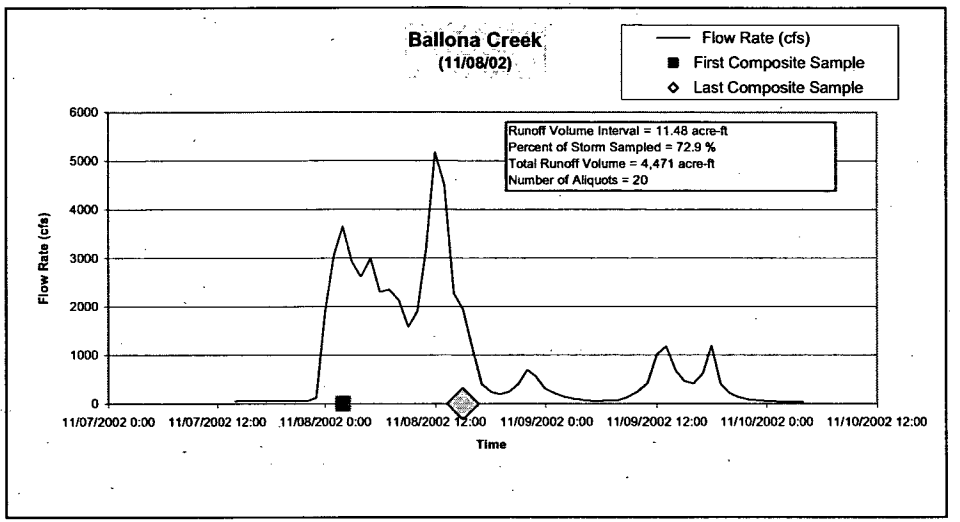
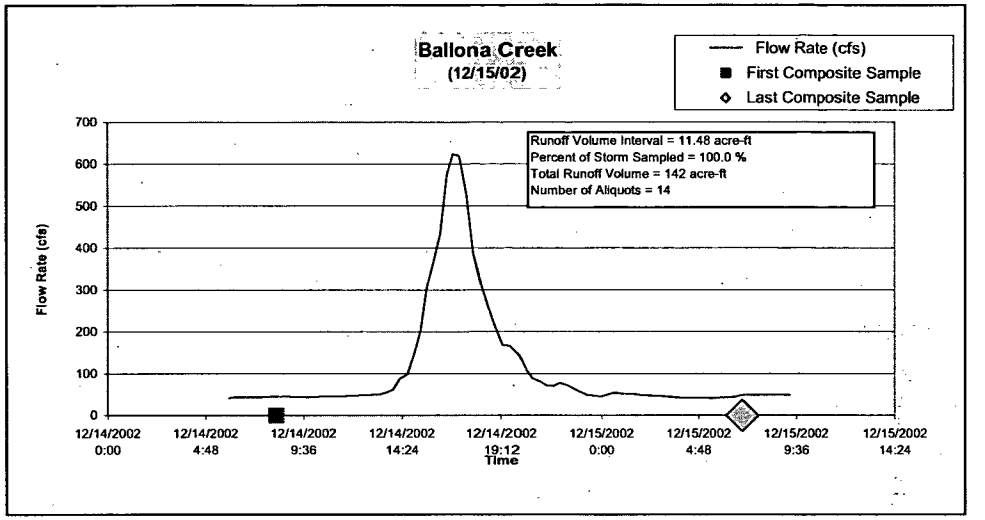
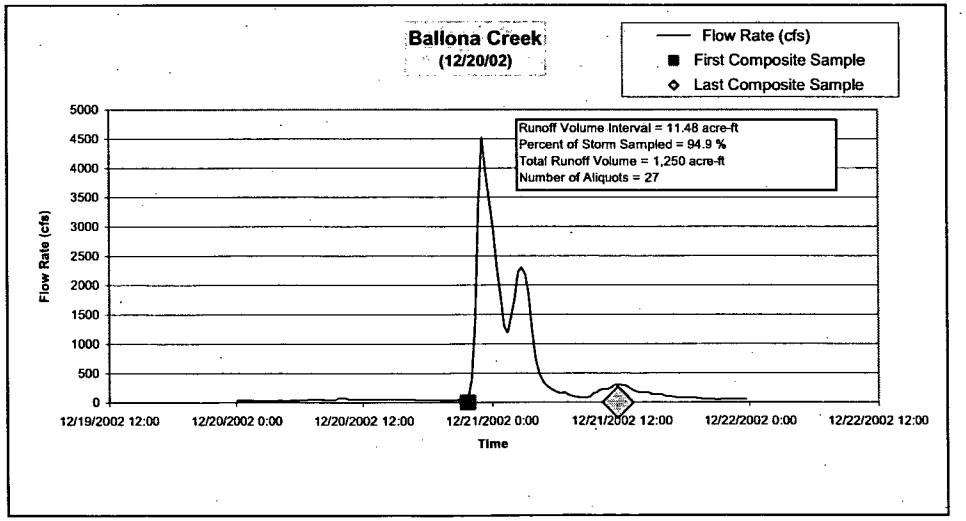
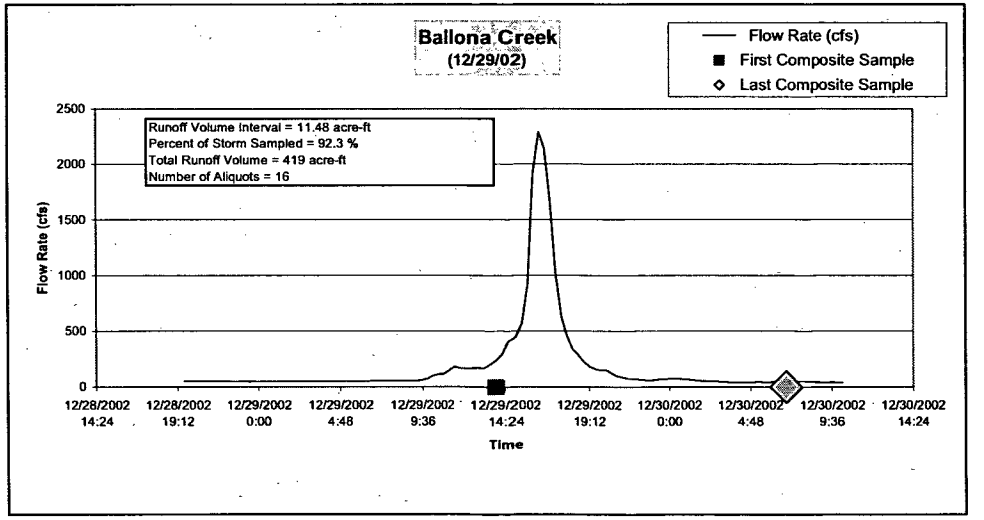
Mass Emission Hydrographs

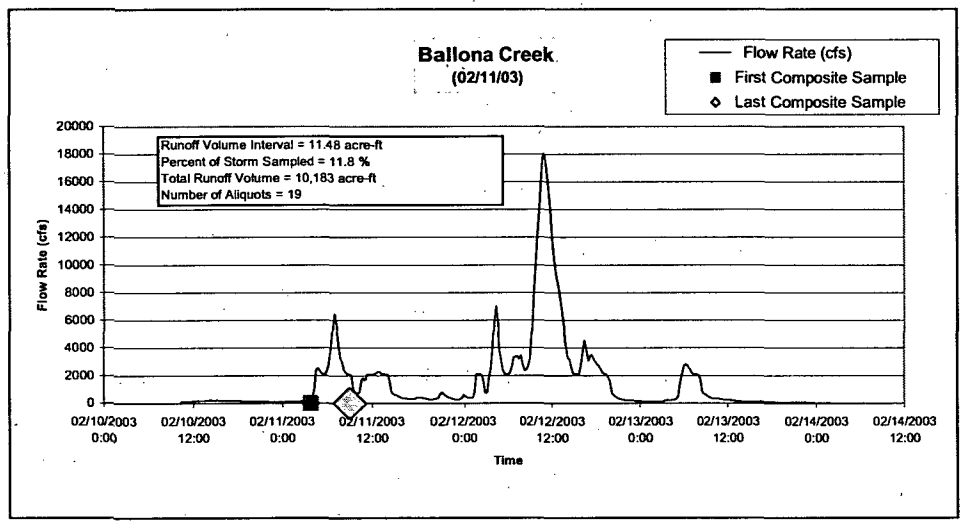


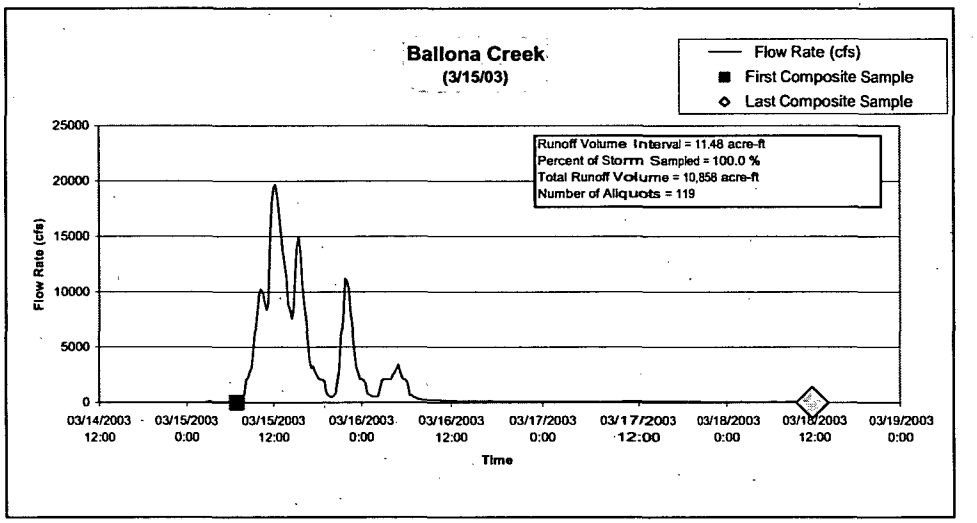


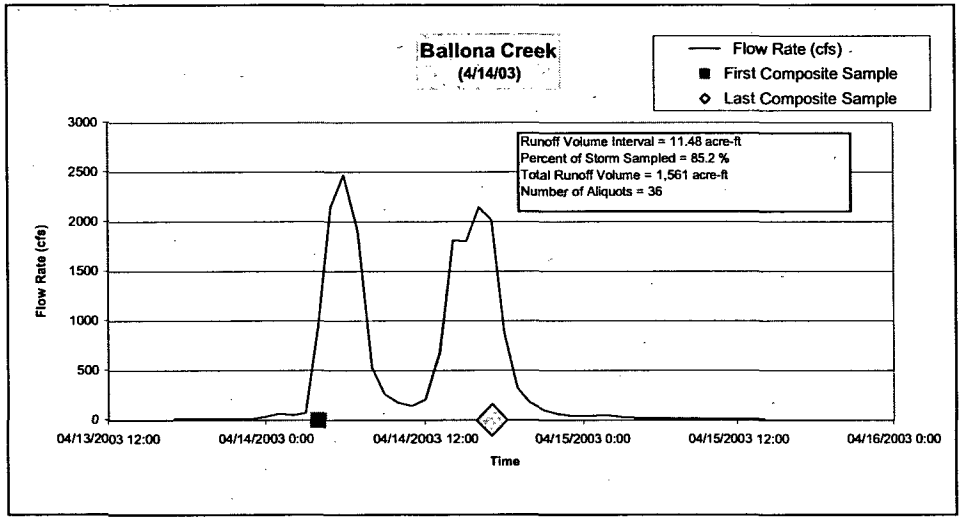


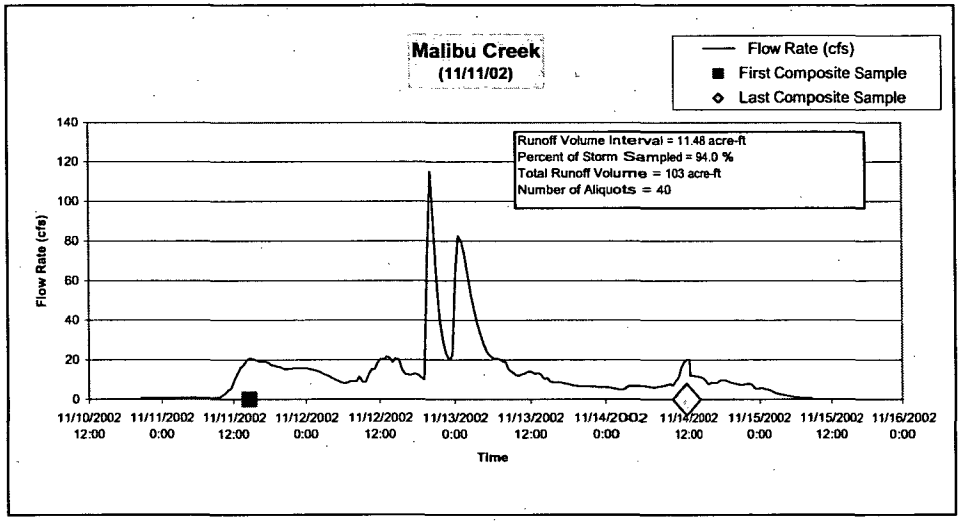


Mass Emission Hydrographs









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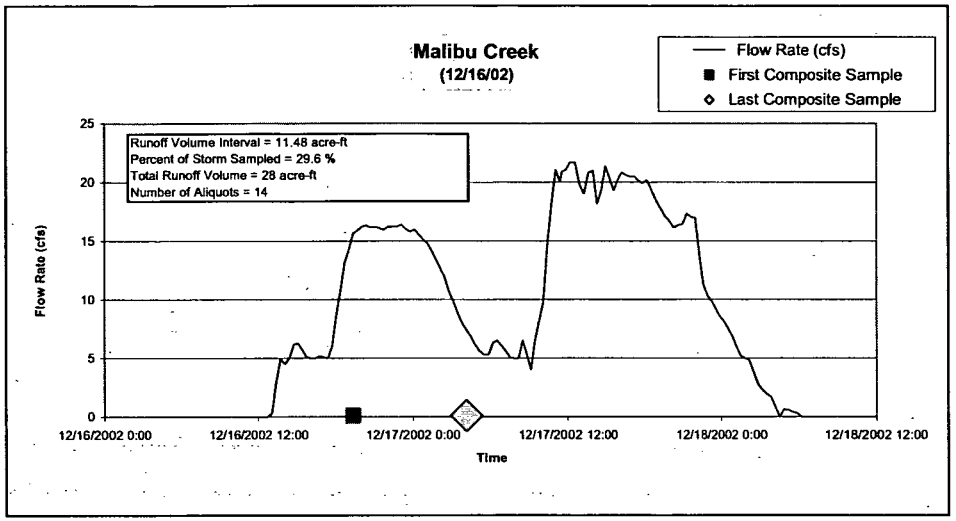
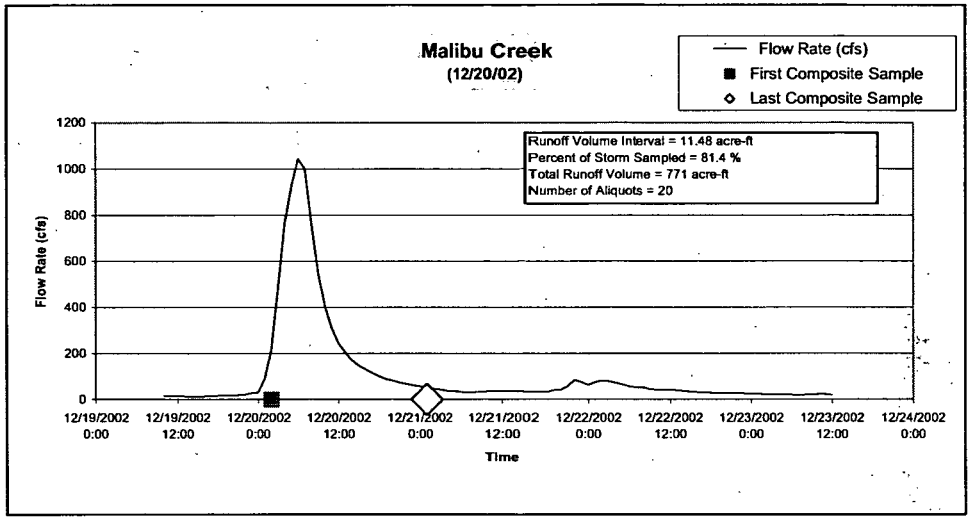
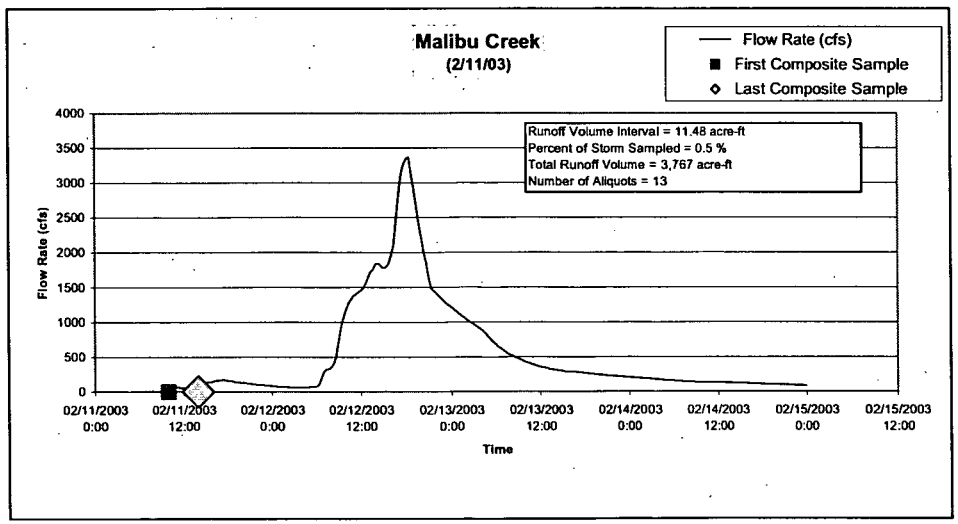
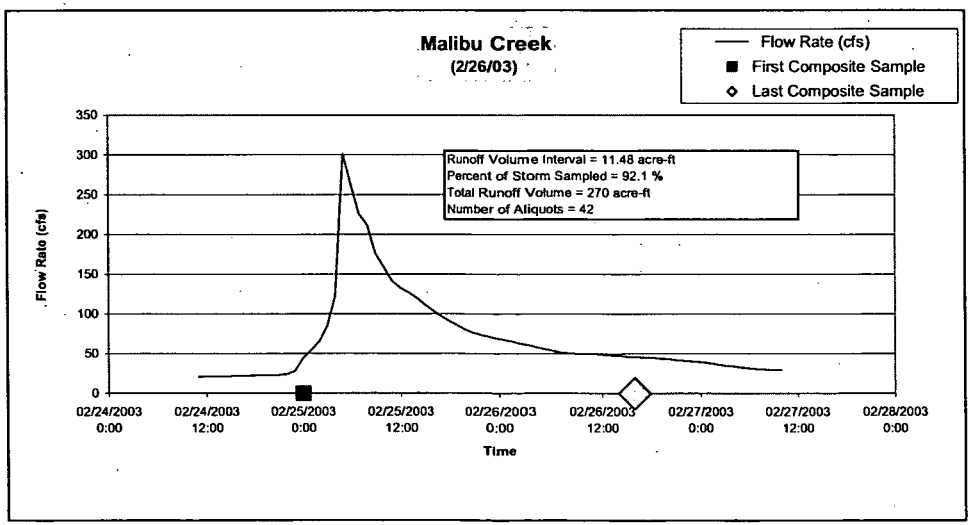
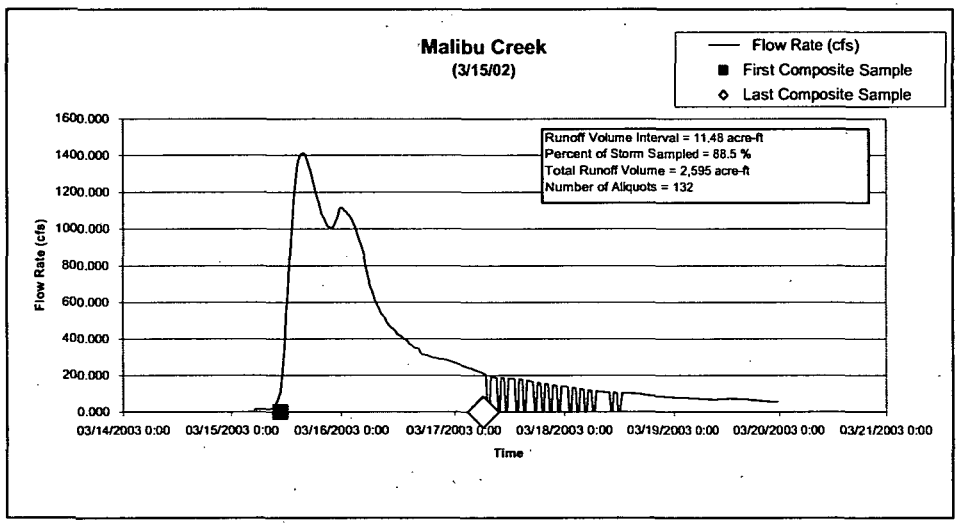


