



City of San Buenaventura
Public Works/Utilities/Wastewater Division

Annual Report of Analysis 1999



ANNUAL REPORT OF ANALYSIS
CITY OF SAN BUENAVENTURA
VENTURA WATER RECLAMATION FACILITY

1999

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DISCUSSION

I. INTRODUCTION: THE CITY OF SAN BUENAVENTURA

The City of San Buenaventura provides wastewater collection and treatment for the City, for McGrath State Beach Park, for the community of Cabrillo Village and for the North Coast Communities (Ventura County Service Area 29). These areas include a population of approximately 101,000 people.

THE SANITATION DIVISION:

Wastewater collection and treatment facilities are operated by the Sanitation Division, which along with the Water Division comprises Utilities Division of the Public Works Department. Facilities include 375 miles of sewer mains, 12 lift stations and the Ventura Water Renovation Facility, a tertiary treatment plant.

The Ventura Water Renovation Facility, at 1400 Spinnaker Drive, is located on the north bank of and discharges treated effluent to the Santa Clara River Estuary.

Processes employed at the treatment facility during 1999 include comminution, grit removal, primary sedimentation, primary flow equalization, roughing filters, activated sludge secondary biological treatment, tertiary effluent filtration and Chlorination.

During 1999 the ongoing Upgrade construction reached the stage of shutting down half of the activated sludge system, the main secondary treatment process, for structural rehabilitation. In preparation for this, the 4 MGD trickling filter process, constructed with the 1958 treatment plant, was reconfigured to operate as a roughing filter ahead of the activated sludge process and temporary chemical addition facilities ahead of the roughing filter intermediate clarifier and ahead of the activated sludge final clarifier were established. This operating configuration, although marginal, has been successful in meeting discharge requirements except during process transitions and unusual operating conditions or equipment failure (see compliance summary below).

In 1999 process solids were treated by anaerobic digestion, dewatered and applied to agricultural land at River Island Farm near Wasco, California.

Following disinfection, effluent enters a system of Wildlife Ponds with a combined capacity of 34 million gallons. At the current average daily outfall flow rate of 9.1 MGD, this provides approximately 4 days of detention.

Wastewater facilities include pump stations and pipelines for water reclamation. In 1998 the daily average volume of treated effluent reclaimed was 891,000 gallons. The maximum daily reuse volume measured in 1998 was 2,041,000 gallons per day.

The effluent reuse system provides effluent for irrigation of golf course, park and similar landscape areas. This reuse is an integral part of the city water conservation program and represents a reduction in demand on the freshwater supply each year of approximately 325 million gallons.

Reclaimed water for irrigation and for discharge to the Santa Clara Tidal Prism is withdrawn from the end of the wildlife pond system. Irrigation supply is pumped by two pump stations into 3 distribution lines.

Residence in these ponds provides substantial dissipation of Chlorine residual and a corresponding reduction in the cost of dechlorination chemicals needed to meet the requirement for complete Chlorine neutralization prior to discharge to the tidal prism. Chlorine dissipation also reduces the risk of landscape damage from high Chlorine concentrations in water supplied for irrigation.

Additionally the reservoir capacity of the wildlife ponds serves as a safeguard against use of effluent of unacceptable quality for irrigation of park land, where significant public health risk may occur. The pond detention time allows completion of analysis necessary to assure the safety of the irrigation supply before that water would reach the point of irrigation withdrawal.

When necessary, irrigation use from the ponds can be discontinued before inadequately treated effluent reaches the irrigation intake. When ponds operate in series, and all ponds are in operation, the safety margin is 4 days.

NPDES permit CA0053651, issued by the Los Angeles Regional Water Quality Control Board as Order 95-074 regulates discharge of treated effluent to the Santa Clara Tidal Prism.

Reuse of effluent for irrigation is regulated by Los Angeles Regional Water Quality Control Board Order 87-45.

II. PROCESS PERFORMANCE AND COMPLIANCE WITH DISCHARGE REQUIREMENTS

On 1 days during 1998 the effluent total coliform failed to meet compliance exceeding an MPN of 23 more than once in a 30 day period.

On 19 days during 1998 the turbidity of the filtered effluent failed to meet compliance exceeding the daily limit of 2.0 NTU.

On 4 days during 1998 the turbidity of the filtered effluent failed to meet compliance of the 5.0 NTU more than 5% for a 24 hour period.

III. IRRIGATION EFFLUENT QUALITY

A summary of principle effluent mineral constituent concentrations is presented below.

Year	Avg TDS	Avg Chloride	Avg Sulfate	Avg Boron	Avg Fluoride
1972	1950	487	421	1.5	1.04
1973	1740	440	399	1.4	0.96
1974	1547	422	358	1.5	1.11
1975	1454	374	369	1.1	0.61
1976	1474	366	398	1.4	0.65
1977	1479	372	383	1.2	0.64
1978	1525	358	409	1.0	0.80
1979	1527	359	481	1.1	0.89
1980	1451	342	463	1.2	0.73
1981	1330	312	424	0.9	0.88
1982	1452	334	443	0.8	0.80
1983	1367	308	435	0.7	0.81
1984	1398	312	454	0.7	0.80
1985	1380	313	393	0.8	0.78
1986	1411	309	415	0.8	0.62
1987	1309	317	371	0.8	0.63
1988	1457	333	412	0.8	0.58
1989	1424	324	418	0.7	0.59
1990	1561	328	444	0.9	0.67
1991	1583	334	418	0.9	0.56
1992	1569	333	456	0.7	0.55
1993	1493	315	446	0.7	0.67
1994	1403	304	416	0.7	0.71
1995	1508	293	460	0.8	0.66
1996	1425	295	425	0.7	0.52
1997	1310	279	366	0.7	0.41
1998	1387	263	405	0.6	0.71
1999	1348	285	388	0.7	0.72

Year	Avg Na	Avg Ca	Avg Mg	Avg K
1975	354	112	45	17
1976	331	118	36	15
1977	320	109	40	15
1978	325	110	40	17
1979	308	117	45	14
1980	295	120	43	15
1981	278	117	41	18
1982	280	136	46	17
1983	275	125	43	13
1984	257	130	42	20
1985	249	126	42	16
1986	269	132	44	19
1987	240	117	39	19
1988	274	123	44	17
1989	274	117	43	17
1990	307	126	46	18
1991	308	130	46	20
1992	283	140	46	18
1993	295	138	46	18
1994	289	131	44	19
1995	286	145	38	16
1996	273	130	42	20
1997	249	115	40	19
1998	261	124	43	19
1999	249	116	44	21

LOCATION OF SAMPLE POINTS FOR MONITORING AND REPORTING PROGRAMS

The liquid fraction flow path for both discharge to the Santa Clara Tidal Prism and treated effluent reused for landscape irrigation was as shown in the schematic plant flow diagram which follows. This has been the treatment plant operating mode throughout all of 1998.

The total wastewater flow is treated and disinfected through the system as shown without regard to the ultimate discharge.

The following describes sample locations designated and the purposes for which each is used.

LOCATION 1 - INFLUENT PUMP STATION

This location receives all raw wastewater flow to the treatment plant unless failure of pumping systems occurs. If such failure occurs, or should storm flows exceed the capacity of this primary station, all or part of the influent flow will be diverted to a standby facility which has no provision for sampling or flow measurement. Such events are infrequent and duplication of influent sampling programs is not warranted.

The sampler used here is an ECOA model E dip sampler controlled by a PLC using the signal from the influent flow meters.

The sampler is located downstream of comminution equipment and upstream of grit removal and the entry point for recirculation from the Activated Sludge process.

Sampling is performed here for compliance monitoring and for process control. Analyses for pH, 5-day BOD, COD, Suspended Solids, Nitrogen Compounds and Priority Pollutants are performed on samples collected at this station.

LOCATION 2 - PRIMARY EFFLUENT

Through this location passes all effluent from the Primary Clarifier. This sample station can be bypassed and raw sewage delivered directly to the Activated Sludge System if routine maintenance or emergency requires it.

The sampler used here is an ISCO Model 2700 sampler programmed to collect samples at non-uniform time intervals proportional to the flow to the Roughing Filter System.

Sampling is performed here for process control.

Analyses for 5-day BOD, COD, Suspended Solids, Settleable Solids, MBAS and Nitrogen Compounds are performed on samples collected at this station.

LOCATION 3 - ROUGHING FILTER EFFLUENT

Interim sample point in use only during Upgrade construction for monitoring roughing filter performance and activated sludge process loading.

The sampler used here is an ISCO Model 2700 sampler programmed to collect samples at non-uniform time intervals proportional to the flow to the Activated Sludge System.

Sampling is performed here for process control.

Analyses for 5-day BOD, COD, Suspended Solids and Nitrogen Compounds are performed on samples collected at this station.

LOCATION 4 - ACTIVATED SLUDGE PROCESS EFFLUENT

This location is at the end of the 36 inch line from the Activated Sludge Final Sedimentation Tanks and before the Mixed Media Filter Station Surge Ponds. Effluent from the Trickling Filter secondary process does not ordinarily pass through this sample point.

The sampler used here is an ISCO Model 2700 sampler programmed to collect samples at non-uniform time intervals proportional to the flow to the Activated Sludge System.

Sampling is performed here for process control.

Analyses for pH, 5-day BOD, COD, Suspended Solids, Settleable Solids, MBAS and Nitrogen Compounds are performed on samples collected at this station. The stream from the Activated Sludge System is also continuously monitored by a process turbidimeter.

LOCATION 5 - EFFLUENT TRANSFER STATION

This location follows Filtration and Disinfection and from here treated effluent is pumped to the Wildlife Ponds. All treated effluent passes through this station.

The sampler used here is an ISCO Model 2700 sampler programmed to collect samples at non-uniform time intervals proportional to the flow leaving the Mixed Media Filter Station.

Sampling is performed here for compliance monitoring and for process control. Analyses for pH, 5-day BOD, COD, Suspended Solids, Grease and Oil, Nitrogen Compounds, Phosphate, MBAS, Phenols, Chloride, Sulfate, Boron, Fluoride, Sodium, Potassium, Calcium, Magnesium and Priority Pollutants are performed on samples collected at this station. The flow from the Filtration and Disinfection processes is also continuously monitored here by a process turbidimeter.

Grab samples for bacteriological examination are collected three times daily, at 7:00 AM, 11:00 AM and 8:00 PM, just ahead of this sample station from the outlet end of the first contact chamber in use.

LOCATION 6 - OUTFALL METERING STRUCTURE

This sample location follows the Wildlife Pond System and the point of addition of Sulfur Dioxide used for Chlorine Residual neutralization and is

immediately ahead of the point of discharge to the Santa Clara River Tidal Prism. All effluent reaching the Tidal Prism must pass through this Station.

Sampling is performed here for compliance monitoring and for process control.

Grab samples for Temperature and Composite samples used for Acute Toxicity and Chronic Toxicity are collected here. The flow from the station is also continuously monitored by a Residual Chlorine Analyzer.

RECEIVING WATER SAMPLE STATIONS

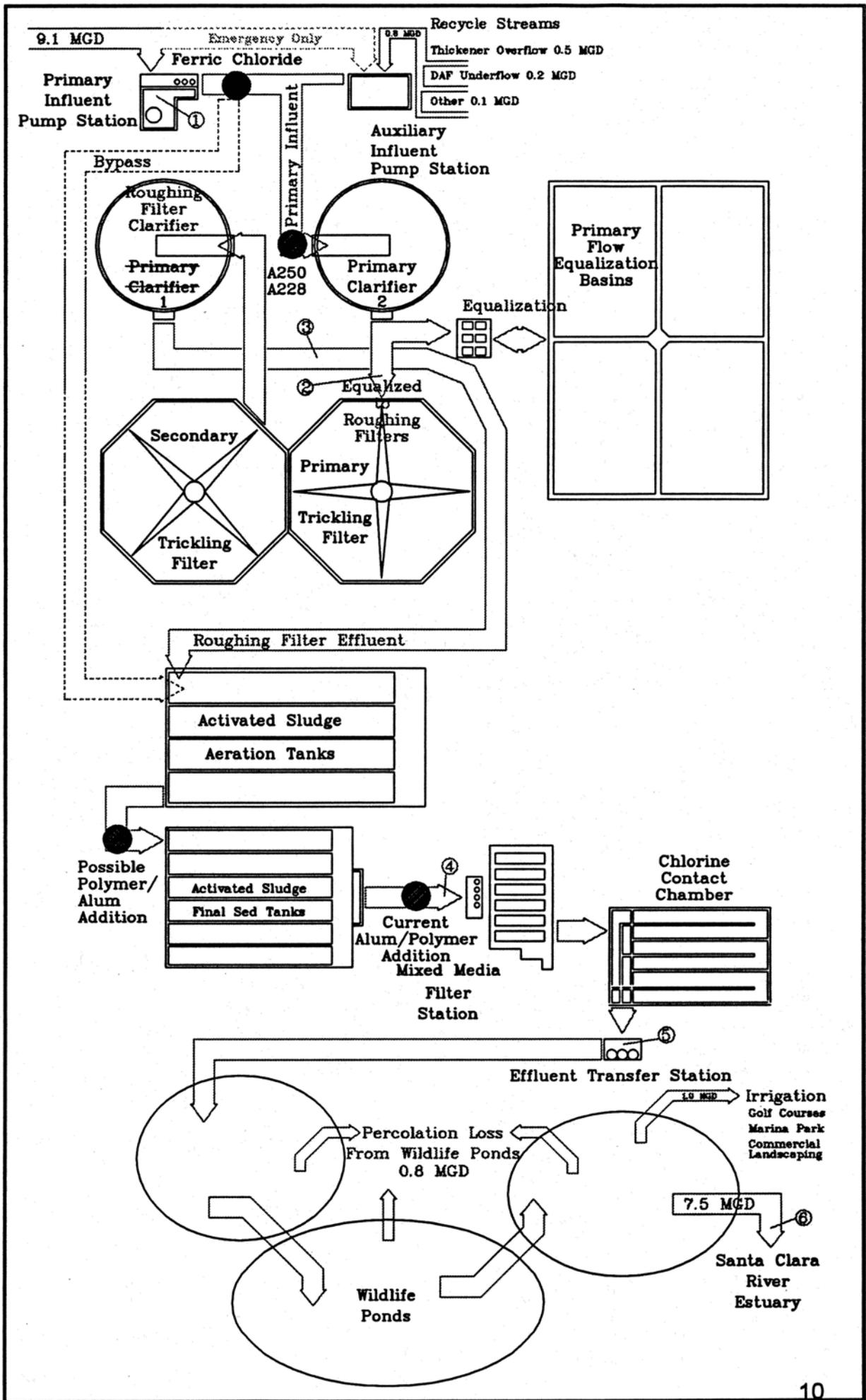
Ten sample stations, designated R1 through R4 within the Santa Clara Tidal Prism and R5 through R9 along the Pacific Ocean shore are specified by the Los Angeles Regional Water Quality Control Board in the facility NPDES permit. An additional sample station, designated L5, is located on the Santa Clara River approximately 1 mile east of the Harbor Boulevard Bridge. This additional station was monitored by the City voluntarily until 1995 when the renewed NPDES permit made it a required monitoring station.

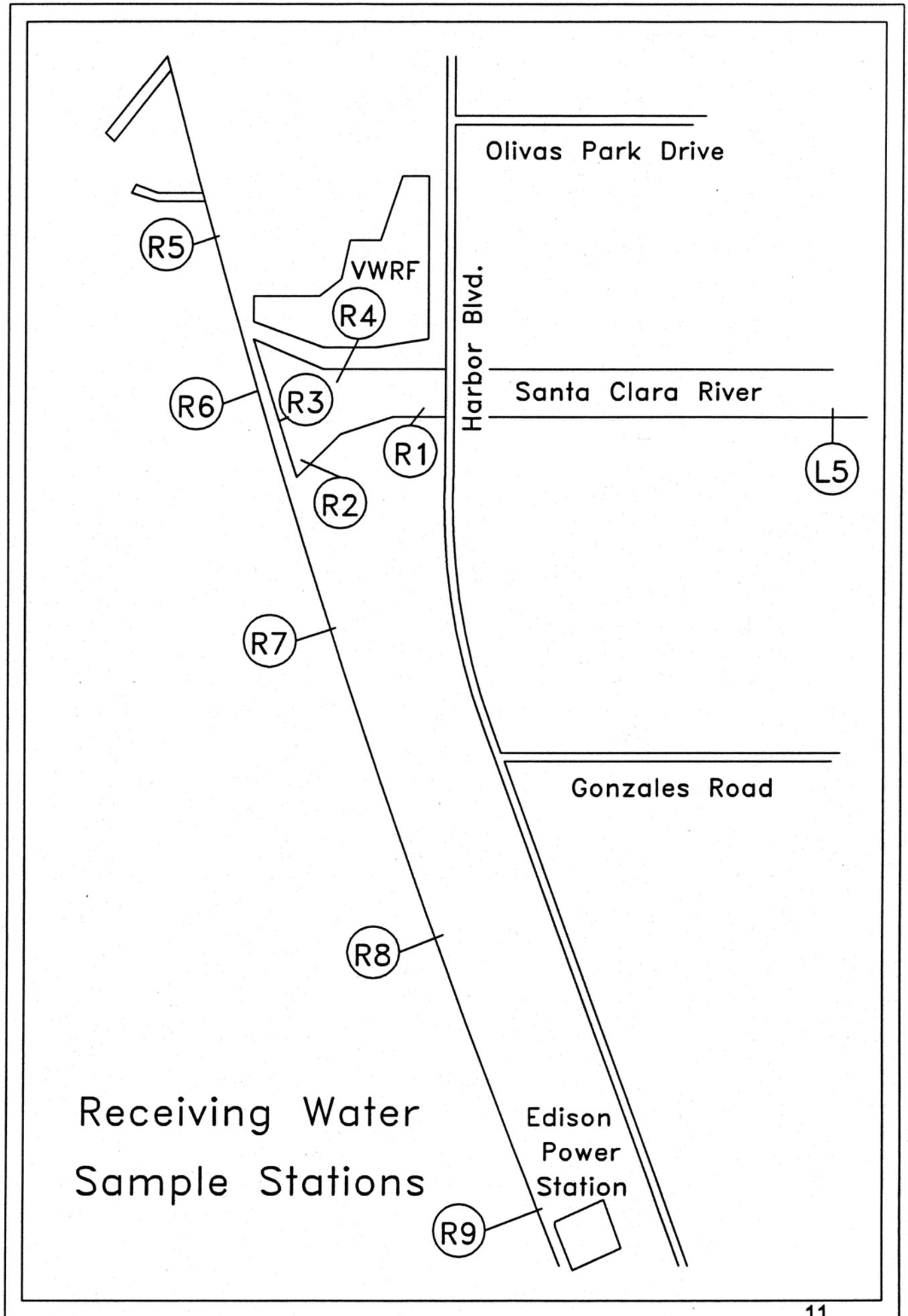
Water quality observations and temperature measurements are made at each of these sites.

Grab samples from these locations are taken weekly and analyzed for Total Coliform and, for stations within the Tidal Prism, for Residual Chlorine.

Grab samples from station R1, on the flowing stream as it enters the Tidal Prism, and R2, on the South shore of the Tidal Prism opposite the discharge from the Ventura Water Reclamation Facility, are also taken monthly for three months during the winter and analyzed Chronic Toxicity using the same three species protocol applied to the discharge.

A map showing these sample locations follows the schematic plant flow diagram.





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Influent Pump Station

Month	Average	pH Units	Suspended	BOD mg/l	COD mg/l	Ammonia	Total
	Flow MGD		Solids mg/l			Nitrogen mg/l	Kjeldahl Nitrogen mg/l
January	8.54	7.46	216	279	547	22.7	35.4
February	8.63	7.50	210	272	516	26.0	46.3
March	8.75	7.49	216	273	531	26.3	40.3
April	9.65	7.50	266	298	529	23.4	40.0
May	9.10	7.44	225	287	515	23.6	33.2
June	9.15	7.46	212	270	513	23.1	37.9
July	9.41	7.41	223	268	507	22.2	33.0
August	9.28	7.34	217	264	505	22.2	35.1
September	9.44	7.32	224	274	540	24.6	37.2
October	9.29	7.29	233	279	552	26.5	38.4
November	9.16	7.32	225	289	541	25.5	38.5
December	8.50	7.34	223	278	544	26.9	37.1
Average	9.08	7.41	224	278	528	24.4	37.7
Maximum	11.59	8.13	419	540	684	34.5	46.3
Minimum	7.41	7.00	110	155	369	17.3	33.0
Total	37703.88						

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Influent Pump Station

Month	Aluminum mg/l	Antimony mg/l	Arsenic mg/l	Barium mg/l	Beryllium mg/l	Cadmium mg/l	Chromium mg/l	Cobalt mg/l	Copper mg/l	Iron mg/l
February	1.569	<0.001	<0.002	0.176	<0.00008	<0.00059	<0.005	0.007	0.152	1.300
February	1.150	<0.001	<0.002	0.093	<0.0002	<0.004	<0.007	<0.001	0.157	
May	1.178	<0.006	<0.002	0.101	<0.00008	<0.00059	<0.005	0.004	0.024	0.800
August	1.100	<0.001	<0.002	0.011	<0.00008	<0.00059	<0.005	<0.0007	0.155	0.060
August	0.095	<0.001	<0.002	0.079	<0.0002	<0.004	<0.005	<0.001	0.182	
November	0.471	<0.006	<0.002	<0.096	<0.00008	<0.00059	<0.005	<0.0007	0.142	0.800
Average	0.927			0.077				0.002	0.135	0.740
Maximum	1.569			0.1756				0.00714	0.182	1.300
Minimum	0.095			<0.096				0.000	0.024	0.060

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Influent Pump Station

Month	Acetone	Chloroform	1,4 Dichlorobenzene	Ethylbenzene
February	<0.0005	<0.00005	0.0016	0.0311
August	0.0994	0.0081	<0.0005	<0.00034
Month	Tetrachloroethylene	Toluene	1,1,1-Trichloroethane	Xylenes
February	<0.00003	<0.0002	<0.00003	0.199
August	0.0015	<0.0002	<0.00003	<0.0005

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Primary Clarifier Effluent Splitter Box

Month	pH Units	Suspended Solids mg/l	BOD mg/l	COD mg/l	MBAS mg/l	Ammonia Nitrogen mg/l	Total Kjeldahl Nitrogen mg/l
January	7.46	94.8	197	337	7.7	30.3	37.4
February	7.50	85.8	182	333	6.6	31.4	39.1
March	7.47	94.7	188	341	6.7	27.8	39.1
April	7.45	109.7	196	349	6.9	25.3	36.6
May	7.44	102.0	174	325	6.1	25.8	34.0
June	7.46	76.1	163	271	3.2	22.7	34.0
July	7.44	108.0	203	366	8.5	27.3	36.8
August	7.40	94.9	183	339	7.5	24.8	30.1
September	7.43	99.5	177	340	7.9	24.8	39.2
October	7.39	104.8	178	339	5.1	22.5	37.9
November	7.35	107.2	175	334	4.2	27.2	40.4
December	7.35	108.5	180	337	7.0	26.2	34.5
Average	7.43	99.2	183	335	6.5	26.3	37.2
Maximum	8.16	197.5	400	488	8.5	38.2	46.4
Minimum	6.99	49.5	60	232	3.2	20.4	30.1

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Mixed Media Filter Station Influent

