



1999 California Hydrologic Data Report

11046300 SAN MATEO CREEK NEAR SAN CLEMENTE, CA

LOCATION.-Lat 33°28'15", long 117°28'20" in SE 1/4 NE 1/4 sec.23, T.8 S., R.6 W., San Diego County, Hydrologic Unit 18070301, on Camp Joseph H. Pendleton Naval Reservation, on left bank, 0.4 mi downstream from mouth of Devil Canyon, and 8.6 miles northeast of San Clemente.

DRAINAGE AREA.-80.8 mi².

PERIOD OF RECORD.-October 1952 to September 1967, October 1993 to current year. Discharge records for October 1967 to September 1977 and October 1989 to September 1993 available in files of U.S. Marine Corps at Camp Pendleton.

REVISED RECORDS.-WSP 1928: Drainage area.

GAGE.-Water-stage recorder. Elevation of gage is 405 ft above sea level, from topographic map.

REMARKS.-Records good. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.-Maximum discharge, 12,500 ft³/s, Feb. 23, 1998, gage height, 12.83 ft, on basis of slope-area measurement of peak flow; no flow for several days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.-Maximum discharge, 9,240 ft³/s, gage height, 11.12 ft, Jan. 25, 1969.

EXTREMES FOR CURRENT YEAR.-Peak discharges greater than base discharge of 150 ft³/s, or maximum, from rating curve extended above 167 ft³/s on basis of slope-area measurement of peak flow:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	2315	8.4	2.85				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.8	4.5	3.4	6.0	3.6	3.6	2.9	.91	.02	.00	.00
2	1.7	1.7	4.4	3.4	5.9	3.6	3.7	2.9	1.2	.00	.00	.00
3	2.0	1.7	4.2	3.2	5.5	3.6	4.0	2.9	1.6	.00	.00	.00
4	2.0	1.7	4.1	3.1	5.3	3.6	4.1	2.9	1.9	.00	.00	.00
5	1.9	1.7	5.1	3.0	6.2	3.6	4.1	2.9				

Disc 1 wq

COMPARISON OF RESULTS BY SAMPLING EVENT

SOURCE: SURFACE WATER: SAMPLING LOCATION 509
CRISTIANITOS CREEK NEAR SAN CLEMENTE
NEAR USGS GAUGING STATION 11046360

Analyte	Det. Limit	Units	MCL	Analytical Results										
				1/98**	3/3/98	5/26/98	8/4/98	NS	2/19/99	5/11/99	9/28/99	12/6/99	3/13/00	6/1/00
Alkalinity (CaCO ₃)	2	mg/L	None	NS	163	194	184	NS	208	180	NS	NS	210	68
Arsenic	0.005	mg/L	0.05	NS	ND	ND	ND	NS	ND	ND	NS	NS	ND	ND
Bicarbonate	2	mg/L	None	NS	160	190	182	NS	203	178	NS	NS	202	52
Biochemical Oxygen Demand	2	mg/L	None	NS	NS	ND	NS	NS	NS	ND	NS	NS	ND	NS
Boron	0.2	mg/L	None	NS	ND	ND	0.291	NS	0.423	0.386	NS	NS	0.3	0.5
Calcium	0.5	mg/L	None	NS	83	76.9	81	NS	98.9	95.8	NS	NS	101	67.7
Carbonate	2	mg/L	None	NS	2.45	3.34	2.25	NS	4.9	1.84	NS	NS	8	16
Chloride	1	mg/L	250	NS	78	101	92	NS	125	121	NS	NS	139	168
Conductivity	10	mg/L	900	NS	719	824	874	NS	1110	1140	NS	NS	1,240	1,160
Copper	0.02	mg/L	1.0	NS	ND	ND	ND	NS	ND	ND	NS	NS	0.008	ND
Cyanide (Total)	0.005	mg/L	0.2	NS	NS	ND	NS	NS	NS	ND	NS	NS	ND	NS
Fecal Coliform	2	MPN/100 mL	None	NS	13	17	900	NS	>2	170	NS	NS	1,600	50
Fluoride	0.2	mg/L	None	NS	0.386	0.342	0.446	NS	0.453	0.458	NS	NS	0.8	0.5
Hardness (CaCO ₃)	2	mg/L	None	NS	330	270	295	NS	389	321	NS	NS	364	274
Hydroxide	2	mg/L	None	NS	ND	ND	ND	NS	ND	ND	NS	NS	ND	ND
Iron	0.05	mg/L	0.3	NS	4	0.11	0.478	NS	0.382	0.835	NS	NS	0.10	ND
Lead	0.05	mg/L	0.015	NS	ND	ND	ND	NS	0.00587	ND	NS	NS	ND	ND
Manganese	0.01	mg/L	0.05	NS	0.11	0.017	0.202	NS	0.0346	0.0606	NS	NS	0.23	ND
Mercury	0.0002	mg/L	0.002	NS	NS	ND	NS	NS	NS	ND	NS	NS	ND	NS
Nitrate-N	0.1	mg/L	45	NS	0.298	ND	ND	NS	0.14	ND	NS	NS	0.4	ND

Notes:

MCL = Maximum Contaminant Level (California Domestic Water Quality and Monitoring Regulations (22 CCR Chapter 15))

ND = Not Detected

NS = Not Sampled

** = Not Sampled in 1/98 due to lack of flow at sampling site.

NO₃ = 62
N = 14
 $\frac{62}{14} = 4.43$

COMPARISON OF RESULTS BY SAMPLING EVENT

SOURCE: SURFACE WATER: SAMPLING LOCATION 509
CRISTIANITOS CREEK NEAR SAN CLEMENTE
NEAR USGS GAUGING STATION 11046360

Analyte	Det. Limit	Units	MCL	Analytical Results											
				1/98**	3/3/98	5/26/98	8/4/98	NS	2/19/99	5/11/99	9/28/99	12/6/99	3/13/00	6/1/00	
Oil and Grease	1.0	mg/L	None	NS	ND	ND	ND	NS	1.5	ND	NS	NS	ND	ND	
pH	1.00	mg/L	None	NS	8.16	8.27	8.12	NS	8.4	8.32	NS	NS	8.15	7.63	
Phosphate	0.3	mg/L	None	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.15 0.4	ND	
Potassium	1.0	mg/L	None	NS	2	1.75	1.88	NS	2.16	ND	NS	NS	2.5	2.3	
Sodium	0.5	mg/L	None	NS	70	74.3	77.8	NS	107	104	NS	NS	131	128	
Sulfate	10	mg/L	250	NS	125	127	174	NS	199	219	NS	NS	236	249	
Surfactants (MBAS)	0.05	mg/L	0.5	NS	ND	ND	ND	NS	ND	0.106	NS	NS	ND	ND	
Total Coliform	2	MPN/100 mL	None	NS	900	80	>1600	NS	59	280	NS	NS	>1,600	900	
Total Dissolved Solids	10	mg/L	500	NS	478	553	545	NS	711	703	NS	NS	796	740	
Total Organic Carbon	0.5	mg/L	None	NS	4.75	4.62	1.41	NS	5.29	2.51	NS	NS	11	20	
Zinc	0.03	mg/L	5	NS	ND	ND	0.0184	NS	ND	ND	NS	NS	0.03	ND	

Notes:

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COMPARISON OF RESULTS BY SAMPLING EVENT

SOURCE: SURFACE WATER: SAMPLING LOCATION 510
SAN MATEO CREEK AT SAN CLEMENTE
NEAR USGS GAUGING STATION 11046300

Analyte	Det. Limit	Units	MCL	Analytical Results											
				1/98**	3/3/98	6/4/98	8/4/98	11/19/98	2/19/99	5/11/99	9/28/99	12/7/99	3/22/00	6/6/00	
Alkalinity (CaCO3)	1	mg/L	None	NS	103	134	189	182	170	175	NS	218	124	196	
Arsenic	0.005	mg/L	0.05	NS	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	
Bicarbonate	1	mg/L	None	NS	102	131	183	179	167	172	NS	218	120	196	
Biochemical Oxygen Demand	2	mg/L	None	NS	NS	ND	NS	ND	NS	ND	NS	NS	ND	NS	
Boron	0.2	mg/L	None	NS	ND	ND	0.112	ND	0.138	ND	NS	ND	ND	0.1	
Calcium	0.5	mg/L	None	NS	34	36.3	47.9	51.8	48.3	46.9	NS	69.4	45.3	56.8	
Carbonate	0.5	mg/L	None	NS	1.23	3.02	5.57	3.13	3.27	2.57	NS	ND	4	ND	
Chloride	1	mg/L	250	NS	28.2	84.9	56.6	60.8	55.2	50.2	NS	96	60	77	
Conductivity	10	mg/L	900	NS	332	394	573	629	572	588	NS	822	570	710	
Copper	0.02	mg/L	1.0	NS	ND	ND	ND	ND	ND	ND	NS	0.02	0.015	ND	
Cyanide (Total)	0.01	mg/L	0.2	NS	NS	ND	NS	ND	NS	ND	NS	NS	ND	NS	
Fecal Coliform	2	MPN/100 mL	None	NS	<2	2	2	4	>2	4	NS	<2	7	170	
Fluoride	0.1	mg/L	None	NS	0.271	0.334	0.334	0.301	0.31	0.327	NS	0.4	0.5	0.4	
Hardness (CaCO3)	2	mg/L	None	NS	106	142	204	222	201	184	NS	320	182	232	
Hydroxide	0.5	mg/L	None	NS	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	
Iron	0.05	mg/L	0.3	NS	0.8	0.058	0.0618	ND	0.487	ND	NS	ND	0.07	ND	
Lead	0.05	mg/L	0.015	NS	ND	ND	0.00223	ND	0.00616	ND	NS	ND	0.018	ND	
Magnesium	0.5	mg/L	None	NS	11	13.3	18.4	21.6	18.7	17.5	NS	26.6	16.8	20.9	
Manganese	0.01	mg/L	0.05	NS	0.02	0.007	0.0122	ND	ND	ND	NS	ND	ND	ND	
Mercury	0.0002	mg/L	0.002	NS	NS	ND	NS	ND	NS	ND	NS	NS	ND	NS	

Notes:

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COMPARISON OF RESULTS BY SAMPLING EVENT

SOURCE: SURFACE WATER: SAMPLING LOCATION 510
SAN MATEO CREEK AT SAN CLEMENTE
NEAR USGS GAUGING STATION 11046300

Analyte	Det. Limit	Units	MCL	Analytical Results										
				1/98**	3/3/98	6/4/98	8/4/98	11/19/98	2/19/99	5/11/99	9/28/99	12/7/99	3/22/00	6/6/00
Nitrate-N	0.1	mg/L	45	NS	0.434	0.168	ND	ND	ND	ND	NS	ND	ND	ND
Oil and Grease	1.0	mg/L	None	NS	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND
pH	1.00	mg/L	None	NS	7.89	8.61	8.51	NS	8.29	8.29	NS	7.61	8.05	7.83
Phosphate	0.3	mg/L	None	NS	NS	NS	NS	NS	NS	NS	NS	0.163 0.5	0.098 0.3	ND
Potassium	1.0	mg/L	None	NS	ND	0.95	0.651	0.839	ND	ND	NS	1.6	1.6	1.3
Sodium	0.5	mg/L	None	NS	33	39.5	48.8	51.5	48.3	45	NS	64.1	42.8	58.4
Sulfate	10	mg/L	250	NS	26.6	35.9	55.2	58	52.8	50	NS	69	58	59
Surfactants (MBAS)	0.05	mg/L	0.5	NS	ND	ND	ND	ND	ND	ND	NS	ND	0.06	ND
Total Coliform	11	MPN/100 mL	None	NS	900	300	220	11	30	70	NS	>1600	7	170
Total Dissolved Solids	10	mg/L	500	NS	206	283	366	391	358	361	NS	469	364	446
Total Organic Carbon	0.5	mg/L	None	NS	2.8	4.31	1.81	1.7	2.83	ND	NS	2.6	10.0	4.4
Zinc	0.03	mg/L	5	NS	0.09	ND	ND	0.0109	0.0104	ND	NS	ND	0.03	ND

$$0.5 \text{ PO}_4 \rightarrow \text{P}$$

$$0.05 \text{ PO}_4 \times \frac{\text{P}}{\text{PO}_4} = 0.016$$

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COMPARISON OF RESULTS BY SAMPLING EVENT

SOURCE: SURFACE WATER: SAMPLING LOCATION 511
SAN MATEO CREEK AT SAN ONOFRE
NEAR USGS GAUGING STATION

Analyte	Det. Limit	Units	MCL	Analytical Results											
				12/9/97	3/3/98	5/26/98	8/4/98	11/9/98	2/10/99	5/11/99	9/29/99	12/6/99	3/13/00	6/1/00	
Alkalinity (CaCO3)	1	mg/L	None	143	111	149	164	156	164	151	152	148	142	152	
Arsenic	0.005	mg/L	0.05	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	
Bicarbonate	1	mg/L	None	143	110	148	164	156	163	150	152	148	142	152	
Biochemical Oxygen Demand	2	mg/L	None	ND	NS	ND	NS	ND	NS	ND	ND	NS	ND	NS	
Boron	0.1	mg/L	None	ND	ND	ND	0.2	0.216	0.255	0.192	0.2	ND	0.1	0.2	
Calcium	0.1	mg/L	None	81.1	45	43.2	68.5	83.5	84	87	84.5	73.9	57.6	77.8	
Carbonate	0.5	mg/L	None	ND	1.42	0.941	0.509	ND	1.16	0.708	ND	ND	ND	ND	
Chloride	1	mg/L	250	128	36.8	93.1	72.8	88.2	88.8	82.9	86	84	70	84	
Conductivity	10	mg/L	900	860	434	496	739	886	934	932	875	854	657	836	
Copper	0.005	mg/L	1.0	ND	ND	ND	ND	ND	NS	ND	ND	ND	0.016	ND	
Cyanide (Total)	0.01	mg/L	0.2	ND	NS	ND	NS	ND	NS	ND	ND	NS	ND	NS	
Fecal Coliform	2	MPN/100 mL	None	NS	30	13	130	500	13	30	300	50	50	50	
Fluoride	0.1	mg/L	None	ND	0.295	0.278	0.296	0.275	0.251	0.254	0.4	0.4	0.3	0.5	
Hardness (CaCO3)	2	mg/L	None	287	145	166	277	335	353	305	298	316	222	292	
Hydroxide	0.5	mg/L	None	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	
Iron	0.05	mg/L	0.3	0.068	2.1	0.119	0.0894	0.5	NS	ND	ND	ND	0.04J	ND	
Lead	0.05	mg/L	0.015	ND	ND	ND	ND	ND	0.00133	ND	ND	ND	ND	ND	
Magnesium	0.2	mg/L	None	22.6	14	15.5	21.2	25.7	26.3	24.3	25.8	22.2	18.4	22.8	
Manganese	0.01	mg/L	0.05	0.176	0.04	ND	0.0283	0.0821	NS	ND	ND	0.04	0.02	0.03	
Mercury	0.002	mg/L	0.002	ND	NS	ND	NS	ND	NS	ND	ND	NS	ND	NS	

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NS = Not Sampled

COMPARISON OF RESULTS BY SAMPLING EVENT

SOURCE: SURFACE WATER: SAMPLING LOCATION 511
SAN MATEO CREEK AT SAN ONOFRE
NEAR USGS GAUGING STATION

Analyte	Det. Limit	Units	MCL	Analytical Results											
				12/9/97	3/3/98	5/26/98	8/4/98	11/9/98	2/10/99	5/11/99	9/29/99	12/6/99	3/13/00	6/1/00	
Nitrate-N	0.1	mg/L	45	7.72	1.98	1.27	7.6	11.8	11.9	12.5	8.1	6.3	6.2	6.7	
Oil and Grease	1.0	mg/L	None	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	
pH	1.00	mg/L	None	7.3	8.13	7.83	7.52	NS	7.3	7.18	7.02	7.10	7.68	7.19	
Phosphate	0.3	mg/L	None	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	
Potassium	1.0	mg/L	None	1.45	ND	0.955	2.08	2.15	1.33	1.18	ND	1.6	2.3	1.9	
Sodium	0.3	mg/L	None	60.8	42	45.1	62.2	67.4	68.6	60.6	72.0	61.5	52.7	61.8	
Sulfate	10	mg/L	250	123	47	78.8	119	171	148	157	128	121	77	133	
Surfactants (MBAS)	0.05	mg/L	0.5	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	
Total Coliform	2	MPN/100 mL	None	NS	240	170	300	900	60	>1600	300	1600	300	>1,600	
Total Dissolved Solids	10	mg/L	500	360	273	327	470	595	586	583	552	531	400	487	
Total Organic Carbon	0.5	mg/L	None	4.21	5.84	2.48	3.53	ND	3.69	1.45	16.4	ND	5.8	38	
Zinc	0.02	mg/L	5	ND	ND	ND	ND	ND	NS	ND	0.03	ND	0.03	ND	

$PO_4 \rightarrow P$

Notes:

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NS = Not Sampled

$$\frac{PO_4}{P} = \frac{95}{31}$$

$$\frac{P}{PO_4} = 0.326$$

$$\frac{PO_4}{P} = 3.06$$

Disc 1 WQ

SURFACE WATER RESULTS FOR SAMPLING EVENT 01

No.	Location	Sampling Date	No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	12/9/97	7	Fallbrook Creek near Fallbrook	12/9/97
2	Sandia Creek near Fallbrook	12/9/97	8	Santa Margarita River at Ysidora	12/9/97
3	Rainbow Creek near Fallbrook	12/9/97	9	Cristianitos Creek near San Clemente	NS - No Flow
4	Santa Margarita River near Temecula	12/9/97	10	San Mateo Creek at San Clemente	NS - No Flow
5	Murrieta Creek at Temecula	12/9/97	11	San Mateo Creek at San Onofre	12/9/97
6	Deluz Creek near Fallbrook	12/9/97			

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Alkalinity (CaCO ₃)	EPA 310.1	1.00	mg/L	116	154	162	164	127	140	121	145	NS	NS	143
Arsenic	EPA 200.7	0.0250	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Bicarbonate	SM406C	1.00	mg/L	115	151	160	163	126	139	120	143	NS	NS	143
Biochemical Oxygen Demand	EPA 405.1	2.00	mg/L	2.5	ND	ND	2.38	2.67	ND	2.48	ND	NS	NS	ND
Boron	6010A	0.5	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Calcium	EPA 200.7	0.100	mg/L	71.4	141	122	85.3	50.7	103	46.6	85.7	NS	NS	81.1
Carbonate	SM406	1.00	mg/L	ND	2.83	1.73	1.08	ND	1.3	ND	2.18	NS	NS	ND
Chloride	EPA 300.0	10.0	mg/L	147	267	213	148	134	224	126	183	NS	NS	128
Conductivity	EPA 120.1	1.00	umhos/cm	849	1620	1470	934	755	1220	740	1070	NS	NS	860
Copper	EPA 200.7	0.00500	mg/L	0.007	ND	ND	ND	ND	ND	ND	0.01	NS	NS	ND
Cyanide (Total)	EPA 335.2	0.00500	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Fecal Coliform	MTF	2	mpn/100ml	>1600	300	1600	>1600	>1600	900	>1600	1600	NS	NS	NS
Fluoride	EPA 300.0	0.200	mg/L	ND	ND	ND	ND	0.236	ND	ND	ND	NS	NS	ND
Hardness (CaCO ₃)	EPA 130.2	10.0	mg/L	259	555	515	247	174	408	217	350	NS	NS	287
Hydroxide	SM406	1.00	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Iron	EPA 200.7	0.0500	mg/L	9.89	0.257	0.047	3	2.21	0.243	3.34	2.47	NS	NS	0.068
Lead	EPA 200.7	0.0200	mg/L	ND	ND	0.027	0.019	ND	0.023	0.024	ND	NS	NS	ND
Magnesium	EPA 200.7	0.200	mg/L	27.3	61.9	51.1	18.7	13.8	43.5	25.7	34.3	NS	NS	22.6

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 01

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	12/9/97
2	Sandia Creek near Fallbrook	12/9/97
3	Rainbow Creek near Fallbrook	12/9/97
4	Santa Margarita River near Temecula	12/9/97
5	Murrieta Creek at Temecula	12/9/97
6	Deluz Creek near Fallbrook	12/9/97

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	12/9/97
8	Santa Margarita River at Ysidora	12/9/97
9	Cristianitos Creek near San Clemente	NS - No Flow
10	San Mateo Creek at San Clemente	NS - No Flow
11	San Mateo Creek at San Onofre	12/9/97

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Manganese	EPA 200.7	0.0100	mg/L	0.252	0.051	0.027	0.251	0.126	0.157	0.194	0.14	NS	NS	0.176
Mercury	SW7470	0.000200	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Nitrate-N	EPA 300.0	0.500	mg/L	1.94	4.92	1.3	1.32	0.872	5.44	0.501	1.4	NS	NS	7.72
Nitrogen	EPA 351.2	0.100	mg/L	0.379	0.38	0.483	0.434	0.483	0.447	0.222	0.2	NS	NS	ND
Oil and Grease	EPA 413.1	1.18	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
pH	EPA 150.1	2.0-12.5	pH units	7.85	8.21	7.98	7.7	7.63	7.94	7.82	8.06	NS	NS	7.3
Phosphate	EPA 365.2	0.3	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phosphorus	EPA 365.1	0.01	mg/L	0.27	0.063	1.13	0.254	0.266	0.089	0.297	0.208	NS	NS	0.027
Potassium	EPA 200.7	0.300	mg/L	6.47	3.35	10.8	4.25	4.67	3.04	4.15	5.4	NS	NS	1.45
Sodium	EPA 200.7	0.300	mg/L	62.4	96.7	103	78.4	73.9	72.7	62.7	78.8	NS	NS	60.8
Sulfate	EPA 300.0	10.0	mg/L	131	239	269	123	75.4	189	102	157	NS	NS	123
Surfactants (MBAS)	EPA 425.1	0.100	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND
Total Coliform	MTF	2	mpn/100ml	>1600	>1600	>1600	>1600	>1600	>1600	>1600	>1600	NS	NS	NS
Total Dissolved Solids	EPA 160.1	10.0	mg/L	432	1010	910	476	387	740	387	660	NS	NS	360
Total Organic Carbon	SW415.1	1.00	mg/L	6.21	4.27	11.1	8.77	8.68	7.28	10.6	7.5	NS	NS	4.21
Zinc	EPA 200.7	0.0100	mg/L	0.037	0.017	0.015	0.021	0.019	0.013	0.033	0.022	NS	NS	ND

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 02

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	3/3/98
2	Sandia Creek near Fallbrook	3/3/98
3	Rainbow Creek near Fallbrook	3/3/98
4	Santa Margarita River near Temecula	3/3/98
5	Murrieta Creek at Temecula	3/3/98
6	Deluz Creek near Fallbrook	3/3/98

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	3/3/98
8	Santa Margarita River at Ysidora	3/3/98
9	Cristianitos Creek near San Clemente	3/3/98
10	San Mateo Creek at San Clemente	3/3/98
11	San Mateo Creek at San Onofre	3/3/98

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Alkalinity (CaCO ₃)	EPA 310.1	1	mg/L	157	135	79.5	173	169	82.4	220	128	163	103	111
Arsenic	EPA 200.7	0.01	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bicarbonate	SM406C	1	mg/L	155	133	78.7	170	167	81.4	217	126	160	102	110
Biochemical Oxygen Demand	EPA 405.1	2	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Boron	EPA 200.7	0.5	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium	EPA 200.7	0.2	mg/L	90	110	46	85	76	51	71	77	83	34	45
Carbonate	SM406	0.5	mg/L	2.3	1.98	0.757	2.48	2.32	0.941	3.02	1.5	2.45	1.23	1.42
Chloride	EPA 300.0	20	mg/L	120	158	70.7	115	133	62.3	105	105	78	28.2	36.8
Conductivity	EPA 120.1	1	umhos/cm	1016	1155	641	983	1000	544	935	814	719	332	434
Copper	EPA 200.7	0.02	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide (Total)	EPA 335.2	0.005	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Fecal Coliform	MTF	2	mpn/100ml	140	110	220	300	110	90	300	110	13	<2	30
Fluoride	EPA 300.0	0.2	mg/L	0.29	0.273	0.203	0.32	0.343	0.215	0.429	0.239	0.386	0.271	0.295
Hardness (CaCO ₃)	EPA 130.2	10	mg/L	348	442	208	320	342	200	328	290	330	106	145
Hydroxide	SM406	0.5	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	0.1	mg/L	0.9	5.5	0.7	1.4	1.4	4.2	0.7	3	4	0.8	2.1
Lead	EPA 239.2	0.015	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium	EPA 200.7	0.1	mg/L	34	48	20	28	28	20	37	30	24	11	14

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 02

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	3/3/98
2	Sandia Creek near Fallbrook	3/3/98
3	Rainbow Creek near Fallbrook	3/3/98
4	Santa Margarita River near Temecula	3/3/98
5	Murrieta Creek at Temecula	3/3/98
6	Deluz Creek near Fallbrook	3/3/98

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	3/3/98
8	Santa Margarita River at Ysidora	3/3/98
9	Cristianitos Creek near San Clemente	3/3/98
10	San Mateo Creek at San Clemente	3/3/98
11	San Mateo Creek at San Onofre	3/3/98

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Manganese	EPA 200.7	0.01	mg/L	0.06	0.12	0.05	0.1	0.07	0.11	0.14	0.07	0.11	0.02	0.04
Mercury	EPA 245.1	0.0002	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrate-N	EPA 300.0	2	mg/L	3.6	7.63	4.95	1.88	1.42	3.89	1.91	3.59	0.298	0.434	1.98
Nitrogen	EPA 351.2	0.1	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Oil and Grease	EPA 413.1	0.962	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH	EPA 150.1	2.0-12.5	pH units	8.19	8.2	8.12	8.27	8.29	7.97	8.19	8.11	8.16	7.89	8.13
Phosphate	365.2	0.3	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phosphorus	EPA 365.1	0.01	mg/L	0.481	0.225	0.612	0.511	0.53	0.151	0.456	0.378	0.227	0.108	0.373
Potassium	EPA 200.7	2	mg/L	4	3	3	5	5	ND	2	3	2	ND	ND
Sodium	EPA 200.7	4	mg/L	100	99	69	110	100	53	120	80	70	33	42
Sulfate	EPA 300.0	4	mg/L	179	222	108	164	164	83.5	142	132	125	26.6	47
Surfactants (MBAS)	EPA 425.1	0.1	mg/L	0.112	ND	ND	0.108	ND	ND	0.126	ND	ND	ND	ND
Total Coliform	MTF	2	mpn/100ml	>1600	>1600	>1600	>1600	>1600	1600	1600	1600	900	900	240
Total Dissolved Solids	EPA 160.1	10	mg/L	680	786	453	668	658	336	655	522	478	206	273
Total Organic Carbon	EPA 415.1	1	mg/L	5.87	5.04	8.45	6.09	6.07	3.47	13.7	5.64	4.75	2.8	5.84
Zinc	EPA 200.7	0.03	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.09	ND

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 03

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	5/26/98
2	Sandia Creek near Fallbrook	5/26/98
3	Rainbow Creek near Fallbrook	5/26/98
4	Santa Margarita River near Temecula	5/26/98
5	Murrieta Creek at Temecula	5/26/98
6	Deluz Creek near Fallbrook	5/26/98

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	5/26/98
8	Santa Margarita River at Ysidora	5/26/98
9	Cristianitos Creek near San Clemente	5/26/98
10	San Mateo Creek at San Clemente	6/4/98
11	San Mateo Creek at San Onofre	5/26/98

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Alkalinity (CaCO ₃)	EPA 310.1	1	mg/L	178	159	114	211	201	119	269	166	194	134	149
Arsenic	EPA 200.7	0.025	mg/L	ND	ND	ND	ND	ND	0.026	ND	ND	ND	ND	ND
Bicarbonate	BICARB	1	mg/L	176	157	104	195	200	118	267	164	190	131	148
Biochemical Oxygen Demand	EPA 405.1	2	mg/L	ND	ND	4.02	ND	ND	ND	ND	ND	ND	ND	ND
Boron	6010A	0.5	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium	EPA 200.7	0.1	mg/L	92.3	95.3	65.6	97.9	100	50.8	70.3	72	76.9	36.3	43.2
Carbonate	CARBONAT	0.5	mg/L	1.94	1.99	0.642	0.862	0.9	0.944	1.78	2.08	3.34	3.02	0.941
Chloride	EPA 300.0	50	mg/L	189	225	128	197	212	98.7	145	164	101	84.9	93.1
Conductivity	EPA 120.1	1	umhos/cm	1070	1150	848	1120	1260	670	1080	902	824	394	496
Copper	EPA 200.7	0.005	mg/L	ND	ND	0.008	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide (Total)	EPA 335.2	0.005	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fecal Coliform	MTF	2	mpn/100ml	60	220	1600	1600	<2	30	900	30	17	2	13
Fluoride	EPA 300.0	0.2	mg/L	0.301	0.316	0.325	1.12	0.502	1.14	0.403	0.331	0.342	0.334	0.278
Hardness (CaCO ₃)	EPA 130.2	5	mg/L	344	442	354	310	339	251	364	331	270	142	166
Hydroxide	HYDROXID	0.5	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	0.05	mg/L	0.134	0.765	0.486	0.447	0.184	0.971	0.137	1.14	0.11	0.058	0.119
Lead	EPA 239.2	0.001	mg/L	ND	ND	0.00106	ND	ND	ND	ND	0.00104	ND	ND	ND
Magnesium	EPA 200.7	0.2	mg/L	40.8	50.6	29.1	32.2	38.2	24.3	46.5	33.8	24	13.3	15.5

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 03

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	5/26/98
2	Sandia Creek near Fallbrook	5/26/98
3	Rainbow Creek near Fallbrook	5/26/98
4	Santa Margarita River near Temecula	5/26/98
5	Murrieta Creek at Temecula	5/26/98
6	Deluz Creek near Fallbrook	5/26/98

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	5/26/98
8	Santa Margarita River at Ysidora	5/26/98
9	Cristianitos Creek near San Clemente	5/26/98
10	San Mateo Creek at San Clemente	6/4/98
11	San Mateo Creek at San Onofre	5/26/98

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Manganese	EPA 200.7	0.01	mg/L	0.024	0.028	0.055	0.075	0.058	0.039	0.063	0.037	0.017	0.007	ND
Mercury	7470	0.0002	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N	EPA 300.0	0.5	mg/L	4.58	5.56	10.3	0.868	0.724	2.45	0.356	2.19	ND	0.168	1.27
Nitrogen	EPA 351.2	0.5	mg/Kg	0.7	ND	2.7	0.8	0.8	0.6	0.8	0.7	ND	NS	ND
Oil and Grease	EPA 413.1	1	mg/L	ND	ND	ND	ND	ND	1.33	ND	ND	ND	ND	ND
pH	EPA 150.1	2.5-12.0	pH units	8.07	8.13	7.78	7.64	7.64	7.93	7.85	8.13	8.27	8.61	7.83
Phosphate	EPA 365.2	0.3	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phosphorus	EPA 365.1	0.01	mg/L	0.263	0.014	1.14	0.101	0.092	0.014	0.154	0.095	0.012	ND	0.021
Potassium	EPA 200.7	0.3	mg/L	4.75	3.09	7.21	6.11	7.91	1.68	2.22	2.47	1.75	0.95	0.955
Sodium	EPA 200.7	0.3	mg/L	99.9	87.5	83.2	122	141	57.3	115	78.9	74.3	39.5	45.1
Sulfate	EPA 300.0	50	mg/L	197	249	134	273	260	106	143	171	127	35.9	78.8
Surfactants (MBAS)	EPA 425.1	0.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Coliform	MTF	2	mpn/100ml	>1600	1600	>1600	>1600	<2	300	>1600	220	80	300	170
Total Dissolved Solids	EPA 160.1	10	mg/L	764	814	662	803	879	455	741	642	553	283	327
Total Organic Carbon	EPA 415.1	1	mg/L	8.06	3.03	10.3	8.53	6.01	4.79	10.2	2.89	4.62	4.31	2.48
Zinc	EPA 200.7	0.01	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 04

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	8/4/98
2	Sandia Creek near Fallbrook	8/4/98
3	Rainbow Creek near Fallbrook	8/4/98
4	Santa Margarita River near Temecula	8/4/98
5	Murrieta Creek at Temecula	8/4/98
6	Deluz Creek near Fallbrook	8/4/98

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	8/4/98
8	Santa Margarita River at Ysidora	8/4/98
9	Cristianitos Creek near San Clemente	8/4/98
10	San Mateo Creek at San Clemente	8/4/98
11	San Mateo Creek at San Onofre	8/4/98

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Alkalinity (CaCO ₃)	EPA 310.1	1	mg/L	196	177	242	205	140	170	363	191	184	189	164
Arsenic	EPA 200.7	0.025	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bicarbonate	BICARB	1	mg/L	192	175	240	203	139	168	359	186	182	183	164
Biochemical Oxygen Demand	EPA 405.1	2	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Boron	EPA 200.7	0.1	mg/L	0.219	0.161	0.125	0.228	0.175	0.154	0.326	0.203	0.291	0.112	0.2
Calcium	EPA 200.7	0.1	mg/L	99.7	108	114	83.4	58.7	84.4	89.6	91.6	81	47.9	68.5
Carbonate	CARBONAT	0.5	mg/L	3.53	2.32	1.92	1.7	0.736	2.23	3.62	4.6	2.25	5.57	0.509
Chloride	EPA 325.3	1	mg/L	162	227	189	98.3	78.2	143	172	159	92	56.6	72.8
Conductivity	EPA 120.1	1	umhos/cm	1280	1290	1400	977	812	1030	1450	1140	874	573	739
Copper	EPA 200.7	0.005	mg/L	ND	ND	0.0063	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide (Total)	EPA 335.2	0.005	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Fecal Coliform	MTF	2	mpn/100ml	110	170	900	17	<2	50	140	280	900	2	130
Fluoride	EPA 340.2	0.1	mg/L	0.319	0.307	0.239	0.353	0.313	0.277	0.586	0.367	0.446	0.334	0.296
Hardness (CaCO ₃)	EPA 130.2	5	mg/L	483	525	564	295	277	428	497	431	295	204	277
Hydroxide	HYDROXID	0.5	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	0.05	mg/L	0.149	0.103	ND	0.221	0.244	0.678	0.149	0.283	0.478	0.0618	0.0894
Lead	EPA 239.2	0.001	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00223	ND
Magnesium	EPA 200.7	0.2	mg/L	49	52.5	55.4	24.2	22.6	38.7	58.9	39.8	20.9	18.4	21.2

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 04

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	8/4/98
2	Sandia Creek near Fallbrook	8/4/98
3	Rainbow Creek near Fallbrook	8/4/98
4	Santa Margarita River near Temecula	8/4/98
5	Murrieta Creek at Temecula	8/4/98
6	Deluz Creek near Fallbrook	8/4/98

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	8/4/98
8	Santa Margarita River at Ysidora	8/4/98
9	Cristianitos Creek near San Clemente	8/4/98
10	San Mateo Creek at San Clemente	8/4/98
11	San Mateo Creek at San Onofre	8/4/98

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Manganese	EPA 200.7	0.01	mg/L	0.0776	0.0153	0.0329	0.108	0.0633	0.0407	0.13	0.0287	0.202	0.0122	0.0283
Mercury	EPA 245.1	0.0002	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrate-N	EPA 353.2	0.1	mg/L	2.27	4.36	4.54	0.82	0.29	2.2	0.07	0.24	ND	ND	7.6
Nitrogen	EPA 351.2	0.1	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Oil and Grease	EPA 413.1	1.03	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH	EPA 150.1	2.5-12.0	pH units	8.29	8.15	7.93	7.95	7.75	8.15	8.03	8.42	8.12	8.51	7.52
Phosphate	365.2	0.3	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phosphorus	EPA 365.1	0.01	mg/L	0.04	0.03	0.48	0.07	0.04	0.08	0.36	0.13	0.19	0.02	0.1
Potassium	EPA 200.7	0.3	mg/L	4.47	3.08	5.38	3.32	3.6	1.61	2	3.93	1.88	0.651	2.08
Sodium	EPA 200.7	0.3	mg/L	108	96.4	NS	100	84.6	78.2	153	101	77.8	48.8	62.2
Sulfate	EPA 375.4	50	mg/L	292	265	252	203	194	188	240	224	174	55.2	119
Surfactants (MBAS)	EPA 425.1	0.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Coliform	MTF	2	mpn/100ml	>1600	>1600	>1600	500	<2	900	1600	900	>1600	220	300
Total Dissolved Solids	EPA 160.1	10	mg/L	846	850	884	622	506	662	918	748	545	366	470
Total Organic Carbon	EPA 415.1	1	mg/L	2.87	1.66	3.42	2.05	3.83	2.86	7.54	5.09	1.41	1.81	3.53
Zinc	EPA 200.7	0.01	mg/L	ND	ND	ND	ND	0.0144	ND	ND	ND	0.0184	ND	ND

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 05

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	11/9/98
2	Sandia Creek near Fallbrook	11/9/98
3	Rainbow Creek near Fallbrook	11/9/98
4	Santa Margarita River near Temecula	11/9/98
5	Murrieta Creek at Temecula	11/9/98
6	Deluz Creek near Fallbrook	11/9/98

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	11/9/98
8	Santa Margarita River at Ysidora	11/9/98
9	Cristianitos Creek near San Clemente	NS - No Flow
10	San Mateo Creek at San Clemente	11/19/98
11	San Mateo Creek at San Onofre	11/9/98

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Alkalinity (CaCO ₃)	EPA 310.1	1	mg/L	180	158	163	159	114	170	179	162	NS	182	156
Arsenic	EPA 200.7	0.025	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND
Bicarbonate	SM406C	1	mg/L	178	156	162	158	114	168	178	158	NS	179	156
Biochemical Oxygen Demand	EPA 405.1	2	mg/L	2.14	ND	ND	6.72	10	ND	8.02	ND	NS	ND	ND
Boron	EPA 200.7	0.1	mg/L	0.244	0.197	0.2	0.377	0.389	0.218	0.23	0.202	NS	ND	0.216
Calcium	EPA 200.7	0.1	mg/L	118	112	112	61.3	37.5	103	66.7	88.3	NS	51.8	83.5
Carbonate	SM406	0.5	mg/L	1.43	2.32	1.13	ND	ND	2.13	0.623	3.91	NS	3.13	ND
Chloride	EPA 325.3	1	mg/L	176	192	169	109	104	164	133	160	NS	60.8	88.2
Conductivity	EPA 120.1	1	umhos/cm	1410	1370	1460	860	755	1230	1150	1150	NS	629	886
Copper	EPA 200.7	0.005	mg/L	ND	ND	0.0058	ND	0.0075	ND	ND	ND	NS	ND	ND
Cyanide (Total)	EPA 335.2	0.005	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND
Fecal Coliform	MTF	2	mpn/100ml	>1600	1600	>1600	>1600	>1600	500	>1600	70	NS	4	500
Fluoride	EPA 340.2	0.1	mg/L	0.336	0.298	0.35	0.352	0.356	0.282	0.37	0.354	NS	0.301	0.275
Hardness (CaCO ₃)	EPA 130.2	1	mg/L	570	551	562	230	153	537	396	426	NS	222	335
Hydroxide	SM406	0.5	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND
Iron	EPA 200.7	0.05	mg/L	1.48	0.451	0.156	0.564	0.98	1.2	1.92	0.1	NS	ND	0.5
Lead	EPA 239.2	0.001	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND
Magnesium	EPA 200.7	0.2	mg/L	50.9	55	51.5	16.7	12.4	48.8	41.8	41	NS	21.6	25.7

