

9-44
 Santa Margarita
 San Mateo

Bacteriological analysis

Southwest Division/ MCB Camp Pendleton
 Contract No. N68711-95-D-7573, D.O. 0021

Table 11 Summary Statistics
 Santa Margarita River Watershed

Jul-99
 Report of Water Quality Studies

279

Date	ID	Matrix	Alkalinity	Arsenic	Bicarbonate	BOD	Boron	Calcium	Carbonate	Chloride
09-Dec-97	501001	surface water	116	ND	115	2.5	ND	71.4	ND	147
03-Mar-98	501002	surface water	157	ND	155		ND	90	2.3	120
26-May-98	501003	surface water	178	ND	176	ND	ND	92.3	1.94	189
04-Aug-98	501004	surface water	196	ND	192		0.219	99.7	3.53	162
09-Nov-98	501005	surface water	180	ND	178	2.14	0.244	118	1.43	176
10-Feb-99	501006	surface water	186	ND	183		0.19	89.1	2.55	136
11-May-99	501007	surface water	185	ND	183	ND	0.215	87.4	1.84	135
09-Dec-97	502001	surface water	154	ND	151	ND	ND	141	2.83	267
03-Mar-98	502002	surface water	135	ND	133		ND	110	1.98	158
26-May-98	502003	surface water	159	ND	157	ND	ND	95.3	1.99	225
04-Aug-98	502004	surface water	177	ND	175		0.161	108	2.32	227
09-Nov-98	502005	surface water	158	ND	156	ND	0.197	112	2.32	192
10-Feb-99	502006	surface water	172	ND	168		0.141	104	3.71	179
11-May-99	502007	surface water	166	ND	164	ND	ND	108	1.77	175
09-Dec-97	503001	surface water	162	ND	160	ND	ND	122	1.73	213
03-Mar-98	503002	surface water	79.5	ND	78.7		ND	46	0.757	70.7
26-May-98	503003	surface water	114	ND	104	4.02	ND	65.6	0.642	128
04-Aug-98	503004	surface water	242	ND	240		0.125	114	1.92	189
09-Nov-98	503005	surface water	163	ND	162	ND	0.2	112	1.13	169
10-Feb-99	503006	surface water	174	ND	172		0.173	91	2.18	136
11-May-99	503007	surface water	222	ND	221	ND	ND	112	1.04	166
09-Dec-97	504001	surface water	164	ND	163	2.38	ND	85.3	1.08	148
03-Mar-98	504002	surface water	173	ND	170		ND	85	2.48	115
26-May-98	504003	surface water	211	ND	195	ND	ND	97.9	0.862	197
04-Aug-98	504004	surface water	205	ND	203		0.228	83.4	1.7	98.3
09-Nov-98	504005	surface water	159	ND	158	6.72	0.377	61.3	ND	109
10-Feb-99	504006	surface water	154	ND	153		0.345	47.9	1.09	96.6
11-May-99	504007	surface water	237	ND	235	ND	0.197	105	2.11	95.1
09-Dec-97	505001	surface water	127	ND	126	2.67	ND	50.7	ND	134
03-Mar-98	505002	surface water	169	ND	167		ND	76	2.32	133
26-May-98	505003	surface water	201	ND	200	ND	ND	100	0.9	212
04-Aug-98	505004	surface water	140	ND	139		0.175	58.7	0.736	78.2
09-Nov-98	505005	surface water	114	ND	114	10	0.389	37.5	ND	104
10-Feb-99	505006	surface water	122	0.0387	121		0.378	36.2	0.687	90.8
11-May-99	505007	surface water	185	ND	184	2.11	0.44	53.5	1.09	124
09-Dec-97	506001	surface water	140	ND	139	ND	ND	103	1.3	224

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Date	ID	Matrix	Alkalinity	Arsenic	Bicarbonate	BOD	Boron	Calcium	Carbonate	Chloride
03-Mar-98	506002	surface water	82.4	ND	81.4		ND	51	0.941	62.3
26-May-98	506003	surface water	119	0.026	118	ND	ND	50.8	0.944	98.7
04-Aug-98	506004	surface water	170	ND	168		0.154	84.4	2.23	143
09-Nov-98	506005	surface water	170	ND	168	ND	0.218	103	2.13	164
10-Feb-99	506006	surface water	175	ND	172		0.146	88.4	2.57	141
11-May-99	506007	surface water	174	ND	172	ND	0.123	94.2	1.9	142
09-Dec-97	507001	surface water	121	ND	120	2.48	ND	46.6	ND	126
03-Mar-98	507002	surface water	220	ND	217		ND	71	3.02	105
26-May-98	507003	surface water	269	ND	267	ND	ND	70.3	1.78	145
04-Aug-98	507004	surface water	363	ND	359		0.326	89.6	3.62	172
09-Nov-98	507005	surface water	179	ND	178	8.02	0.23	66.7	0.623	133
10-Feb-99	507006	surface water	204	ND	202		0.176	51.8	2.08	90.8
11-May-99	507007	surface water	266	ND	264	ND	0.144	65.2	1.93	112
09-Dec-97	508001	surface water	145	ND	143	ND	ND	85.7	2.18	183
03-Mar-98	508002	surface water	128	ND	126		ND	77	1.5	105
26-May-98	508003	surface water	166	ND	164	ND	ND	72	2.08	164
04-Aug-98	508004	surface water	191	ND	186		0.203	91.6	4.6	159
09-Nov-98	508005	surface water	162	ND	158	ND	0.202	88.3	3.91	160
10-Feb-99	508006	surface water	192	ND	188		0.169	84.7	3.61	139
11-May-99	508007	surface water	233	ND	231	3.06	0.219	94.7	1.73	172
05-Jan-98	101001	ground water	148	ND	148	ND		102	ND	168
06-Mar-98	101002	ground water	328	ND	319		ND	61	8.65	28.1
27-May-98	101003	ground water	380	0.033	380	ND	ND	94.4	ND	139
05-Aug-98	101004	ground water	502	ND	500		0.224	72.4	1.45	52.3
10-Nov-98	101005	ground water	418	ND	417	ND	0.282	107	1.13	120
12-Feb-99	101006	ground water	434	ND	433		0.237	107	1.15	133
12-May-99	101007	ground water	394	ND	393	ND	0.272	119	1.17	133
05-Jan-98	102001	ground water	388	ND	384	ND		130	3.96	175
12-Mar-98	102002	ground water	141	0.028	140		ND	97	1.34	150
27-May-98	102003	ground water	124	0.027	124	ND	ND	62.8	ND	83.6
05-Aug-98	102004	ground water	144	ND	143		0.0276	67.4	0.575	117
10-Nov-98	102005	ground water	141	ND	141	ND	0.162	83.6	ND	149
12-Feb-99	102006	ground water	171	ND	171		0.142	86.3	ND	149
12-May-99	102007	ground water	164	ND	166	ND	0.133	84.3	ND	134