Month	Average Flow MGD	Suspended Solids mg/l	BOD mg/l	COD mg/l	MBAS mg/l	Nitrate Nitrogen mg/l	Nitrite Nitrogen mg/l	Ammonia Nitrogen mg/l	Total Kjeldahl Nitrogen mg/l
January	8.80	6.12	17.4	33.0	0.25	5.40	0.90	16.60	17.8
February	8.82	4.23	12.5	29.1	<0.05	6.00	1.40	18.60	19.3
March	8.85	8.50	28.8	34.7	<0.05	9.20	2.03	8.13	
April	8.96	7.55	24.5	46.5	<0.05	10.05	1.83	6.63	
May	8.96	14.66	29.1	39.2	<0.05	7.85	1.65	4.93	4.9
June	8.90	7.61	15.2	33.6	<0.05	8.38	<0.40	5.93	7.4
July	9.07	11.38	14.5	34.3	<0.05	16.88	0.90	1.88	3.5
August	9.68	21.84	23.1	47.3	<0.05	20.15	0.78	1.70	0.7
September	9.65	28.83	29.5	64.7	0.25	17.12	2.02	2.66	7.3
October	9.85	53.36	46.9	86.0	0.2	18.45	0.90	2.15	14.6
November	9.48	34.05	31.6	60.3	<0.0	23.90	0.70	1.88	5.2
December	8.98	11.41	12.0	34.6	0.17	24.88	0.38	1.61	1.5
Average	9.17	19.19	24.6	47.1	0.09	15.20	1.19	4.70	8.2
Maximum	11.72	200.70	156.0	333.5	0.25	29.60	3.50	20.90	19.3
Minimum	7.88	3.24	4.2	23.7	<0.05	2.70	<0.40	-0.40	0.7

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Effluent Transfer Station

Month	Suspended		lb/day	TDS mg/l	Specific		BOD mg/l	lb/day	COD mg/l	Settleable Solids ml/l
	pH Units	Solids mg/l			Cond uMHO					
January	6.97	1.94	124	1246	1929	2.5	164	29.1	<0.1	
February	6.85	1.13	73	1215	1911	2.1	134	27.8	<0.1	
March	6.79	1.32	89	1269	1932	2.2	148	25.5	<0.1	
April	6.70	1.34	86	1384	2022	1.9	121	23.1	<0.1	
May	6.77	1.20	70	1321	1950	2.5	148	23.9	<0.1	
June	6.75	1.03	61	1288	1928	1.4	81	24.8	<0.1	
July	6.95	1.15	66	1352	1918	1.5	85	20.5	<0.1	
August	6.89	1.07	66	1396	1908	1.5	89	21.4	<0.1	
September	6.77	1.78	115	1438	2019	2.2	139	30.9	<0.1	
October	6.84	2.06	130	1454	2050	1.9	117	28.7	<0.1	
November	6.77	2.21	148	1440	2080	2.2	149	27.9	<0.1	
December	6.75	1.13	70	1378	1997	1.2	69	23.4	<0.1	
Annual Average	6.82	1.44	91	1348	1970	1.9	120	25.5	<0.1	
Maximum	8.58	10.16	627	1800	2260	8.4	565	49.7	<0.1	
Minimum	6.25	0.13	7	1056	1800	<0.3	<19	13.7	<0.1	
Limitations of Permit CA0053651										
Maximum		45.00	5250			45	5250		0.3	
7 Day Average		40.00	4670			30	3500			
30 Day Average		15.00	1751			20	2340		0.1	

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Effluent Transfer Station

Month	MBAS mg/l	Chloride mg/l	Sulfate mg/l	Phosphate mg/l	Boron mg/l	Fluoride mg/l
January	<0.05	287	363	0.55	0.73	0.61
February	<0.05	289	336	0.13	0.75	0.59
March	<0.05	289	358	0.13	0.75	0.59
April	<0.05	310	416	0.15	0.71	0.72
May	<0.05	288	385	1.5	0.65	0.57
June	<0.05	291	382	7.5	0.68	0.51
July	<0.05	275	372	8.8	0.81	0.55
August	<0.05	271	373	9.2	0.66	0.58
September	0.25	283	381	6.96	0.68	0.56
October	0.25	274	355	9.27	0.71	0.51
November	0.15	304	462	8.9	0.68	0.58
December	0.33	265	456	2.85	0.71	0.49
Annual Average	0.16	285	388	4.7	0.70	0.57
Maximum	0.33	341	518	9.27	0.81	0.72
Minimum	<0.05	234	225	0.13	0.65	0.49

Limitations of Permit CA0053651

Maximum
7 Day Average
30 Day Average

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Effluent Transfer Station

Month	Sodium mg/l	Calcium mg/l	Magnesium mg/l	Potassium mg/l
January	179	114	44.3	20.4
February	264	121	37.1	19.6
March	242	115	39.2	19.4
April	253	118	41.4	21.4
May	247	108	42.3	21.2
June	254	111	38.6	20.4
July	262	115	41.4	23.2
August	255	110	40.5	21.5
September	241	115	41.9	21.0
October	265	130	40.5	23.0
November	251	116	43.4	20.0
December	270	115	41.1	18.7
Annual Average	249	116	41.0	20.8
Maximum	270	130	44.3	23.2
Minimum	179	108	37.1	18.7

Limitations of Permit CA0053651

Maximum
7 Day Average
30 Day Average

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Effluent Transfer Station

	0700 Bay 1 Chlorine Residual mg/l	1100 Bay 1 Chlorine Residual mg/l	2000 Bay 1 Chlorine Residual mg/l	1100 ETS Chlorine Residual mg/l
Month				
January	13.8	10.6	12.4	11.4
February	11.4	9.9	10.7	9.7
March	11.1	10.4	11.2	6.9
April	10.0	10.2	11.8	7.7
May	10.3	12.7	11.3	8.5
June	9.4	11.8	11.6	7.1
July	11.3	10.2	10.5	7.6
August	12.7	11.0	10.7	11.0
September	13.5	11.6	12.8	11.1
October	12.5	11.5	12.0	9.3
November	13.1	11.6	12.8	10.4
December	11.8	11.4	12.2	9.0
Annual Average	11.8	11.1	11.7	9.1
Maximum	64.0	32.1	33.3	54.0
Minimum	2.0	1.7	5.6	0.6

Limitations of Permit CA0053651

Maximum
7 Day Average
30 Day Average

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Effluent Transfer Station

Month	Cyanide mg/l	Aluminum mg/l	Antimony mg/l	Arsenic mg/l	Barium mg/l	Beryllium mg/l	Cadmium mg/l	Chromium mg/l	Cobalt mg/l	Copper mg/l
January										<0.001
February	0.007	0.158	<0.001	<0.002	<0.096	<0.00008	<0.00059	<0.005	0.00631	0.010
February		0.160	<0.001	<0.002	0.033	<0.0002	<0.004	<0.007	<0.001	0.010
March										0.004
April										0.010
May	<0.004	0.079	0.00174	<0.002	<0.096	<0.00008	<0.00059	<0.005	0.0025	0.004
June										0.000
July										0.018
August	<0.004	0.079	<0.006	<0.002	<0.096	<0.00008	<0.00059	<0.005	0.00583	0.010
August		0.084	<0.001	<0.002	0.024	<0.0002	<0.0002	<0.007	<0.001	<0.006
September										<0.0025
October										0.019
November	0.009	0.066	<0.006	<0.002	<0.096	<0.00008	<0.00059	<0.005	0.0051	0.020
December										0.016
Annual Average	<0.004	0.037	<0.001		<0.065	<0.0004	<0.0002		0.00329	0.009
Maximum	0.009	0.16	0.00174		0.033				0.00631	0.020
Minimum	<0.004	<0.0372	<0.001		<0.030				<0.0007	<0.001
Limitations of Permit CA0053651										
Maximum	0.012			0.076			0.016			0.098
7 Day Average										
30 Day Average								0.050		

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Effluent Transfer Station

Month	Lead mg/l	Mercury mg/l	Molybdenum mg/l	Nickel mg/l	Selenium mg/l	Silver mg/l	Thallium mg/l	Tin mg/l	Vanadium mg/l	Zinc mg/l
January	<0.005			<0.005						<0.05
February	<0.005	<0.001	0.0129	<0.005	<0.0033	<0.0002	<0.001		0.017	<0.05
February	<0.100	<0.0002	0.001	0.064	<0.002	<0.0002	<0.001	<0.100	<0.004	0.098
March	<0.005			<0.005						<0.05
April	<0.005			<0.005						<0.05
May	<0.005	<0.001	0.013	<0.005	<0.0033	<0.0002	<0.001		0.007	<0.05
June	<0.005			0.025						<0.05
July	<0.005			<0.005						<0.05
August	<0.005	<0.001	0.00995	0.007	<0.0033	<0.0002	<0.001		0.006	<0.05
August	<0.100	<0.0002	<0.001	<0.0150	<0.003	<0.0002	<0.001	<0.100	<0.004	0.038
September	<0.005			0.018						0.082
October	<0.005			0.025						0.081
November	<0.005	<0.001	0.0341	0.009	0.0043	<0.0002	<0.001		0.018	<0.05
December	<0.005			<0.005						0.052
Annual Average	-0.000	0.002	0.017	0.011	0.001	0.000	0.000	0.000	0.0078	0.025
Maximum	0	0	0.0341	0.064	0.0043	0			0.018	0.098
Minimum										<0.050
Limitations of Permit CA0053651										
Maximum	0.077	0.003		0.271		0.027	1.765			1.181
7 Day Average										
30 Day Average										

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Effluent Transfer Station

Month	Iron mg/l	Manganese mg/l
January	<0.1	0.04
February	<0.1	0.08
March	<0.1	0.09
April	<0.1	0.08
May	<0.1	0.01
June	<0.1	<0.03
July	<0.1	0.08
August	<0.1	<0.03
September	0.01	0.14
October	0.02	0.15
November	<0.1	0.03
December	<0.1	<0.03
Annual Average	<0.1	0.06
Maximum	0.1	0.15
Minimum	<0.1	<0.03

Limitations of Permit CA0053651

Maximum
7 Day Average
30 Day Average

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Effluent Transfer Station

Month	Aldrin mg/l	alpha-BHC mg/l	beta-BHC mg/l	delta-BHC mg/l	Lindane mg/l	PCBs mg/l	Bromodichloromethane mg/l	Bromofor mg/l
February	<0.000016	<0.000016	<0.000016	<0.000010	<0.000029	<0.0001		
February	<0.000004	<0.000003	<0.000006	<0.000009	<0.000014	<0.00065	0.0109	0.0037
May	<0.000020	<0.000010	<0.000038	<0.000020	<0.000020	<0.0001	0.0182	<0.005
August	<0.000020	<0.000016	<0.000016	<0.000020	<0.000016	<0.0001		
August	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.00067	0.0606	0.003
November	<0.000020	<0.000010	<0.000038	<0.000020	<0.000020	<0.0001	0.0079	0.0029
Annual Average	<0.00001	<0.000014	<0.000034	<0.000015	<0.000029	<0.0001	0.0244	0.0024
Maximum							0.0606	0.0037
Minimum							0.0079	0
Limitations of Permit CA0053651								
Maximum	0.00130				0.00016		0.070	
7 Day Average								
30 Day Average								

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Effluent Transfer Station

	Chloroform mg/l	Carbon tetrachloride	Chlorobenzene	Dibromochloromethane	1,4-Dichlorobenzene
Month					
February	0.0118	<0.00012	<0.0002	0.0073	<0.0005
May	0.0196	<0.00100	<0.0001	<0.0009	<0.0005
August	0.1150	<0.00012	<0.0002	0.0095	<0.0010
November	0.1140	<0.00100	<0.0001	0.0149	<0.0010
Annual Average	0.0651	<0.00012	<0.0002	0.0079	<0.0005
Maximum	0.115			0.0149	
Minimum	0.0118			<0.0009	<0.0005

Limitations of Permit CA0053651

Maximum
7 Day Average
30 Day Average

	Pentachlorophenol mg/l	bis (2-Ethylhexyl)phthalate
Month		
February	<0.0036	0.0889
May	<0.0100	<0.0100
August	<0.0036	<0.0025
November	<0.0100	<0.0100
Annual Average	0	0.022225

Maximum

Minimum

Limitations of Permit CA0053651

Maximum	0.013	0.0059
7 Day Average		
30 Day Average	0.0079	

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Month	Irrigation Reuse Flows			Total Irrigation Flow MGD
	Olivas Pump Station Flow MGD	Marina Park Flow MGD	Buena Pump Station Flow MGD	
January	0.2377	0.0006	0.1200	0.3579
February	0.3005	0.0054	0.0900	0.3959
March	0.2040	0.0124	0.1286	0.3451
April	0.4300	0.0160	0.2355	0.6815
May	0.8983	0.0408	0.4425	1.3657
June	0.9227	ERR	0.4307	1.3533
July	0.9588	ERR	0.5643	1.5231
August	0.9331	ERR	0.4788	1.4119
September	0.5247	ERR	0.2915	0.8162
October	0.6658	ERR	0.3517	1.0175
November	0.3993	0.0366	0.1597	0.5932
December	0.5385	0.0318	0.1904	0.7608
Annual Average	0.5879	0.0213	0.2925	0.8909
Maximum	1.6550	0.1110	0.8720	2.0410

Minimum

Limitations of Permit CA0053651

Maximum

7 Day Average

30 Day Average

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Outfall Junction Structure

Month	Flow MGD	Max Contin Chlorine Residual mg/l	1100 Grab Temp Degrees C	Bioassay Acute Toxicity Survival %	Bioassay Chronic Ceriodaphnia Survival TU	Bioassay Chronic Ceriodaphnia Reproduction TU
January	7.68	<0.1	17.49	100.00%	1.00	2.00
February	7.78	<0.1	17.66	100.00%	1.00	2.00
March	8.05	<0.1	19.35			
April	7.74	<0.1	20.17			
May	6.99	<0.1	22.63			
June	7.06	<0.1	23.54			
July	6.85	<0.1	24.86			
August	7.30	<0.1	23.32			
September	7.79	<0.1	22.30			
October	7.56	<0.1	21.52			
November	7.99	<0.1	19.66	100.00%	1.00	1.00
December	7.43	<0.1	16.82	100.00%	1.00	1.00
Annual Average	7.51	<0.1	20.80	100.00%	1.00	1.00
Maximum	9.92		26.20			
Minimum	6.12		15.10			

Limitations of Permit CA0053651

Maximum	70
7 Day Average	
30 Day Average	90

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Outfall Junction Structure

Month	Bioassay Chronic Fathead Larvae Survival TU	Bioassay Chronic Fathead Larvae Growth TU	Bioassay Chronic Senastrum Growth TU
January	2.00	2.00	1.00
February	1.00	1.00	1.00
March	1.00	1.00	
April	1.00	1.00	
May	1.00	1.00	
June	1.00	1.00	
July	1.00	1.00	
August	1.00	1.00	
September	1.00	1.00	
October	1.00	1.00	
November	1.00	1.00	1.00
December	1.00	1.00	1.00
Annual Average	1.00	1.00	1.00
Maximum	2.00	2.00	1.00
Minimum	1.00	1.00	1.00

Limitations of Permit CA0053651

Maximum
 7 Day Average
 30 Day Average

Ventura Water Reclamation Facility
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Tidal Prism Receiving Water Stations

	R1 Bioassay Chronic Ceriodaphnia Survival TU	R1 Bioassay Chronic Ceriodaphnia Reproduction TU	R1 Bioassay Chronic Fathead Larvae Survival TU	R1 Bioassay Chronic Fathead Larvae Growth TU	R1 Bioassay Chronic Selenastrum Growth TU
Month					
January	1.00	1.00	1.00	2.00	2.00
February	1.00	2.00	1.00	1.00	1.00
March					
April					
May					
June					
July					
August					
September					
October					
November	1.00	1.79	1.00	1.00	1.00
December	3.13	5.56	1.79	1.79	1.00
Annual Average	1.00	1.50	1.00	1.50	1.50
Maximum	3.13	5.56	1.79	2.00	2.00
Minimum	1.00	1.00	1.00	1.00	1.00

Limitations of Permit CA0053651

Maximum
7 Day Average
30 Day Average

Ventura Water Reclamation Facility Annual Report 1999

Tidal Prism Receiving Water Stations

Month	R2 Bioassay Chronic Ceriodaphnia Survival TU	R2 Bioassay Chronic Ceriodaphnia Reproduction TU	R2 Bioassay Chronic Fathead Larvae Survival TU	R2 Bioassay Chronic Fathead Larvae Growth TU	R2 Bioassay Chronic Selenastrum Growth TU
	January	2.00	1.00	1.00	2.00
February	2.00	1.00	2.00	1.00	1.00
March					
April					
May					
June					
July					
August					
September					
October					
November	1.79	3.13	1.00	1.00	1.00
December	5.56	5.16	3.13	1.79	1.00
Annual Average	2.00	1.00	1.50	1.50	1.50
Maximum	5.56	5.16	3.13	2.00	2.00
Minimum	1.79	1.00	1.00	1.00	1.00

Limitations of Permit CA0053651

Maximum
7 Day Average
30 Day Average

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Tidal Prism Receiving Water Stations

Month	R1	R2	R3	R4	L5	R1	R2	R3	R4	L5
	Air Temp Degrees C	Water Temp Degrees C								
January	14.0	14.2	13.4	13.2	13.7	12.1	12.3	12.4	13.1	12.3
February	16.9	17.3	17.0	17.0	18.0	13.6	13.8	13.9	15.7	14.3
March	13.7	14.6	15.3	15.0	13.6	12.6	12.9	12.9	15.5	13.4
April	16.7	17.2	15.4	15.5	16.9	15.7	16.0	14.7	15.6	15.6
May	18.1	18.3	18.2	16.5	19.8	18.0	18.6	18.0	17.6	19.2
June	18.8	18.7	17.8	16.7	19.4	20.3	20.8	20.2	18.6	18.2
July	19.5	20.2	20.2	20.7	20.7	20.9	21.1	20.9	19.0	19.7
August	18.2	18.4	17.7	18.2	18.5	22.1	22.8	19.5	21.8	23.2
September	17.1	17.2	16.5	16.6	17.2	19.6	19.8	20.1	21.2	21.1
October	15.7	15.7	15.9	15.9	18.9	18.6	18.8	19.1	19.0	18.8
November	16.0	16.0	16.2	16.7	17.7	16.9	17.0	17.8	17.6	17.3
December	15.8	15.6	14.8	15.1	14.7	13.3	13.1	12.7	12.9	10.3
Annual Average	16.7	17.0	16.5	16.5	17.4	17.0	17.2	16.9	17.3	16.9
Maximum	23.2	23.0	21.9	25.5	25.4	24.4	24.5	22.9	23.4	24.7
Minimum	10.0	11.0	9.1	9.0	9.3	10.2	10.3	8.5	8.0	8.0

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Tidal Prism Receiving Water Stations

	R1	R2	R3	R4	L5
	Chlorine	Chlorine	Chlorine	Chlorine	Chlorine
	Residual	Residual	Residual	Residual	Residual
Month	mg/l	mg/l	mg/l	mg/l	mg/l
January	<0.1	<0.1	<0.1	<0.1	<0.1
February	<0.1	<0.1	<0.1	<0.1	<0.1
March	<0.1	<0.1	<0.1	<0.1	<0.1
April	<0.1	<0.1	<0.1	<0.1	<0.1
May	<0.1	<0.1	<0.1	<0.1	<0.1
June	<0.1	<0.1	<0.1	<0.1	<0.1
July	<0.1	<0.1	<0.1	<0.1	<0.1
August	<0.1	<0.1	<0.1	<0.1	<0.1
September	<0.1	<0.1	<0.1	<0.1	<0.1
October	<0.1	<0.1	<0.1	<0.1	<0.1
November	<0.1	<0.1	<0.1	<0.1	<0.1
December	<0.1	<0.1	<0.1	<0.1	<0.1
Annual Average	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum					
Minimum					

Ventura Water Reclamation Facility Annual Report 1999

Pacific Ocean Receiving Water Stations

Month	R5	R6	R7	R8	R9	R5	R6	R7	R8	R9
	Air Temp Degrees C	Water Temp Degrees C								
January	13.0	13.2	14.3	14.0	14.6	13.8	13.0	13.2	13.4	13.3
February	16.9	16.6	17.5	17.7	18.2	14.7	14.5	14.4	14.7	15.4
March	14.6	15.3	13.7	14.3	14.7	13.4	13.5	13.5	13.6	13.7
April	14.8	15.6	17.0	17.1	16.9	13.2	13.4	14.1	14.2	14.8
May	16.2	16.8	18.9	19.4	19.4	15.2	15.5	15.9	16.4	16.8
June	17.4	16.7	17.8	17.9	18.1	15.4	15.4	15.8	16.4	18.8
July	20.5	20.4	20.8	20.6	20.9	18.2	18.3	18.6	18.8	18.9
August	17.7	17.3	17.7	18.4	18.3	17.2	16.8	17.3	18.4	18.4
September	16.9	17.0	16.6	17.1	17.9	17.2	16.9	16.9	17.9	18.3
October	15.3	15.8	15.2	16.3	15.8	16.3	16.2	16.3	16.7	18.2
November	15.5	15.8	16.7	17.1	17.0	15.6	15.9	15.8	16.3	19.3
December	14.2	15.1	15.4	15.4	15.5	12.8	13.3	13.5	13.3	13.8
Annual Average	16.1	16.4	16.8	17.1	17.3	15.3	15.2	15.5	15.8	16.6
Maximum	25.4	25.4	23.6	24.3	24.8	19.8	20.0	20.2	20.3	23.0
Minimum	8.5	9.1	11.0	11.4	11.5	10.0	10.3	11.0	10.0	11.0

Ventura Water Reclamation Facility
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Solids Streams

Total Metal in mg/Kg Dry Weight

Dissolved Air Flotation System (Waste Activated Sludge)

Month	Cadmium mg/Kg	Chromium mg/Kg	Copper mg/Kg	Lead mg/Kg	Nickel mg/Kg	Silver mg/Kg	Zinc mg/Kg
February	2.7	10.9	700	29.3	14.6	1.3	354
May	1.7	10.1	2522	37.8	17.2	1.0	590
August	2.1	14.7	862	32.4	39.8	1.0	458
November	3.2	17.4	1000	26.2	26.6	1.1	611
Average	2.4	13.3	1270.8	31.4	24.5	1.1	503.3

Gravity Thickener (Primary Sludge)

Month	Cadmium mg/Kg	Chromium mg/Kg	Copper mg/Kg	Lead mg/Kg	Nickel mg/Kg	Silver mg/Kg	Zinc mg/Kg
February	2.1	12.3	341	22.4	13.2	1.1	401
May	2.1	14.9	383	26.9	13.2	2.1	397
August							
November	2.7	15.1	519	23.5	18.3	0.9	642
Average	2.3	14.1	414.3	24.3	14.9	1.3	480.0

Ventura Water Reclamation Facility
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Solids Streams

Total Metal in mg/Kg Dry Weight

Filter Press Product (Dewatered Digested Sludge)

Date	Sample	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium
03-Feb-99	FILTER PRESS 1 RUN 1						4.5	30.8
03-Feb-99	FILTER PRESS 1 RUN 2						4.4	31.0
03-Feb-99	FILTER PRESS 2 RUN 1						4.7	31.5
03-Feb-99	FILTER PRESS 2 RUN 2						4.5	31.2
10-Feb-99	FILTER PRESS 1 RUN 1	9791	<2.6	<2.6	373	<2.6	<2.6	28.5
14-Apr-99	FILTER PRESS 2 RUN 1	10824	<2.9	<2.9	421	<2.9	<2.9	26.6
05-May-99	FILTER PRESS 1 RUN 1						4.3	30.3
05-May-99	FILTER PRESS 1 RUN 2						4.3	30.1
05-May-99	FILTER PRESS 2 RUN 1						4.5	30.0
05-May-99	FILTER PRESS 2 RUN 2						3.8	26.3
02-Jun-99	FILTER PRESS 1 RUN 1	12010	<2.5	<2.5	404	<2.5	<2.5	29.1
18-Aug-99	FILTER PRESS 1 RUN 1						4.3	25.6
18-Aug-99	FILTER PRESS 1 RUN 2						4.3	26.7
18-Aug-99	FILTER PRESS 2 RUN 1						4.3	25.6
18-Aug-99	FILTER PRESS 2 RUN 2						4.2	25.0
18-Aug-99	FILTER PRESS 1 RUN 1	9519	<2.6	<2.6	443	<2.6	<2.6	29.3
06-Oct-99	FILTER PRESS 2 RUN 1	11404	<2.2	<2.2	544	<2.2	<2.2	32.4
03-Nov-99	FILTER PRESS 2 RUN 1						4.5	26.6
03-Nov-99	FILTER PRESS 2 RUN 2						4.2	26.5
08-Dec-99	FILTER PRESS 1 RUN 1	26667	<2.1	<2.1	461	<2.1	<2.1	26.6
Average		13369	<2.8	<2.8	441	<2.8	3.0	28
Maximum		26667			544		5	32
Minimum		9519	<2.3	<2.3	373	1.8	<2.7	25