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 05

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	11/9/98
2	Sandia Creek near Fallbrook	11/9/98
3	Rainbow Creek near Fallbrook	11/9/98
4	Santa Margarita River near Temecula	11/9/98
5	Murrieta Creek at Temecula	11/9/98
6	Deluz Creek near Fallbrook	11/9/98

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	11/9/98
8	Santa Margarita River at Ysidora	11/9/98
9	Cristianitos Creek near San Clemente	NS - No Flow
10	San Mateo Creek at San Clemente	11/19/98
11	San Mateo Creek at San Onofre	11/9/98

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Manganese	EPA 200.7	0.01	mg/L	0.143	0.0282	0.048	0.0656	0.0882	0.0488	0.559	0.0154	NS	ND	0.0821
Mercury	SW7470A	0.0002	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND
Nitrate-N	353.2-354.1	0.05	mg/L	4.2	5.33	13.2	1.22	1.21	4.46	1.15	0.393	NS	ND	11.8
Nitrogen	EPA 351.2	0.1	mg/L	1.36	0.781	1.66	1.57	1.8	0.619	1.75	0.453	NS	0.2	0.526
Oil and Grease	EPA 413.1	1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND
Phosphate	EPA 365.2	0.3	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phosphorus	EPA 365.1	0.01	mg/L	0.188	ND	0.917	0.25	0.45	0.04	0.704	0.036	NS	ND	0.071
Potassium	EPA 200.7	0.3	mg/L	7.14	3.35	9.35	9.73	11.8	2.35	6.69	3.75	NS	0.839	2.15
Sodium	EPA 200.7	0.3	mg/L	111	98.3	120	99.7	91.9	87.7	110	94.5	NS	51.5	67.4
Sulfate	EPA 375.4	5	mg/L	294	296	326	135	115	260	264	278	NS	58	171
Surfactants (MBAS)	EPA 425.1	0.1	mg/L	ND	ND	0.113	0.358	0.516	ND	0.135	ND	NS	ND	ND
Total Coliform	MTF	2	mpn/100ml	>1600	>1600	>1600	>1600	>1600	>1600	>1600	900	NS	11	900
Total Dissolved Solids	EPA 160.1	10	mg/L	963	925	1010	570	498	821	746	785	NS	391	595
Total Organic Carbon	SW415.1	1	mg/L	5.85	2.66	58.9	15.6	20.4	1.47	15.8	2.31	NS	1.7	ND
Zinc	EPA 200.7	0.01	mg/L	ND	ND	ND	0.0144	0.216	ND	0.0148	ND	NS	0.0109	ND

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 06

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	2/10/99
2	Sandia Creek near Fallbrook	2/10/99
3	Rainbow Creek near Fallbrook	2/10/99
4	Santa Margarita River near Temecula	2/10/99
5	Murrieta Creek at Temecula	2/10/99
6	Deluz Creek near Fallbrook	2/10/99

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	2/10/99
8	Santa Margarita River at Ysidora	2/10/99
9	Cristianitos Creek near San Clemente	2/19/99
10	San Mateo Creek at San Clemente	2/19/99
11	San Mateo Creek at San Onofre	2/10/99

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Alkalinity (CaCO ₃)	EPA 310.1	1	mg/L	186	172	174	154	122	175	204	192	208	170	164
Arsenic	EPA 200.7	0.025	mg/L	NS	NS	NS	NS	0.0387	ND	NS	NS	ND	ND	NS
Bicarbonate	SM406C	1	mg/L	183	168	172	153	121	172	202	188	203	167	163
Biochemical Oxygen Demand	EPA 405.1	2	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Boron	EPA 200.7	0.1	mg/L	0.19	0.141	0.173	0.345	0.378	0.146	0.176	0.169	0.423	0.138	0.255
Calcium	EPA 200.7	0.1	mg/L	89.1	104	91	47.9	36.2	88.4	51.8	84.7	98.9	48.3	84
Carbonate	SM406	0.5	mg/L	2.55	3.71	2.18	1.09	0.687	2.57	2.08	3.61	4.9	3.27	1.16
Chloride	EPA 325.3	1	mg/L	136	179	136	96.6	90.8	141	90.8	139	125	55.2	88.8
Conductivity	EPA 120.1	1	umhos/cm	1180	1300	1240	776	697	1120	875	1130	1110	572	934
Copper	EPA 200.7	0.005	mg/L	NS	NS	0.00511	0.005	0.00706	NS	NS	NS	ND	ND	NS
Cyanide (Total)	EPA 335.2	0.005	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Fecal Coliform	9221	2	mpn/100ml	900	220	>1600	1600	>1600	50	30	17	>2	>2	13
Fluoride	EPA 340.2	0.1	mg/L	0.297	0.283	0.294	0.292	0.279	0.255	0.322	0.326	0.453	0.31	0.251
Hardness (CaCO ₃)	EPA 130.2	1	mg/L	460	559	445	192	148	467	284	432	389	201	353
Hydroxide	SM406C	0.5	mg/L	NS	NS	NS	NS	NS	ND	NS	NS	ND	ND	NS
Iron	EPA 200.7	0.05	mg/L	0.932	0.336	0.214	3.46	6.47	0.427	0.511	0.136	0.382	0.487	NS
Lead	EPA 239.2	0.001	mg/L	NS	NS	NS	0.00107	0.00188	ND	0.00107	0.00373	0.00587	0.00616	0.00133
Magnesium	EPA 200.7	0.2	mg/L	40.7	52	43.8	14.7	13.2	41.7	32.2	38	26.2	18.7	26.3

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 06

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	2/10/99
2	Sandia Creek near Fallbrook	2/10/99
3	Rainbow Creek near Fallbrook	2/10/99
4	Santa Margarita River near Temecula	2/10/99
5	Murrieta Creek at Temecula	2/10/99
6	Deluz Creek near Fallbrook	2/10/99

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	2/10/99
8	Santa Margarita River at Ysidora	2/10/99
9	Cristianitos Creek near San Clemente	2/19/99
10	San Mateo Creek at San Clemente	2/19/99
11	San Mateo Creek at San Onofre	2/10/99

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Manganese	EPA 200.7	0.01	mg/L	0.0454	0.0118	0.0168	0.0786	0.0891	0.0139	0.107	NS	0.0346	ND	NS
Mercury	EPA 245.1	0.0002	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrate-N	353.2-354.1	0.05	mg/L	4.76	5.15	9.34	0.381	0.153	4.21	1.94	1.19	0.14	ND	11.9
Nitrogen	EPA 351.2	0.1	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Oil and Grease	EPA 413.1	1	mg/L	NS	NS	0.98	NS	1.2	ND	0.952	NS	1.5	ND	NS
pH	EPA 150.1		pH units	8.09	8.33	8.06	7.78	7.58	8.13	7.91	8.24	8.4	8.29	7.3
Phosphate	365.2	0.3	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phosphorus	EPA 365.1	0.01	mg/L	0.165	NS	0.713	0.256	0.255	ND	0.259	0.033	0.027	ND	NS
Potassium	EPA 200.7	1	mg/L	4.63	2.72	7.56	5.96	6.76	2.04	2.81	2.9	2.16	ND	1.33
Sodium	EPA 200.7	0.3	mg/L	92.3	90.3	102	89.5	88.3	78.7	83.7	90.8	107	48.3	68.6
Sulfate	EPA 375.4	5	mg/L	222	240	250	108	93	189	121	193	199	52.8	148
Surfactants (MBAS)	EPA 425.1	0.1	mg/L	NS	NS	NS	NS	0.224	ND	NS	NS	ND	ND	NS
Total Coliform	9221	2	mpn/100ml	>1600	500	>1600	>1600	>1600	500	900	500	59	30	60
Total Dissolved Solids	EPA 160.1	10	mg/L	771	854	806	499	425	700	536	717	711	358	586
Total Organic Carbon	SW415.1	1	mg/L	6.37	1.53	7.31	6.59	8.95	3.18	8.37	1.94	5.29	2.83	3.69
Zinc	EPA 200.7	0.01	mg/L	NS	0.0111	NS	0.0205	0.0423	ND	NS	NS	ND	0.0104	NS

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 07

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	5/11/99
2	Sandia Creek near Fallbrook	5/11/99
3	Rainbow Creek near Fallbrook	5/11/99
4	Santa Margarita River near Temecula	5/11/99
5	Murrieta Creek at Temecula	5/11/99
6	Deluz Creek near Fallbrook	5/11/99

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	5/11/99
8	Santa Margarita River at Ysidora	5/11/99
9	Cristianitos Creek near San Clemente	5/11/99
10	San Mateo Creek at San Clemente	5/11/99
11	San Mateo Creek at San Onofre	5/11/99

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Alkalinity (CaCO ₃)	EPA 310.1	1	mg/L	185	166	222	237	185	174	266	233	180	175	151
Arsenic	EPA 200.7	0.025	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bicarbonate	SM406C	1	mg/L	183	164	221	235	184	172	264	231	178	172	150
Biochemical Oxygen Demand	EPA 405.1	2	mg/L	ND	ND	ND	ND	2.11	ND	ND	3.06	ND	ND	ND
Boron	EPA 200.7	0.1	mg/L	0.215	ND	ND	0.197	0.44	0.123	0.144	0.219	0.386	ND	0.192
Calcium	EPA 200.7	0.1	mg/L	87.4	108	112	105	53.5	94.2	65.2	94.7	95.8	46.9	87
Carbonate	SM406	0.5	mg/L	1.84	1.77	1.04	2.11	1.09	1.9	1.93	1.73	1.84	2.57	0.708
Chloride	EPA 325.3	1	mg/L	135	175	166	95.1	124	142	112	172	121	50.2	82.9
Conductivity	EPA 120.1	1	umhos/cm	1230	1360	1420	1140	1020	1180	1120	1350	1140	588	932
Copper	EPA 200.7	0.005	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide (Total)	EPA 335.2	0.005	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fecal Coliform	9221	2	mpn/100ml	>23	>23	>23	>23	>23	>23	>23	>23	6.9	170	4
Fluoride	EPA 340.2	0.1	mg/L	0.326	0.285	0.242	0.281	0.526	0.279	0.476	0.382	0.458	0.327	0.254
Hardness (CaCO ₃)	EPA 130.2	2	mg/L	376	466	492	353	201	394	322	363	321	184	305
Hydroxide	SM406C	0.5	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	0.05	mg/L	ND	ND	ND	0.0668	2.12	0.247	0.236	0.5	0.835	ND	ND
Lead	EPA 239.2	0.001	mg/L	ND	ND	ND	0.00286	0.0012	ND	ND	ND	ND	ND	ND
Magnesium	EPA 200.7	0.2	mg/L	38.9	51.6	53.6	22.4	16.8	43.7	41.6	34.9	26.1	17.5	24.3

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 07

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	5/11/99
2	Sandia Creek near Fallbrook	5/11/99
3	Rainbow Creek near Fallbrook	5/11/99
4	Santa Margarita River near Temecula	5/11/99
5	Murrieta Creek at Temecula	5/11/99
6	Deluz Creek near Fallbrook	5/11/99

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	5/11/99
8	Santa Margarita River at Ysidora	5/11/99
9	Cristianitos Creek near San Clemente	5/11/99
10	San Mateo Creek at San Clemente	5/11/99
11	San Mateo Creek at San Onofre	5/11/99

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Manganese	EPA 200.7	0.01	mg/L	0.0274	ND	ND	0.0417	0.308	0.0215	0.185	0.237	0.0606	ND	ND
Mercury	EPA 245.1	0.0002	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N	353.2-354.1	0.05	mg/L	1.83	2.77	8.6	2.08	0.153	2.06	0.089	0.1	ND	ND	12.5
Nitrogen	EPA 351.2	0.4	mg/L	0.59	0.507	0.535	ND	0.546	0.509	0.545	0.404	ND	ND	ND
Oil and Grease	EPA 413.1	1.02	mg/L	ND	ND	0.962	ND	ND	ND	ND	ND	ND	ND	ND
pH	EPA 150.1	2.5-12.0	pH units	7.95	8.24	7.98	7.89	7.65	8.2	7.86	7.55	8.32	8.29	7.18
Phosphate	EPA 365.2	0.3	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phosphorus	EPA 365.1	0.01	mg/L	0.076	0.022	0.446	0.085	0.161	0.046	0.356	0.118	0.016	0.015	0.038
Potassium	EPA 200.7	1	mg/L	3.26	2.47	5.06	1.53	4.67	1.79	ND	3.06	ND	ND	1.18
Sodium	EPA 200.7	0.3	mg/L	106	87.8	96	94.7	134	83.2	109	134	104	45	60.6
Sulfate	EPA 375.4	50	mg/L	247	262	254	216	134	210	152	193	219	50	157
Surfactants (MBAS)	EPA 425.1	0.1	mg/L	0.116	0.116	ND	ND	ND	ND	0.165	ND	0.106	ND	ND
Total Coliform	9221	2	mpn/100ml	>23	>23	>23	>23	>23	>23	>23	23	280	70	>1600
Total Dissolved Solids	EPA 160.1	10	mg/L	787	879	848	761	602	723	689	786	703	361	583
Total Organic Carbon	SW415.1	1	mg/L	2.13	1.5	5.77	3.2	2.26	2.62	14	13.7	2.51	ND	1.45
Zinc	EPA 200.7	0.02	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 08

No.	Location	Sampling Date	No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	9/28/99	7	Fallbrook Creek near Fallbrook	9/28/99
2	Sandia Creek near Fallbrook	9/28/99	8	Santa Margarita River at Ysidora	9/28/99
3	Rainbow Creek near Fallbrook	9/28/99	9	Cristianitos Creek near San Clemente	9/28/99
4	Santa Margarita River near Temecula	9/28/99	10	San Mateo Creek at San Clemente	9/28/99
5	Murrieta Creek at Temecula	9/28/99	11	San Mateo Creek at San Onofre	9/29/99
6	Deluz Creek near Fallbrook	9/28/99			

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Alkalinity (CaCO ₃)	GEN.MINERAL	1	mg/L	172	160	234	164	142	NS	398	NS	NS	NS	152
Arsenic	{6010/7000}	0.005	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	NS	ND
Bicarbonate	GEN.MINERAL	1	mg/L	172	140	234	164	142	NS	398	NS	NS	NS	152
Biochemical Oxygen Demand	405.1	2	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	NS	ND
Boron	SM-4500-B	0.2	mg/L	0.2	0.1	0.1	0.2	0.1	NS	0.2	NS	NS	NS	0.2
Calcium	GEN.MINERAL	0.5	mg/L	81.4	99.1	114	63.4	65.2	NS	75.2	NS	NS	NS	84.5
Carbonate	GEN.MINERAL	0.5	mg/L	ND	20	ND	ND	ND	NS	ND	NS	NS	NS	ND
Chloride	GEN.MINERAL	1	mg/L	147	219	188	81	73	NS	188	NS	NS	NS	86
Conductivity	GEN.MINERAL	10	umhos/cm	1230	1430	1420	821	794	NS	1470	NS	NS	NS	875
Copper	GEN.MINERAL	0.02	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	NS	ND
Cyanide (Total)	335.2	0.01	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	NS	ND
Fecal Coliform	9221	2	mpn/100ml	130	130	80	<2	14	NS	1600	NS	NS	NS	300
Fluoride	GEN.MINERAL	0.1	mg/L	0.4	0.4	0.3	0.5	0.5	NS	0.8	NS	NS	NS	0.4
Hardness (CaCO ₃)	GEN.MINERAL	2	mg/L	400	506	532	236	236	NS	432	NS	NS	NS	298
Hydroxide	GEN.MINERAL	0.5	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	NS	ND
Iron	GEN.MINERAL	0.05	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	NS	ND
Lead	{6010/7000}	0.1	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	NS	ND
Magnesium	GEN.MINERAL	0.5	mg/L	37.5	47.5	56.2	17.5	19.7	NS	49.4	NS	NS	NS	25.8

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 08

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	9/28/99
2	Sandia Creek near Fallbrook	9/28/99
3	Rainbow Creek near Fallbrook	9/28/99
4	Santa Margarita River near Temecula	9/28/99
5	Murrieta Creek at Temecula	9/28/99
6	Deluz Creek near Fallbrook	9/28/99

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	9/28/99
8	Santa Margarita River at Ysidora	9/28/99
9	Cristianitos Creek near San Clemente	9/28/99
10	San Mateo Creek at San Clemente	9/28/99
11	San Mateo Creek at San Onofre	9/29/99

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Manganese	GEN.MINERAL	0.01	mg/L	0.02	ND	ND	0.03	ND	NS	0.35	NS	NS	NS	ND
Mercury	{6010/7000}	0.0002	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	NS	ND
Nitrate-N	GEN.MINERAL	0.1	mg/L	1.7	2.4	4.1	2.0	2.1	NS	ND	NS	NS	NS	8.1
Nitrite	GEN.MINERAL	0.02	mg/L	ND	ND	ND	0.03	ND	NS	ND	NS	NS	NS	ND
Nitrogen	351.3	0.1	mg/L	0.5	0.8	0.5	0.4	0.4	NS	0.6	NS	NS	NS	ND
Oil and Grease	413.1	1.0	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	NS	ND
pH	GEN.MINERAL	1.00	pH units	8.05	8.32	7.91	7.88	7.85	NS	7.74	NS	NS	NS	7.02
Phosphate	365.2	0.3	mg/L	ND	ND	1.3	0.4	0.3	NS	1.8	NS	NS	NS	ND
Potassium	GEN.MINERAL	1.0	mg/L	3.9	3.6	4.6	3.0	3.4	NS	4.4	NS	NS	NS	ND
Sodium	GEN.MINERAL	0.5	mg/L	94.2	87.2	91.9	79.2	75.3	NS	163	NS	NS	NS	72.0
Sulfate	GEN.MINERAL	10	mg/L	214	218	196	113	130	NS	104	NS	NS	NS	128
Surfactants (MBAS)	GEN.MINERAL	0.05	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	NS	ND
Total Coliform	9221	2	mpn/100ml	900	300	300	<2	>1600	NS	1600	NS	NS	NS	300
Total Dissolved Solids	GEN.MINERAL	10	mg/L	785	913	964	519	504	NS	880	NS	NS	NS	552
Total Organic Carbon	415.1	0.5	mg/L	20.3	1.5	7.0	4.1	7.4	NS	4.6	NS	NS	NS	16.4
Zinc	GEN.MINERAL	0.03	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	NS	0.03

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 09

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	12/6/99
2	Sandia Creek near Fallbrook	12/6/99
3	Rainbow Creek near Fallbrook	12/6/99
4	Santa Margarita River near Temecula	12/6/99
5	Murrieta Creek at Temecula	12/6/99
6	Deluz Creek near Fallbrook	12/6/99

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	12/6/99
8	Santa Margarita River at Ysidora	12/6/99
9	Cristianitos Creek near San Clemente	12/6/99
10	San Mateo Creek at San Clemente	12/7/99
11	San Mateo Creek at San Onofre	12/6/99

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Alkalinity (CaCO ₃)	GEN.MINERAL.	2	mg/L	194	168	238	288	238	NS	380	NS	NS	218	148
Aluminum	GEN.MINERAL.	0.1	mg/L	0.2	0.2	0.2	0.2	0.2	NS	0.1	NS	NS	0.1	0.1
Arsenic	{6010/7000}	0.005	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	ND	ND
Bicarbonate	GEN.MINERAL.	2	mg/L	194	156	238	288	238	NS	380	NS	NS	218	148
Biochemical Oxygen Demand	EPA 405.1	2	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Boron	SM-4500-B	0.2	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	ND	ND
Calcium	GEN.MINERAL.	0.5	mg/L	120	114	113	112	60.7	NS	81.8	NS	NS	69.4	73.9
Carbonate	GEN.MINERAL.	2	mg/L	ND	12	ND	ND	ND	NS	ND	NS	NS	ND	ND
Chloride	GEN.MINERAL.	1	mg/L	188	215	192	147	104	NS	193	NS	NS	96	84
Conductivity	GEN.MINERAL.	10	umhos/cm	1510	1430	1390	1250	917	NS	1500	NS	NS	822	854
Copper	GEN.MINERAL.	0.02	mg/L	0.03	0.03	0.03	0.03	ND	NS	0.03	NS	NS	0.02	ND
Cyanide (Total)	EPA 335.2	0.005	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Fecal Coliform	9221	2	mpn/100ml	30	2	900	80	9	NS	50	NS	NS	<2	50
Fluoride	GEN.MINERAL.	0.2	mg/L	0.4	0.4	0.3	0.4	0.5	NS	0.8	NS	NS	0.4	0.4
Hardness (CaCO ₃)	GEN.MINERAL.	2	mg/L	564	514	530	400	240	NS	450	NS	NS	320	316
Hydroxide	GEN.MINERAL.	2	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	ND	ND
Iron	GEN.MINERAL.	0.05	mg/L	0.06	0.06	0.06	0.11	0.18	NS	0.24	NS	NS	ND	ND
Lead	{6010/7000}	0.05	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	ND	ND

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 09

No.	Location	Sampling Date	No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	12/6/99	7	Fallbrook Creek near Fallbrook	12/6/99
2	Sandia Creek near Fallbrook	12/6/99	8	Santa Margarita River at Ysidora	12/6/99
3	Rainbow Creek near Fallbrook	12/6/99	9	Cristianitos Creek near San Clemente	NS - No Flow
4	Santa Margarita River near Temecula	12/6/99	10	San Mateo Creek at San Clemente	12/7/99
5	Murrieta Creek at Temecula	12/6/99	11	San Mateo Creek at San Onofre	12/6/99
6	Deluz Creek near Fallbrook	12/6/99			

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Magnesium	GEN.MINERAL.	0.5	mg/L	56.9	54.0	56.1	27.4	20.2	NS	52.4	NS	NS	26.6	22.2
Manganese	GEN.MINERAL.	0.01	mg/L	0.04	0.03	0.03	0.12	0.05	NS	0.18	NS	NS	ND	0.04
Mercury	EPA 245.1	0.0002	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrate-N	GEN.MINERAL.	0.1	mg/L	3.2	2.6	4.8	ND	ND	NS	ND	NS	NS	ND	6.3
Nitrite	GEN.MINERAL.	0.02	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	ND	ND
Nitrogen	EPA 351.2	0.1	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Oil and Grease	413.1	1.0	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	ND	ND
pH	GEN.MINERAL.	1.00	pH units	7.83	8.14	7.62	7.59	7.34	NS	7.67	NS	NS	7.61	7.10
Phosphate	365.2	0.3	mg/L	ND	ND	1.1	0.4	ND	NS	0.3	NS	NS	0.5	ND
Potassium	GEN.MINERAL.	1.0	mg/L	3.5	2.8	3.4	2.5	2.3	NS	2.2	NS	NS	1.6	1.6
Sodium	GEN.MINERAL.	0.5	mg/L	101	93.3	85.6	110	101	NS	151	NS	NS	64.1	61.5
Sulfate	GEN.MINERAL.	10	mg/L	285	224	187	133	75	NS	123	NS	NS	69	121
Surfactants (MBAS)	GEN.MINERAL.	0.05	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	ND	ND
Total Coliform	9221	2	mpn/100ml	1600	900	1600	240	>1600	NS	500	NS	NS	>1600	1600
Total Dissolved Solids	GEN.MINERAL.	10	mg/L	1010	908	879	756	552	NS	889	NS	NS	469	531
Total Organic Carbon	415.1	0.5	mg/L	0.9	0.5	1.4	14.2	4.4	NS	13.3	NS	NS	2.6	ND
Zinc	GEN.MINERAL.	0.03	mg/L	ND	ND	ND	ND	ND	NS	ND	NS	NS	ND	ND

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 10

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	3/7/00
2	Sandia Creek near Fallbrook	3/7/00
3	Rainbow Creek near Fallbrook	3/7/00
4	Santa Margarita River near Temecula	3/7/00
5	Murrieta Creek at Temecula	3/7/00
6	Deluz Creek near Fallbrook	3/7/00

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	3/7/00
8	Santa Margarita River at Ysidora	3/13/00
9	Cristianitos Creek near San Clemente	3/13/00
10	San Mateo Creek at San Clemente	3/22/00
11	San Mateo Creek at San Onofre	3/13/00

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Alkalinity (CaCO ₃)	GEN.-MINERALS	1	mg/L	118	158	172	134	124	112	112	156	210	124	142
Arsenic	6010/7000	0.025	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bicarbonate	GEN.-MINERALS	1	mg/L	118	158	168	134	124	112	112	156	202	120	142
Biochemical Oxygen Demand	405.1	2	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	SM-4500B	0.1	mg/L	ND	0.1	0.1	0.3	0.3	ND	ND	0.1	0.3	ND	0.1
Calcium	GEN.-MINERALS	0.10	mg/L	61.4	110	116	47.7	43.8	68.4	31.1	84.4	101	45.3	57.6
Carbonate	GEN.-MINERALS	0.5	mg/L	ND	ND	4	ND	ND	ND	ND	ND	8	4	ND
Chloride	GEN.-MINERALS	0.5	mg/L	102	224	197	99	100	135	59	143	139	60	70
Conductivity	GEN.-MINERALS	5	mg/L	842	1,520	1,610	728	697	1,070	536	1,090	1,240	570	657
Copper	GEN.-MINERALS	0.005	mg/L	ND	ND	ND	ND	ND	ND	ND	0.009	0.008	0.015	0.016
Cyanide (Total)	335.2	0.01	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fecal Coliform	MPN(F)	2	MPN/100 ml	240	1,600	1,600	>1,600	1,600	900	240	70	1,600	7	50
Fluoride	GEN.-MINERALS	0.1	mg/L	0.4	0.4	0.4	0.5	0.5	0.3	0.4	0.4	0.8	0.5	0.3
Hardness (CaCO ₃)	GEN.-MINERALS	1	mg/L	278	554	568	186	164	332	168	368	364	182	222
Hydroxide	GEN.-MINERALS	0.5	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	GEN.-MINERALS	0.03	mg/L	ND	ND	ND	0.035J	0.038J	ND	0.04J	0.041J	0.10	0.07	0.04J
Lead	6010/7000	0.005	mg/L	ND	0.011	0.018	0.025	ND	ND	0.008	ND	ND	0.018	ND
Magnesium	GEN.-MINERALS	0.20	mg/L	25.2	53.8	54.0	13.2	12.9	31.3	17.8	35.7	22.5	16.8	18.4

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 10

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	3/7/00
2	Sandia Creek near Fallbrook	3/7/00
3	Rainbow Creek near Fallbrook	3/7/00
4	Santa Margarita River near Temecula	3/7/00
5	Murrieta Creek at Temecula	3/7/00
6	Deluz Creek near Fallbrook	3/7/00

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	3/7/00
8	Santa Margarita River at Ysidora	3/13/00
9	Cristianitos Creek near San Clemente	3/13/00
10	San Mateo Creek at San Clemente	3/22/00
11	San Mateo Creek at San Onofre	3/13/00

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Manganese	GEN.-MINERALS	0.005	mg/L	0.03	0.03	0.01	0.02	0.006J	0.01	0.03	0.014	0.23	ND	0.02
Mercury	6010/7000	0.0002	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N	352.1	0.05	mg/L	15.5	30.1	62.9	2.7	2.2	29.2	2.7	5.3	0.4	ND	6.2
Nitrogen	351.3	0.05	mg/L	0.09J	0.1	0.1	ND	0.1	ND	0.1	0.2	0.2	0.2	0.2
Oil and Grease	413.1	0.5	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH	GEN.-MINERALS	0.01	mg/L	8.02	8.28	8.25	7.99	7.84	8.07	7.90	7.90	8.15	8.05	7.68
Phosphate	365.2	0.30	mg/L	1.2	0.8	2.0	1.2	1.4	1.4	1.1	0.8	0.4	0.3	ND
Potassium	GEN.-MINERALS	0.5	mg/L	4.0	3.4	9.8	3.9	4.3	2.2	2.7	3.8	2.5	1.6	2.3
Sodium	GEN.-MINERALS	0.25	mg/L	59.7	96.0	122	71.6	74.5	75.5	48.0	87.9	131	42.8	52.7
Sulfate	GEN.-MINERALS	5	mg/L	117	262	290	69	66	167	62	185	236	58	77
Surfactants (MBAS)	GEN.-MINERALS	0.03	mg/L	ND	ND	0.06	0.11	ND	ND	0.08	0.06	ND	0.06	ND
Total Coliform	MPN(T)	3.0	MPN/100 ml	>1,600	>1,600	>1,600	>1,600	>1,600	1,600	>1,600	500	>1,600	7	300
Total Dissolved Solids	GEN.-MINERALS	5	mg/L	538	966	1,060	480	444	661	340	701	796	364	400
Total Organic Carbon	415.1	0.1	mg/L	7.7	5.6	8.1	13	10	7.3	9.8	10	11	10.0	5.8
Zinc	GEN.-MINERALS	0.01	mg/L	ND	ND	0.019J	0.010J	ND	ND	0.012J	0.016J	0.03	0.03	0.03

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 11

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	6/1/00
2	Sandia Creek near Fallbrook	6/1/00
3	Rainbow Creek near Fallbrook	6/1/00
4	Santa Margarita River near Temecula	6/1/00
5	Murrieta Creek at Temecula	6/1/00
6	Deluz Creek near Fallbrook	6/1/00

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	6/1/00
8	Santa Margarita River at Ysidora	6/1/00
9	Cristianitos Creek near San Clemente	6/1/00
10	San Mateo Creek at San Clemente	6/6/00
11	San Mateo Creek at San Onofre	6/1/00

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Alkalinity (CaCO ₃)	GEN.-MINERALS	1	mg/L	180	166	216	188	164	174	320	184	68	196	152
Arsenic	6010BSCAN	0.025	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bicarbonate	GEN.-MINERALS	1	mg/L	180	146	204	180	156	154	320	164	52	196	152
Biochemical Oxygen Demand	405.1	2	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Boron	SM-4500B	0.1	mg/L	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.5	0.1	0.2
Calcium	GEN.-MINERALS	0.1	mg/L	92.0	112	141	66.0	56.8	119	74.0	91.3	67.7	56.8	77.8
Carbonate	GEN.-MINERALS	0.5	mg/L	ND	20	12	8	8	20	ND	20	16	ND	ND
Chloride	GEN.-MINERALS	0.5	mg/L	176	230	208	99	93	202	154	170	168	77	84
Conductivity	GEN.-MINERALS	5	mg/L	1,350	1,490	1,650	873	843	1,400	1,320	1,230	1,160	710	836
Copper	GEN.-MINERALS	0.005	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide (Total)	335.2	0.01	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Fecal Coliform	MPN(F)	2	MPN/mL	130	50	130	13	ND	70	50	13	50	170	50
Fluoride	GEN.-MINERALS	0.1	mg/L	0.6	0.6	0.5	0.5	0.5	0.5	0.7	0.5	0.5	0.4	0.5
Hardness (CaCO ₃)	GEN.-MINERALS	1	mg/L	424	542	600	242	208	492	412	408	274	232	292
Hydroxide	GEN.-MINERALS	0.5	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	GEN.-MINERALS	0.03	mg/L	ND	ND	ND	ND	0.07	ND	ND	ND	ND	ND	ND
Lead	6010BSCAN	0.005	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium	GEN.-MINERALS	0.2	mg/L	44.1	54.7	64.2	17.7	16.7	53.7	47.0	37.6	27.8	20.9	22.8

Note: ND = Not Detected
NS = Not Sampled

SURFACE WATER RESULTS FOR SAMPLING EVENT 11

No.	Location	Sampling Date
1	Santa Margarita River near Fallbrook	6/1/00
2	Sandia Creek near Fallbrook	6/1/00
3	Rainbow Creek near Fallbrook	6/1/00
4	Santa Margarita River near Temecula	6/1/00
5	Murrieta Creek at Temecula	6/1/00
6	Deluz Creek near Fallbrook	6/1/00

No.	Location	Sampling Date
7	Fallbrook Creek near Fallbrook	6/1/00
8	Santa Margarita River at Ysidora	6/1/00
9	Cristianitos Creek near San Clemente	6/1/00
10	San Mateo Creek at San Clemente	6/6/00
11	San Mateo Creek at San Onofre	6/1/00

Analyte	Method	Det. Limit	Units	Analytical Results										
				1	2	3	4	5	6	7	8	9	10	11
Manganese	GEN.-MINERALS	0.005	mg/L	0.04	ND	ND	0.02	0.02	ND	0.18	ND	ND	ND	0.03
Mercury	6010/7000	0.0002	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrate-N	GEN.-MINERALS	0.05	mg/L	1.5	5.0	15.0	1.2	1.2	2.8	ND	ND	ND	ND	6.7
Oil and Grease	413.1	0.5	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH	GEN.-MINERALS	0.01	mg/L	7.31	7.36	7.39	7.52	7.55	7.21	7.23	7.24	7.63	7.83	7.19
Phosphate	365.2	0.30	mg/L	ND	ND	1.1	ND	0.3	ND	0.9	ND	ND	ND	ND
Potassium	GEN.-MINERALS	0.5	mg/L	3.7	3.3	7.9	2.8	3.4	2.3	2.8	3.6	2.3	1.3	1.9
Sodium	GEN.-MINERALS	0.25	mg/L	109	95.1	125	83.1	89.1	104	119	95.3	128	58.4	61.8
Sulfate	GEN.-MINERALS	5	mg/L	231	273	314	107	118	259	170	205	249	59	133
Surfactants (MBAS)	GEN.-MINERALS	0.03	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Coliform	MPN(T)	2	MPN/100 ml	1,600	240	>1,600	1,600	ND	500	>1,600	30	900	170	>1,600
Total Dissolved Solids	GEN.-MINERALS	5	mg/L	877	1,030	1,190	537	600	925	864	776	740	446	487
Total Organic Carbon	415.1	0.5	mg/L	5.8	6.0	13	4.6	5.0	6.1	19	5.2	20	4.4	38
Zinc	GEN.-MINERALS	0.01	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Note: ND = Not Detected
NS = Not Sampled

Disc 1 Table 10
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	
γ						#####			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	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

Disc 1 WA

SAMPLE IDENTIFICATION NUMBER CROSS-REFERENCE: SURFACE WATER

Location Number	Source	USGS Station	Round	Sample Date	Sample ID**	Daily Mean Flow (cfs)
509	Cristianitos Creek near San Clemente	11046360	01	12/9/97	509001	NA
			02	3/3/98	509002	NA
			03	5/26/98	509003	NA
			04	8/4/98	509004	NA
			05	11/9/98	509005	NA
			06	2/19/99	509006	NA
			07	5/11/99	509007	0
			08	9/28/99	509008	NA
			09	12/6/99	509009	NA
			10	3/13/00	509010	0
			11	6/1/00	509011	0

Notes:

** = Each six-digit sample identification number indicates the type of sample, sampling location, and sampling event.

Samples from monitoring wells have 1 as the initial digit. The next two digits indicate the monitoring well number (e.g., 01, 02, or 03). The final three digits correspond to the sequential number of the sampling event (e.g., 001, 002, etc.).

Samples from surface water sampling locations have 5 as the initial digit. The next two digits indicate the surface water sampling location. The final three digits correspond to the sequential number of the sampling event.

NA = Not Available.

SAMPLE IDENTIFICATION NUMBER CROSS-REFERENCE: SURFACE WATER

Location Number	Source	USGS Station	Round	Sample Date	Sample ID**	Daily Mean Flow (cfs)
510	San Mateo Creek at San Clemente	11046300	01	12/9/97	510001	8
			02	3/3/98	510002	167
			03	6/4/98	510003	28
			04	8/4/98	510004	3
			05	11/19/98	510005	3
			06	2/19/99	510006	5
			07	5/11/99	510007	2.1
			08	9/28/99	510008	NA
			09	12/7/99	510009	0.1
			10	3/22/00	510010	70
			11	6/1/00	510011	NA
			11	6/6/00	510011	0

Notes:

** = Each six-digit sample identification number indicates the type of sample, sampling location, and sampling event.

Samples from monitoring wells have 1 as the initial digit. The next two digits indicate the monitoring well number (e.g., 01, 02, or 03). The final three digits correspond to the sequential number of the sampling event (e.g., 001, 002, etc.).

Samples from surface water sampling locations have 5 as the initial digit. The next two digits indicate the surface water sampling location. The final three digits correspond to the sequential number of the sampling event.

NA = Not Available.

SAMPLE IDENTIFICATION NUMBER CROSS-REFERENCE: SURFACE WATER

Location Number	Source	USGS Station	Round	Sample Date	Sample ID**	Daily Mean Flow (cfs)
511	San Mateo Creek at San Onofre	None	01	12/9/97	511001	NA
			02	3/3/98	511002	NA
			03	5/26/98	511003	NA
			04	8/4/98	511004	NA
			05	11/9/98	511005	NA
			06	2/10/99	511006	NA
			07	5/11/99	511007	NA
			08	9/29/99	511008	NA
			09	12/6/99	511009	NA
			10	3/13/00	511010	NA
			11	6/1/00	511011	NA

Notes:

** = Each six-digit sample identification number indicates the type of sample, sampling location, and sampling event.

Samples from monitoring wells have 1 as the initial digit. The next two digits indicate the monitoring well number (e.g., 01, 02, or 03). The final three digits correspond to the sequential number of the sampling event (e.g., 001, 002, etc.).

Samples from surface water sampling locations have 5 as the initial digit. The next two digits indicate the surface water sampling location. The final three digits correspond to the sequential number of the sampling event.

NA = Not Available.