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Date	ID	Matrix	Alkalinity	Arsenic	Bicarbonate	BOD	Boron	Calcium	Carbonate	Chloride
statistical distribution			N	NP	N	NP	N	N	N	N
mean			194.0414286		191.8871429		0.215358	85.30571	2.018084746	142.3786
standard deviation			84.82408821		84.57484109		0.08539	23.12952	1.286521617	43.74784
number of samples			70	5	70	11	38	70	59	70
maximum			502	0.0387	500	10	0.44	141	8.65	267
minimum			79.5	0.026	78.7	2.11	0.0276	36.2	0.575	28.1
number of samples including ND's			70	70	70	70	70	70	70	70
% ND's			0%	93%	0%	84%	46%	0%	16%	0%
data type			A	D	A	D	C	A	C	A
variance			7195.12594		7152.903745		0.007291	534.9747	1.655137872	1913.874
DL			1	0.01	1	2	0.1	0.1	0.5	1
MCL				0.05						250
h							0.457143		0.157142857	
γ							0.547917		0.718194613	
λ							0.871708		0.246161757	
adjusted mean							0.114799		1.644390337	
adjusted variance							0.018892		2.222437653	
adjusted standard deviation							0.137447		1.490784241	
α			0.05		0.05		0.05	0.05	0.05	0.05
v			69		69		69	69	69	69
t			1.997		1.997		1.997	1.997	1.997	1.997
UPL			364.6407971	0.025	361.9852221	2	0.392869	131.8241	4.646610086	230.3648

Table 11 Summary Statistics
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Date	ID	Conductivity	Copper	Cyanide	Fecal Coliform	Fluoride	Hardness	Hydroxide	Iron	Lead
09-Dec-97	501001	849	0.007	ND	>1600	ND	259	ND	9.89	ND
03-Mar-98	501002	1016	ND		110	0.29	348	ND	0.9	ND
26-May-98	501003	1070	ND	ND	220	0.301	344	ND	0.134	ND
04-Aug-98	501004	1280	ND		170	0.319	483	ND	0.149	ND
09-Nov-98	501005	1410	ND	ND	>1600	0.336	570	ND	1.48	ND
10-Feb-99	501006	1180	ND		900	0.297	460	ND	0.932	ND
11-May-99	501007	1230	ND	ND	>23	0.326	376	ND	ND	ND
09-Dec-97	502001	1620	ND	ND	300	ND	555	ND	0.257	ND
03-Mar-98	502002	1155	ND		220	0.273	442	ND	5.5	ND
26-May-98	502003	1150	ND	ND	1600	0.316	442	ND	0.765	ND
04-Aug-98	502004	1290	ND		900	0.307	525	ND	0.103	ND
09-Nov-98	502005	1370	ND	ND	1600	0.298	551	ND	0.451	ND
10-Feb-99	502006	1300	ND		220	0.283	559	ND	0.336	ND
11-May-99	502007	1360	ND	ND	>23	0.285	466	ND	ND	ND
09-Dec-97	503001	1470	ND	ND	1600	ND	515	ND	0.047	0.027
03-Mar-98	503002	641	ND		300	0.203	208	ND	0.7	ND
26-May-98	503003	848	0.008	ND	1600	0.325	354	ND	0.486	0.00106
04-Aug-98	503004	1400	0.0063		17	0.239	564	ND	ND	ND
09-Nov-98	503005	1460	0.0058	ND	>1600	0.35	562	ND	0.156	ND
10-Feb-99	503006	1240	0.00511		>1600	0.294	445	ND	0.214	ND
11-May-99	503007	1420	ND	ND	>23	0.242	492	ND	ND	ND
09-Dec-97	504001	934	ND	ND	>1600	ND	247	ND	3	0.019
03-Mar-98	504002	983	ND		110	0.32	320	ND	1.4	ND
26-May-98	504003	1120	ND	ND	<2	1.12	310	ND	0.447	ND
04-Aug-98	504004	977	ND		<2	0.353	295	ND	0.221	ND
09-Nov-98	504005	860	ND	ND	>1600	0.352	230	ND	0.564	ND
10-Feb-99	504006	776	0.005		~1600	0.292	192	ND	3.46	0.00107
11-May-99	504007	1140	ND	ND	>23	0.281	353	ND	0.0668	0.00286
09-Dec-97	505001	755	ND	ND	>1600	0.236	174	ND	2.21	ND
03-Mar-98	505002	1000	ND		90	0.343	342	ND	1.4	ND
26-May-98	505003	1260	ND	ND	30	0.502	339	ND	0.184	ND
04-Aug-98	505004	812	ND		50	0.313	277	ND	0.244	ND
09-Nov-98	505005	755	0.0075	ND	>1600	0.356	537	ND	0.98	ND
10-Feb-99	505006	697	0.00706		>1600	0.279	148	ND	6.47	0.00188
11-May-99	505007	1020	ND	ND	>23	0.526	201	ND	2.12	0.0012
09-Dec-97	506001	1220	ND	ND	900	ND	408	ND	0.243	0.023