Ventura Water Reclamation Facility Annual Report 1999

Solids Streams

Total Metal in mg/Kg Dry Weight

Filter Press Product (Dewatered Digested Sludge)

Date	Sample	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium
03-Feb-99	FILTER PRESS 1 RUN 1		927	49.0			29.2	
03-Feb-99	FILTER PRESS 1 RUN 2		925	49.0			25.7	
03-Feb-99	FILTER PRESS 2 RUN 1		929	49.2			24.9	
03-Feb-99	FILTER PRESS 2 RUN 2		1152	61.5			21.2	
10-Feb-99	FILTER PRESS 1 RUN 1	7.3	890	26.1	3.1	12.9	34.7	12.3
14-Apr-99	FILTER PRESS 2 RUN 1	6.6	971	44.6	<1.2	15.0	38.0	14.4
05-May-99	FILTER PRESS 1 RUN 1		887	54.7			26.8	
05-May-99	FILTER PRESS 1 RUN 2		848	54.9			29.5	
05-May-99	FILTER PRESS 2 RUN 1		1075	62.6			30.3	
05-May-99	FILTER PRESS 2 RUN 2		788	53.3			26.6	
02-Jun-99	FILTER PRESS 1 RUN 1	7.2	879	26.3	<0.1	14.8	27.1	13.5
18-Aug-99	FILTER PRESS 1 RUN 1		953	56.2			40.5	
18-Aug-99	FILTER PRESS 1 RUN 2		962	56.0			40.8	
18-Aug-99	FILTER PRESS 2 RUN 1		976	55.8			40.7	
18-Aug-99	FILTER PRESS 2 RUN 2		950	55.7			40.3	
18-Aug-99	FILTER PRESS 2 RUN 1	12.3	866	26.8	3.2	6.1	41.2	17.6
								22.4
06-Oct-99	FILTER PRESS 1 RUN 1	21.9	1022	37.5	5.2	20.8	53.1	25.3
03-Nov-99	FILTER PRESS 2 RUN 1		971	47.9			39.5	
03-Nov-99	FILTER PRESS 2 RUN 2		935	47.4			36.8	
08-Dec-99	FILTER PRESS 1 RUN 1	14.9	860	29.8	1.2	18.2	28.7	18.3
Average		11.7	938.2	47.2	2.1	14.6	33.8	17.7
Maximum		21.9	1151.7	62.6	5.2	20.8	53.1	25.3
Minimum		6.6	788.0	26.1	<0.91	6.1	21.2	12.3

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Solids Streams

Total Metal in mg/Kg Dry Weight

Filter Press Product (Dewatered Digested Sludge)

Date	Sample	Silver	Thallium	Tin	Vanadium	Zinc
03-Feb-99	FILTER PRESS 1 RUN 1	1.7				732
03-Feb-99	FILTER PRESS 1 RUN 2	1.9				739
03-Feb-99	FILTER PRESS 2 RUN 1	1.9				776
03-Feb-99	FILTER PRESS 2 RUN 2	1.6				774
10-Feb-99	FILTER PRESS 1 RUN 1	38.5	10.9	<26.2	5.8	770
14-Apr-99	FILTER PRESS 2 RUN 1	40.8	11.1	2.5	6.2	671
05-May-99	FILTER PRESS 1 RUN 1	2.1				679
05-May-99	FILTER PRESS 1 RUN 2	2.4				655
05-May-99	FILTER PRESS 2 RUN 1	2.1				663
05-May-99	FILTER PRESS 2 RUN 2	2.0				555
02-Jun-99	FILTER PRESS 1 RUN 1	33	12.3	<25.1	5.0	683
18-Aug-99	FILTER PRESS 1 RUN 1	2.4				874
18-Aug-99	FILTER PRESS 1 RUN 2	1.9				858
18-Aug-99	FILTER PRESS 2 RUN 1	2.0				589
18-Aug-99	FILTER PRESS 2 RUN 2	2.2				859
18-Aug-99	FILTER PRESS 2 RUN 1	38.4	13.7	31.7	6.4	733
06-Oct-99	FILTER PRESS 1 RUN 1	37.9	15.7	37.9	7.8	956
03-Nov-99	FILTER PRESS 2 RUN 1	1.2				955
03-Nov-99	FILTER PRESS 2 RUN 2	1.3				973
08-Dec-99	FILTER PRESS 1 RUN 1	36.9	8.3	32.7	5.5	844
Average		12.6	12.0	17.5	6.1	767
Maximum		40.8	15.7	37.9	7.8	973
Minimum		1.2	<2.7	<2.5	5.0	555

Ventura Water Reclamation Facility Annual Report 1999

Solids Streams

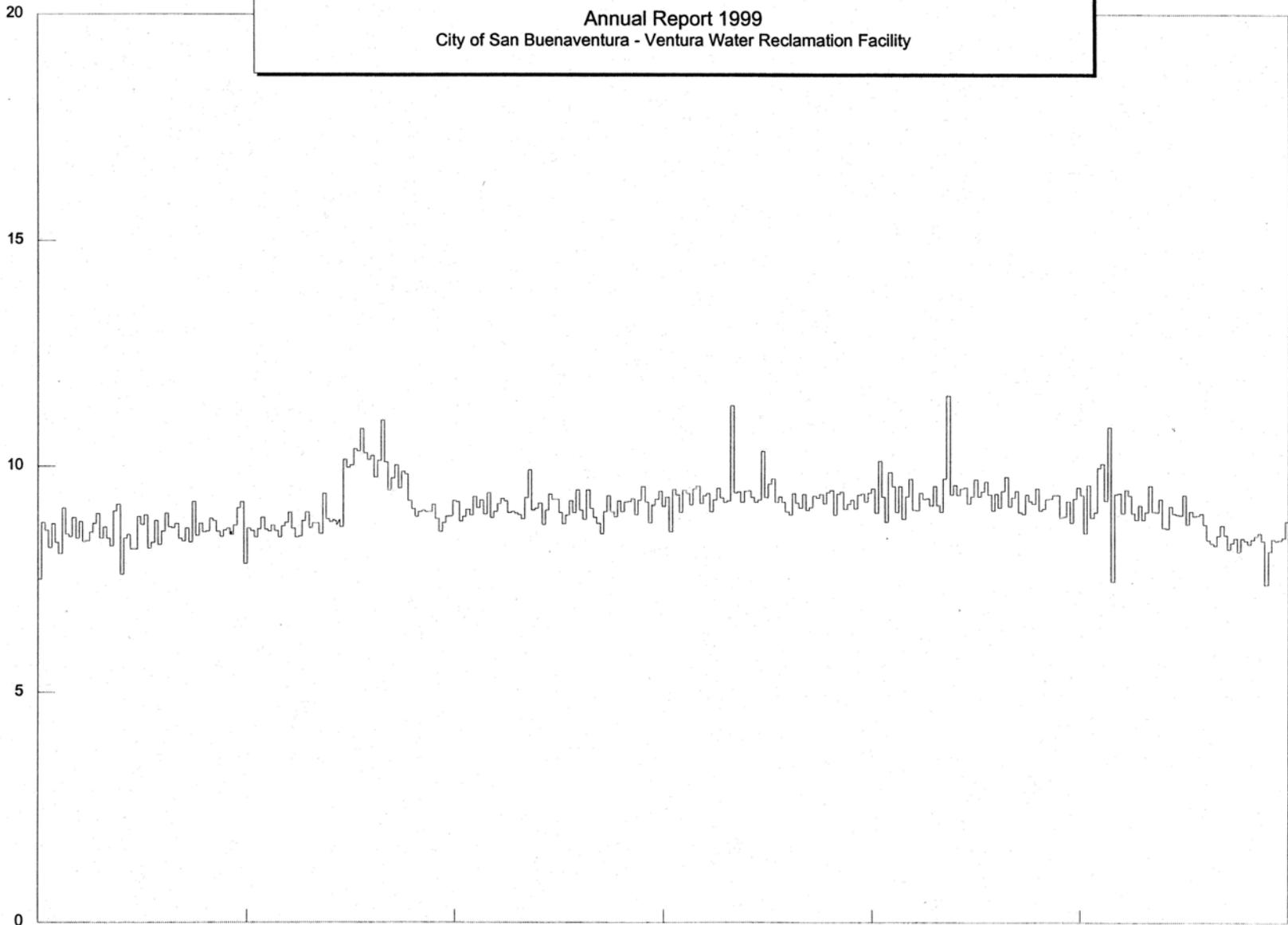
Total Compound in mg/Kg Dry Weight

Filter Press Product (Dewatered Digested Sludge)

Date	Sample	Acetone	Chloromethane	1,4-Dichlorobenzene	Toluene
10-Feb-99	FILTER PRESS 1 RUN 1	<1.3	<1.3	<0.26	<0.26
14-Apr-99	FILTER PRESS 2 RUN 1				
18-Aug-99	FILTER PRESS 1 RUN 1	<2.6	<2.6	<0.05	<0.05
06-Oct-99	FILTER PRESS 1 RUN 1				

Date	Sample	Xylenes	Bis (2-Ethylhexyl)phthalate	TOX
10-Feb-99	FILTER PRESS 1 RUN 1	<0.52	38884.8	<26
14-Apr-99	FILTER PRESS 2 RUN 1			<29
02-Jun-99	FILTER PRESS 1 RUN 1	0.19	<1.76	105.5
18-Aug-99	FILTER PRESS 2 RUN 1			40.1
06-Oct-99	FILTER PRESS 2 RUN 1			87.7
08-Dec-99	FILTER PRESS 1 RUN 1			<18

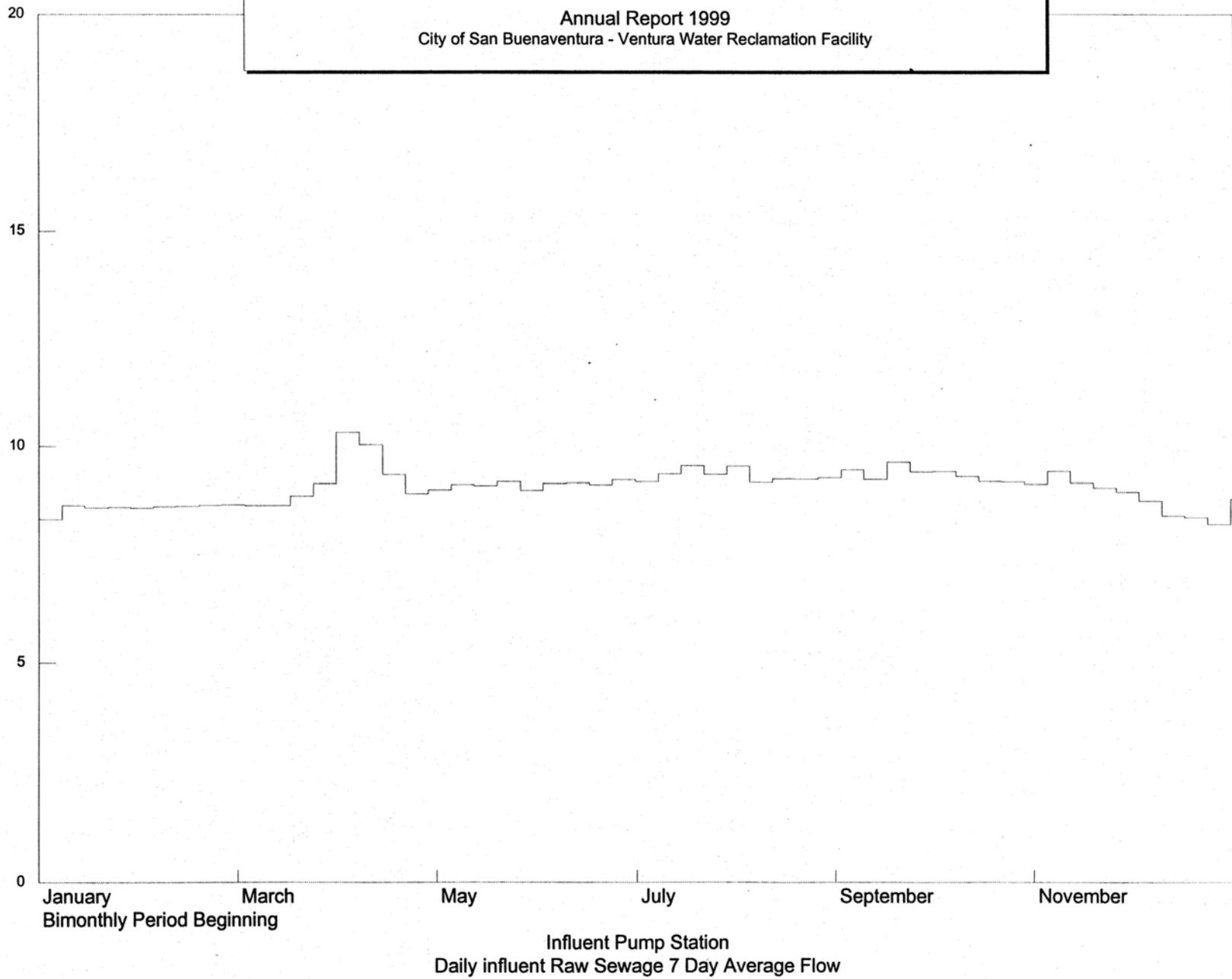
Annual Report 1999
City of San Buenaventura - Ventura Water Reclamation Facility



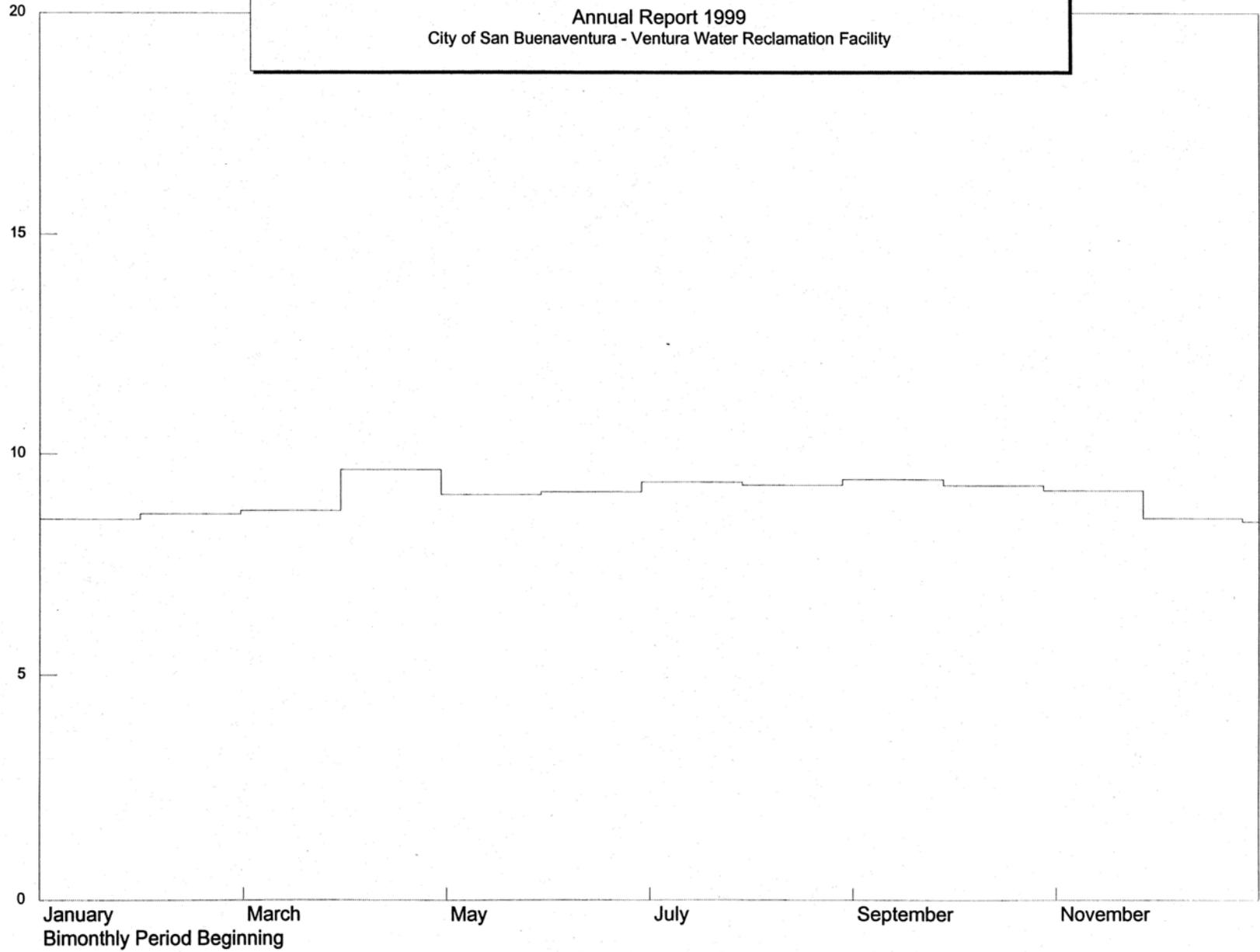
January Bimonthly Period Beginning March May July September November

Influent Pump Station
Daily influent Raw Sewage Flow

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City of San Buenaventura - Ventura Water Reclamation Facility

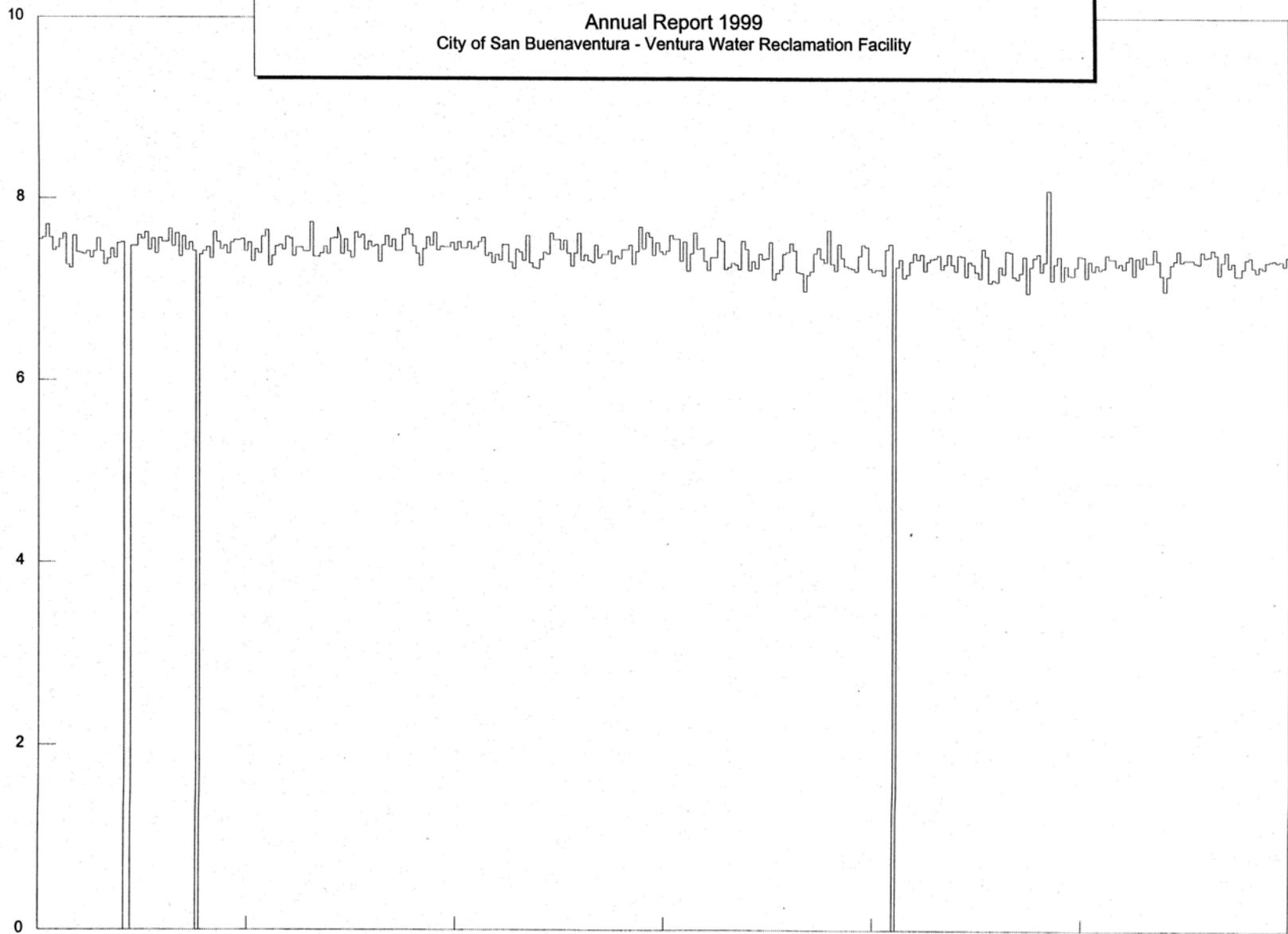


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Influent Pump Station
Daily influent Raw Sewage 30 Day Average Flow