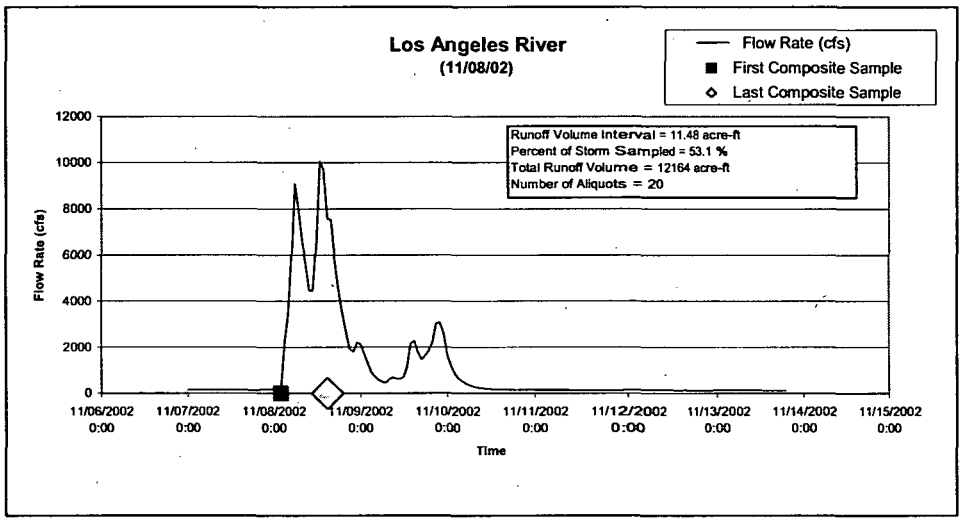


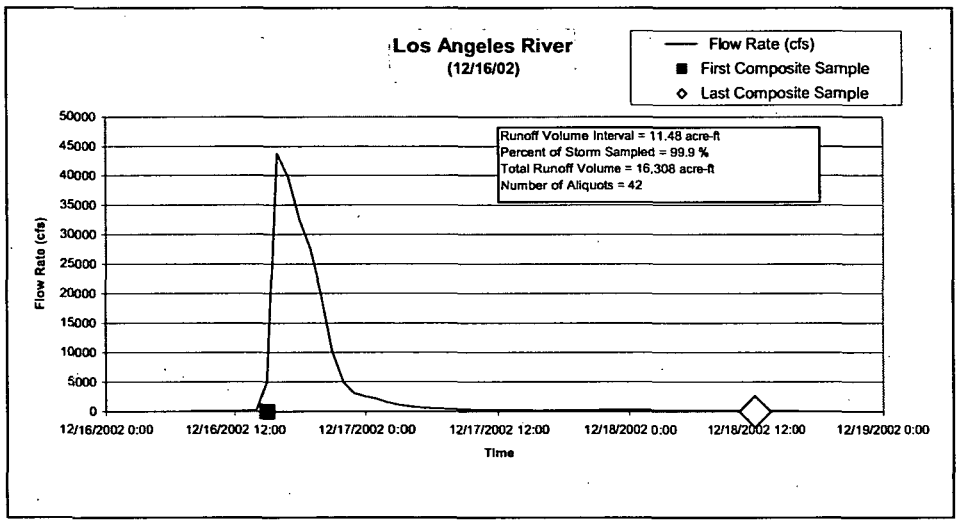


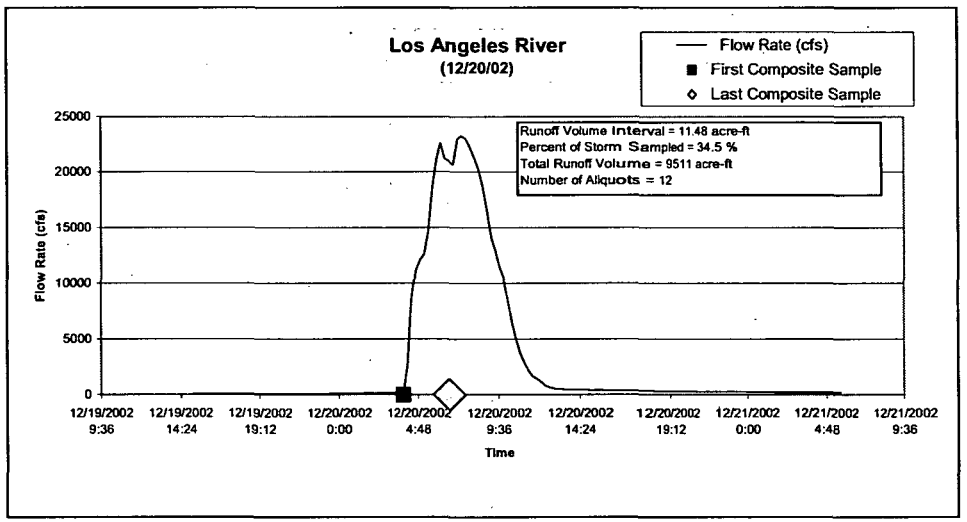


Mass Emission Hydrographs

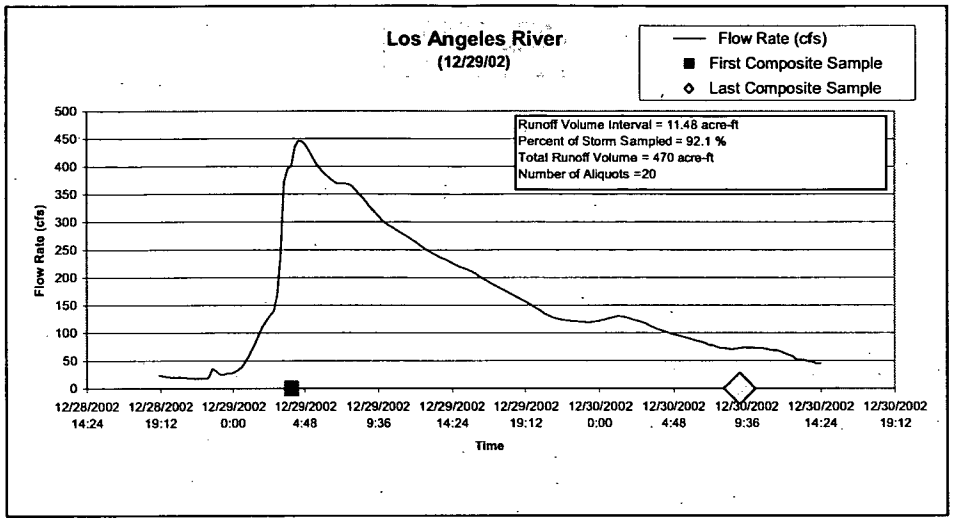


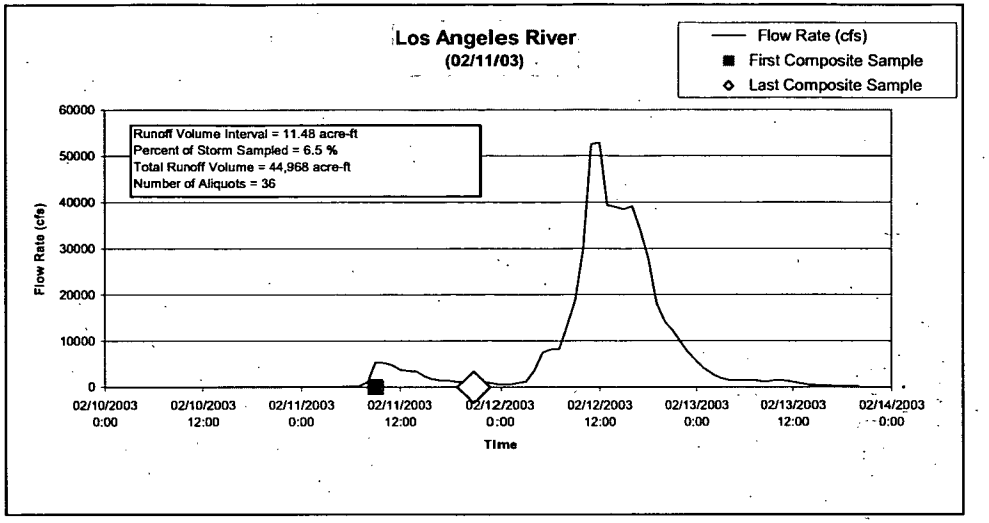


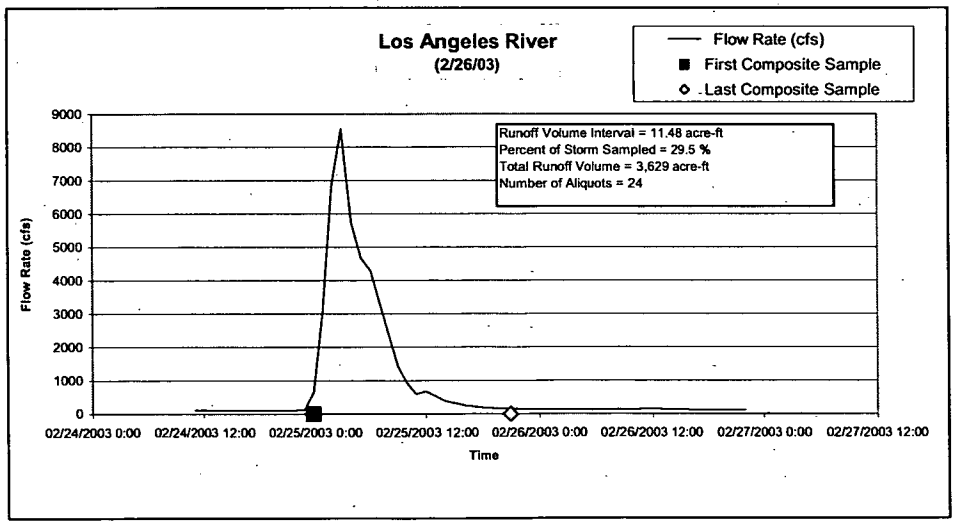


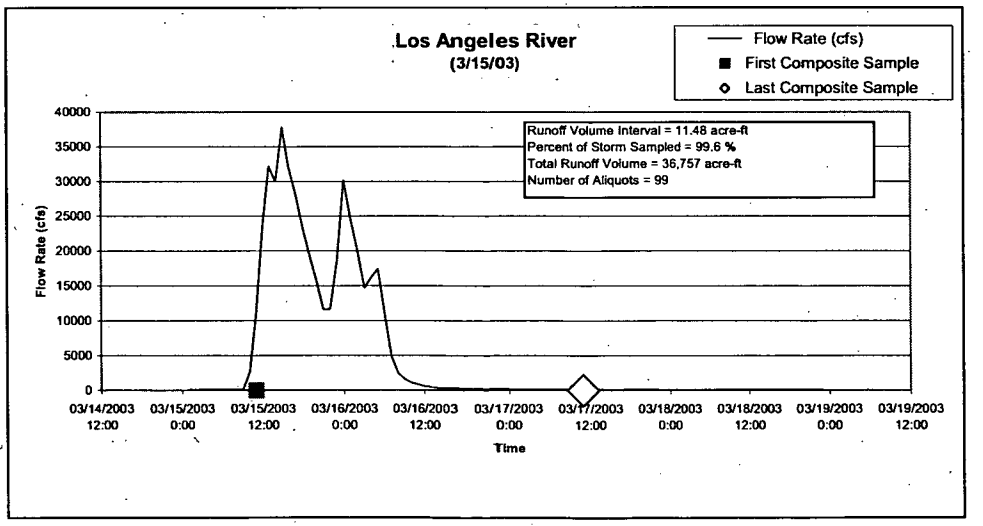


Mass Emission Hydrographs

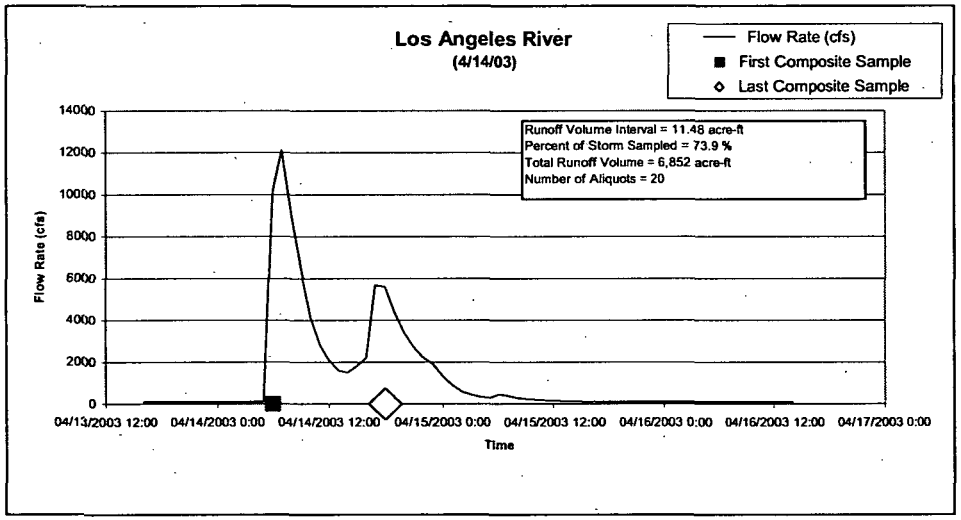


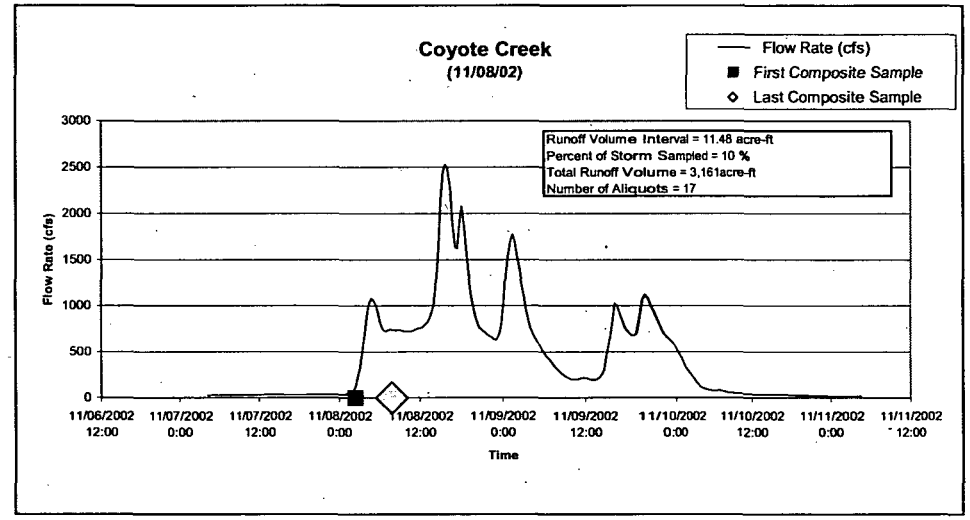


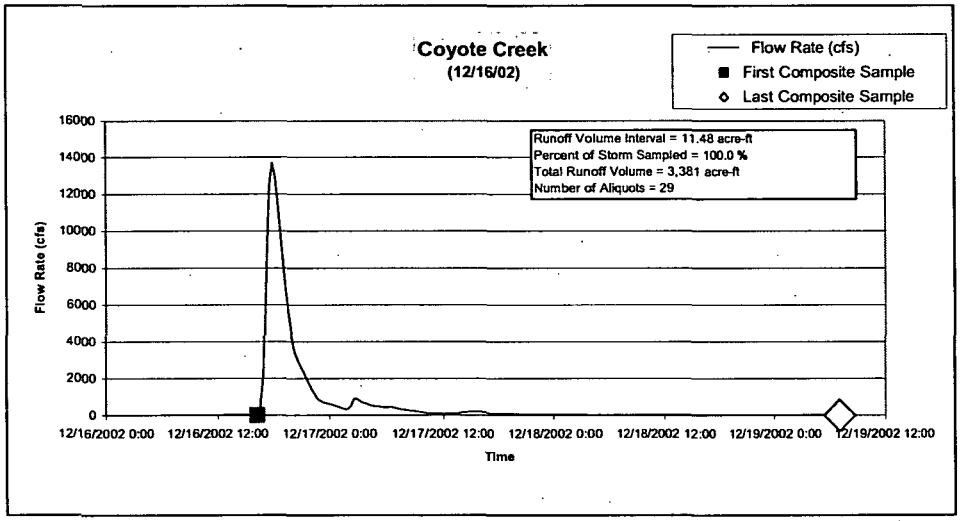


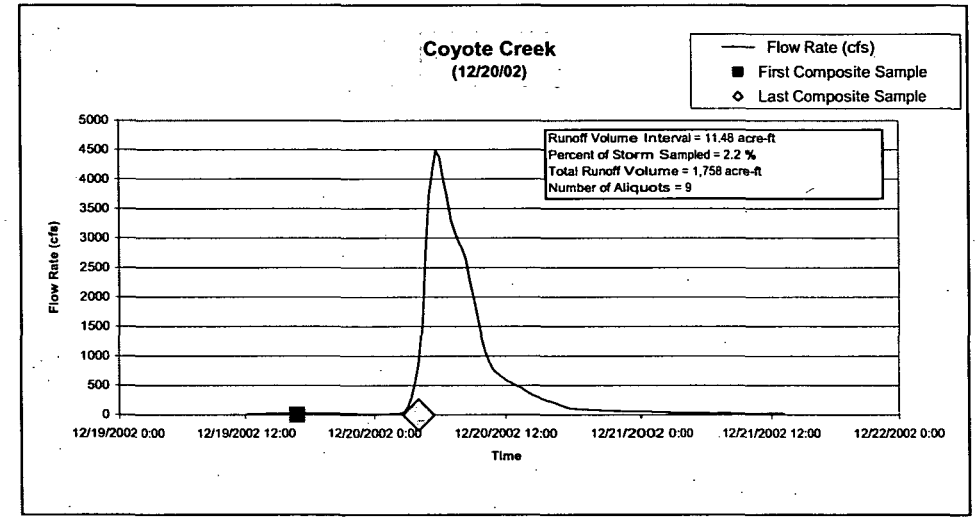


Mass Emission Hydrographs

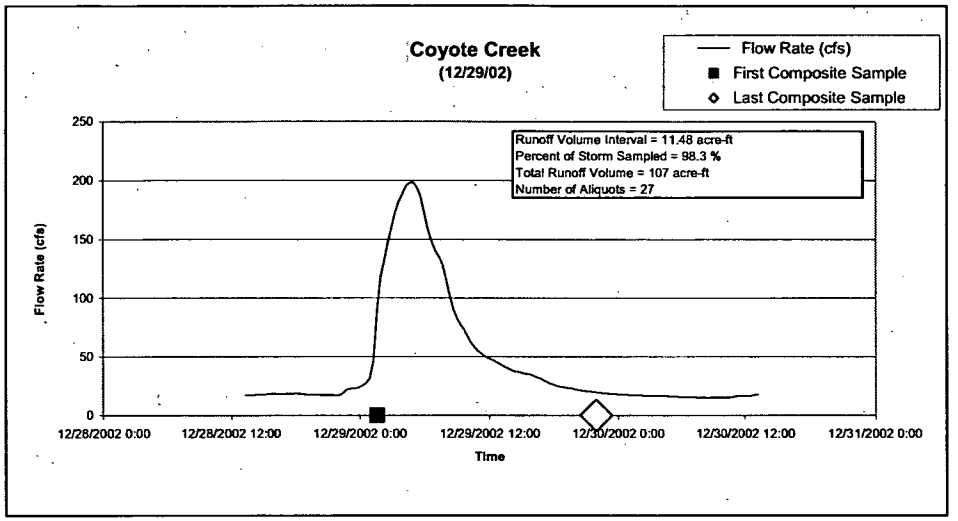


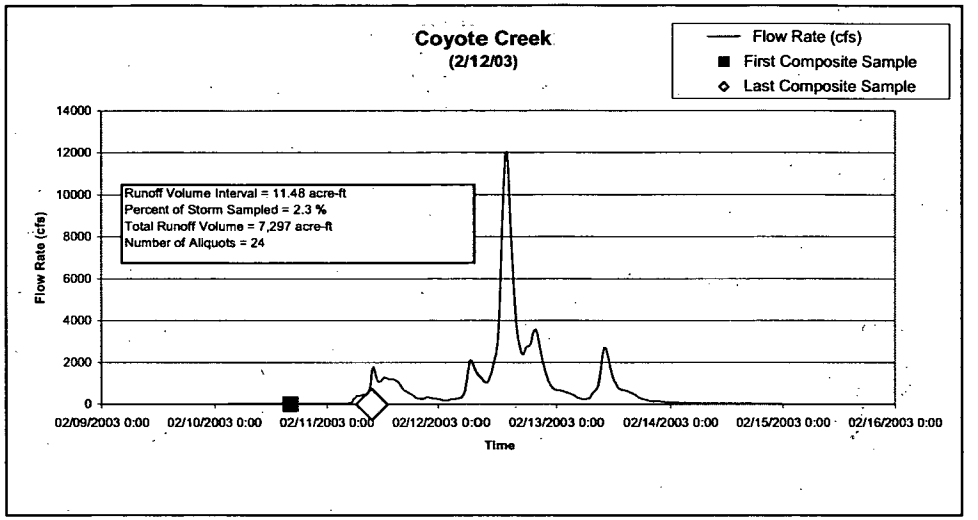


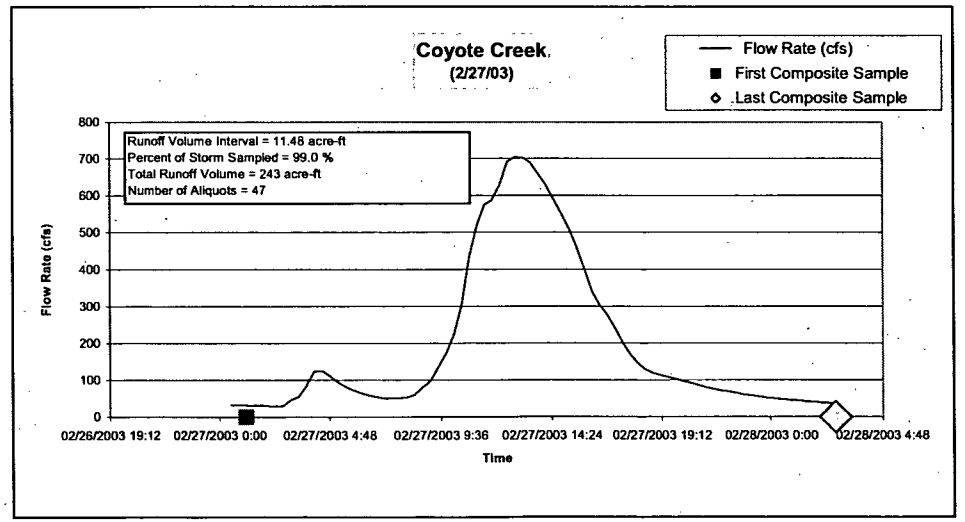


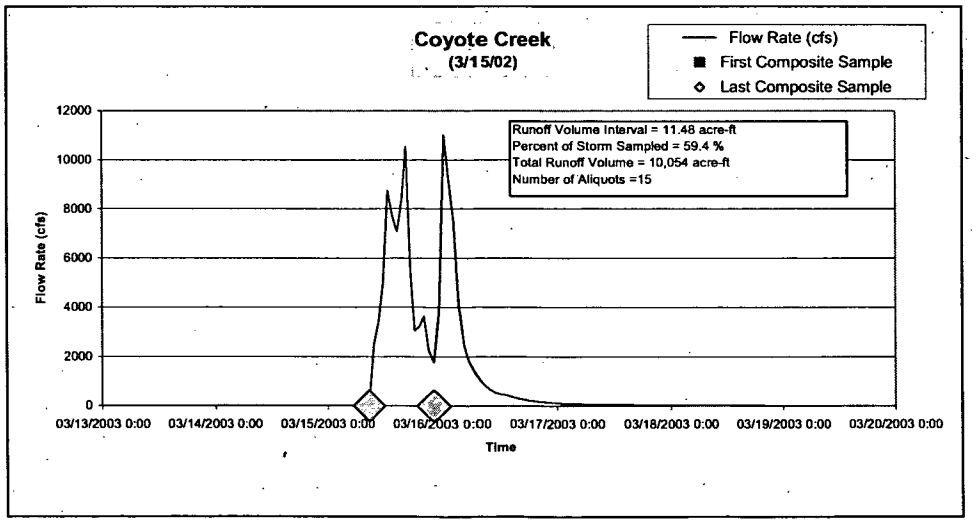


Mass Emission Hydrographs

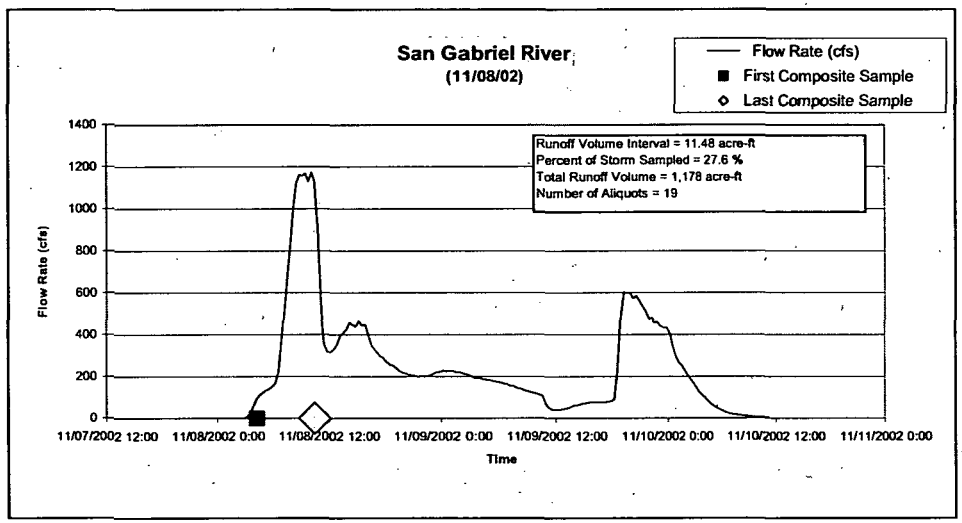


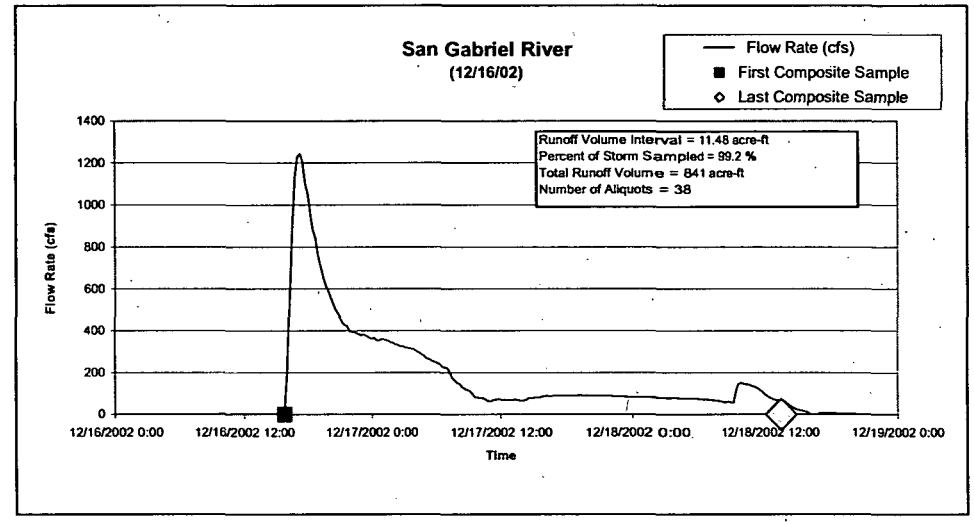


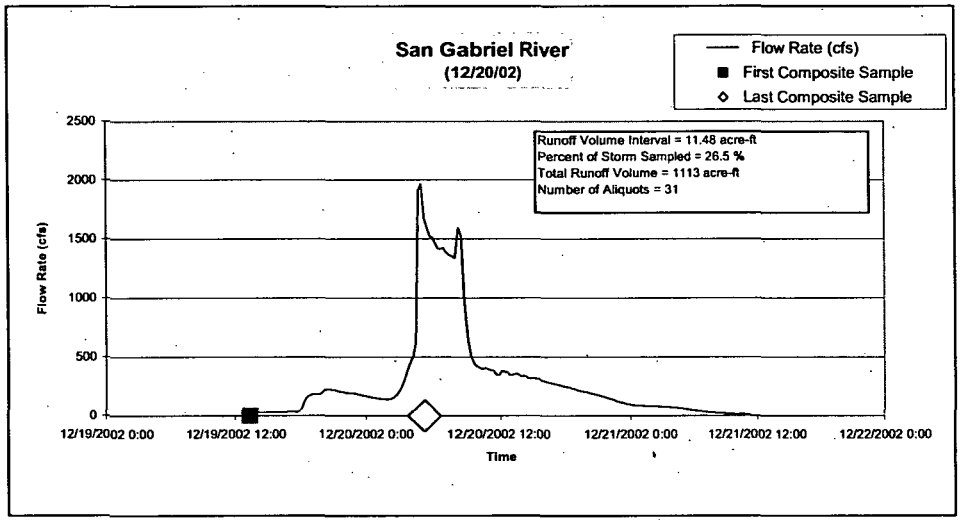


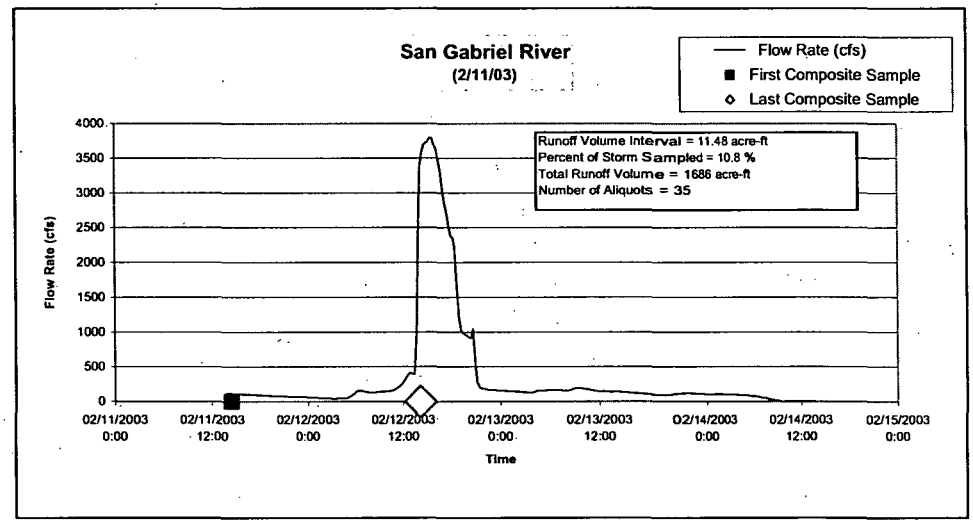


Mass Emission Hydrographs

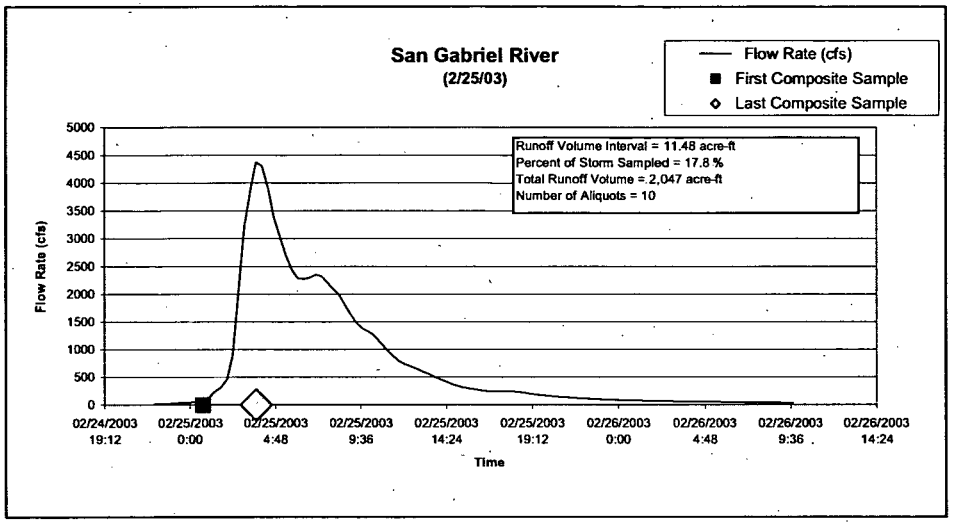


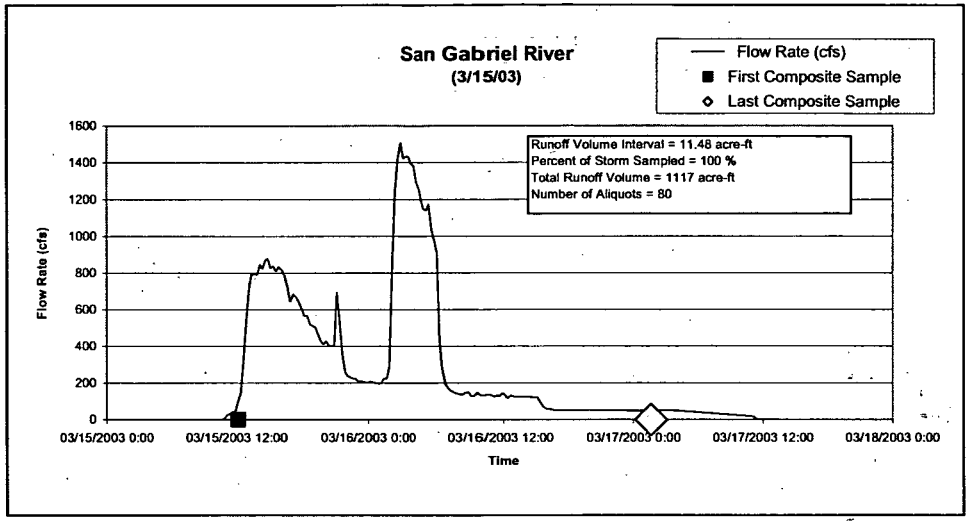


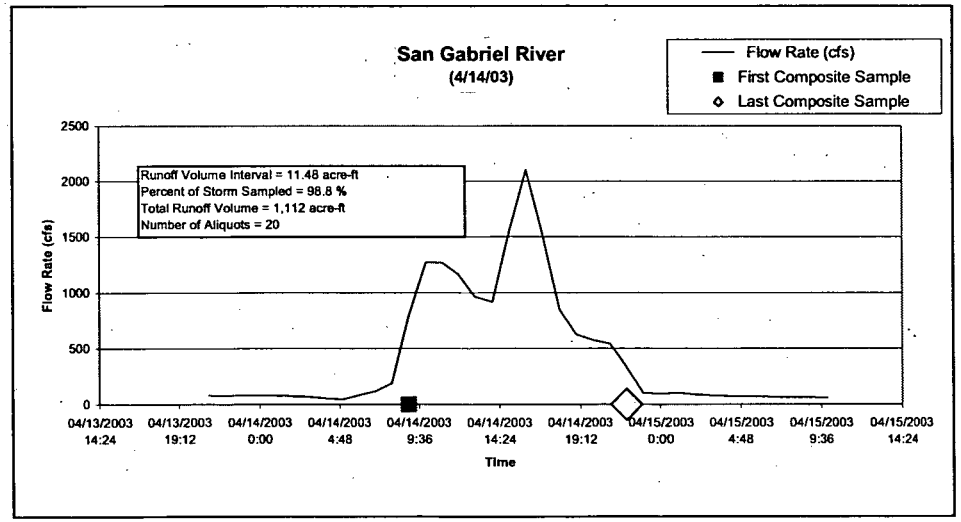


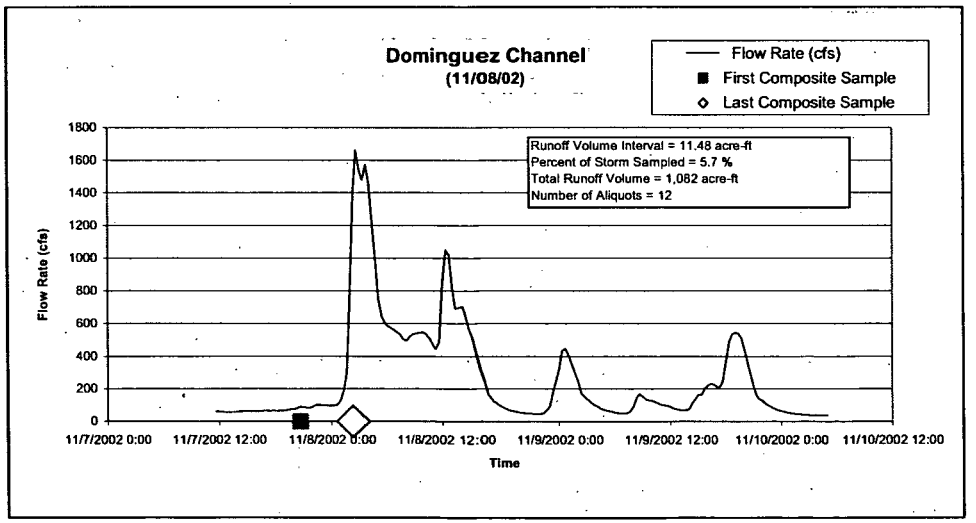


Mass Emission Hydrographs

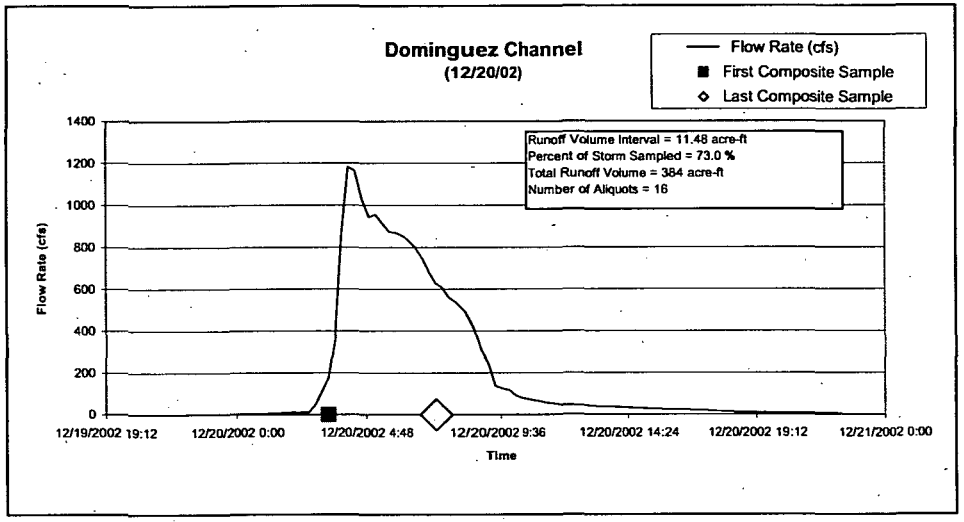


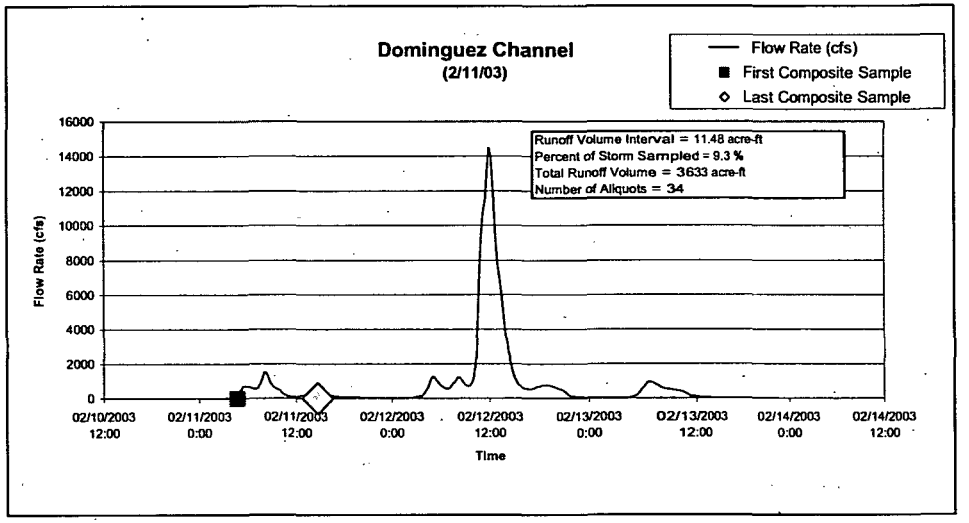


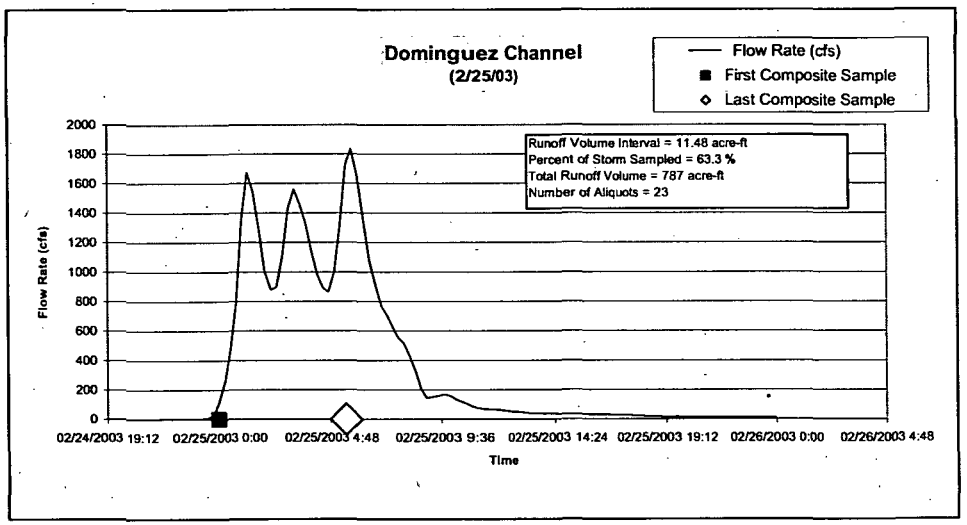


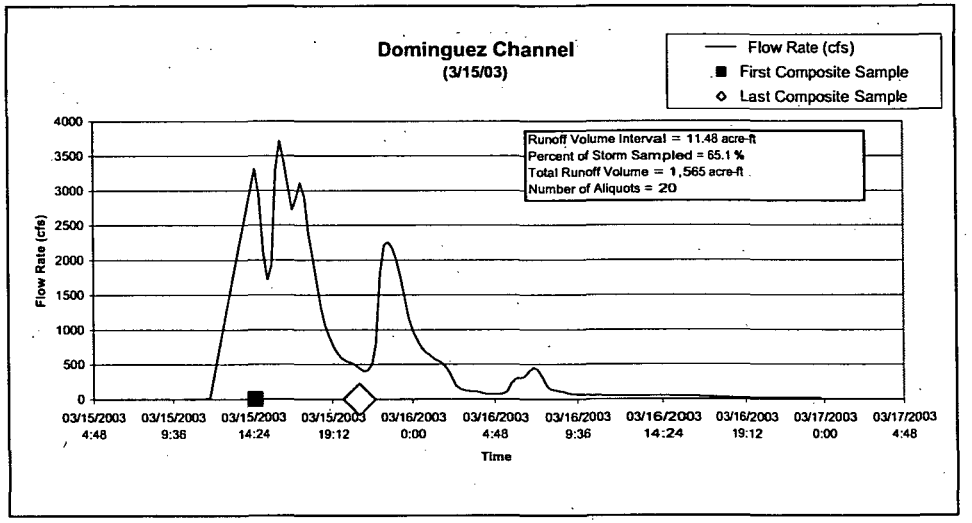


Mass Emission Hydrographs

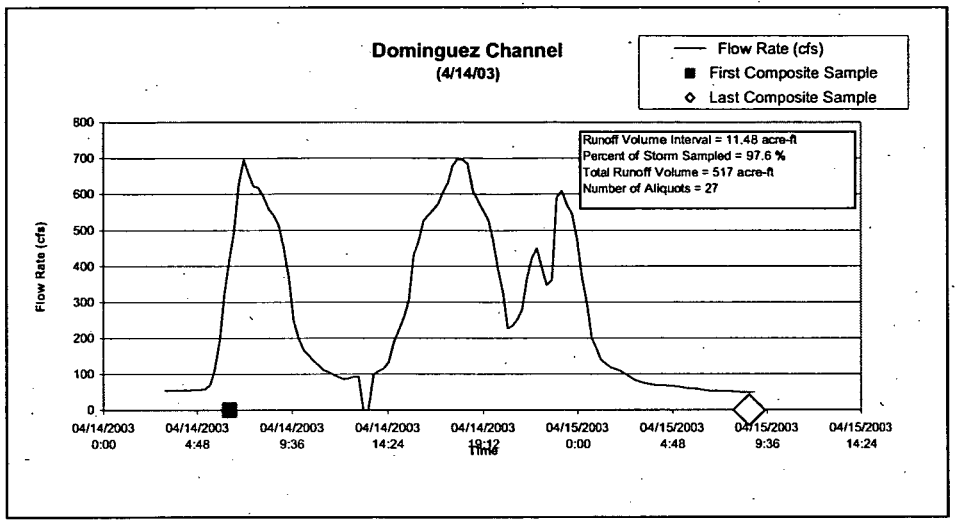


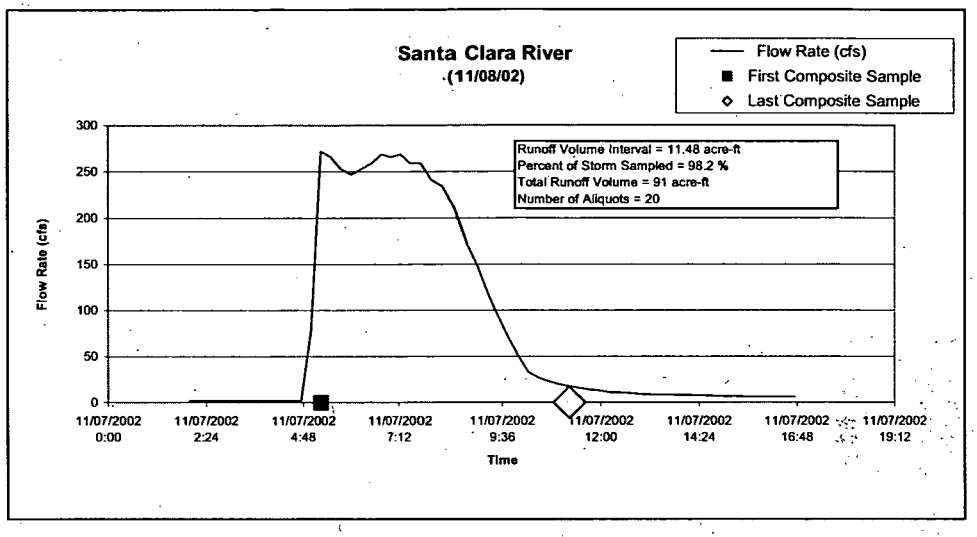


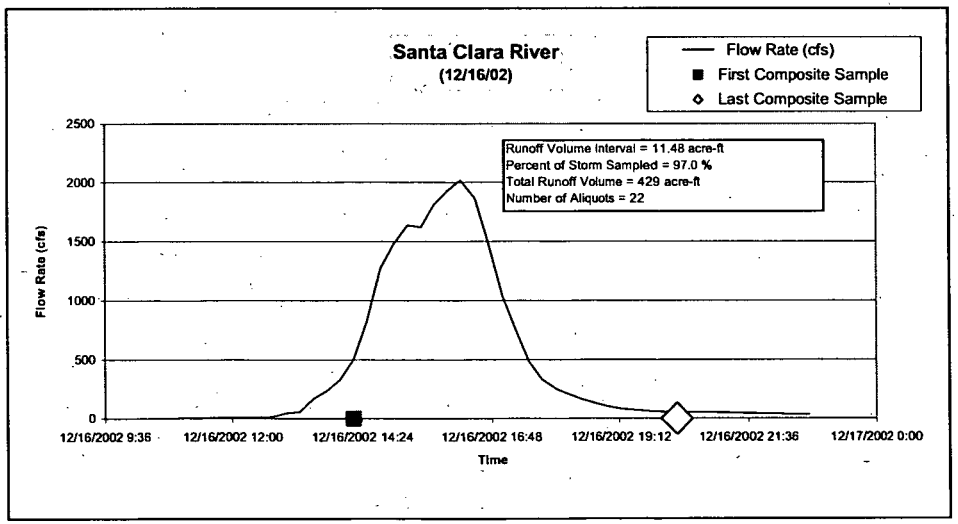


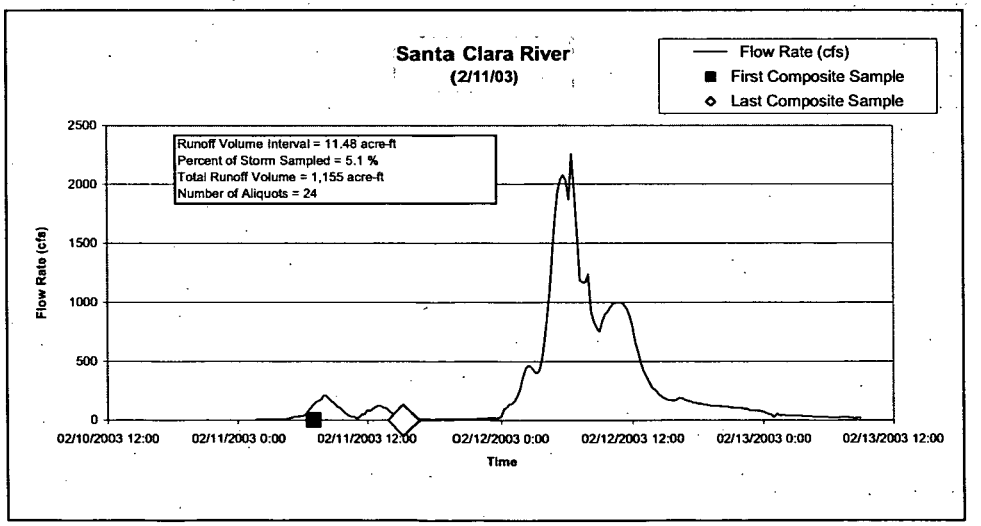


Mass Emission Hydrographs

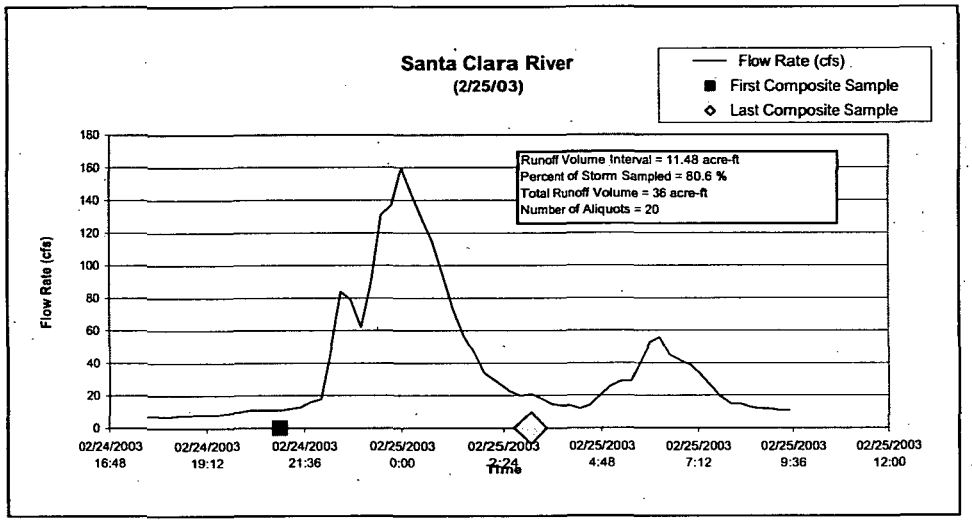


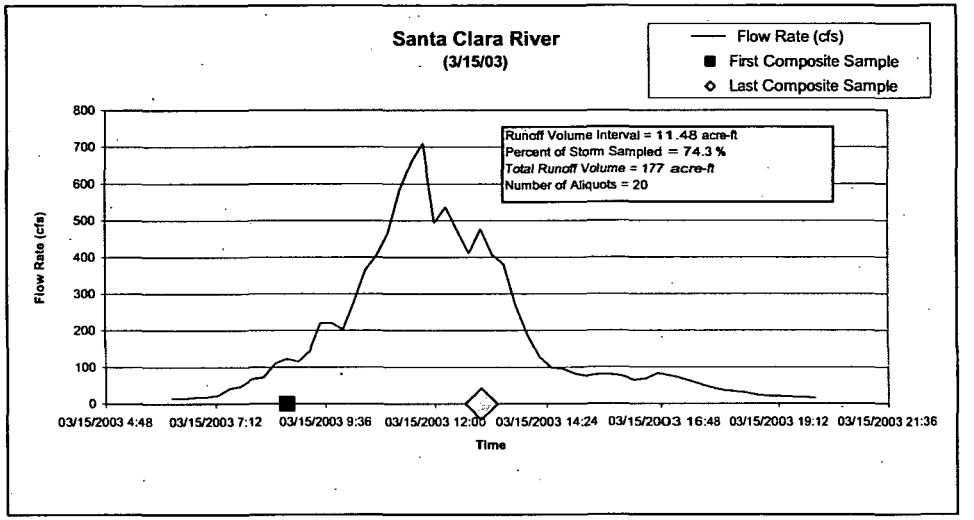




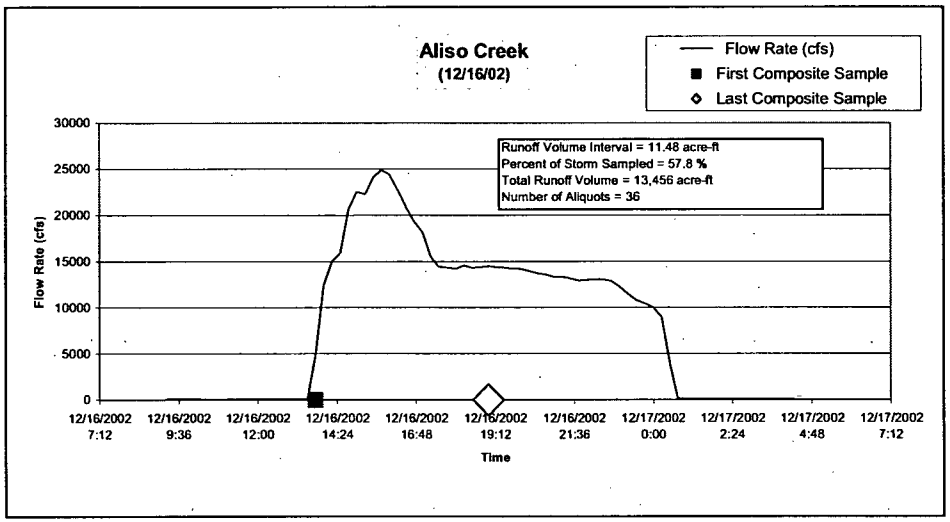


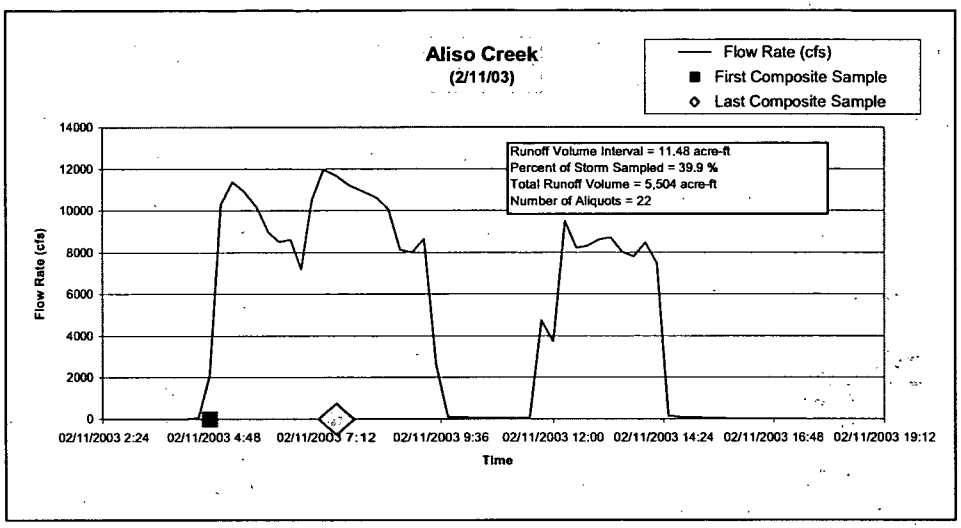
Mass Emission Hydrographs

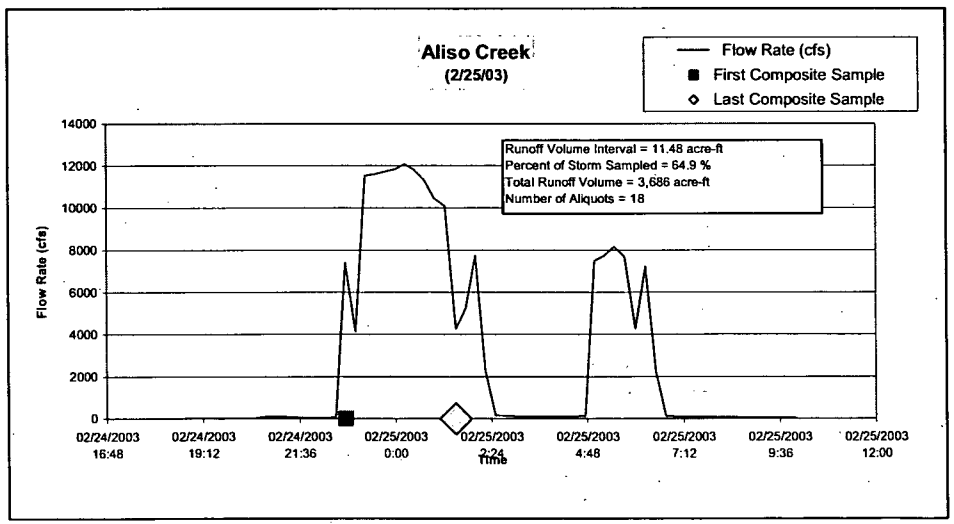


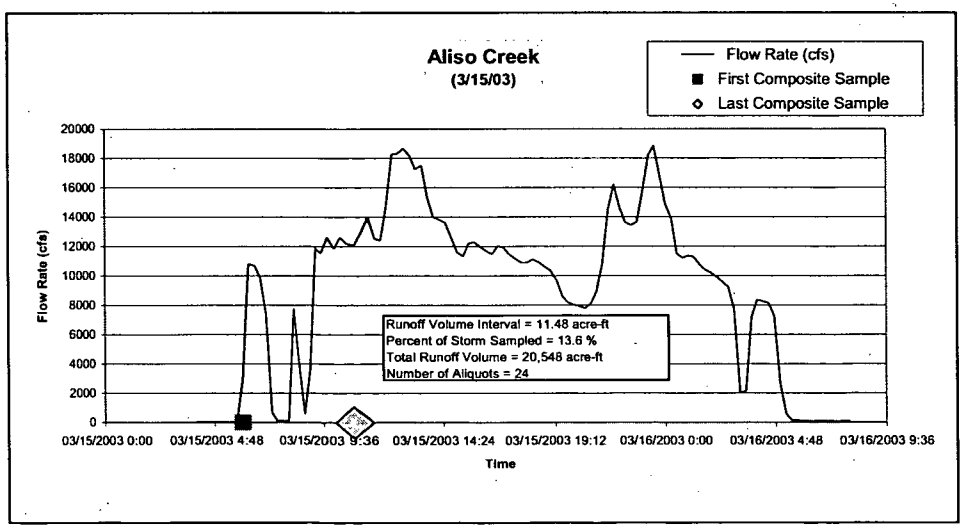


Tributary Hydrographs

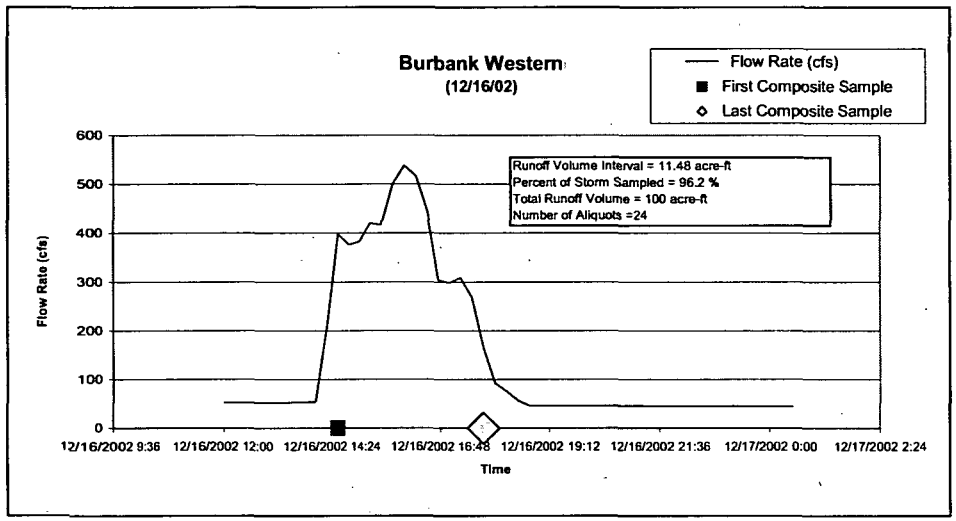


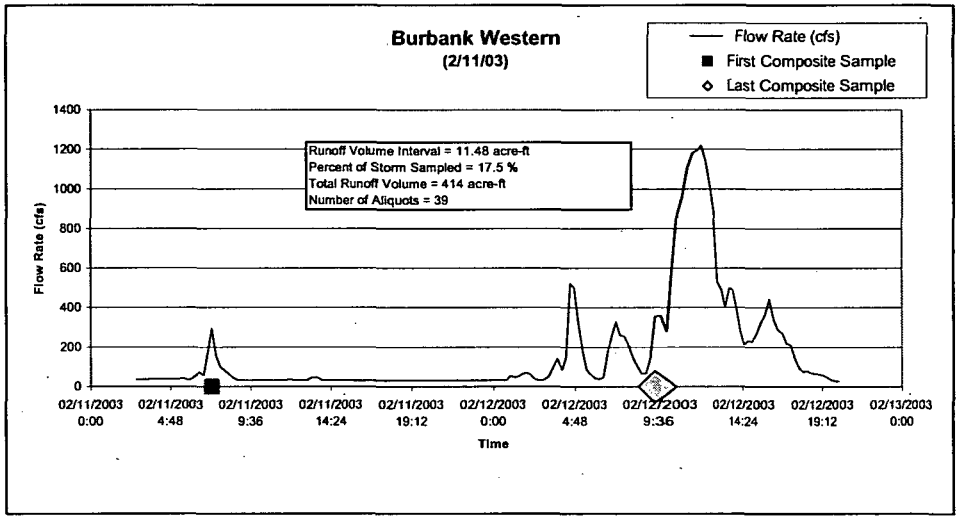


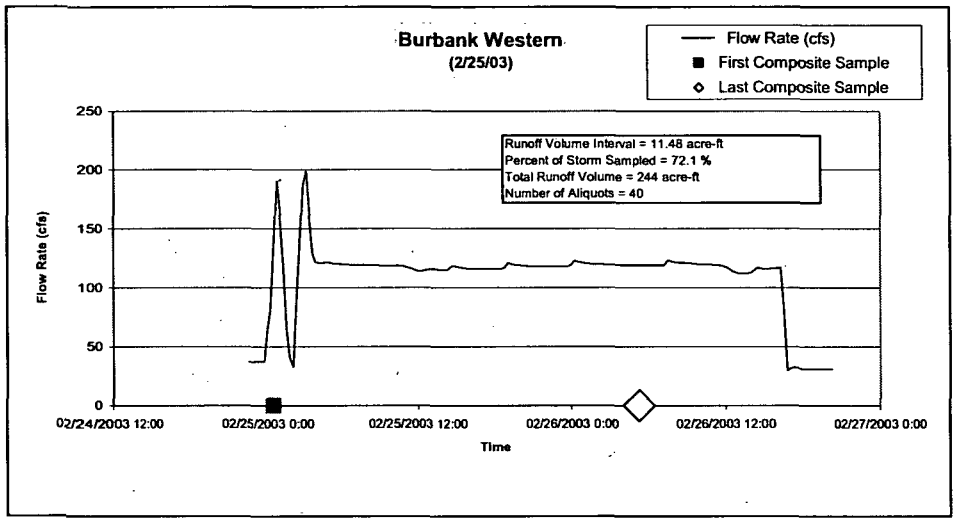


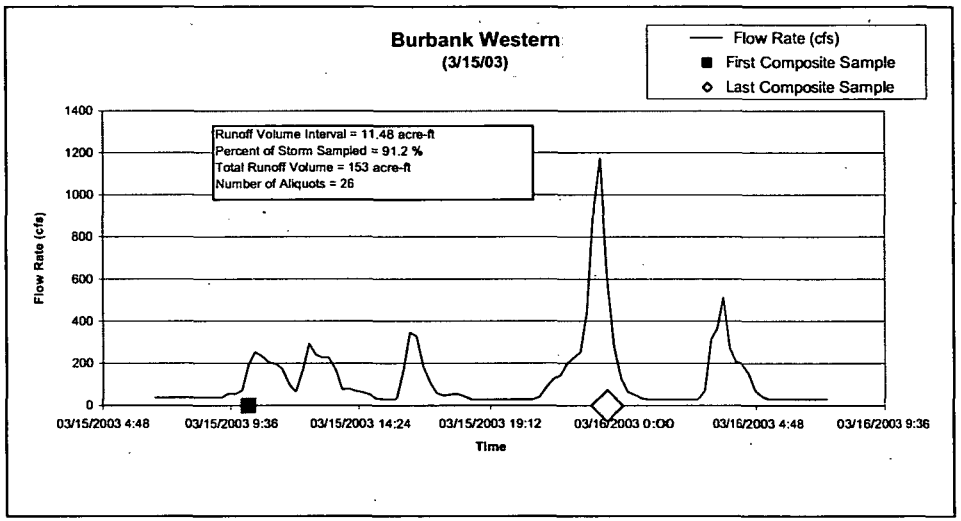


Tributary Hydrographs

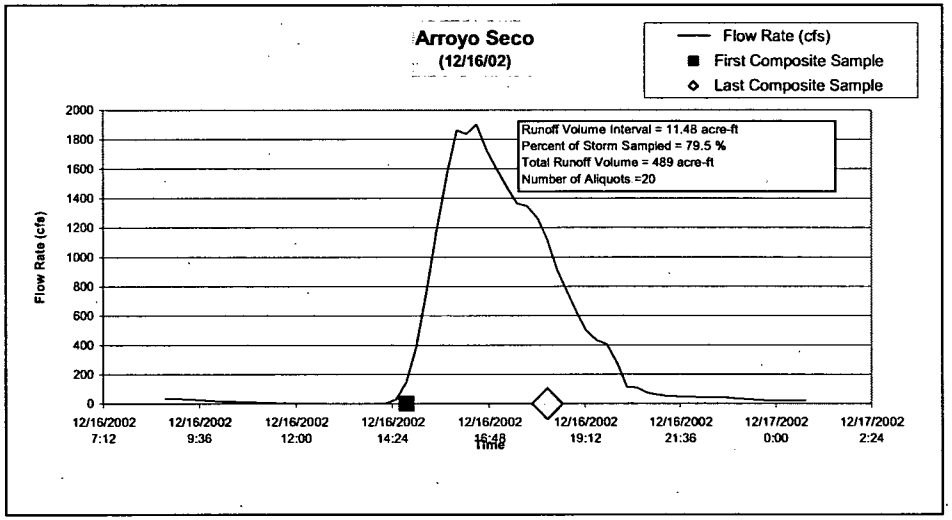


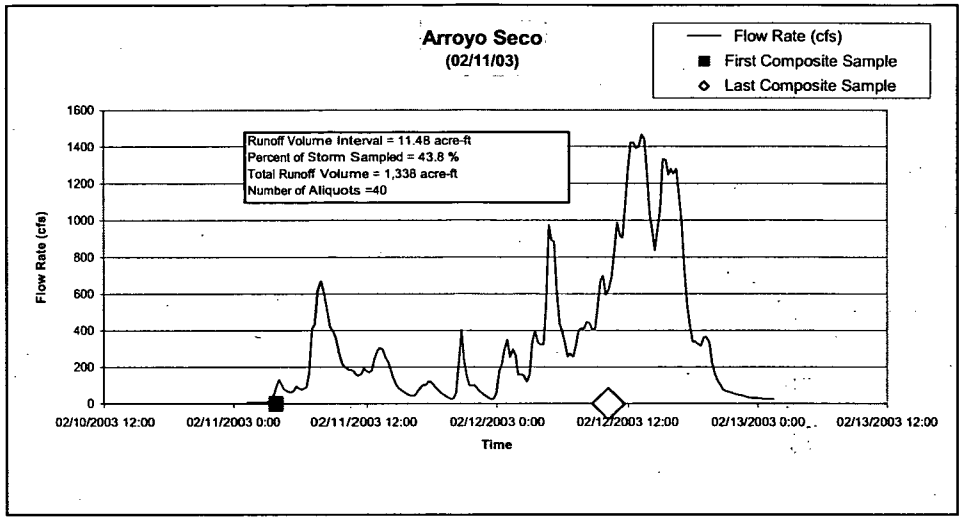


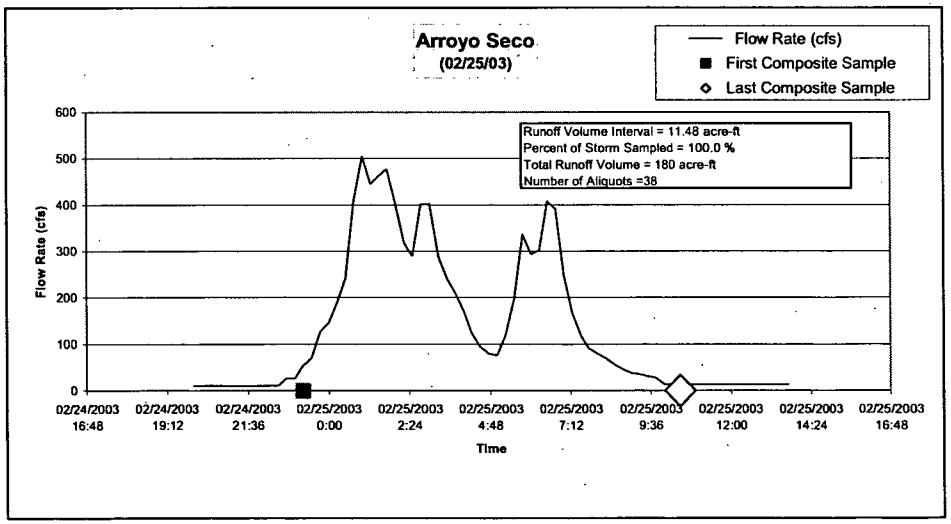


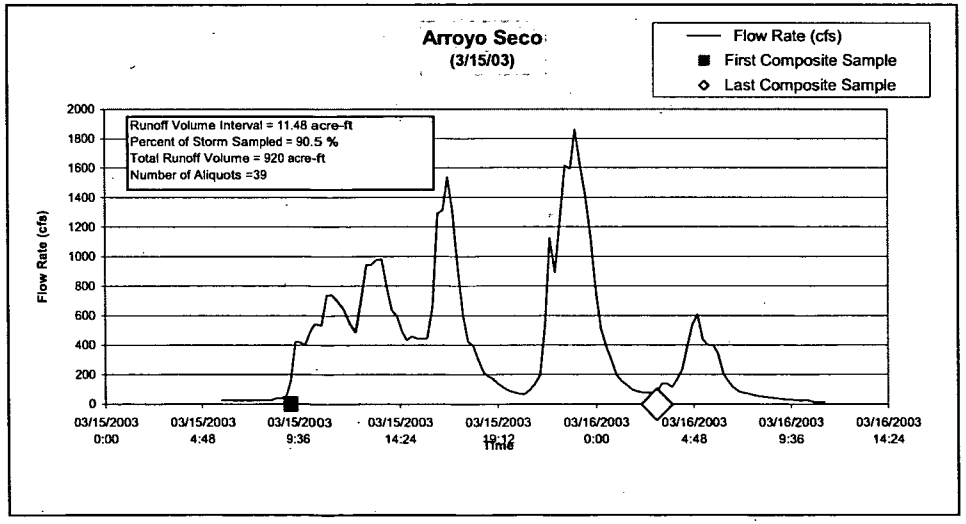


Tributary Hydrographs

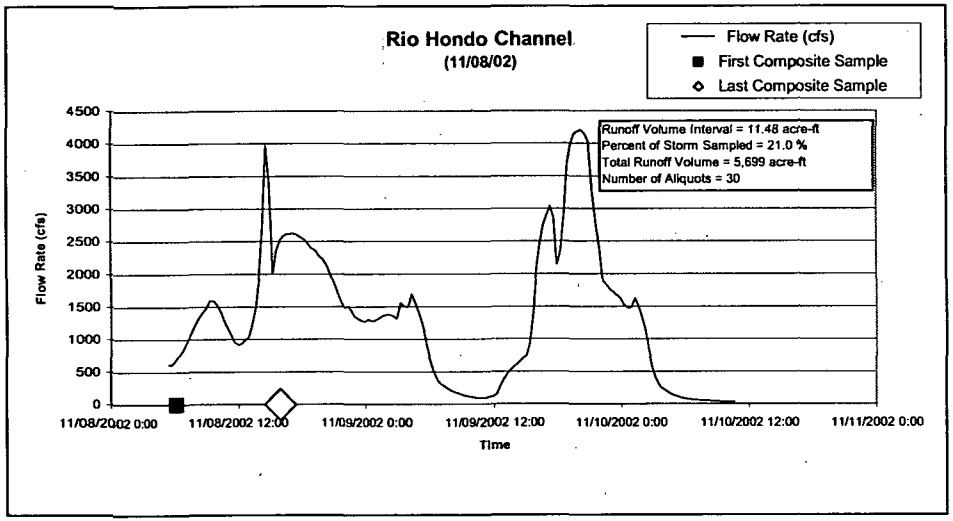


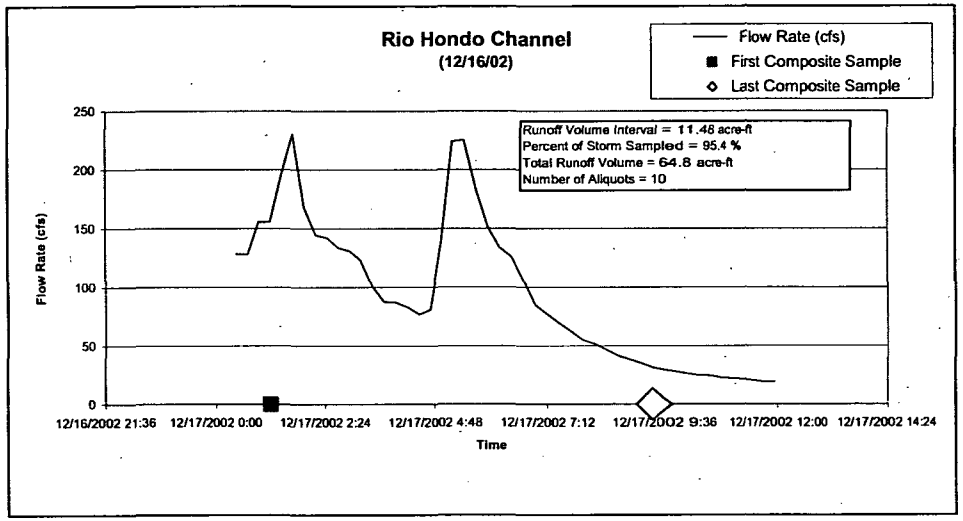


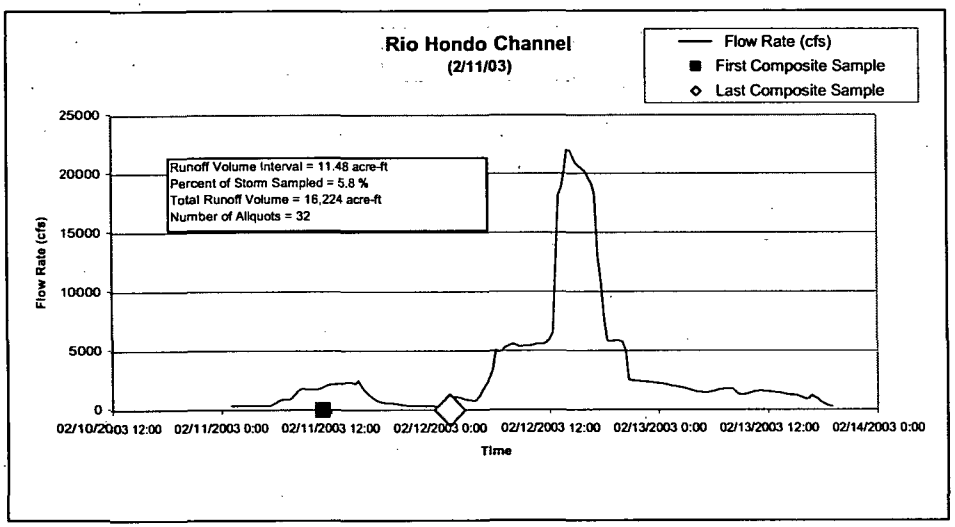


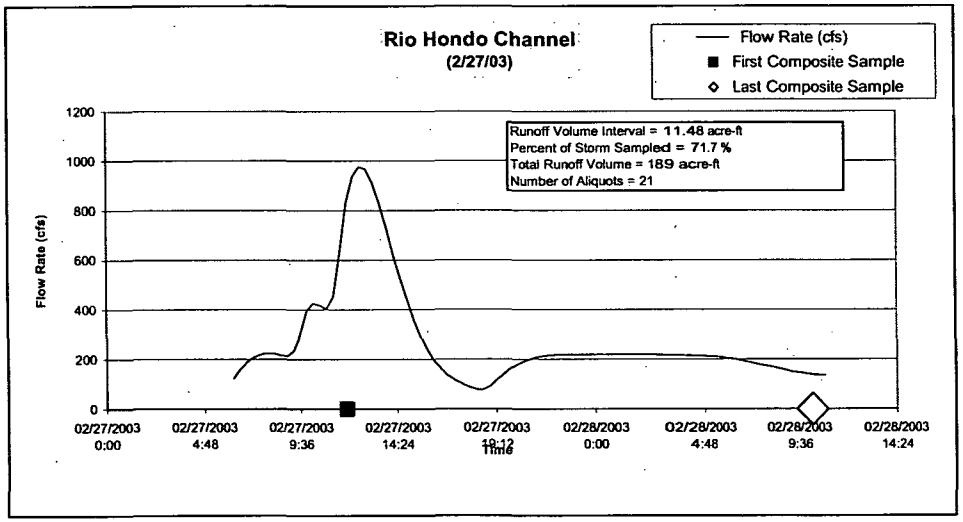


Tributary Hydrographs

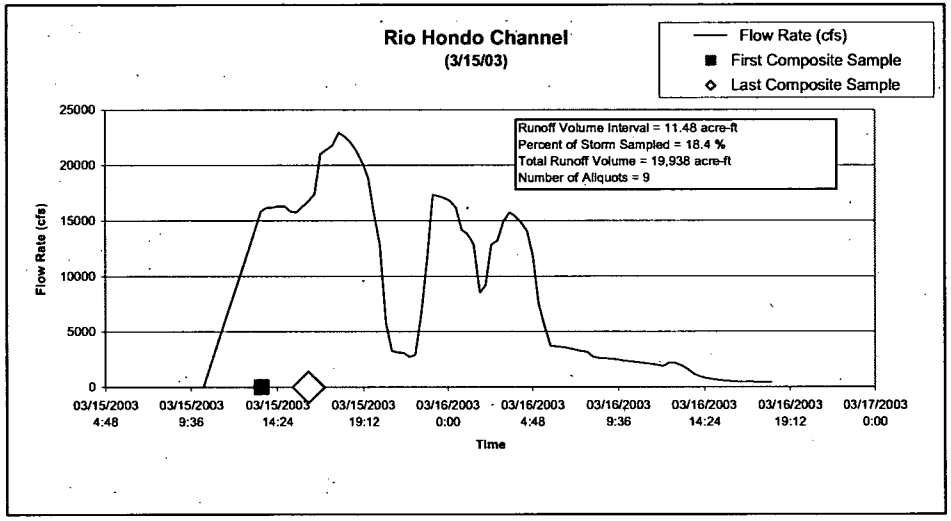








Tributary Hydrographs



WEATHER CONDITION					Wet				Dry	
STATION NO.					S01	S01	S01	S01	S01	S01
STATION NAME					Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	2.3	10.7	1.8	2.9	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.005	0	0.028	0	0	0
pH	Comp	SM4500H B	0-14		8.84	7.86	7.7	7.87	8.66	8.18
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	12.7	9.3	8.64	1.3	9.67	9.91
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	80000	300000	240000	500000	5000	20
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	80000	300000	11000	140000	1500	20
Ratio Fecal Coliform/Total Coliform					1.0	1.0	0.046	0.28	0.3	1.0
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	300000	300	300000	170000	1700	20
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	300000	300	300000	110000	1700	20
General										
Chloride	Comp	EPA300.0	2	mg/L	123	38.6	20.8	80.8	110	69
Fluoride	Comp	EPA300.0	0.1	mg/L	0.34	0.23	0.39	0.53	0.46	0.7
Nitrate	Comp	EPA300.0	0.1	mg/L	3.26	6.3	3.26	0.45	7.09	1.61
Sulfate	Comp	EPA300.0	0.1	mg/L	203	46.8	21.5	97.6	173	95
Alkalinity	Comp	EPA310.1	4	mg/L	298	64	220	154	267	132
Hardness	Comp	EPA130.2	2	mg/L	530	117	110	290	420	190
COD	9i	EPA410.4	10	mg/L	44.5	52.1	176	42	21.8	51.6
TPH	Grab	EPA418.1	1	mg/L	0	1	3.6	2.2	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	1440	379	287	706	1235	669
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	898	258	202	472	810	426
Turbidity	Comp	EPA180.1	0.1	NTU	0.61	27.4	59	18.7	0.63	0.78
Total Suspended Solids	Comp	EPA160.2	2	mg/L	51	39	429	636	33	6
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	21	3	28.2	11	16	6
MBAS	Comp	EPA425.1	0.05	mg/L	0	0	0.179	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	4.92	7.79	15.2	6.11	6.43	3.54
BOD	Comp	SM5210B	2	mg/L	5.86	6.9	11.4	8.88	6.67	24.4
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.227	0	0.548	0.286	0.061	0.078
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.312	0.083	0.921	0.319	0.14	0.083
NH3-N	Comp	EPA350.3	0.1	mg/L	0.375	0	2.64	0	0	0
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.736	1.42	0.735	0.1016	1.6	0.364
Nitrite-N	Comp	SM4110B	0.03	mg/L	4.53	0.088	0.76	0.56	0	0
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	0.512	0.25	12	4.18	1.526	0.49
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	123	119	0	0	0	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.87	1.09	0.73	0.8	0.99	0
Total Antimony	Comp	EPA200.8	5	ug/l	1.87	1.15	1.19	0.89	0.99	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	2.53	0	1.14	0	2.45	1.89
Total Arsenic	Comp	EPA200.8	5	ug/l	3.42	1.8	1.32	2.68	2.45	2.19
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0.25	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0.25	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0.91	1.3	3.28	4.61	3.82	0
Total Chromium	Comp	EPA200.8	5	ug/l	2.17	12.5	3.95	7.88	13.7	1.91
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	8.76	9.44	2.56	7.26	9.14	5.5