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Date	ID	Conductivity	Copper	Cyanide	Fecal Coliform	Fluoride	Hardness	Hydroxide	Iron	Lead
03-Mar-98	506002	544	ND		300	0.215	200	ND	4.2	ND
26-May-98	506003	670	ND	ND	900	1.14	251	ND	0.971	ND
04-Aug-98	506004	1030	ND		140	0.277	428	ND	0.678	ND
09-Nov-98	506005	1230	ND	ND	500	0.282	396	ND	1.2	ND
10-Feb-99	506006	1120	ND		50	0.255	467	ND	0.427	ND
11-May-99	506007	1180	ND	ND	>23	0.279	394	ND	0.247	ND
09-Dec-97	507001	740	ND	ND	>1600	ND	217	ND	3.34	0.024
03-Mar-98	507002	935	ND		110	0.429	328	ND	0.7	ND
26-May-98	507003	1080	ND	ND	30	0.403	364	ND	0.137	ND
04-Aug-98	507004	1450	ND		280	0.586	497	ND	0.149	ND
09-Nov-98	507005	1150	ND	ND	>1600	0.37	426	ND	1.92	ND
10-Feb-99	507006	875	ND		30	0.322	284	ND	0.511	0.00107
11-May-99	507007	1120	ND	ND	>23	0.476	322	ND	0.236	ND
09-Dec-97	508001	1070	0.01	ND	1600	ND	350	ND	2.47	ND
03-Mar-98	508002	814	ND		13	0.239	290	ND	3	ND
26-May-98	508003	902	ND	ND	17	0.331	331	ND	1.14	0.00104
04-Aug-98	508004	1140	ND		900	0.367	431	ND	0.283	ND
09-Nov-98	508005	1150	ND	ND	70	0.354	335	ND	0.1	ND
10-Feb-99	508006	1130	ND		17	0.326	432	ND	0.136	0.00373
11-May-99	508007	1350	ND	ND	6.9	0.382	363	ND	0.5	ND
05-Jan-98	101001	1140	0.04	ND	<2	0.304	418	ND	48.7	0.052
06-Mar-98	101002	734	0.016		80	1.36	229	ND	8.76	ND
27-May-98	101003	990	0.054	ND	<2	1.17	305	ND	23.7	0.00247
05-Aug-98	101004	907	0.0191		<2	1.21	287	ND	8.51	ND
10-Nov-98	101005	1380	0.017	ND	<2	1.07	480	ND	4.74	0.00175
12-Feb-99	101006	1450	0.0136		<2	0.908	486	ND	5.22	ND
12-May-99	101007	1470	0.0146	ND	<2	0.867	450	ND	5.56	0.00104
05-Jan-98	102001	1470	0.03	ND	ND	0.745	518	ND	9.1	0.021
12-Mar-98	102002	1080	ND		60	0.3	385	ND	4.16	0.00182
27-May-98	102003	702	0.011	ND	<2	0.321	252	ND	15.8	0.00541
05-Aug-98	102004	873	0.0097		<2	0.263	287	ND	12.2	0.0045
10-Nov-98	102005	1110	ND	ND	<2	0.343	393	ND	1.6	0.00862
12-Feb-99	102006	1450	ND		<2	0.279	421	ND	2.83	0.00254
12-May-99	102007	1120	ND	ND	<2	0.27	364	ND	1.05	0.00306

23 grab samples out

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Date	ID	Conductivity	Copper	Cyanide	Fecal Coliform	Fluoride	Hardness	Hydroxide	Iron	Lead
statistical distribution		N	NP	NP	N	N	N	NP	N	NP
mean		1094.628571			464.2342105	0.428571	375.3428571		3.330073	
standard deviation		248.617171			571.4059078	0.279379	110.0352889		7.023338	
number of samples		70	19	0	38	63	70	0	66	23
maximum		1620	0.054	0	1600	1.36	570	0	48.7	0.052
minimum		544	0.005	0	6.9	0.203	148	0	0.047	0.00104
number of samples includ		70	70	70	70	70	70	70	70	70
% ND's		0%	73%	100%	46%	10%	0%	100%	6%	67%
data type		A	D	D	C	B	A	D	B	D
variance		61810.49772			326504.7115	0.078053	12107.7648		49.32727	
DL		1	0.005	0.005	none	0.1	1	0.5	0.05	0.001
MCL		900	1	0.2					0.3	0.015
h										
γ										
λ										
adjusted mean										
adjusted variance										
adjusted standard deviat										
α		0.05			0.05	0.05	0.05		0.05	
v		69			69	69	69		69	
t		1.997			1.997	1.997	1.997		1.997	
UPL		1594.650832	0.5	0.1	1620.24875	0.990902	596.6473379	0.5	17.46153	0.0075