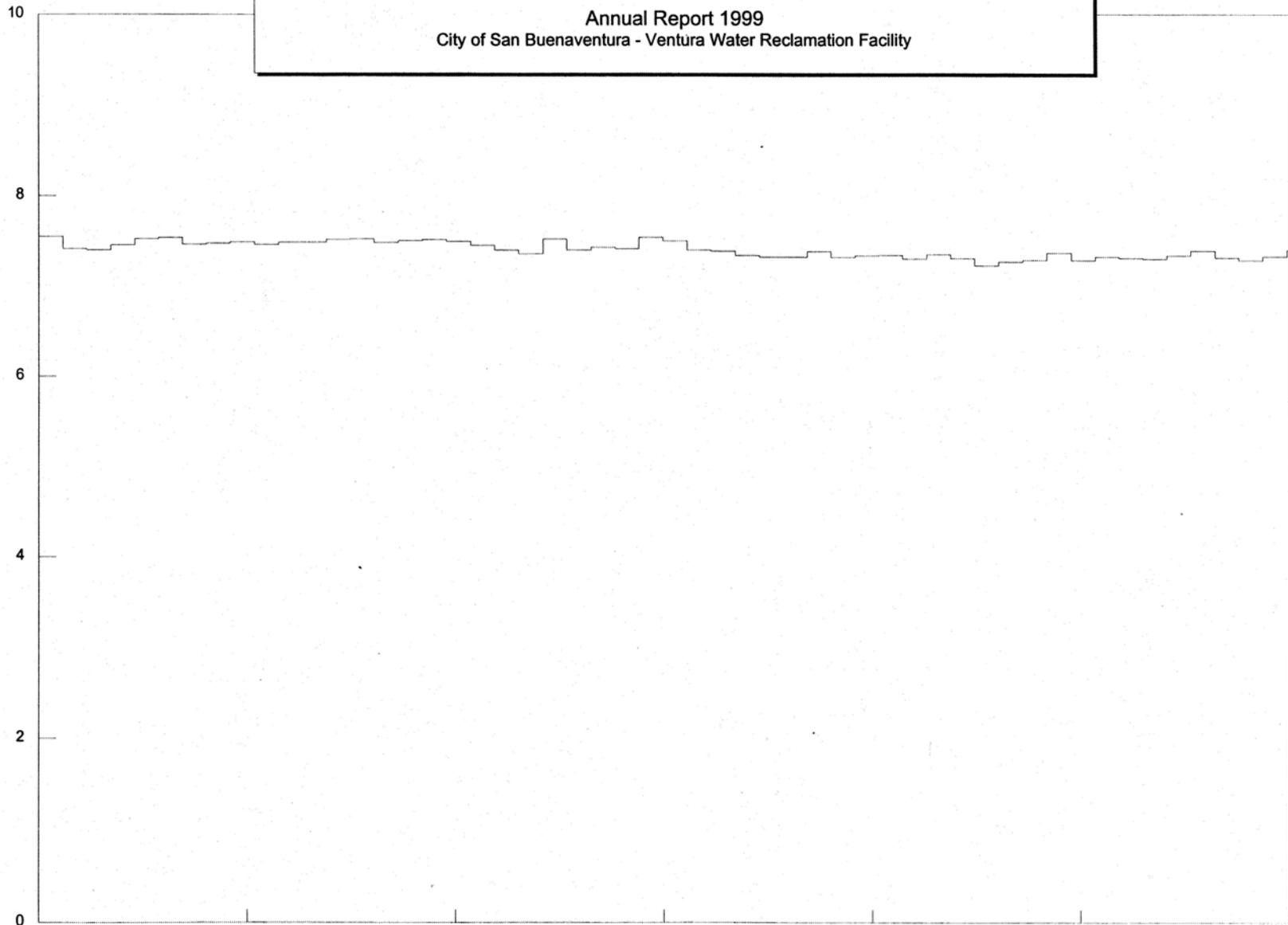
Annual Report 1999
City of San Buenaventura - Ventura Water Reclamation Facility



January Bimonthly Period Beginning March May July September November

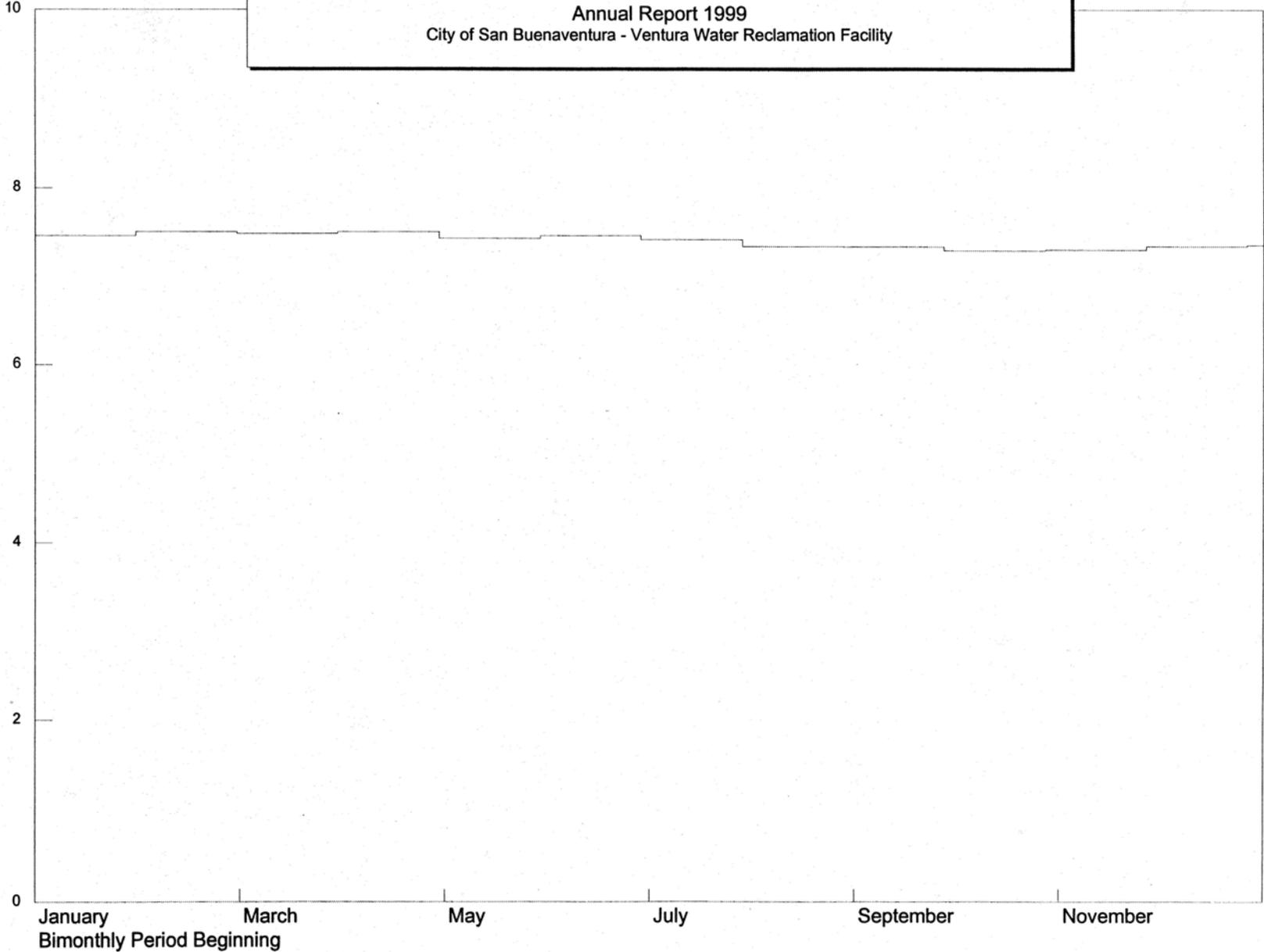
Influent Pump Station
Influent Raw Sewage pH - pH Units

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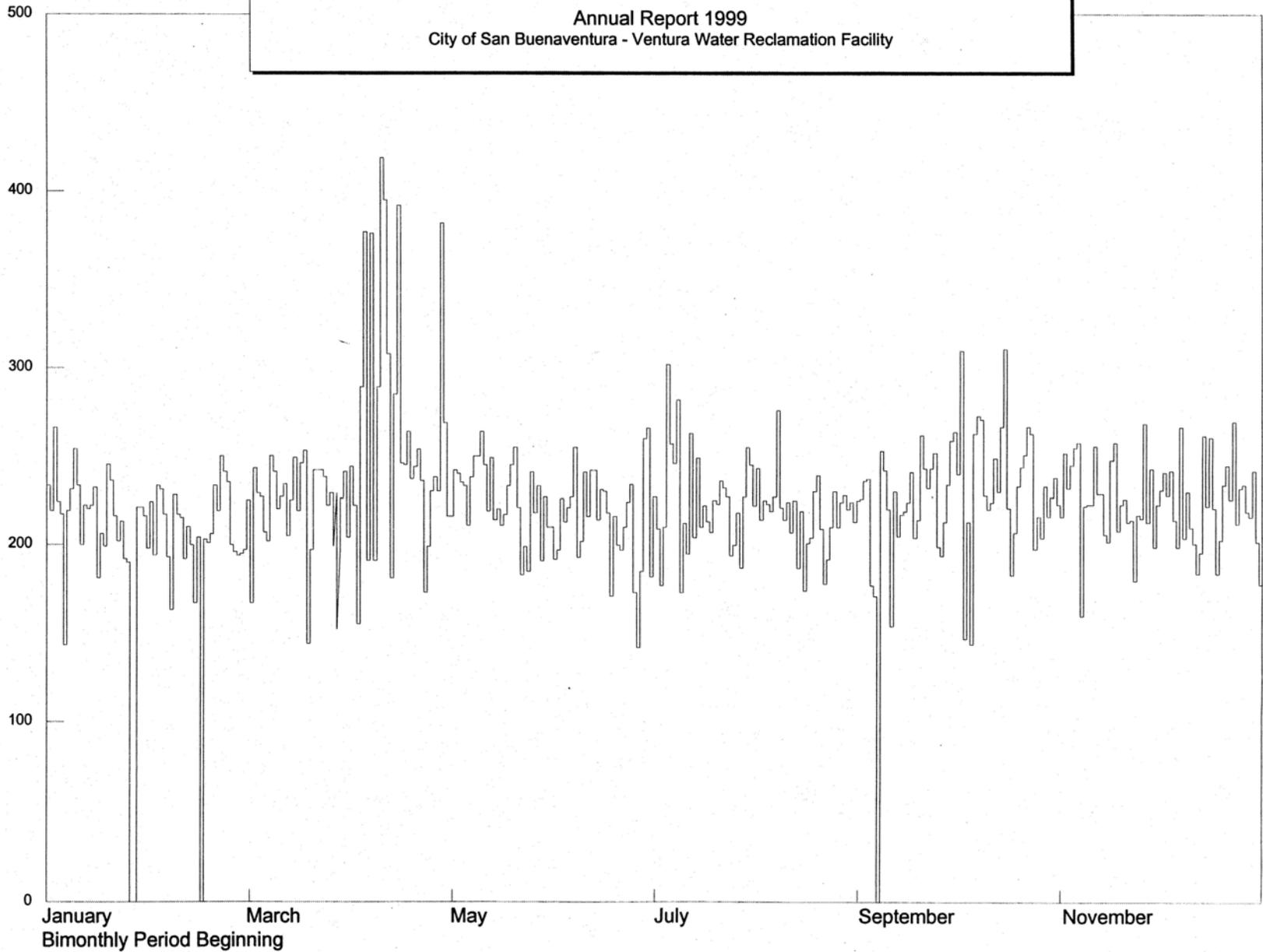
Influent Pump Station
Influent Raw Sewage 7 Day Average pH - pH Units

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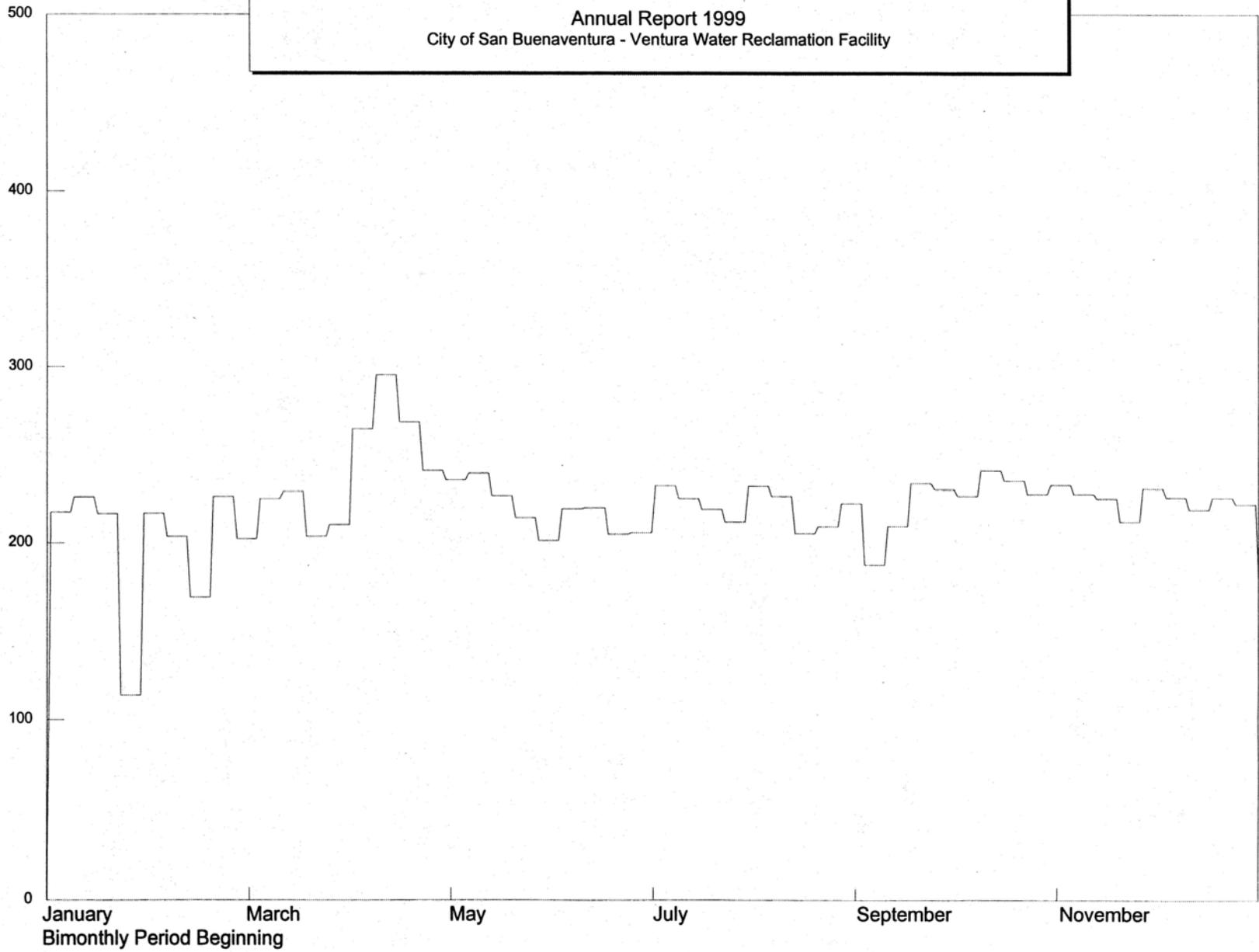
Influent Pump Station
Influent Raw Sewage 30 Day Average pH - pH Units

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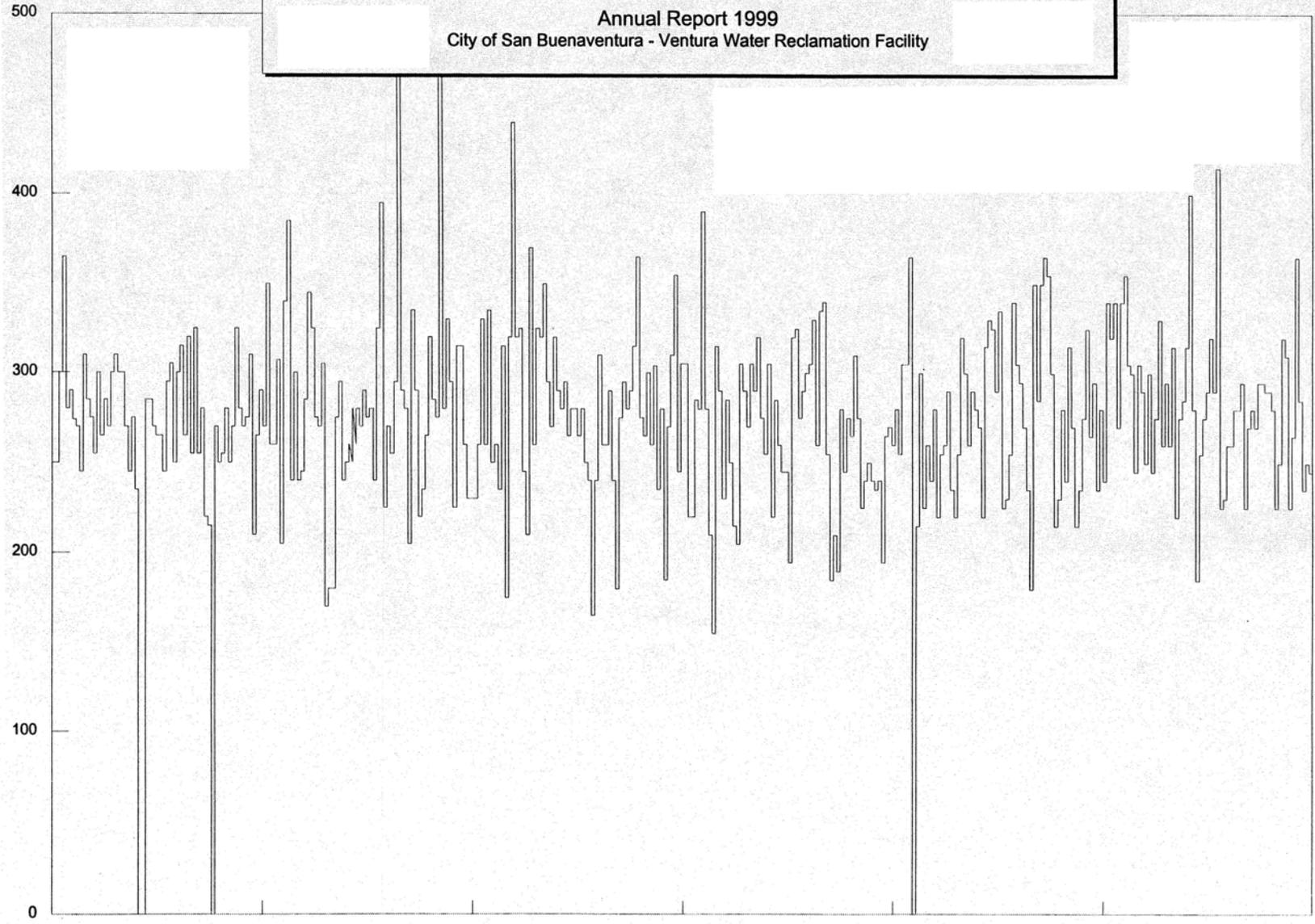
Influent Pump Station
Influent Raw Sewage Suspended Solids - mg/l

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Influent Pump Station
Influent Raw Sewage 7 Day Average Suspended Solids - mg/l

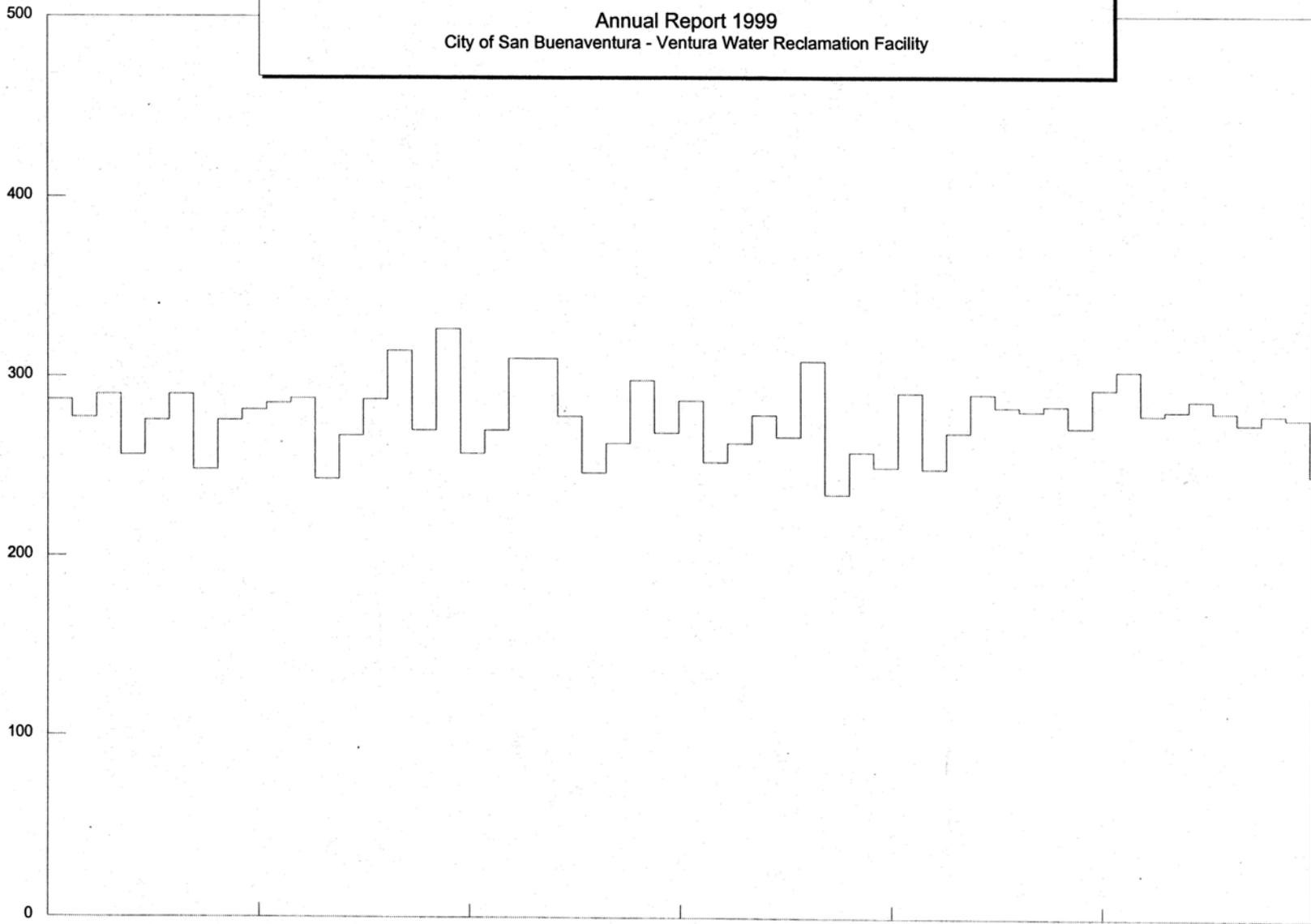
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January Bimonthly Period Beginning March May Influent July September November

Influent Pump Station
Influent Raw Sewage BOD - mg/l

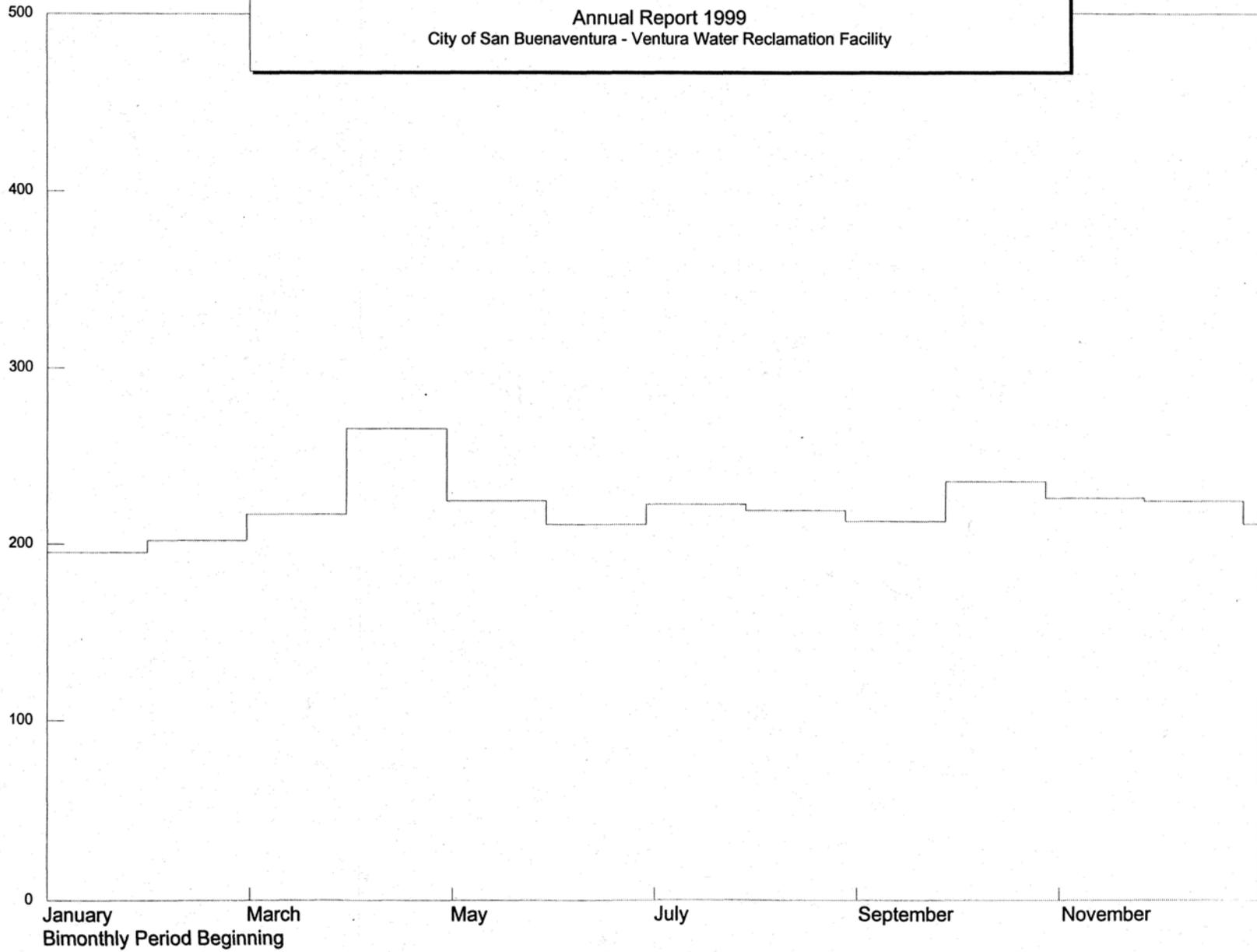
Annual Report 1999
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January Bimonthly Period Beginning March May Influent July September November