Disc 1 W6

POLLUTANT LOADING RATES

Source: Cristianitos Creek near San Clemente
Near USGS Gauging Station 11046360

Analyte	Pollutant Load (pounds/day)		
	cfs	3/3/98 cfs	Event 3
Alkalinity (CaCO ₃)			
Arsenic			
Bicarbonate			
Biochemical Oxygen Demand			
Boron			
Calcium			
Carbonate			
Chloride			
Conductivity			
Copper			
Cyanide (Total)			
Fecal Coliform	---	---	
Fluoride			
Hardness (CaCO ₃)			
Hydroxide			
Iron			
Lead			
Manganese			
Mercury			
Nitrate-N			
Oil and Grease			
pH			
Phosphate			
Potassium			
Sodium			
Sulfate			
Surfactants (MBAS)			
Total Coliform	---	---	
Total Dissolved Solids			
Total Organic Carbon			
Zinc			

POLLUTANT LOADING RATES

Source: San Mateo Creek at San Clemente
Near USGS Gauging Station 11046300

Analyte	Pollutant Load (pounds/day)		
	cfs	3/3/98 167 cfs	Event 3
Alkalinity (CaCO3)		1073.3424	
Arsenic		---	
Bicarbonate		1062.9216	
Biochemical Oxygen Demand		---	
Boron		---	
Calcium		354.3072	
Carbonate		12.817584	
Chloride		293.86656	
Conductivity		3459.7056	
Copper		---	
Cyanide (Total)		---	
Fecal Coliform	---	---	
Fluoride		2.8240368	
Hardness (CaCO3)		1104.6048	
Hydroxide		---	
Iron		8.33664	
Lead		---	
Magnesium		114.6288	
Manganese		0.208416	
Mercury		---	
Nitrate-N		4.5226272	
Oil and Grease		---	
pH		82.220112	
Phosphate	---	---	
Potassium		---	
Sodium		343.8864	
Sulfate		277.19328	
Surfactants (MBAS)		---	
Total Coliform	---	---	
Total Dissolved Solids		2146.6848	
Total Organic Carbon		29.17824	
Zinc		0.937872	

POLLUTANT LOADING RATES

Source: San Mateo Creek at San Onofre
Near USGS Gauging Station

Analyte	Pollutant Load (pounds/day)		
	12/9/97 cfs	3/3/98 cfs	Event 3
Alkalinity (CaCO3)			
Arsenic			
Bicarbonate			
Biochemical Oxygen Demand			
Boron			
Calcium			
Carbonate			
Chloride			
Conductivity			
Copper			
Cyanide (Total)			
Fecal Coliform	---	---	
Fluoride			
Hardness (CaCO3)			
Hydroxide			
Iron			
Lead			
Magnesium			
Manganese			
Mercury			
Nitrate-N			
Oil and Grease			
pH			
Phosphate			
Potassium			
Sodium			
Sulfate			
Surfactants (MBAS)			
Total Coliform	---	---	
Total Dissolved Solids			
Total Organic Carbon			
Zinc			

Disc 1 Table 8 PDF

TABLE 8
WATER QUALITY EVALUATION SUMMARY, SAN MATEO WATERSHED

Parameter	Units	MCL	Basin Plan Objectives	Range		Exceeds MCL	Exceeds Objectives	Trend				Comments
				Min.	Max.			Flat	Downward	Upward	Scattered	
Arsenic	mg/L	0.05	none	ND	0.017	No	NA	X				Most analyses are non-detect. Detected in MW-03 but not in surface water.
Alkalinity	mg/L	none	none	58	484	NA	NA				X	May change seasonally.
Bicarbonate	mg/L	none	none	59	878	NA	NA				X	May change seasonally.
BOD	mg/L	none	none	ND	ND	NA	NA	X				Most analyses are non-detect. Only detected one time.
Boron	mg/L	none	0.75	ND	2.9	NA	Yes				X	Historical higher than present. Current results are below basin plan objectives.
Calcium	mg/L	none	none	16	424	NA	NA		X		X	Between 1967 and 1977 increasing trend. Current trend is downward.
Carbonate	mg/L	none	none	ND	195	NA	NA		X		X	Historical higher than present.
Chloride	mg/L	250*	250	1.3	392	Yes	Yes		X	X		Cyclic trend.
Conductivity	umhos/cm	900	none	225	2500	Yes	NA		X			Historical higher than present, but still exceeding MCL. Difference between tributaries.
Copper	mg/L	1.0	none	ND	1.47	Yes	NA		X		X	Historical higher than present. Current results below MCL.
Cyanide	mg/L	0.2	none	ND	ND	No	No	X				Less than 5 measurements, all non-detect.
Coliform	mg/L	"Present"	none	ND	>1600	Yes	NA				X	Detected in groundwater.
Hardness	mg/L	none	none	24	712	NA	NA		X			Between 1967 and 1977 increasing trend. Current trend is downward.
Fluoride	mg/L	2	1	ND	1.6	No	Yes				X	Current results are lower than historic.
Hydroxide	mg/L	none	none	ND	203	NA	NA	X				Only two out of about 40 analyses were above detection limits.
Iron	mg/L	0.3	0.3	ND	69	Yes	Yes	X				A few high measurements in historical data. Some current data exceeds MCL.
Lead	mg/L	0.001	none	ND	0.04	Yes	Yes	X				Few scattered measurements.
Magnesium	mg/L	none	none	ND	225	NA	NA		X			Slight downward trend.
Manganese	mg/L	0.05	0.05	ND	11	Yes	Yes	X				Currently MW-3 exceeding MCL.
Mercury	mg/L	0.002	none	ND	ND	No	No	X				Over 20 measurements, all non detect.
MBAS	mg/L	0.5	0.5	ND	0.66	Yes	Yes				X	
Nitrate	mg/L	10	none	ND	129	Yes	Yes	X				Historical concentrations higher than current.
Oil and Grease	mg/L	none	none	ND	1.5	NA	NA	X			X	About 20 measurements, only two above detection limits.
pH	pH units	none	none	6.1	9	NA	NA		X	X		Cyclic trend.
Phosphate	mg/L	none	none	ND	11	NA	NA				X	Detected at higher concentration at Station 503 than in surface water. Possible cyclic trend.
Potassium	mg/L	none	none	ND	152	NA	NA	X	X			Slight downward trend. Possibly cyclic trend.
Sodium	mg/L	none	none	1.14	240	NA	NA		X			Slight downward trend. Possibly cyclic trend.
Sulfate	mg/L	250	250	6	400	Yes	Yes	X			X	Upward trend from 1967 through 1973. Downward trend through 1977. Current trend flat. Difference between Sta 511 and 512.
TOC	mg/L	none	none	ND	7.1	NA	NA				X	Maximum 7 data points.
TDS	mg/L	500*	500	158	1750	Yes	Yes		X			Increasing trend from 1968 through 1973. Downward trend from 1973 to current.

Notes:

*Recommended level

BOD - Biochemical oxygen demand

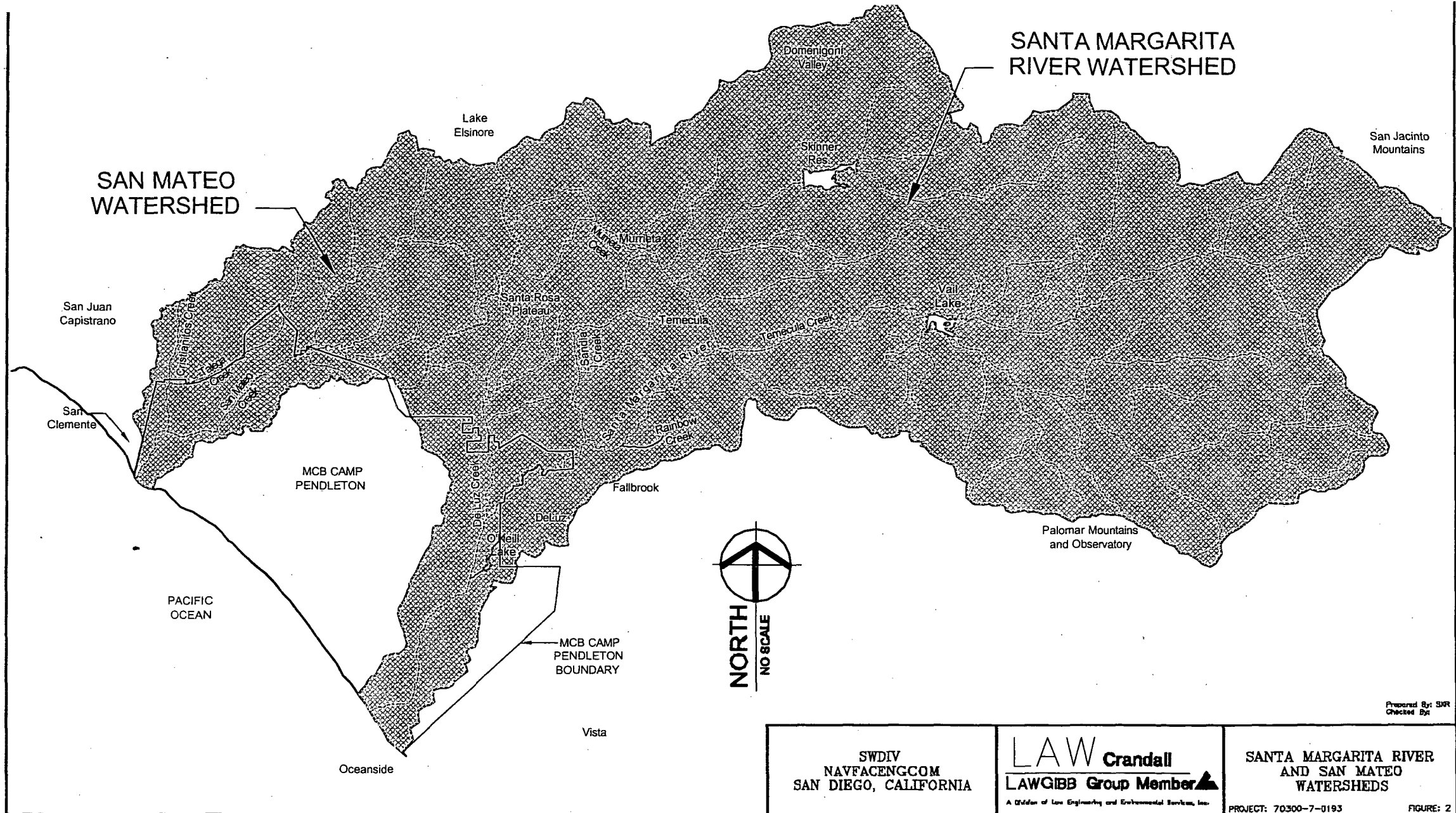
MBAS - Methylene blue active substance

TOC - Total organic carbon

TDS - Total dissolved solids

NA - Not applicable

umhos - microhms per centimeter



SAN MATEO
WATERSHED

SANTA MARGARITA
RIVER WATERSHED

San Jacinto
Mountains

San Juan
Capistrano

San
Clemente

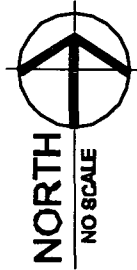
MCB CAMP
PENDLETON

PACIFIC
OCEAN

MCB CAMP
PENDLETON
BOUNDARY

Vista

Oceanside



SWDIV
NAVACENGCOM
SAN DIEGO, CALIFORNIA

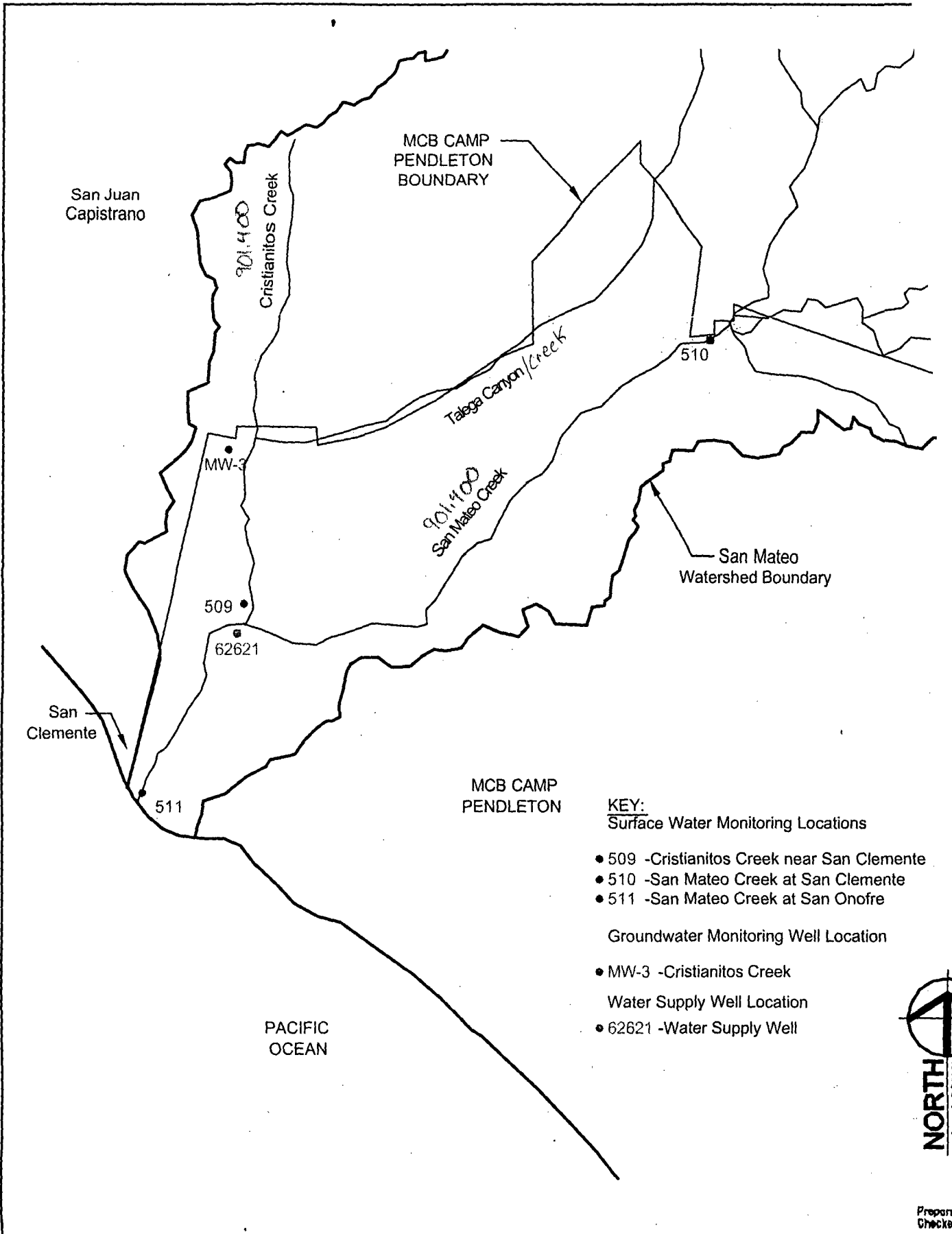
LAW Crandall
LAWGIBB Group Member
A Division of Law Engineering and Environmental Services, Inc.

SANTA MARGARITA RIVER
AND SAN MATEO
WATERSHEDS

PROJECT: 70300-7-0193

FIGURE: 2

Prepared By: SWR
Checked By:



SWDIV
NAVFAENGCOM
SAN DIEGO, CALIFORNIA

LAW Crandall
LAWGIBB Group Member
 A Division of Law Engineering and Environmental Services, Inc.

MONITORING LOCATION
SAN MATEO
WATERSHED

PROJECT: 70300-7-0183

FIG

DATA SUMMARY

Disc 1 of 2 (submitted by Camp Pendleton)

San Mateo Creek

2 locations

See Santa Mary File for Data

LAW-Crandall

11043000 Daily Mean Discharge Data, "Murrieta C A Temecula, CA", 1930 to 1997, discharge as ft³ / s

11044250 Daily Mean Discharge Data, Rainbow Cr near Fallbrook, CA, 1989 – 1998

11044800 Daily Mean Discharge Data, De Luz Cr near De Luz, CA, 1992 – 1997

11045300 Daily Mean Discharge Data, Fallbrook Cr, near Fallbrook, CA, 1993 – 1998

11046360 Daily Mean Discharge Data, Cristianitos C Ab San Mateo C Nr San Clemente, CA, 1993 – 1997

CADMaps Southern California Road Map, San Mateo and Santa Margarita Watersheds, Monitoring Locations (San Mateo), Monitoring Locations (Santa Margarita)

Cover 2 pg cover = Final "Water Quality Studies and Proposed Watershed Monitoring Program for Portions of San Mateo and Santa Margarita River Watersheds (Vol. 2 of 2)

Cover2 2 pg cover = Final "Water Quality Studies and Proposed Watershed Monitoring Program for Portions of San Mateo and Santa Margarita River Watersheds (Vol. 1 of 2)

precip trouble opening document, but appears to be rainfall data for 1942 – 1999 SC Dam, Oceanside, Escondido, Escondido 2

precip1 Graph with rainfall data from 1942 – 1999 SC Dam, Oceanside, Escondido, Escondido 2

precip10 San Clemente Dam 1942 – 1997 data = ?

precip11 San Clemente Dam Rainfall data 1942 – 1997

precip12 San Clemente Dam Precipitation Record 1940 – 1998

precip13 Oceanside & Oceanside Harbor Station Precipitation Record 1940 - 1998

precip14 Oceanside 1942 – 1997 data = ?

precip15 Oceanside Harbor Rainfall data 1943 – 1997

precip2 Combined Precipitation Record 1940 – 1998, location=?

precip3 Escondido, CA 1979 – 1997 data = ?

precip4 Escondido 2 Rainfall data 1979 – 1997

precip5 Escondido 2 Precipitation Record 1979 – 1997

precip6 Escondido 1931 – 1979 data = ?

precip7 Escondido Rainfall Record 1934 – 1979

precip8 Escondido Precipitation Record, 1940 – 1979

precip9 San Clem 1931 – 1979 data = ?

Report Final Report of Water Quality Studies and Proposed Watershed Monitoring Program for Portions of San Mateo and Santa Margarita River Watershed Marine Corps Base, Camp Pendleton, California. Contract No. N68711-95-D-7573, D.O. 0021 *Tables 8-11 not in report*

table10 San Mateo Watershed 1998-1999 data on alkalinity, arsenic, bicarbonate, BOD, boron, calcium, carbonate, chloride, conductivity, copper, cyanide, fecal coliform, fluoride, hardness, hydroxide, iron, lead, magnesium, manganese, mercury, nitrate, nitrogen, oil & grease, pH, phosphorus, potassium, sodium, sulfate, surfactants, total coliform, TDS, TOC and zinc.

table11	Santa Margarita Watershed 1997-1999 data on alkalinity, arsenic, bicarbonate, BOD, boron, calcium, carbonate, chloride, conductivity, copper, cyanide, fecal coliform, fluoride, hardness, hydroxide, iron, lead, magnesium, manganese, mercury, nitrate, nitrogen, oil & grease, pH, phosphorus, potassium, sodium, sulfate, surfactants, total coliform, TDS, TOC and zinc.
Table8PDF WQ	Water Quality Evaluation Summary, San Mateo Watershed Microsoft Access Database: Many reports and tables (try reports on pollutant loading and surface waters)

SWR West Study

These GIS files require ArcView software before they can be opened. Some files also require the spatial analyst and 3-D analyst extensions to be loaded. Please see "Read me" file on disc. Some topo maps are .tif files.

SMRWQM-Group

SMR Figure3_41

Figure 3-4 = Proposed Water Quality Sampling Locations

SMRWQM-Draft Plan

Framework Monitoring Plan for the Santa Margarita River Watershed California

SMRWQM-Group Presentation

Powerpoint Presentation: Water Quality Monitoring and Water Management

Disc 2 of 2

LAW-Crandall

- chart Alkalinity Chart Fallbrook Cr near Fallbrook, CA
- chart1 De Luz Cr, Fallbrook Cr, Murrieta Cr, Rainbow Cr, San Mateo Cr (x2), Sandia Cr, Santa Margarita River (x3) for alkalinity (2 types), aluminum, antimony and arsenic
- chart10 Cristianitos Cr, De Luz Cr, Fallbrook Cr, Murrieta Cr, Rainbow Cr, San Mateo Cr, Sandia Cr, Santa Margarita Rvr for sodium, sulfate, surfactants, thallium, tin,
- chart11 Santa Margarita Rvr, De Luz Cr, Cristianitos Cr, Murrieta Cr, Rainbow Cr, Sandia Cr, San Mateo Cr, Fallbrook Cr for TOC, vanadium and zinc
- chart12 •same creeks for fluoride
- chart13 •same creeks for oil & grease, pH, phosphate, phosphorus
- chart14 •same creeks for nitrate, nitrite
- chart15 •same creeks for historical data
- chart16 •same creeks for phosphate, potassium, selenium, silica, silicon
- chart17 •same creeks for TDS, TOC, vanadium, zinc
- chart2 •same creeks for arsenic, barium, beryllium, bicarbonate, BOD, boron
- chart3 could not be opened
- chart4 opens as gibberish
- chart5 opens as gibberish
- chart6 •same creeks for fluoride, hardness, hydroxide, iron, lead
- chart7 •same creeks for lead, lithium, magnesium, manganese, mercury
- chart8 could not open
- chart9 •same creeks for phosphorus, potassium, selenium, silica, silicon, silver
- Piper Diagrams
- diagrams for 1997 – 1998 for magnesium, sodium + potassium, carbonate + bicarbonate, sulfate, chloride, calcium, sulfate + chloride, calcium + magnesium

SMR West Study

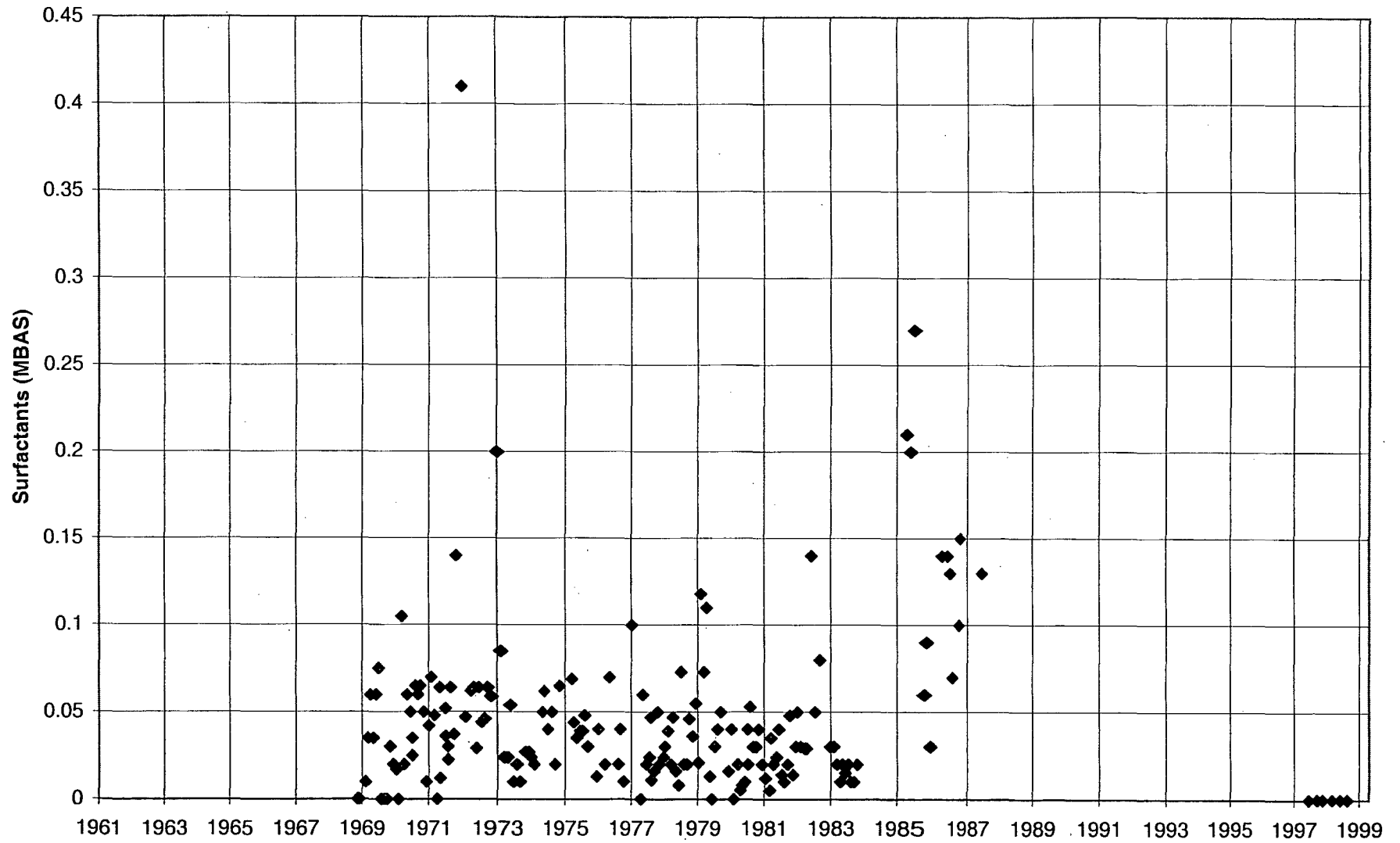
Final West Project

- Appendix A literature review
- Appendix B Plot of computed hydrograph with observed hydrograph
- Appendix C Plot of computed lake storage with observed storage
- Appendix D Plot of precipitation during and preceding Jan 1995 event
- Appendix E Cross section locations and flood plain delineations
- Appendix F Water surface profile plots
- Appendix G Water surface profile tables
- Appendix H Cross section plots
- Appendix J Plot of sub basin frequency flows
- Appendix I Plot of sediment frequency yield by LA Corps method
- SMR Final Final Report Santa Margarita River Hydrology, Hydraulics and Sedimentation Study

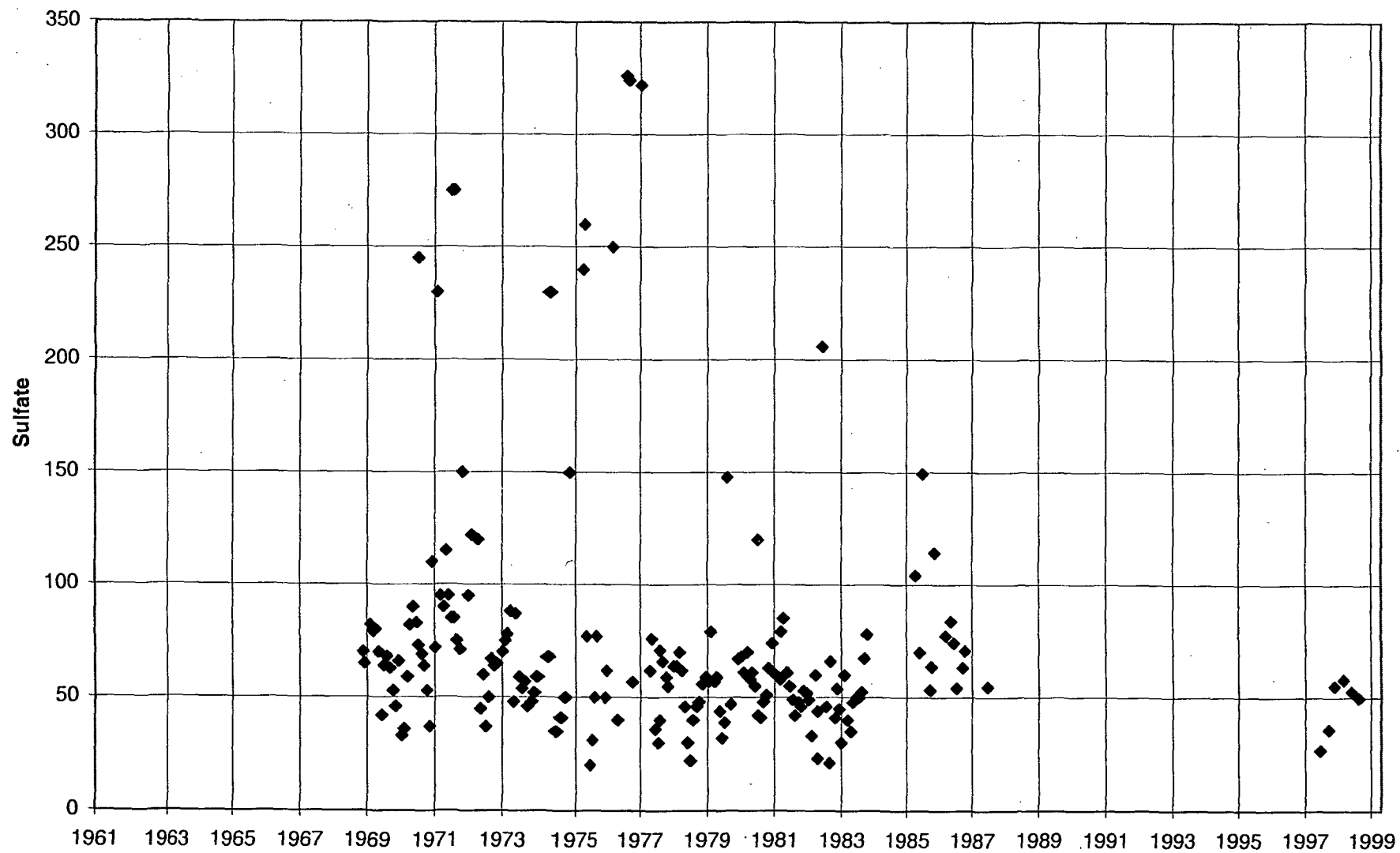
West Project Files

All supporting files and documents are included on this disc as word, excel and other file formats that are not .pdf.

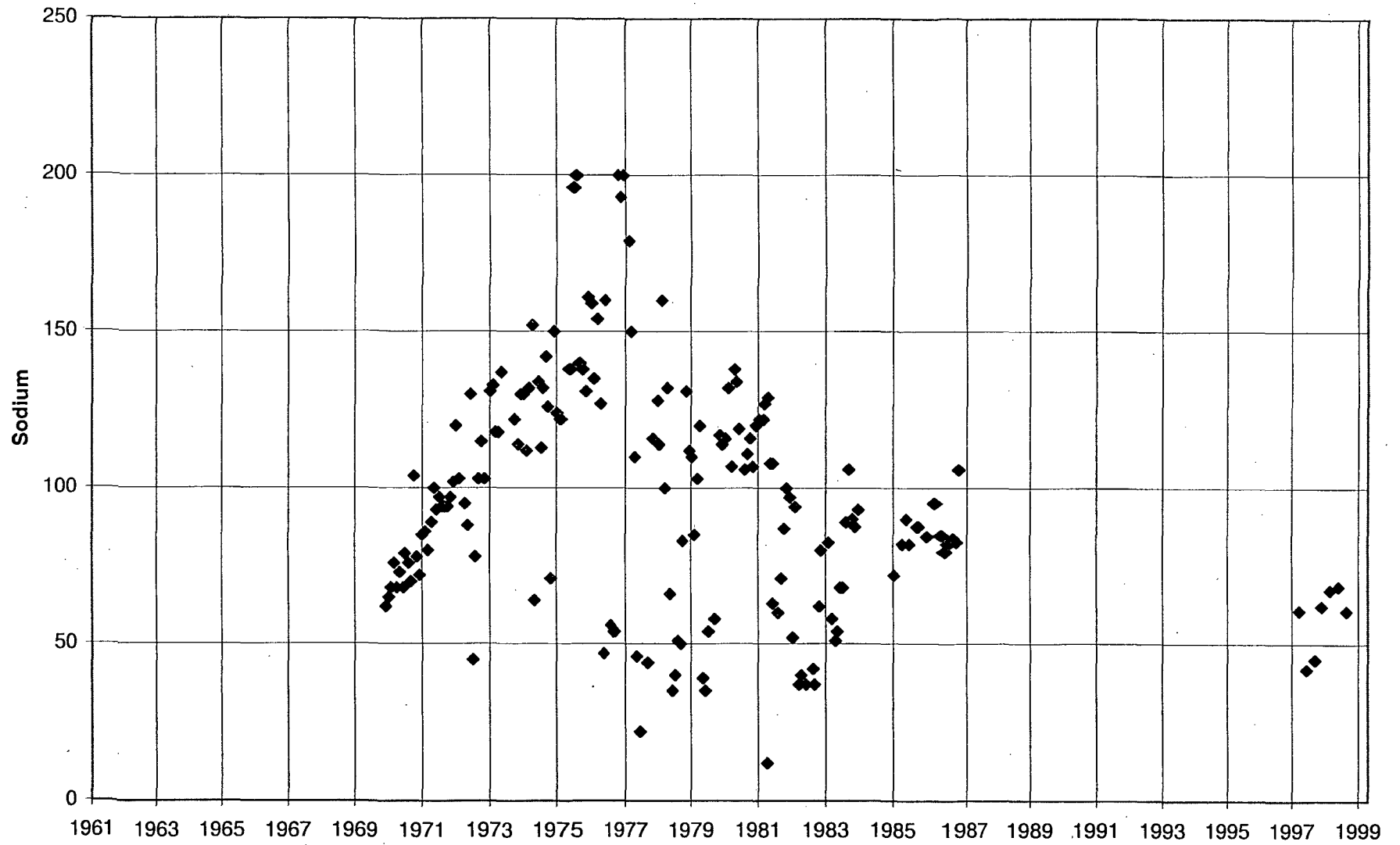
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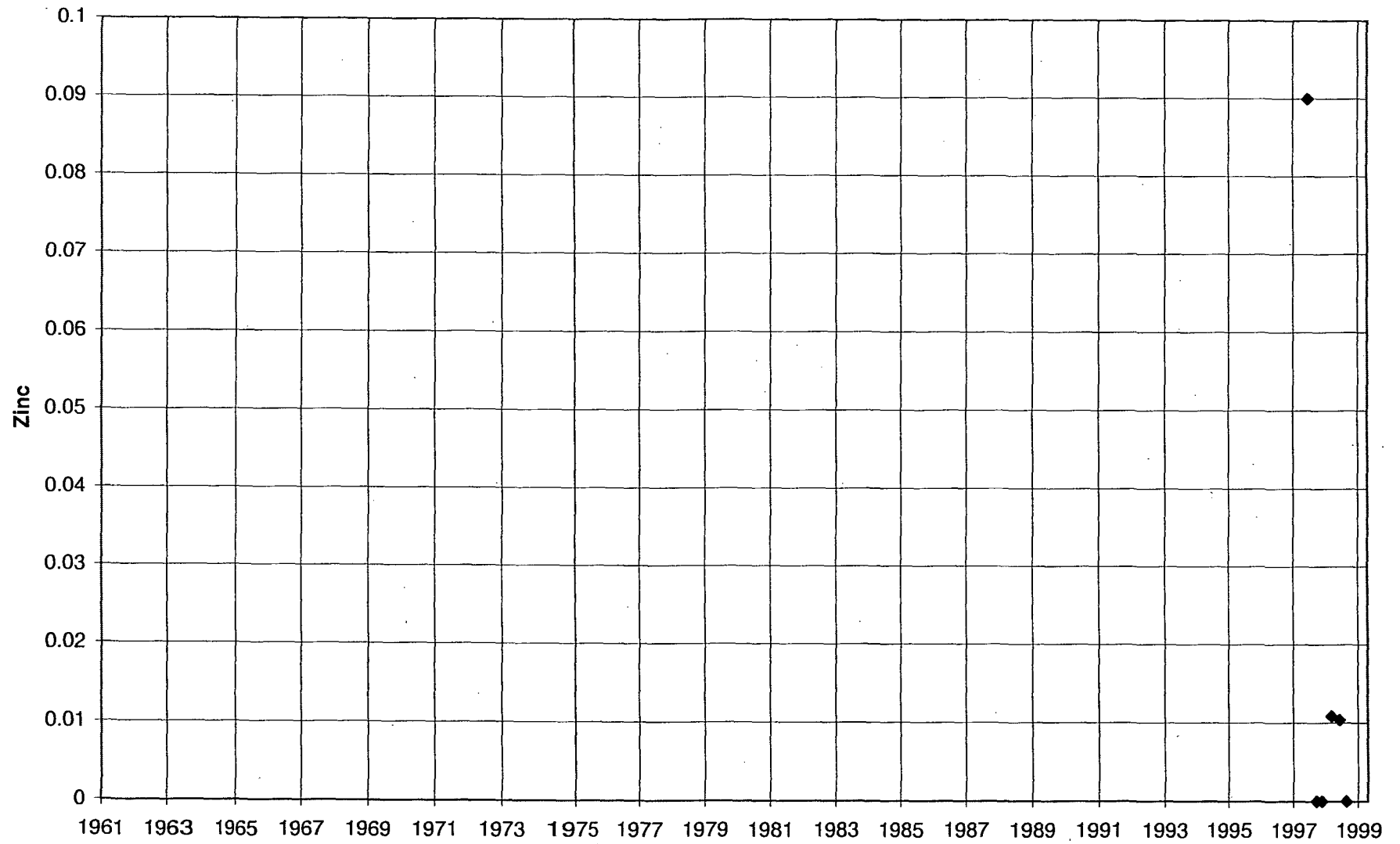
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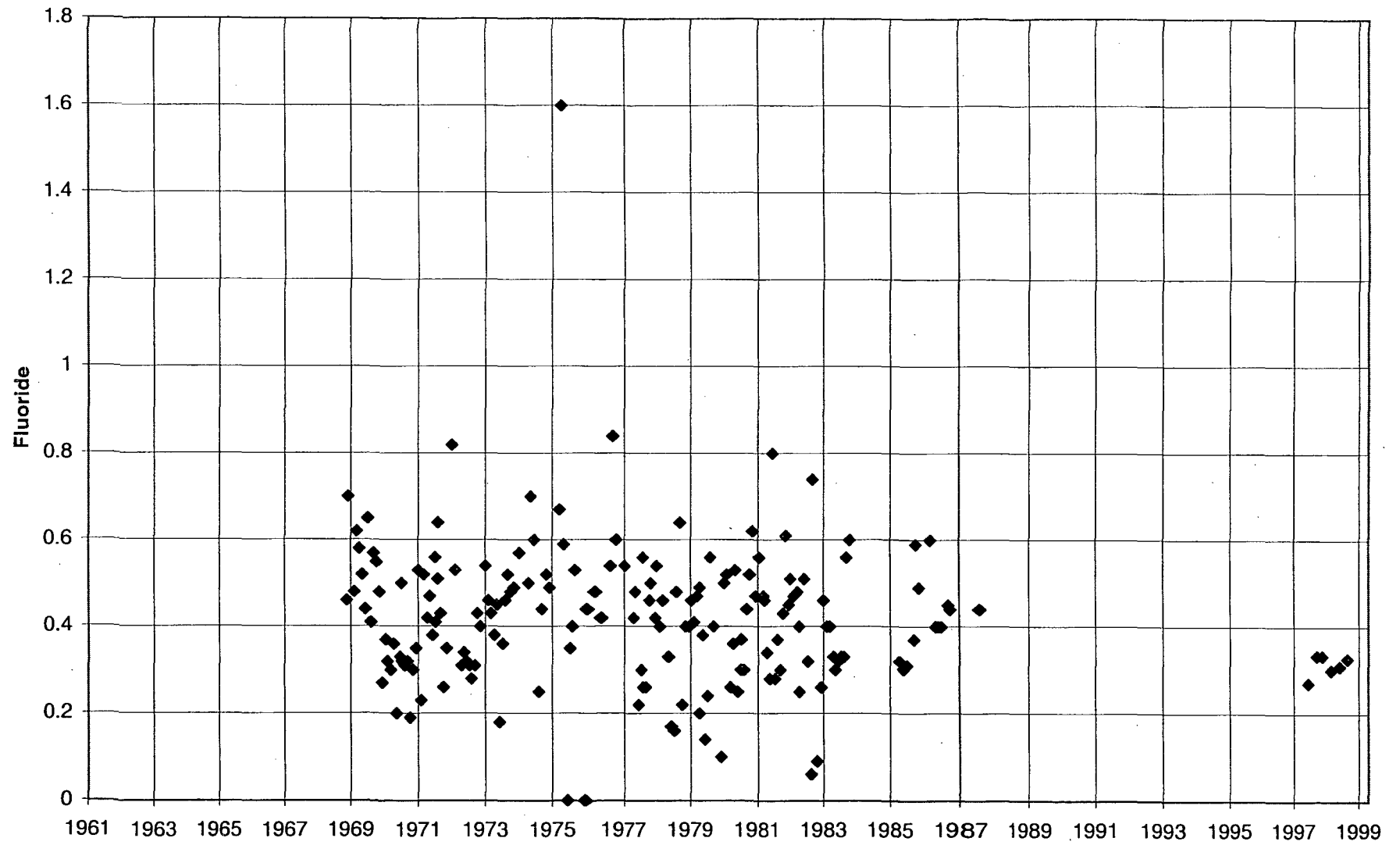
San Mateo Creek at San Onofre