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Date	ID	Magnesium	Manganese	Mercury	Nitrate	Nitrogen	Oil & Grease	pH	Phosphorus	Potassium
09-Dec-97	501001	27.3	0.252	ND	1.94	0.379	ND	7.85	0.27	6.47
03-Mar-98	501002	34	0.06		3.6		ND	8.19	0.481	4
26-May-98	501003	40.8	0.024	ND	4.58	0.7	ND	8.07	0.263	4.75
04-Aug-98	501004	49	0.0776		2.27		ND	8.29	0.04	4.47
09-Nov-98	501005	50.9	0.143	ND	4.2	1.36	ND		0.188	7.14
10-Feb-99	501006	40.7	0.0454		4.76		ND	8.09	0.165	4.63
11-May-99	501007	38.9	0.0274	ND	1.83	0.59	ND	7.95	0.076	3.26
09-Dec-97	502001	61.9	0.051	ND	4.92	0.38	ND	8.21	0.063	3.35
03-Mar-98	502002	48	0.12		7.63		ND	8.2	0.225	3
26-May-98	502003	50.6	0.028	ND	5.56	ND	ND	8.13	0.014	3.09
04-Aug-98	502004	52.5	0.0153		4.36		ND	8.15	0.03	3.08
09-Nov-98	502005	55	0.0282	ND	5.33	0.781	ND		ND	3.35
10-Feb-99	502006	52	0.0118		5.15		ND	8.33	ND	2.72
11-May-99	502007	51.6	ND	ND	2.77	0.507	ND	8.24	0.022	2.47
09-Dec-97	503001	51.1	0.027	ND	1.3	0.483	ND	7.98	1.13	10.8
03-Mar-98	503002	20	0.05		4.95		ND	8.12	0.612	3
26-May-98	503003	29.1	0.055	ND	10.3	2.7	ND	7.78	1.14	7.21
04-Aug-98	503004	55.4	0.0329		4.54		ND	7.93	0.48	5.38
09-Nov-98	503005	51.5	0.048	ND	13.2	1.66	ND		0.917	9.35
10-Feb-99	503006	43.8	0.0168		9.34		0.98	8.06	0.713	7.56
11-May-99	503007	53.6	ND	ND	8.6	0.535	0.962	7.98	0.446	5.06
09-Dec-97	504001	18.7	0.251	ND	1.32	0.434	ND	7.7	0.254	4.25
03-Mar-98	504002	28	0.1		1.88		ND	8.27	0.511	5
26-May-98	504003	32.2	0.075	ND	0.868	0.8	ND	7.64	0.101	6.11
04-Aug-98	504004	24.2	0.108		0.82		ND	7.95	0.07	3.32
09-Nov-98	504005	16.7	0.0656	ND	1.22	1.57	ND		0.25	9.73
10-Feb-99	504006	14.7	0.0786		0.381		ND	7.78	0.256	5.96
11-May-99	504007	22.4	0.0417	ND	2.08	ND	ND	7.89	0.085	1.53
09-Dec-97	505001	13.8	0.126	ND	0.872	0.483	ND	7.63	0.266	4.67
03-Mar-98	505002	28	0.07		1.42		ND	8.29	0.53	5
26-May-98	505003	38.2	0.058	ND	0.724	0.8	ND	7.64	0.092	7.91
04-Aug-98	505004	22.6	0.0633		0.29		ND	7.75	0.04	3.6
09-Nov-98	505005	12.4	0.0882	ND	1.21	1.8	ND		0.04	11.8
10-Feb-99	505006	13.2	0.0891		0.153		1.2	7.58	0.255	6.76
11-May-99	505007	16.8	0.308	ND	0.153	0.546	ND	7.65	0.161	4.67
09-Dec-97	506001	43.5	0.157	ND	5.44	0.447	ND	7.94	0.089	3.04

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03-Mar-98	506002	20	0.11		3.89		ND	7.97	0.151	ND
26-May-98	506003	24.3	0.039	ND	2.45	0.6	1.33	7.93	0.014	1.68
04-Aug-98	506004	38.7	0.0407		2.2		ND	8.15	0.08	1.61
09-Nov-98	506005	48.8	0.0488	ND	4.46	0.619	ND		0.04	2.35
10-Feb-99	506006	41.7	0.0139		4.21		ND	8.13	ND	2.04
11-May-99	506007	43.7	0.0215	ND	2.06	0.509	ND	8.2	0.046	1.79
09-Dec-97	507001	25.7	0.194	ND	0.501	0.222	ND	7.82	0.297	4.15
03-Mar-98	507002	37	0.14		1.91		ND	8.19	0.456	2
26-May-98	507003	46.5	0.063	ND	0.356	0.8	ND	7.85	0.154	2.22
04-Aug-98	507004	58.9	0.13		0.07		ND	8.03	0.36	2
09-Nov-98	507005	41.8	0.559	ND	1.15	1.75	ND		0.704	6.69
10-Feb-99	507006	32.2	0.107		1.94		0.952	7.91	0.259	2.81
11-May-99	507007	41.6	0.185	ND	0.089	0.545	ND	7.86	0.356	ND
09-Dec-97	508001	34.3	0.14	ND	1.4	0.2	ND	8.06	0.208	5.4
03-Mar-98	508002	30	0.07		3.59		ND	8.11	0.378	3
26-May-98	508003	33.8	0.037	ND	2.19	0.7	ND	8.13	0.095	2.47
04-Aug-98	508004	39.8	0.0287		0.24		ND	8.42	0.13	3.93
09-Nov-98	508005	41	0.0154	ND	0.393	0.453	ND		0.036	3.75
10-Feb-99	508006	38	ND		1.19		ND	8.24	0.033	2.9
11-May-99	508007	34.9	0.237	ND	0.1	0.404	ND	7.55	0.118	3.06
05-Jan-98	101001	50.3	0.612	ND	ND	0.125	ND	7.1	0.295	11
06-Mar-98	101002	24.3	0.391		1.31		ND	7.81	0.565	3.92
27-May-98	101003	38.1	1.16	ND	1.43	ND	ND	7.08	0.604	5.17
05-Aug-98	101004	27.7	0.592		0.88		ND	7.46	0.17	2.66
10-Nov-98	101005	42.4	0.458	ND	0.177	0.456	ND		0.181	3.31
12-Feb-99	101006	42.6	1.12		ND		ND	7.33	0.189	3.4
12-May-99	101007	46.2	0.897	ND	ND	0.227	1.13	7.24	0.156	3.59
05-Jan-98	102001	47.7	2.33	ND	0.131	ND	ND	7.41	0.307	4.71
12-Mar-98	102002	39.7	0.043		40		ND	7.22	0.029	2.48
27-May-98	102003	28.4	0.182	ND	2.08	ND	ND	6.91	0.08	3.65
05-Aug-98	102004	30.7	0.162		ND		ND	7.25	2.31	3.82
10-Nov-98	102005	38	0.029	ND	0.301	0.362	ND		0.033	2.18
12-Feb-99	102006	40.1	0.0343		2.22		ND	7.37	0.036	2.44
12-May-99	102007	39.4	0.0132	ND	1.93	ND	ND	7.24	0.027	1.89