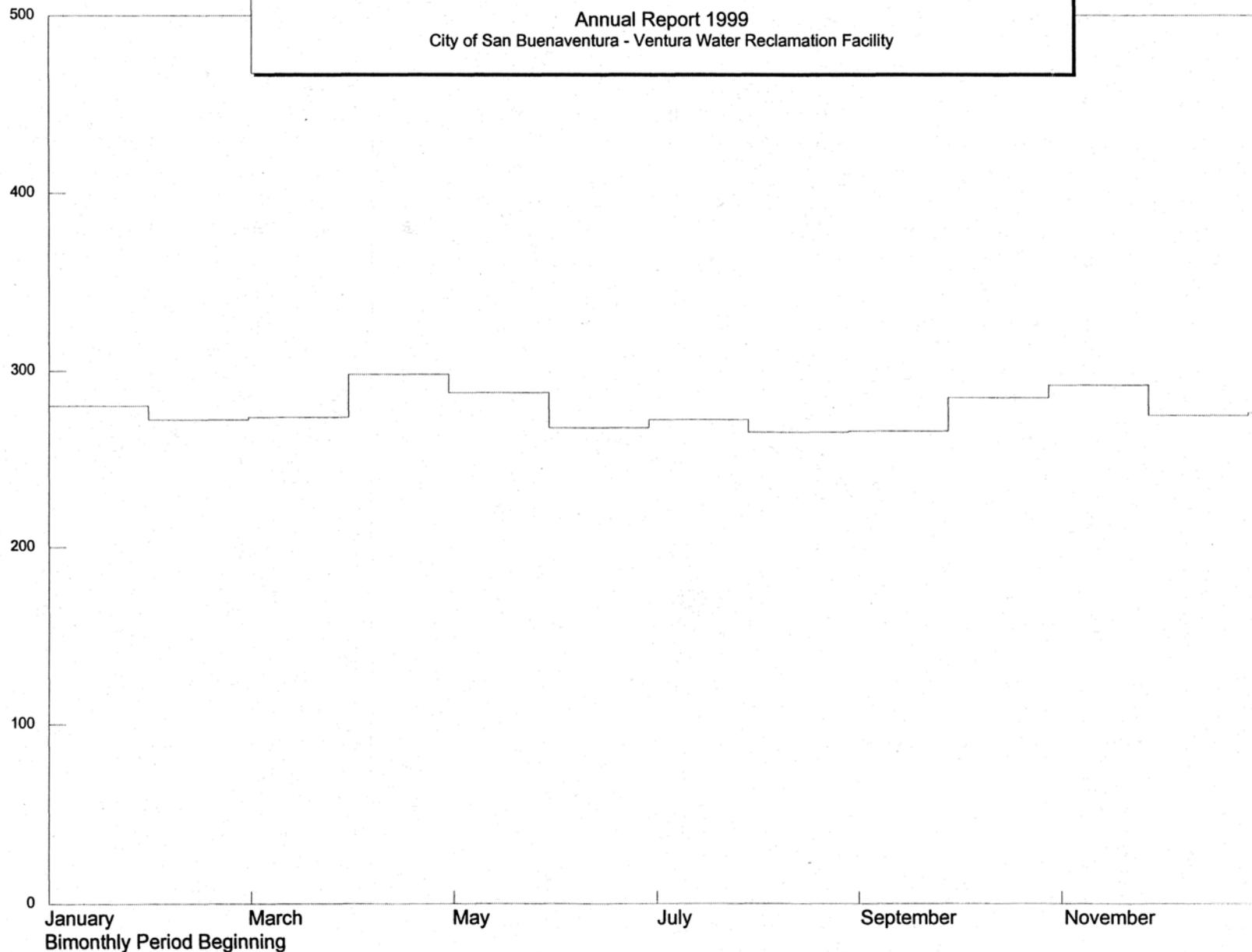
Influent Pump Station
Influent Raw Sewage 7 Day Average BOD - mg/l

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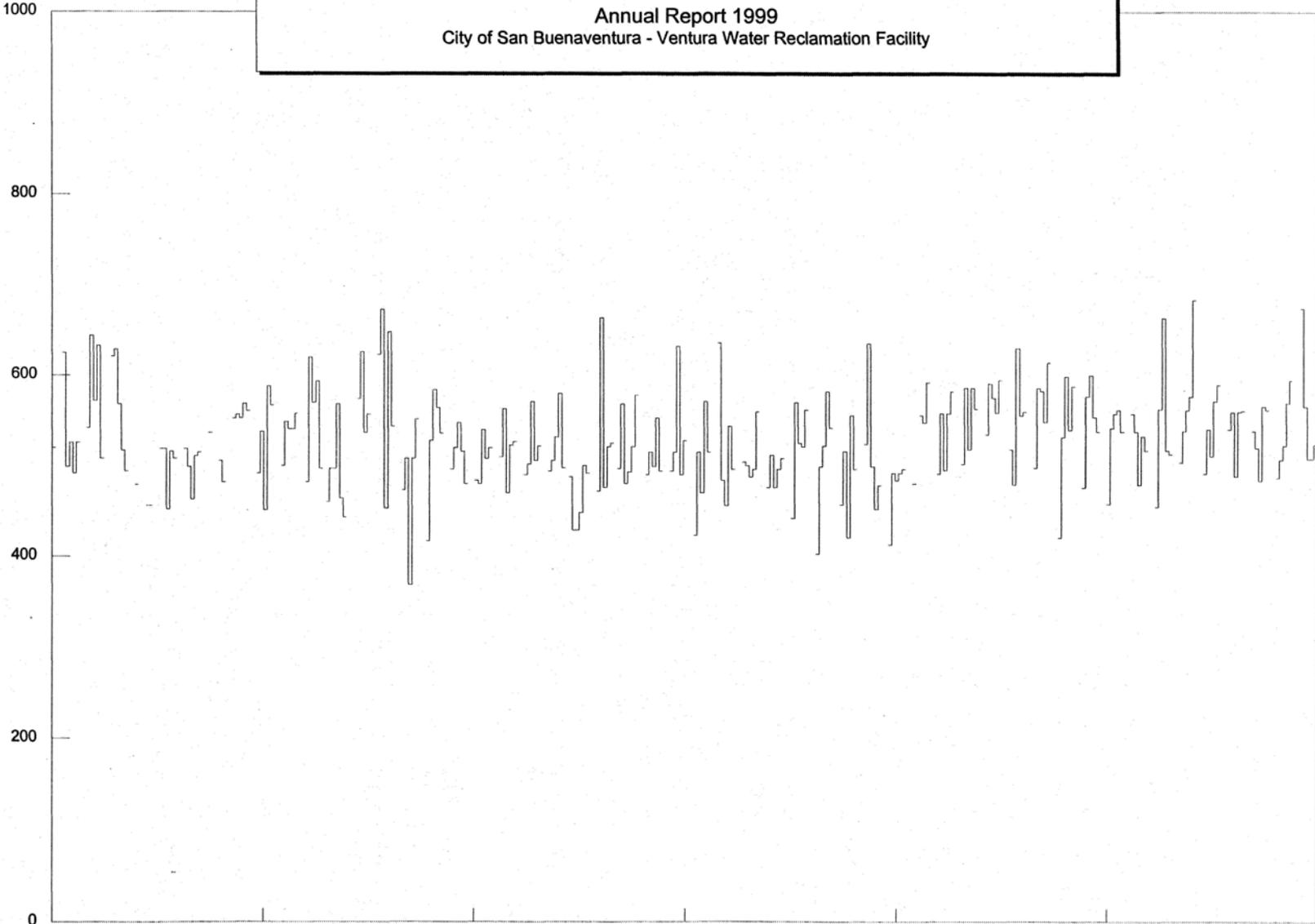
Influent Pump Station
Influent Raw Sewage 30 Day Average Suspended Solids - mg/l

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Influent Pump Station
Influent Raw Sewage 30 Day Average BOD - mg/l

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January
Bimonthly Period Beginning

March

May

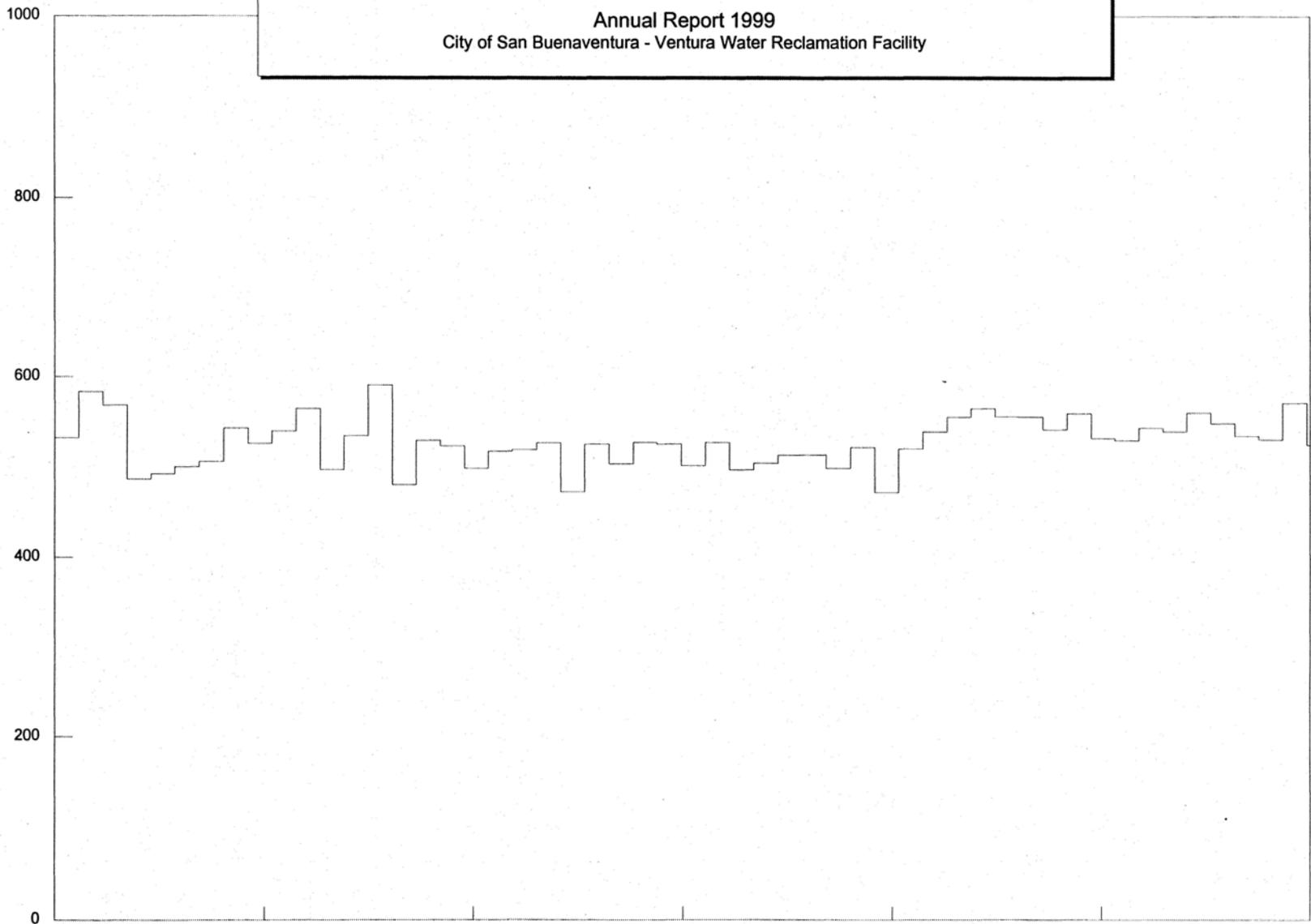
Influent
July

September

November

Influent Pump Station
Influent Raw Sewage COD - mg/l

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January
Bimonthly Period Beginning

March

May

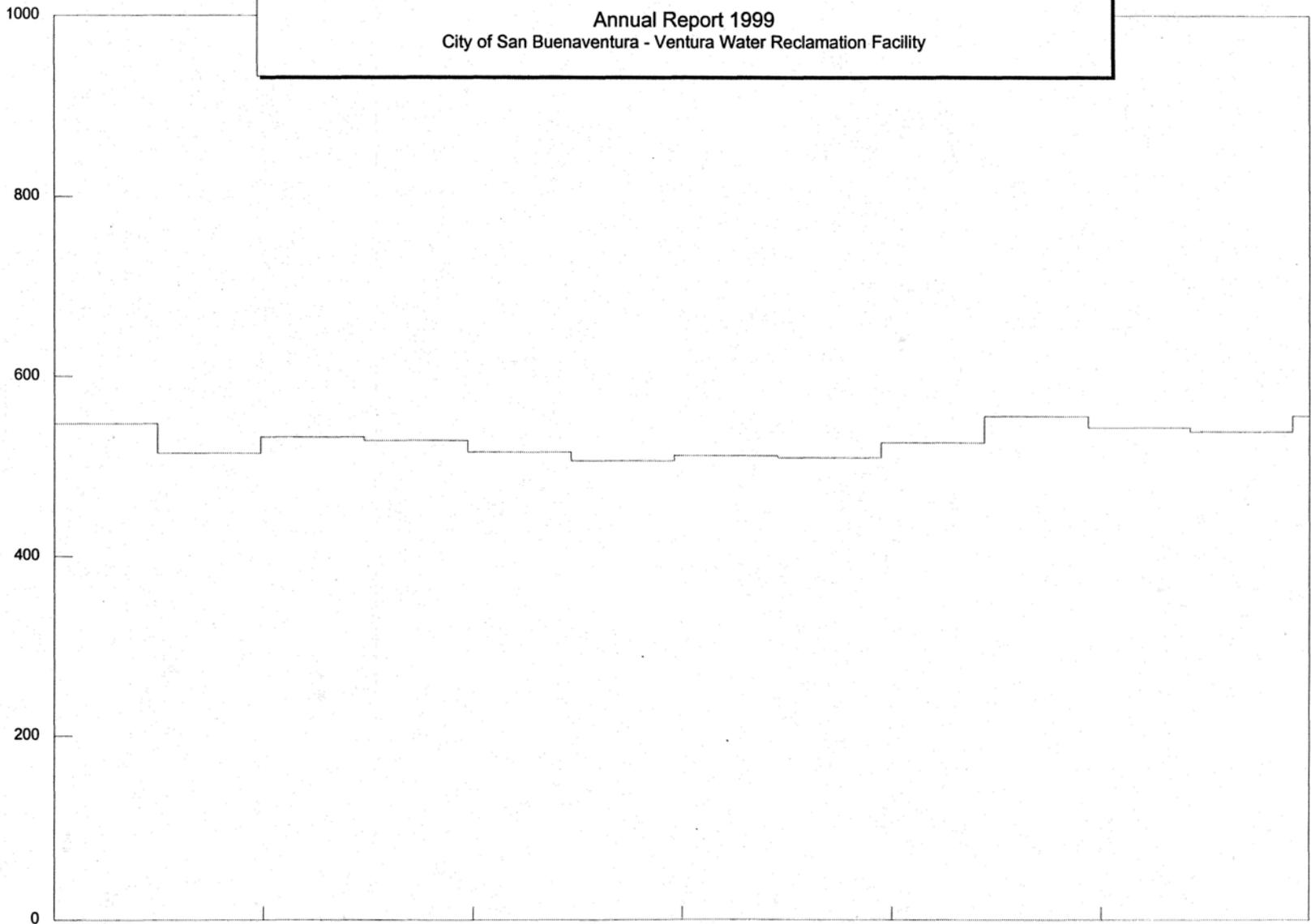
Influent
July

September

November

Influent Pump Station
Influent Raw Sewage 7 Day Average COD - mg/l

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January
Bimonthly Period Beginning