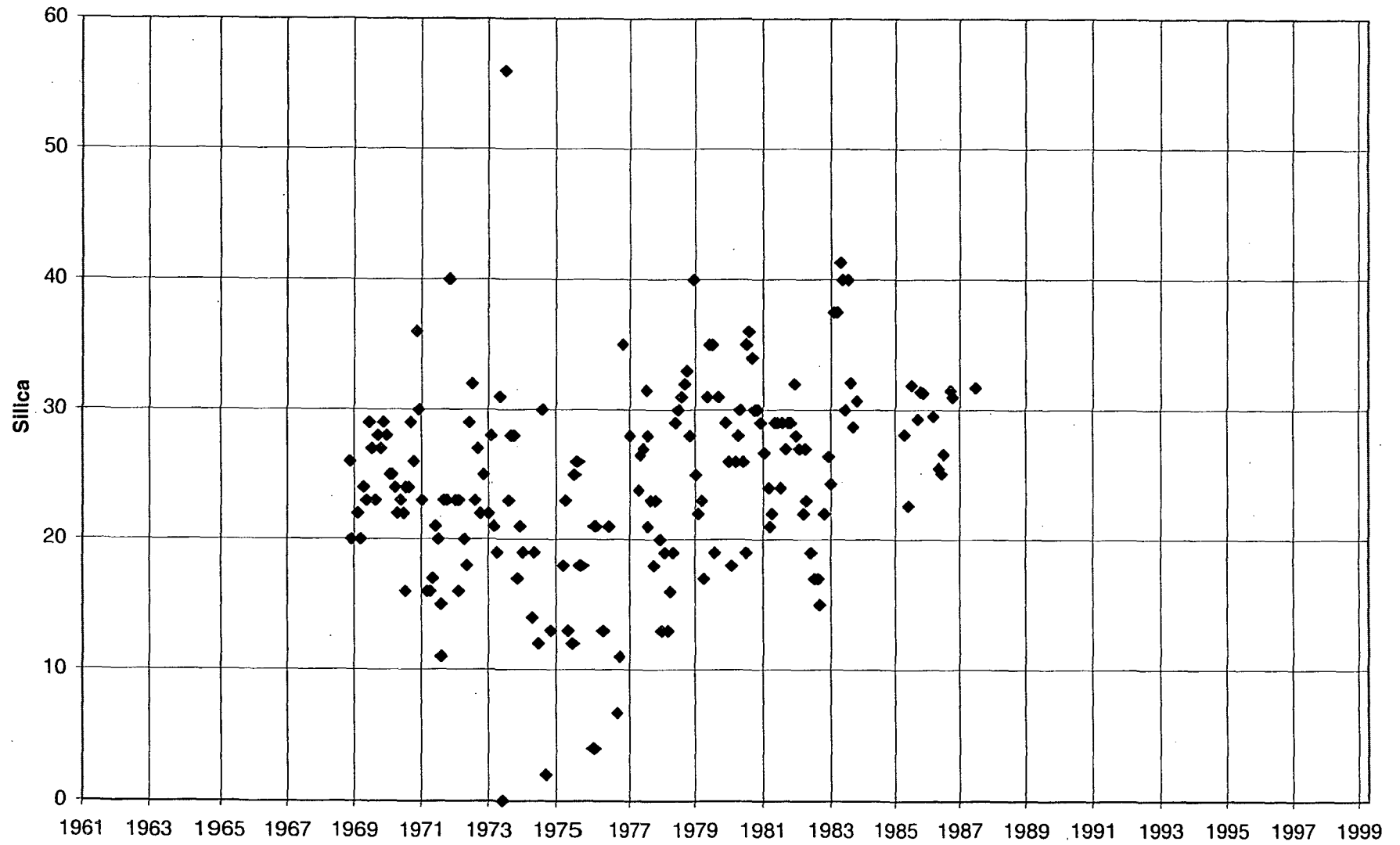
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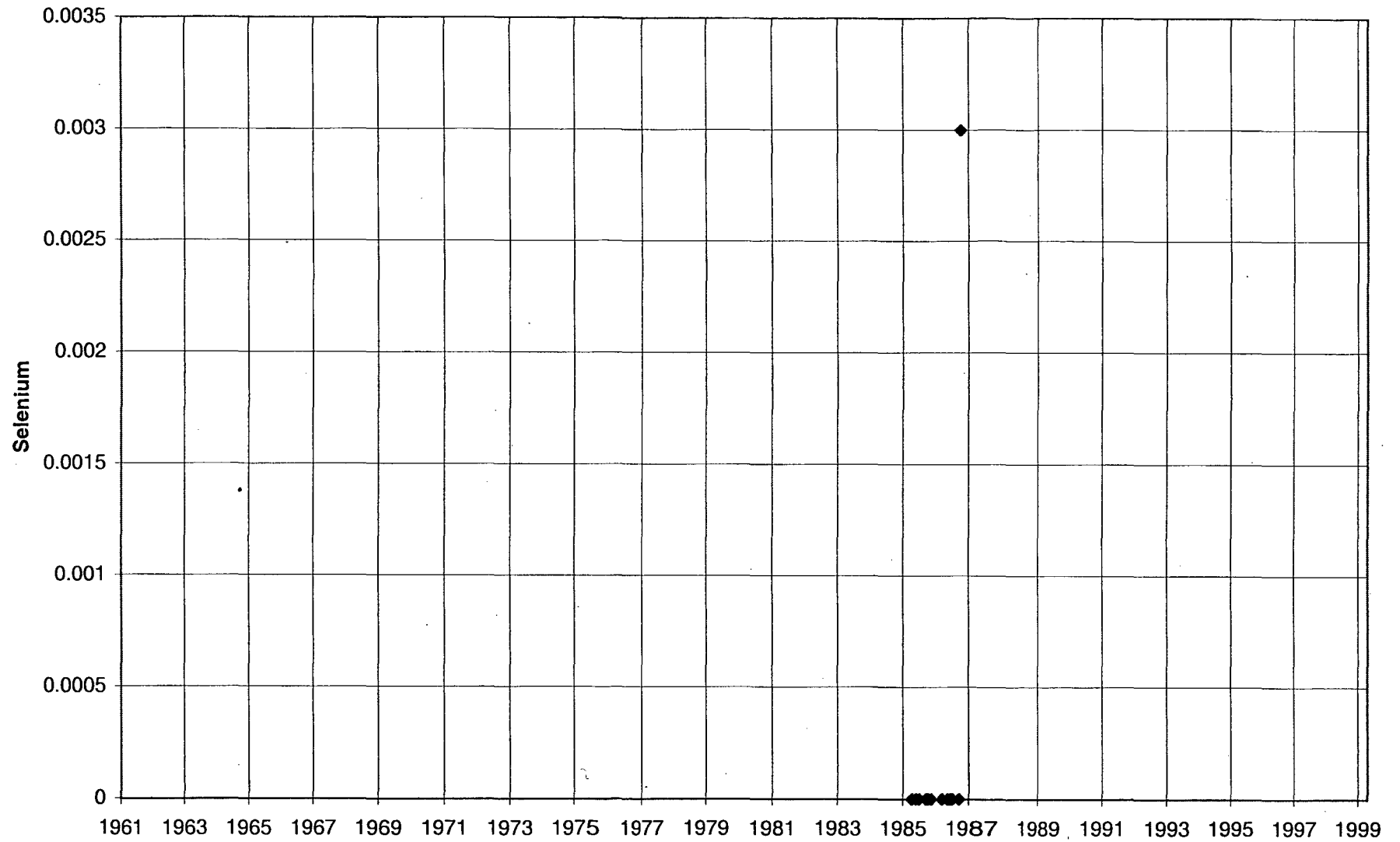
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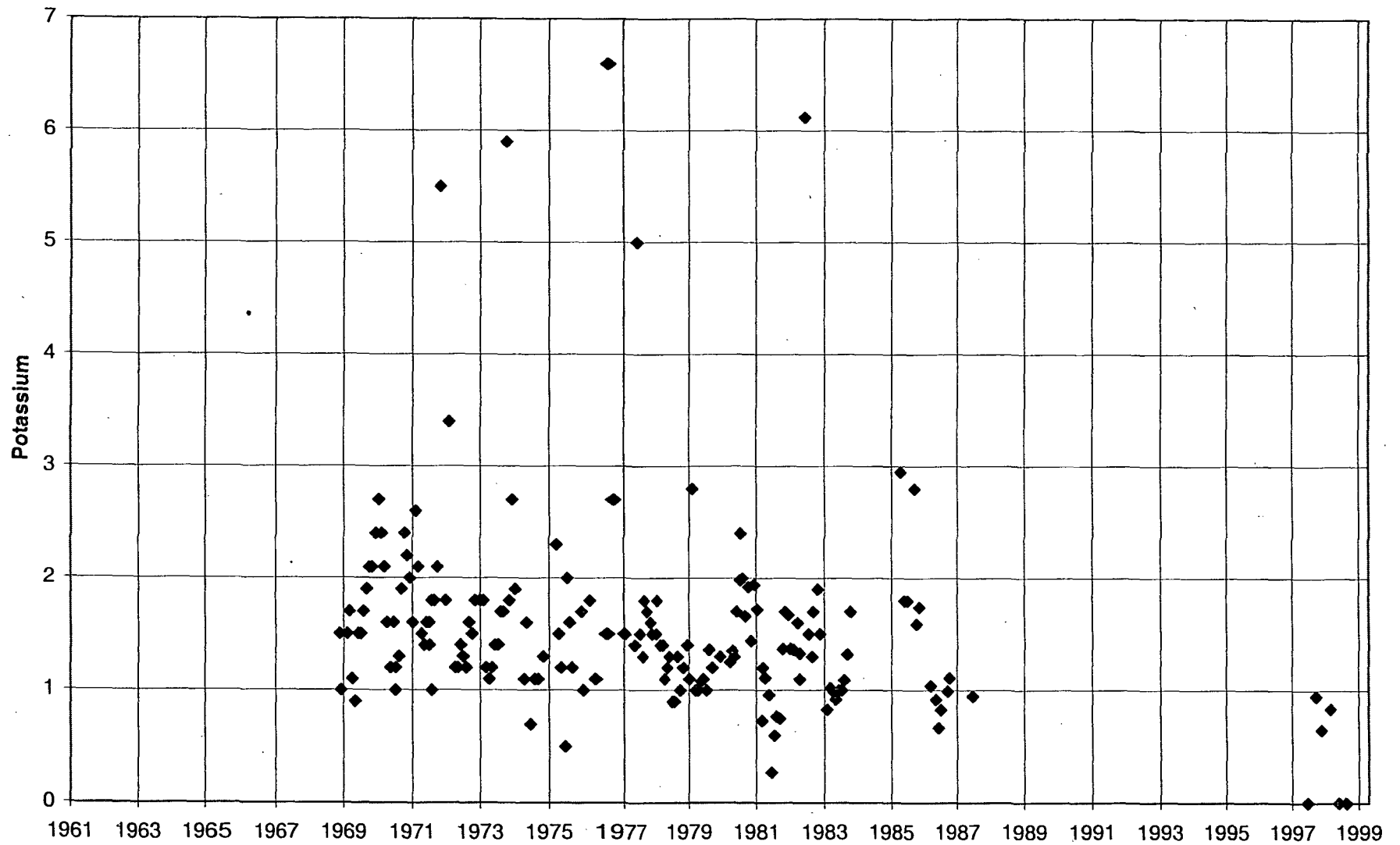
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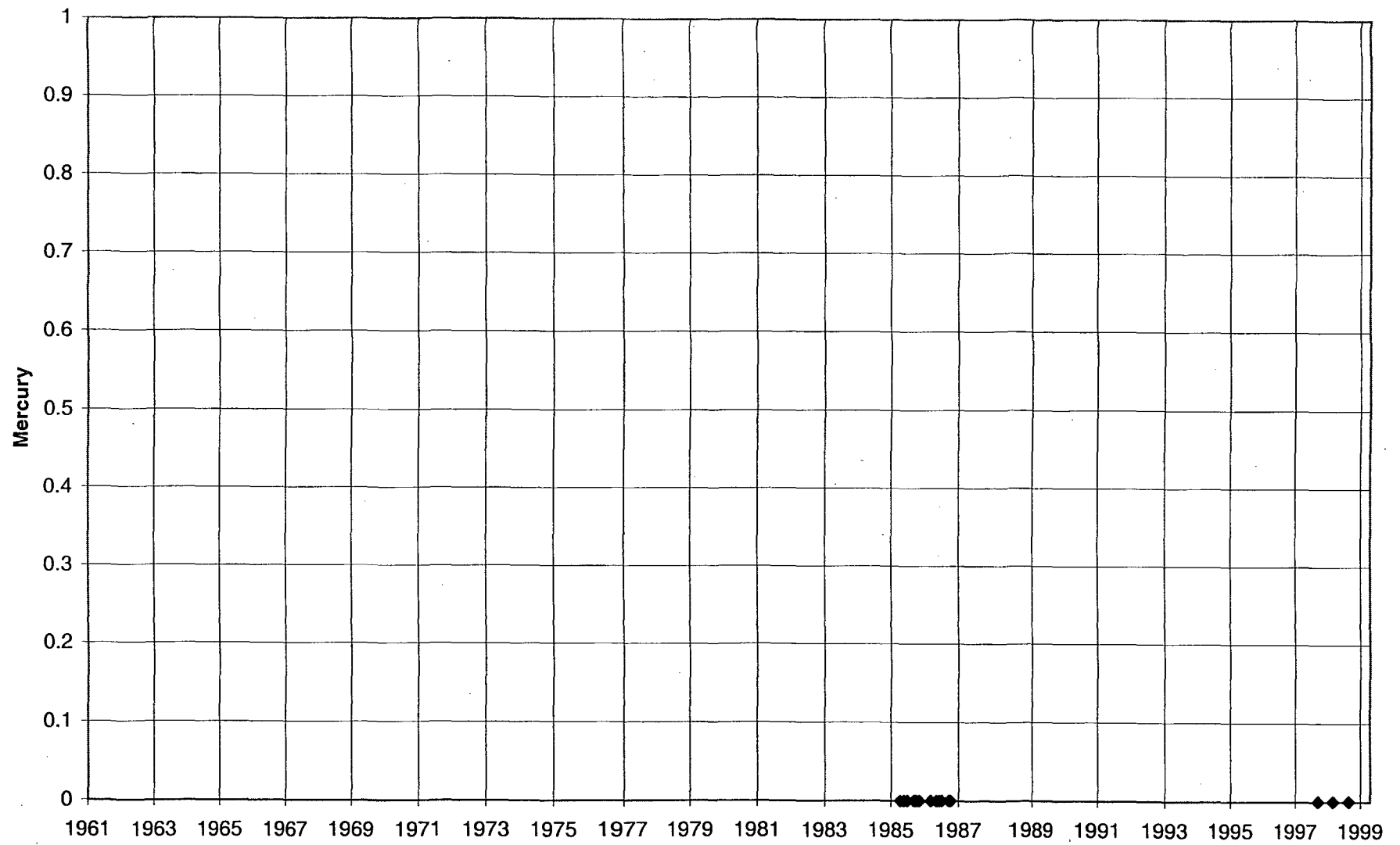
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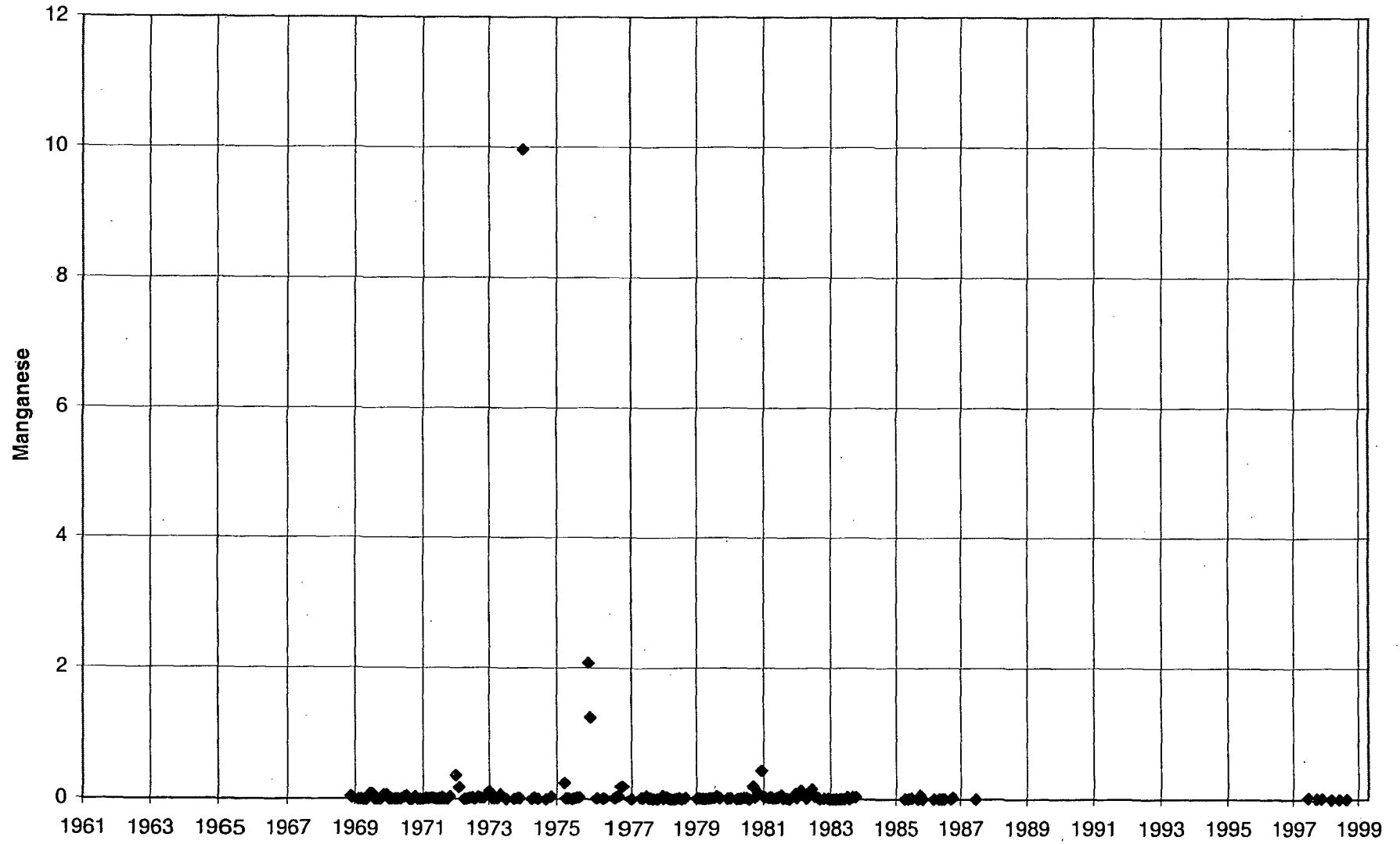
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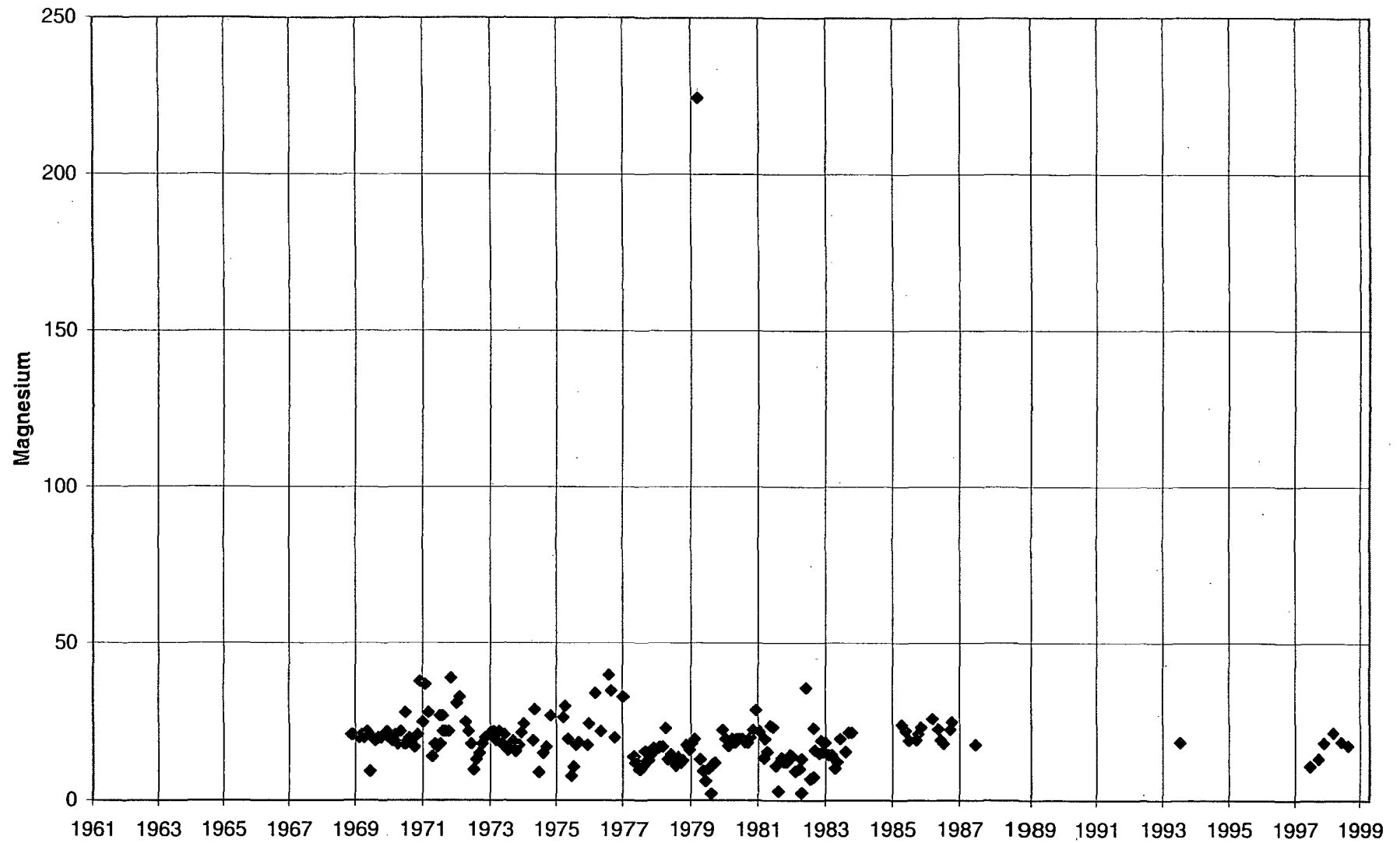
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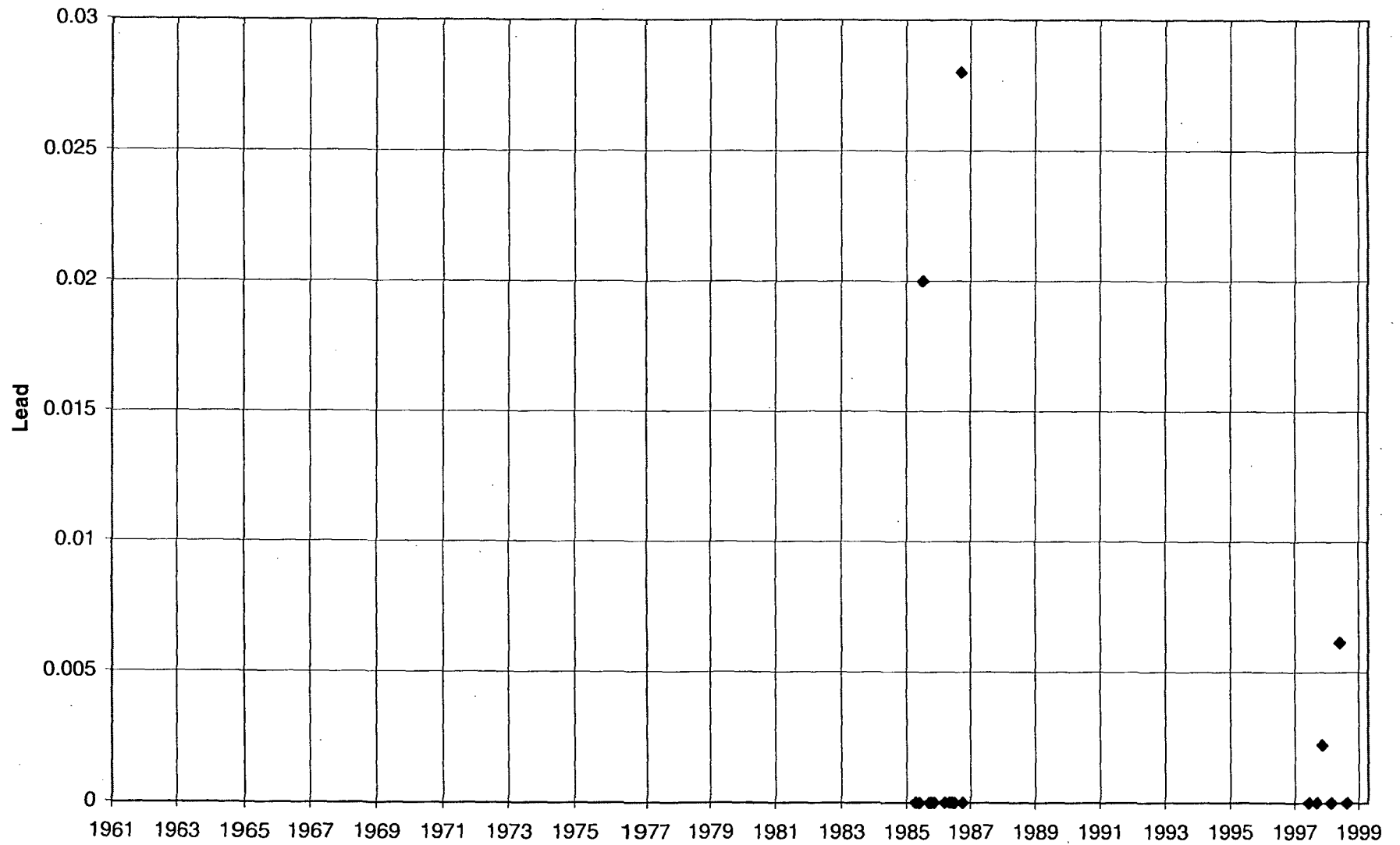
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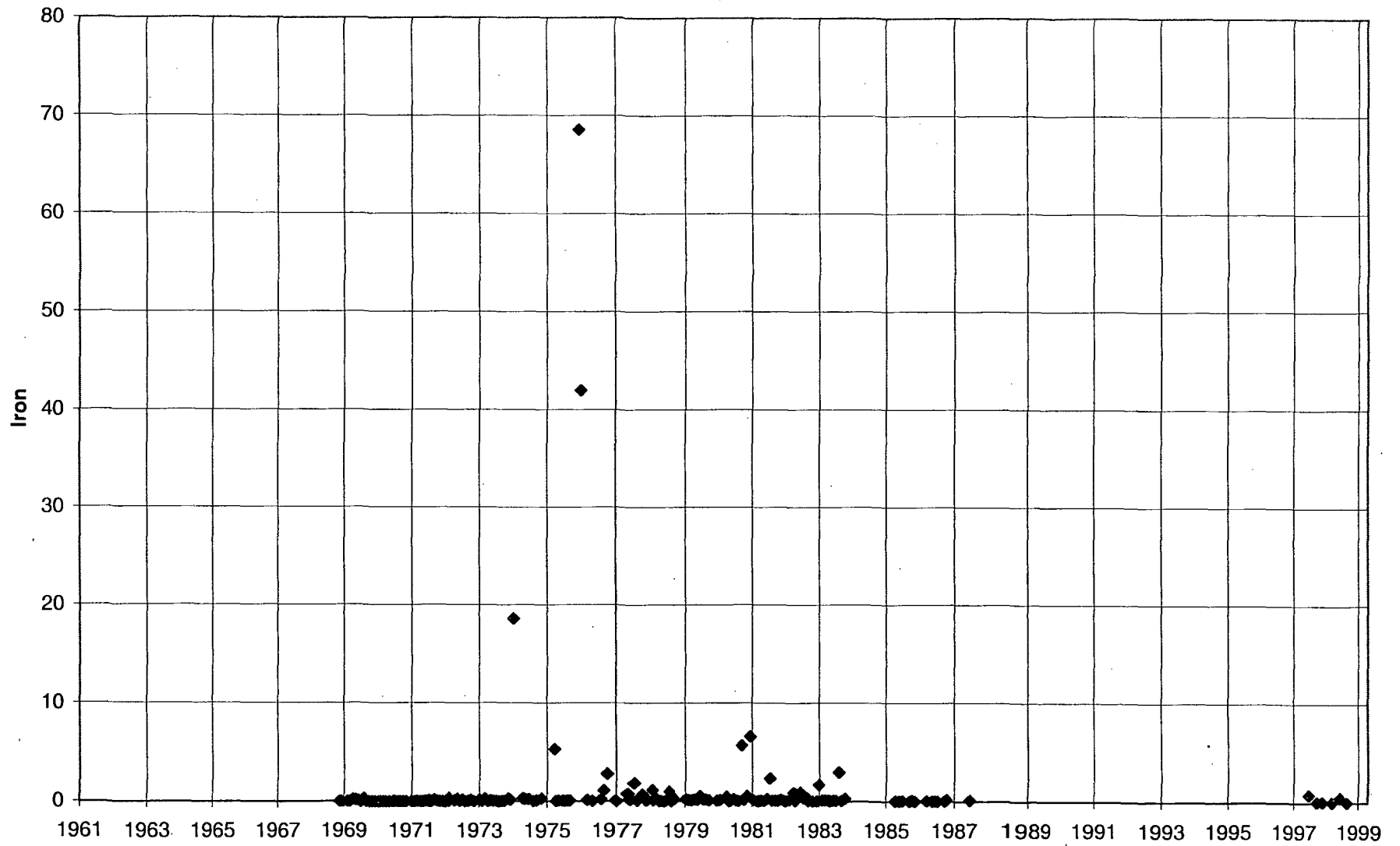
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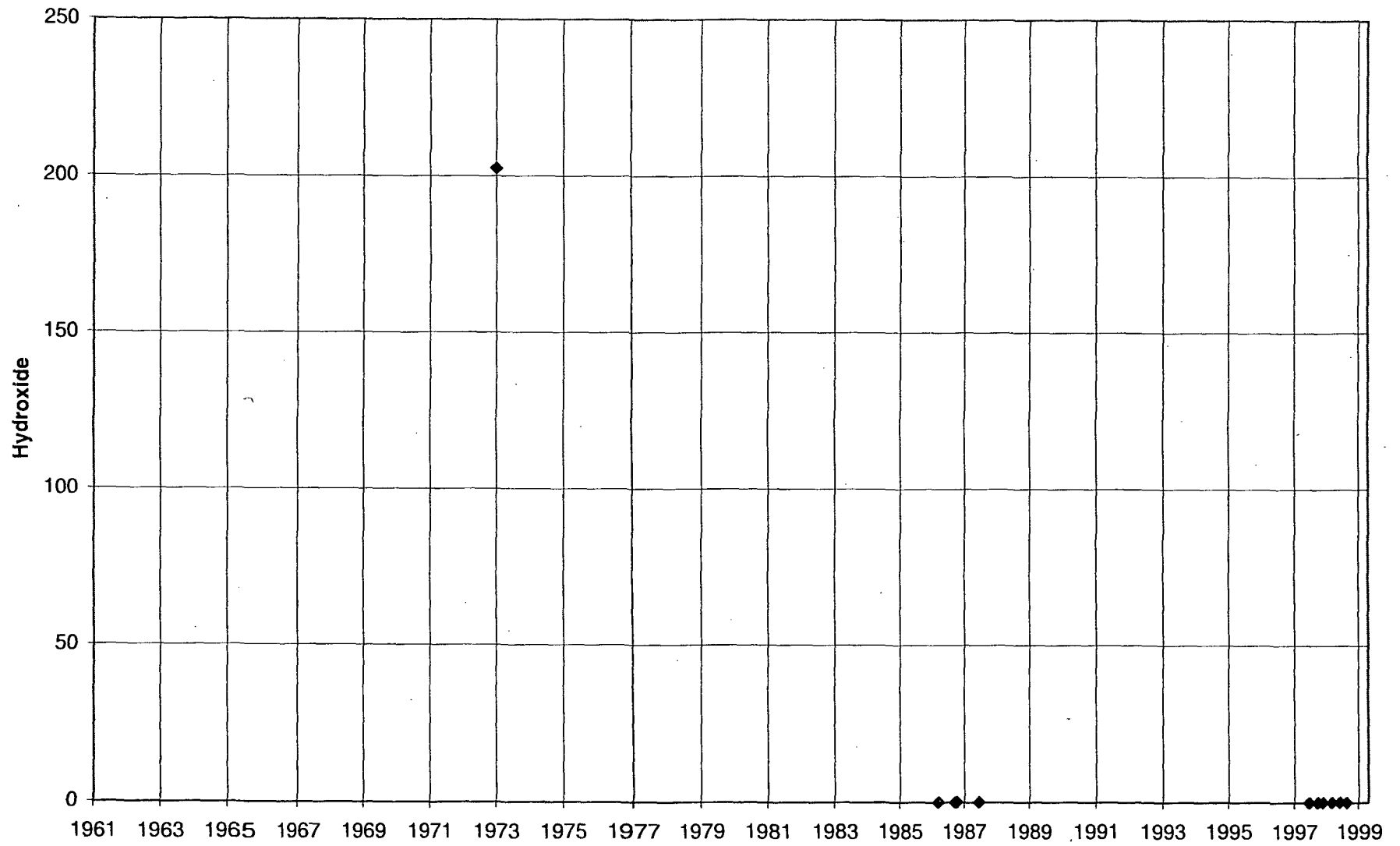
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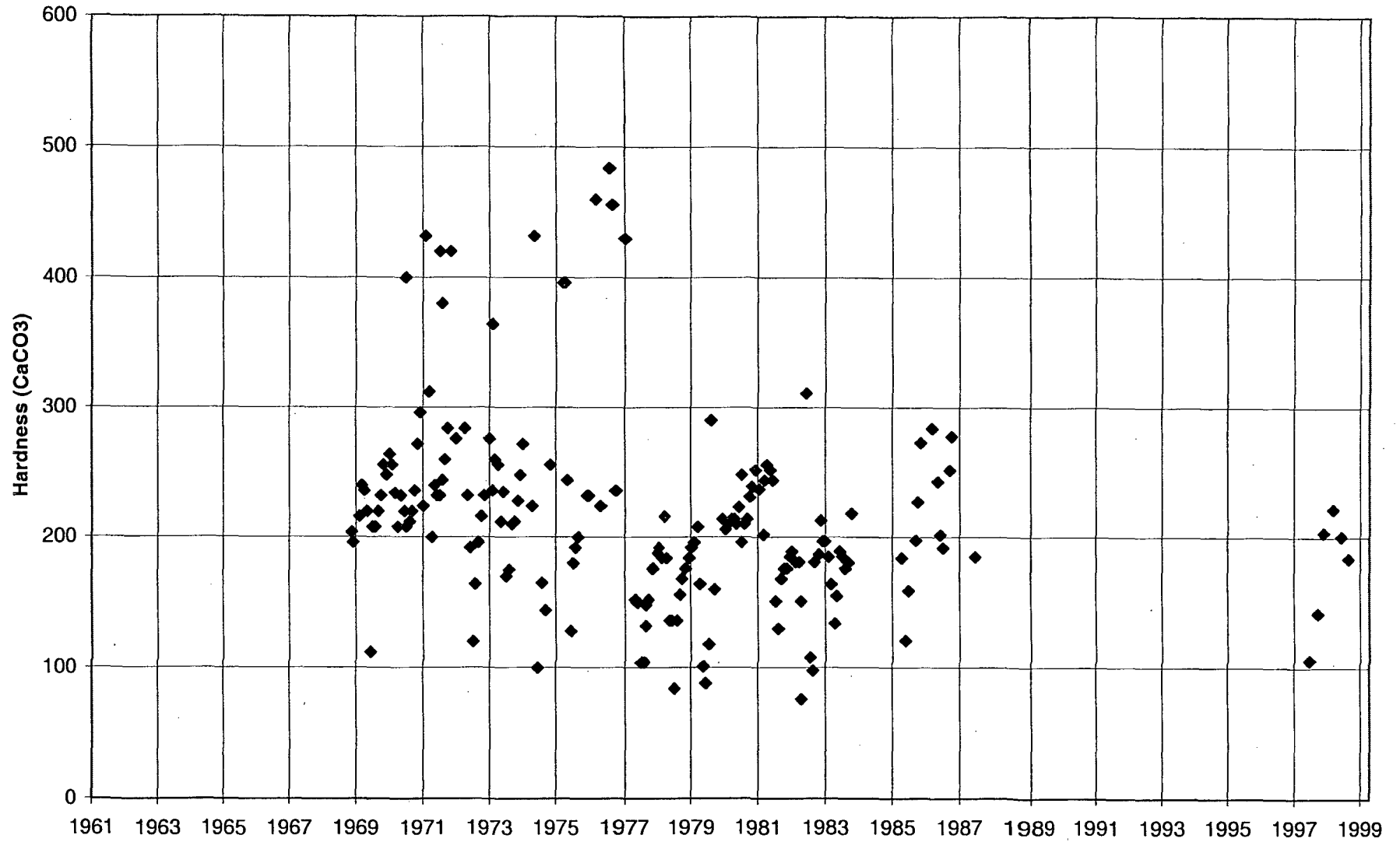
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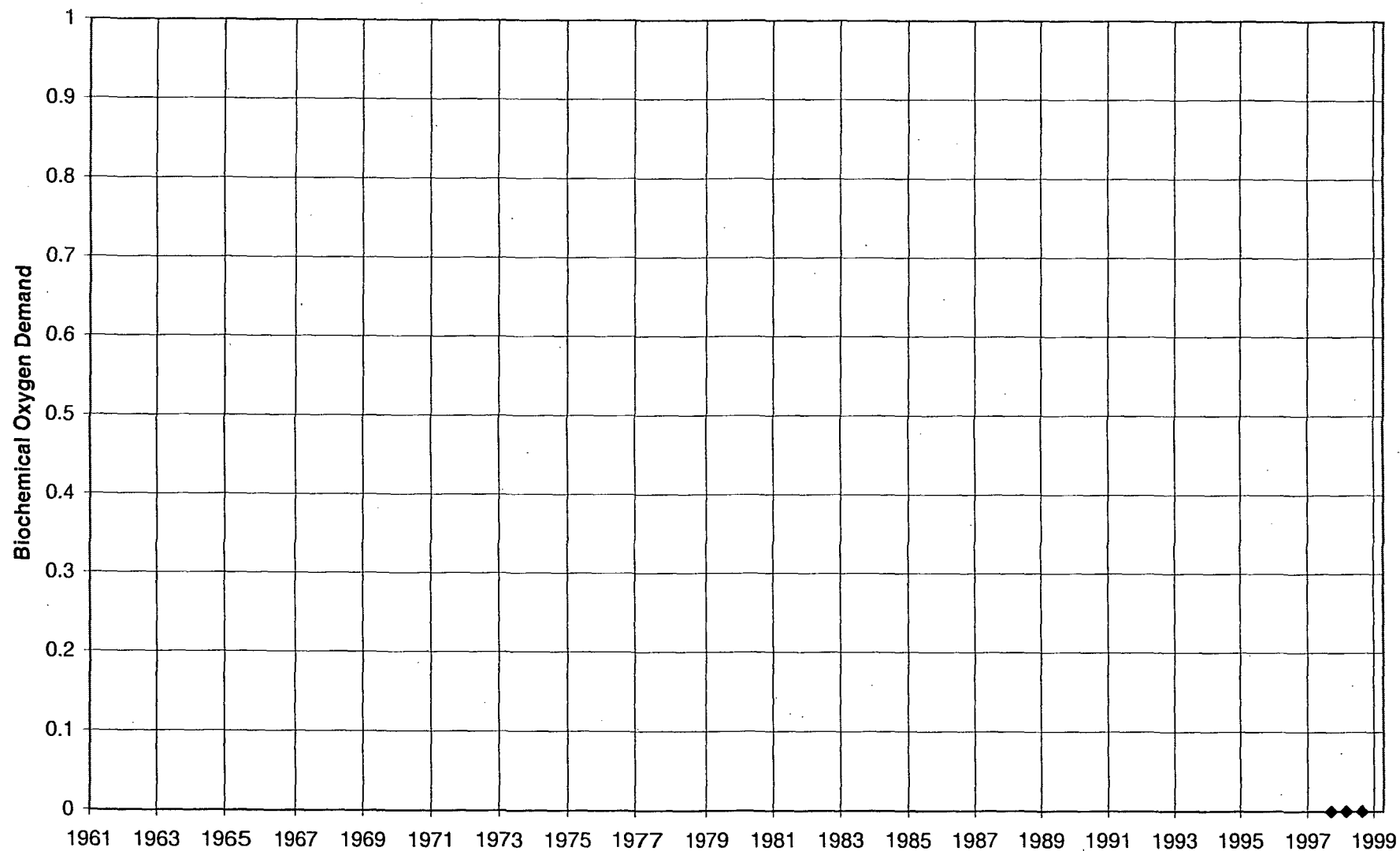
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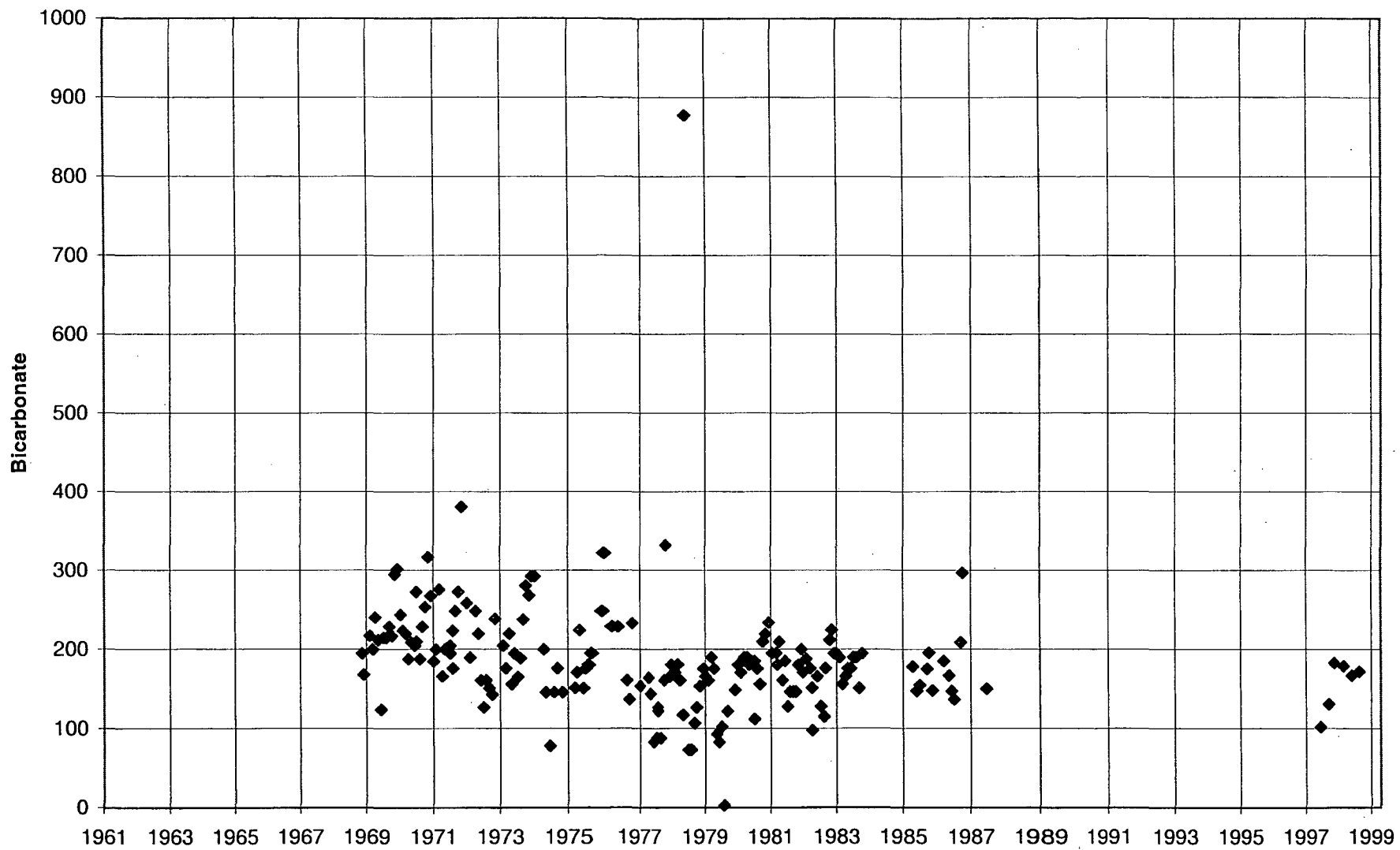
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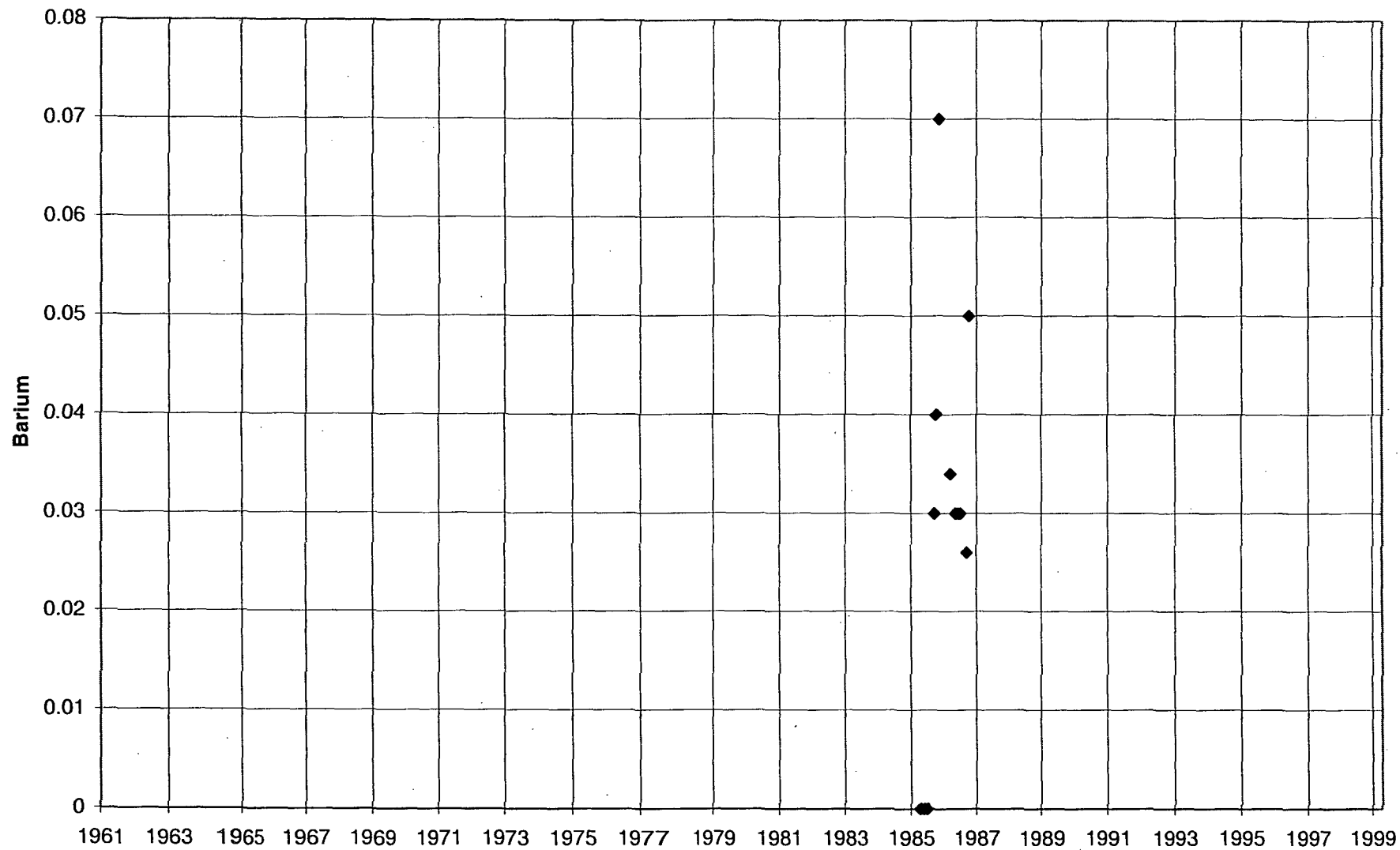