Table 11 Summary Statistics
 Santa Margarita River Watershed

Date	ID	Magnesium	Manganese	Mercury	Nitrate	Nitrogen	Oil & Grease	pH	Phosphorus	Potassium
statistical distribution		N	N	NP	N	NP	NP	N	N	N
mean		37.02	0.193976119		3.254682			7.853833	0.286149254	4.346470588
standard deviation		12.24109969	0.356603926		5.31137			0.360687	0.357075166	2.351754991
number of samples		70	67	0	66	34	6	60	67	68
maximum		61.9	2.33	0	40	2.7	1.33	8.42	2.31	11.8
minimum		12.4	0.0118	0	0.07	0.125	0.952	6.91	0.014	1.53
number of samples includ		70	70	70	70	70	70	70	70	70
% ND's		0%	4%	100%	6%	51%	91%	14%	4%	3%
data type		A	B	D	B	D	D	B	B	B
variance		149.8445217	0.12716636		28.21065			0.130095	0.127502674	5.530751536
DL		0.2	0.01	0.0002	0.05	0.1	1	none	0.01	0.3
MCL			0.05	0.002	45	10				
h										
γ										
λ										
adjusted mean										
adjusted variance										
adjusted standard deviat										
α		0.05	0.05		0.05			0.05	0.05	0.05
v		69	69		69			69	69	69
t		1.997	1.997		1.997			1.997	1.997	1.997
UPL		61.63946744	0.91140894	0.001	13.94154	5	1	8.580103	1.004530137	9.077332026

Table 11 Summary Statistics
 Santa Margarita River Watershed

Date	ID	Sodium	Sulfate	Surfactants	Total Coliform	TDS	TOC	Zinc
09-Dec-97	501001	62.4	131	ND	>1600	432	6.21	0.037
03-Mar-98	501002	100	179	0.112	>1600	680	5.87	ND
26-May-98	501003	99.9	197	ND	>1600	764	8.06	ND
04-Aug-98	501004	108	292	ND	>1600	846	2.87	ND
09-Nov-98	501005	111	294	ND	>1600	963	5.85	ND
10-Feb-99	501006	92.3	222	ND	>1600	771	6.37	ND
11-May-99	501007	106	247	0.116	>23	787	2.13	ND
09-Dec-97	502001	96.7	239	ND	>1600	1010	4.27	0.017
03-Mar-98	502002	99	222	ND	>1600	786	5.04	ND
26-May-98	502003	87.5	249	ND	1600	814	3.03	ND
04-Aug-98	502004	96.4	265	ND	>1600	850	1.66	ND
09-Nov-98	502005	98.3	296	ND	>1600	925	2.66	ND
10-Feb-99	502006	90.3	240	ND	500	854	1.53	0.0111
11-May-99	502007	87.8	262	0.116	>23	879	1.5	ND
09-Dec-97	503001	103	269	ND	>1600	910	11.1	0.015
03-Mar-98	503002	69	108	ND	>1600	453	8.45	ND
26-May-98	503003	83.2	134	ND	>1600	662	10.3	ND
04-Aug-98	503004	100	252	ND	>1600	884	3.42	ND
09-Nov-98	503005	120	326	0.113	>1600	1010	58.9	ND
10-Feb-99	503006	102	250	ND	>1600	806	7.31	ND
11-May-99	503007	96	254	ND	>23	848	5.77	ND
09-Dec-97	504001	78.4	123	ND	>1600	476	8.77	0.021
03-Mar-98	504002	110	164	0.108	>1600	668	6.09	ND
26-May-98	504003	122	273	ND	>1600	803	8.53	ND
04-Aug-98	504004	84.6	203	ND	500	622	2.05	ND
09-Nov-98	504005	99.7	135	0.358	>1600	570	15.6	0.0144
10-Feb-99	504006	89.5	108	ND	>1600	499	6.59	0.0205
11-May-99	504007	94.7	216	ND	>23	761	3.2	ND
09-Dec-97	505001	73.9	75.4	ND	>1600	387	8.68	0.019
03-Mar-98	505002	100	164	ND	>1600	658	6.07	ND
26-May-98	505003	141	260	ND	>1600	879	6.01	ND
04-Aug-98	505004	78.2	194	ND	>1600	506	3.83	0.0144
09-Nov-98	505005	91.9	115	0.516	>1600	498	20.4	0.216
10-Feb-99	505006	88.3	93	0.224	>1600	425	8.95	0.0423
11-May-99	505007	134	134	ND	>23	602	2.26	ND
09-Dec-97	506001	72.7	189	ND	>1600	740	7.28	0.013

Table 11 Summary Statistics
 Santa Margarita River Watershed

Date	ID	Sodium	Sulfate	Surfactants	Total Coliform	TDS	TOC	Zinc
03-Mar-98	506002	53	83.5	ND	1600	336	3.47	ND
26-May-98	506003	57.3	106	ND	300	455	4.79	ND
04-Aug-98	506004	153	188	ND	900	662	2.86	ND
09-Nov-98	506005	87.7	260	ND	>1600	821	1.47	ND
10-Feb-99	506006	78.7	189	ND	500	700	3.18	ND
11-May-99	506007	83.2	210	ND	>23	723	2.62	ND
09-Dec-97	507001	62.7	102	ND	>1600	387	10.6	0.033
03-Mar-98	507002	120	142	0.126	1600	655	13.7	ND
26-May-98	507003	115	143	ND	>1600	741	10.2	ND
04-Aug-98	507004	101	240	ND	1600	918	7.54	ND
09-Nov-98	507005	110	264	0.135	>1600	746	15.8	0.0148
10-Feb-99	507006	83.7	121	ND	900	536	8.37	ND
11-May-99	507007	109	152	0.165	>23	689	14	ND
09-Dec-97	508001	78.8	157	ND	>1600	660	7.5	0.022
03-Mar-98	508002	80	132	ND	1600	522	5.64	ND
26-May-98	508003	78.9	171	ND	220	642	2.89	ND
04-Aug-98	508004	77.8	224	ND	900	748	5.09	ND
09-Nov-98	508005	94.5	278	ND	900	785	2.31	ND
10-Feb-99	508006	90.8	193	ND	500	717	1.94	ND
11-May-99	508007	134	193	ND	23	786	13.7	ND
05-Jan-98	101001	85.3	205	0.109	280	687	4.18	0.13
06-Mar-98	101002	100	50.5	ND	4	524	0.5	0.025
27-May-98	101003	127	101	ND	>1600	665	6.33	0.063
05-Aug-98	101004	66	68	ND	>1600	650	0.5	0.0163
10-Nov-98	101005	150	201	ND	7	869	2.54	0.015
12-Feb-99	101006	146	168	ND	<2	846	0.5	0.0114
12-May-99	101007	143	189	ND	<2	916	9.62	ND
05-Jan-98	102001	152	191	ND	2	897	8.65	0.039
12-Mar-98	102002	78.8	510	ND	17	741	0.5	0.011
27-May-98	102003	61.3	99.9	ND	>1600	509	7.03	0.035
05-Aug-98	102004	55.1	136	ND	>1600	582	1.77	0.0276
10-Nov-98	102005	80	226	ND	<2	699	2.29	0.016
12-Feb-99	102006	82.4	185	ND	27	695	1.34	ND
12-May-99	102007	77.9	194	ND	14	701	0.5	ND