Total Copper	Comp	EPA200.8	5	ug/l	15	15.3	11.8	8.83	14	8.25

BALLONA

WEATHER CONDITION					Wet				Dry	
STATION NO.					S01	S01	S01	S01	S01	S01
STATION NAME					Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	0	0	430	0	0	0
Total Iron	Comp	EPA200.8	100	ug/l	182	222	432	226	196	170
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	1.3	1.3	0	0	0
Total Lead	Comp	EPA200.8	5	ug/l	1.83	2.1	7.28	1.08	1.21	0
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	5.36	3.33	7.95	5.88	5.94	3.52
Total Nickel	Comp	EPA200.8	5	ug/l	5.36	19	8.64	6.68	23.6	4.19
Dissolved Selenium	Comp	EPA200.8	5	ug/l	6.81	0	0	0	3.08	0
Total Selenium	Comp	EPA200.8	5	ug/l	6.81	0	0	0	3.08	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	13.4	59	41	3	16.6	47
Total Zinc	Comp	EPA200.8	50	ug/l	31	78	54	41	21.2	73
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S01	S01	S01	S01	S01	S01
STATION NAME					Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.217	0	0	0.07

WEATHER CONDITION					Wet				Dry	
STATION NO.					S01	S01	S01	S01	S01	S01
STATION NAME					Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek	Ballona Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S02	S02	S02	S02	S02	S02
STATION NAME					Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	11.5	0	1.5	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0	0	0	0	0	0
pH	Comp	SM4500H B	0-14		8.5	7.85	8.43	7.9	8.69	8.11
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	7.5	9.16	9.1	2.95	8.68	10.18
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	7000	11000	7000	80000	14000	1100
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	7000	700	3000	22000	14000	80
Ratio Fecal Coliform/Total Coliform					1.0	0.064	0.43	0.275	1.0	0.073
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	33000	14000	2400	30000	300	40
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	21000	14000	2400	30000	300	40
General										
Chloride	Comp	EPA300.0	2	mg/L	102	62.2	145	76.1	179	99
Fluoride	Comp	EPA300.0	0.1	mg/L	0.3	0.12	0.24	0.24	0.19	0.3
Nitrate	Comp	EPA300.0	0.1	mg/L	4.11	4.58	15	5.89	1.4	1.3
Sulfate	Comp	EPA300.0	0.1	mg/L	723	200	755	262	1144	481
Alkalinity	Comp	EPA310.1	4	mg/L	176	123	212	169	314	286
Hardness	Comp	EPA130.2	2	mg/L	805	306	842	300	1420	700
COD	9i	EPA410.4	10	mg/L	78.1	48.8	108	37	254.5	60.8
TPH	Grab	EPA418.1	1	mg/L	0	1.5	0	1.3	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	2238	903	2475	801	1530	1984
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	1602	624	1666	556	928	1294
Turbidity	Comp	EPA180.1	0.1	NTU	1.3	88.1	25.1	200.5	0.81	0.87
Total Suspended Solids	Comp	EPA160.2	2	mg/L	654	355	62	1393	36	6
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	65	32	4.5	12	16	6
MBAS	Comp	EPA425.1	0.05	mg/L	0.102	0	0	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	21.2	7.68	8.73	9.46	7.71	7.12
BOD	Comp	SM5210B	2	mg/L	18.42	10.5	11.7	8.13	7.77	26
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.213	0.103	0.636	0.378	0.261	0.076
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.539	0.423	0.789	0.635	0.389	0.103
NH3-N	Comp	EPA350.3	0.1	mg/L	0.701	0.11	0	0	0	0.214
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.928	1.03	3.38	1.33	0.316	0.294
Nitrite-N	Comp	SM4110B	0.03	mg/L	0	0	0	0	0	0.304
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	2.06	0.394	3.66	6.92	1.525	0.56
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	3180	282	0	165	0	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.5	0.51	0	0.51	0	0
Total Antimony	Comp	EPA200.8	5	ug/l	2.78	0.54	0.52	0.62	0	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	1.8	1.06	1.84	0	2.43	0
Total Arsenic	Comp	EPA200.8	5	ug/l	5.78	1.21	1.91	1.93	2.43	0
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0.27	0.32	0	1.46	0
Total Cadmium	Comp	EPA200.8	1	ug/l	7.17	0.33	0.32	0.43	1.46	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0	1.52	1.43	3.5	3.37	0
Total Chromium	Comp	EPA200.8	5	ug/l	21.2	11.4	2.68	8.36	11.7	1.67
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	5.68	3.12	5.71	6.57	6.05	2.59
Total Copper	Comp	EPA200.8	5	ug/l	33.2	8.18	10.9	8.78	13.5	5.33

MALIBU CREEK

WEATHER CONDITION					Wet				Dry	
STATION NO.					S02	S02	S02	S02	S02	S02
STATION NAME					Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	0	284	0	0	0	0
Total Iron	Comp	EPA200.8	100	ug/l	4480	571	0	677	202	128
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Lead	Comp	EPA200.8	5	ug/l	10.9	0.72	0	0.87	1.56	0
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	19.4	5.34	11.2	9.51	1.9	5.62
Total Nickel	Comp	EPA200.8	5	ug/l	41.9	18.1	13.1	17.7	26.6	6.17
Dissolved Selenium	Comp	EPA200.8	5	ug/l	17.8	0	4.78	0	5.27	0
Total Selenium	Comp	EPA200.8	5	ug/l	17.8	0	4.98	0	5.27	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0.46	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	11.3	25	58	0	11.7	53
Total Zinc	Comp	EPA200.8	50	ug/l	94.4	41	75	29	25.3	82
Semi-Volatiles Organics (EPA 625)										
2- Chloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	*Comp*	*EPA625*	*1*	*ug/l*	*0*	*0*	*0*	*0*	*0*	*0*
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S02	S02	S02	S02	S02	S02
STATION NAME					Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.565	0.017	0	0.037

WEATHER CONDITION					Wet				Dry	
STATION NO.					S02	S02	S02	S02	S02	S02
STATION NAME					Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek	Malibu Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0
					0	0	0			