March

May

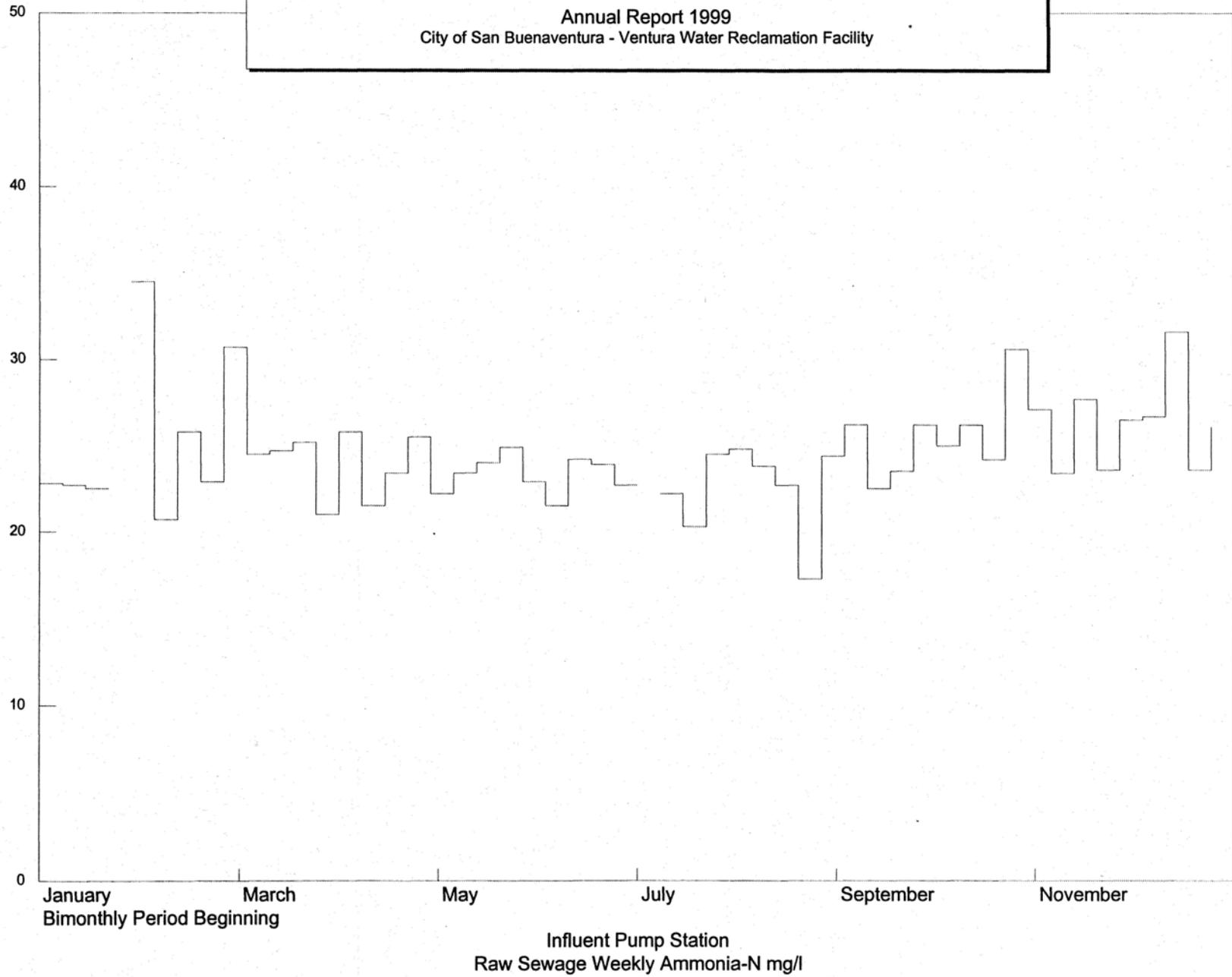
Influent
July

September

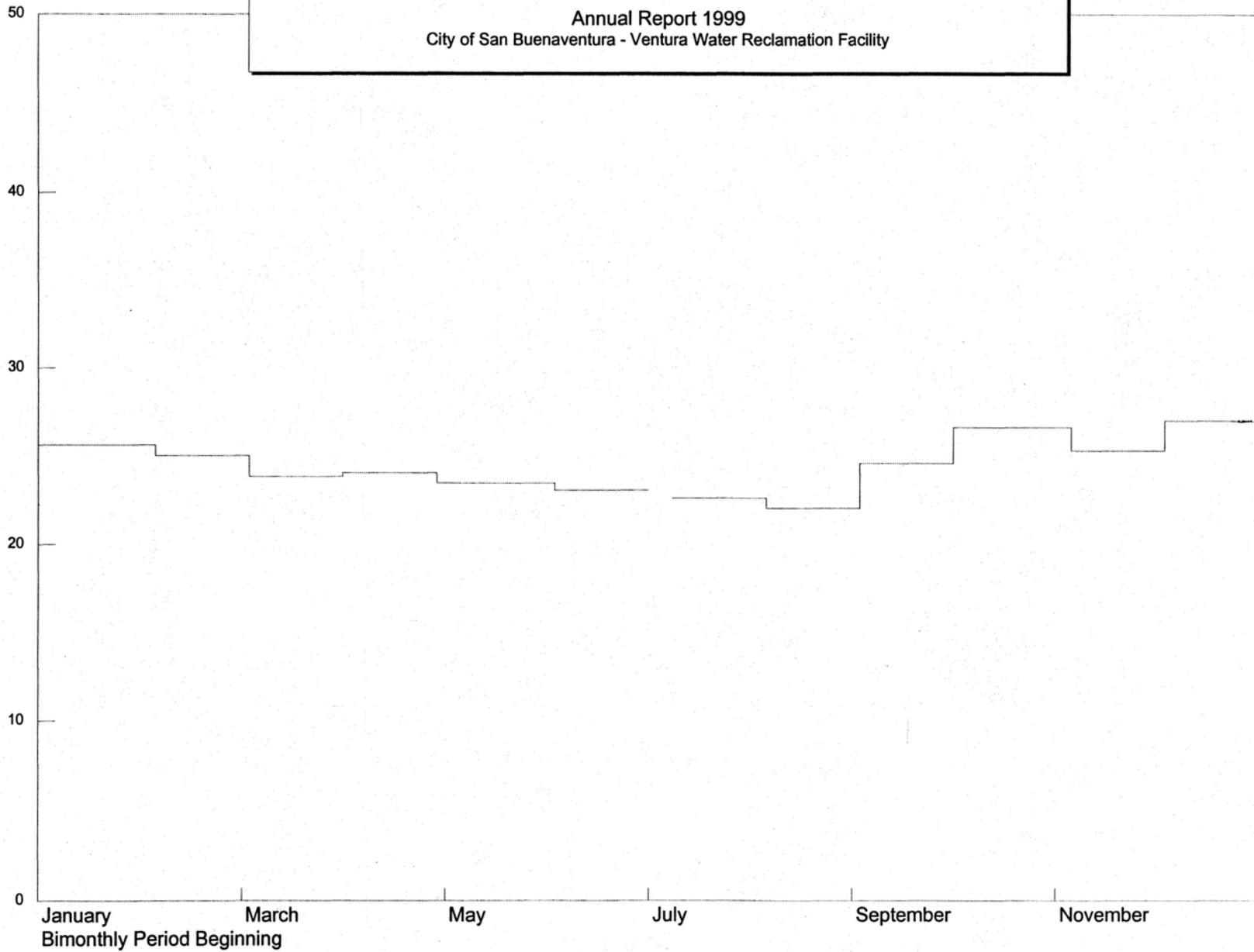
November

Influent Pump Station
Influent Raw Sewage 30 Day Average COD - mg/l

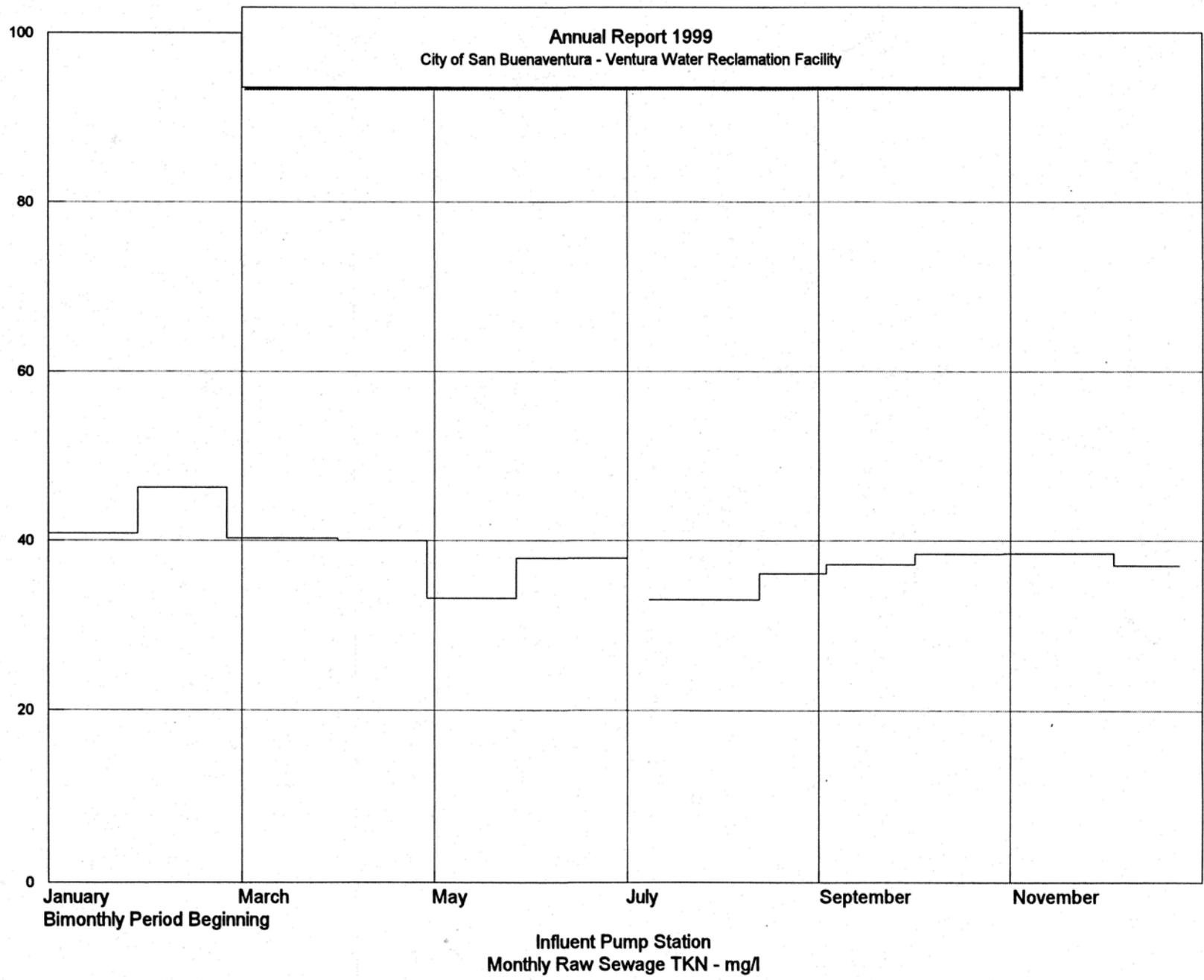
Annual Report 1999
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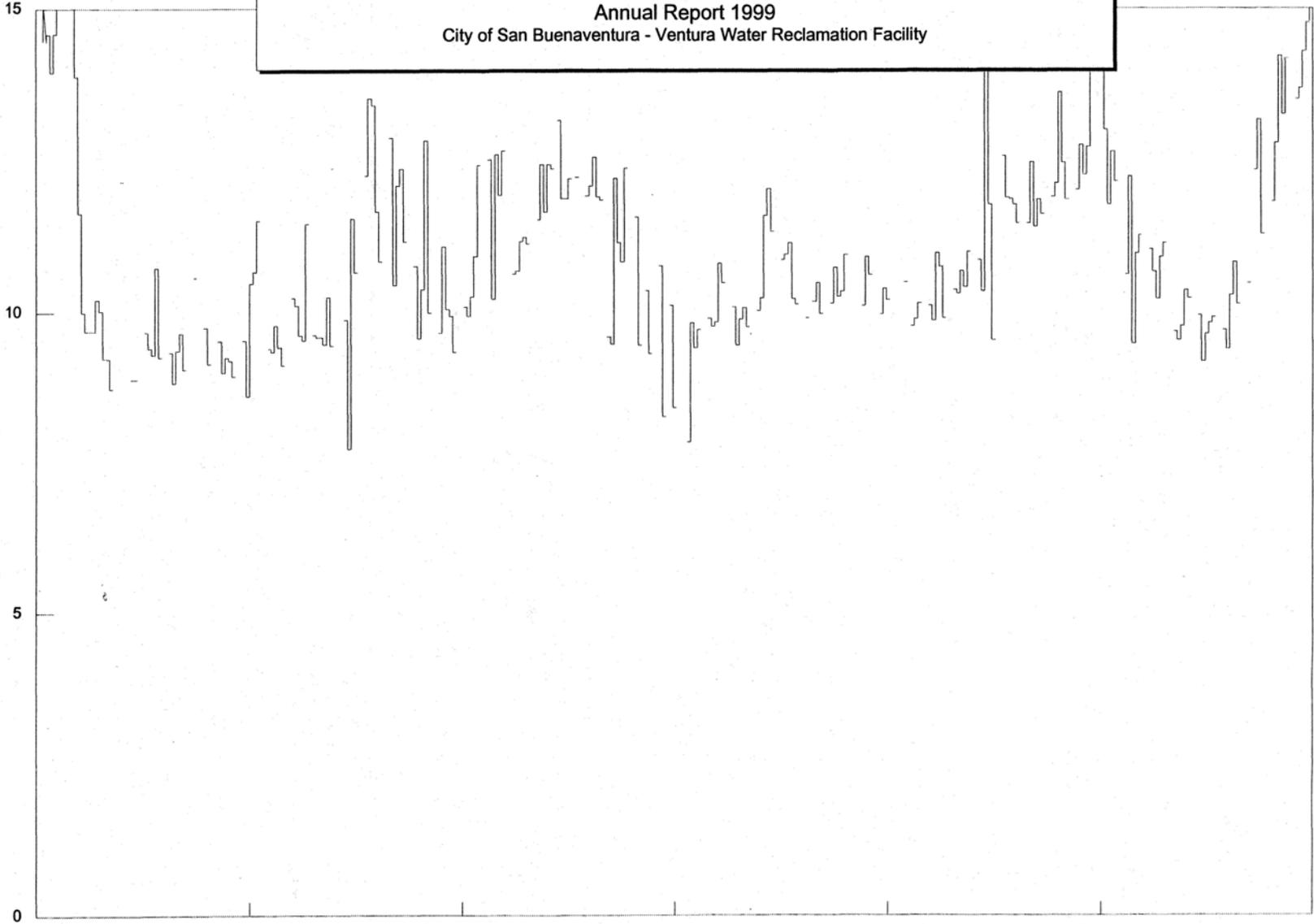
Annual Report 1999
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Influent Pump Station
Raw Sewage 30 Day Average Ammonia-N mg/l



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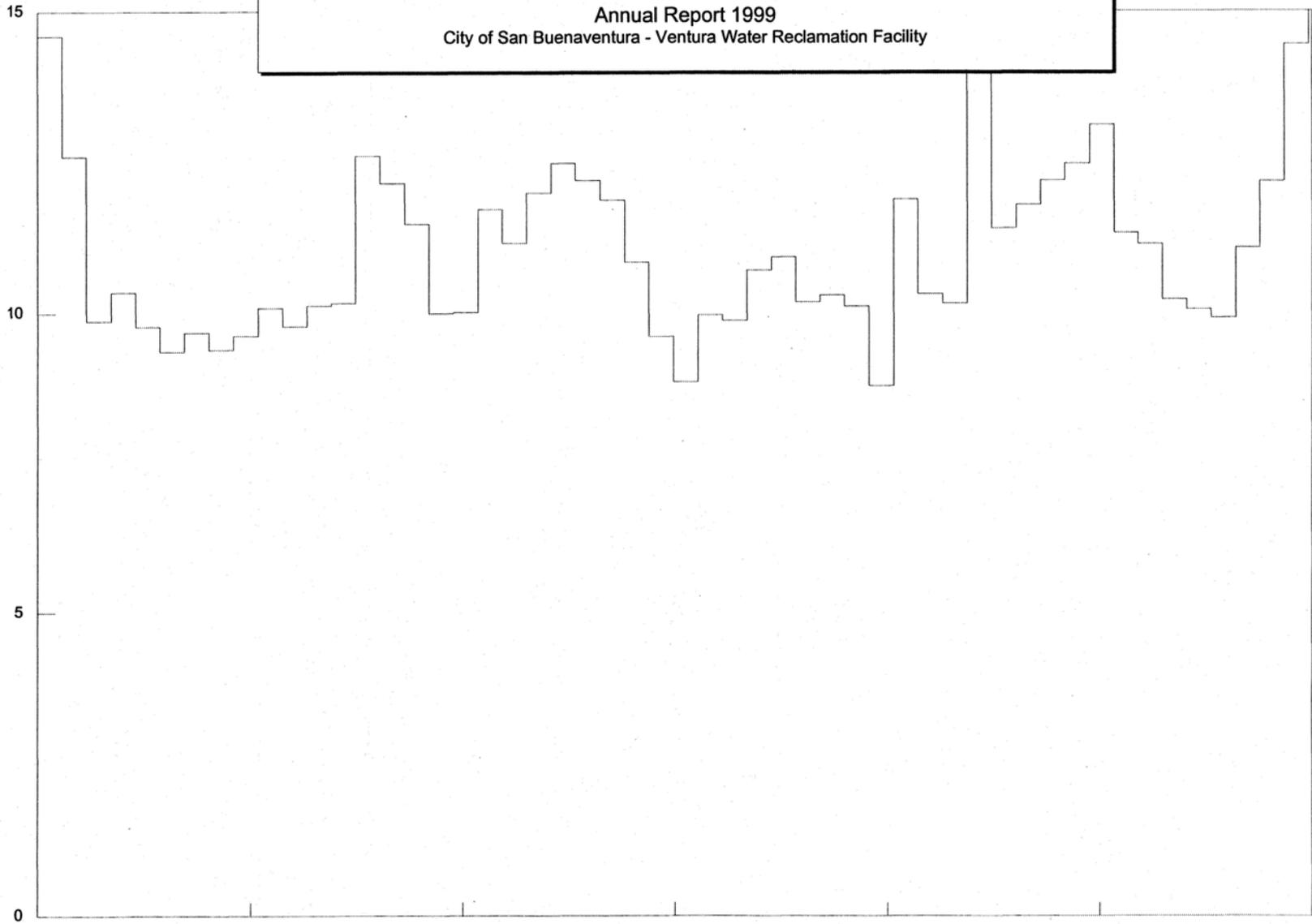
Influent
July

September

November

Primary Clarifier Effluent Splitter Box
Primary Effluent to Activated Sludge - MGD

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January
Bimonthly Period Beginning

March

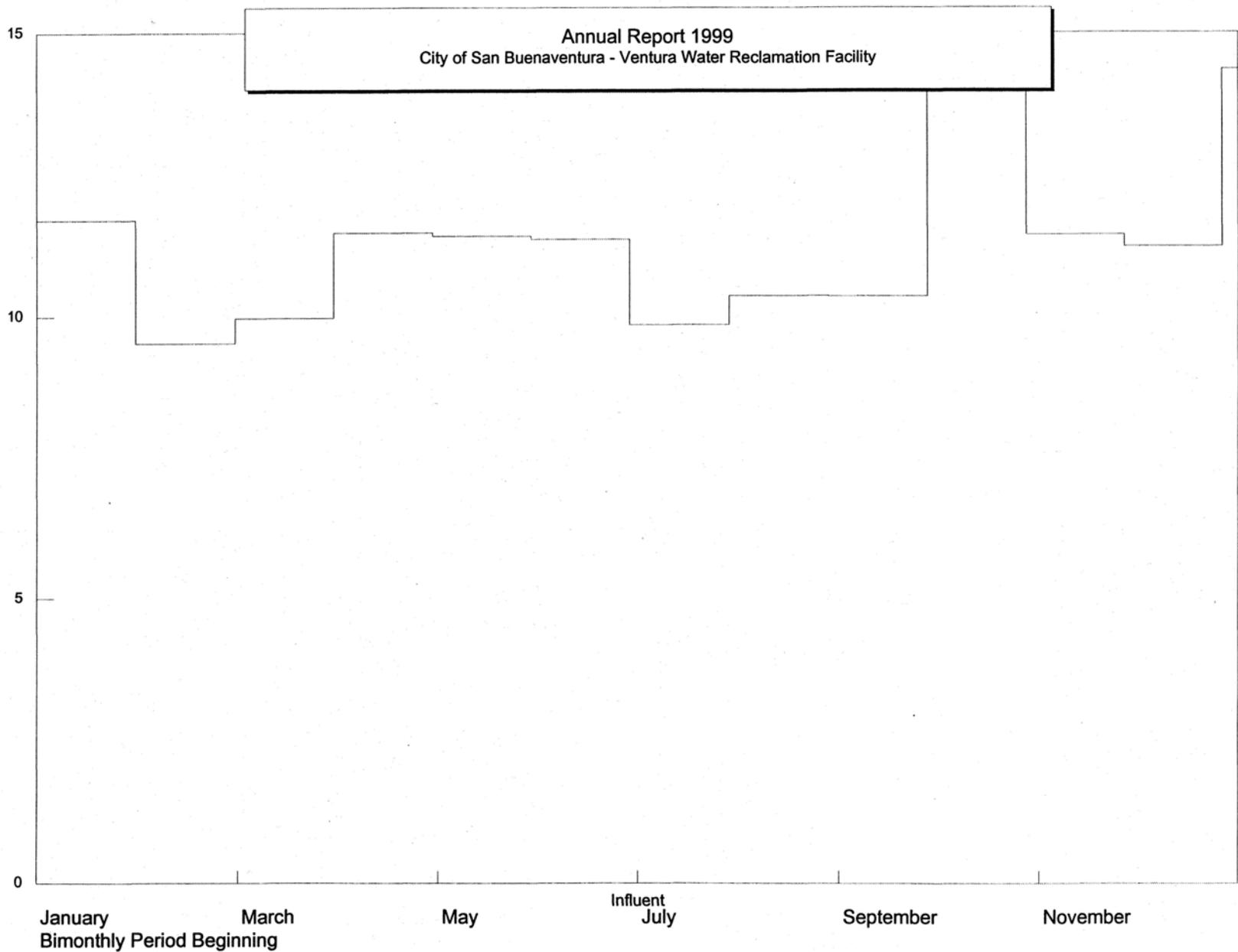
May

Influent
July

September

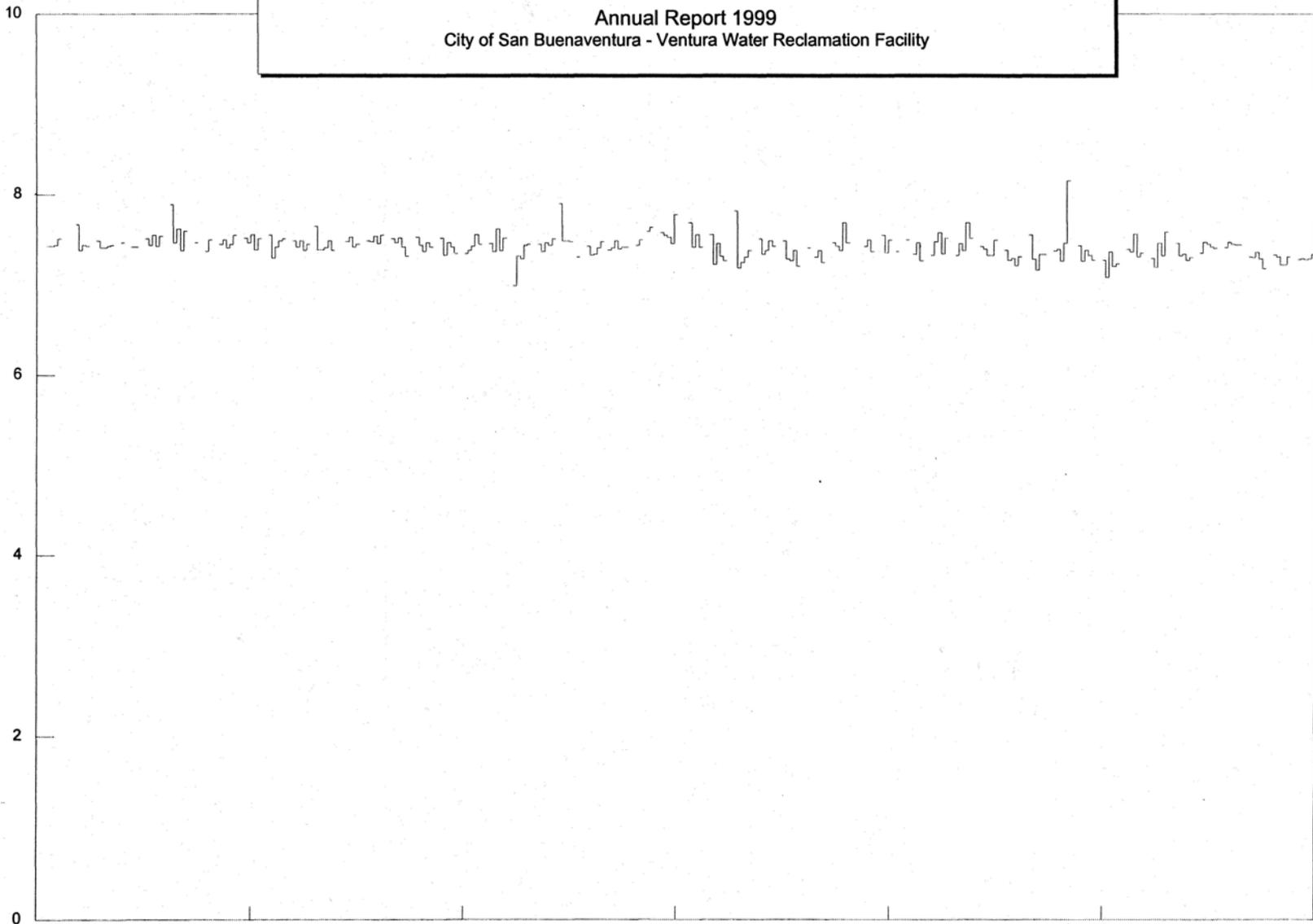
November

Primary Clarifier Effluent Splitter Box
7 Day Average Primary Effluent to Activated Sludge - MGD



Primary Clarifier Effluent Splitter Box
30 Day Average 'Primary Effluent to Activated Sludge - MGD