Table 11 Summary Statistics
 Santa Margarita River Watershed

Date	ID	Sodium	Sulfate	Surfactants	Total Coliform	TDS	TOC	Zinc
statistical distribution		N	N	NP	NP	N	N	NP
mean		96.02286	192.1043			703.4	6.579	
standard deviation		23.69359	74.95967			160.7609	7.601389	
number of samples		70	70	12	23	70	70	26
maximum		153	510	0.516	1600	1010	58.9	0.216
minimum		53	50.5	0.108	2	336	0.5	0.011
number of samples includ		70	70	70	70	70	70	70
% ND's		0%	0%	83%	67%	0%	0%	63%
data type		A	A	D	D	A	B	D
variance		561.3861	5618.952			25844.07	57.78112	
DL		0.3	5	0.1	none	10	1	0.01
MCL			250	0.5		500		5
h							ND=DL/2	
γ							#####	
λ							#####	
adjusted mean							#####	
adjusted variance							#####	
adjusted standard deviat							#####	
α		0.05	0.05			0.05	0.05	
v		69	69			69	69	
t		1.997	1.997			1.997	1.997	
UPL		143.6757	342.8642	0.25	none	1026.725	21.86702	2.5

Table 10 Summary Statistics
 San Mateo Watershed

Date	ID	Matrix	Alkalinity	Arsenic	Bicarbonate	BOD	Boron	Calcium	Carbonate	Chloride
03-Mar-98	509002	surface water	163	ND	160		ND	83	2.45	78
26-May-98	509003	surface water	194	ND	190	ND	ND	76.9	3.34	101
04-Aug-98	509004	surface water	184	ND	182		0.291	81	2.25	92
19-Feb-99	509006	surface water	208	ND	203		0.423	98.9	4.9	125
11-May-99	509007	surface water	180	ND	178	ND	0.386	95.8	1.84	121
03-Mar-98	510002	surface water	103	ND	102		ND	34	1.23	28.2
04-Jun-98	510003	surface water	134	ND	131	ND	ND	36.3	3.02	84.9
04-Aug-98	510004	surface water	189	ND	183		0.112	47.9	5.57	56.6
19-Nov-98	510005	surface water	182	ND	179	ND	ND	51.8	3.13	60.8
19-Feb-99	510006	surface water	170	ND	167		0.138	48.3	3.27	55.2
11-May-99	510007	surface water	175	ND	172	ND	ND	46.9	2.57	50.2
09-Dec-97	511001	surface water	143	ND	143	ND	ND	81.1	ND	128
03-Mar-98	511002	surface water	111	ND	110		ND	45	1.42	36.8
26-May-98	511003	surface water	149	ND	148	ND	ND	43.2	0.941	93.1
04-Aug-98	511004	surface water	164	ND	164		0.2	68.5	0.509	72.8
09-Nov-98	511005	surface water	156	ND	156	ND	0.216	83.5	ND	88.2
10-Feb-99	511006	surface water	164	ND	163		0.255	84	1.16	88.8
11-May-99	511007	surface water	151	ND	150	ND	0.192	87	0.708	82.9
05-Jan-98	103001	ground water	184	ND	184	ND		96.5	ND	142
06-Mar-98	103002	ground water	191	ND	188		ND	62	2.8	30.4
27-May-98	103003	ground water	166	0.045	166	ND	ND	73.8	ND	93.6
05-Aug-98	103004	ground water	209	0.0991	209		0.256	94.4	ND	65.2
10-Nov-98	103005	ground water	168	ND	168	ND	0.268	89.3	ND	120
12-Feb-99	103006	ground water	171	ND	171		0.268	83.3	ND	111
12-May-99	103007	ground water	189	ND	188	ND	0.322	94.8	1.14	112

Table 10 Summary Statistics
 San Mateo Watershed

Date	ID	Matrix	Alkalinity	Arsenic	Bicarbonate	BOD	Boron	Calcium	Carbonate	Chloride
statistical distribution			N	NP	N	NP	N	N	N	N
mean			167.92		166.2		0.255923	71.488	2.3471111	84.708
standard deviation			26.1341411		25.59622368		0.088577	21.12992	1.4007514	31.429377
number of samples			25	2	25	0	13	25	18	25
maximum			209	0.0991	209	0	0.423	98.9	5.57	142
minimum			103	0.045	102	0	0.112	34	0.509	28.2
number of samples with ND's			25	25	25	13	24	25	25	25
% ND's			0%	92%	0%	100%	46%	0%	28%	0%
data type			A	D	A	D	C	A	C	A
variance							0.007846	446.4736	1.9621045	
DL			1	0.01	1	2	0.1	0.1	0.5	1
MCL				0.05						250
h							0.458333		0.28	
γ							0.322718		0.5750904	
λ							0.82211		0.460895	
adjusted mean							0.127737		1.4957868	
adjusted variance							0.027833		3.5345951	
adjusted standard deviation							0.166832		1.8800519	
α			0.05		0.05		0.05	0.05	0.05	0.05
v			24		24		24	24	24	24
t			2.064		2.064		2.064	2.064	2.064	2.064
UPL			222.929107	0.025	220.0768579	2	0.485078	115.9638	5.4825466	150.86292