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S10	S10	S10	S10	S10	S10
STATION NAME					Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	4.1	11.9	1.9	1.4	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.016	0	0.0763	0	0	0.051
pH	Comp	SM4500H B	0-14		8.85	7.01	7.44	7.09	8.44	9.87
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	14.2	8.34	7.6	6.74	8.6	5.04
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	2200000	50000	900000	1300000	22000	500
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	1400000	30000	11000	800000	1100	20
Ratio Fecal Coliform/Total Coliform					0.64	0.6	0.012	0.62	0.05	0.04
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	700000	240000	230000	300000	500	700
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	170000	80000	80000	300000	500	300
General										
Chloride	Comp	EPA300.0	2	mg/L	111	6.73	10.9	13.2	121	108
Fluoride	Comp	EPA300.0	0.1	mg/L	0.48	0.11	0.24	0.15	0.49	0.6
Nitrate	Comp	EPA300.0	0.1	mg/L	29.9	2.99	3.84	2.52	1.45	3.6
Sulfate	Comp	EPA300.0	0.1	mg/L	123.8	9.42	13.8	22.6	147	124
Alkalinity	Comp	EPA310.1	4	mg/L	139	32	55	53.9	213	94
Hardness	Comp	EPA130.2	2	mg/L	210	48	52.8	76	340	230
COD	9i	EPA410.4	10	mg/L	101.9	21.8	93	34	176.3	110.5
TPH	Grab	EPA418.1	1	mg/L	1.6	0	4.3	1.5	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	996	133.2	175.1	212	1100	1146
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	572	96	108	146	732	780
Turbidity	Comp	EPA180.1	0.1	NTU	5.33	140	73.7	118.2	1.48	6.19
Total Suspended Solids	Comp	EPA160.2	2	mg/L	11	172	197	1045	105	97
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	10	20	14	10	42	44
MBAS	Comp	EPA425.1	0.05	mg/L	0.127	0	0.104	0.062	0.079	0.138
Total Organic Carbon	Comp	EPA415.1	1	mg/L	14.4	6.51	10.1	5.65	11.3	17.1
BOD	Comp	SM5210B	2	mg/L	65.86	16.2	12.2	7.6	62.9	198
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.684	0.087	0.37	0.181	0.78	0.288
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.774	0.441	0.491	0.193	0.809	0.356
NH3-N	Comp	EPA350.3	0.1	mg/L	2.34	0.184	0.373	0	1.47	3.59
Nitrate-N	Comp	SM4110B	0.5	mg/L	6.75	0.675	0.87	0.569	0.327	0.813
Nitrite-N	Comp	SM4110B	0.03	mg/L	0	0	0.63	0	0.609	1.34
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	4	0.135	3.26	12.5	1.98	3.9
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	126	118	0	185	0	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.37	1.06	1	0.71	0.69	0.76
Total Antimony	Comp	EPA200.8	5	ug/l	1.37	1.09	1.05	0.86	0.69	0.77
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	2.06	2.61	1.25	0	3.43	0
Total Arsenic	Comp	EPA200.8	5	ug/l	2.06	5.84	1.32	1.48	3.43	0
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0.27	0	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.42	0	0	0	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	2.01	0.94	3.1	6.99	3.05	1.24
Total Chromium	Comp	EPA200.8	5	ug/l	3.15	11.8	4.64	9.47	12.5	2.63
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	14.1	5.21	5.51	7.07	4.77	10.4
Total Copper	Comp	EPA200.8	5	ug/l	25.9	19	12.9	9.56	10	14

LA RIVER

WEATHER CONDITION					Wet				Dry	
STATION NO.					S10	S10	S10	S10	S10	S10
STATION NAME					Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	0	276	679	0	0	0
Total Iron	Comp	EPA200.8	100	ug/l	306	375	686	404	206	166
Dissolved Lead	Comp	EPA200.8	5	ug/l	0.76	3.1	4.29	0	0.63	0
Total Lead	Comp	EPA200.8	5	ug/l	5.35	9.91	4.62	2.26	1.82	0.97
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	7.22	3.24	7.52	5.54	5.62	6.29
Total Nickel	Comp	EPA200.8	5	ug/l	10	16.1	8.61	6.84	21.8	6.99
Dissolved Selenium	Comp	EPA200.8	5	ug/l	4.07	0	0	0	2.04	0
Total Selenium	Comp	EPA200.8	5	ug/l	4.07	0	0	0	2.04	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	45.3	35	74	10	25.1	54
Total Zinc	Comp	EPA200.8	50	ug/l	54	50	83	46	25.1	85
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S10	S10	S10	S10	S10	S10
STATION NAME					Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.179	0.05	0.155	0.037

WEATHER CONDITION					Wet				Dry	
STATION NO.					S10	S10	S10	S10	S10	S10
STATION NAME					Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River	Los Angeles River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S13	S13	S13	S13	S13	S13
STATION NAME					Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	2.6	0	1	0	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.126	0	0.018	0	0	0.019
pH	Comp	SM4500H B	0-14		7.82	7.06	8.03	7.02	8.75	8.65
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	5.5	8.2	8.58	9.38	9.18	9.61
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	300000	500000	800000	500000	8000	3500
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	300000	300000	9000	300000	1700	70
Ratio Fecal Coliform/Total Coliform					1.0	0.6	0.011	0.6	0.21	0.02
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	800000	110000	170000	130000	800	800
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	800000	50000	170000	130000	800	800
General										
Chloride	Comp	EPA300.0	2	mg/L	29.5	9.13	78	14.8	88	87
Fluoride	Comp	EPA300.0	0.1	mg/L	0.36	0.14	0.54	0.1	0.46	1
Nitrate	Comp	EPA300.0	0.1	mg/L	7.32	1.61	8.31	2.89	2.28	8.9
Sulfate	Comp	EPA300.0	0.1	mg/L	44.5	10.4	114	22.1	125	129
Alkalinity	Comp	EPA310.1	4	mg/L	69	43	137.5	27.5	155	220
Hardness	Comp	EPA130.2	2	mg/L	130	60	180	45.6	195	340
COD	9i	EPA410.4	10	mg/L	96.1	24.4	148	24	28	87.6
TPH	Grab	EPA418.1	1	mg/L	1.4	1	2.8	0	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	522	160.8	792	171.1	831	2020
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	370	114	522	112	518	1250
Turbidity	Comp	EPA180.1	0.1	NTU	48	54.5	45.1	67.4	0.73	1.98
Total Suspended Solids	Comp	EPA160.2	2	mg/L	648	351	204	181	63	12
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	123	68	14.8	2.4	15	9
MBAS	Comp	EPA425.1	0.05	mg/L	0.27	0.053	0.151	0	0	0.062
Total Organic Carbon	Comp	EPA415.1	1	mg/L	29.3	7.81	17.9	4.27	5.35	10.1
BOD	Comp	SM5210B	2	mg/L	52.1	9.4	12.1	6.03	6.62	42.4
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.442	0.096	0.441	0.242	0	0
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.46	0.155	0.524	0.259	0	0
NH3-N	Comp	EPA350.3	0.1	mg/L	2.51	0.158	2.11	0	0	0.298
Nitrate-N	Comp	SM4110B	0.5	mg/L	1.65	0.364	1.87	0.6525	0.515	2.01
Nitrite-N	Comp	SM4110B	0.03	mg/L	1.01	0.198	1.42	0	0	0.365
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	3.36	0.558	6.84	1.16	0.82	1.87
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	1118	0	0	134	0	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	2.99	0.83	1.22	0	0.64	0.68
Total Antimony	Comp	EPA200.8	5	ug/l	3.56	0.87	1.27	0	0.64	0.7
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	2.48	0	2.28	0	6.19	2.27
Total Arsenic	Comp	EPA200.8	5	ug/l	3.01	1.42	2.43	1.19	6.19	3.46
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.97	0	0	0	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	3.15	1.16	4.11	3.37	2.06	1.02
Total Chromium	Comp	EPA200.8	5	ug/l	8.49	11.7	4.55	9.25	12.5	2.6
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	11.7	4.21	4.83	4.76	3.98	6.9
Total Copper	Comp	EPA200.8	5	ug/l	45.9	9.91	17.9	12.1	9.94	10.1

S13 CES

COYOTE CREEK

WEATHER CONDITION					Wet				Dry	
STATION NO.					S13	S13	S13	S13	S13	S13
STATION NAME					Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	0	109	163	213	0	0
Total Iron	Comp	EPA200.8	100	ug/l	1420	225	209	581	203	145
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	0.62	0.58	0	0	0
Total Lead	Comp	EPA200.8	5	ug/l	20.9	1.44	1.27	2.05	1.25	0.54
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	14.2	2.25	7.65	2.68	2.29	3.37
Total Nickel	Comp	EPA200.8	5	ug/l	17	15.5	9.57	6.01	18.9	4.3
Dissolved Selenium	Comp	EPA200.8	5	ug/l	2.37	0	0	0	1.92	0
Total Selenium	Comp	EPA200.8	5	ug/l	2.37	0	0	0	1.92	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	84.5	32	52	6	9.32	53
Total Zinc	Comp	EPA200.8	50	ug/l	219	52	61	41	11.6	84
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S13	S13	S13	S13	S13	S13
STATION NAME					Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0.31	0	0.085	0.07	0	0.038

WEATHER CONDITION					Wet				Dry	
STATION NO.					S13	S13	S13	S13	S13	S13
STATION NAME					Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek	Coyote Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S14	S14	S14	S14	S14	S14
STATION NAME					San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S14	S14	S14	S14	S14	S14
STATION NAME					San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0.34	0	0.41	0.035	0	0.047

WEATHER CONDITION					Wet				Dry	
STATION NO.					S14	S14	S14	S14	S14	S14
STATION NAME					San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	12.9	0	0	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.029	0.005	0.047	0	0	0.019
pH	Comp	SM4500H B	0-14		8.26	7.24	7.79	7.4	8.32	
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	7.1	8.4	9.39	8.26	8	8.9
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	300000	300000	240000	500000	17000	50000
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	50000	300000	17000	220000	500	50000
Ratio Fecal Coliform/Total Coliform					0.17	1.0	0.071	0.44	0.029	1.0
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	24000	300000	130000	500000	230	1700
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	3000	300000	130000	500000	80	1300
General										
Chloride	Comp	EPA300.0	2	mg/L	74	25.4	20.6	23.2	167	93.2
Fluoride	Comp	EPA300.0	0.1	mg/L	0.35	0.19	0.13	0.19	0.23	0.21
Nitrate	Comp	EPA300.0	0.1	mg/L	2.5	6.63	3.87	3.88	34.9	30.9
Sulfate	Comp	EPA300.0	0.1	mg/L	102	38.3	21.9	36.1	150	117
Alkalinity	Comp	EPA310.1	4	mg/L	69	64	55	60.5	107	
Hardness	Comp	EPA130.2	2	mg/L	210	108	80	103	270	250
COD	9i	EPA410.4	10	mg/L	83.7	41.4	121	36	37.5	66.6
TPH	Grab	EPA418.1	1	mg/L	0	1	1.1	1	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	732	313	229	281	1215	1012
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	464	206	152	190	806	636
Turbidity	Comp	EPA180.1	0.1	NTU	143	963	46	457.5	0.13	9.8
Total Suspended Solids	Comp	EPA160.2	2	mg/L	630	1258	543	794	5	28
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	437	63	48.1	7	3	8
MBAS	Comp	EPA425.1	0.05	mg/L	0.209	0	0	0	0.085	0.088
Total Organic Carbon	Comp	EPA415.1	1	mg/L	10.2	6.44	6.75	6.77	7.77	7.95
BOD	Comp	SM5210B	2	mg/L	21.46	21.3	11.9	6.46	69.9	50.6
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.343	0.195	0.218	0.347	0.362	
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.356	0.713	0.236	0.349	0.411	
NH3-N	Comp	EPA350.3	0.1	mg/L	0.466	0	0	0	0.314	
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.565	1.5	0.87	0.876	7.88	9.4
Nitrite-N	Comp	SM4110B	0.03	mg/L	0	0	0	0	5.81	0
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	3.58	0.372	2.44	7.64	0.314	
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	
Total Aluminum	Comp	EPA200.8	100	ug/l	2780	158	100	122	0	
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.68	0.98	0.78	0.51	0.55	
Total Antimony	Comp	EPA200.8	5	ug/l	3.87	1.02	0.81	0.58	0.58	
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	3.15	1.3	1.94	1.05	
Total Arsenic	Comp	EPA200.8	5	ug/l	4.49	6.1	1.39	2.18	1.05	
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	
Total Cadmium	Comp	EPA200.8	1	ug/l	2.15	0	0	0	0	
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0	0.97	1.88	6.18	3.54	
Total Chromium	Comp	EPA200.8	5	ug/l	17.5	12.5	4.36	10.1	12.3	
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	8.98	4.23	6.01	5.82	4.39	
Total Copper	Comp	EPA200.8	5	ug/l	81.4	10.5	11.9	13.1	18.1	

SAN GABRIEL RIVER

WEATHER CONDITION					Wet				Dry	
STATION NO.					S14	S14	S14	S14	S14	S14
STATION NAME					San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River	San Gabriel River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	221	220	311	953	0	
Total Iron	Comp	EPA200.8	100	ug/l	3680	540	431	1730	207	
Dissolved Lead	Comp	EPA200.8	5	ug/l	0.67	1.21	1.55	0	0	
Total Lead	Comp	EPA200.8	5	ug/l	56	2.52	2.16	5.39	1.38	
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	9.92	2.9	3.22	4.29	7.46	
Total Nickel	Comp	EPA200.8	5	ug/l	21.1	15.9	5.76	8.22	23.5	
Dissolved Selenium	Comp	EPA200.8	5	ug/l	2.61	0	0	0	1.95	
Total Selenium	Comp	EPA200.8	5	ug/l	3.86	0	0	0	1.95	
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	
Total Silver	Comp	EPA200.8	1	ug/l	0.43	0	0	0	0	
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	
Dissolved Zinc	Comp	EPA200.8	50	ug/l	23.8	26	22	4	36.4	
Total Zinc	Comp	EPA200.8	50	ug/l	440	74	41	48	36.4	
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S29	S29	S29	S29	S29	S29
STATION NAME					Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	3.1	0	1.7	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.008	0	0.008	0	0	0
pH	Comp	SM4500H B	0-14		7.51	7.18	7.86	6.74	8.54	8.24
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	5.74	3.12	8.44	9.39	8.5	8.02
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	50000	300000	240000	500000	8000	500
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	22000	170000	9000	170000	5000	170
Ratio Fecal Coliform/Total Coliform					0.44	0.57	0.038	0.34	0.63	0.34
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	170000	240000	50000	170000	300	230
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	17000	240000	50000	80000	0	230
General										
Chloride	Comp	EPA300.0	2	mg/L	33.8	13	39.8	2.58	125	106
Fluoride	Comp	EPA300.0	0.1	mg/L	0.21	0.13	0.26	0	0.46	0.5
Nitrate	Comp	EPA300.0	0.1	mg/L	4.91	2.73	4.65	2.31	5.7	5.6
Sulfate	Comp	EPA300.0	0.1	mg/L	50.3	26.9	51.6	2.89	208	153
Alkalinity	Comp	EPA310.1	4	mg/L	75	59	49.5	11	122	292
Hardness	Comp	EPA130.2	2	mg/L	122	99.2	131	15.2	330	410
COD	9i	EPA410.4	10	mg/L	71.6	28.5	45	20	62.6	60.3
TPH	Grab	EPA418.1	1	mg/L	0	1.3	0	1.2	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	410	255	427	47.6	1420	1388
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	268	214	278	28	942	838
Turbidity	Comp	EPA180.1	0.1	NTU	32.9	107	470	39.4	0.23	1.38
Total Suspended Solids	Comp	EPA160.2	2	mg/L	712	53	568	80	8	11
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	76	3	4.1	1.3	3	7
MBAS	Comp	EPA425.1	0.05	mg/L	0.174	0	0	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	25.5	7.52	11.2	3.96	4.58	3.89
BOD	Comp	SM5210B	2	mg/L	55.56	6.3	21.1	5	2.91	27.1
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.379	0.311	0.159	0.29	0.071	0.183
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.438	0.351	0.359	0.29	0.097	0.208
NH3-N	Comp	EPA350.3	0.1	mg/L	1.09	0.338	0	0	0	0
Nitrate-N	Comp	SM4110B	0.5	mg/L	1.11	0.616	1.05	0.5216	1.29	1.26
Nitrite-N	Comp	SM4110B	0.03	mg/L	0.867	0	0.26	0	0	0
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	2.62	0.662	2.56	1.02	0.484	0.35
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	131	130	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	2340	1350	131	348	0	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.63	0.73	0.99	0.83	0	0
Total Antimony	Comp	EPA200.8	5	ug/l	2.01	0.76	0.99	1.11	0	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	2.28	1.38	0	1.42	0
Total Arsenic	Comp	EPA200.8	5	ug/l	2.72	4.16	1.55	1.04	1.42	0
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.6	0.25	0	0	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0.61	0.97	3.39	2.2	3.33	0
Total Chromium	Comp	EPA200.8	5	ug/l	9.36	12.8	3.45	9.32	11.6	1.97
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	8.39	3.75	6.31	8.03	3.5	2.55
Total Copper	Comp	EPA200.8	5	ug/l	32.9	9.58	9.43	12.2	6.96	7.38

SANTA CLARA RIVER

WEATHER CONDITION					Wet				Dry	
STATION NO.					S29	S29	S29	S29	S29	S29
STATION NAME					Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	0	434	193	460	0	0
Total Iron	Comp	EPA200.8	100	ug/l	3010	1910	399	742	172	191
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	2.3	0.99	0	0	0
Total Lead	Comp	EPA200.8	5	ug/l	14.5	4.12	1.14	2.8	0.6	0.63
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	7.68	2.67	6.03	2.39	12.7	12.5
Total Nickel	Comp	EPA200.8	5	ug/l	13.2	16.1	7	5.26	26.6	13.8
Dissolved Selenium	Comp	EPA200.8	5	ug/l	1.14	0	0	0	2.43	0
Total Selenium	Comp	EPA200.8	5	ug/l	1.29	0	0	0	2.43	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	31.6	37	33	27	7.64	41
Total Zinc	Comp	EPA200.8	50	ug/l	103	45	42	61	7.64	72
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	3.7	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	13.4	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	3.1	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	17.6	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S28	S28	S28	S28	S28	S28
STATION NAME					Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S28	S28	S28	S28	S28	S28
STATION NAME					Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.415	0.05	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S28	S28	S28	S28	S28	S28
STATION NAME					Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	162	166	435	460	0	0
Total Iron	Comp	EPA200.8	100	ug/l	1290	413	438	742	204	165
Dissolved Lead	Comp	EPA200.8	5	ug/l	1.02	1.76	2.1	0	0	0.66
Total Lead	Comp	EPA200.8	5	ug/l	20.4	2.75	2.1	2.8	0.85	2.54
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	14	3.8	7.18	2.39	2.07	2.85
Total Nickel	Comp	EPA200.8	5	ug/l	15.3	16	8.7	5.26	18.1	2.87
Dissolved Selenium	Comp	EPA200.8	5	ug/l	1.53	0	0	0	1.27	0
Total Selenium	Comp	EPA200.8	5	ug/l	2.47	0	0	0	1.29	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	77.3	99	103	27	8.32	52
Total Zinc	Comp	EPA200.8	50	ug/l	229	114	112	61	10.4	83
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0

WEATHER CONDITION					Wet				Dry	
STATION NO.					S28	S28	S28	S28	S28	S28
STATION NAME					Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel	Dominguez Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	1.5	3.5	2.1	1.7	0	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0	0	0	0	0	0
pH	Comp	SM4500H B	0-14		8.26	7.14	7.71	6.74	8.44	9.03
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	7.9	9.1	8.98	9.39	9.05	10.06
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	130000	240000	230000	500000	22000	3500
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	130000	240000	230000	170000	2300	80
Ratio Fecal Coliform/Total Coliform					1.0	1.0	1.0	0.34	0.10	0.02
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	300000	210000	70000	170000	300	1400
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	110000	210000	50000	80000	170	700
General										
Chloride	Comp	EPA300.0	2	mg/L	57.9	19.5	13.1	2.58	99.9	166
Fluoride	Comp	EPA300.0	0.1	mg/L	0.42	0.1	0.19	0	0.14	0.5
Nitrate	Comp	EPA300.0	0.1	mg/L	0	4.02	5.11	2.31	2.47	3.7
Sulfate	Comp	EPA300.0	0.1	mg/L	48.1	10.7	11.8	2.89	56.5	78
Alkalinity	Comp	EPA310.1	4	mg/L	96	21	33	11	112	55
Hardness	Comp	EPA130.2	2	mg/L	140	40	48	15.2	170	230
COD	9i	EPA410.4	10	mg/L	87.9	30.2	97	20	30.9	67.1
TPH	Grab	EPA418.1	1	mg/L	0	2.2	3.3	1.2	0	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	500	162.8	157.5	47.6	657	1020
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	342	110	106	28	424	622
Turbidity	Comp	EPA180.1	0.1	NTU	2.76	21	75.7	39.4	0.61	1.89
Total Suspended Solids	Comp	EPA160.2	2	mg/L	1123	118	246	80	32	16
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	184	24	16.2	1.3	17	10
MBAS	Comp	EPA425.1	0.05	mg/L	0.387	0	0.118	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	32.1	7.55	10.8	3.96	12.2	6.74
BOD	Comp	SM5210B	2	mg/L	44.31	9.7	10.5	5	5.91	29.6
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.742	0	0.355	0.29	0.135	0.077
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.874	0	0.456	0.29	0.173	0.094
NH3-N	Comp	EPA350.3	0.1	mg/L	3.26	0	1.42	0	0.207	0.285
Nitrate-N	Comp	SM4110B	0.5	mg/L	0	0.908	1.15	0.5216	0.558	0.835
Nitrite-N	Comp	SM4110B	0.03	mg/L	0	0	0.06	0	0.064	0.457
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	3.26	0.193	5.9	1.02	0.76	0.6
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	1120	134	0	348	0	104
Dissolved Antimony	Comp	EPA200.8	5	ug/l	6.94	1.74	1.46	0.83	0.52	0
Total Antimony	Comp	EPA200.8	5	ug/l	7.42	1.75	1.51	1.11	0.54	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	1.89	2.8	1.5	0	1.69	0
Total Arsenic	Comp	EPA200.8	5	ug/l	3.41	5.02	1.61	1.04	1.69	0
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0.67	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.77	0.68	0	0	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	1.74	1.72	2.99	2.2	2.62	0.71
Total Chromium	Comp	EPA200.8	5	ug/l	7.48	12.3	4.17	9.32	12.4	2.08
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	19	17.2	14.3	8.03	6.84	7.11
Total Copper	Comp	EPA200.8	5	ug/l	56.3	24.5	17.1	12.2	13.6	11.8

DOMINGUEZ CHANNEL

WEATHER CONDITION					Wet					Dry
STATION NO.					TS01	TS01	TS01	TS01	TS01	TS01
STATION NAME					Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	16.4	1.3	1	1	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0	0	0	0	0	0
pH	Comp	SM4500H B	0-14		7.29	7.06		8.12	6.82	8.07
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	9.2	5	8.02	8.2	7.62	8.14
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	80000	240000	240000	240000	110000	8000
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	30000	80000	80000	34000	11000	500
Ratio Fecal Coliform/Total Coliform					0.38	0.33	0.33	0.14	0.10	0.063
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	130000	500000	130000	130000	110000	5000
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	80000	500000	80000	130000	70000	1300
General										
Chloride	Comp	EPA300.0	2	mg/L	10.2	6.68	29.9	25.3	2.37	90
Fluoride	Comp	EPA300.0	0.1	mg/L	0.16	0.11	0.28	0.25	0.17	0.7
Nitrate	Comp	EPA300.0	0.1	mg/L	5.27	0.91	0	5.45	3.07	19.1
Sulfate	Comp	EPA300.0	0.1	mg/L	13.4	7.9	20.7	36.2	57.2	133
Alkalinity	Comp	EPA310.1	4	mg/L	32	59		143	22	165
Hardness	Comp	EPA130.2	2	mg/L	55.2	44	103	95	29.6	340
COD	9i	EPA410.4	10	mg/L	53.7	23.1	359	125	15	76.7
TPH	Grab	EPA418.1	1	mg/L	0	1	1.7	0	1	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	184.4	176.3	311	304	76.7	1026
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	128	118	212	208	50	686
Turbidity	Comp	EPA180.1	0.1	NTU	91	33.6	81.3	36.9	41	3.63
Total Suspended Solids	Comp	EPA160.2	2	mg/L	102	138	279	1209	232	131
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	12	24	8.5	86.2	3.2	27
MBAS	Comp	EPA425.1	0.05	mg/L	0.069	0.072			0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	12.3	6.14	23.3	26.2	4.24	11.4
BOD	Comp	SM5210B	2	mg/L	17.97	6.4	36.1	51.4	5.8	14.9
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.378	0.29		0.354	0.475	0.161
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.434	0.38		0.662	2.247	0.172
NH3-N	Comp	EPA350.3	0.1	mg/L	0.475	0.137		12.1	0	0
Nitrate-N	Comp	SM4110B	0.5	mg/L	1.19	0.205	0	1.23	0.198	4.31
Nitrite-N	Comp	SM4110B	0.03	mg/L	0.347	0.33	0	0.93	0	0
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	1.182	0.568		13	4.4	2.5
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0		127	0
Total Aluminum	Comp	EPA200.8	100	ug/l	261	175	0		185	107
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.31	1.17	1.51		0	1.12
Total Antimony	Comp	EPA200.8	5	ug/l	1.31	1.21	1.57		0	1.12
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	1.24	1.35		0	0
Total Arsenic	Comp	EPA200.8	5	ug/l	1.66	1.87	1.52		0	5.66
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.398	0	0		0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0.88	1.09	4.34		3.48	0.8
Total Chromium	Comp	EPA200.8	5	ug/l	1.93	11.2	4.49		9.06	2.34
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	13.3	2.28	6.81		5.45	15.5
Total Copper	Comp	EPA200.8	5	ug/l	22.1	11.9	12.6		41.1	20

ALISO CREEK

WEATHER CONDITION					Wet					Dry
STATION NO.					TS01	TS01	TS01	TS01	TS01	TS01
STATION NAME					Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	755	296	435		273	0
Total Iron	Comp	EPA200.8	100	ug/l	755	417	689		628	164
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	0.62	0.92		0	0.5
Total Lead	Comp	EPA200.8	5	ug/l	4.47	1.71	1.58		5.04	0.74
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0		0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0		0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	3.64	4.75	6.68		2.27	4.08
Total Nickel	Comp	EPA200.8	5	ug/l	5.14	17.8	9.03		5.44	4.68
Dissolved Selenium	Comp	EPA200.8	5	ug/l	0	0	0		0	0
Total Selenium	Comp	EPA200.8	5	ug/l	0	0	0		0	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0		0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0		0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	66.6	15	47		0	31
Total Zinc	Comp	EPA200.8	50	ug/l	117	48	64		67	39
Semi-Volatiles Organics (EPA 625)										
2- Chloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l		0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS01	TS01	TS01	TS01	TS01	TS01
STATION NAME					Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l		0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l		0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l		0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l		0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.23	0.152	0.093	0.072

WEATHER CONDITION					Wet					Dry
STATION NO.					TS01	TS01	TS01	TS01	TS01	TS01
STATION NAME					Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek	Aliso Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet					Dry
STATION NO.					TS02	TS02	TS02	TS02	TS02	TS02
STATION NAME					Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	11.9	0	1.2	1	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0	0	0	0	0	0
pH	Comp	SM4500H B	0-14		7.16	6.91	7.15	7.55	6.76	8.51
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	9.36	6.64	9.85	9.37	6.57	9.87
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	1700000	210000	240000	170000	50000	1100
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	110000	140000	30000	11000	5000	80
Ratio Fecal Coliform/Total Coliform					0.06	0.67	0.125	0.065	0.1	0.073
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	600000	110000	17000	130000	300000	300
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	400000	28000	17000	130000	300000	300
General										
Chloride	Comp	EPA300.0	2	mg/L	11.8	3.65	11.6	4.75	7.16	73
Fluoride	Comp	EPA300.0	0.1	mg/L	0.32	0.12	0.21	0.27	0	0.8
Nitrate	Comp	EPA300.0	0.1	mg/L	5.32	2.06	2.13	3.13	5.28	0.14
Sulfate	Comp	EPA300.0	0.1	mg/L	73.8	17.7	59	138	5.99	128
Alkalinity	Comp	EPA310.1	4	mg/L	37	27	16.5	16.5	25.3	165
Hardness	Comp	EPA130.2	2	mg/L	108	76	88	145	76	240
COD	9i	EPA410.4	10	mg/L	19.9	28.5	43	54	15	67.8
TPH	Grab	EPA418.1	1	mg/L	0	1.3	1.2	0	1.2	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	320	160.5	253	360	186	789
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	222	108	170	254	112	486
Turbidity	Comp	EPA180.1	0.1	NTU	990	30.9	654	4220	710	1.68
Total Suspended Solids	Comp	EPA160.2	2	mg/L	625	170	1487	4152	1566	17
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	30	16	6.9	386	9.4	9
MBAS	Comp	EPA425.1	0.05	mg/L	0.114	0	0	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	12.6	4.98	6.47	5.6	4.07	6.45
BOD	Comp	SM5210B	2	mg/L	27.42	11.5	8.7	22.2	7	12.3
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.162	0.302	0.196	0	0.147	0.101
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.248	369	0.252	0.054	1.386	0.11
NH3-N	Comp	EPA350.3	0.1	mg/L	0.84	0	0	0.225	0	0.146
Nitrate-N	Comp	SM4110B	0.5	mg/L	1.2	0.627	0.48	0.71	1.1923	0
Nitrite-N	Comp	SM4110B	0.03	mg/L	0.161	0	0.06	0.1	0	0
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	0.908	0.156	8.18	2.44	2.88	0.676
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	173	0	130	0
Total Aluminum	Comp	EPA200.8	100	ug/l	1493	238	173	795	501	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.04	0.9	0	0.54	0.66	0
Total Antimony	Comp	EPA200.8	5	ug/l	1.16	0.93	0	0.58	0.66	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	0	0	0	0	1.98
Total Arsenic	Comp	EPA200.8	5	ug/l	2.33	0	0	0	0	5.52
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.86	0	0	0.29	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0.95	0	2.64	0.97	2.8	0
Total Chromium	Comp	EPA200.8	5	ug/l	6.06	11.7	3.65	6.83	9.16	1.74
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	11.8	2.66	5.65	3.09	2.98	5.62
Total Copper	Comp	EPA200.8	5	ug/l	29.7	6.73	8.35	8.26	7.49	7.56

BULL CREEK

WEATHER CONDITION					Wet					Dry
STATION NO.					TS02	TS02	TS02	TS02	TS02	TS02
STATION NAME					Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	1445	510	491	694	215	0
Total Iron	Comp	EPA200.8	100	ug/l	3066	598	782	1460	880	160
Dissolved Lead	Comp	EPA200.8	5	ug/l	0	0.73	0.75	0.57	0	0
Total Lead	Comp	EPA200.8	5	ug/l	9.18	2.02	0.96	1.31	1.09	0
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	12.7	2.58	8.2	10.7	6.58	1.87
Total Nickel	Comp	EPA200.8	5	ug/l	18.6	15.3	9.14	15.3	10.7	2.67
Dissolved Selenium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Selenium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	15.4	19	21	10	0	25
Total Zinc	Comp	EPA200.8	50	ug/l	82.5	33	37	10	33	33
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l		0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS02	TS02	TS02	TS02	TS02	TS02
STATION NAME					Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l		0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l		0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l		0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l		0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endósulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.198	0.04	0.065	0.023

WEATHER CONDITION					Wet					Dry
STATION NO.					TS02	TS02	TS02	TS02	TS02	TS02
STATION NAME					Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek	Bull Creek
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet					Dry
STATION NO.					TS03	TS03	TS03	TS03	TS03	TS03
STATION NAME					Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	6.6	0	1.2	2.3	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.009	0	0.0055	0	0	0
pH	Comp	SM4500H B	0-14		7.49	6.83	7.31	7.83	6.78	8.16
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	9.19	3.72	7.82	9.76	8.49	8.84
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	500000	240000	80000	170000	130000	800000
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	17000	130000	17000	80000	28000	50000
Ratio Fecal Coliform/Total Coliform					0.034	0.54	0.21	0.47	0.22	0.063
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	170000	50000	80000	50000	170000	3000
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	170000	30000	80000	50000	170000	2300
General										
Chloride	Comp	EPA300.0	2	mg/L	7.27	11.8	23.8	29	7.27	110
Fluoride	Comp	EPA300.0	0.1	mg/L	0.2	0.16	0.17	0.13	0.17	0.4
Nitrate	Comp	EPA300.0	0.1	mg/L	3.18	0.55	2.74	3.49	0.55	24.1
Sulfate	Comp	EPA300.0	0.1	mg/L	8.31	7.59	16.8	21.9	19.6	114
Alkalinity	Comp	EPA310.1	4	mg/L	113	27	22	60.5	22	182
Hardness	Comp	EPA130.2	2	mg/L	56	48	140	65	26	240
COD	9i	EPA410.4	10	mg/L	31	34.1	273	87	14	59.3
TPH	Grab	EPA418.1	1	mg/L	0	1.7	1	0	1.5	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	161.4	181.9	245	303	99.9	978
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	112	130	146	182	70	602
Turbidity	Comp	EPA180.1	0.1	NTU	34.8	34.8	58.7	58.8	65	1.74
Total Suspended Solids	Comp	EPA160.2	2	mg/L	199	132	150	252	141	43
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	51	33	4.2	21.6	3	14
MBAS	Comp	EPA425.1	0.05	mg/L	0.119	0.2	0	0.069	0	0.065
Total Organic Carbon	Comp	EPA415.1	1	mg/L	16.7	12	15.2	6.62	4.43	9.59
BOD	Comp	SM5210B	2	mg/L	26.34	7.3	22.3	20.5	10.9	16.3
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.476		0.21	0.443	0.229	1.22
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.487		0.549	0.51	0.309	1.46
NH3-N	Comp	EPA350.3	0.1	mg/L	1.34		0.216	0	0	0.807
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.718	0.124	0.62	0.78	0.124	5.44
Nitrite-N	Comp	SM4110B	0.03	mg/L	0.228	0.453	0.07	1.996	0.0335	0.1
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	2.78	4.82	16	6.36	2.3	1.41
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	419	0	102	4890	137	0
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.17	1.92	0.99	0.7	0.58	0
Total Antimony	Comp	EPA200.8	5	ug/l	1.23	1.92	1.08	1.57	0.58	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	1.38	1.04	1.19	0	0
Total Arsenic	Comp	EPA200.8	5	ug/l	1.14	2.15	1.13	2.26	0	0
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0.44	0.28	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.78	0.3	0.44	1.2	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	1.21	1.39	3.41	2.01	3.31	1.49
Total Chromium	Comp	EPA200.8	5	ug/l	3.83	12.5	4.1	16.6	9.37	2.97
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	24.7	6.42	21.5	14.8	9.46	29.9
Total Copper	Comp	EPA200.8	5	ug/l	103	16.1	28.5	41.8	13.9	32.4

WEATHER CONDITION					Wet					Dry
STATION NO.					TS03	TS03	TS03	TS03	TS03	TS03
STATION NAME					Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	954	669	120	222	298	0
Total Iron	Comp	EPA200.8	100	ug/l	954	766	164	7770	465	175
Dissolved Lead	Comp	EPA200.8	5	ug/l	3.83	3.25	1.62	0.86	0	1.36
Total Lead	Comp	EPA200.8	5	ug/l	23	5.15	1.62	33.5	1.95	1.68
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	5.35	4.78	5.66	4.26	2.62	4.52
Total Nickel	Comp	EPA200.8	5	ug/l	7.51	17.7	6.66	13.8	5.36	5.38
Dissolved Selenium	Comp	EPA200.8	5	ug/l	0	0	0	1.07	0	0
Total Selenium	Comp	EPA200.8	5	ug/l	0	0	0	1.21	0	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0.73
Total Silver	Comp	EPA200.8	1	ug/l	0.34	0	0	3.15	0	0.73
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	100	71	115	87.5	29	102
Total Zinc	Comp	EPA200.8	50	ug/l	240	73	126	240	53	137
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	24.4	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l		0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS03	TS03	TS03	TS03	TS03	TS03
STATION NAME					Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l		0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l		0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l		0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l		0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l		5	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0	0	0.19	0	0.066	0.074