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May

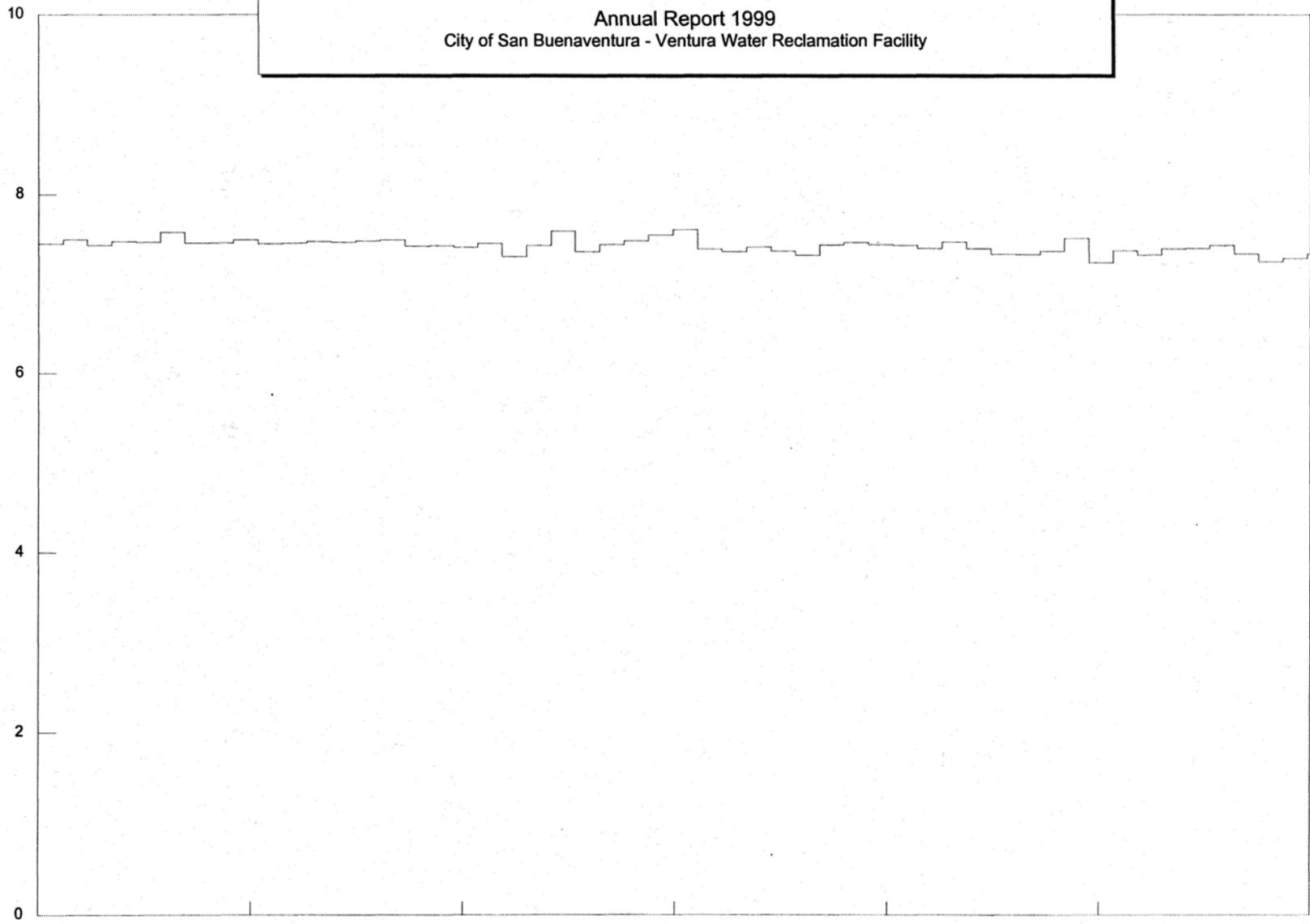
Influent
July

September

November

Primary Clarifier Effluent Splitter Box
Primary Effluent pH - pH Units

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January
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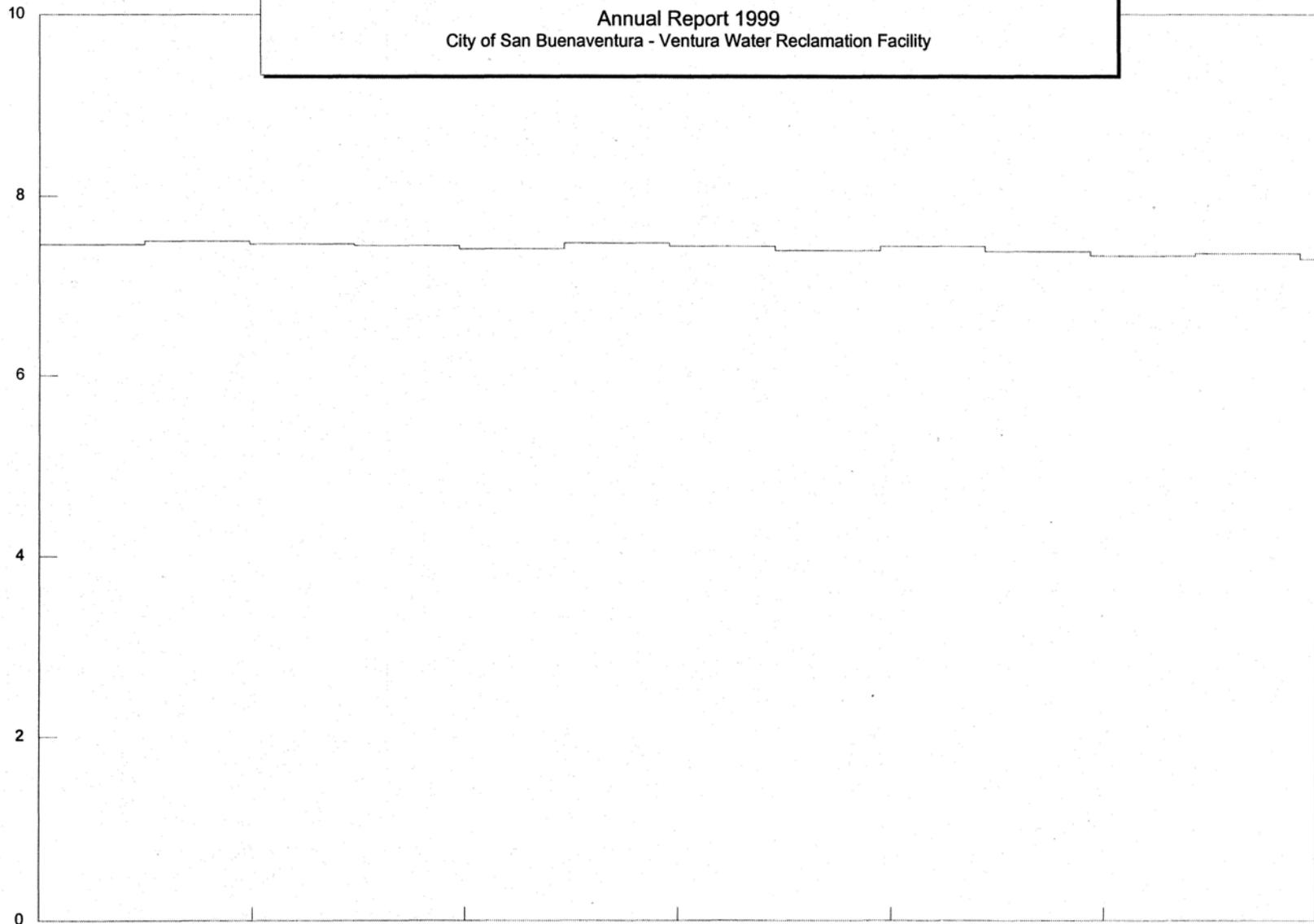
Influent
July

September

November

Primary Clarifier Effluent Splitter Box
Primary Effluent 7 Day Average pH - pH Units

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January
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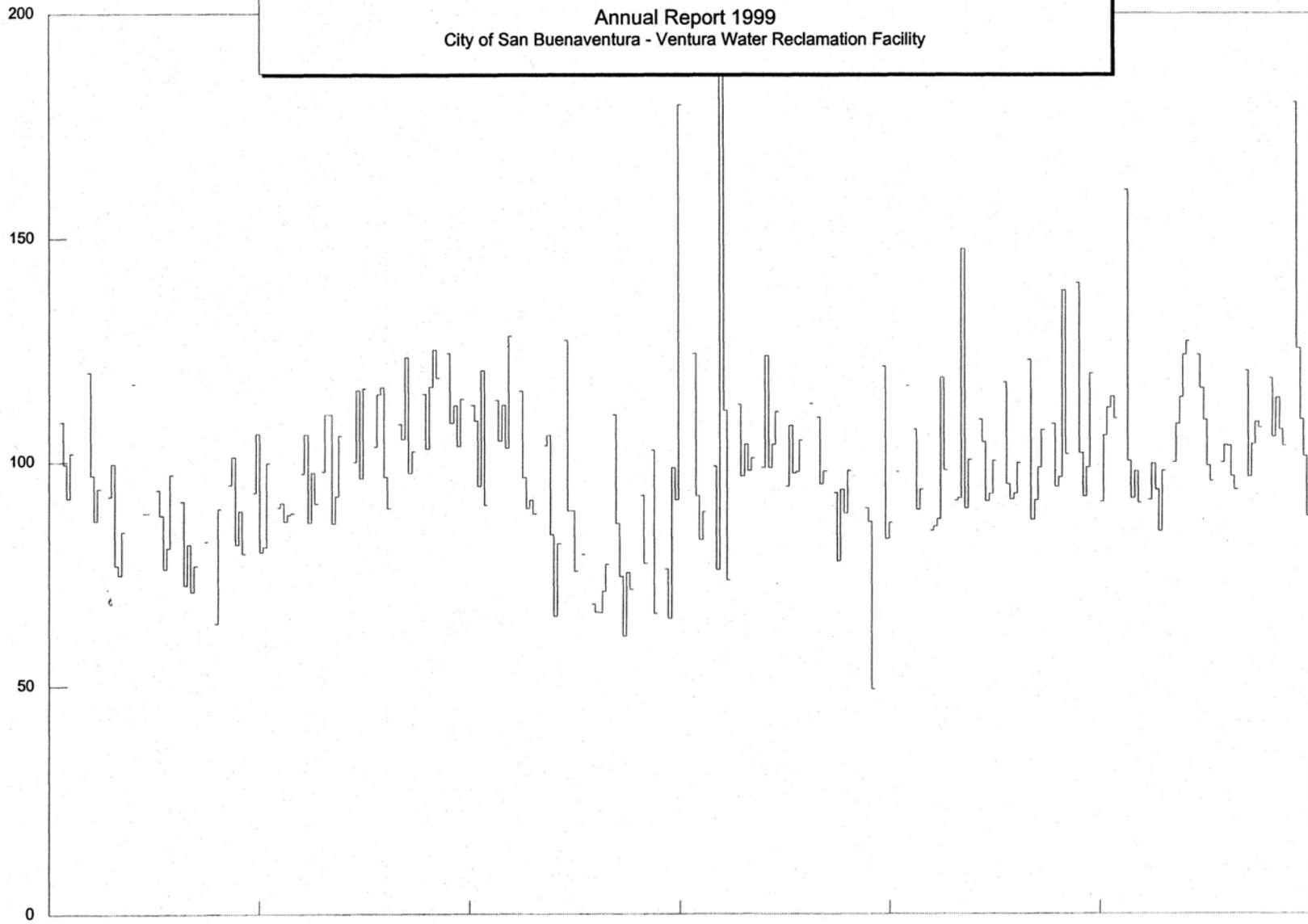
Influent
July

September

November

Primary Clarifier Effluent Splitter Box
Primary Effluent 30 Day Average pH - pH Units

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January
Bimonthly Period Beginning

March

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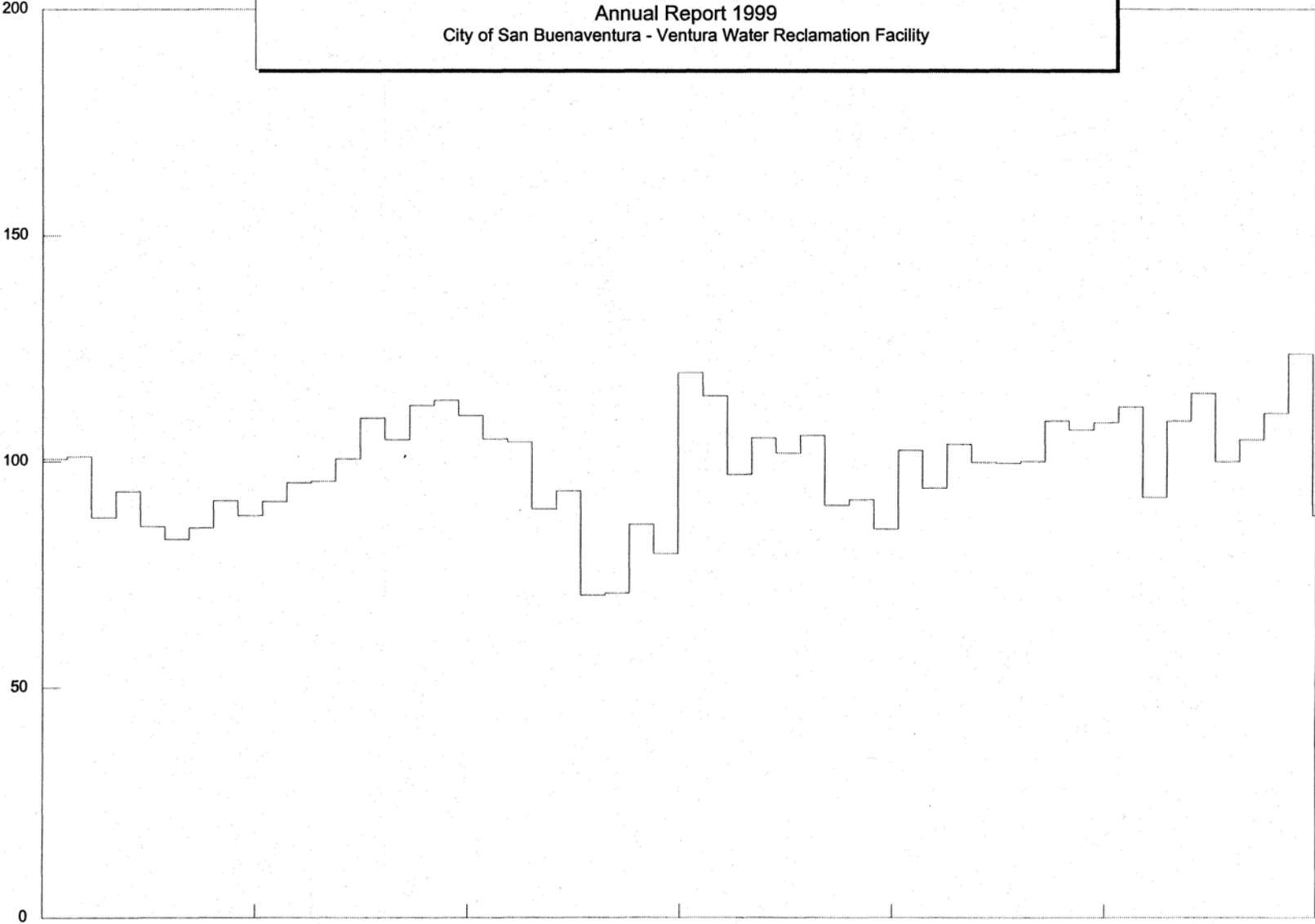
Influent
July

September

November

Primary Clarifier Effluent Splitter Box
Primary Effluent Suspended Solids - mg/l

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January
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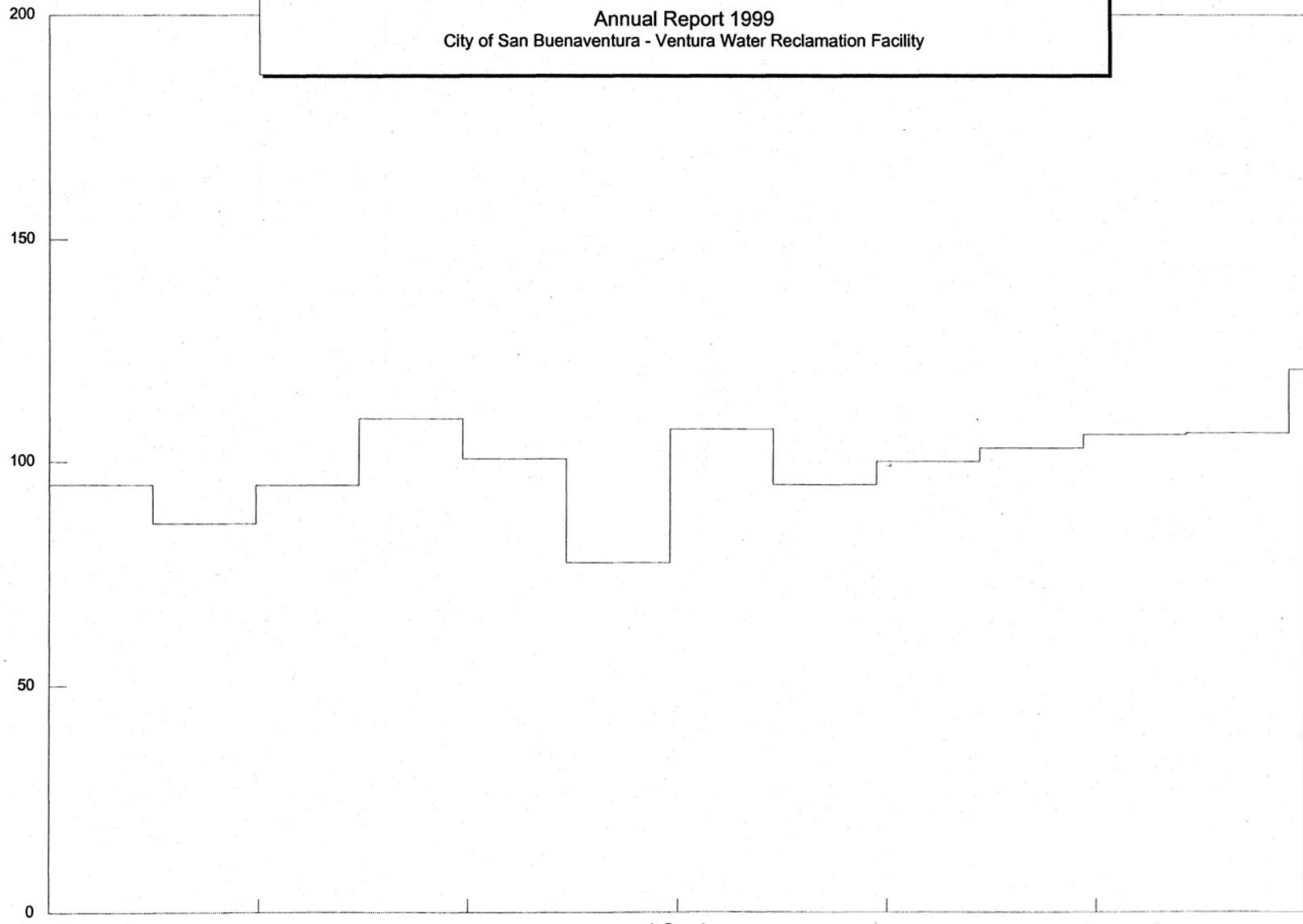
Influent
July

September

November

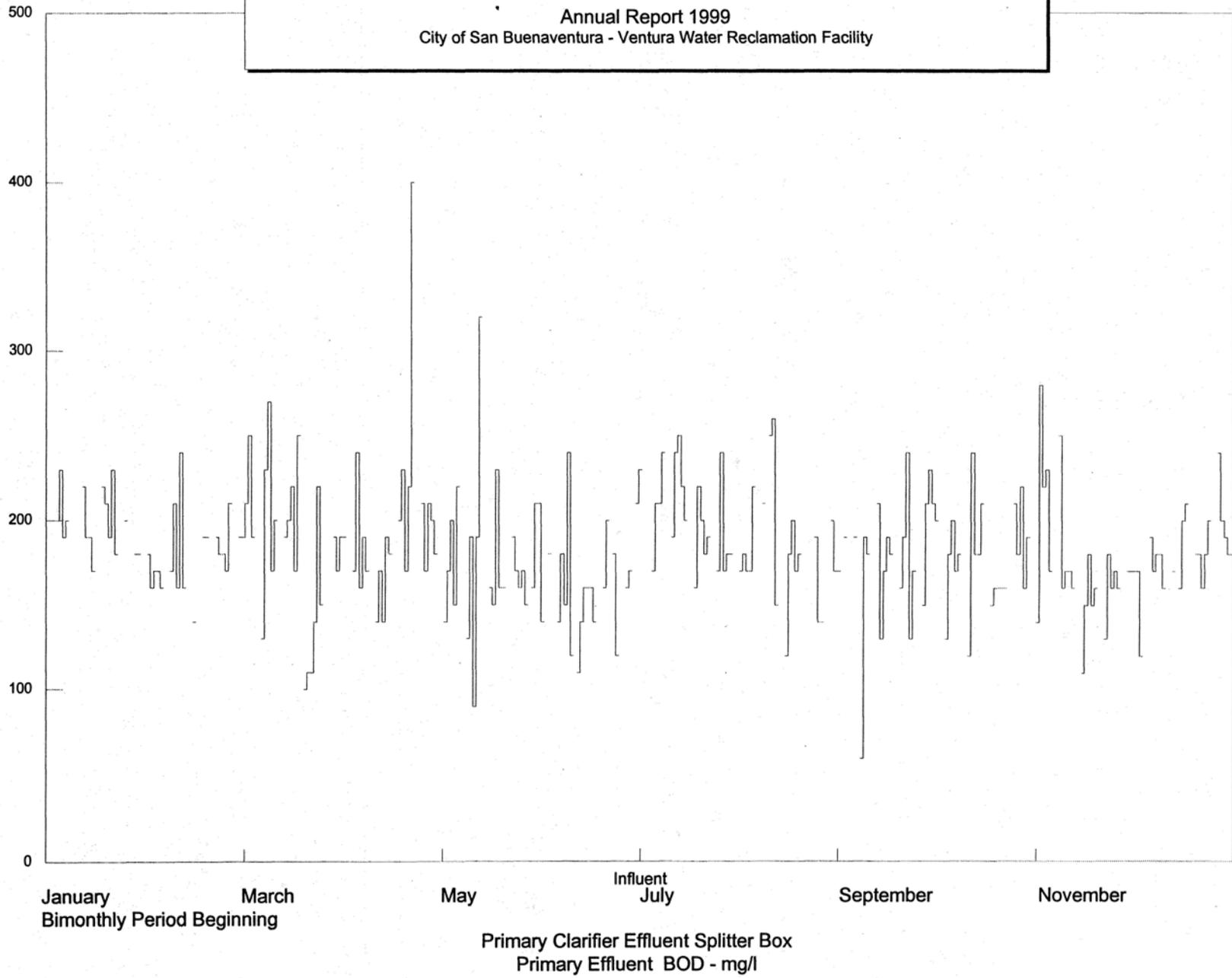
Primary Clarifier Effluent Splitter Box
Primary Effluent 7 Day Average Suspended Solids - mg/l

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City of San Buenaventura - Ventura Water Reclamation Facility

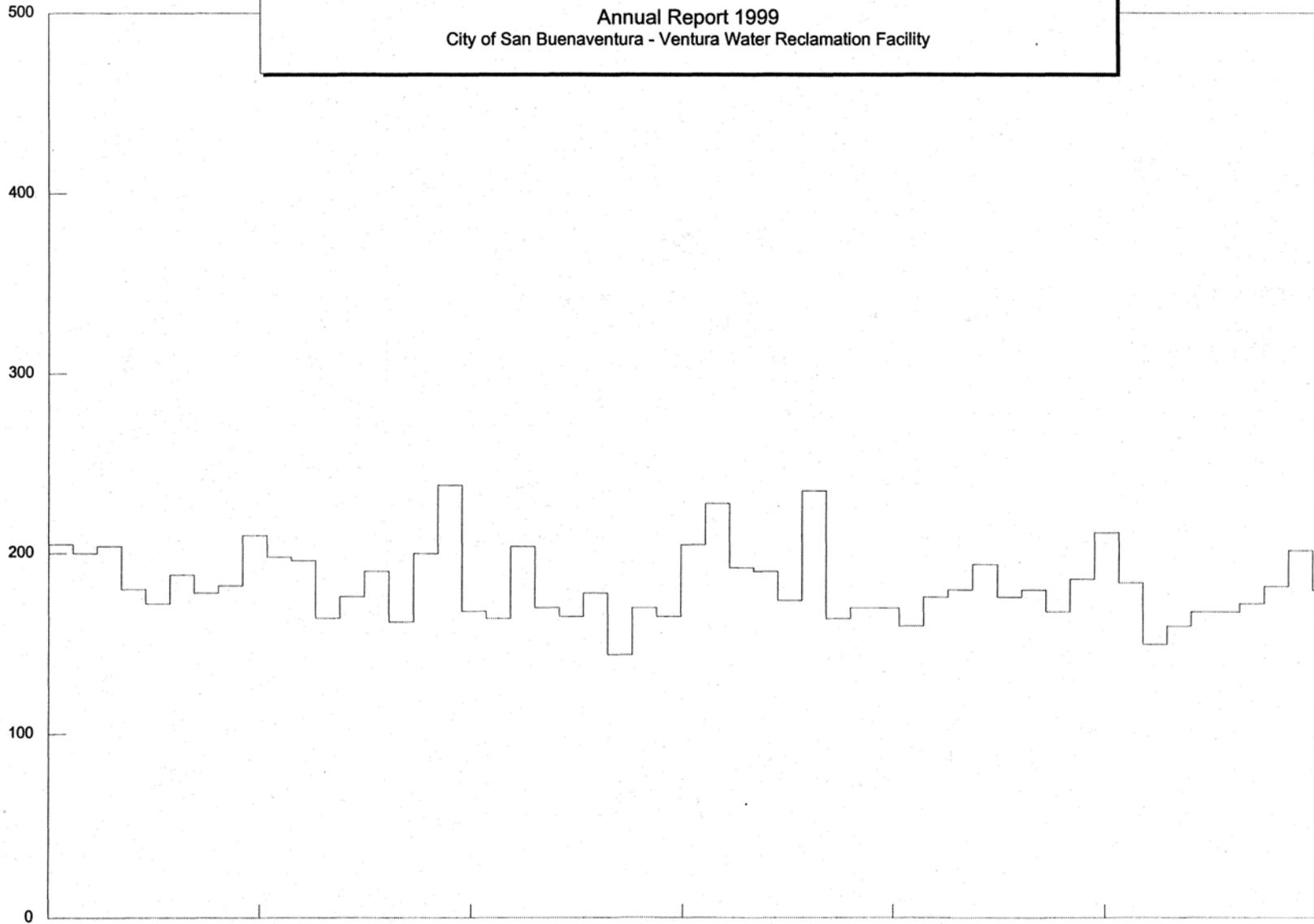


Primary Clarifier Effluent Splitter Box
Primary Effluent 30 Day Average Suspended Solids - mg/l