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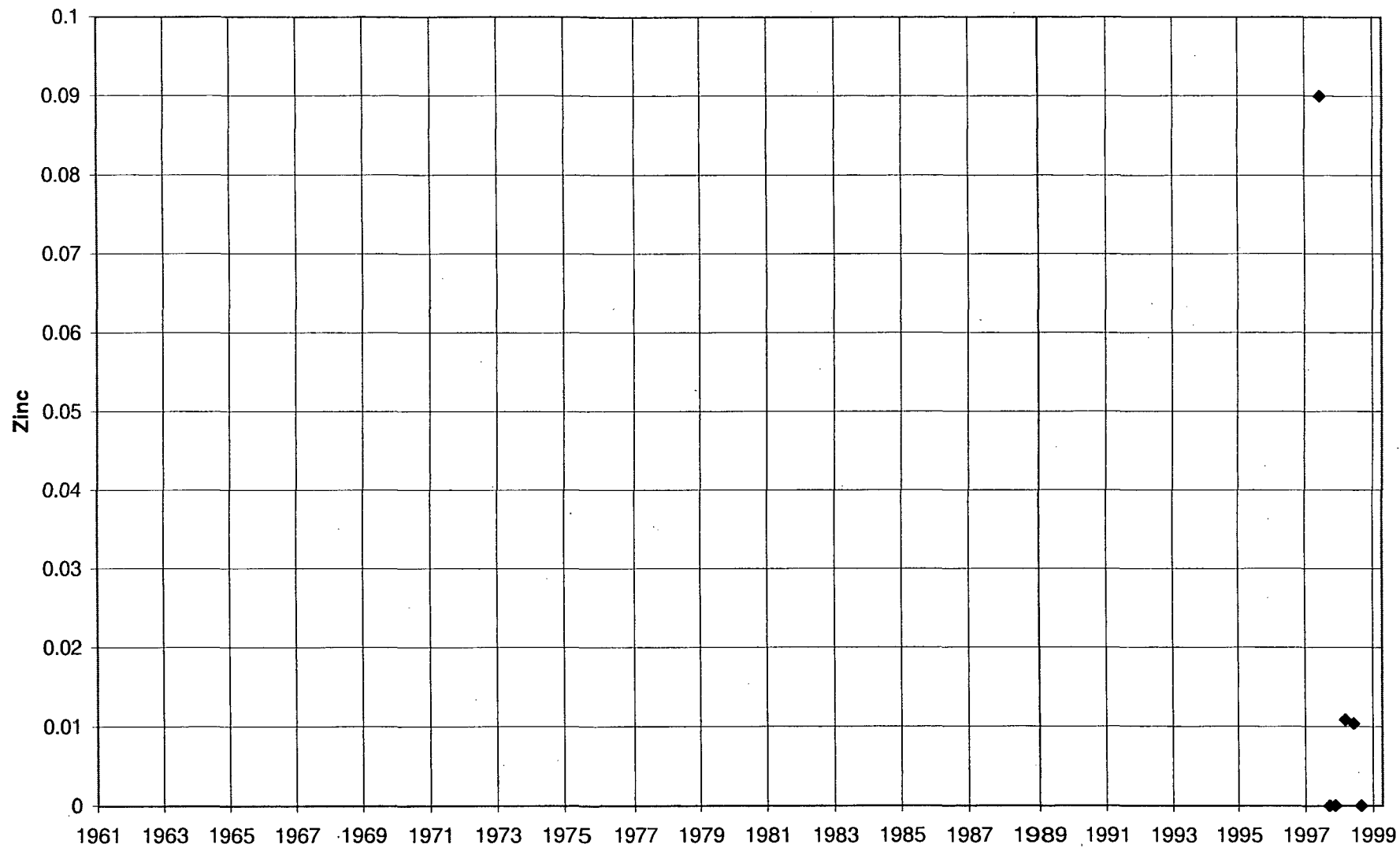
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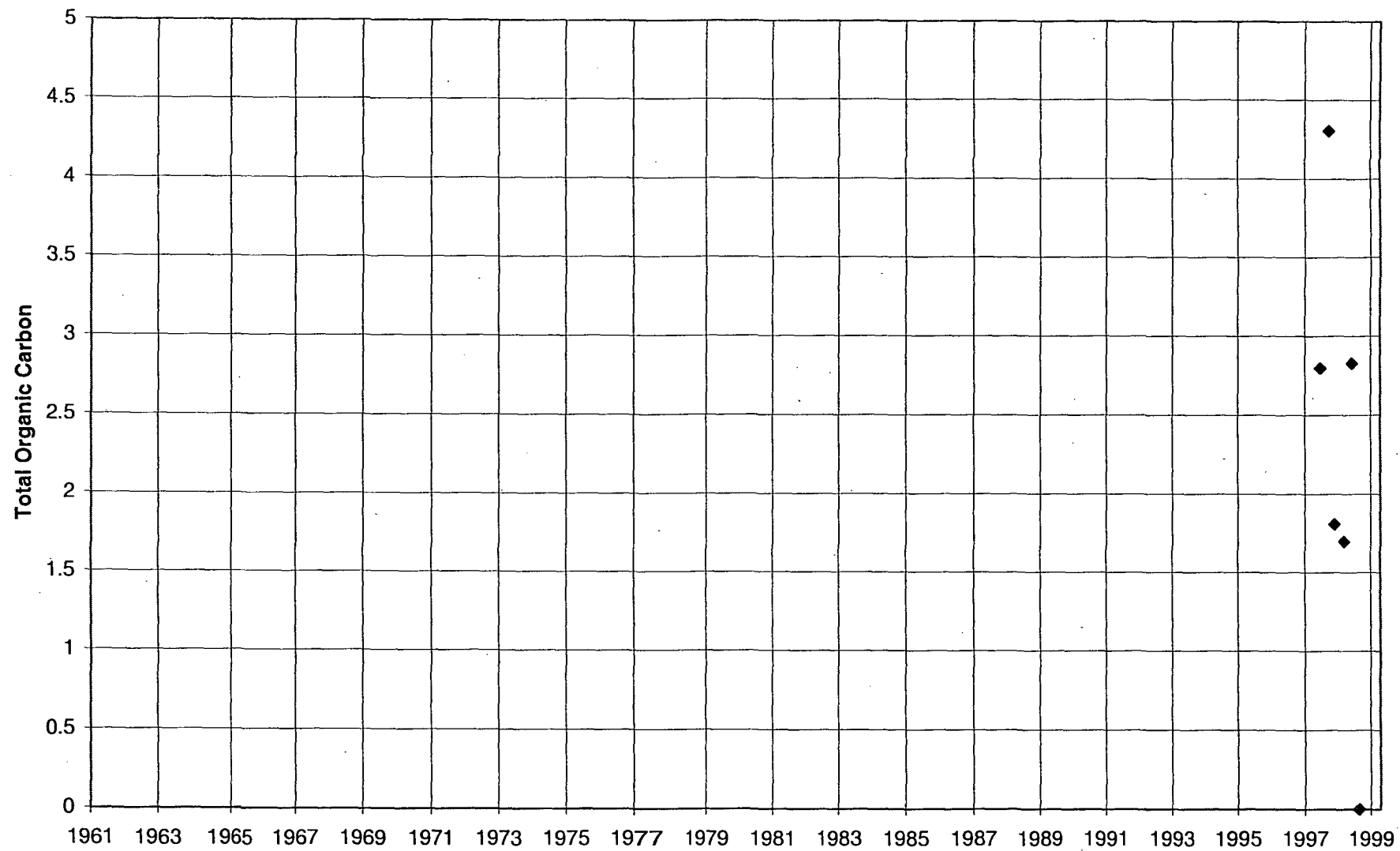
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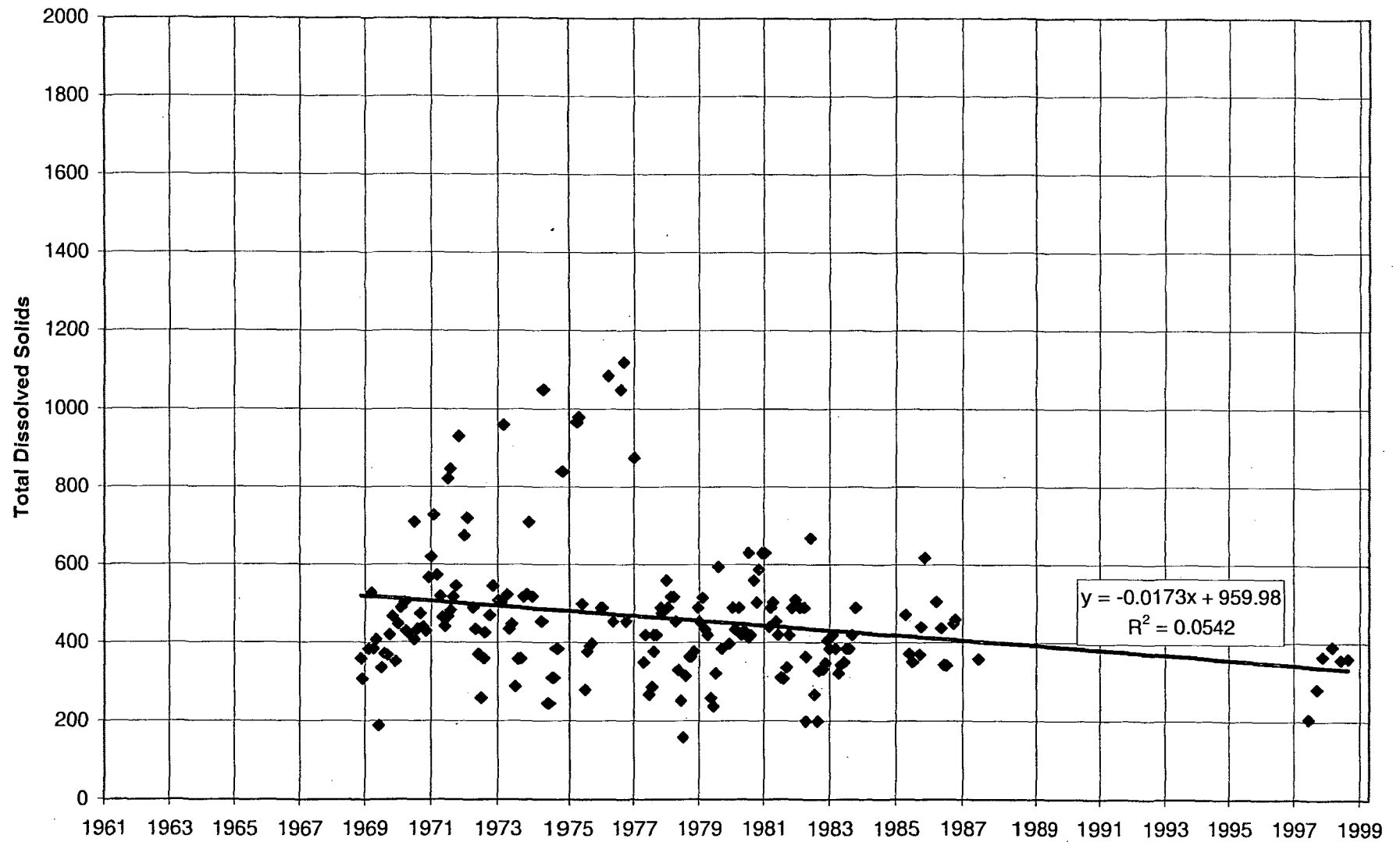
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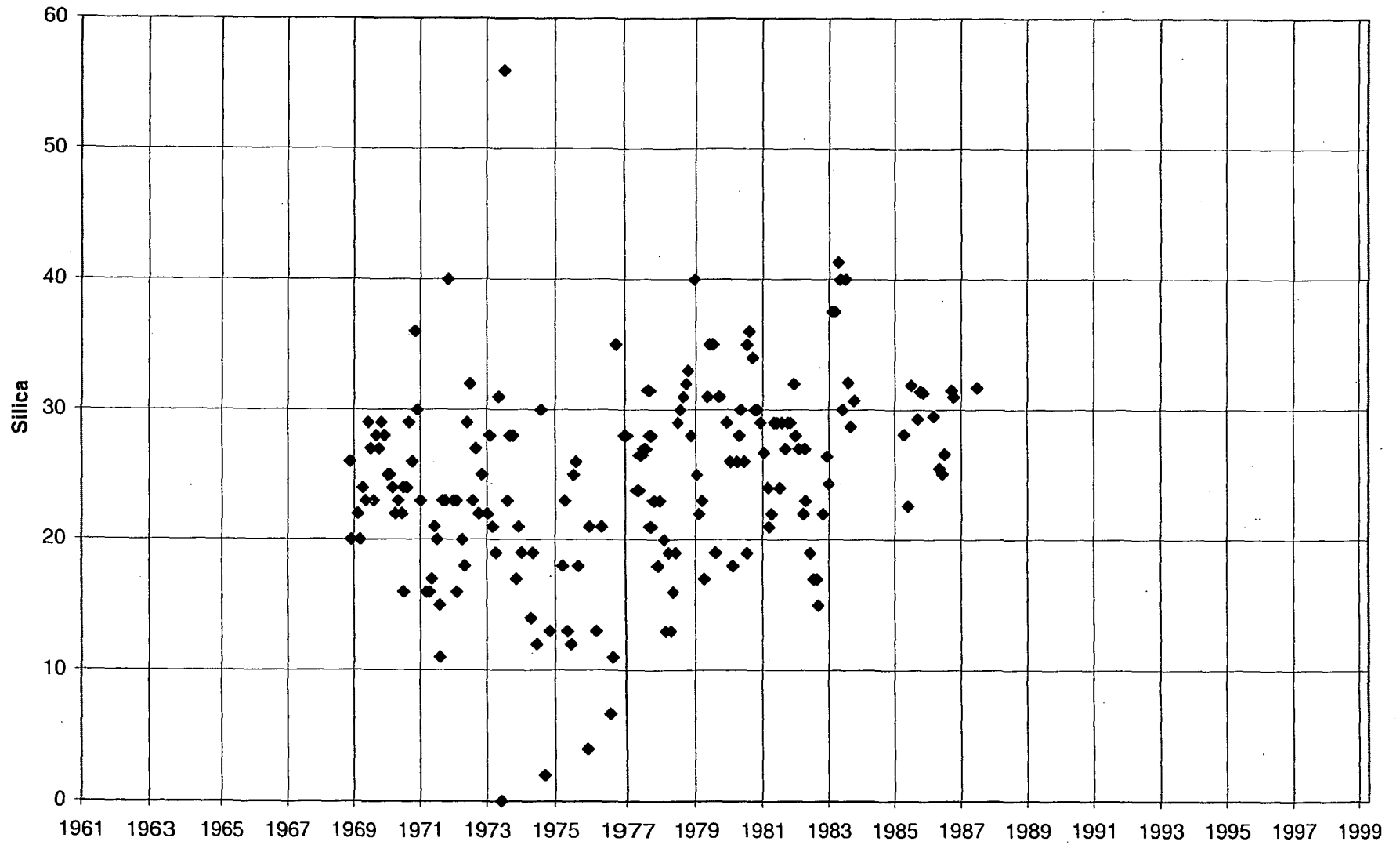
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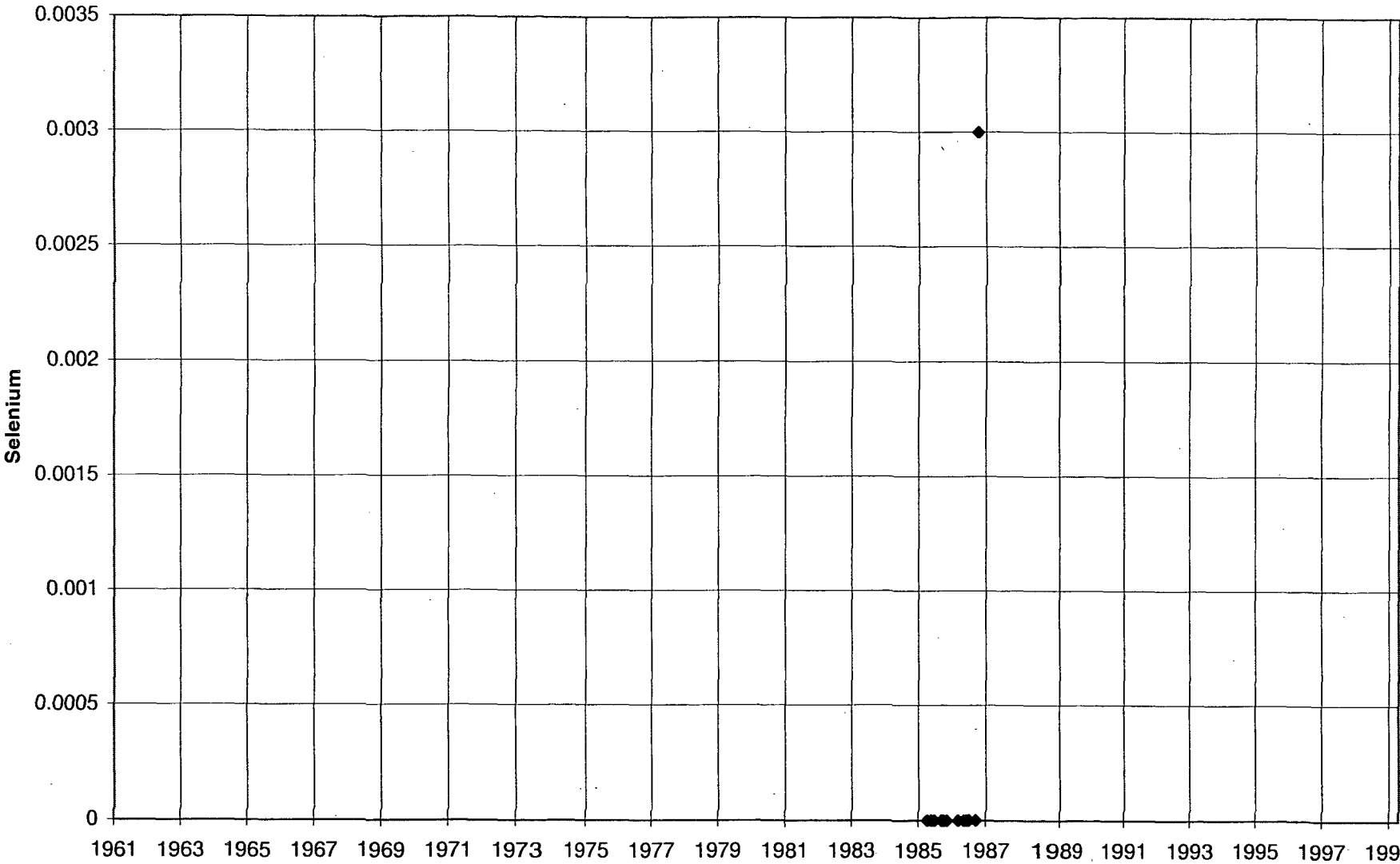
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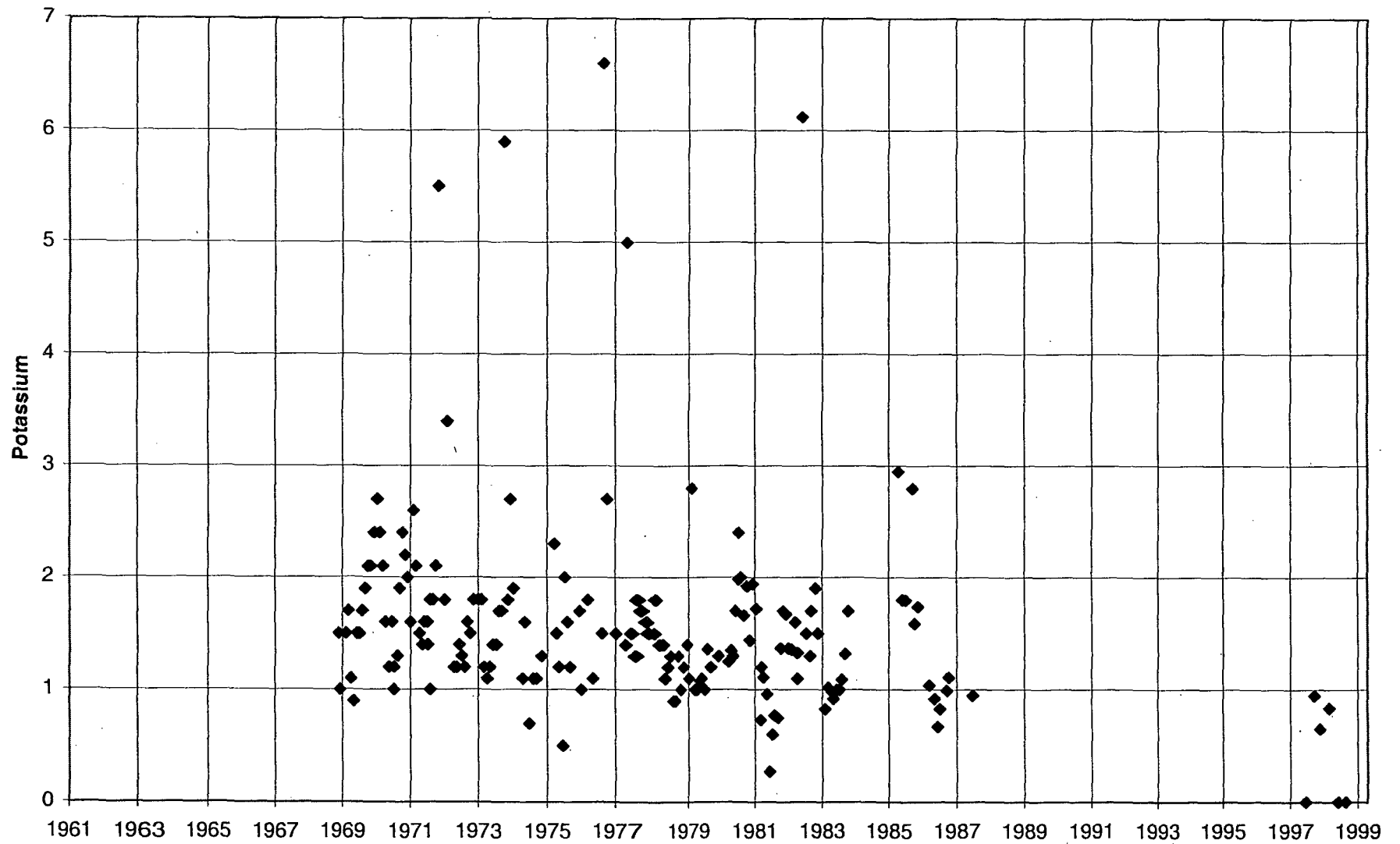
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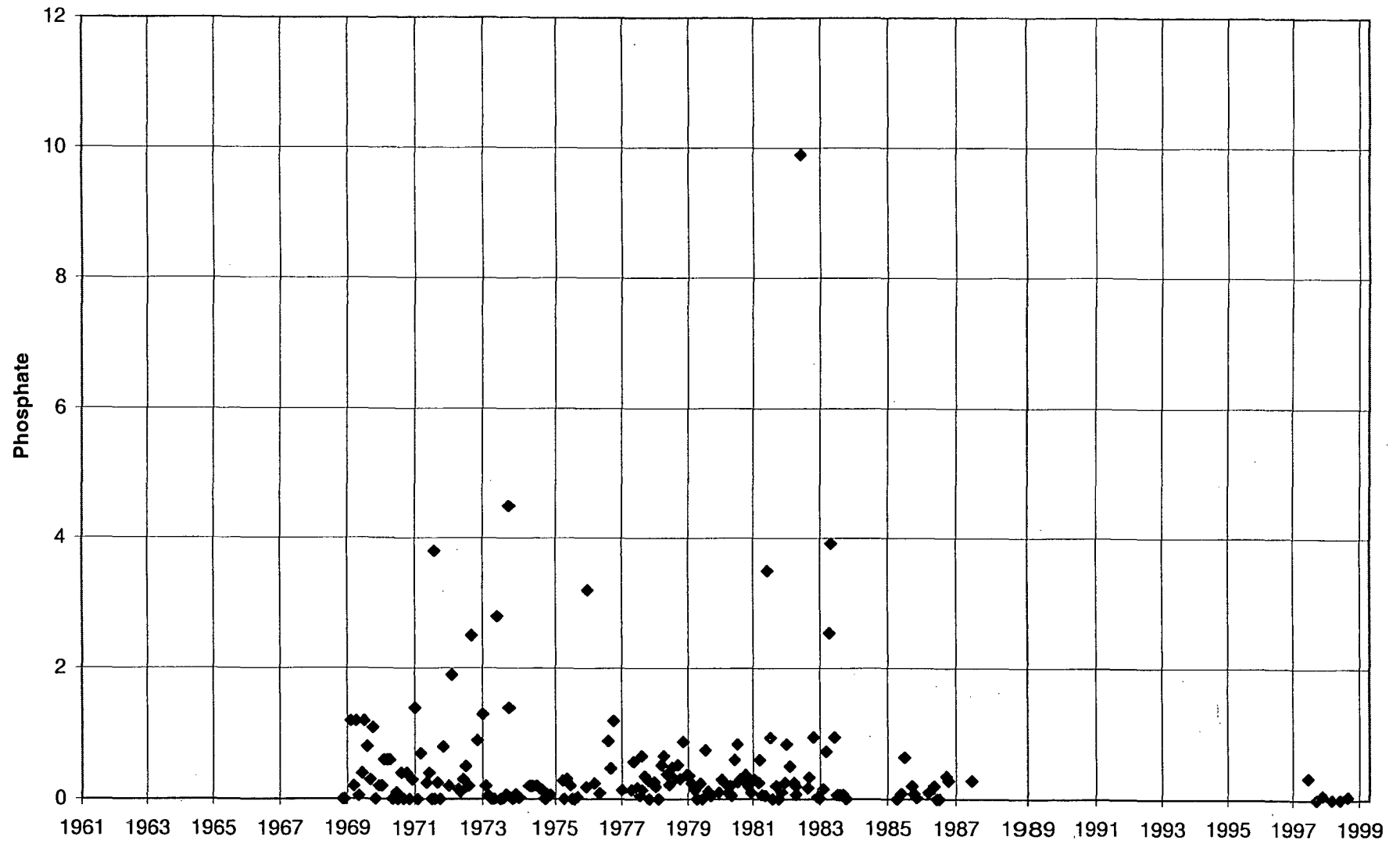
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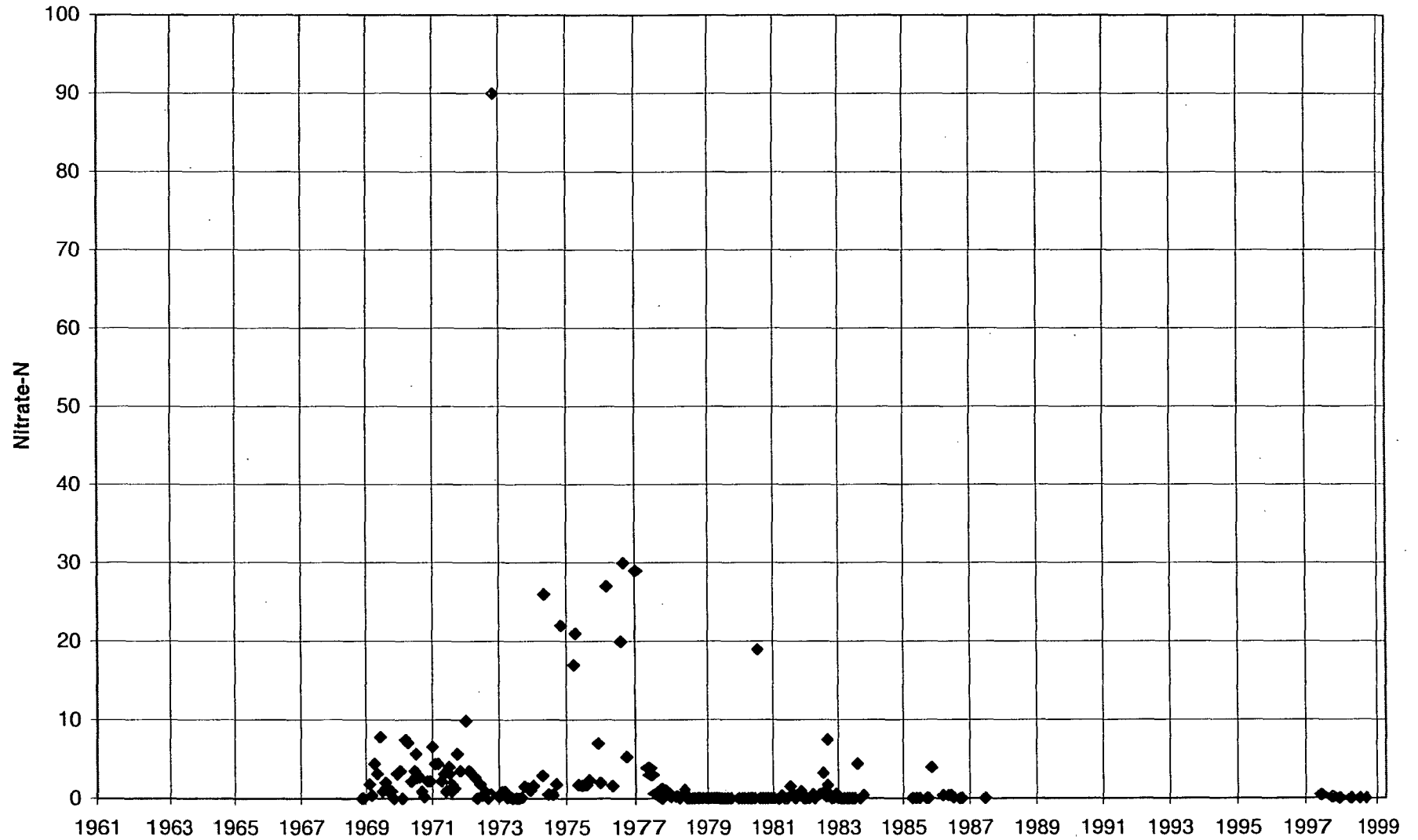
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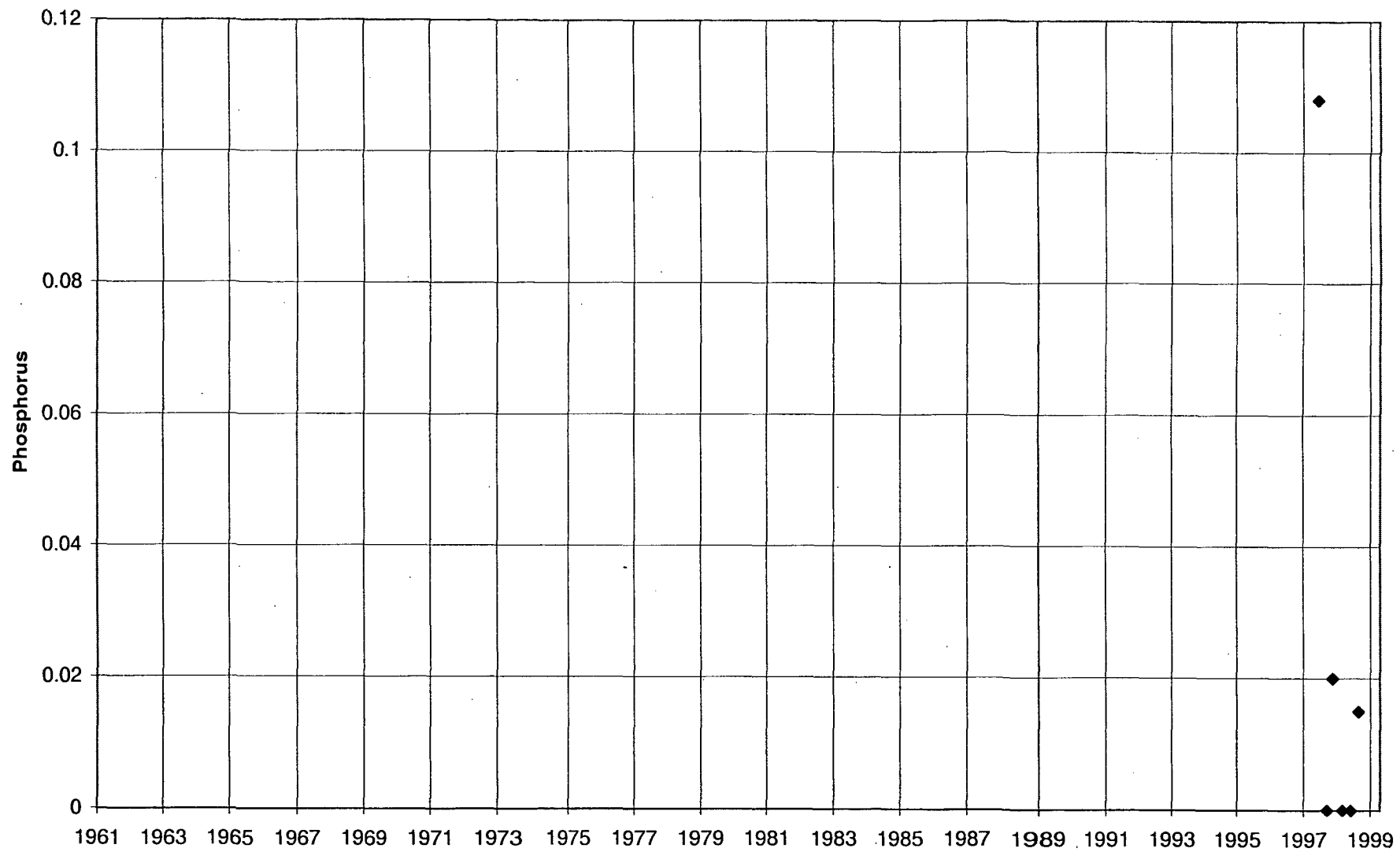
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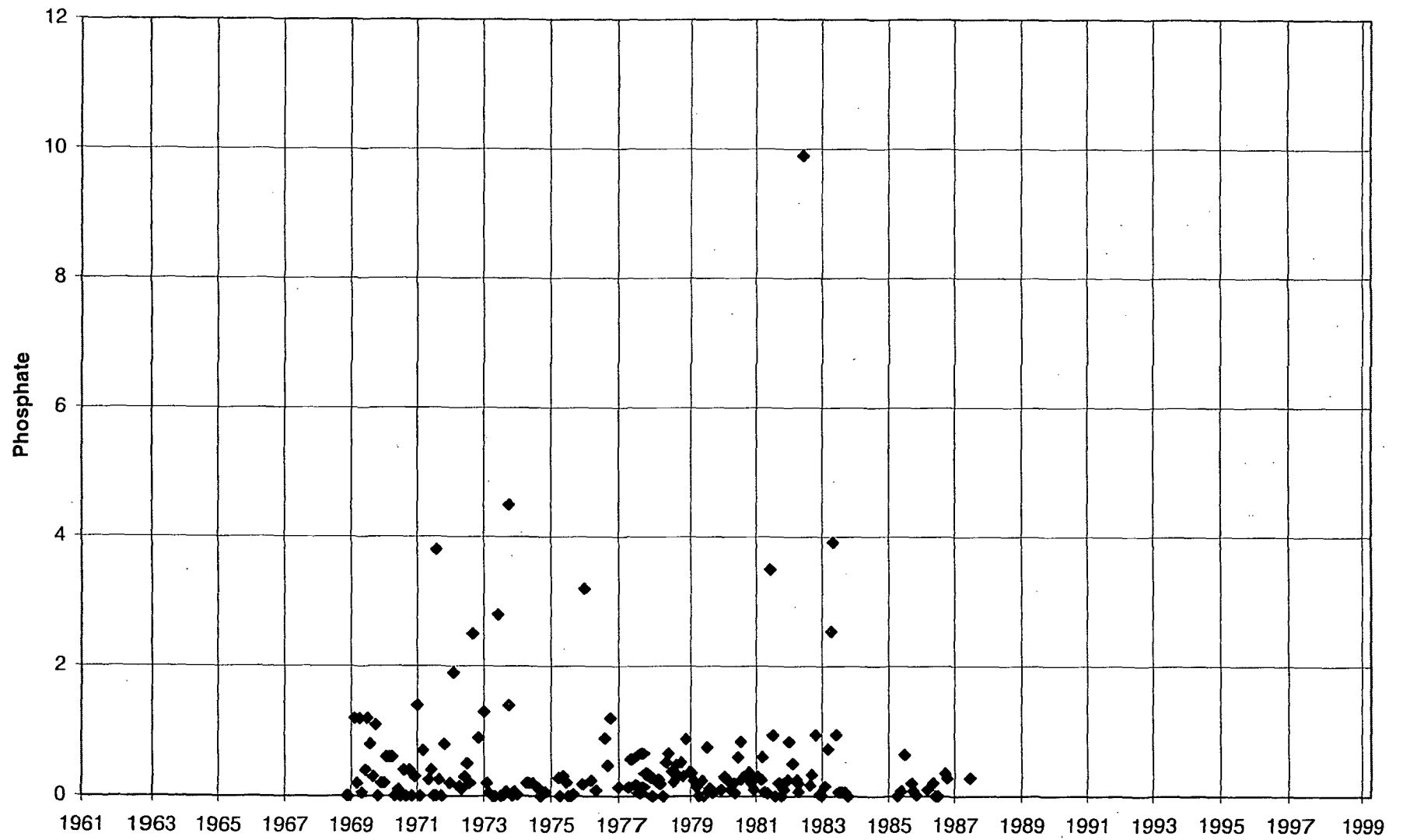
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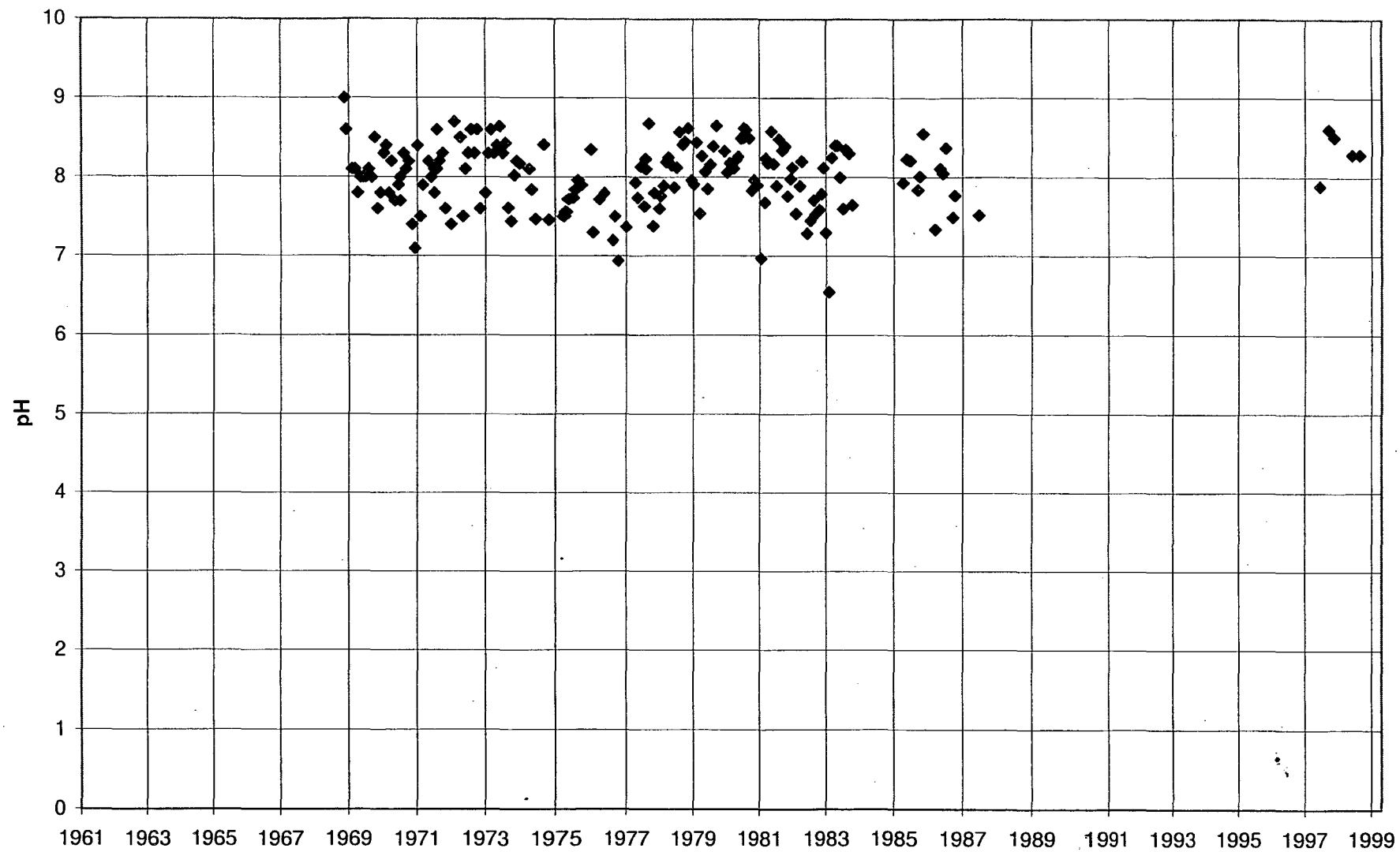
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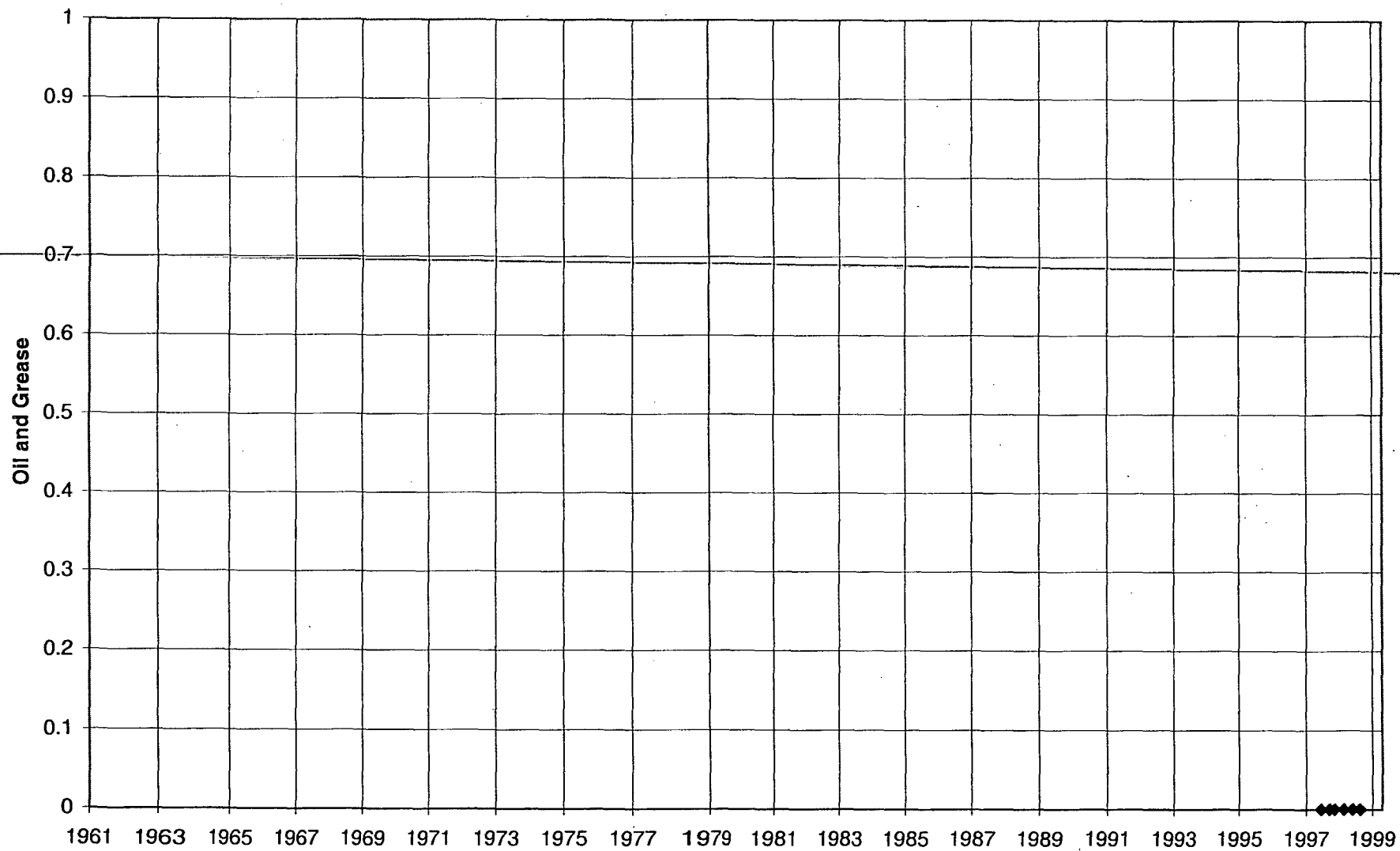