WEATHER CONDITION					Wet					Dry
STATION NO.					TS03	TS03	TS03	TS03	TS03	TS03
STATION NAME					Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western	Burbank Western
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet					Dry
STATION NO.					TS04	TS04	TS04	TS04	TS04	TS04
STATION NAME					Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	14.3	1.9	1	9.1	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.02	0	0	0	0	0
pH	Comp	SM4500H B	0-14		7.69	6.81	7.8	7.44	7.48	8.28
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	8.98	6.25	9.4	9.92	8.07	9.53
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	500000	800000	300000	240000	800000	13000
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	130000	300000	170000	80000	220000	230
Ratio Fecal Coliform/Total Coliform					0.26	0.38	0.57	0.33	0.28	0.018
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	170000	2200000	130000	300000	2800000	5000
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	30000	500000	80000	24000	1400000	3000
General										
Chloride	Comp	EPA300.0	2	mg/L	10	13.6	9.61	8.6	7.81	100
Fluoride	Comp	EPA300.0	0.1	mg/L	0.37	0.15	0.13	0	0.11	0.3
Nitrate	Comp	EPA300.0	0.1	mg/L	2.08	1.03	1.46	2.49	1.03	3.92
Sulfate	Comp	EPA300.0	0.1	mg/L	10.5	23.7	15.4	13.8	9.56	104
Alkalinity	Comp	EPA310.1	4	mg/L	64	48	22	27.5	41.8	198
Hardness	Comp	EPA130.2	2	mg/L	79.2	72	72	45	72	430
COD	9i	EPA410.4	10	mg/L	46.4	26.3	93	58	52	66.4
TPH	Grab	EPA418.1	1	mg/L	1.3	2.3	4.3	0	2.3	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	215	215	168.9	129.5	165.3	1470
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	148	458	104	90	114	830
Turbidity	Comp	EPA180.1	0.1	NTU	200	971	1740	437.5	1700	3.97
Total Suspended Solids	Comp	EPA160.2	2	mg/L	318	581	1516	588	2039	32
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	76	35	9.4	51.7	12.3	17
MBAS	Comp	EPA425.1	0.05	mg/L	0.111	0	0	0	0	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	16.7	6.67	5.52	5.46	5.08	6.04
BOD	Comp	SM5210B	2	mg/L	38.52	13.7	4.9	10.2	10.7	15.5
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.275	0.502	0.148	0.107	0	0.097
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.275	0.589	0.563	0.302	1.05	0.101
NH3-N	Comp	EPA350.3	0.1	mg/L	0.826	0	0	0.154	0.396	0
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.47	0.233	0.329	0.56	0.233	0.885
Nitrite-N	Comp	SM4110B	0.03	mg/L	0.298	0	0.14	0.17	0.4534	0.183
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	1.908	1.18	5	1.7	0.544	0.72
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	287	143	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	415	13000	143	7900	5900	180
Dissolved Antimony	Comp	EPA200.8	5	ug/l	1.35	0.5	0	0.52	0	0
Total Antimony	Comp	EPA200.8	5	ug/l	1.8	0.83	0.55	0.96	0.73	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	1.89	1.7	0	2.02	0
Total Arsenic	Comp	EPA200.8	5	ug/l	1.55	4.28	2.27	2.27	3.08	0
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0.5	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.31	0.72	0	0.3	0.32	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	0.85	0.97	2.17	1.09	3.79	0.54
Total Chromium	Comp	EPA200.8	5	ug/l	2.66	23.2	7.41	13.2	15.2	2.08
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	16.5	5.73	13.7	4.43	3.89	5.42
Total Copper	Comp	EPA200.8	5	ug/l	30.9	26.6	17.5	22.4	17.6	10.9

VERDUGO WASH

WEATHER CONDITION					Wet					Dry
STATION NO.					TS04	TS04	TS04	TS04	TS04	TS04
STATION NAME					Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	1297	2100	1980	319	1500	0
Total Iron	Comp	EPA200.8	100	ug/l	1430	18100	3620	8800	7510	163
Dissolved Lead	Comp	EPA200.8	5	ug/l	0.89	6	7.62	1.07	0	0
Total Lead	Comp	EPA200.8	5	ug/l	15.9	26.3	7.64	17.3	14.3	0.76
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	3.74	2.9	3.95	1.44	2.57	2.22
Total Nickel	Comp	EPA200.8	5	ug/l	4.86	22.5	6.91	11.2	11.1	3.01
Dissolved Selenium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Selenium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	60.1	90	39	16.7	0	38
Total Zinc	Comp	EPA200.8	50	ug/l	175	147	52	75	71	57
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l		0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS04	TS04	TS04	TS04	TS04	TS04
STATION NAME					Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l		0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l		0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l		0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l		0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0.51	0	0.047	0.077	0.079	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS04	TS04	TS04	TS04	TS04	TS04
STATION NAME					Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash	Verdugo Wash
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet					Dry
STATION NO.					TS05	TS05	TS05	TS05	TS05	TS05
STATION NAME					Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	8.1	0	1.3	2.5	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.031	0	0	0	0	0
pH	Comp	SM4500H B	0-14		7.74	7.48	7.69		7.18	8.87
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	8.7	8.65	6.55	9.03	4.32	9.59
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	700000	800000	500000	240000	140000	5000
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	90000	140000	300000	130000	70000	300
Ratio Fecal Coliform/Total Coliform					0.13	0.18	0.6	0.542	0.5	0.06
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	240000	300000	130000	220000	50000	300
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	80000	240000	130000	220000	30000	170
General										
Chloride	Comp	EPA300.0	2	mg/L	89.8	46.3	29.5	17.8	2.84	90
Fluoride	Comp	EPA300.0	0.1	mg/L	0.53	0.15	0.36	0.16	0	0.3
Nitrate	Comp	EPA300.0	0.1	mg/L	4.11	9.68	0	1.09	4.32	8.57
Sulfate	Comp	EPA300.0	0.1	mg/L	89.7	64.4	35.5	15.7	4.16	121
Alkalinity	Comp	EPA310.1	4	mg/L	117	64	126.5		49.5	49.5
Hardness	Comp	EPA130.2	2	mg/L	210	140	140	73	66.4	280
COD	9i	EPA410.4	10	mg/L	105.6	92.1	80	94	25	62.4
TPH	Grab	EPA418.1	1	mg/L	2	1	0	0	1	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	766	410	373	192.7	164.3	1128
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	510	298	260	118	108	622
Turbidity	Comp	EPA180.1	0.1	NTU	187	148	131	36.3	78.3	0.44
Total Suspended Solids	Comp	EPA160.2	2	mg/L	262	829	407		188	7
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	60	109	11.5		5.1	7
MBAS	Comp	EPA425.1	0.05	mg/L	0.209	0	0.169	0	0.066	0
Total Organic Carbon	Comp	EPA415.1	1	mg/L	36.9	7.68	22.9	10.9	6.74	5.02
BOD	Comp	SM5210B	2	mg/L	66.34	6.8	33.6	36.4	24.4	31
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.44		0.718	0.133	0	0
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.487		0.855	1.431	0.201	0
NH3-N	Comp	EPA350.3	0.1	mg/L	0.921	0.158	1.6		0	0
Nitrate-N	Comp	SM4110B	0.5	mg/L	0.928	2.19	0	0.25	0.975	1.94
Nitrite-N	Comp	SM4110B	0.03	mg/L	1.87	0	0	0.57	0	0
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	3.52	0.448	7.46	2.42	4.34	0.39
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0		0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	271	8350	0		0	117
Dissolved Antimony	Comp	EPA200.8	5	ug/l	2.22	0.58	0.64		0.72	0
Total Antimony	Comp	EPA200.8	5	ug/l	2.68	1.16	0.76		0.73	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	1.24	1.12		0	0
Total Arsenic	Comp	EPA200.8	5	ug/l	2.1	2.71	1.2		0	0
Dissolved Beryllium	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.4	0.62	0		0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	2.68	0.87	3.11		5.67	0
Total Chromium	Comp	EPA200.8	5	ug/l	2.7	17.3	3.66		8.6	9.08
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	11.5	6.41	5.7		5.82	3.63
Total Copper	Comp	EPA200.8	5	ug/l	34.8	36.8	12.3		10.8	12.4

ARROYO SECO CHANNEL

WEATHER CONDITION					Wet					Dry
STATION NO.					TS05	TS05	TS05	TS05	TS05	TS05
STATION NAME					Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	1168	170	288		0	0
Total Iron	Comp	EPA200.8	100	ug/l	1270	10900	358		254	194
Dissolved Lead	Comp	EPA200.8	5	ug/l	1.51	0.61	1.91		0	0
Total Lead	Comp	EPA200.8	5	ug/l	15.4	30.3	2.54		1.94	0.86
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0		0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0		0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	8.47	1.95	6.03		3.49	1.69
Total Nickel	Comp	EPA200.8	5	ug/l	10.5	17.5	6.82		5.9	2.91
Dissolved Selenium	Comp	EPA200.8	5	ug/l	1.84	0	0		0	0
Total Selenium	Comp	EPA200.8	5	ug/l	2.2	0	0		0	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0		0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0		0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0		0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	118	78	31		0	41
Total Zinc	Comp	EPA200.8	50	ug/l	243	258	66		40	60
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l		0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS05	TS05	TS05	TS05	TS05	TS05
STATION NAME					Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l		0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l		0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l		0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l		0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	3.3	0	0.063	0.092	0.077	0.026

WEATHER CONDITION					Wet					Dry
STATION NO.					TS05	TS05	TS05	TS05	TS05	TS05
STATION NAME					Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel	Arroyo Seco Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	65	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet					Dry
STATION NO.					TS06	TS06	TS06	TS06	TS06	TS06
STATION NAME					Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Conventional										
Oil and Grease	Grab	EPA413.1	1	mg/L	0	12	0	1.3	1.6	0
Total Phenols	Grab	EPA420.1	0.1	mg/L	0	0	0	0	0	0
Cyanide	Grab	EPA335.2	0.01	mg/L	0.043	0	0.009	0	0	0.009
pH	Comp	SM4500H B	0-14		7.67	6.95	7.64	7.37	6.57	9.36
Dissolved Oxygen	Grab	SM4500O G	1	mg/L	8.6	8.3	9.83	9.58	7.29	16.57
Indicator Bacteria										
Total Coliform	Grab	SM9230B	20	MPN/100ml	1300000	170000	500000	170000	130000	2300
Fecal Coliform	Grab	SM9230B	20	MPN/100ml	300000	80000	300000	80000	80000	40
Ratio Fecal Coliform/Total Coliform					0.23	0.47	0.6	0.47	0.62	0.017
Fecal Streptococcus	Grab	SM9230B	20	MPN/100ml	500000	300000	240000	90000	300000	40
Fecal Enterococcus	Grab	SM9230B		MPN/100ml	300000	80000	130000	90000	130000	40
General										
Chloride	Comp	EPA300.0	2	mg/L	15.7	4.56	17.5	759	27.2	90
Fluoride	Comp	EPA300.0	0.1	mg/L	0.33	0.11	0.21	0	0	0.3
Nitrate	Comp	EPA300.0	0.1	mg/L	7.03	4.79	5.04	7.06	23.7	14.2
Sulfate	Comp	EPA300.0	0.1	mg/L	20.2	9.17	17.5	12.8	12.1	87
Alkalinity	Comp	EPA310.1	4	mg/L	75	16	44	27.5	16.5	77
Hardness	Comp	EPA130.2	2	mg/L	110	40	119	40	20.8	210
COD	9i	EPA410.4	10	mg/L	101.1	29.9	113	117	25	67.9
TPH	Grab	EPA418.1	1	mg/L	1.1	1.2	1.1	0	1.2	0
Specific Conductance	Comp	EPA120.1	1	umhos/cm	395	122.3	209	160	93.3	912
Total Dissolved Solids	Comp	EPA160.1	2	mg/L	224	86	116	98	64	556
Turbidity	Comp	EPA180.1	0.1	NTU	244	82.5	36.5	47.3	58.3	0.72
Total Suspended Solids	Comp	EPA160.2	2	mg/L	266	72	79	305	109	7
Volatile Suspended Solids	Comp	EPA160.4	1	mg/L	64	11	4.9	26	1	7
MBAS	Comp	EPA425.1	0.05	mg/L	0.156	0	0.056	0	0	0.055
Total Organic Carbon	Comp	EPA415.1	1	mg/L	27.9	5.11	8.79	4.39	4.74	5.89
BOD	Comp	SM5210B	2	mg/L	66.08	11.3	11.8	16	31.5	76.1
Nutrients										
Dissolved Phosphorus	Comp	EPA365.3	0.05	mg/L	0.471	0.393	0.264	0.253		0.057
Total Phosphorus	Comp	EPA365.3	0.05	mg/L	0.59	0.443	0.276	0.4		0.065
NH3-N	Comp	EPA350.3	0.1	mg/L	1.02	0.124	0	0		0.181
Nitrate-N	Comp	SM4110B	0.5	mg/L	1.59	1.08	1.14	1.29	5.352	3.21
Nitrite-N	Comp	SM4110B	0.03	mg/L	0.816	0	0.12	0	0	0.213
Kjeldahl-N	Comp	EPA351.4	0.1	mg/L	1.81	0.322	1.58	3.46	4.08	0.98
Metals										
Dissolved Aluminum	Comp	EPA200.8	100	ug/l	0	0	0	0	0	0
Total Aluminum	Comp	EPA200.8	100	ug/l	335	182	123	140	484	117
Dissolved Antimony	Comp	EPA200.8	5	ug/l	2.53	0.89	1.16	0.64	0.6	0
Total Antimony	Comp	EPA200.8	5	ug/l	2.7	0.91	1.2	0.65	0.66	0
Dissolved Arsenic	Comp	EPA200.8	5	ug/l	0	1.26	1.11	0	0	0
Total Arsenic	Comp	EPA200.8	5	ug/l	2.41	1.34	1.19	0	0	0
Dissolved Berylium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Beryllium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Cadmium	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Cadmium	Comp	EPA200.8	1	ug/l	0.33	0	0	0	0	0
Dissolved Chromium	Comp	EPA200.8	5	ug/l	1.42	0.83	2.23	1.33	2.17	0.66
Total Chromium	Comp	EPA200.8	5	ug/l	3.25	11.8	6.05	5.81	9.44	2.15
Dissolved Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Total Chromium +6	Comp	EPA200.8	10	ug/l	0	0	0	0	0	0
Dissolved Copper	Comp	EPA200.8	5	ug/l	19.9	4.43	12.3	4.78	5.9	3.51
Total Copper	Comp	EPA200.8	5	ug/l	34	10.7	19.3	11.6	12.1	5.58

WEATHER CONDITION					Wet					Dry
STATION NO.					TS06	TS06	TS06	TS06	TS06	TS06
STATION NAME					Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Dissolved Iron	Comp	EPA200.8	100	ug/l	1070	181	283	0	218	0
Total Iron	Comp	EPA200.8	100	ug/l	1070	401	392	564	620	131
Dissolved Lead	Comp	EPA200.8	5	ug/l	2.25	1.46	2.74	0	0	0
Total Lead	Comp	EPA200.8	5	ug/l	20	2.48	2.82	3.14	3.85	0.71
Dissolved Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Mercury	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Nickel	Comp	EPA200.8	5	ug/l	7.55	1.63	4.05	2.05	1.51	3.76
Total Nickel	Comp	EPA200.8	5	ug/l	8.04	14.9	9.26	5.89	5.2	4.75
Dissolved Selenium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Selenium	Comp	EPA200.8	5	ug/l	1.27	0	0	0	0	0
Dissolved Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Total Silver	Comp	EPA200.8	1	ug/l	0	0	0	0	0	0
Dissolved Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Total Thallium	Comp	EPA200.8	5	ug/l	0	0	0	0	0	0
Dissolved Zinc	Comp	EPA200.8	50	ug/l	61.3	29	55	15	19	66
Total Zinc	Comp	EPA200.8	50	ug/l	128	86	68	39	53	76
Semi-Volatiles Organics (EPA 625)										
2- Chlorophenol	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dichloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dimethylpheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
2,4-dinitropheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
2-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-nitrophenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
4-chloro_3_methylpheno	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Pentachloropheno	Comp	EPA625	2	ug/l	0	0	0	0	0	0
Phenol	Comp	EPA625	1	ug/l	0	0	0	0	0	0
2,4,6-trichlopheno	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Base/Neutral										
Acenaphthene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Acenaphthylene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Anthracene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Benzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2 Benzanthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(a)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Benzo(k)flouranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroethoxy) methane	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Chloroisopropyl) ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Bis(2-Chloroethyl) ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Bis(2-Ethylhexl) phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
4-Bromophenyl phenyl ether	Comp	EPA625	1	ug/l		0	0	0	0	0
Butyl benzyl phthalate	Comp	EPA625	0.3	ug/l		0	0	0	0	0
2-Chloronaphthalene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
4-Chlorophenyl phenyl ether	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Chrysene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Dibenzo(a,h)anthracene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
1,3-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,4-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2-Dichlorobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
3,3-Dichlorobenzidine	Comp	EPA625	3	ug/l		0	0	0	0	0
Diethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Dimethyl phthalate	Comp	EPA625	0.5	ug/l		0	0	0	0	0
di-n-Butyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS06	TS06	TS06	TS06	TS06	TS06
STATION NAME					Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l		0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l		0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l		0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l		0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l		0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l		0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l		0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l		0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l		0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l		0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0.54	0	0.49	0.042	0.065	0

WEATHER CONDITION					Wet					Dry
STATION NO.					TS06	TS06	TS06	TS06	TS06	TS06
STATION NAME					Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel	Rio Hondo Channel
EVENT NO.					0203-01	0203-02	0203-03	0203-04	0203-05	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	02/25/2003	03/15/2003	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

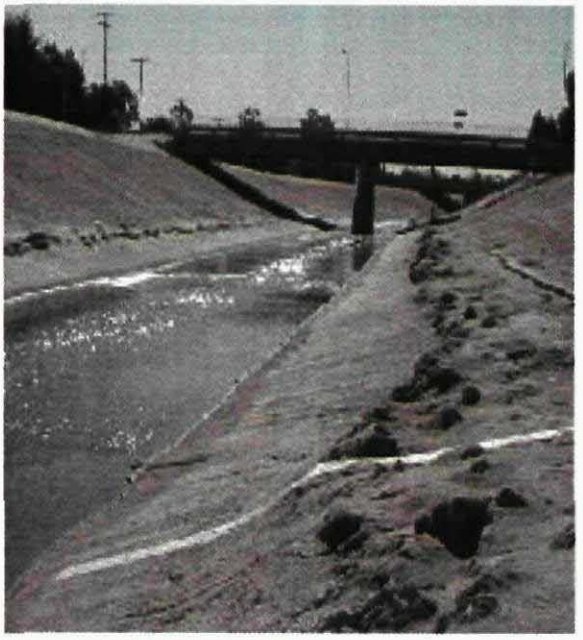
Note:
1) *blank cell indicates sample was not analyzed*
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

WEATHER CONDITION					Wet				Dry	
STATION NO.					S29	S29	S29	S29	S29	S29
STATION NAME					Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
2,4-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
2,6-Dinitrotoluene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,6 Dinitro-2-methylphenol	Comp	EPA625	3	ug/l	0	0	0	0	0	0
1,2-Diphenylhydrazine	Comp	EPA625	3	ug/l	0	0	0	0	0	0
di-n-Octyl phthalate	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Fluoranthene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Fluorene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Hexachlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Hexachlorobutadiene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Hexachloro-cyclopentadiene	Comp	EPA625	3	ug/l	0	0	0	0	0	0
Hexachloroethane	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Isophorone	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Naphthalene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Nitrobenzene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
N-Nitroso-dimethyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-diphenyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
N-Nitroso-di-n-propyl amine	Comp	EPA625	0.3	ug/l	0	0	0	0	0	0
Phenanthrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Pyrene	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
1,2,4-Trichlorobenzene	Comp	EPA625	0.5	ug/l	0	0	0	0	0	0
Chlorinated Pesticides										
Aldrin	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
beta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
delta-BHC	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-BHC (lindane)	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
alpha-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
gamma-chlordane	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
4,4'-DDD	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDE	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
4,4'-DDT	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Dieldrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
alpha-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
beta-Endosulfan	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endosulfan sulfate	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Endrin aldehyde	Comp	EPA625	0.1	ug/l	0	0	0	0	0	0
Heptachlor	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Heptachlor Epoxide	Comp	EPA625	0.05	ug/l	0	0	0	0	0	0
Toxaphene	Comp	EPA625	1	ug/l	0	0	0	0	0	0
Polychlorinated Biphenyls										
Aroclor-1016	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1221	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1232	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1242	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1248	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1254	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Aroclor-1260	Comp	EPA608	0.5	ug/l	0	0	0	0	0	0
Organohosphate Pesticides										
Chlorpyrifos	Comp	EPA507	0.05	ug/l	0	0	0	0	0	0
Diazinon	Comp	EPA507	0.01	ug/l	0.43	0	0.265	0.05	0	0.023

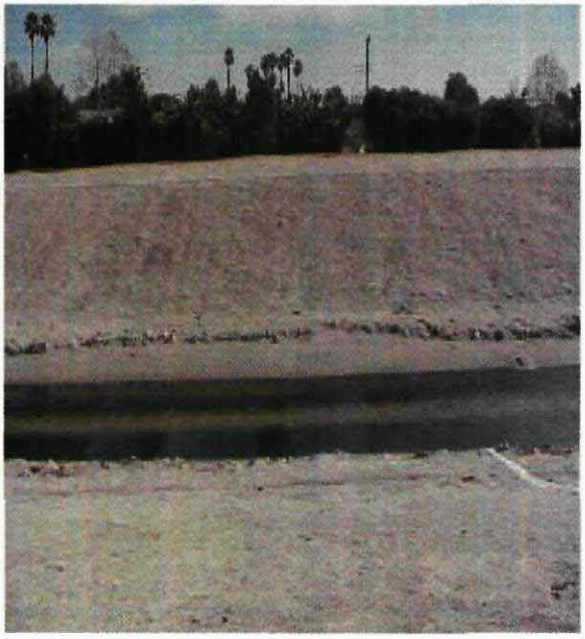
WEATHER CONDITION					Wet				Dry	
STATION NO.					S29	S29	S29	S29	S29	S29
STATION NAME					Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River	Santa Clara River
EVENT NO.					0203-01	0203-02	0203-03	0203-05	0203-01	0203-02
DATE					11/08/2002	12/16/2002	02/11/2003	03/15/2003	10/10/2002	04/30/2003
	Sample Type	EPA Method	PQL	Units						
Prometryn	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Atrazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Simazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Cyanazine	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Malathion	Comp	EPA507	2	ug/l	0	0	0	0	0	0
Herbicides										
Glyphosate	Comp	EPA547	25	ug/l	0	0	0	0	0	0
2,4-D	Comp	EPA515.3	10	ug/l	0	0	0	0	0	0
2,4,5-TP-SILVEX	Comp	EPA515.3	1	ug/l	0	0	0	0	0	0

Note:
1) blank cell indicates sample was not analyzed
2) 0 indicates concentration below minimum detection level
3) PQL = minimum level
4) Highlighted cells show exceedances