Table 10 Summary Statistics
 San Mateo Watershed

Date	ID	Conductivity	Copper	Cyanide	Fecal Coliform	Fluoride	Hardness	Hydroxide	Iron	Lead
03-Mar-98	509002	719	ND		<2	0.386	330	ND	4	ND
26-May-98	509003	824	ND	ND	13	0.342	270	ND	0.11	ND
04-Aug-98	509004	874	ND		2	0.446	295	ND	0.478	ND
19-Feb-99	509006	1110	ND		<2	0.453	389	ND	0.382	0.00587
11-May-99	509007	1140	ND	ND	170	0.458	321	ND	0.835	ND
03-Mar-98	510002	332	ND		30	0.271	106	ND	0.8	ND
04-Jun-98	510003	394	ND	ND	110	0.334	142	ND	0.058	ND
04-Aug-98	510004	573	ND		130	0.334	204	ND	0.0618	0.00223
19-Nov-98	510005	629	ND	ND	4	0.301	222	ND	ND	ND
19-Feb-99	510006	572	ND		<2	0.31	201	ND	0.487	0.00616
11-May-99	510007	588	ND	ND	4	0.327	184	ND	ND	ND
09-Dec-97	511001	860	ND	ND	2	0.05	287	ND	0.068	ND
03-Mar-98	511002	434	ND		<2	0.295	145	ND	2.1	ND
26-May-98	511003	496	ND	ND	<2	0.278	166	ND	0.119	ND
04-Aug-98	511004	739	ND		<2	0.296	277	ND	0.0894	ND
09-Nov-98	511005	886	ND	ND	500	0.275	335	ND	0.5	ND
10-Feb-99	511006	934	ND		13	0.251	353	ND	ND	0.00133
11-May-99	511007	932	ND	ND	30	0.254	305	ND	ND	ND
05-Jan-98	103001	1030	0.026	ND	140	0.471	344	ND	31.1	0.026
06-Mar-98	103002	508	0.062		<2	0.459	202	ND	78	0.02
27-May-98	103003	544	0.036	ND	2	0.361	241	ND	45.1	0.0123
05-Aug-98	103004	679	0.0825			0.378	322	ND	104	0.0354
10-Nov-98	103005	952	0.014	ND	<2	0.265	357	ND	14.5	0.0037
12-Feb-99	103006	915	0.0192		30	0.267	318	ND	18.3	0.00635
12-May-99	103007	1070	0.0302	ND	<2	0.322	347	ND	34	0.0119

Table 10 Summary Statistics
 San Mateo Watershed

Date	ID	Conductivity	Copper	Cyanide	Fecal Coliform	Fluoride	Hardness	Hydroxide	Iron	Lead
statistical distribution		N	NP	NP	NP	N	N	NP	N	NP
mean		749.36				0.32736	266.52		15.95658	
standard deviation		235.035437				0.091152	79.410914		28.52907	
number of samples		25	7	0	15	25	25	0	21	11
maximum		1140	0.0825	0	500	0.471	389	0	104	0.0354
minimum		332	0.014	0	2	0.05	106	0	0.058	0.00133
number of samples with N		25	25	13	25	25	25	25	25	25
% ND's		0%	72%	100%	40%	0%	0%	100%	16%	56%
data type		A	D	D	C	B	A	D	C	D
variance									813.9076	
DL		1	0.005	0.005	none	0.1	1	0.5	0.05	0.001
MCL		900	1	0.2					0.3	0.015
h						ND=DL/2			0.16	
y						#####			3.216781	
λ									use Trimmed	
adjusted mean									4.352247	
adjusted variance									75.81187	
adjusted standard deviation									8.707001	
α		0.05				0.05	0.05		0.05	
v		24				24	24		24	
t		2.064				2.064	2.064		2.064	
UPL		1244.080276	0.5	0.1		0.519224	433.67007	0.5	22.74641	0.0075

Table 10 Summary Statistics
 San Mateo Watershed

Date	ID	Magnesium	Manganese	Mercury	Nitrate	Nitrogen	Oil & Grease	pH	Phosphorus	Potassium
03-Mar-98	509002	24	0.11		0.298		ND	8.16	0.227	2
26-May-98	509003	24	0.017	ND	ND	ND	ND	8.27	0.012	1.75
04-Aug-98	509004	20.9	0.202		ND		ND	8.12	0.19	1.88
19-Feb-99	509006	26.2	0.0346		0.14		1.5	8.4	0.027	2.16
11-May-99	509007	26.1	0.0606	ND	ND	ND	ND	8.32	0.016	ND
03-Mar-98	510002	11	0.02		0.434		ND	7.89	0.108	ND
04-Jun-98	510003	13.3	0.007	ND	0.168		ND	8.61	ND	0.95
04-Aug-98	510004	18.4	0.0122		ND		ND	8.51	0.02	0.651
19-Nov-98	510005	21.6	ND	ND	ND		ND	ND	ND	0.839
19-Feb-99	510006	18.7	ND		ND		ND	8.29	ND	ND
11-May-99	510007	17.5	ND	ND	ND	ND	ND	8.29	0.015	ND
09-Dec-97	511001	22.6	0.176	ND	7.72	ND	ND	7.3	0.027	1.45
03-Mar-98	511002	14	0.04		1.98		ND	8.13	0.373	ND
26-May-98	511003	15.5	ND	ND	1.27	ND	ND	7.83	0.021	0.955
04-Aug-98	511004	21.2	0.0283		7.6		ND	7.52	0.1	2.08
09-Nov-98	511005	25.7	0.0821	ND	11.8	0.526	ND		0.071	2.15
10-Feb-99	511006	26.3	ND		11.9		ND	7.3	ND	1.33
11-May-99	511007	24.3	ND	ND	12.5	ND	ND	7.18	0.038	1.18
05-Jan-98	103001	30.3	6.01	ND	ND	0.219		6.89	3.12	7.67
06-Mar-98	103002	31.7	8.04		ND		ND	7.56	0.736	16.2
27-May-98	103003	28.4	6.91	ND	ND	0.7	ND	6.65	1.27	9.08
05-Aug-98	103004	45.8	11.8		1.7		ND	7.21	0.05	18.6
10-Nov-98	103005	28.6	2.53	ND	ND	0.831	ND		0.323	4.94
12-Feb-99	103006	27.9	3.83		ND		ND	6.99	0.394	5.5
12-May-99	103007	33.4	5.64	ND	ND	1.11	1.22	6.85	0.829	7.37