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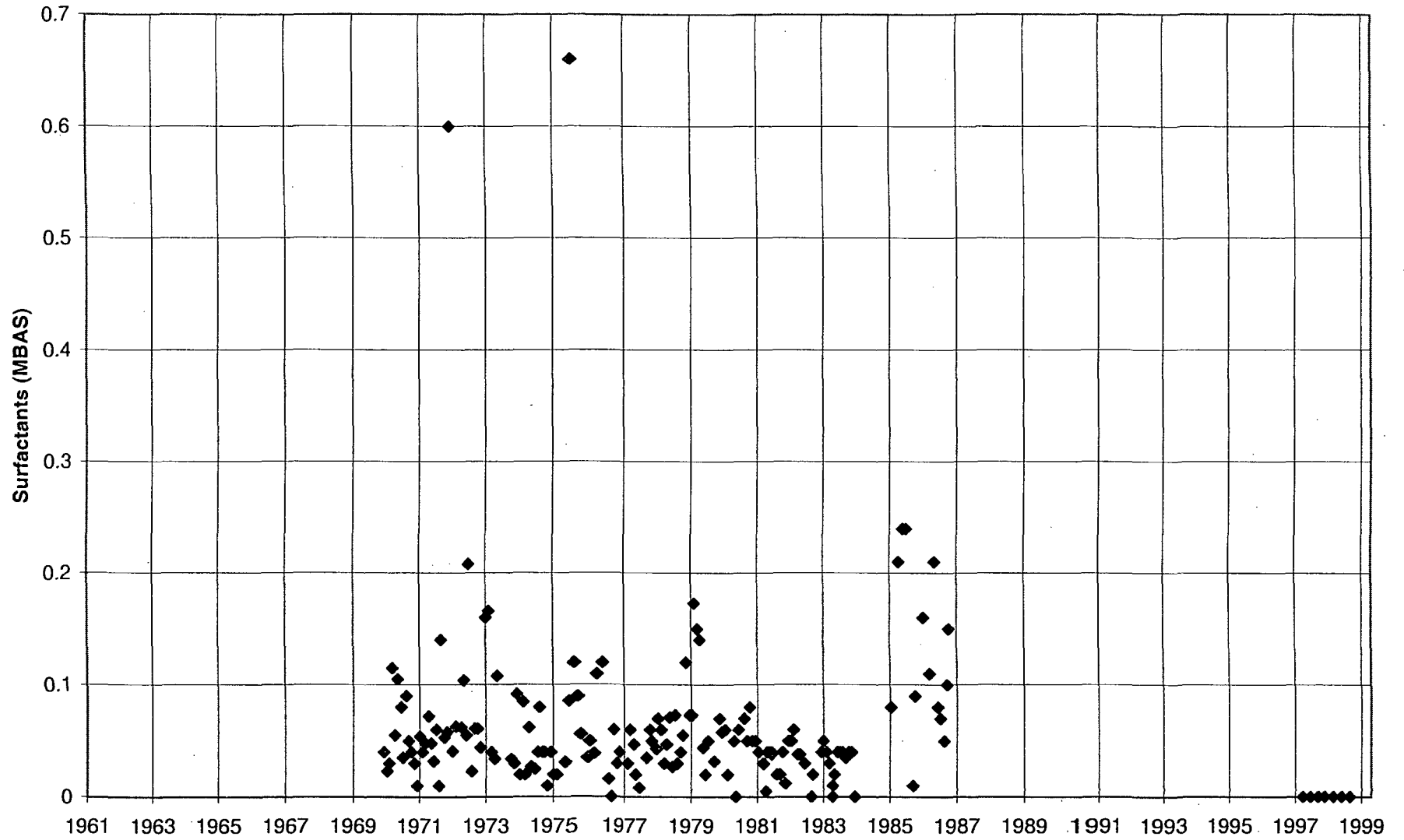
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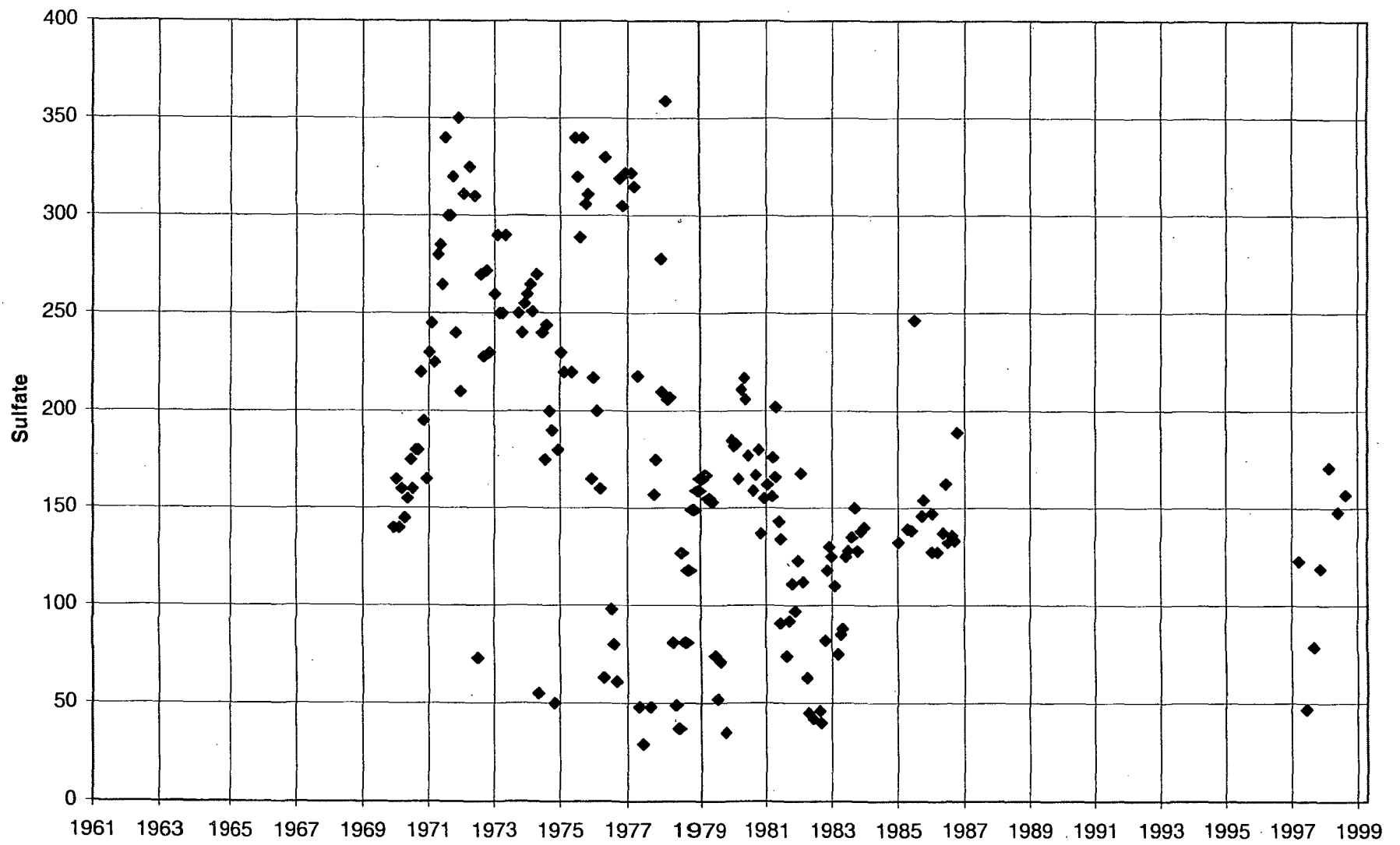
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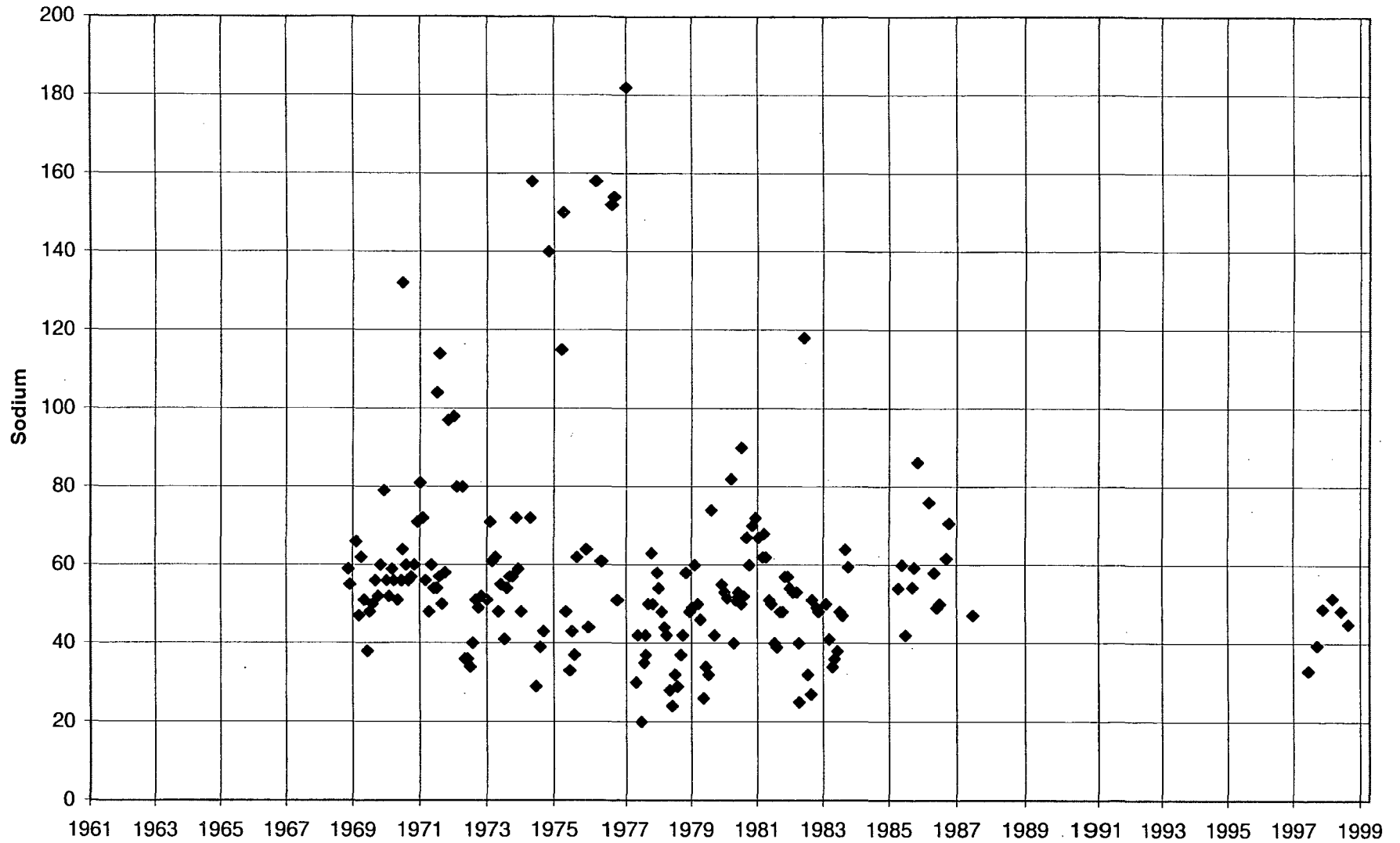
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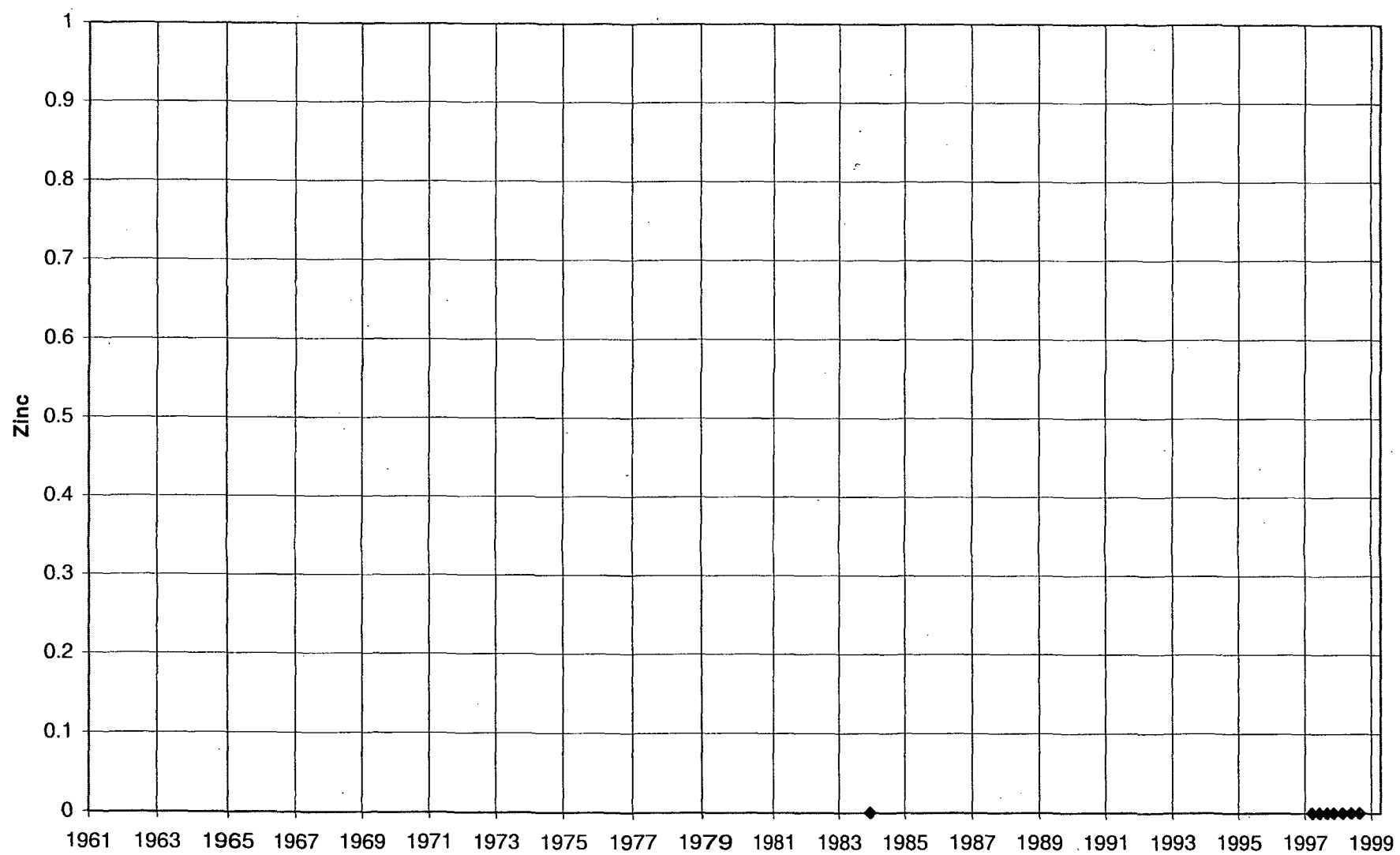
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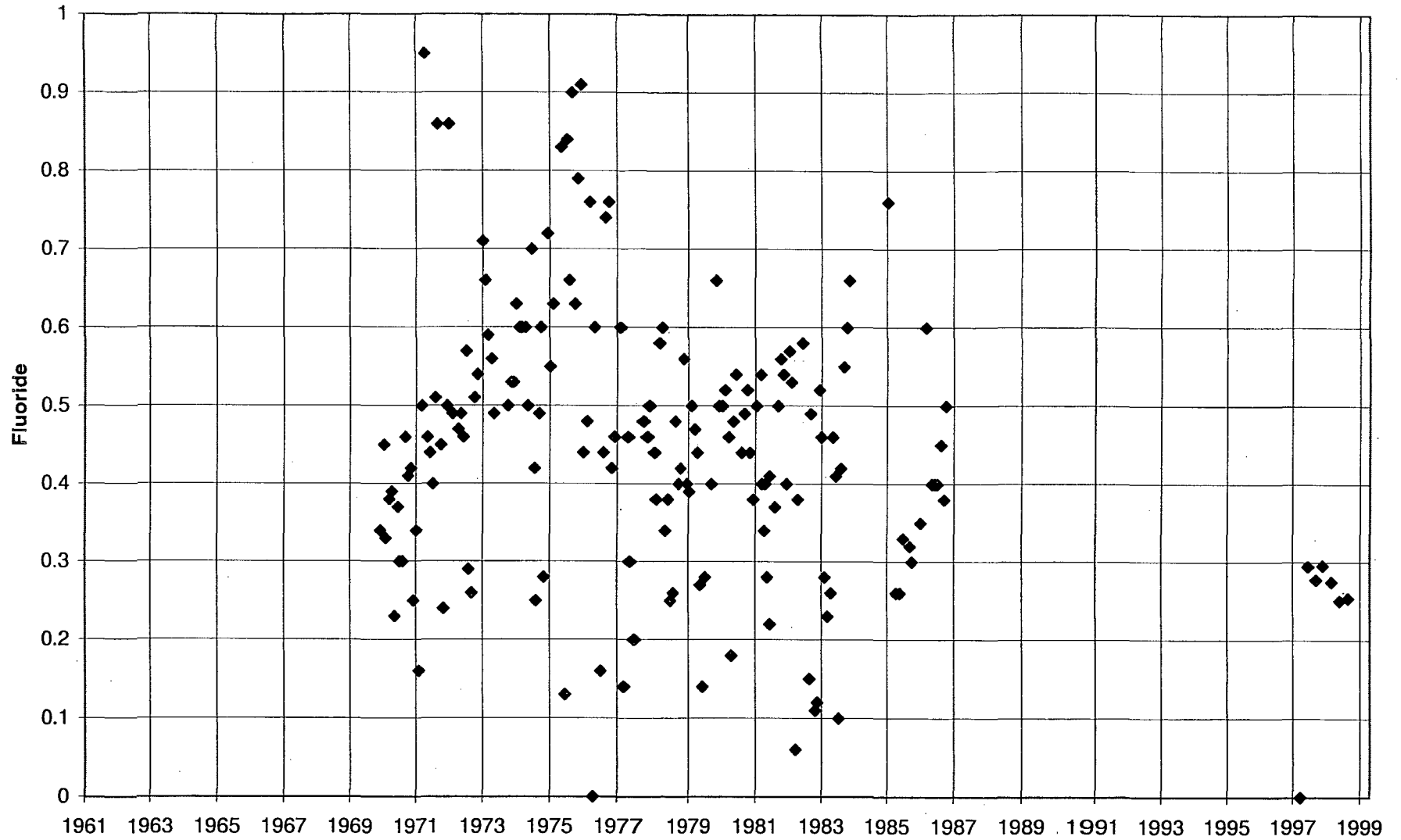
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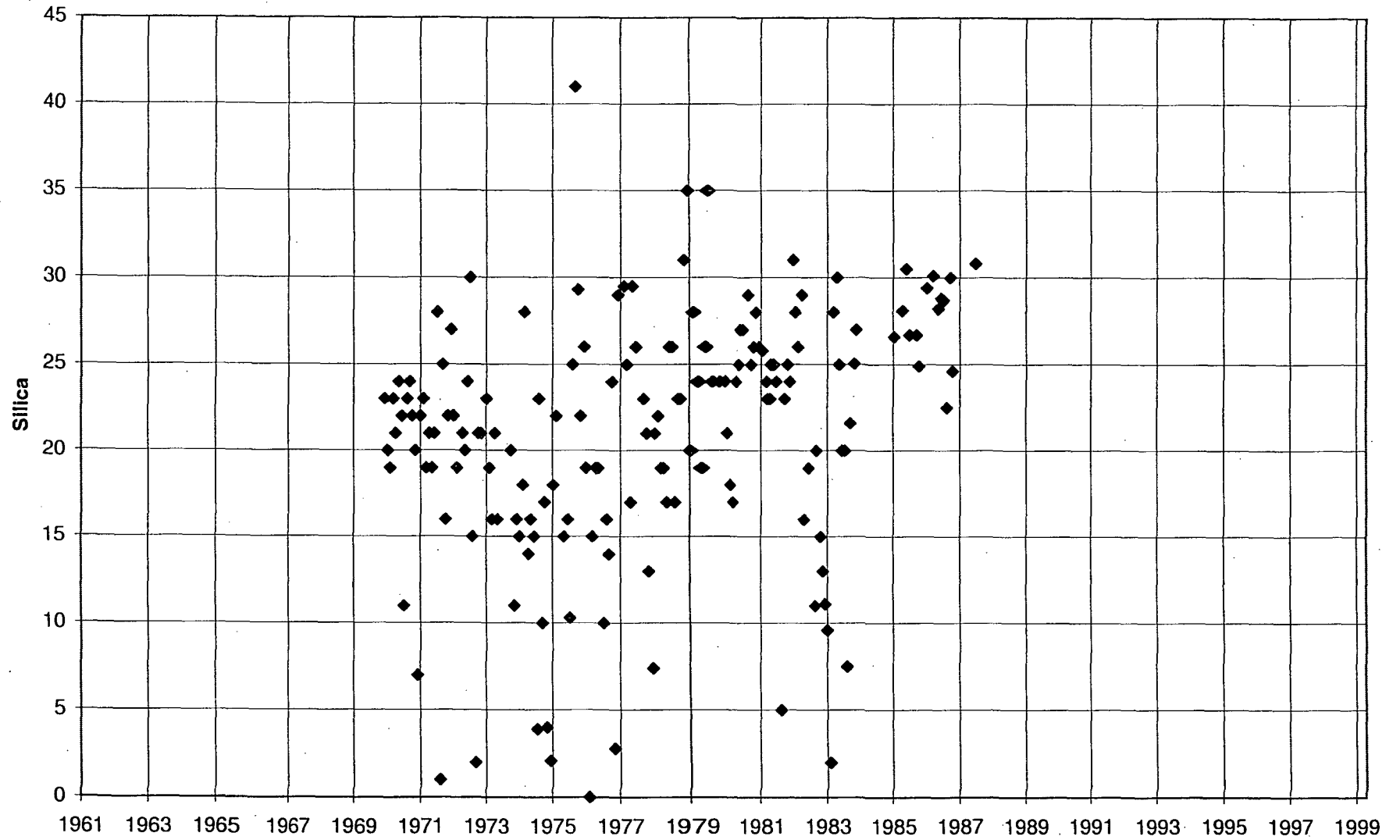
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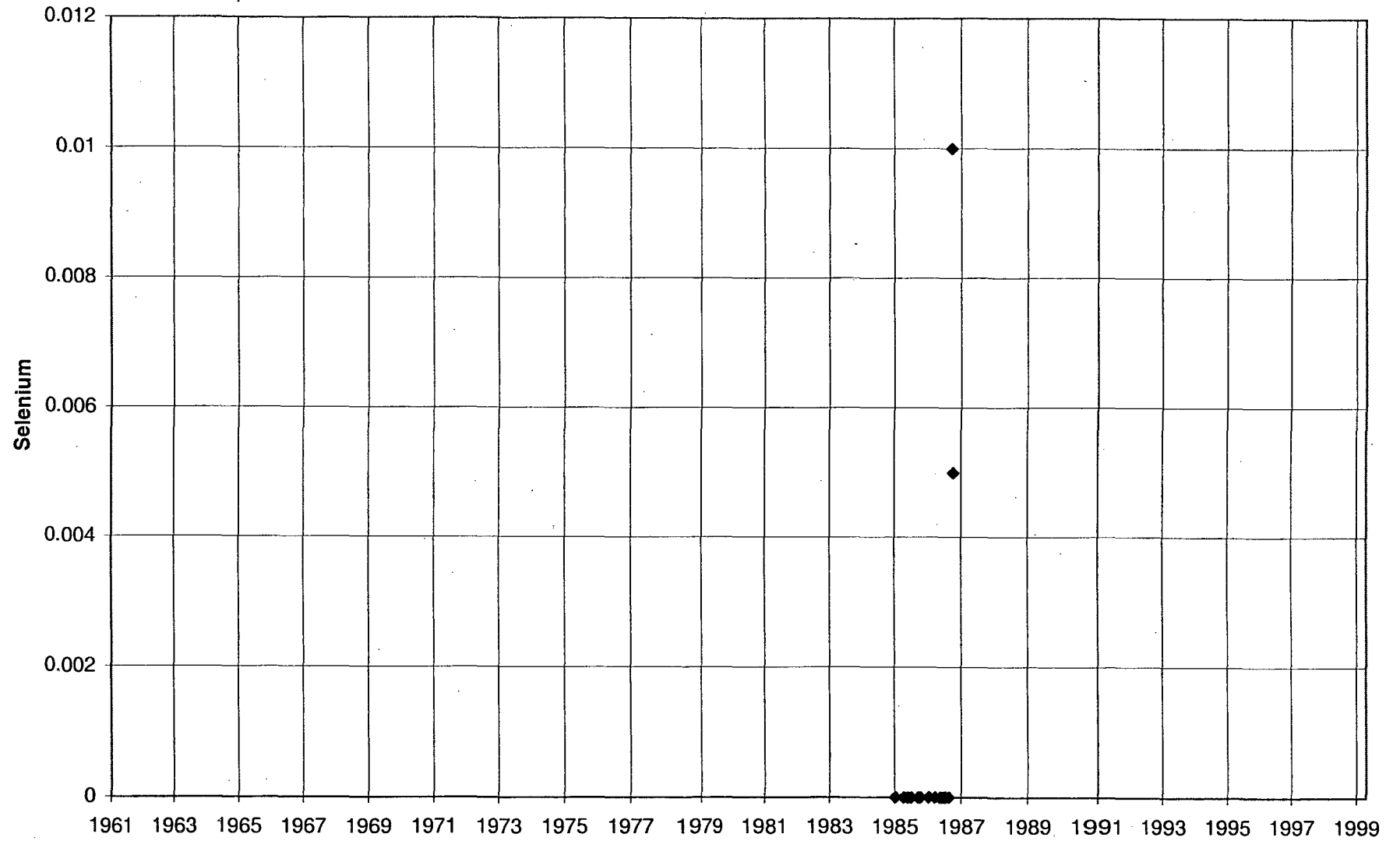
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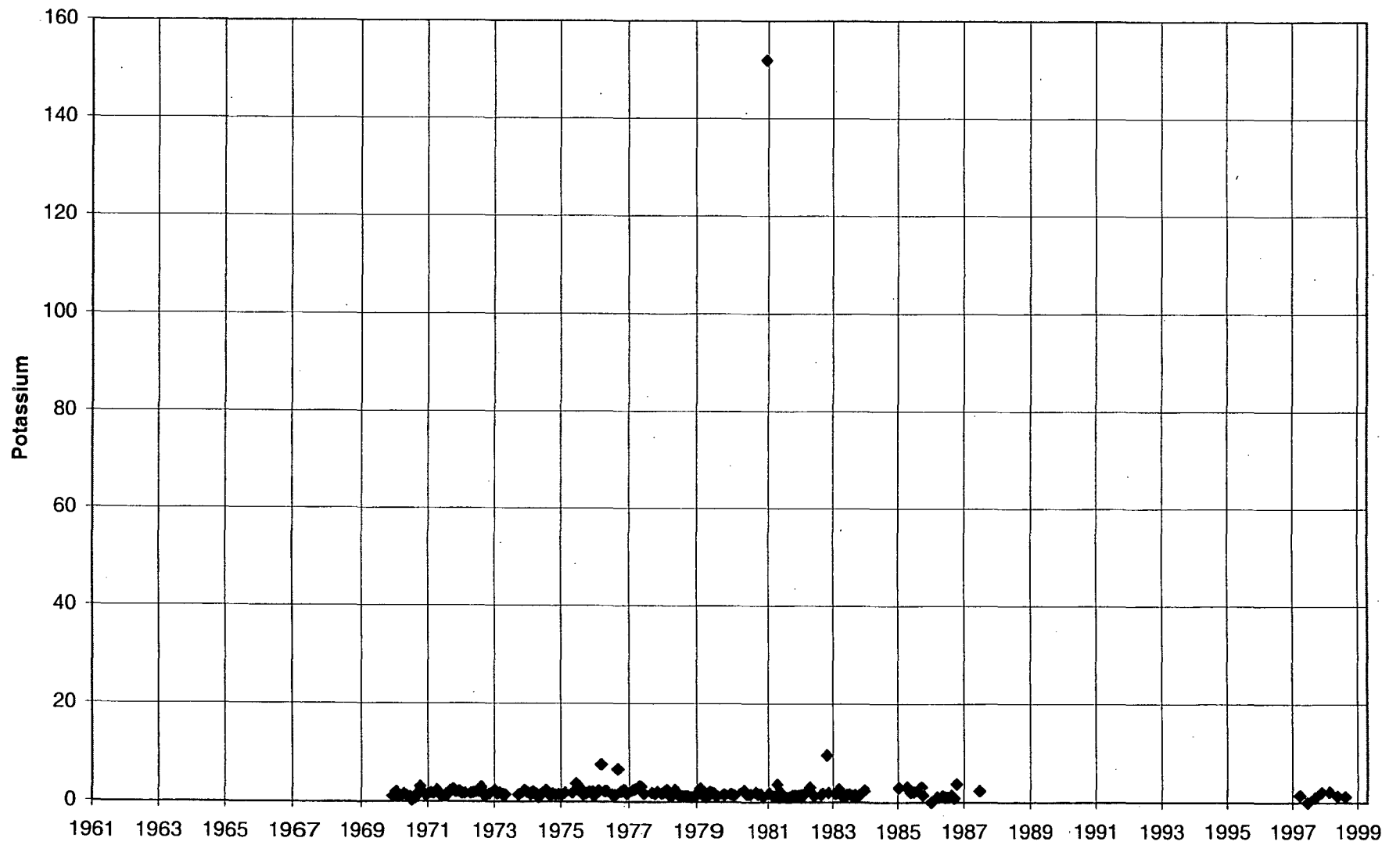
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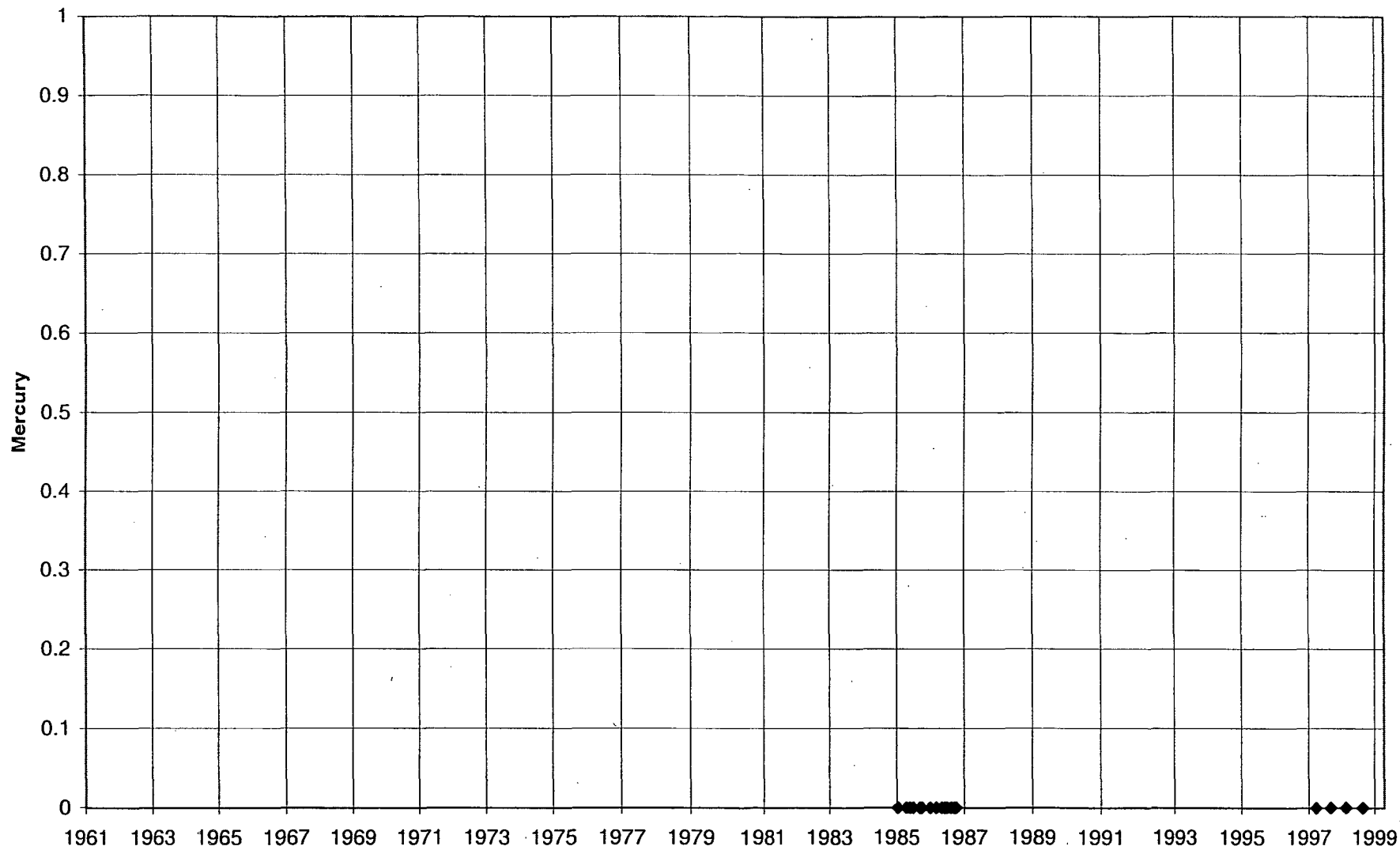
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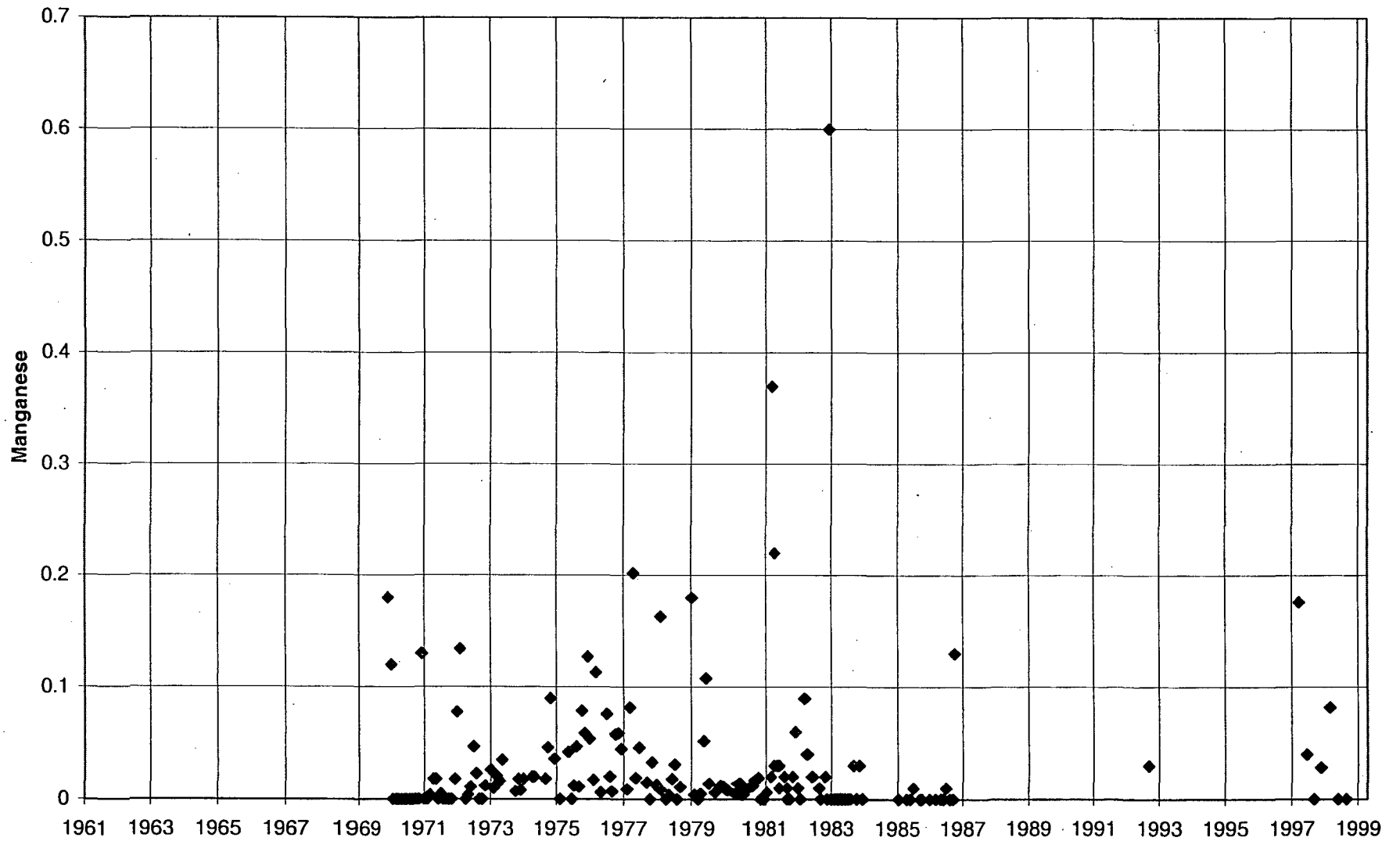
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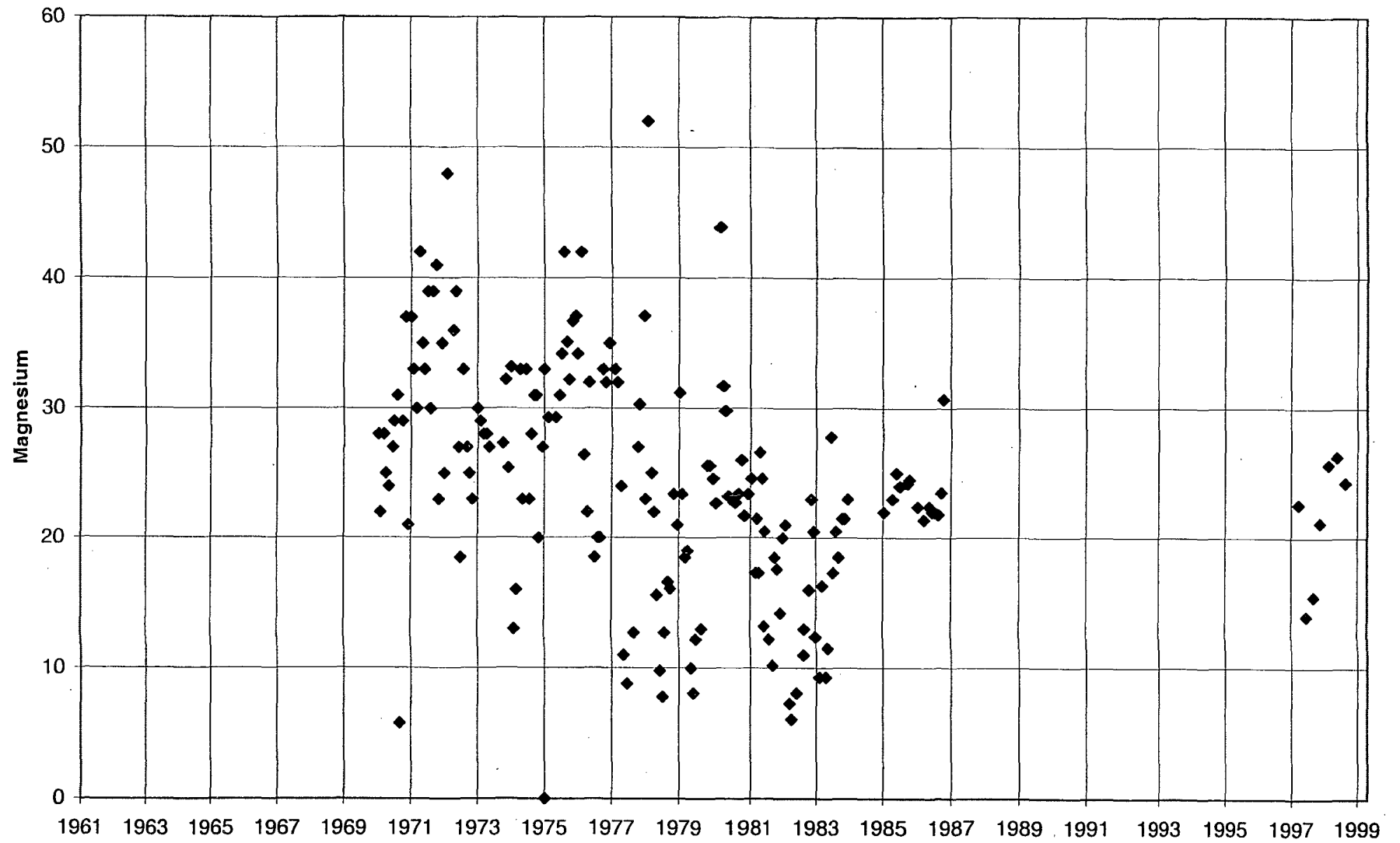
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San Mateo Creek at San Onofre