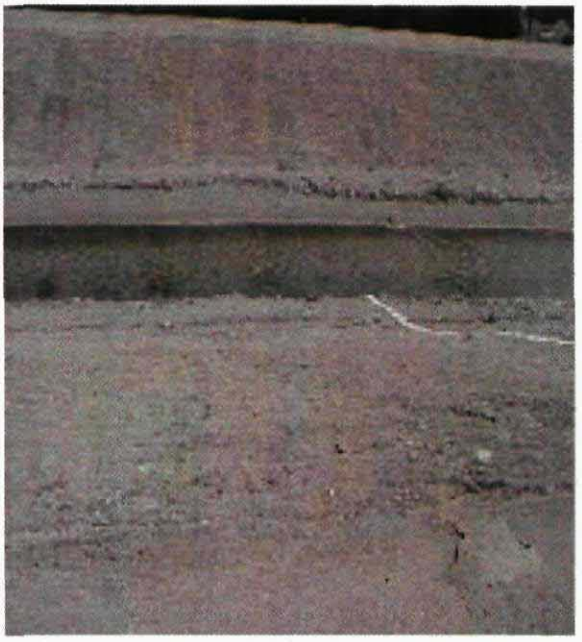
Ballona Creek



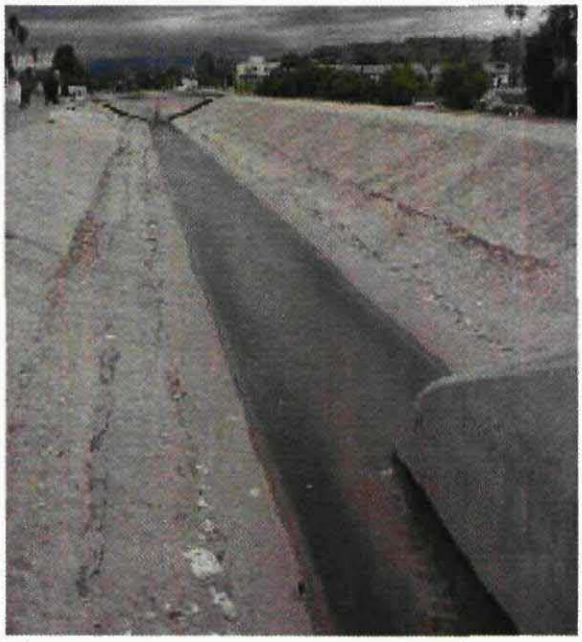
Post Storm: 11/08/02



Post Storm: 12/16/03

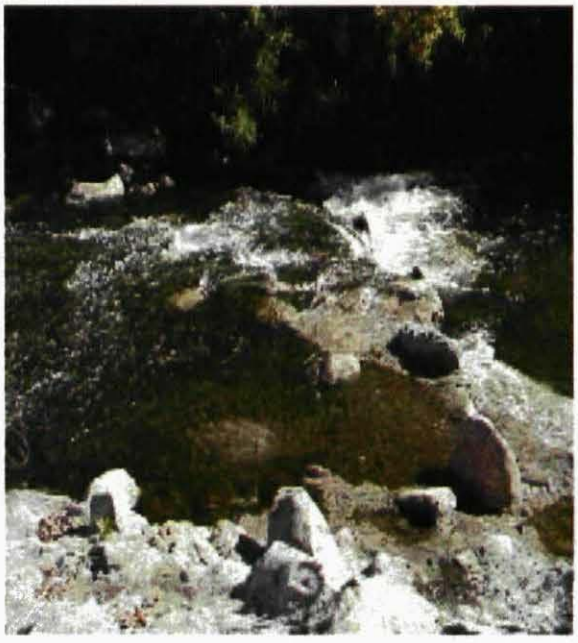


Post Storm: 2/11/03

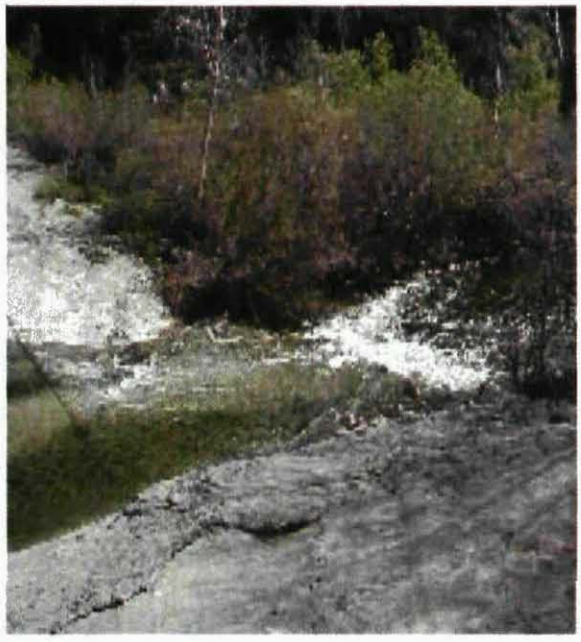


Post Storm: 2/26/03

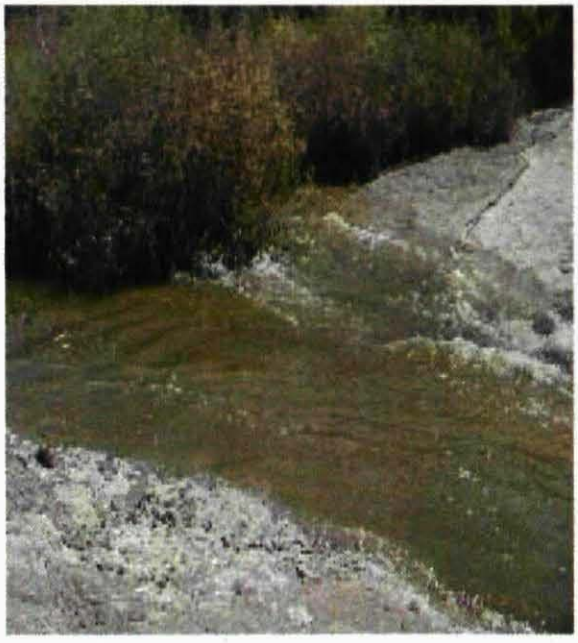
Malibu Creek



Post Storm: 11/08/02



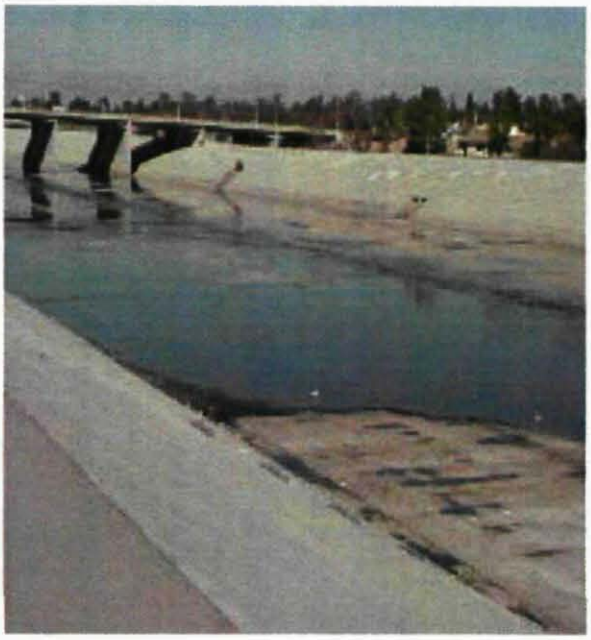
Post Storm: 2/11/03



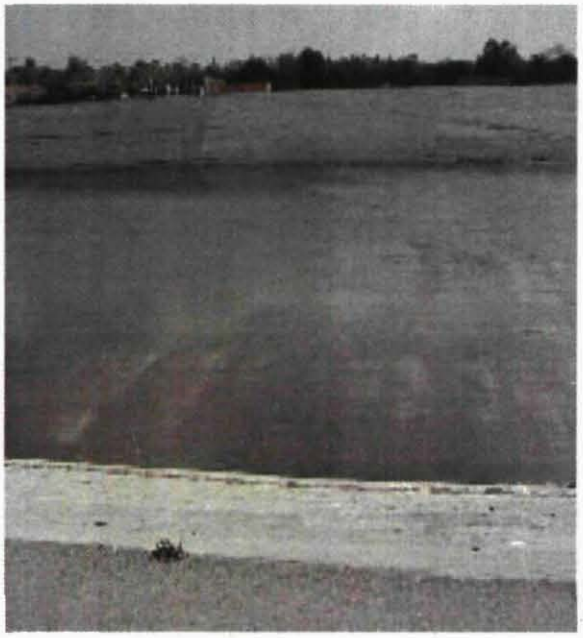
Post Storm: 2/26/03

Post Storm: 3/17/03

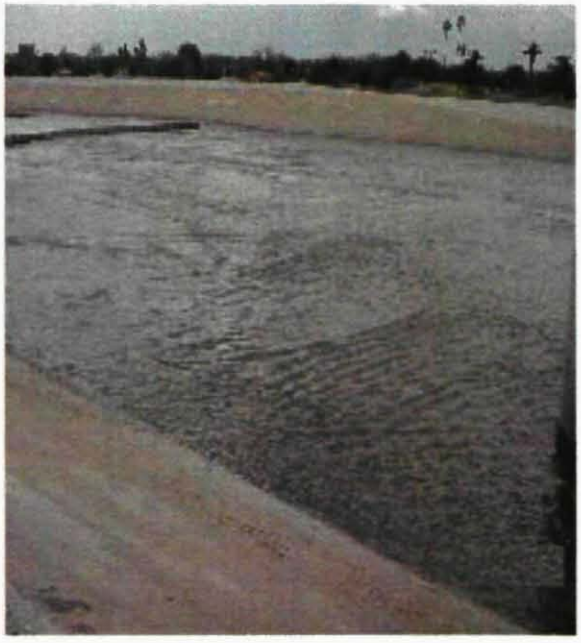
Los Angeles River



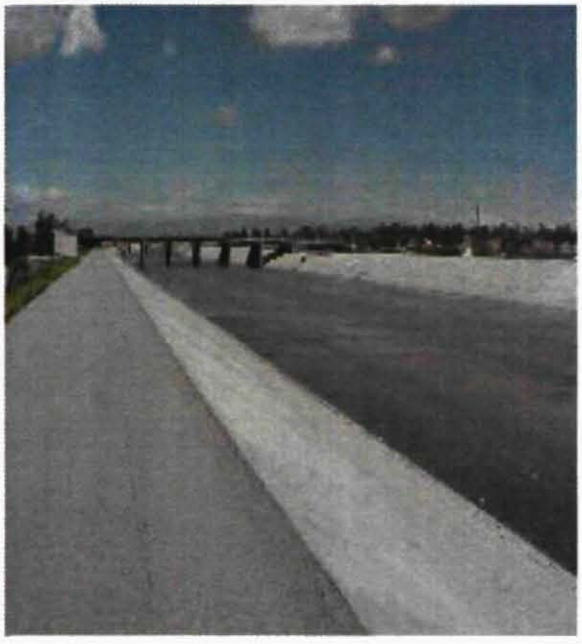
Post Storm: 11/08/02



Post Storm: 2/11/03

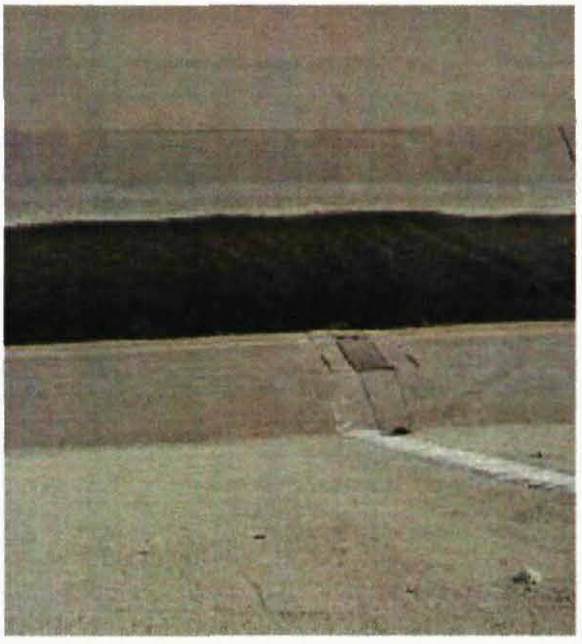


Post Storm: 2/26/03

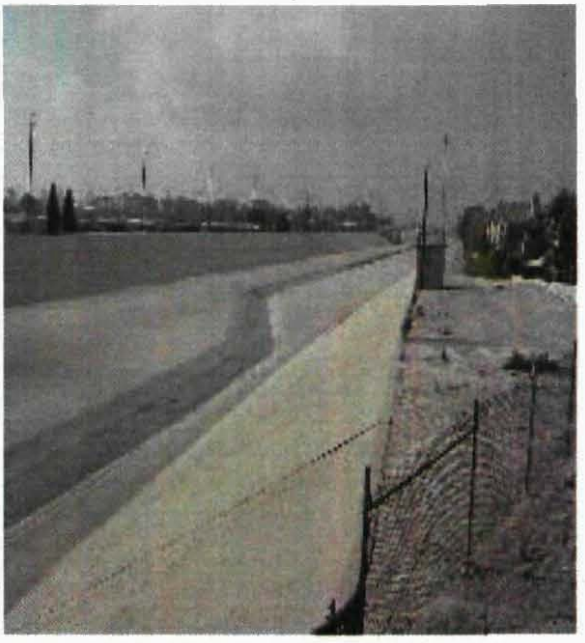


Post Storm: 3/17/03

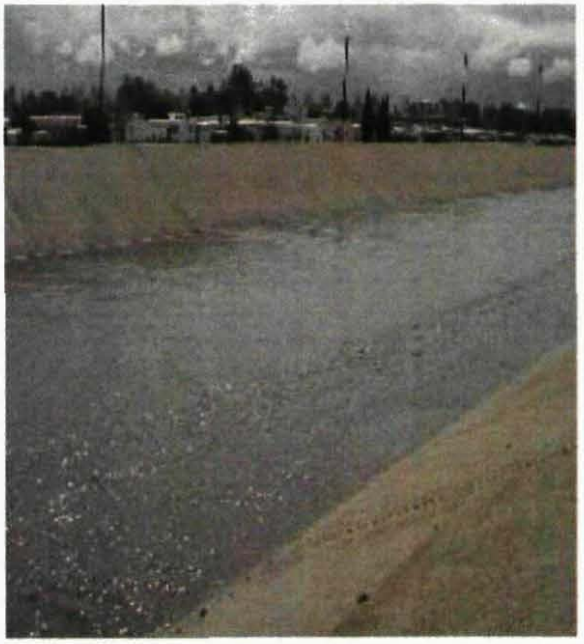
Coyote Creek



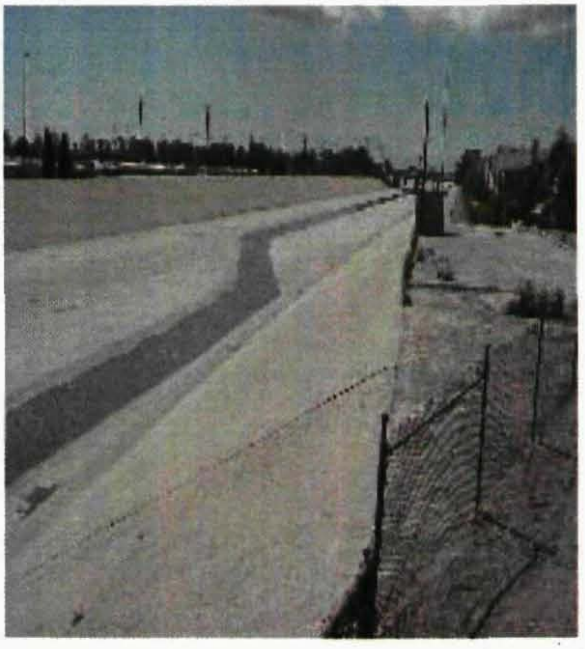
Post Storm: 11/08/02



Post Storm: 2/11/03

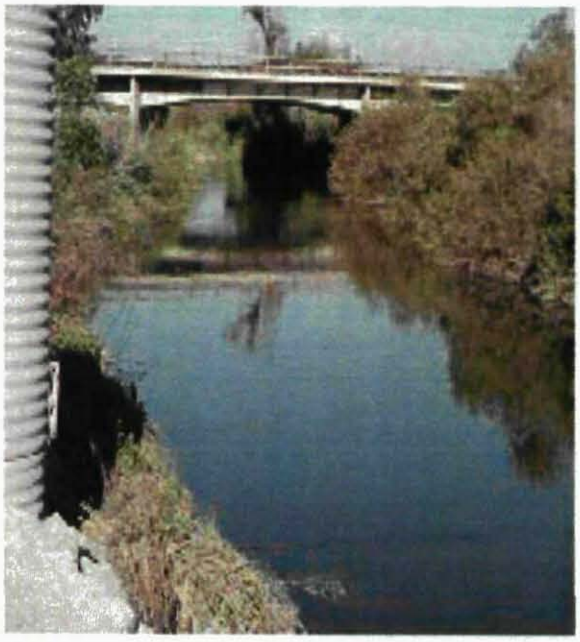


Post Storm: 2/26/03

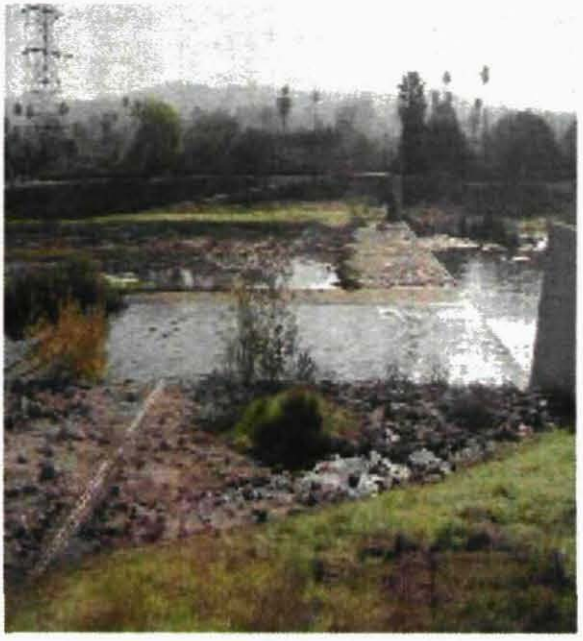


Post Storm: 3/17/03

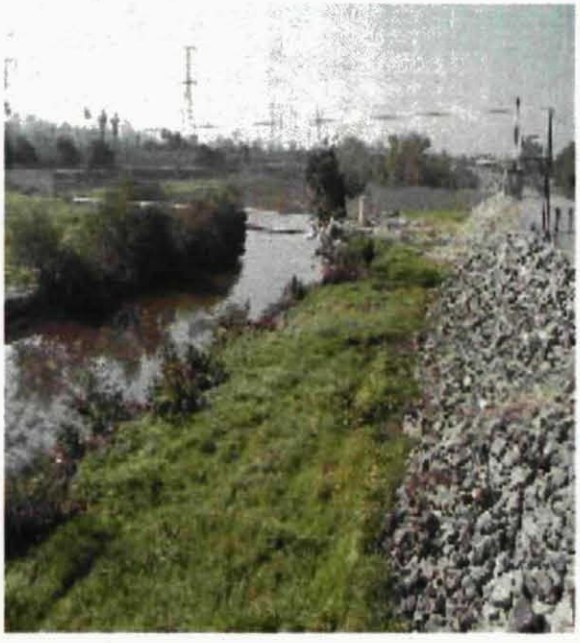
San Gabriel River



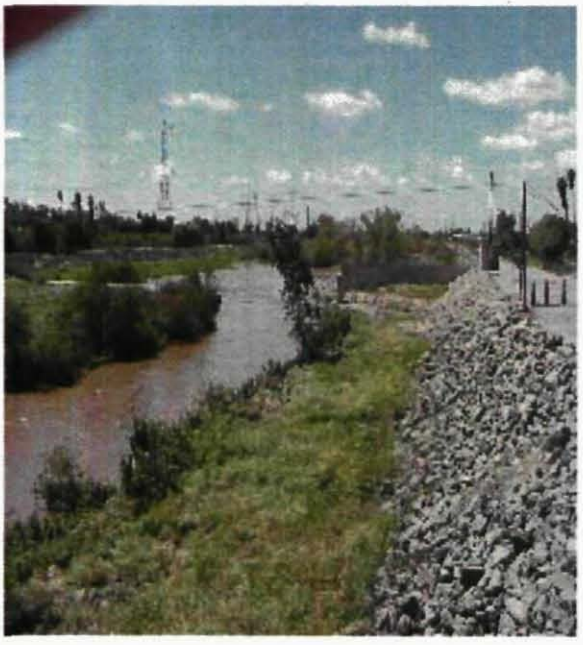
Post Storm: 11/08/02



Post Storm: 12/23/02

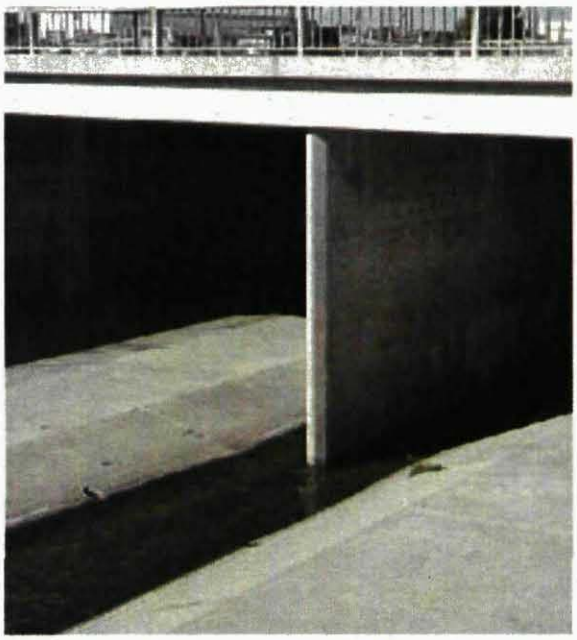


Post Storm: 2/26/03



Post Storm: 3/17/03

Dominguez Channel



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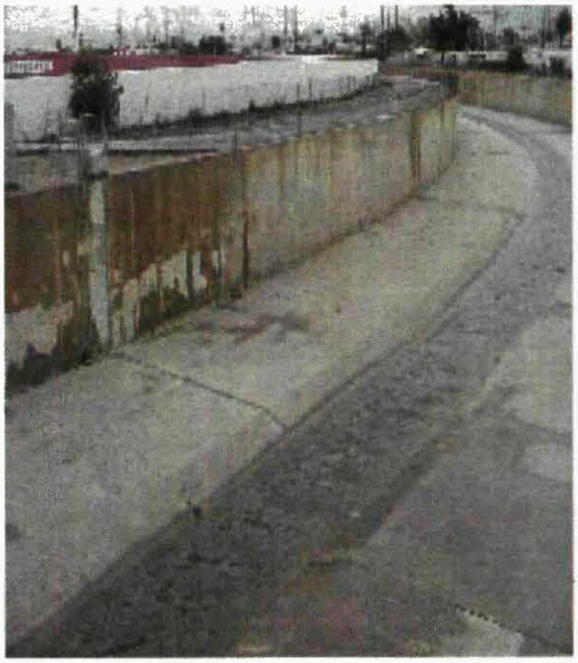

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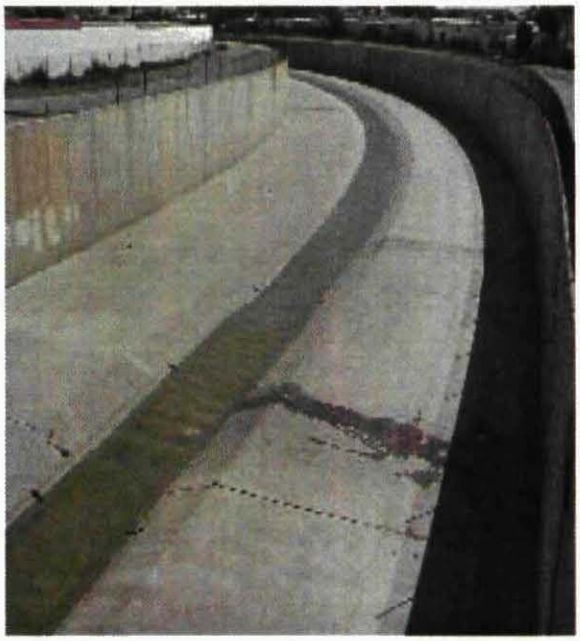

Post Storm: 3/17/03

Santa Clara River

Post Storm: 11/08/02

Post Storm: 12/23/02

Post Storm: 2/11/03

Post Storm: 2/26/03

SANTA MONICA BAY SHORELINE MONITORING ASSESSMENT REPORT
(July 1, 2002 – June 30, 2003)
Monitoring and Assessment by the City of Los Angeles

I. INTRODUCTION

Santa Monica Bay is an important economic resource due to coastal tourism and recreational uses such as swimming, surfing, diving, sport fishing, and boating. It is known that exposure to polluted bodies of water during recreational use is associated with disease (Cabelli et al. 1982; Dadswell 1993; Van Asperen et al. 1995; SMBRP 1996). Therefore, ensuring the safety of Santa Monica Bay for recreational use is a significant public health issue. To improve public health conditions, regulatory agencies, wastewater dischargers and environmental groups undertake efforts such as increasing public awareness, drafting legislation, and monitoring the coastline.

The City of Los Angeles began bacteriological monitoring of Santa Monica Bay's shoreline waters on a regular basis in the mid-1950's to assess water quality in areas used for water-contact recreation. Originally, monitoring was conducted to detect contamination resulting from the Hyperion Treatment Plant's (HTP) wastewater. Since HTP installed the 5-Mile Outfall, extensive monitoring has shown that the Hyperion wastewater plume does not reach the shoreline of Santa Monica Bay (CLA, EMD 2002). Bacterial contamination persisted; however, leading to the realization that urban runoff is a significant source of bacterial contamination along the beaches of Santa Monica Bay. This recognition resulted in a joint effort involving the City of Los Angeles, Heal the Bay, and the Los Angeles Regional Water Quality Control Board, in 1995, to relocate the 18 shoreline stations close to storm drains and/or popular recreational areas.

Urban runoff is the largest nonpoint source of pollution to Santa Monica Bay. Urban runoff has two major origins: rainfall and street runoff. Street runoff can result from domestic, commercial, and industrial activities, and irrigation water. Runoff reaches Santa Monica Bay through approximately 70 storm drains that empty directly into the Bay or flow onto the beach and then into the Bay. Runoff occurs daily in some storm drains; it has been estimated that Santa Monica Bay receives a flow of 10-25 million gallons per day from storm drains during dry weather (SMBRP 1996). During rain events, the concentrations of pollutants (heavy metals, human and animal wastes, petroleum- and automobile-based chemicals) are more dilute, but the mass loading is much larger due to wash-down effects of the rain on the surrounding urban environment.

Measures to mitigate street runoff contamination have come in the form of public education, source identification and elimination, and storm drain flow diversion structures. The City of Los Angeles Watershed Protection Division has embarked on pollution-abatement measures by developing and constructing low-flow diversion structures to divert urban runoff from problematic areas in the City to the Hyperion Treatment Plant for treatment during the dry-weather season. Thus far, 12 low-flow diversions have been completed, and ten more are under construction or design.

Santa Monica Bay shoreline stations and major storm drains are sampled on a routine basis throughout the year to monitor the influence of urban runoff on the bacteriological water quality of Santa Monica Bay. Bacteriological data collected from July 1, 2002 through June 30, 2003 at these sampling locations are summarized herein.

To evaluate the bacterial component of water quality, three bacterial subgroups are analyzed and quantities compared to AB411 standards (Table 1). The subgroups include total coliforms, fecal coliforms or *Escherichia coli (E.coli)* bacterial species, and enterococci. The quantification of these indicator bacteria provides an assessment of public health hazards associated with microorganisms, given the conventional methods of analyses.

Table 1. AB411 Bathing Standards

Density of Bacteria on a Single Sample Shall Not Exceed:
▪ 10,000 total coliform bacteria/100mL; or
▪ 400 fecal coliform bacteria/100mL; or
▪ 104 enterococcus bacteria/100mL; or
▪ 1,000 total coliform bacteria/100mL, if ratio of fecal/total coliform exceeds 0.1

When one of the four bathing standards is exceeded, L.A. County health officials and lifeguards are required to initiate measures to publicly notify beach goers of the exceedance and the severity of the contamination. Warning signs advising the public of the potential health risk associated with swimming in the contaminated water are placed at the affected areas. The beaches remain open to the public, but beach-goers may choose to heed the warning on the basis of their own personal comfort level of the risk. However, when a sewage spill occurs, the impacted beach is closed to the public for at least 72 hours after the source has been identified, and is re-opened after the spill is eliminated and the sampling results demonstrate compliance with state standards.

The Los Angeles County Municipal Separate Stormwater Sewer System (MS4) permit provides for the use of either the Membrane Filtration method or the Idexx Chromogenic Substrate method for analysis of bacterial indicators. The Membrane Filtration method tests specifically for total coliforms, fecal coliforms and enterococci, whereas Idexx Chromogenic Substrate tests for total

coliforms, *E. coli*, and enterococci. In addition, the former allows for a faster turnaround time in processing and testing the samples, as a result, leads to earlier data submission to the Los Angeles County Department of Health Services (LACDHS). Total coliform and *E. coli* results can be made available to the LACDHS within 18 hours instead of 24 hours, thereby providing the public with earlier notification on the water quality of their beaches and decreasing public health risk.

Because the Idexx Chromogenic Substrate method tests for *E. coli* rather than fecal coliforms (an indicator that has a significant amount of historical data associated with it in regards to receiving water monitoring), issues arose regarding the validity of using *E. coli*. During 2001-2002, the City of Los Angeles Environmental Monitoring Division (CLA EMD) conducted a study assessing the comparability of these two methods when testing receiving waters. The study (unpublished) found that the numbers were indeed comparable, showing a strong linear correlation (nearly a 1:1 ratio) for total coliform and fecal coliform/*E. coli*. Also, the use of *E. coli*, a subset of fecal coliform, should not compromise public health due to the fact that *E. coli* is the predominant organism found in this group of bacterial indicators.

The Idexx Chromogenic Substrate method was implemented for analyzing total coliform and *E. coli* on shoreline samples only. Parallel testing for enterococcus bacteria was conducted using both Membrane Filtration and Idexx Chromogenic Substrate, and continued into 2003. Because the Idexx Chromogenic Substrate method was not yet approved for enterococcus, only Membrane Filtration results were reported. Data assessment will follow pending completion of the study to determine the correlation between enterococcus results obtained from Membrane Filtration and Idexx Chromogenic Substrate. The study will also investigate the rate of false positives that are

observed using Idexx Chromogenic Substrate for enterococcus analysis and its role in the increased number of exceedences for this indicator.

II. MATERIALS AND METHODS

A. SAMPLE COLLECTION

Water samples from 18 Santa Monica Bay shoreline stations were collected daily. Shoreline stations ranged southward from Surfrider Beach in Malibu to Malaga Cove in Palos Verdes (Figure 1). All shoreline stations are sampled 50 yards away from where the storm drain flow meets the shoreline, if applicable. Otherwise, samples are taken 50 yards from a pier or jetty (with the exclusion of station S9 and S18). All samples were collected at ankle-depth level during daylight hours.

B. SAMPLE ANALYSIS

Water samples were collected and analyzed according to Standard Methods (APHA 1992). Total coliform, fecal coliform, and enterococcus bacterial densities were determined by membrane filtration as recommended in sections 9222B, 9222D, and 9230C from July 1 through December 1, 2002. Beginning December 2, 2002 the chromogenic method was employed to analyze samples for total coliform and *E. coli* following Standard Methods sections 9223 (APHA 1992) but the membrane filtration method was maintained for analyzing samples for enterococcus. Samples were tested daily for total and fecal coliforms/*E. coli* and five times a month for enterococcus bacteria.

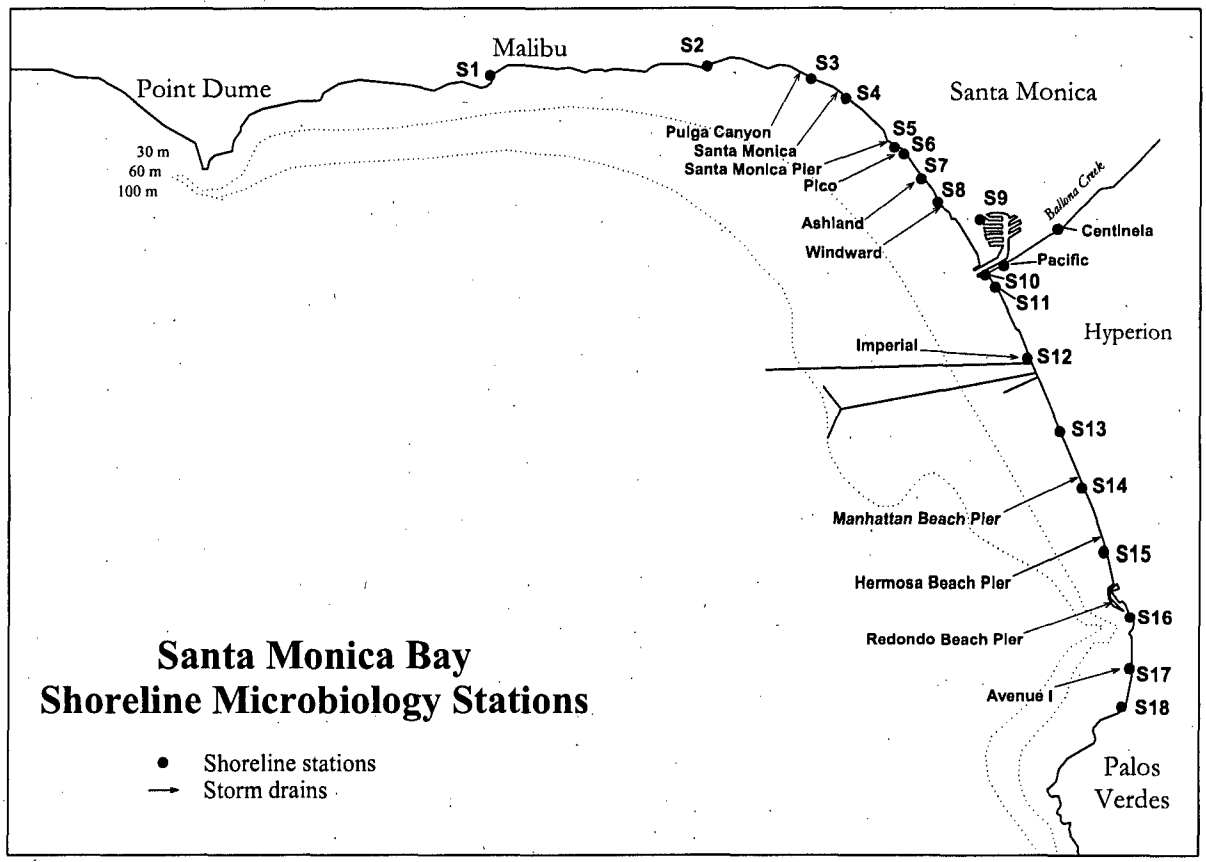

Figure 1. Location of Santa Monica Bay shoreline microbiology stations, stormdrains, and piers.

Quality assurance and quality control procedures were conducted to confirm the validity of the analytical data collected. All areas impacting reported data were subjected to standard microbiological quality control procedures in accordance with Standard Methods (APHA 1992). These areas included sampling techniques, sample storage and holding, facilities, personnel, equipment, supplies, media, and analytical test procedures. Duplicate analyses were also performed on ten percent of all samples. When quality control results were not within acceptable limits, corrective action was initiated. This quality assurance program helped ensure the production of uniformly high quality and defensible data. In addition, EMD participates annually in the performance evaluation program managed by the California State Department of Health Services

(CSDHS). As part of their Environmental Laboratory Accreditation Program (ELAP), CSDHS biennially certifies EMD.

C. DATA ANALYSIS

The results obtained from microbiological samples are generally not normally distributed. To compensate for a skewed distribution and to obtain a nearly normal distribution, data must be log-normalized prior to analysis. Geometric means are the best estimate of central tendency for log-normalized data and were calculated for each bacterial indicator group. Annual geometric means were calculated for all shoreline sampling sites.

Shoreline data were divided into periods of wet and dry weather to examine the effects of storm drain runoff on indicator bacterial concentrations. Regulatory agencies have defined wet weather as the day of rain plus two days following the rain event. Rain data were obtained from the National Weather Service's Los Angeles Civic Center monitoring station.

III. RESULTS

Rainfall

There were eight months with measurable rainfall during the 2002-2003 fiscal year with February 2003 receiving the most rain (4.64 inches), almost one-third of the total rain for that period (Figure 2). Most of the rain was concentrated during the wet-weather season (November 1-March 31), comprising approximately 90% of the total rainfall for the fiscal year (16.43 inches), slightly greater than the annual average of 15 inches for Los Angeles.

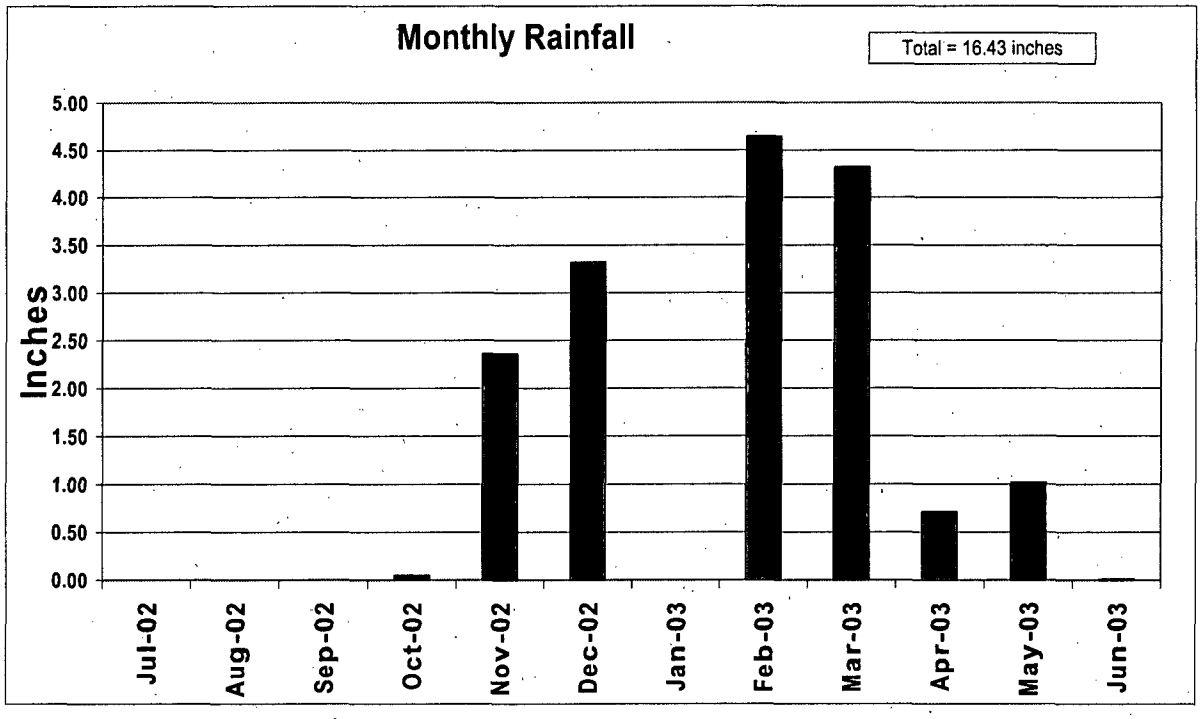

Figure 2. Monthly rainfall amounts at Los Angeles Civic Center, July 2002-June 2003.

Shoreline Stations

The annual geometric means for all indicator bacteria during wet weather were higher than those observed during dry weather (Figure 3). The highest bacterial densities during periods of dry weather were often, but not always, found at stations associated with flowing storm drains or by those adjacent to piers (Figure 1). Stations S1 (Surfrider Beach), S4 (Santa Monica Canyon), and S5 (Santa Monica Pier) had the highest bacterial densities in the northern part of the Santa Monica Bay (SMB) and Stations S10 (Ballona Creek) and S16 (Redondo Beach Pier) along southern SMB. As stated earlier, not all SMB stations are associated with flowing storm drains.

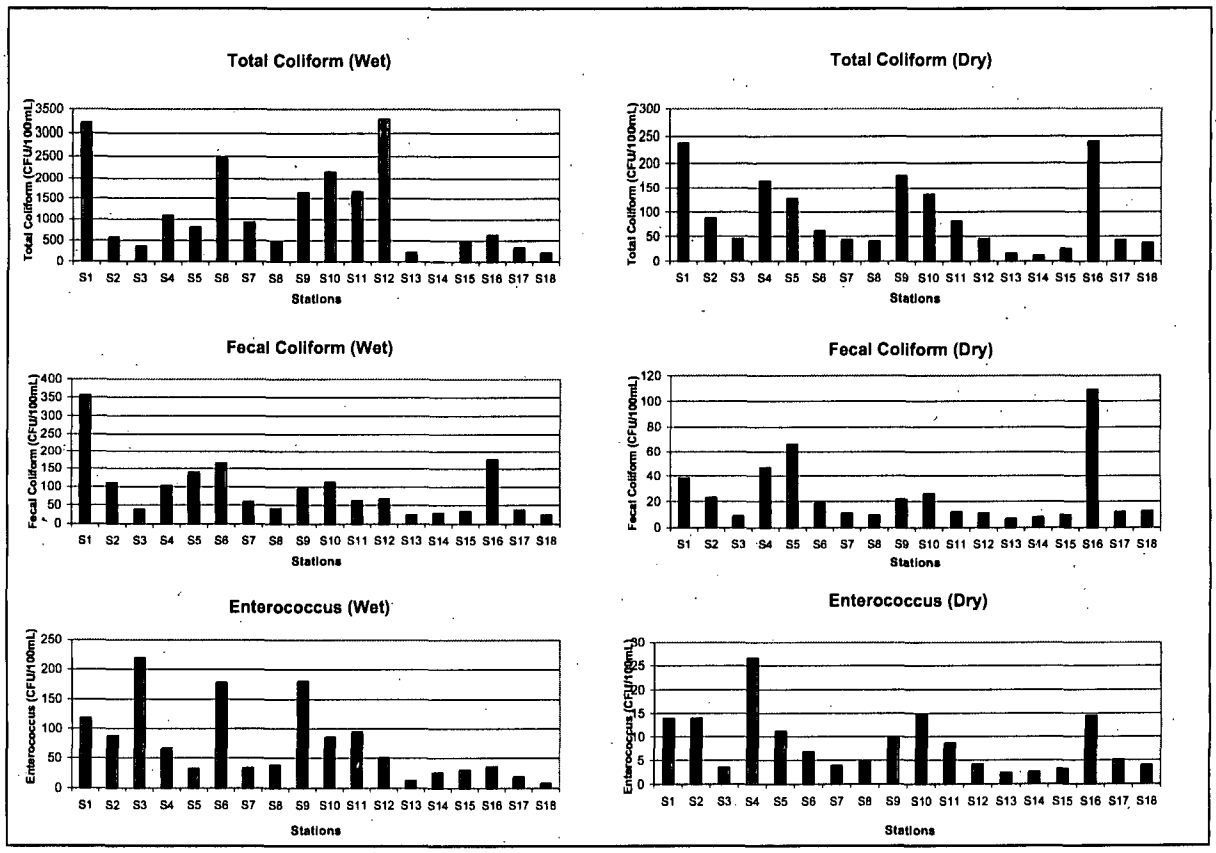

Figure 3. Annual geometric means for indicator bacteria at each shoreline station in Santa Monica Bay during wet and dry weather.

North Santa Monica Bay is comprised of stations located from Malibu (S1-Surfrider Beach) to Marina del Rey (S9-Mother's Beach). These northern SMB stations typically had higher bacterial geometric means than the southern section of the Bay for all indicator bacteria, with the exception of Station S16 for total and fecal coliforms/*E. coli* during the dry-weather season. In northern SMB, Station S1 exhibited the highest total coliform counts for dry-weather, wet-weather, and both weathers combined. The highest fecal coliform/*E. coli* densities during dry weather were measured at Station S5, while the highest enterococcus dry-weather densities were measured at Station S4. High counts were consistently measured for all bacteria during dry-weather at Stations S1, S2, S4, S5, and S9. Station S8 exhibited the lowest total coliform dry-weather geometric mean while

Station S3 had the lowest fecal coliform/*E. coli* and enterococcus dry-weather counts in the northern Bay.

The southern section of Santa Monica Bay include all of the stations south of Ballona Creek, starting from Station S10 (50 yards south of Ballona Creek) to Station S18 (Arroyo Circle, Palos Verdes). The bacterial densities measured at these stations were typically lower than those found in the northern section, with the exception of Station S16. During dry-weather, Station S16 has the highest fecal coliform/*E. coli* geometric mean for both seasons combined (Figure 3). The highest enterococcus dry-weather geometric mean in the south Bay was measured at Station S10. In contrast, the lowest total coliform dry-weather geometric mean was observed at Station S14 and the lowest fecal coliform/*E. coli* and enterococcus dry-weather geometric means were recorded at Station S13.

Water Quality Standards Compliance

A summary of AB411 bathing standards percent compliance for total coliform, fecal coliform/ *E. coli* and, enterococcus can be observed in Table 2. The percent compliances are based on dry-weather events to establish water quality. During the period of July 1, 2002 to June 30, 2003, there were two stations (S3 and S15) at which 100% compliance for three of the four AB411 standards was demonstrated, however, none of the 18 Santa Monica Bay stations, fully complied with all of the listed limits during the designated time period. Five stations situated along northern Santa Monica Bay (S1, S2, S5, S6, and S9) were not in compliance for any single standard. In addition, the lowest percent compliance for all the bathing water standards occurred at Station S1, meaning that the frequency of exceedences were highest at this station. In southern Santa Monica Bay, the

compliance rate for any single standard was better than in the north, ranging from 93.2 to 99.7% at five stations (S10, S12, S16, S17 and S18). The lowest percent compliance in the southern section of the Bay occurred at Station 16.

Table 2. Percent compliance with AB411 standards during dry weather, July 2002-June 2003

Station	Total[1]	Fecal[2]	Entero[3]	T:F Ratio[4]
S01	93.2	81.6	80.4	87.7
S02	98.1	96.5	90.4	95.8
S03	100.0	99.4	100.0	100.0
S04	100.0	95.2	82.0	93.2
S05	99.7	90.0	94.1	95.8
S06	98.7	98.4	98.1	98.4
S07	98.1	100.0	98.0	100.0
S08	100.0	99.7	100.0	99.7
S09	99.7	95.5	96.2	93.9
S10	97.7	97.4	98.0	98.4
S11	98.7	99.4	96.2	100.0
S12	99.0	99.0	96.0	99.7
S13	99.7	99.7	100.0	100.0
S14	99.7	99.7	98.0	100.0
S15	100.0	100.0	100.0	99.7
S16	99.4	86.4	94.0	93.2
S17	97.7	99.0	94.0	99.7
S18	99.7	99.0	98.0	99.7

[1] 10,000 total coliform bacteria/100mL
[2] 400 fecal coliform bacteria/100mL
[3] 104 enterococcus bacteria/100mL
[4] Total coliform level greater than 1000 bacteria/100mL and *E.coli*:TC ratio is greater than 0.1

The percentage of samples exceeding any of the AB411 standards, regardless of weather, can be seen in Figure 4. The data presented in this figure takes into account periods of dry and wet weather combined. Station S1 far exceeds any of the other stations in Santa Monica Bay, followed by Station S16. The lowest percent exceedances in north and south SMB are Stations S8 and S14, respectively.

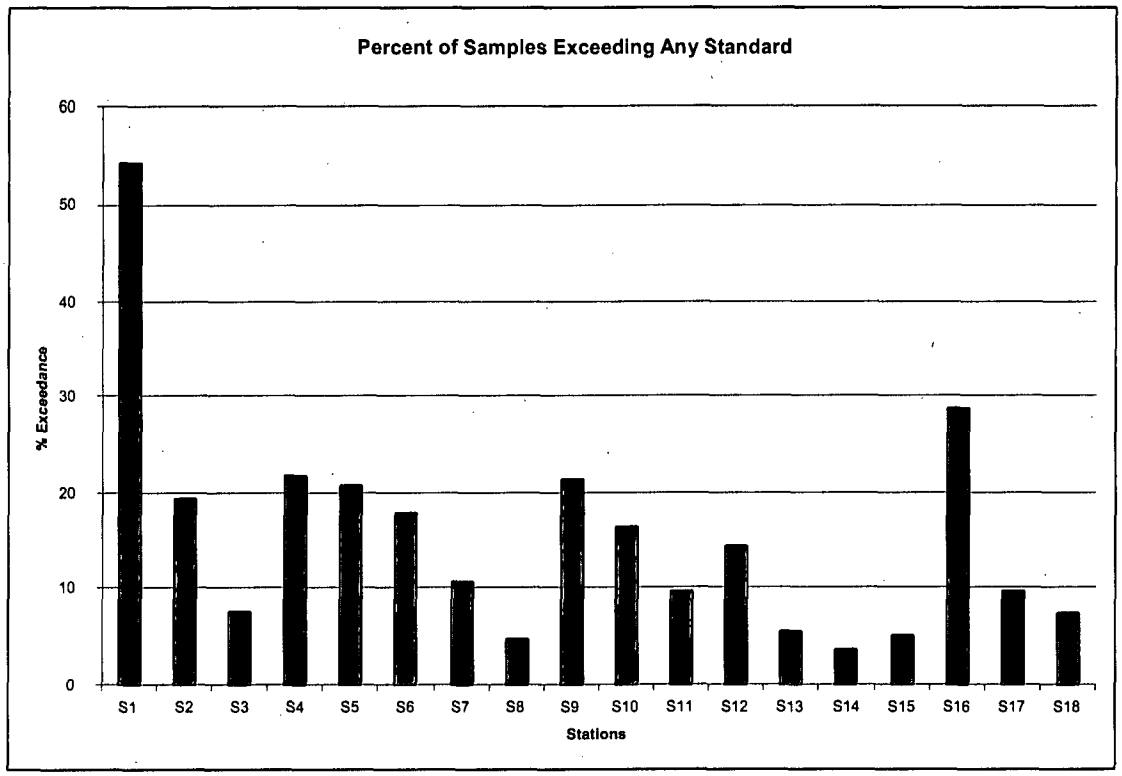

Figure 4. Percent exceedances of any of the four AB411 standards at SMB shoreline stations, dry- and wet-weather combined.

IV. DISCUSSION

In general, water quality in the Santa Monica Bay is good. Measurements of water quality at all monitoring sites remained within 80% - 100% in compliance with all four AB411 bacterial standards. This is a lower rate of compliance when compared to the last monitoring year (July 2001 – June 2002), 84% - 100%. Two factors affecting water quality at monitoring sites are rain events and proximity to storm drains and piers. This monitoring period was a wet year relative to the previous monitoring period, with the 16.43 inches of rain delivering substantially more runoff to the shoreline waters.

Urban and stormwater runoff are the biggest contributors of bacterial contamination to Santa Monica Bay. Runoff flows over rooftops, freeways, parking lots, construction sites, industrial facilities, and other impervious surfaces, collecting pollutants and transporting them through open channels and underground pipes directly to the Bay. Even in dry-weather, ten to twenty-five million gallons of water flow through storm drains into Santa Monica Bay every day (The Bay Commission 2003).

The northern part of the Bay contains the majority of consistently and intermittently flowing storm drains. Station S1, a popular recreational site for the surfing community, was consistently the site of highest indicator counts for wet weather, dry weather and wet-dry combined. It is the outlet of the entire Malibu Creek watershed and is mainly affected by flows from the Malibu Lagoon located 50 yards to the north. Malibu Lagoon flowed constantly from November 2002 to June 2003, with moderate flows in dry weather and moderate to heavy in wet weather. The lagoon is a repository for the Las Virgenes Municipal Water District's Tapia Water Reclamation Facility that periodically discharges tertiary-treated wastewater into the Bay via Malibu Creek (The Bay Commission 2003). The lagoon also serves as a reserve for numerous bird species, an added risk of contamination at this monitoring site.

In addition to Station S1, high counts were consistently measured at Topanga Canyon (S2), Santa Monica Canyon Storm Drain (S4), Santa Monica Pier (S5), and Mother's Beach (S9) for dry weather. Stations S2 and S4 are associated with stormdrains and flowed for 107 and 242 days of the monitoring period, respectively, with light to moderate flows (Figure 5).