Table 10 Summary Statistics
 San Mateo Watershed

Date	ID	Magnesium	Manganese	Mercury	Nitrate	Nitrogen	Oil & Grease	pH	Phosphorus	Potassium
statistical distribution		N	N	NP	NP	NP	NP	N	LOG	LOG
mean		23.896	2.39735789					7.739545	0.379380952	4.43675
standard deviation		7.41105481	3.58646224					0.610967	0.709704338	5.1163733
number of samples		25	19	0	12	5	2	22	21	20
maximum		45.8	11.8	0	12.5	1.11	1.5	8.61	3.12	18.6
minimum		11	0.007	0	0.14	0.219	1.22	6.65	0.012	0.651
number of samples with N		25	25	15	25	12	25	22	25	25
% ND's		0%	24%	100%	52%	58%	92%	0%	16%	20%
data type		A	C	D	D	D	D	A	C	C
variance			12.8627114						0.503680248	26.177276
DL		0.2	0.01	0.0002	0.05	0.1	1	none	0.01	0.3
MCL			0.05	0.002	45	10				
h			0.24						0.16	0.2
γ			2.25682282						3.691525956	1.5296987
λ			use Trimmed						use Trimmed	use Trimmed
adjusted mean			0.2556						0.118352941	1.9876667
adjusted variance			0.47086842						0.017610618	1.9863404
adjusted standard deviation			0.68619852						0.132705002	1.4093759
α		0.05	0.05					0.05	0.05	0.05
v		24	24					24	24	24
t		2.064	2.064					2.064	2.064	2.064
UPL		39.4953459	1.70870725	0.001	22.5	5	1	9.028923	0.398701727	4.9684553

Table 10 Summary Statistics
 San Mateo Watershed

Date	ID	Sodium	Sulfate	Surfactants	Total Coliform	TDS	TOC	Zinc
03-Mar-98	509002	70	125	ND	900	478	4.75	ND
26-May-98	509003	74.3	127	ND	80	553	4.62	ND
04-Aug-98	509004	48.8	174	ND	>1600	545	1.41	0.0184
19-Feb-99	509006	107	199	ND	30	711	5.29	ND
11-May-99	509007	104	219	0.106	280	703	2.51	ND
03-Mar-98	510002	33	26.6	ND	900	206	2.8	0.09
04-Jun-98	510003	39.5	35.9	ND	300	283	4.31	ND
04-Aug-98	510004	62.2	55.2	ND	220	366	1.81	ND
19-Nov-98	510005	51.5	58	ND	11	391	1.7	0.0109
19-Feb-99	510006	48.3	52.8	ND	60	358	2.83	0.0104
11-May-99	510007	45	50	ND	70	361	ND	ND
09-Dec-97	511001	60.8	123	ND		360	4.21	ND
03-Mar-98	511002	42	47	ND	240	273	5.84	ND
26-May-98	511003	45.1	78.8	ND	170	327	2.48	ND
04-Aug-98	511004	120	119	ND	300	470	3.53	ND
09-Nov-98	511005	67.4	171	ND	900	595	ND	ND
10-Feb-99	511006	68.6	148	ND	59	586	3.69	ND
11-May-99	511007	60.6	157	ND	>1600	583	1.45	ND
05-Jan-98	103001	104	139	ND	ND	618	3.34	0.113
06-Mar-98	103002	58.5	31.6	ND	80	461	5.97	0.25
27-May-98	103003	48.4	71.1	ND	70	393	7.1	0.14
05-Aug-98	103004		80.4	ND	>1600	454	5.17	0.307
10-Nov-98	103005	67.2	137	ND	2	611	ND	0.046
12-Feb-99	103006	77.6	146	ND	900	585	ND	0.0596
12-May-99	103007	90	180	ND	2	676	1.7	0.109

Table 10 Summary Statistics
 San Mateo Watershed

Date	ID	Sodium	Sulfate	Surfactants	Total Coliform	TDS	TOC	Zinc
statistical distribution		N	N	NP	NP	N	N	NP
mean		66.408333	110.056			477.88	3.643333	
standard deviation		23.579374	57.12032			142.3702	1.658371	
number of samples		24	25	1	20	25	21	11
maximum		120	219	0.106	900	711	7.1	0.307
minimum		33	26.6	0.106	2	206	1.41	0.0104
number of samples with N		24	25	25	25	25	25	25
% ND's		0%	0%	96%	20%	0%	16%	56%
data type		A	A	D	C	A	C	D
variance							2.750193	
DL		0.3	5	0.1	none	10	1	0.01
MCL			250	0.5		500		5
h							0.16	
γ							0.393604	
λ							0.22694	
adjusted mean							3.043455	
adjusted variance							4.335871	
adjusted standard deviation							2.082276	
α		0.05	0.05		0.05	0.05	0.05	
v		24	24		24	24	24	
t		2.064	2.064		2.064	2.064	2.064	
UPL		116.07973	230.2871	0.25	0	777.5515	7.442411	2.5