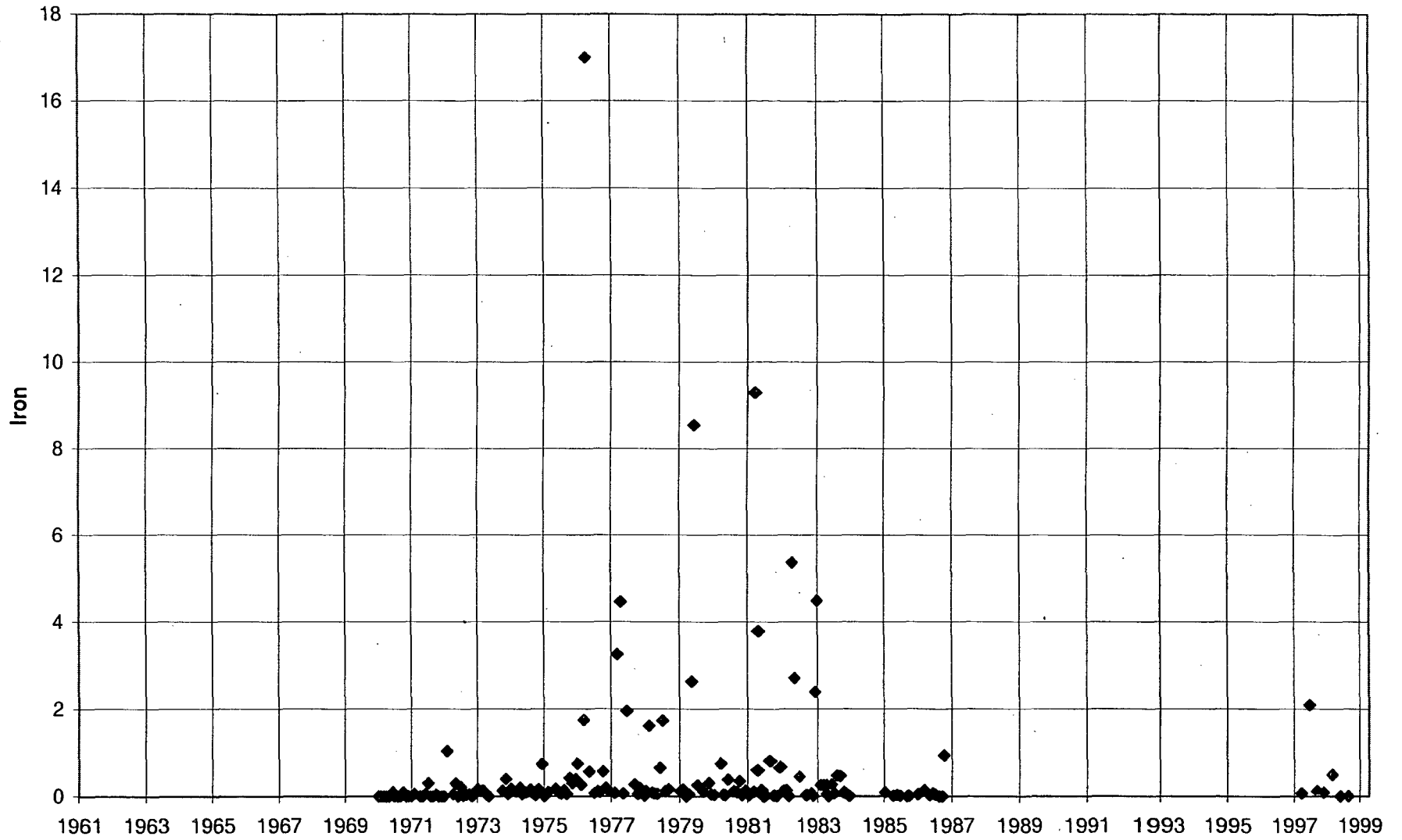
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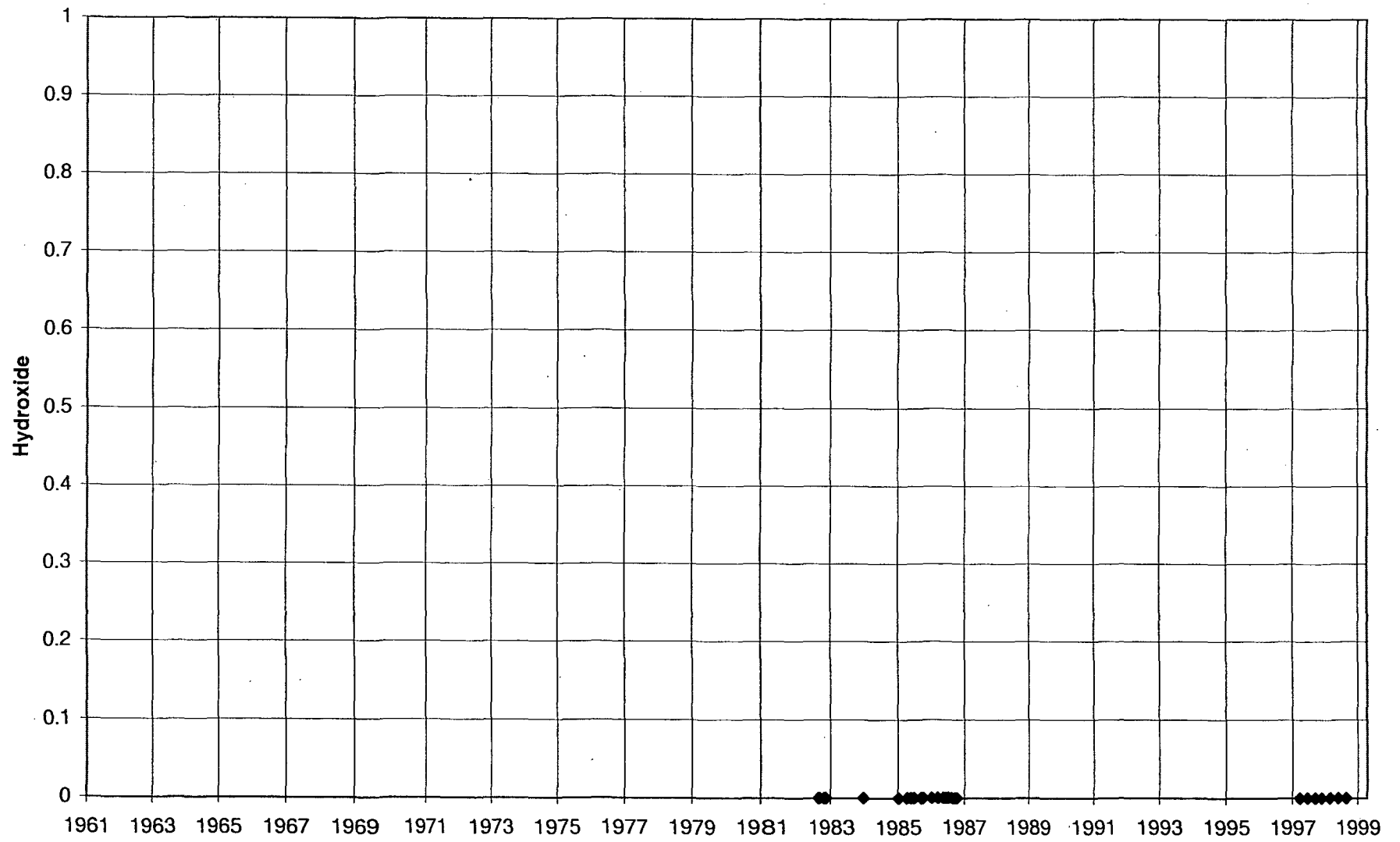
The scatter plot displays the number of deaths per 100,000 population in the United States from 1961 to 1999. The y-axis represents the death rate, ranging from 0 to 0.045 in increments of 0.005. The x-axis represents the year, from 1961 to 1999 in increments of 2 years. The data shows a generally low and stable death rate until the mid-1980s, followed by a sharp increase to approximately 0.04 in 1985. This is followed by a decline to about 0.03 in 1986, and then a return to near-zero levels for the remainder of the period. There is a small cluster of points near zero around 1998.