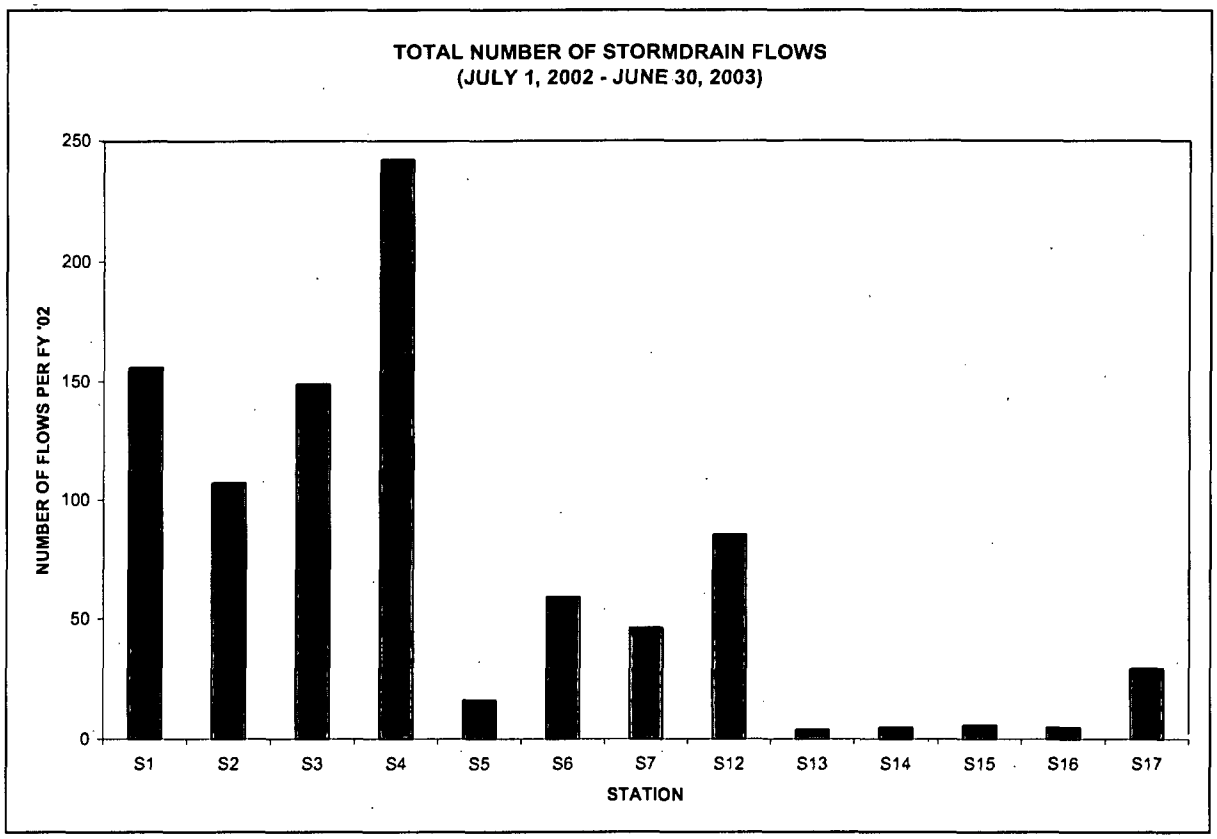

Figure 5. Number of days that flows from Santa Monica Bay storm drains were observed at monitoring stations.

Station S5 is located proximal to Santa Monica Pier. The storm drain located at the pier has been diverted to the Santa Monica Urban Runoff Recycling Facility (SMURRF) during dry weather. A more likely source of contamination at this station is the pier and attendant structures. Santa Monica Pier houses several food concession stands, restroom and parking facilities, as well as a small marine aquarium, and attracts thousands of California local visitors and tourists annually.

Station S9, located in Marina Del Rey at Mother's Beach, is not associated with any visible storm drain. However, Station S9 is located in an area of stagnant or low flow and poor circulation, resulting in slow flushing of contaminants out of the area. The site has been mitigated for possible

avian fecal contamination by the installation of overhead filamentous wire structures (interfering with the fight path of birds) to prevent or reduce the presence of birds on the shore. Los Angeles County Department of Beaches and Harbor (LACDBH) has recently initiated a project to identify and eliminate contamination sources (Lauri Ames, LACDBH, personal communication). Additionally, this site has been included in the Santa Monica Bay bacterial TMDL program.

Storm drains in the southern portion of Santa Monica Bay, with the exception of those at Stations S10, S12, and S17 (Ballona Creek, Imperial Hwy, and Ave I storm drains, respectively), rarely exhibit visible flow in dry weather. Station S10 (Ballona Creek) exhibited the highest bacterial counts among the three storm drains mentioned.

Station S10 is adjacent to Ballona Creek which is one of the largest freshwater non-point sources to drain directly into the Bay. In 1987 and 1988, Ballona Creek accounted for 58% and 71%, respectively, of the total freshwater runoff into the Bay. Based on 1987-1988 observations, winter storm flow in the creek accounts for at least 50% of the total annual volume discharge into the Bay (Interdisciplinary Oceanographic Group 1998). This flow carries high concentrations of bacteria. For example, at Pacific Ave, EMD's monitoring site nearest to the mouth of Ballona Creek, an average annual geometric mean of 4200 cfu/100ml for total coliforms and 370 cfu/100mL for fecal coliforms, wet and dry weather combined, was measured. There can be little doubt that counts at Stations S10 and S11 are a reflection of the discharge from Ballona Creek, especially during wet weather when flows are increased. Most current measurements in Santa Monica Bay in the winter-storm period indicate a mean flow toward the northwest, but near-shore measurements indicate a southward flow along the coast. Such a southward flow in the Bay would advect plume waters

from Ballona Creek toward the beaches of Playa del Rey (Interdisciplinary Oceanographic Group 1998). In addition to being subject to stormwater plumes from Ballona Creek, Station S11 is located adjacent to the Culver storm drain. However, impacts from flows through this drain are not effectively assessed because it extends too far into the surf to be visible to the monitoring staff for determining the level of activity.

Station S16, located at the far end of the southern portion of the Bay, is adjacent to Redondo Beach Pier and was found to have the highest dry-weather total and fecal coliform/*E. coli* counts along south Santa Monica Bay. This site, much like Station S5 (Santa Monica Pier), is subjected to similar influences of bacterial contamination. The pier contains a large restaurant, food concessions, restroom and parking facilities, and has a large tourist population. Though there is an associated storm drain in the area, it rarely flows across the sandy surface. The counts here can be attributed most likely to pier activity.

Water quality within the Santa Monica Bay has improved in recent years due to the efforts of the City/County of Los Angeles' Low-Flow Diversion Program, the City of Santa Monica's Sustainable City Program (SMURRF), and the efforts of other municipalities within the watershed in implementing several best management practices (BMPs) (Table 3). These programs are designed to prevent harmful pollutants from reaching our local water bodies, enhance economic development and growth through increased beach usage and tourism, and to protect human health and the environment. These programs are part of a continuing process to reduce or prevent discharge of harmful pollutants into the receiving waters of the Bay.

Table 3. Status and locations of the various Santa Monica Bay low-flow diversion projects.

No.	Drain	Drain Owner	Average Flow (MGD)	Construction Cost	Costruction Completion Date	Lead Agency
	Completed Projects					
1	Pico-Kenter	County of LA	0.04	$250,000	1-Jan-93	City of LA/City of SM/County of LA
2	SMURRF (Treats Pico-Kenter and Santa Monica Peir Drains diverted flows)	County of LA	0.04	$12 million	1-Oct-01	City of LA/City of SM
3	Ashland Avenue	County of LA	0.07	$300,000	15-Apr-01	County of LA
5	Rose Avenue (diverts into Ashland)	County of LA	0.04	--	15-Sep-77	County of LA
4	Brooks Avenue	County of LA	0.11	$300,000	15-Apr-01	County of LA
6	Playa del Rey	County of LA	0.26	$300,000	15-Apr-01	County of LA
7	Santa Monica Pier	City of SM	0.04	$75,000	1-Oct-97	City of SM
8	Thornton Avenue	City of LA	0.05	$550,000	22-Jun-99	City of LA
9	Bay Club Drive	City of LA	0.08	$390,000	24-Jan-01	City of LA
10	Palisades Park	City of LA	0.52	$480,000	28-Nov-00	City of LA
	Under Construction					
1	Santa Monica Canyon	County of LA	4.2	$1,200,000	10-Jun-03	City of LA
2	Venice Pavilion (Windward Ave Pump Station)	County of LA (City of LA)	0.1	$300,000	10-Jun-03	City of LA
3	Temescal Canyon	County of LA	1.3	$590,000	23-Jun-03	City of LA
4	Imperial Highway	County of LA	0.05	$510,000	29-Jun-03	City of LA
	Under Design					
1	Castlerock/Parker Canyon	County of LA	0.27	$800,000	1-Oct-03	County of LA [a]
2	North Westchester (Project No. 5241)	County of LA	0.34	$800,000	1-Sep-04	County of LA [a]
3	Santa Ynez Canyon (Project No. 674)	County of LA	1.7	$800,000	1-Dec-04	County of LA [a]
4	Pulga Canyon (Project No. 501)	County of LA	0.65	$800,000	31-Dec-04	County of LA [a]
5	Ashland Ave (Project No. 7401)	County of LA	0.1	$800,000	31-Dec-04	County of LA [1,a]
6	Rose Ave (Project No. 46)	County of LA	0.1	$800,000	31-Dec-04	County of LA [1,a]
7	Brooks Ave (Project No. 507)	County of LA	0.1	$800,000	31-Dec-04	County of LA [1,a]
8	Marquez Avenue	City of LA	0.03	$400,000	31-Dec-04	City of LA
	Future Projects					
1	Montana Avenue	County of LA	0.06	$1,000,000	1-Oct-03	City of SM [b]
2	Wilshire Boulevard	County of LA	0.11	$1,000,000	1-Oct-03	City of SM [b]

Note: Anticipated Bacterial TMDL adoption date is June 2003.
Summer dry weather bacterial TMDL compliance date is June 2006.
Winter dry weather bacterial TMDL compliance date is June 2009.

[1] Upgrade existing facilities or construct new facilities to replace existing

[a] The City of LA will coordinate the implementation of the project(s) with the County of LA.

[b] 100% of the drainage areas are within the City of SM.

Other measures for improving water quality along Santa Monica Bay beaches include (Santa Monica Bay Restoration Commission 2003):

- Structural Best Management Practices (BMPs), such as installation of in-stream trash capture devices, catchbasin retrofits, and installation of filtration devices along roadways or in parking lots.
- Non-structural BMPs, such as catch-basin stenciling, enhanced catch basin/trash can cleaning, and street sweeping,
- Public education and outreach
- Enhanced storm drain inspection
- Implementation of programs that eliminate illicit connection and illegal discharge to the storm drains
- Promotion and enforced implementation of BMPs at industrial facilities and construction sites
- Implementation of new land use practices to increase on-site storm water infiltration and to reduce erosion
- Enaction and enforcement of local ordinances that prohibit activities that contribute to storm water pollution, such as illegal disposal, dumping or washing of waste (from domestic animals, restaurants, automobiles, etc.) into the storm drain system.

Some of the above recommendations have already been implemented and, given the cooperative spirit of municipalities, environmental organizations, and concerned communities, more and more strides are made each year to enhance and protect our water bodies.

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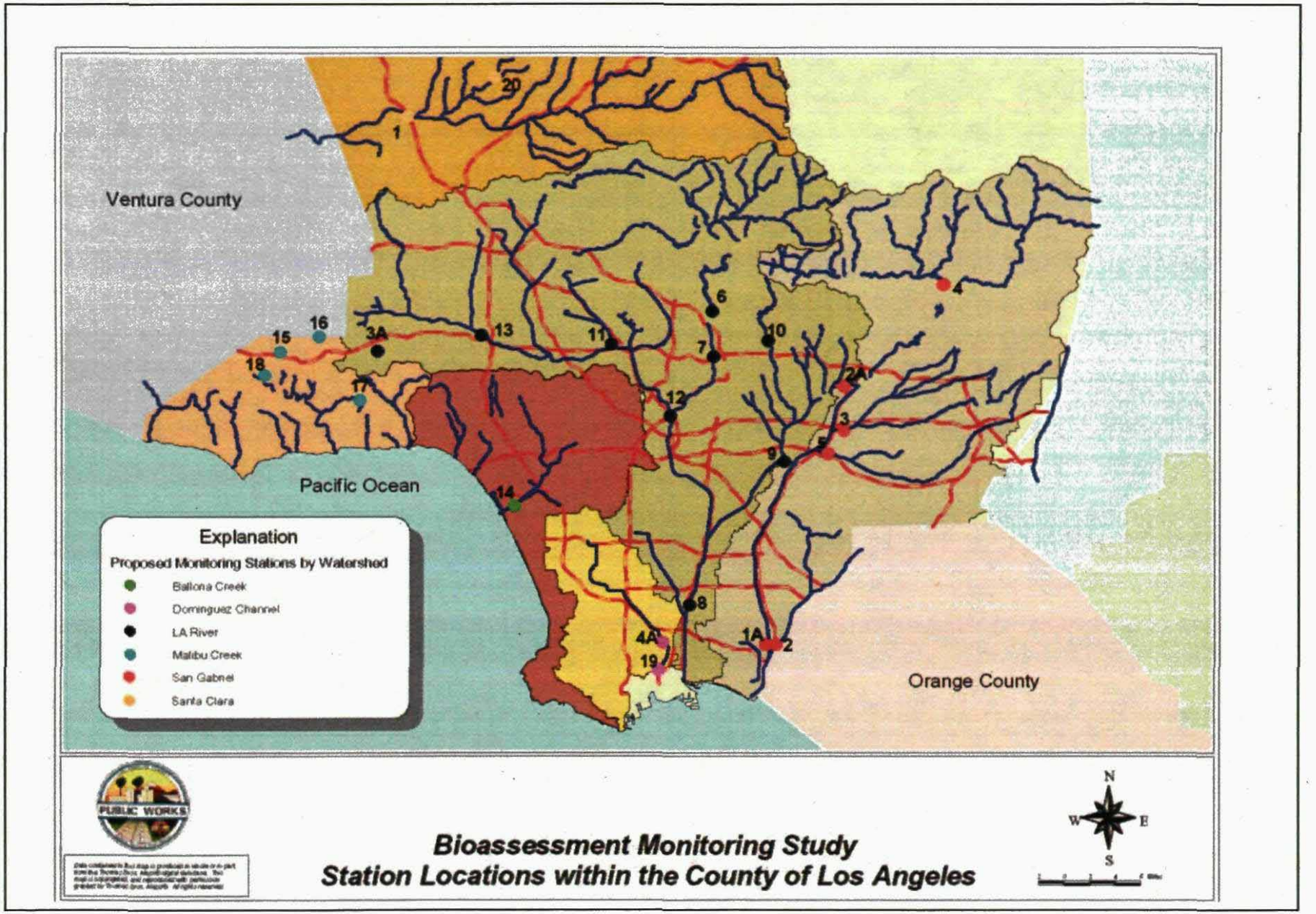
Figure 1-1. Bioassessment Sampling Station Locations Within Los Angeles County



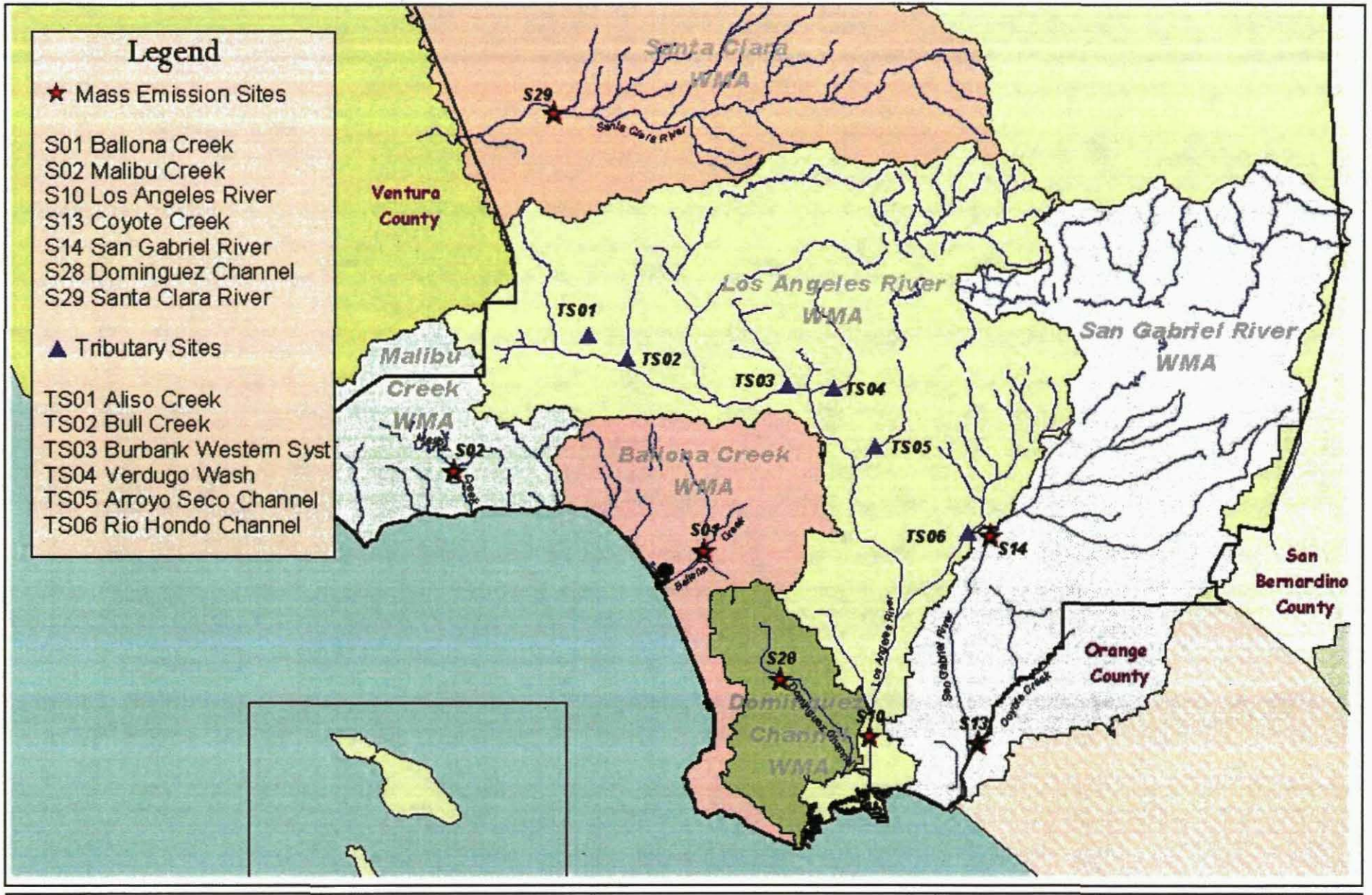


Figure 2-1
Mass Emission and Tributary Sampling Sites for 2002-2003

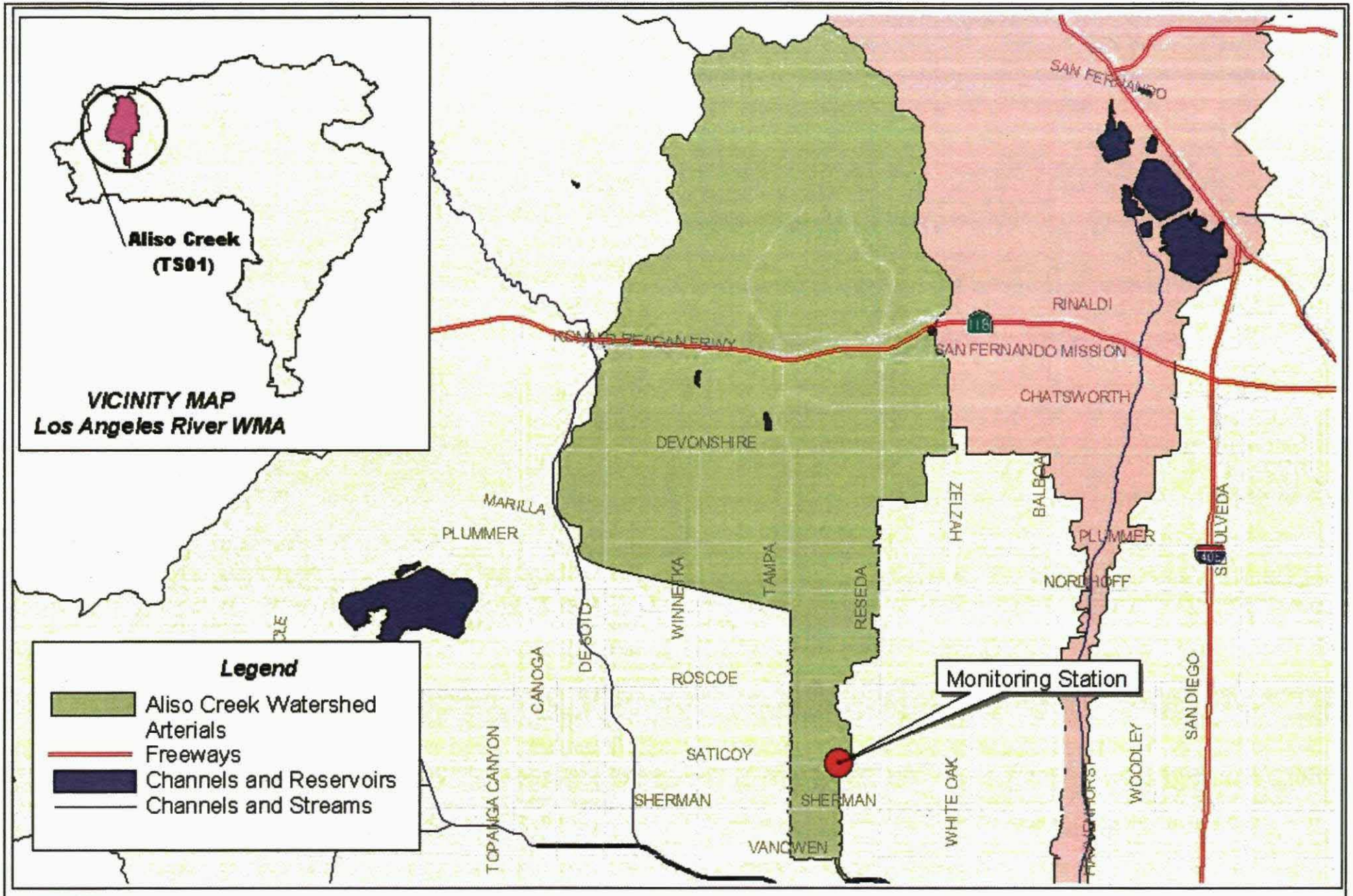


Figure 2-10

Aliso Creek (TS01)
at Saticoy St.
Reseda
Tributary Monitoring Site

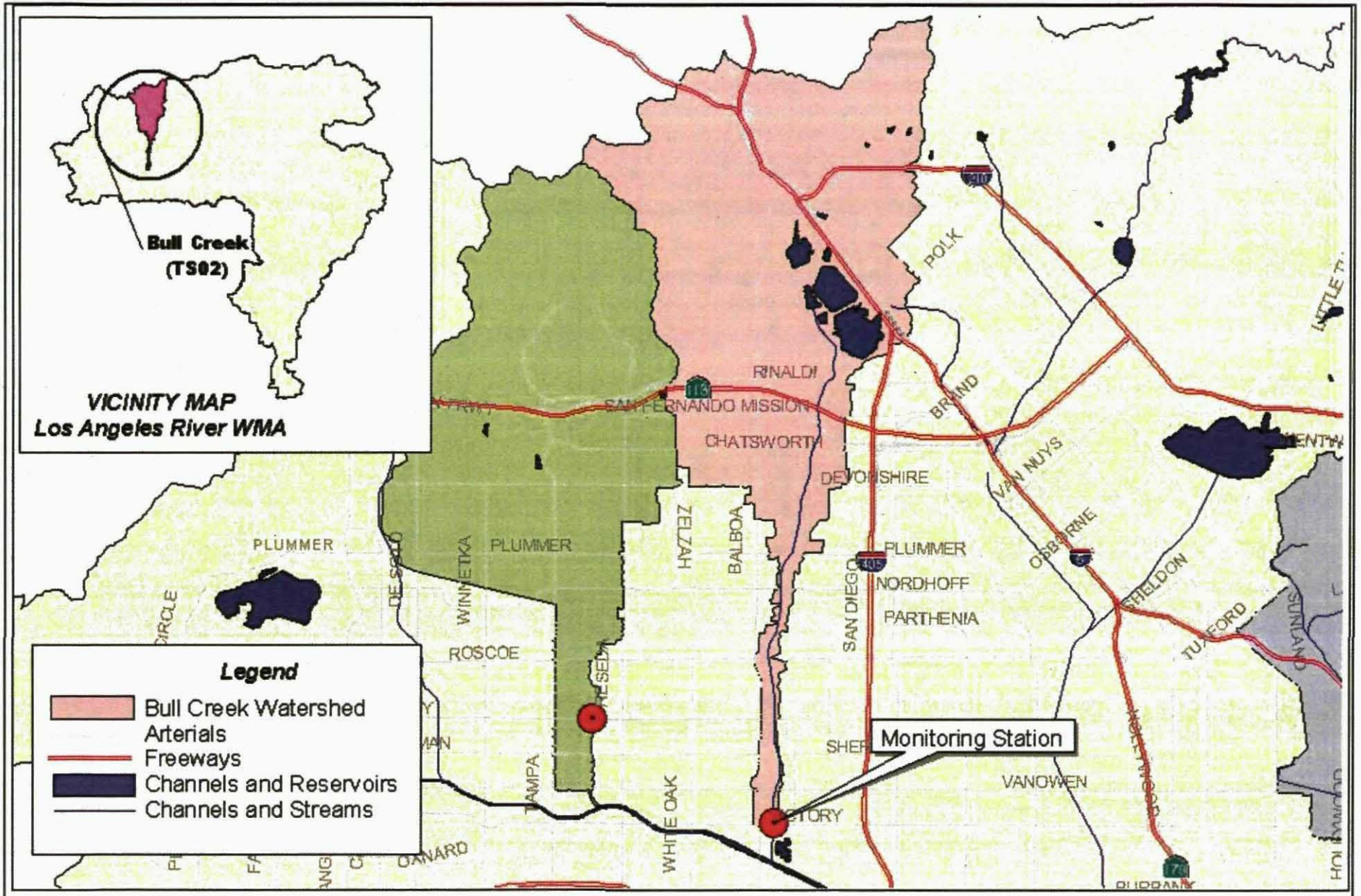


Figure 2-11

Bull Creek (TS02)
at Victory Blvd.
Lake Balboa
Tributary Monitoring Site

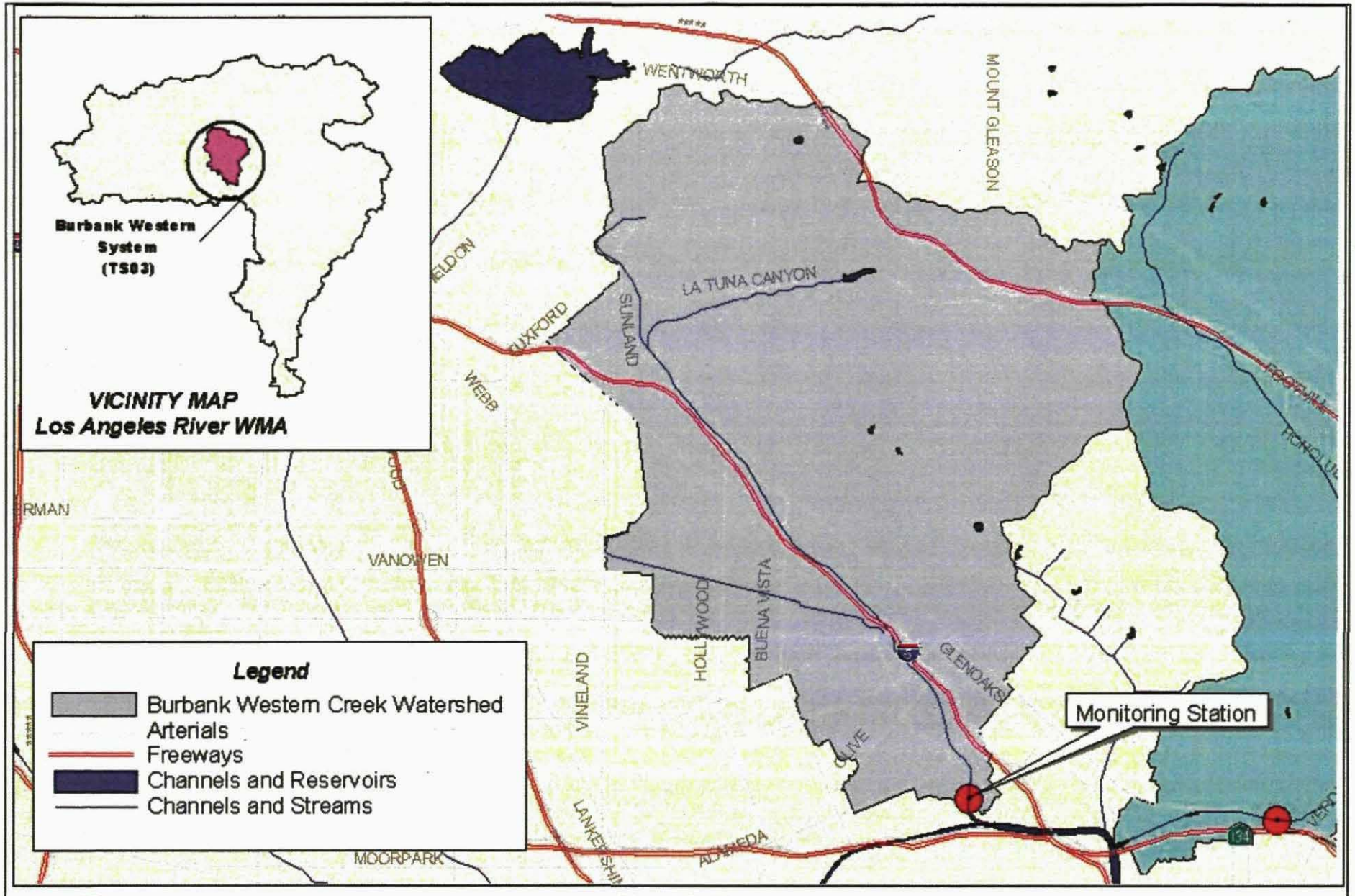


Figure 2-12

Burbank Western System (TS03)
Upstream of Riverside Dr.
Glendale
Tributary Monitoring Site

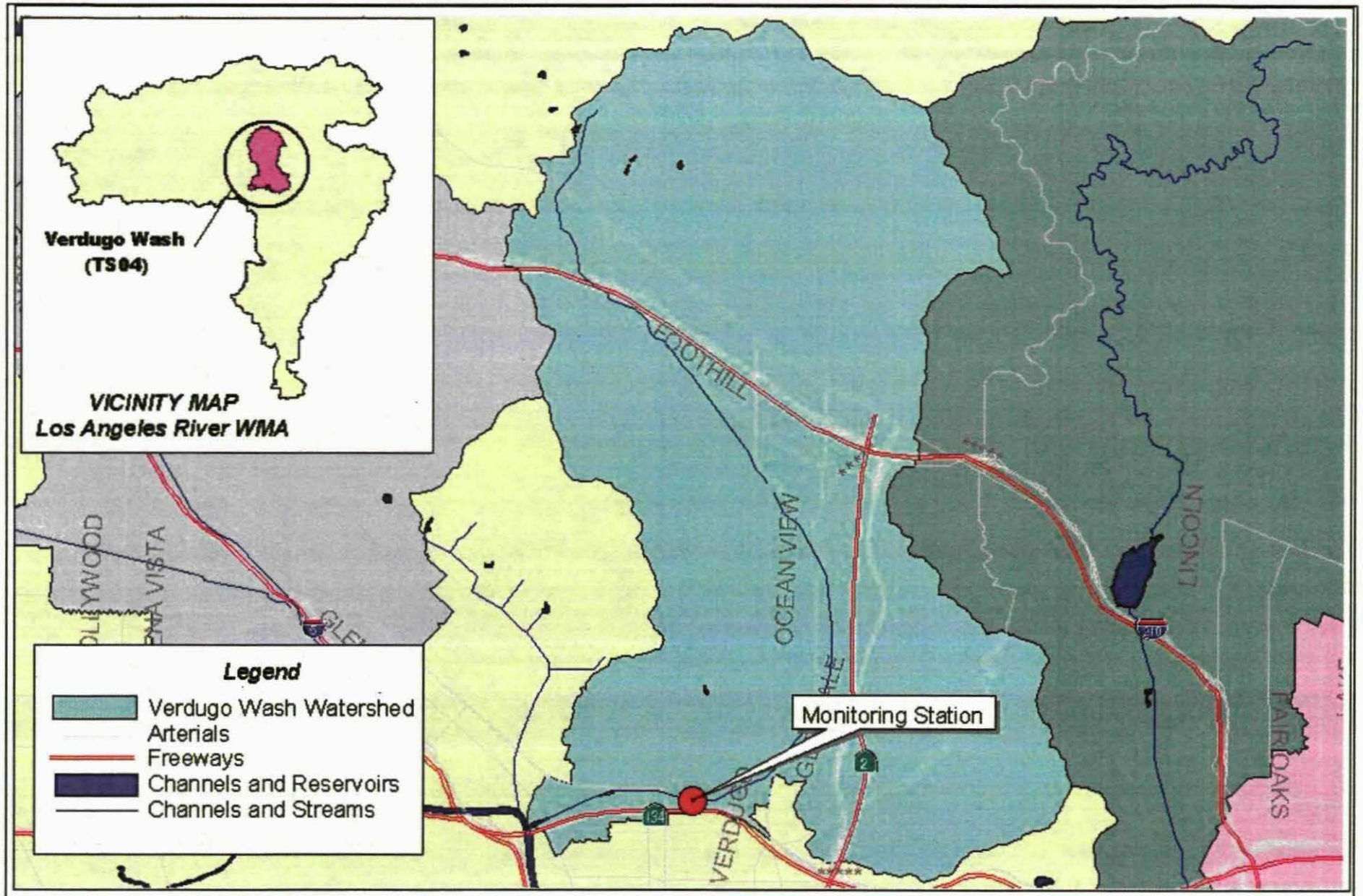


Figure 2-13

Verdugo Wash (TS04)
at Jackson St.
Glendale
Tributary Monitoring Site

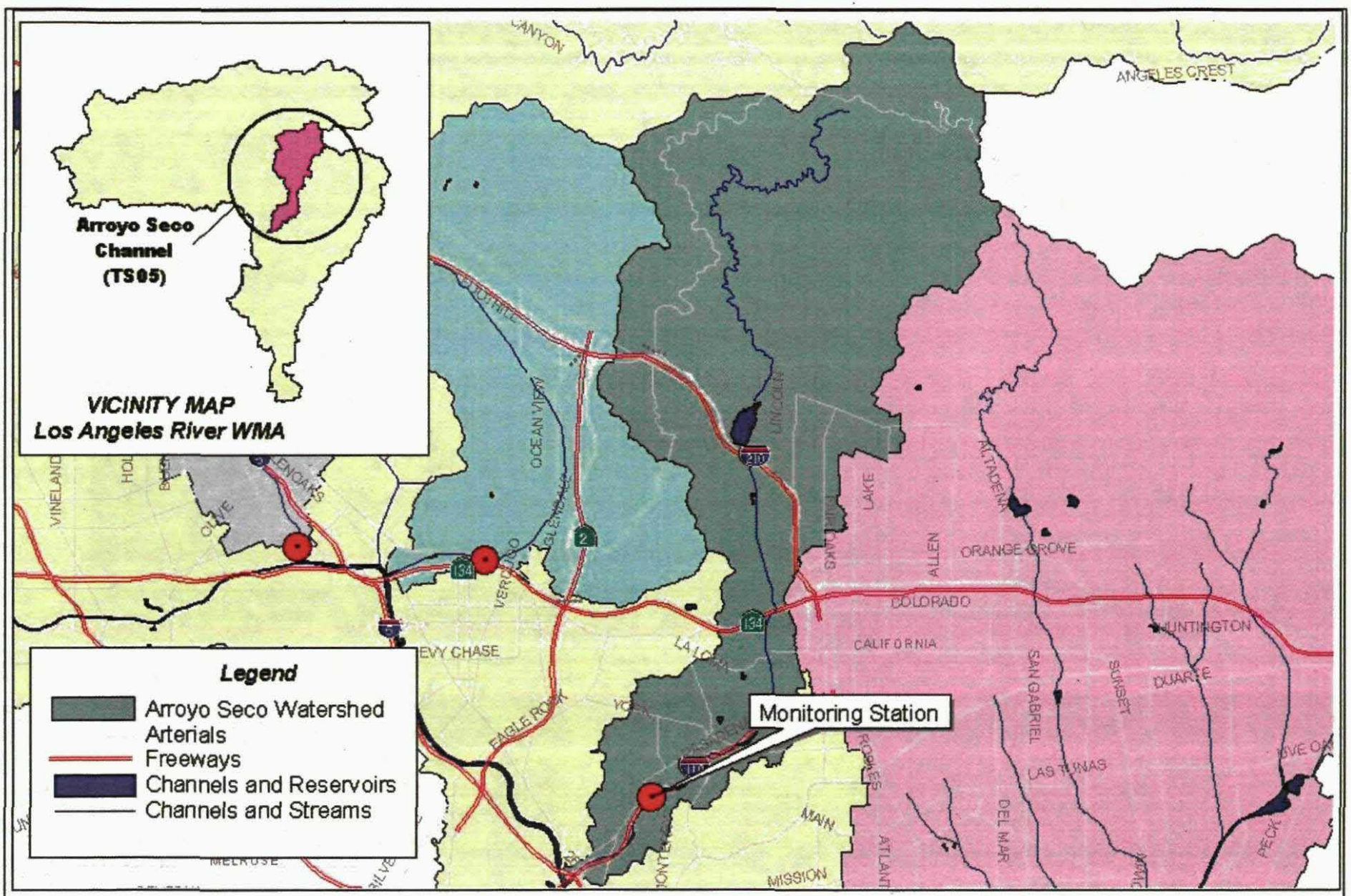


Figure 2-14

Arroyo Seco Channel (TS05)
at Griffin Ave.