Year	Deaths per 100,000
1985	0.040
1986	0.030
1987	0.000
1988	0.000
1989	0.000
1990	0.000
1991	0.000
1992	0.000
1993	0.000
1994	0.000
1995	0.000
1996	0.000
1997	0.000
1998	0.000
1999	0.000

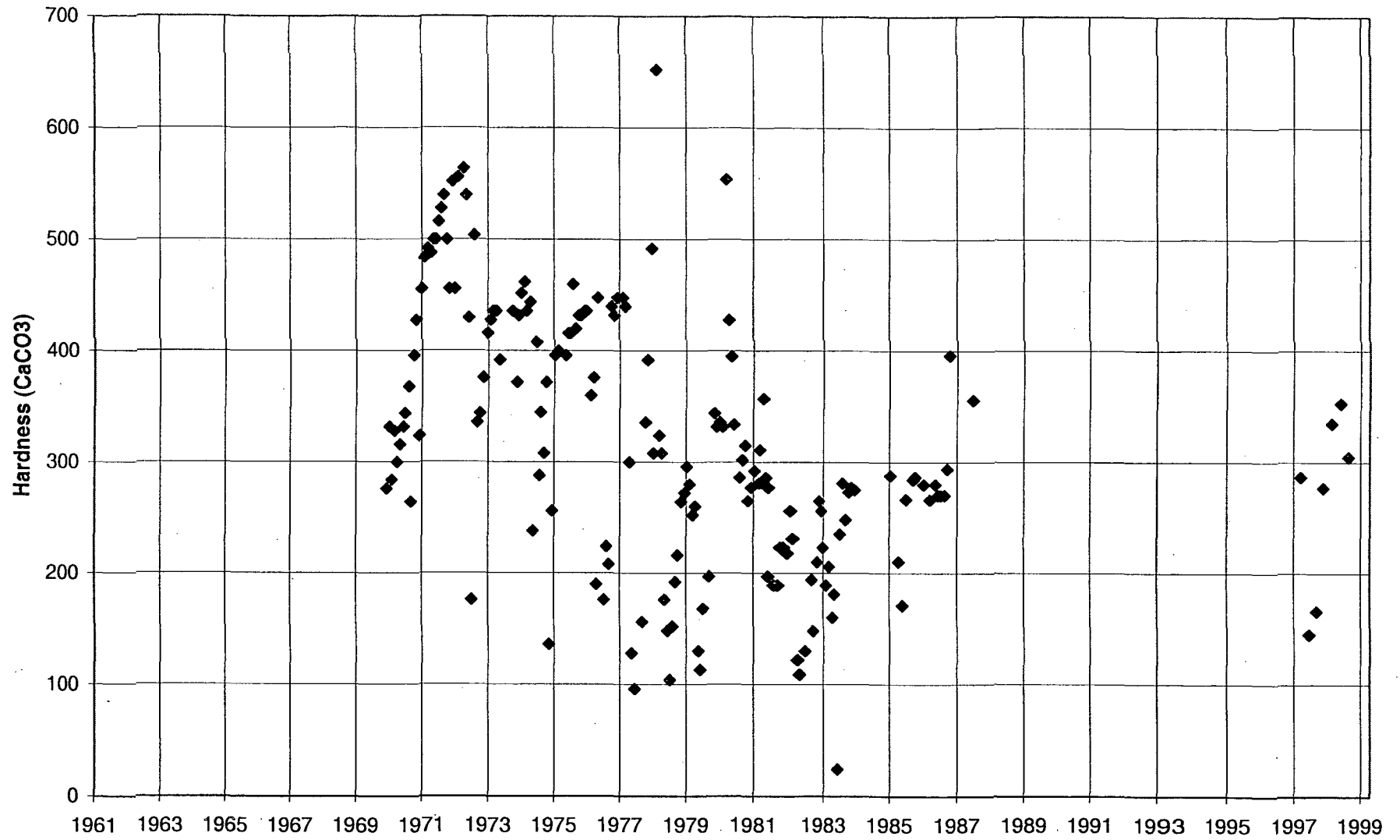
San Mateo Creek at San Onofre



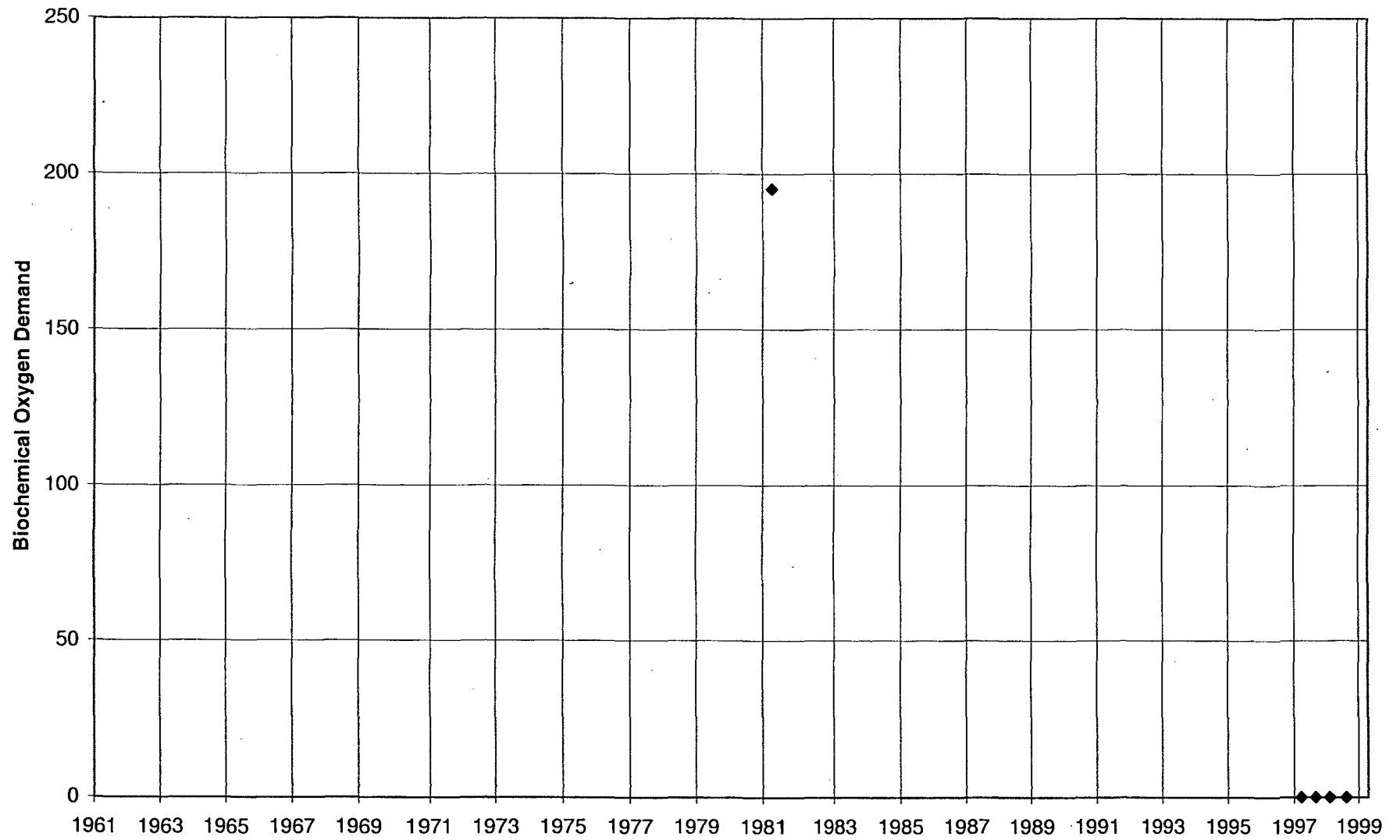
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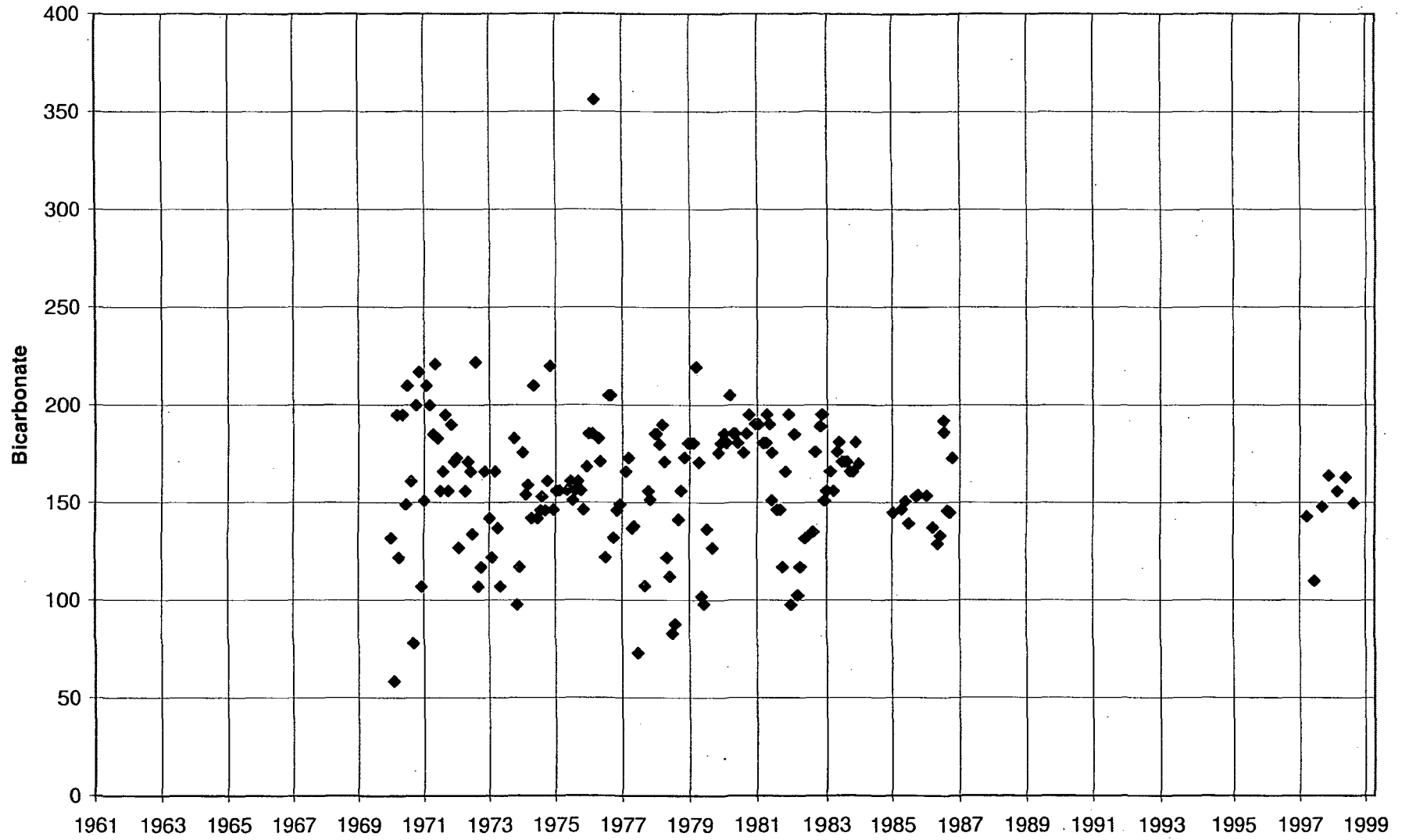
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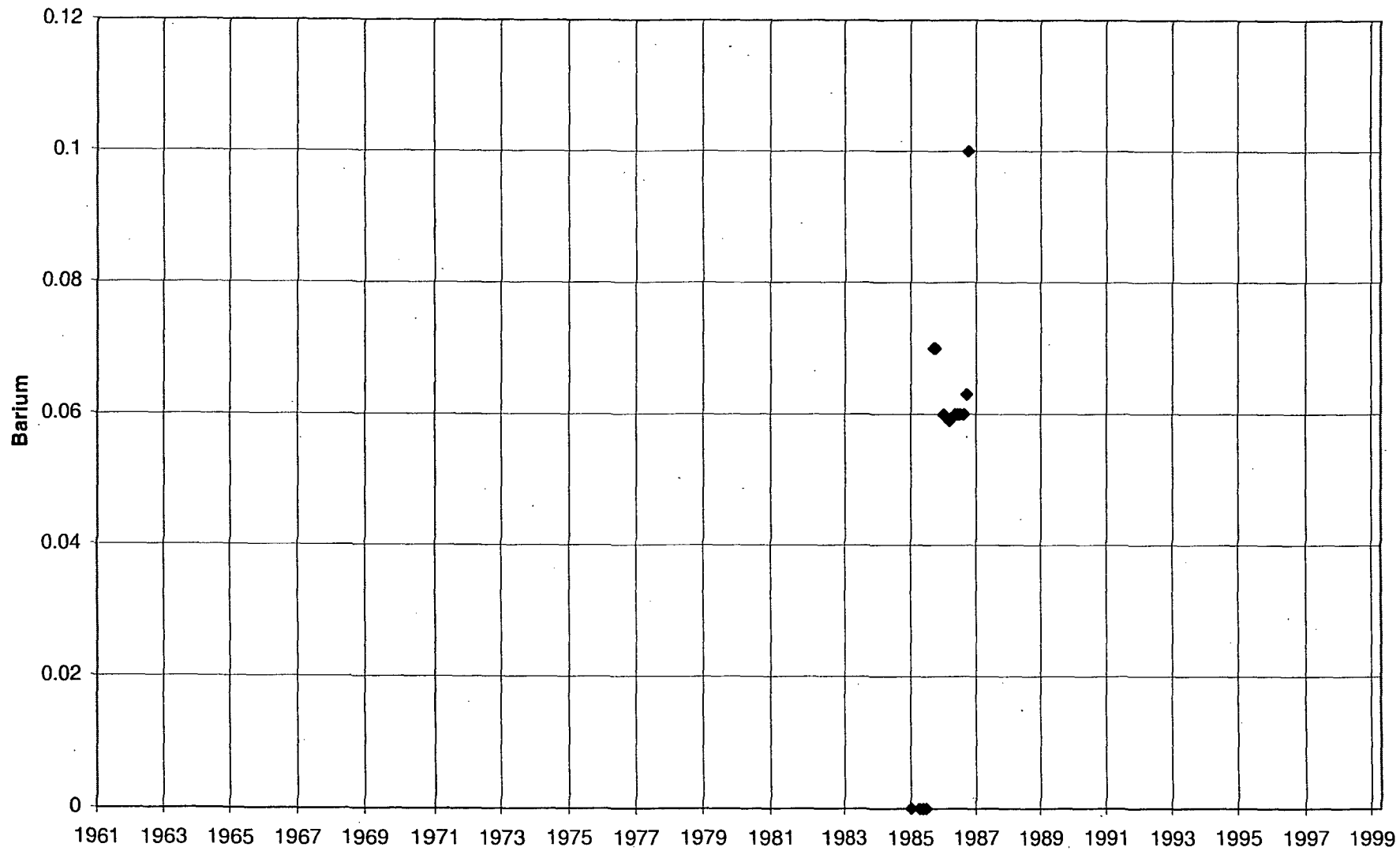
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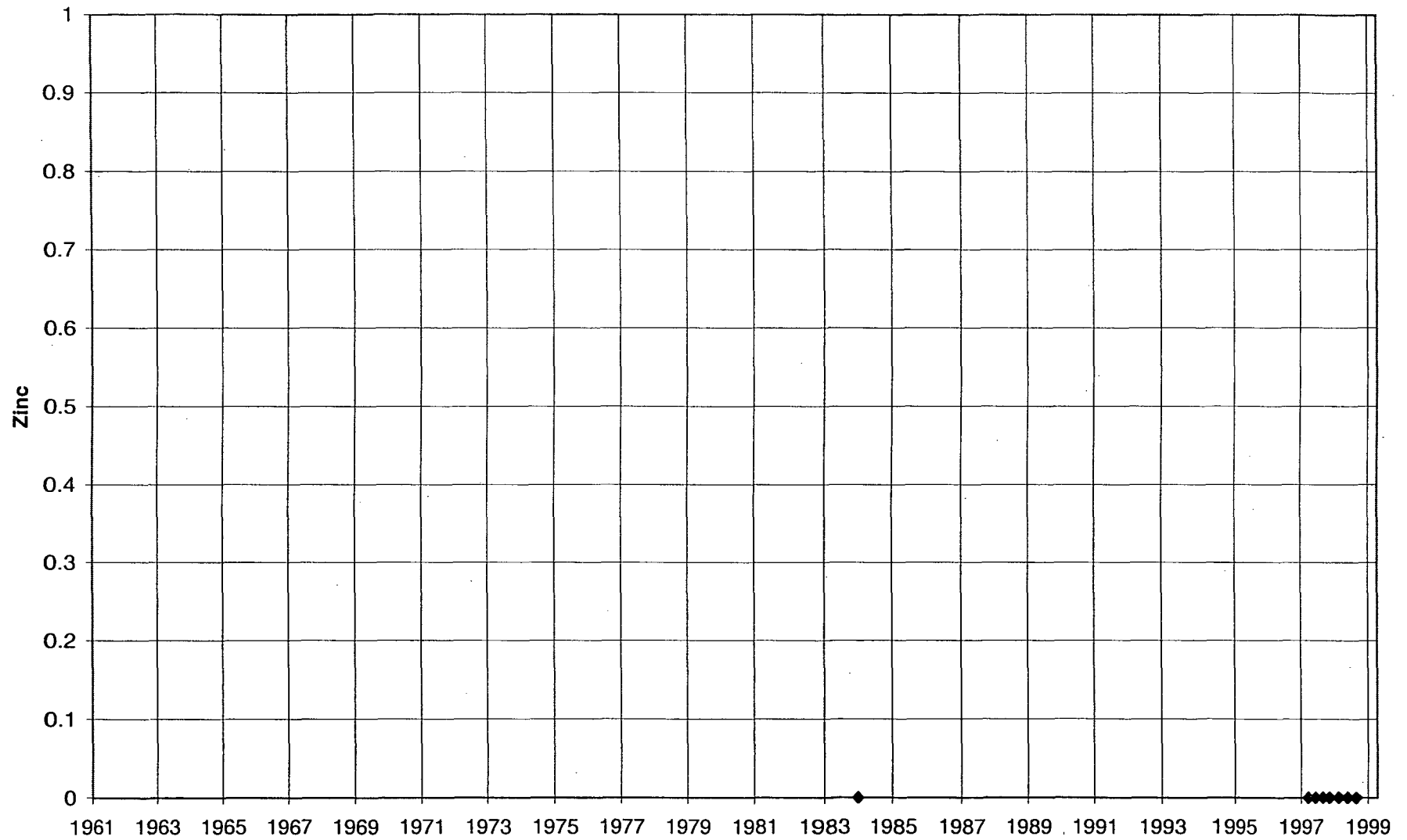
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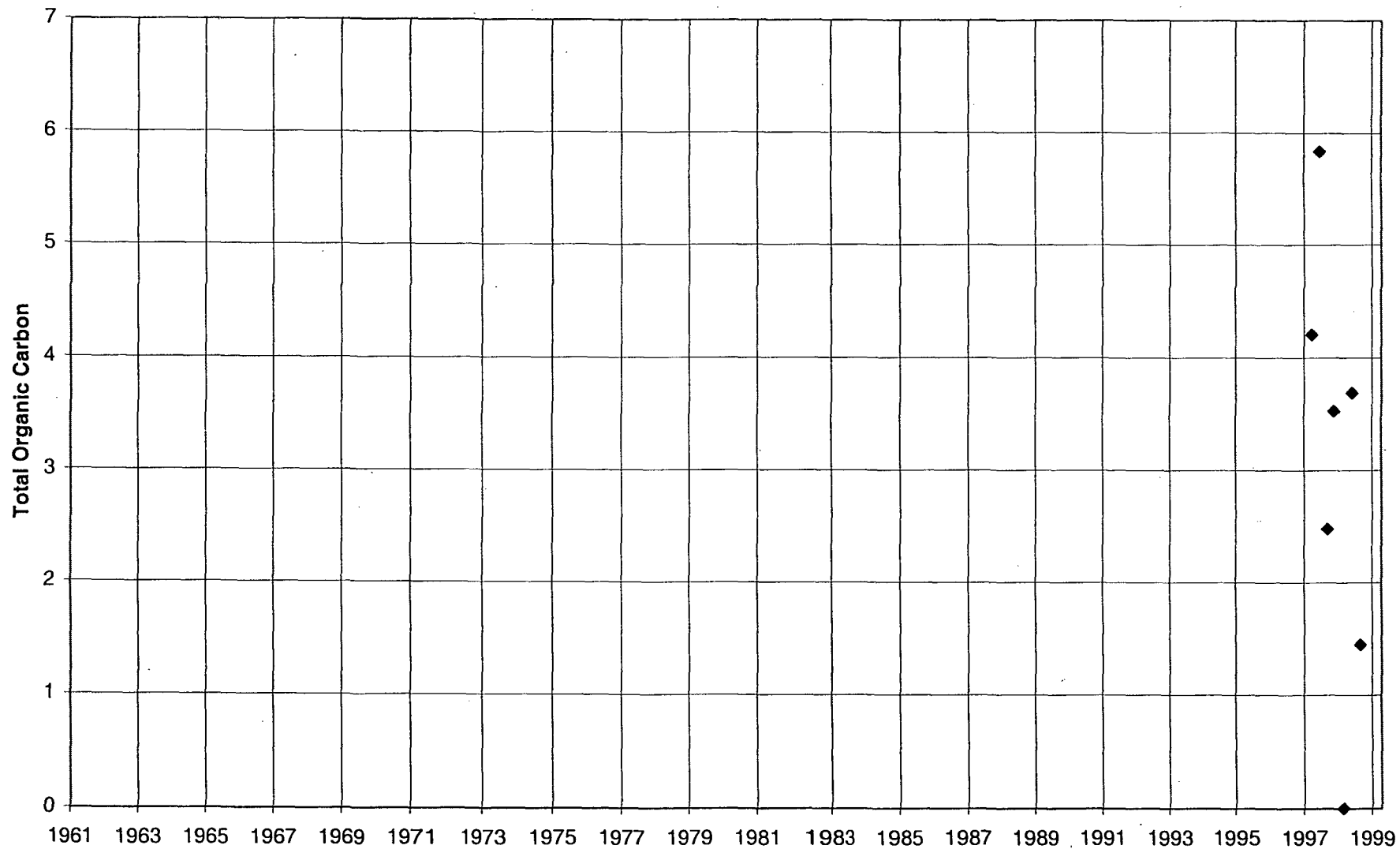
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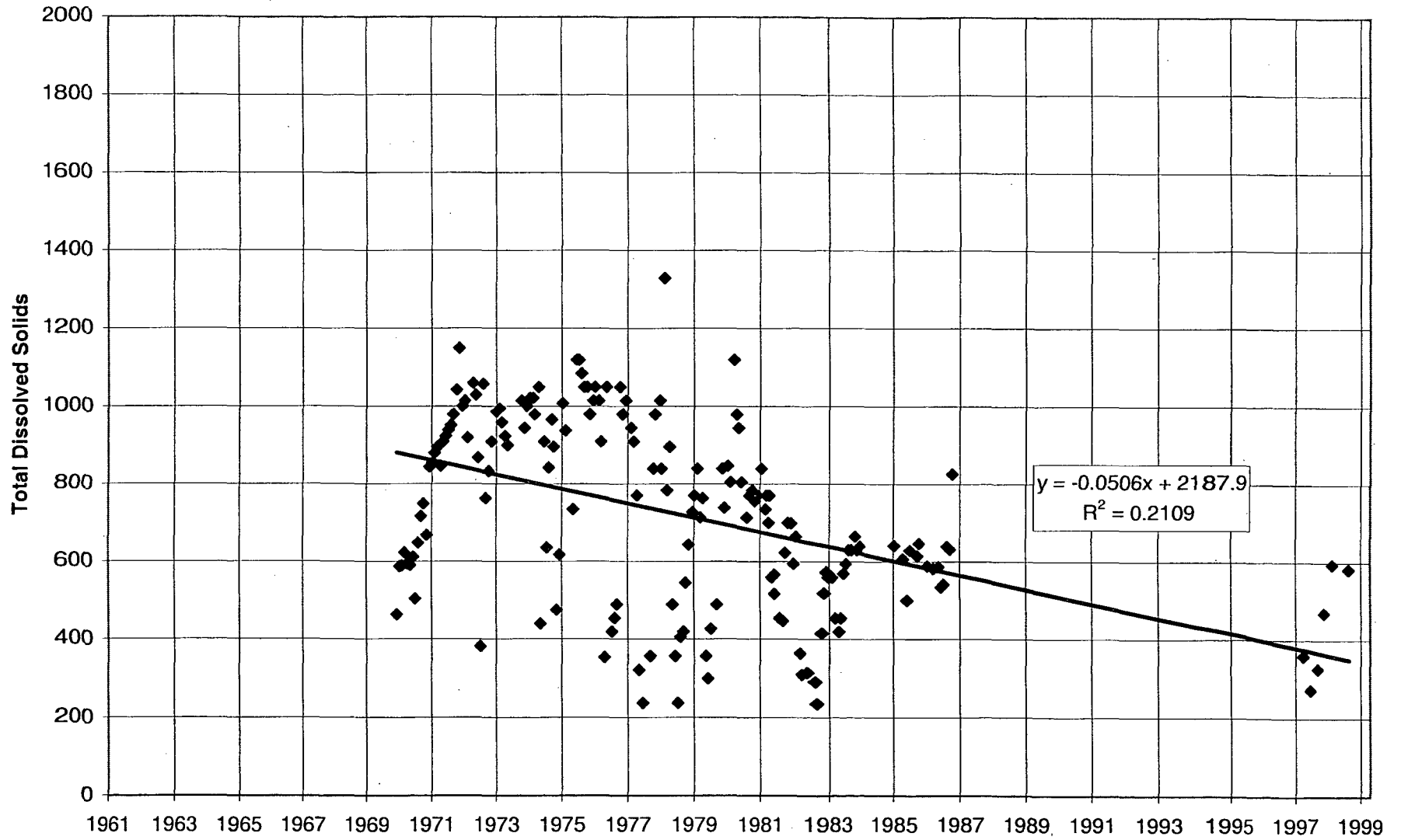
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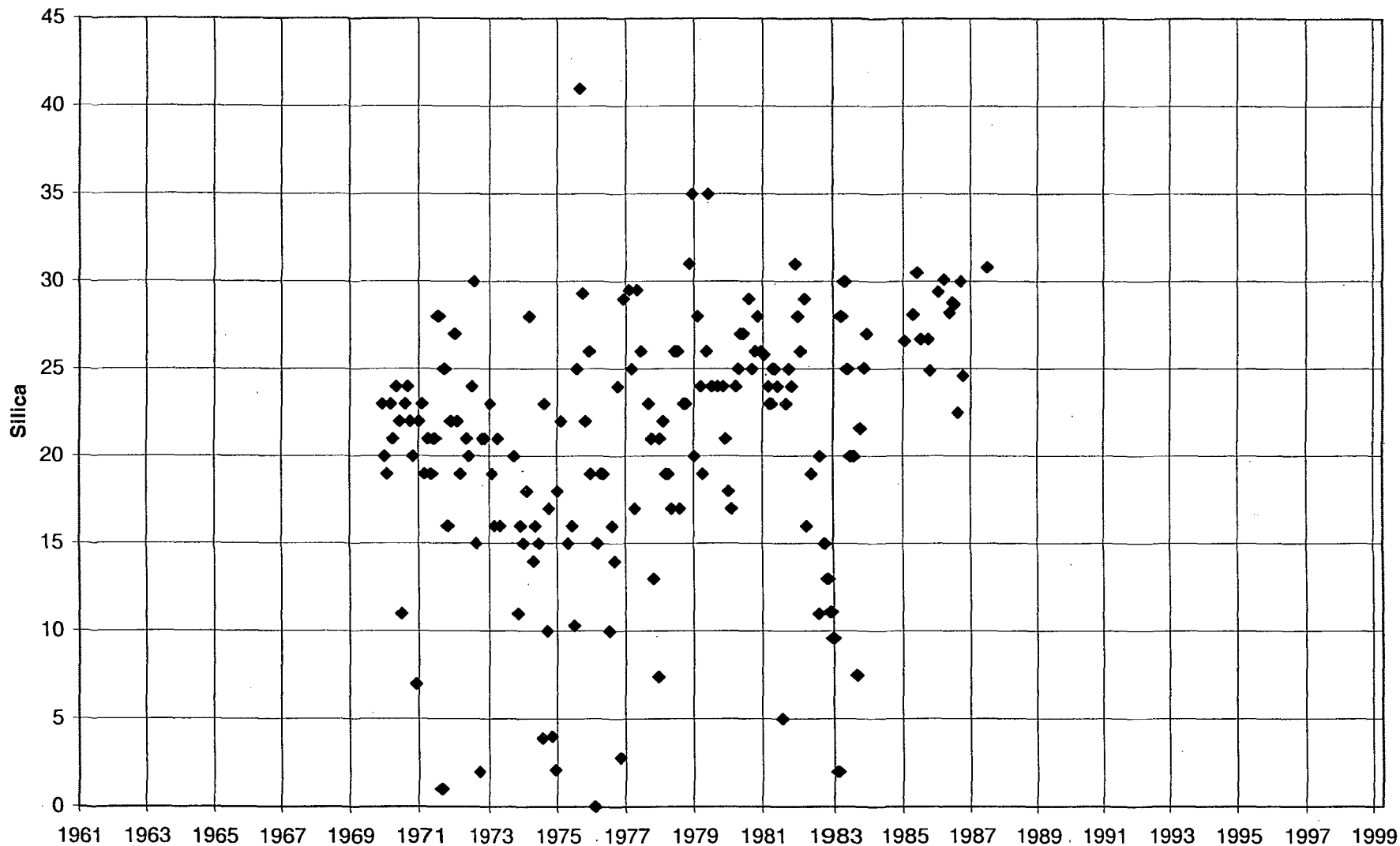
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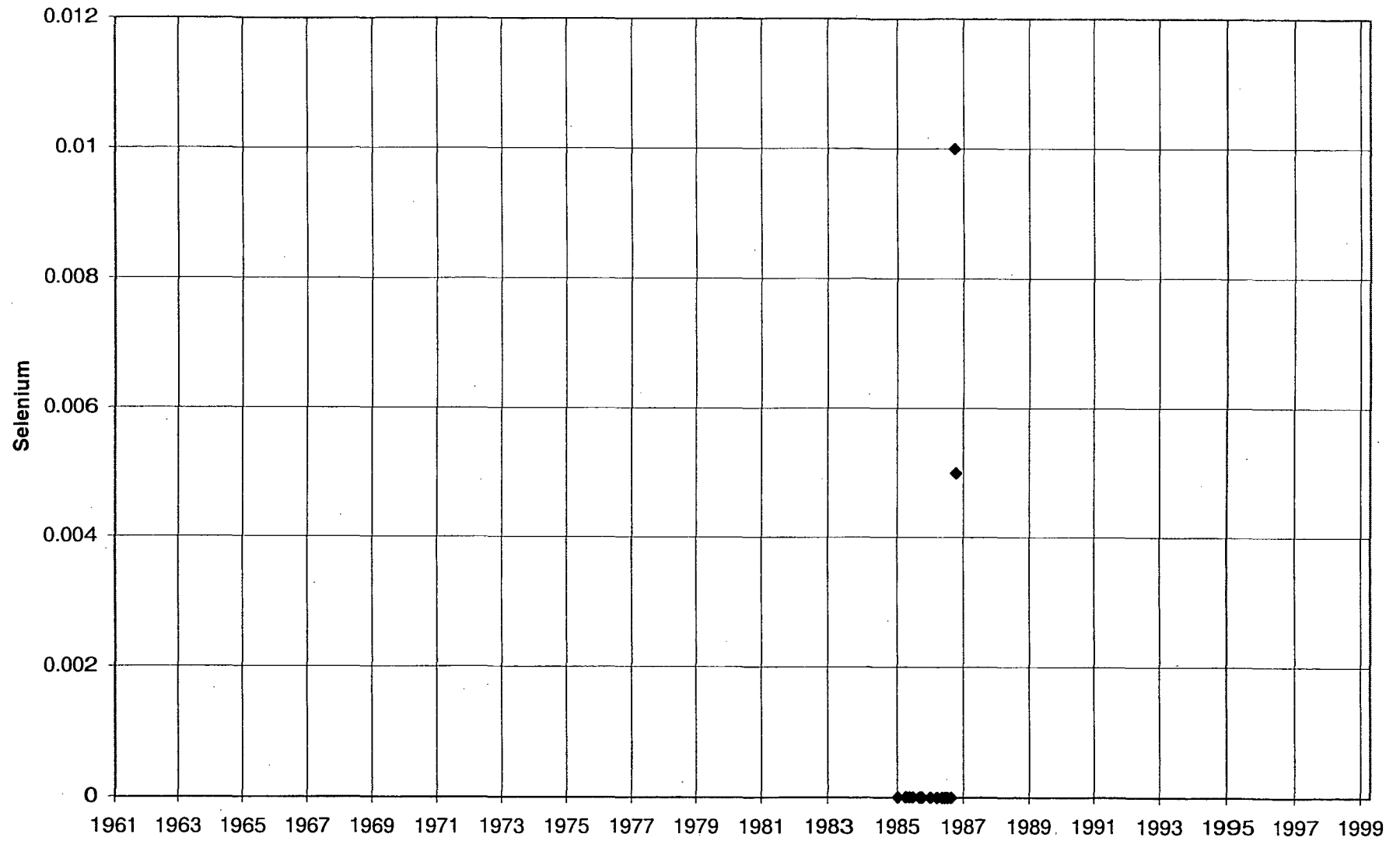
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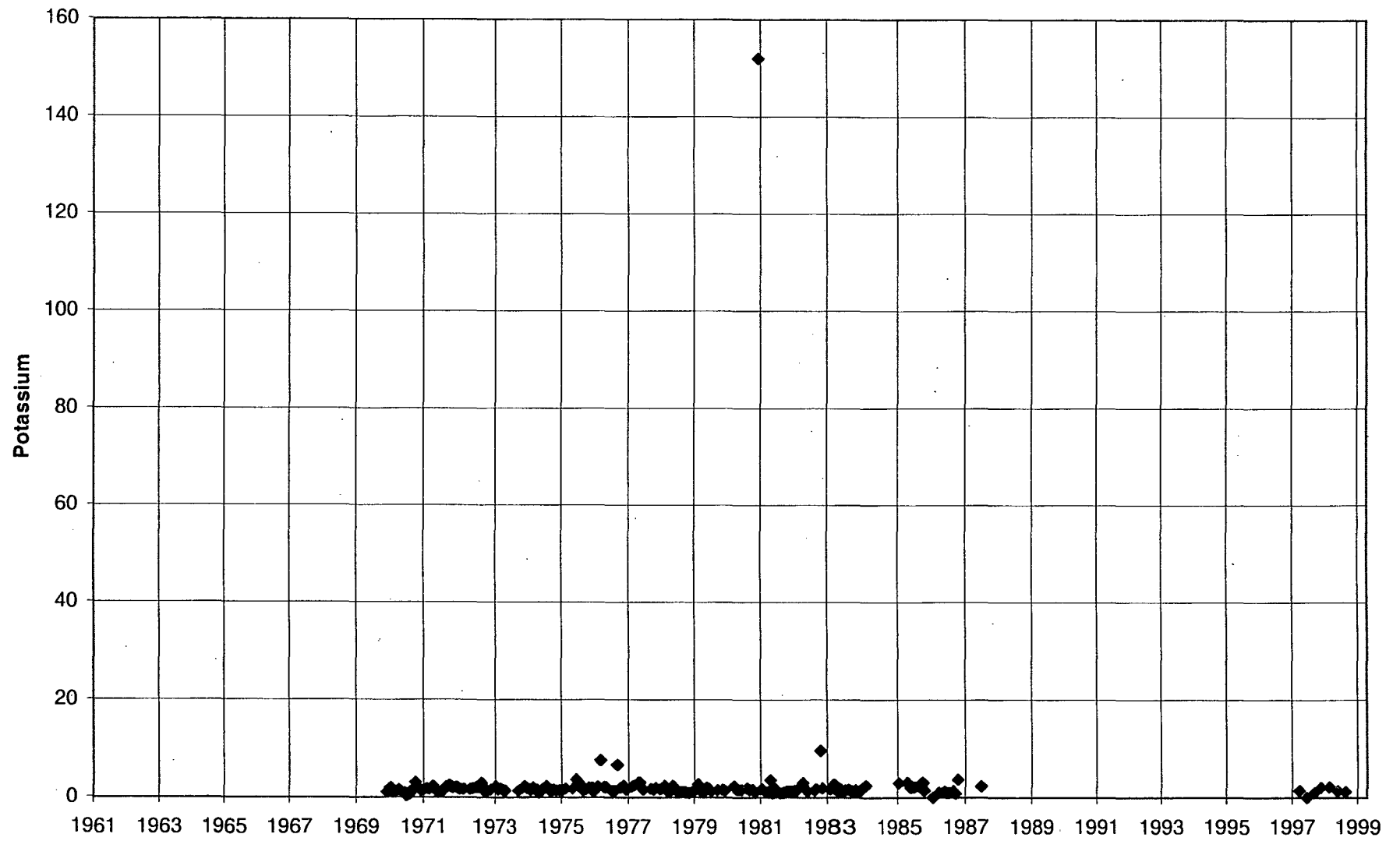
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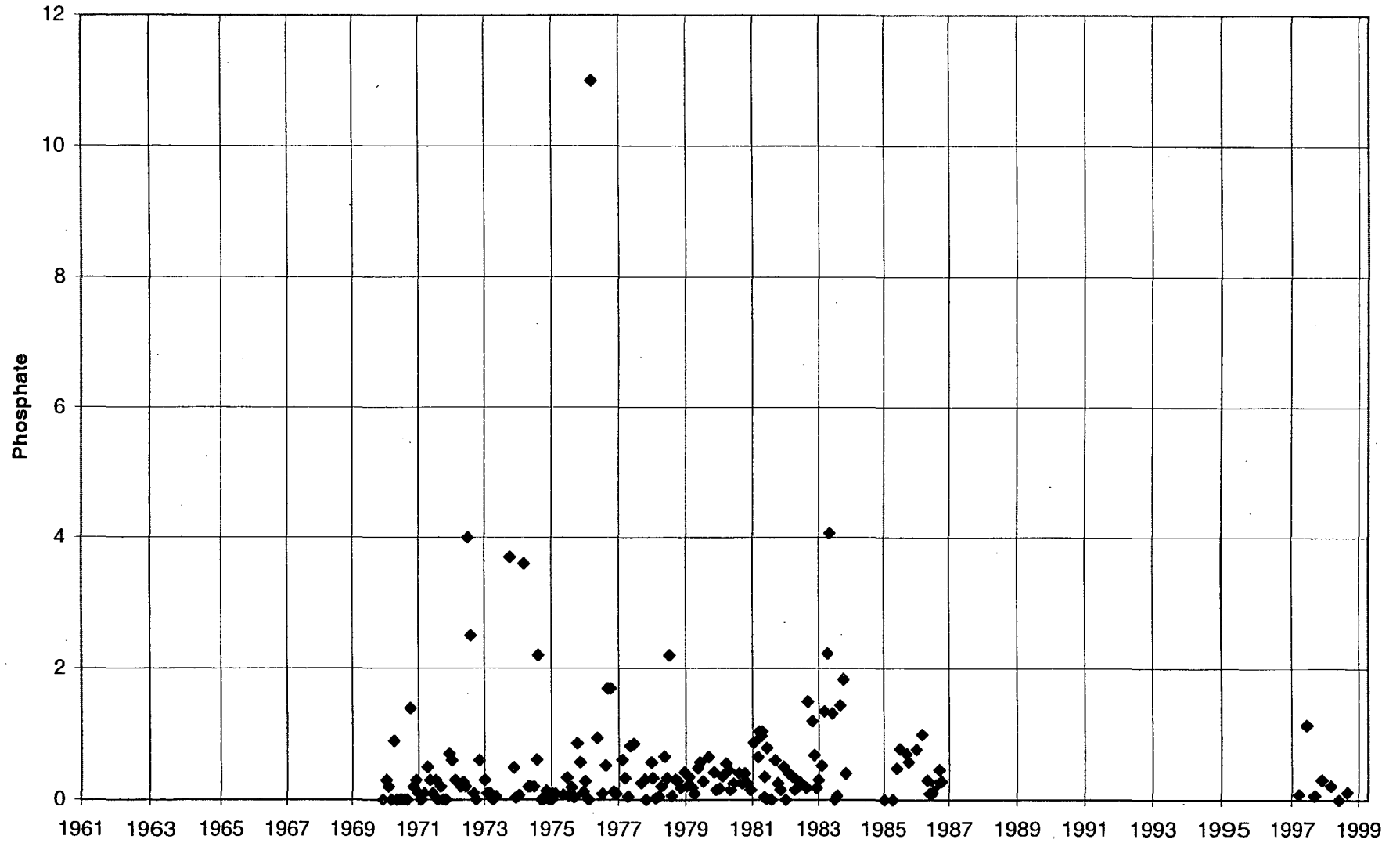
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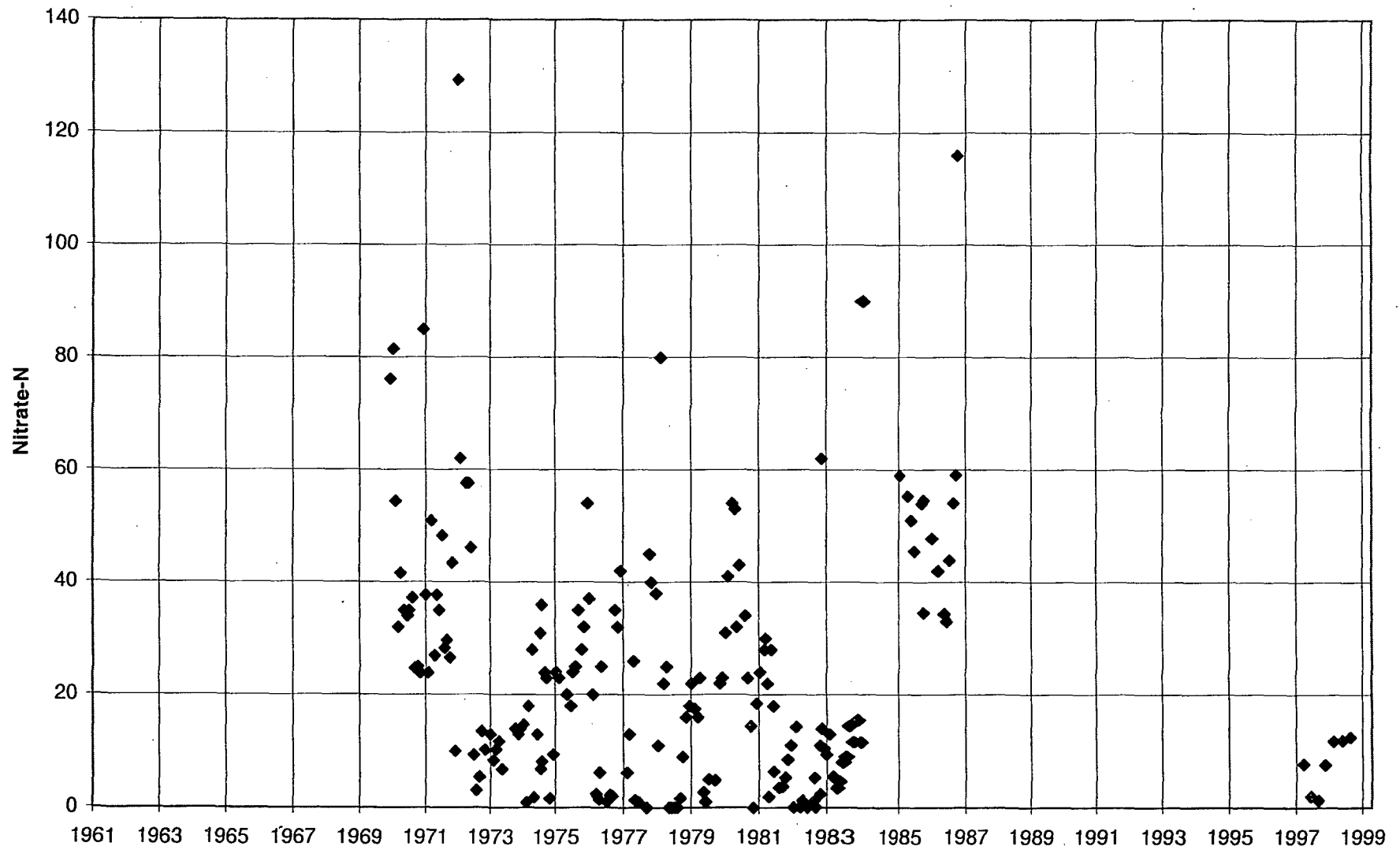
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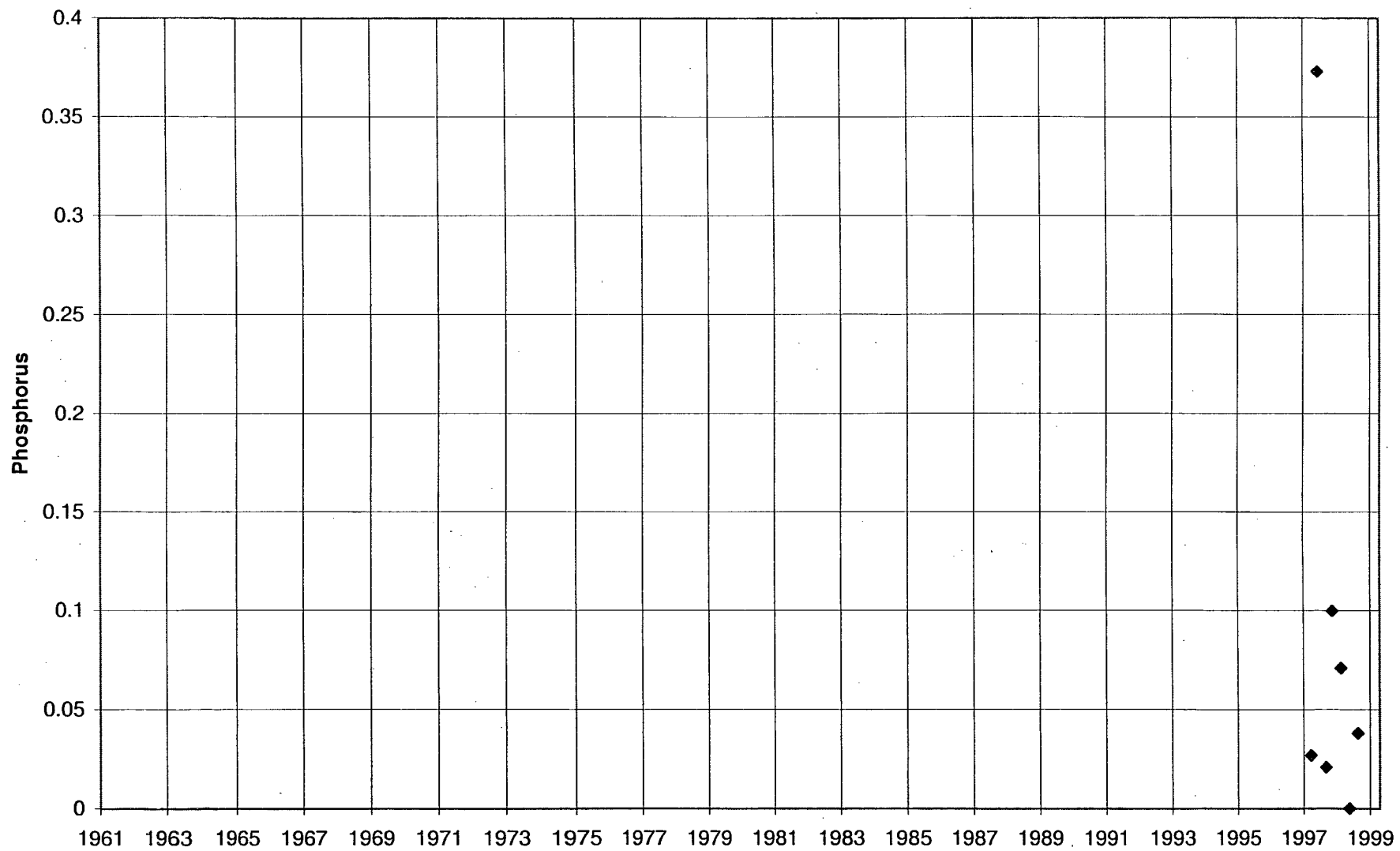
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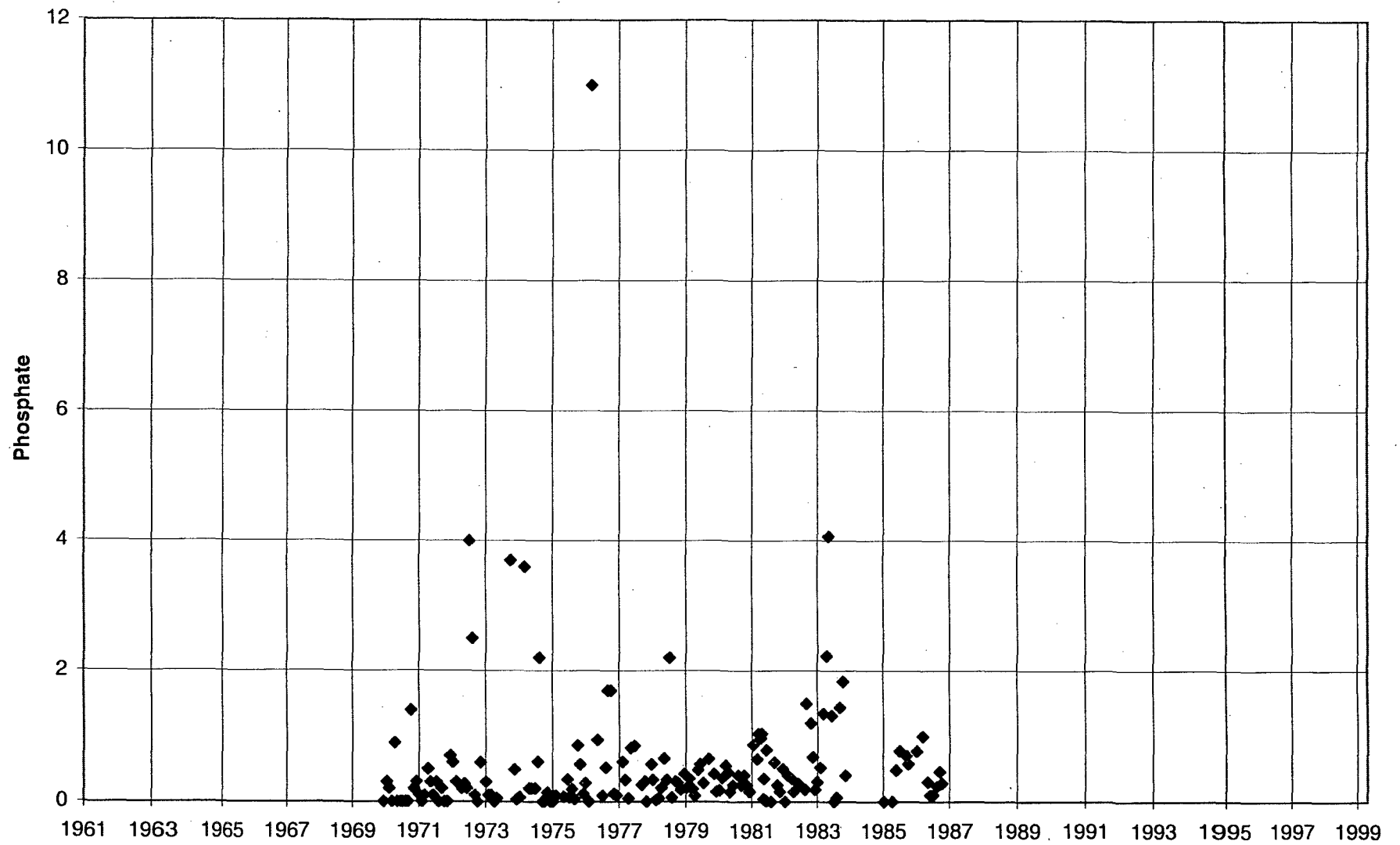
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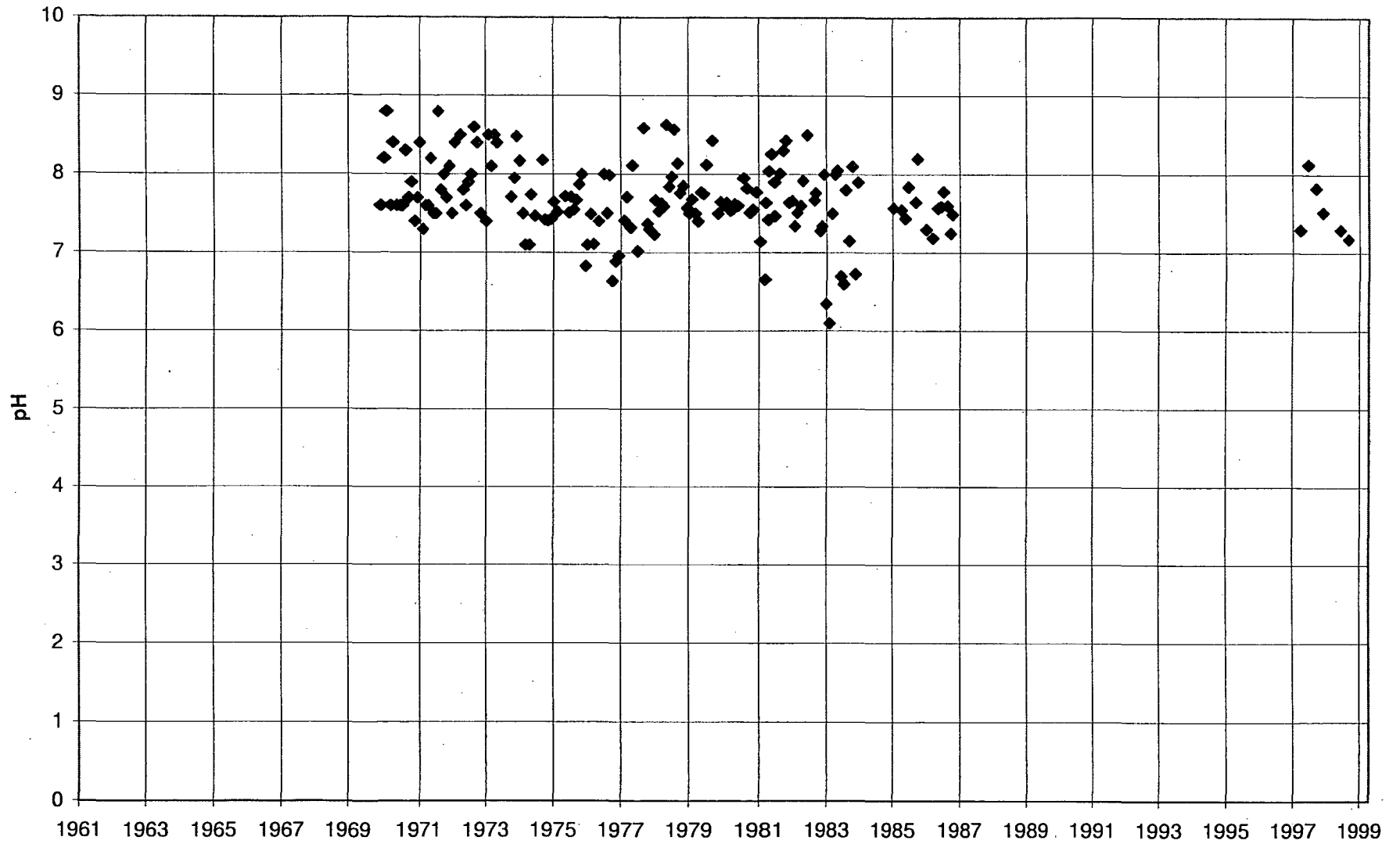
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San Mateo Creek at San Onofre



San Mateo Creek at San Onofre



San Mateo Creek at San Onofre