Montecito Heights
Tributary Monitoring Site

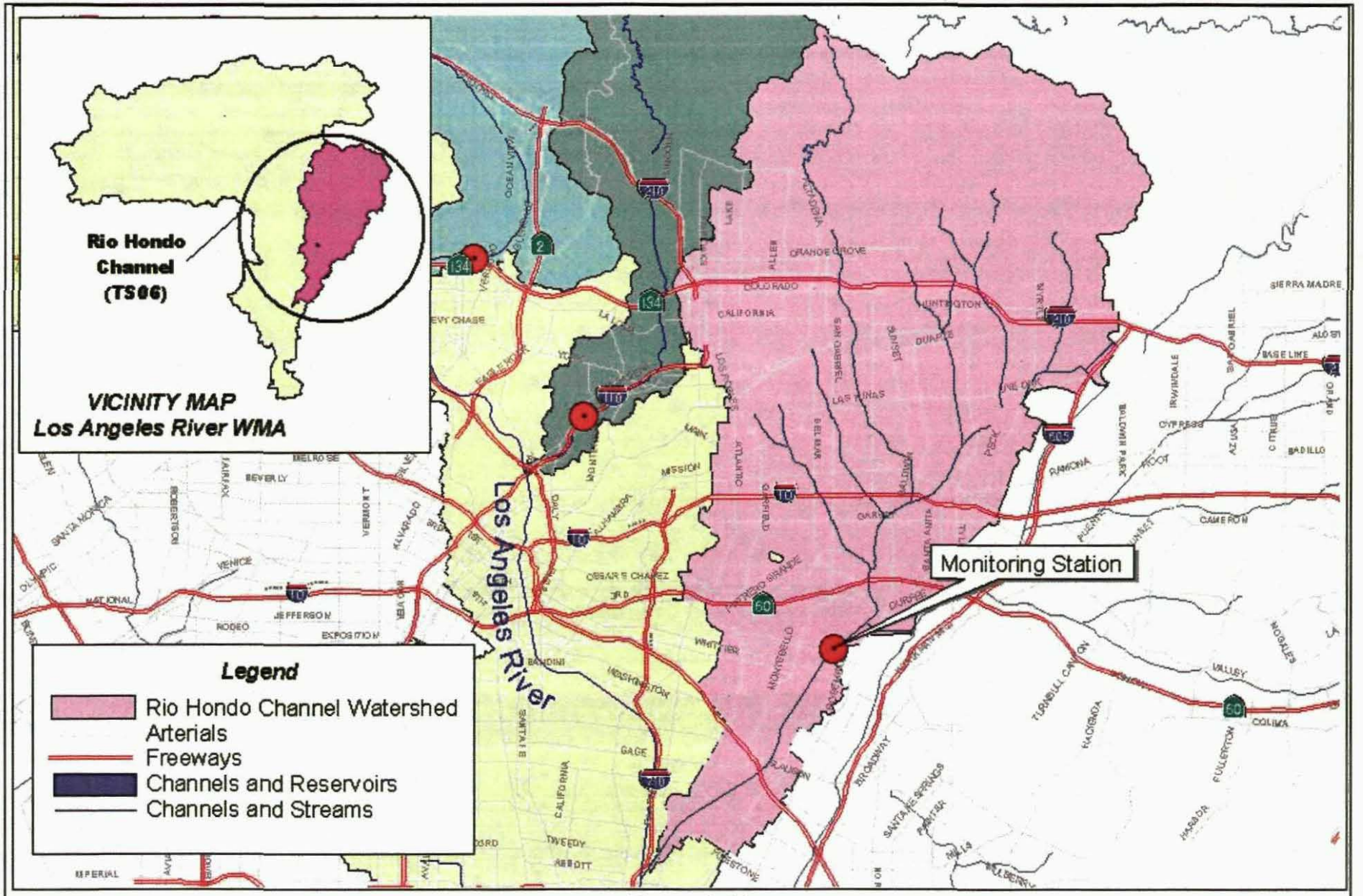


Figure 2-15

Rio Hondo Channel (TS06)
at Beverly Blvd.

Pico Rivera
Tributary Monitoring Site

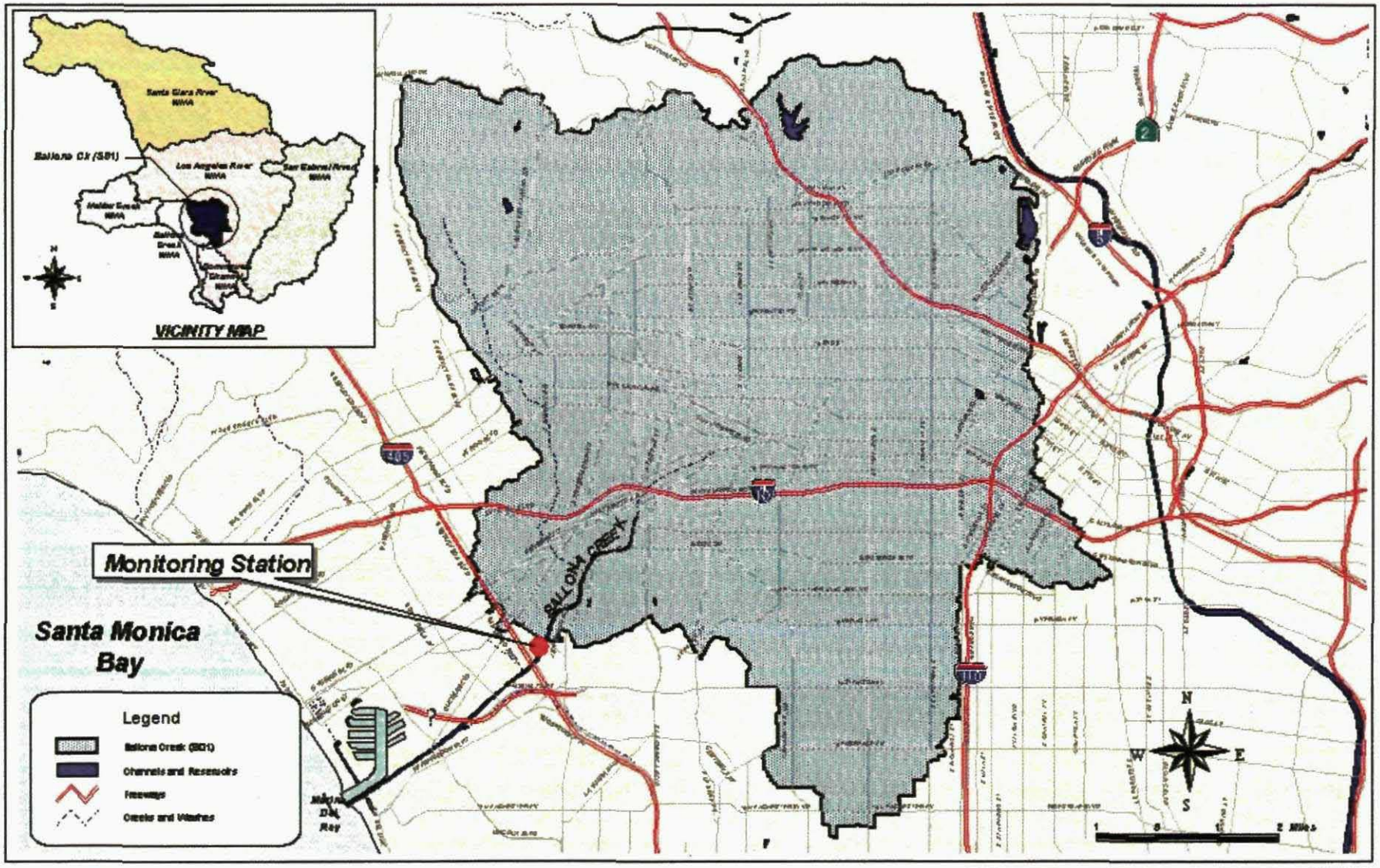


Figure 2-2

BALLONA CREEK (S01)
at Sawtelle Blvd.
Los Angeles
(Mass Emission Monitoring Site)

Land Use Distribution	Area (Acres)	Percent
High Density Residential	22,722	40.0%
Light Industrial	1,969	3.5%
Vacant	6,303	11.1%
Retail/Commercial	5,646	9.9%
Multi-Family Residential	7,009	12.3%
Transportation	851	1.5%
Education	1,566	2.7%
Mixed Residential	3,810	6.7%
Other	6,968	12.3%
Total	56,844	100.0%

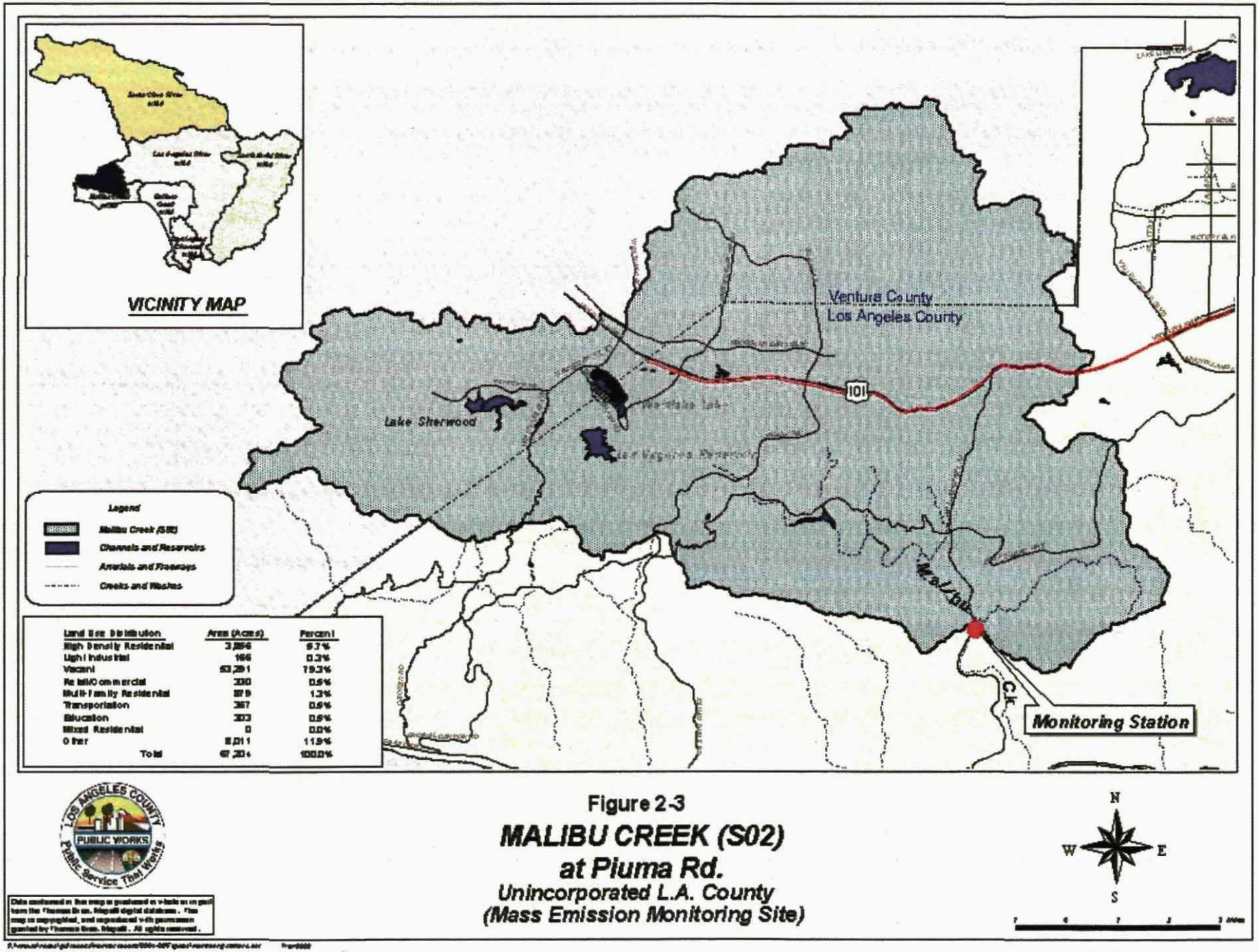


Figure 2-3

MALIBU CREEK (S02) at Piuma Rd.

Unincorporated L.A. County

(Mass Emission Monitoring Site)

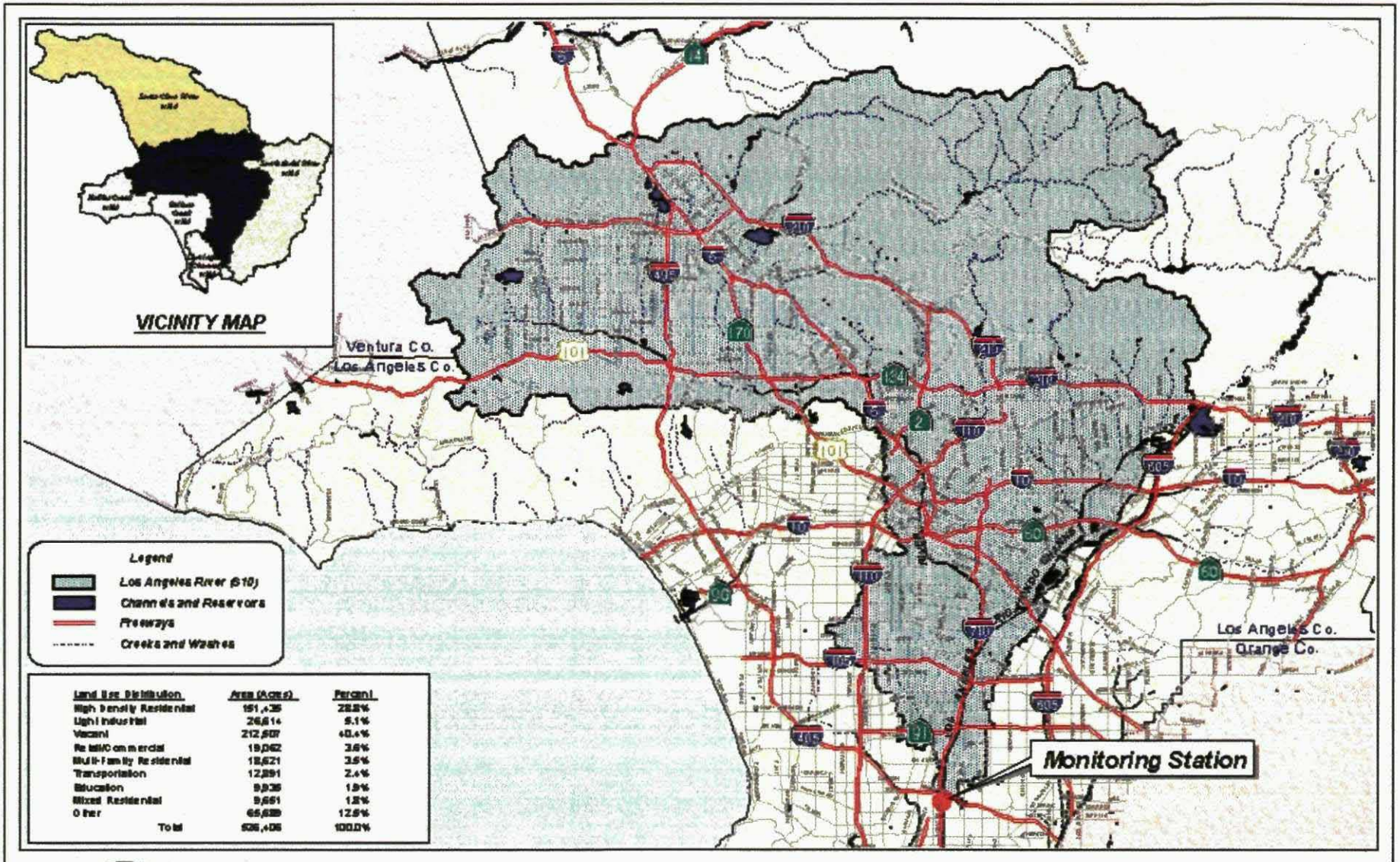


Figure 2-4

LOS ANGELES RIVER (S10) at Wardlow Rd.

Long Beach

(Mass Emission Monitoring Site)

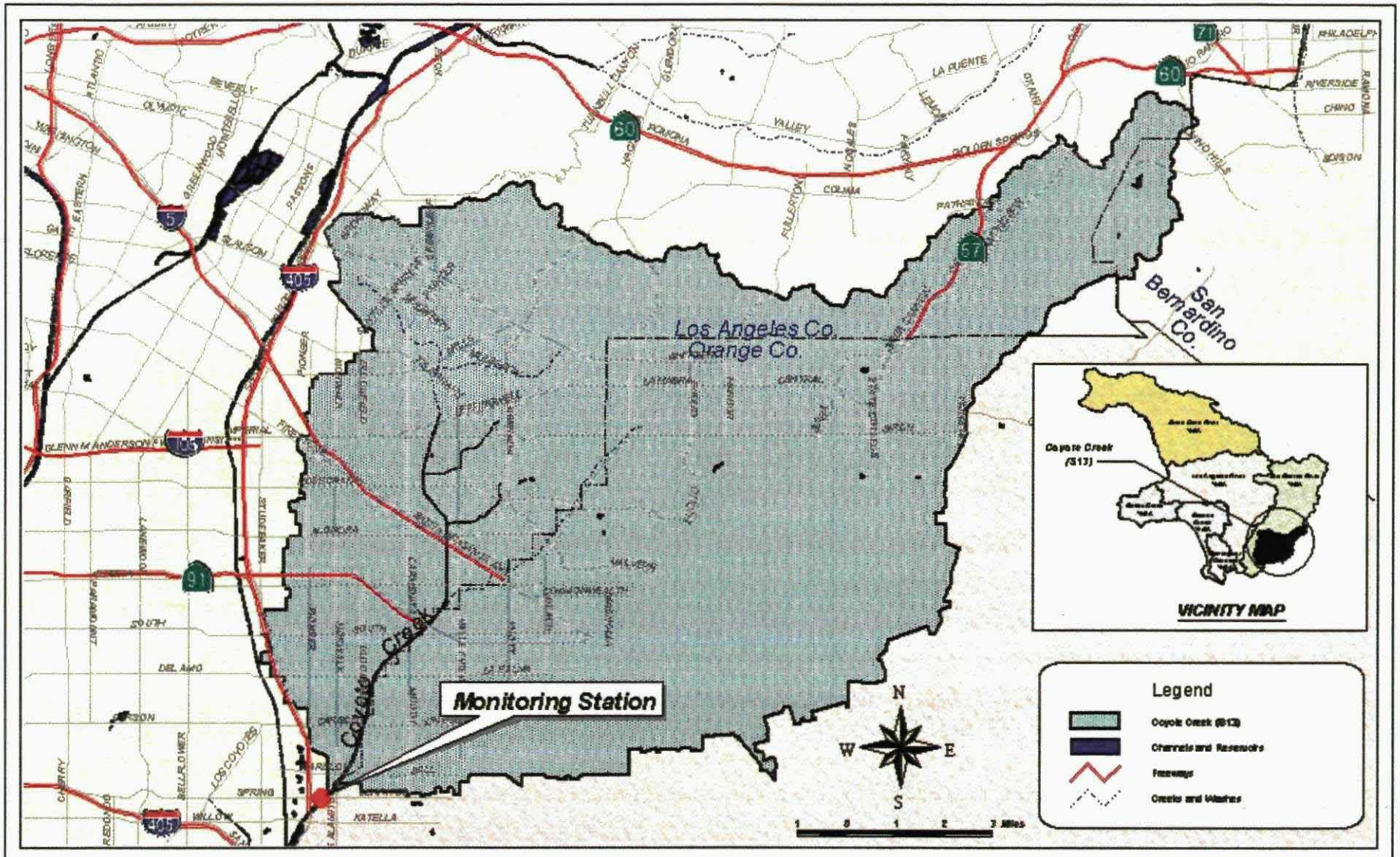


Figure 2-5

COYOTE CREEK (S13) at Spring St.

Long Beach

(Mass Emission Monitoring Site)

Land Use Distribution	Area (Acres)	Percent
High Density Residential	36,402	38.3%
Light Industrial	8,000	8.4%
Vacant	13,950	14.3%
Retail/Commercial	5,366	5.6%
Multi-Family Residential	5,836	6.1%
Transportation	1,718	1.8%
Education	4,129	4.3%
Mixed Residential	195	0.2%
Other	19,864	21.0%
Total	95,111	100.0%

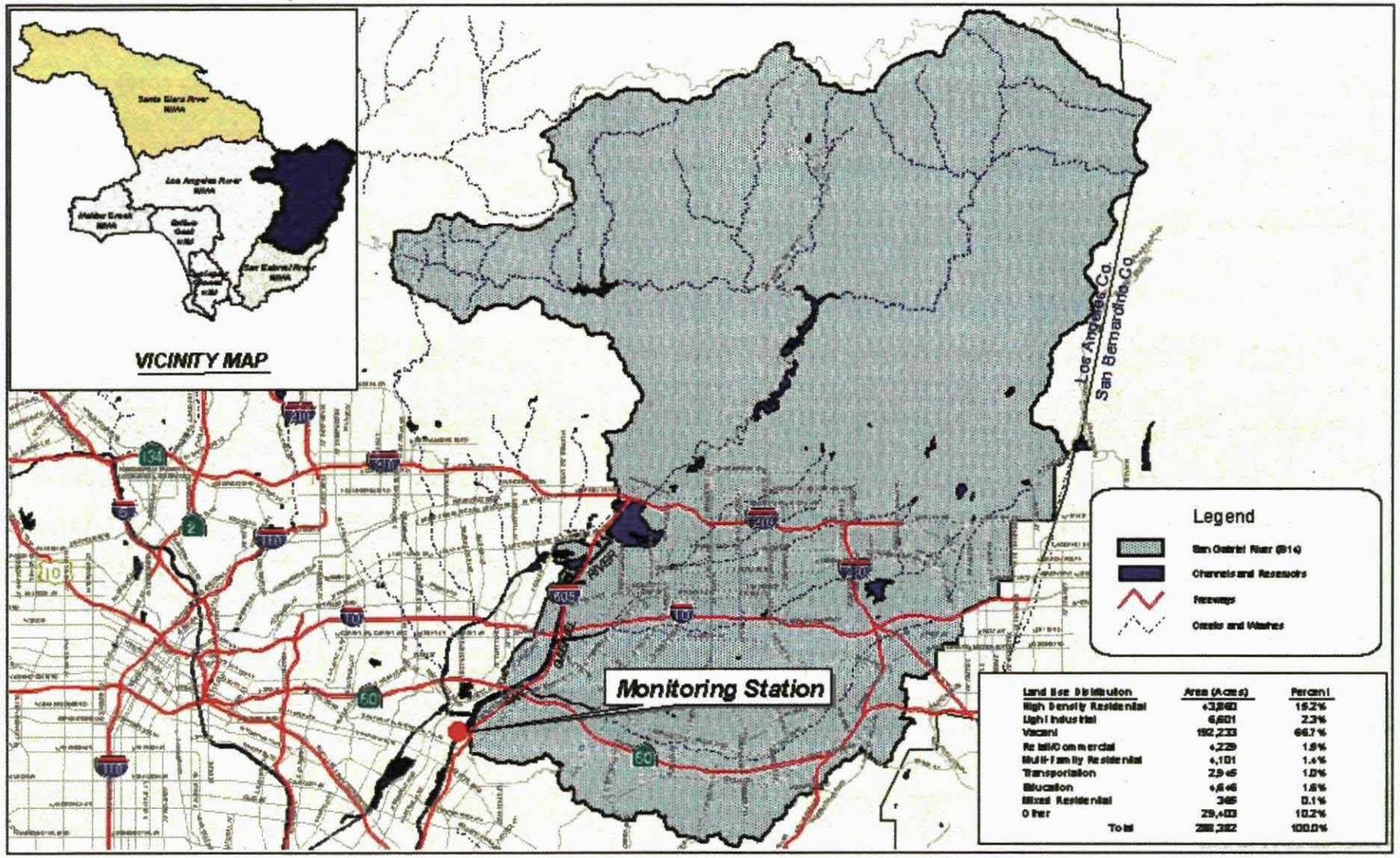


Figure 2-6

SAN GABRIEL RIVER (S14) at San Gabriel Pkwy.

Pico Rivera

(Mass Emission Monitoring Site)

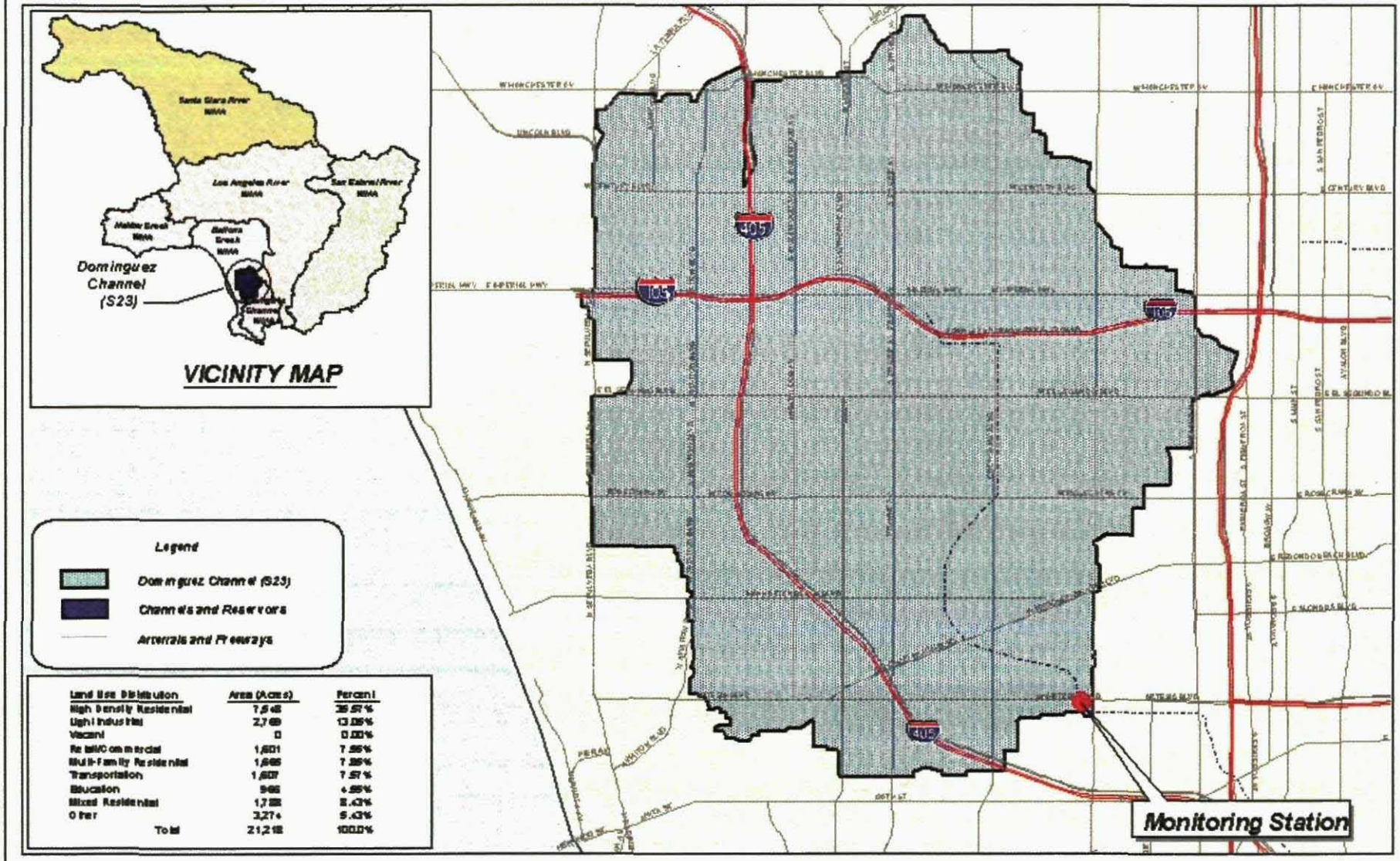
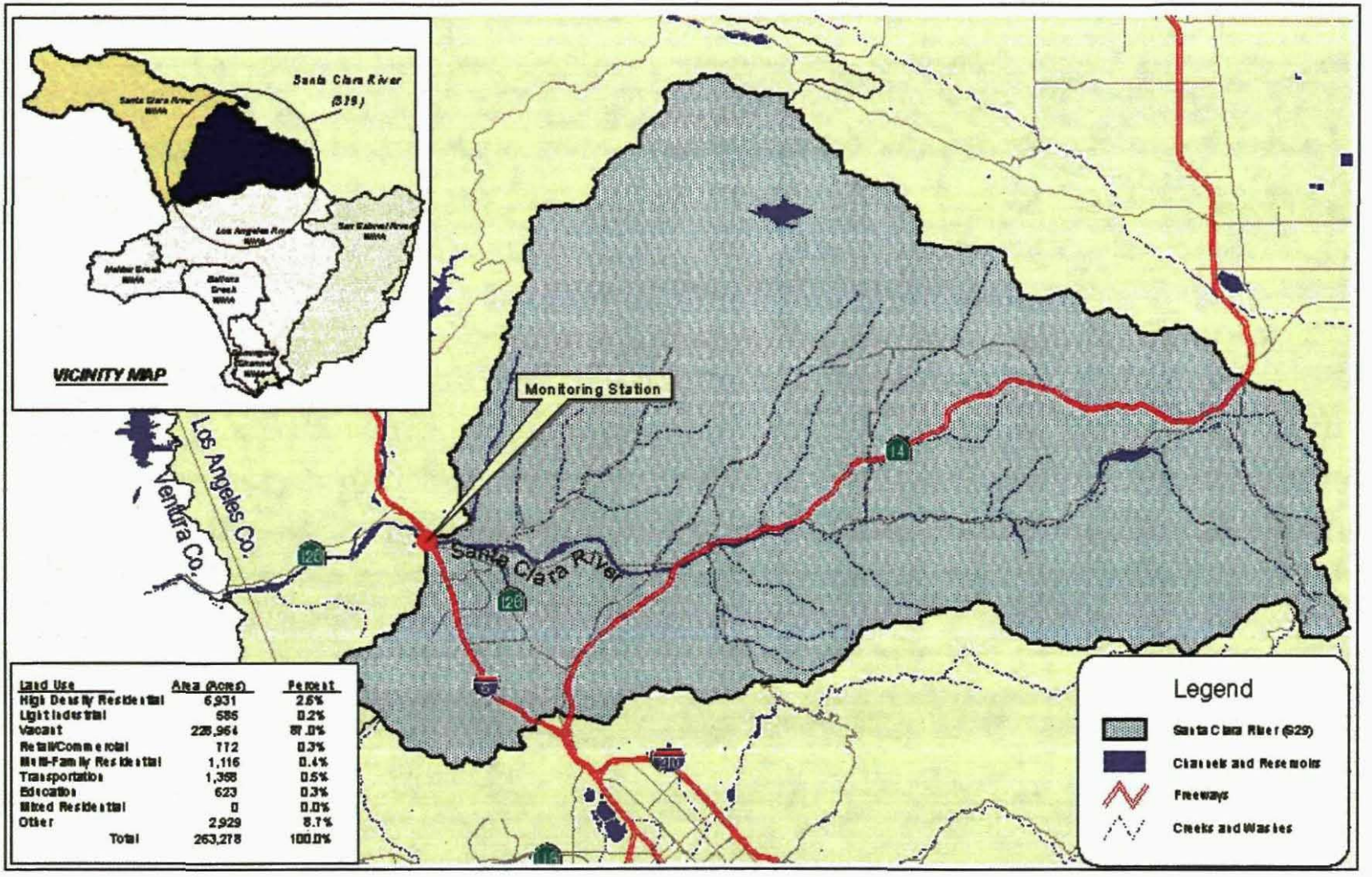


Figure 2-7

DOMINGUEZ CHANNEL (S28)
at Artesia Blvd.
Torrance
(Mass Emission Monitoring Site)



Land Use	Area (Acres)	Percent
High Density Residential	6,931	2.6%
Light Industrial	586	0.2%
Vacant	228,964	87.0%
Retail/Commercial	772	0.3%
Multi-Family Residential	1,116	0.4%
Transportation	1,368	0.5%
Education	623	0.3%
Mixed Residential	0	0.0%
Other	2,929	8.7%
Total	263,278	100.0%

Figure 2-8

Santa Clara River (S29) at The Old Road

Santa Clara (Mass Emission Monitoring Site)

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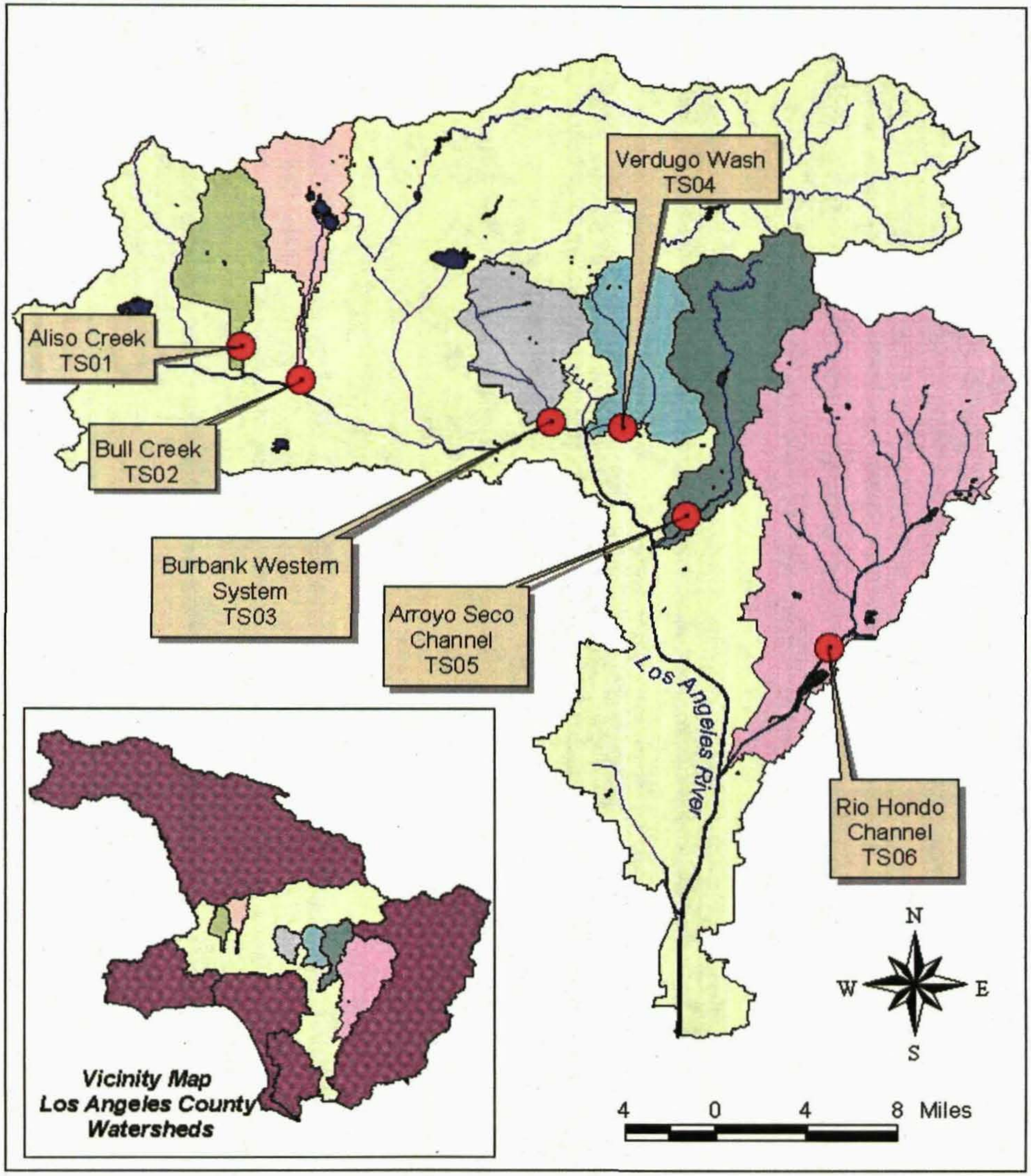

Figure 2-9
Los Angeles River
Tributary Monitoring Stations