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January
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March

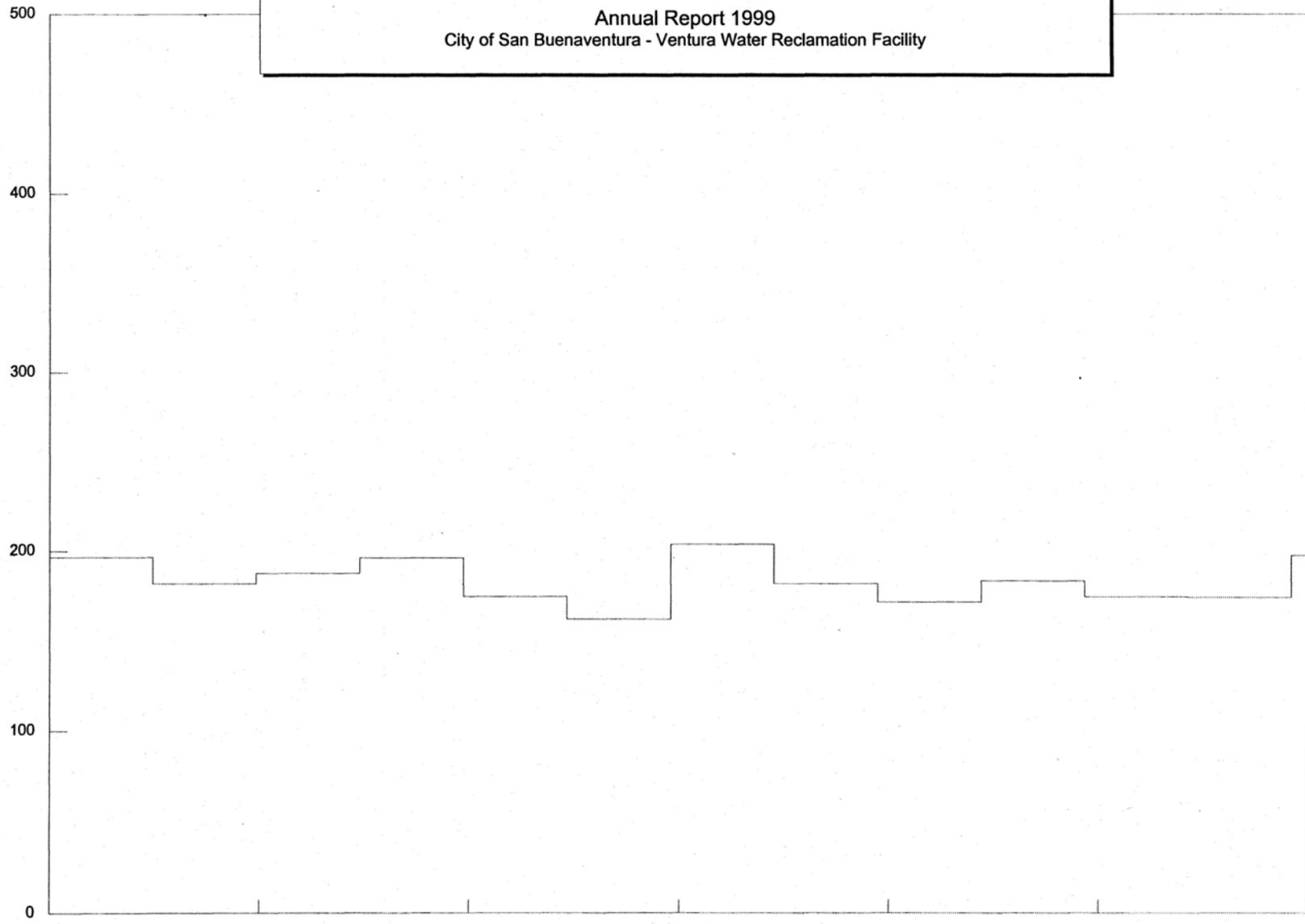
Influent
July

September

November

Primary Clarifier Effluent Splitter Box
Primary Effluent 7 Day Average BOD - mg/l

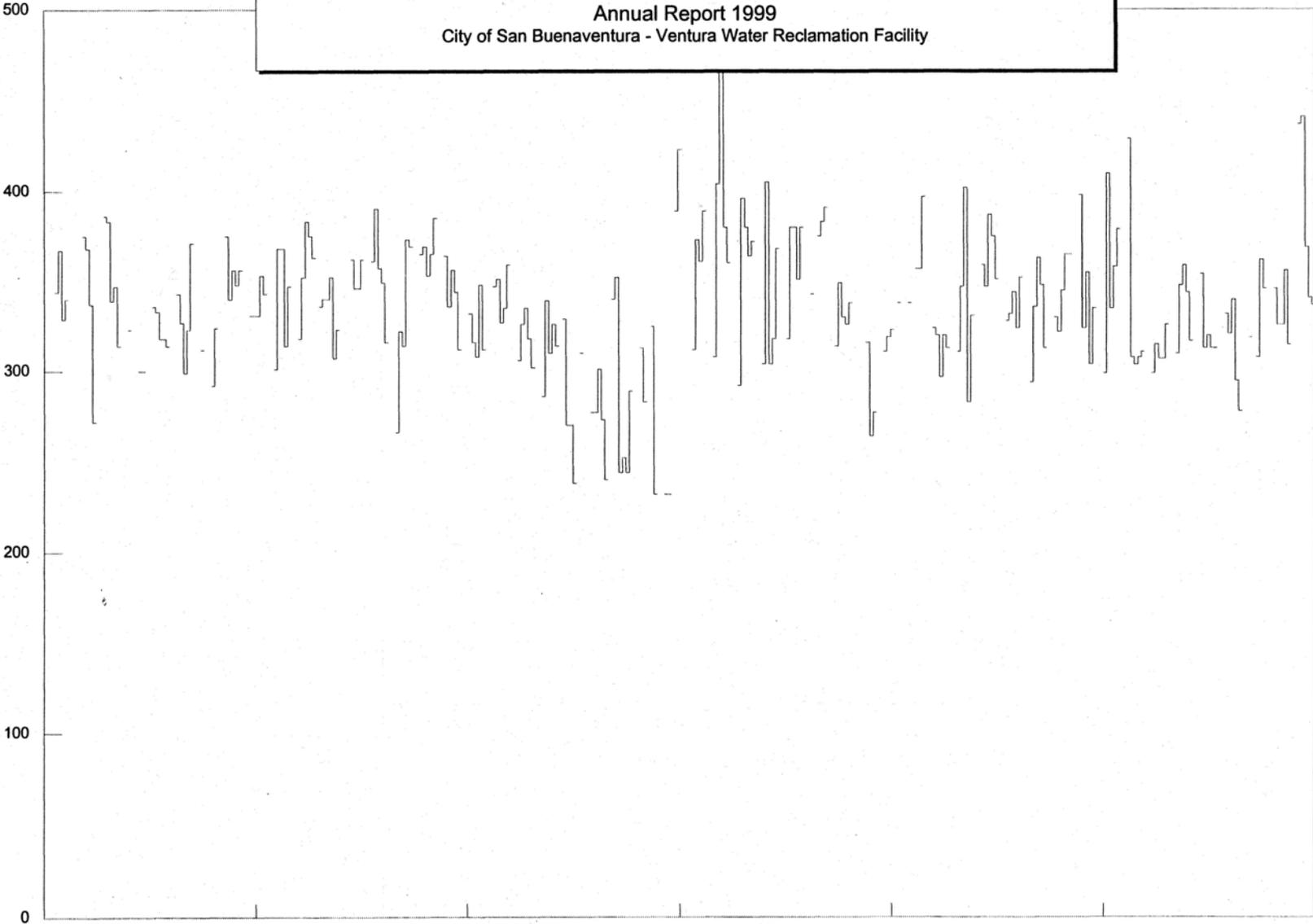
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January
Bimonthly Period Beginning

Primary Clarifier Effluent Splitter Box
Primary Effluent 30 Day Average BOD - mg/l

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January
Bimonthly Period Beginning

March

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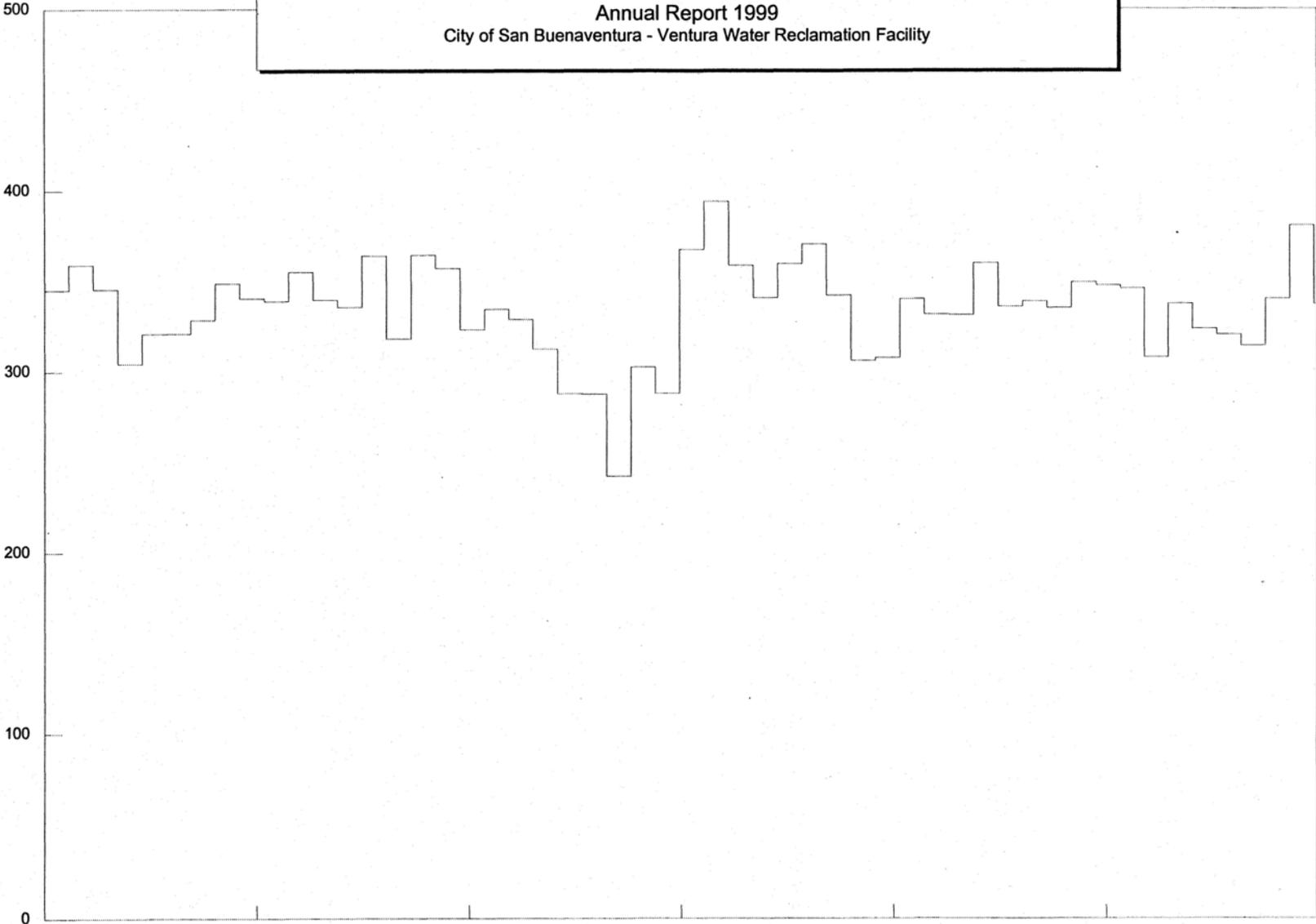
Influent
July

September

November

Primary Clarifier Effluent Splitter Box
Primary Effluent COD - mg/l

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January
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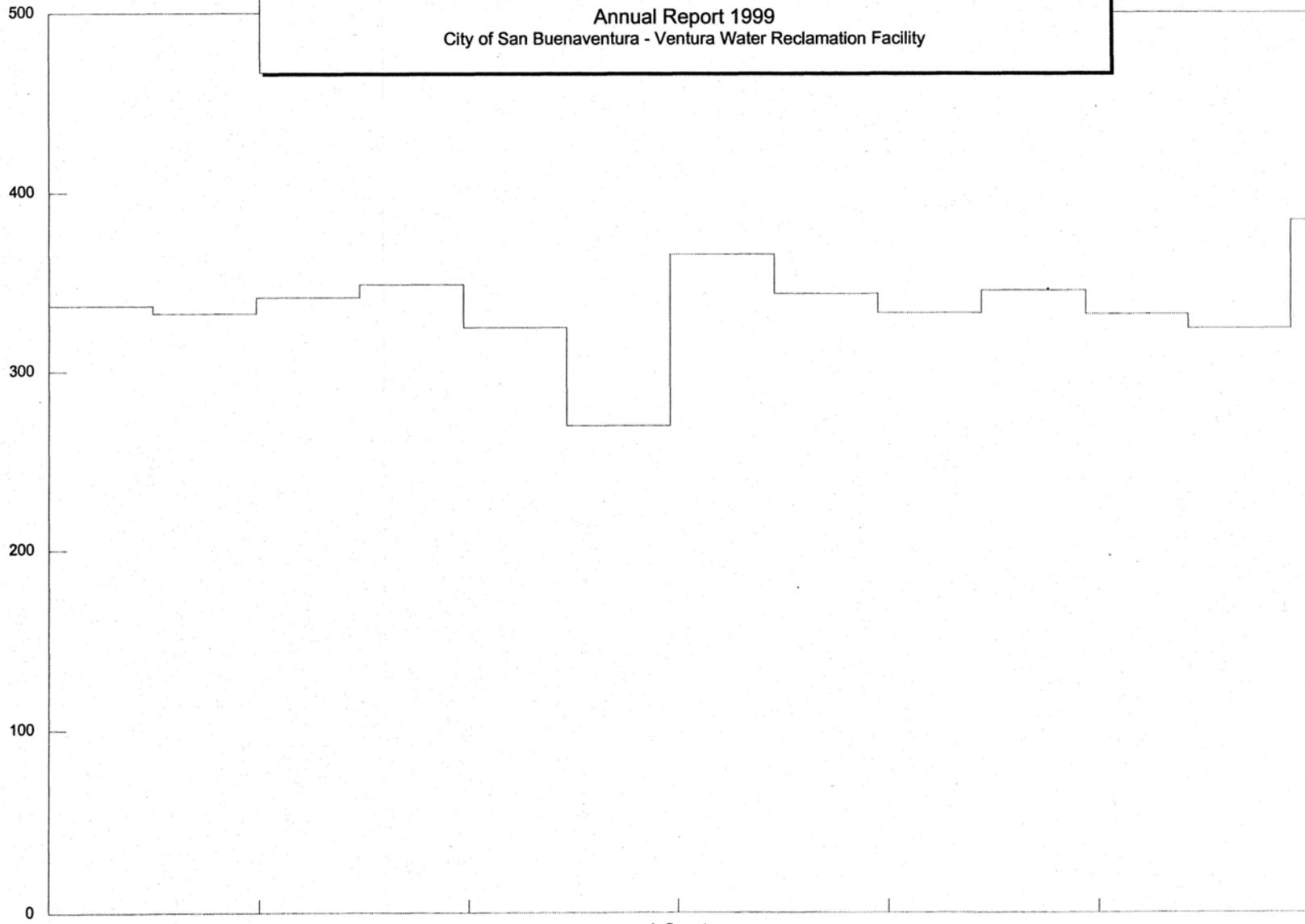
Influent
July

September

November

Primary Clarifier Effluent Splitter Box
Primary Effluent 7 Day Average COD - mg/l

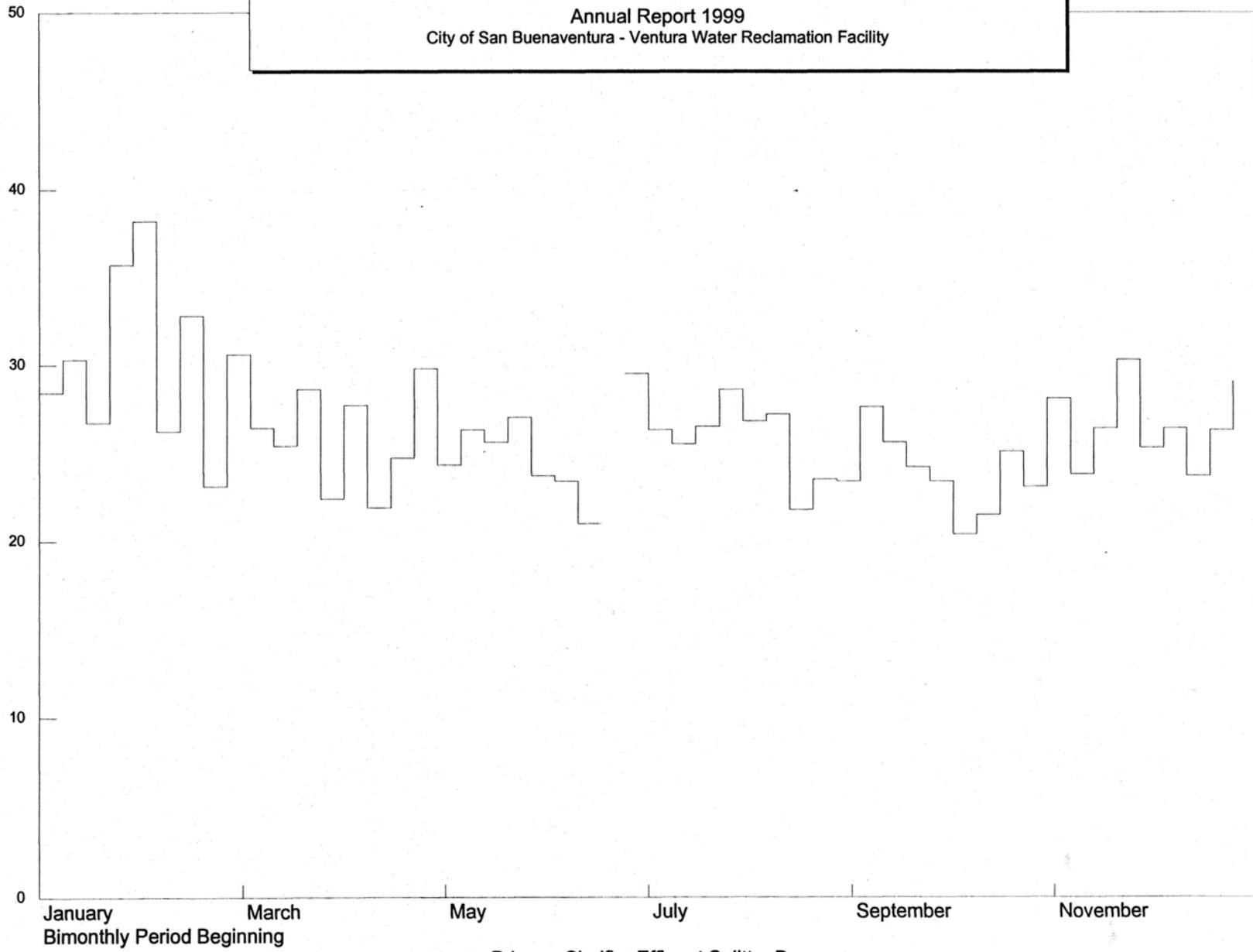
Annual Report 1999
City of San Buenaventura - Ventura Water Reclamation Facility



January
Bimonthly Period Beginning

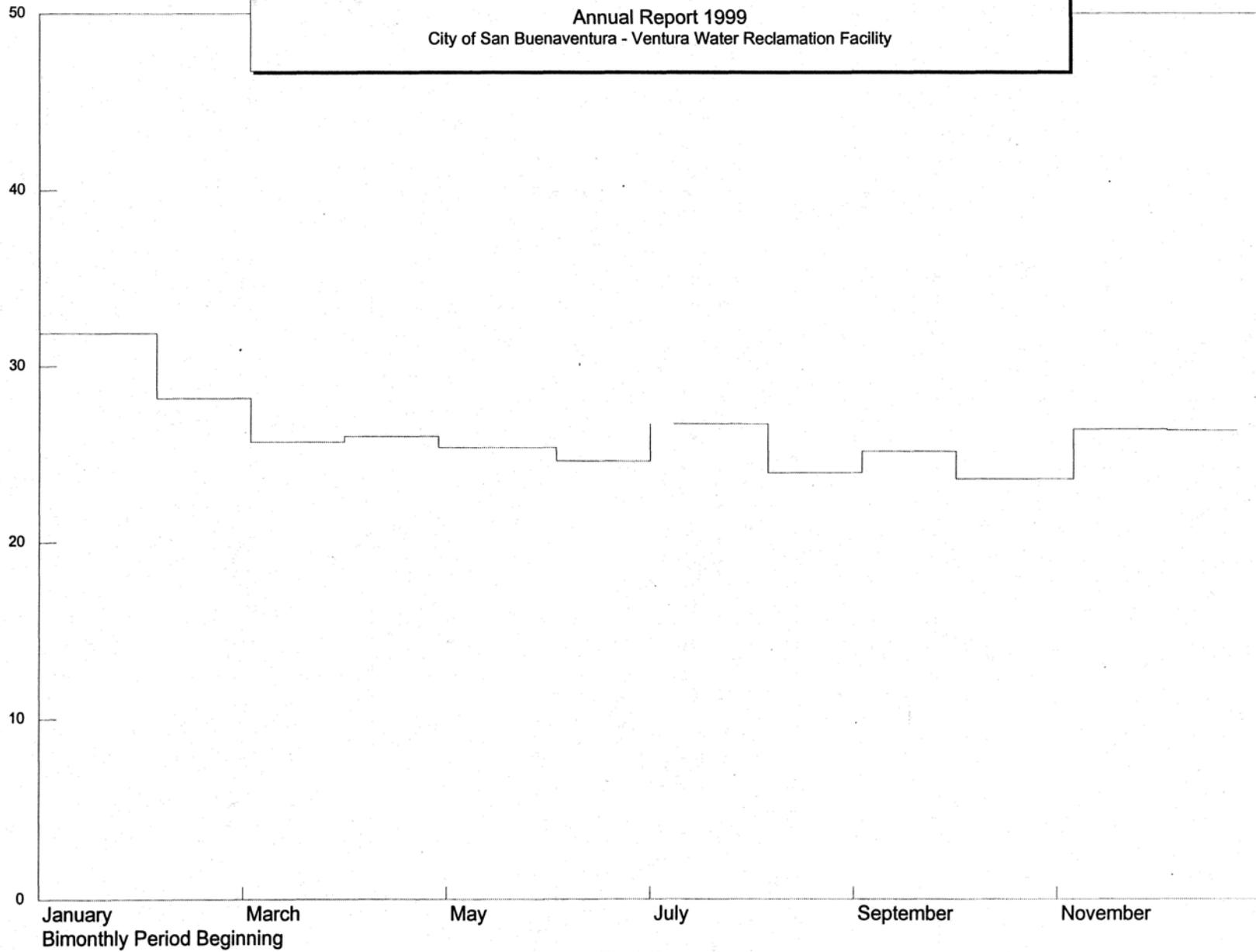
Primary Clarifier Effluent Splitter Box
Primary Effluent 30 Day Average COD - mg/l

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City of San Buenaventura - Ventura Water Reclamation Facility

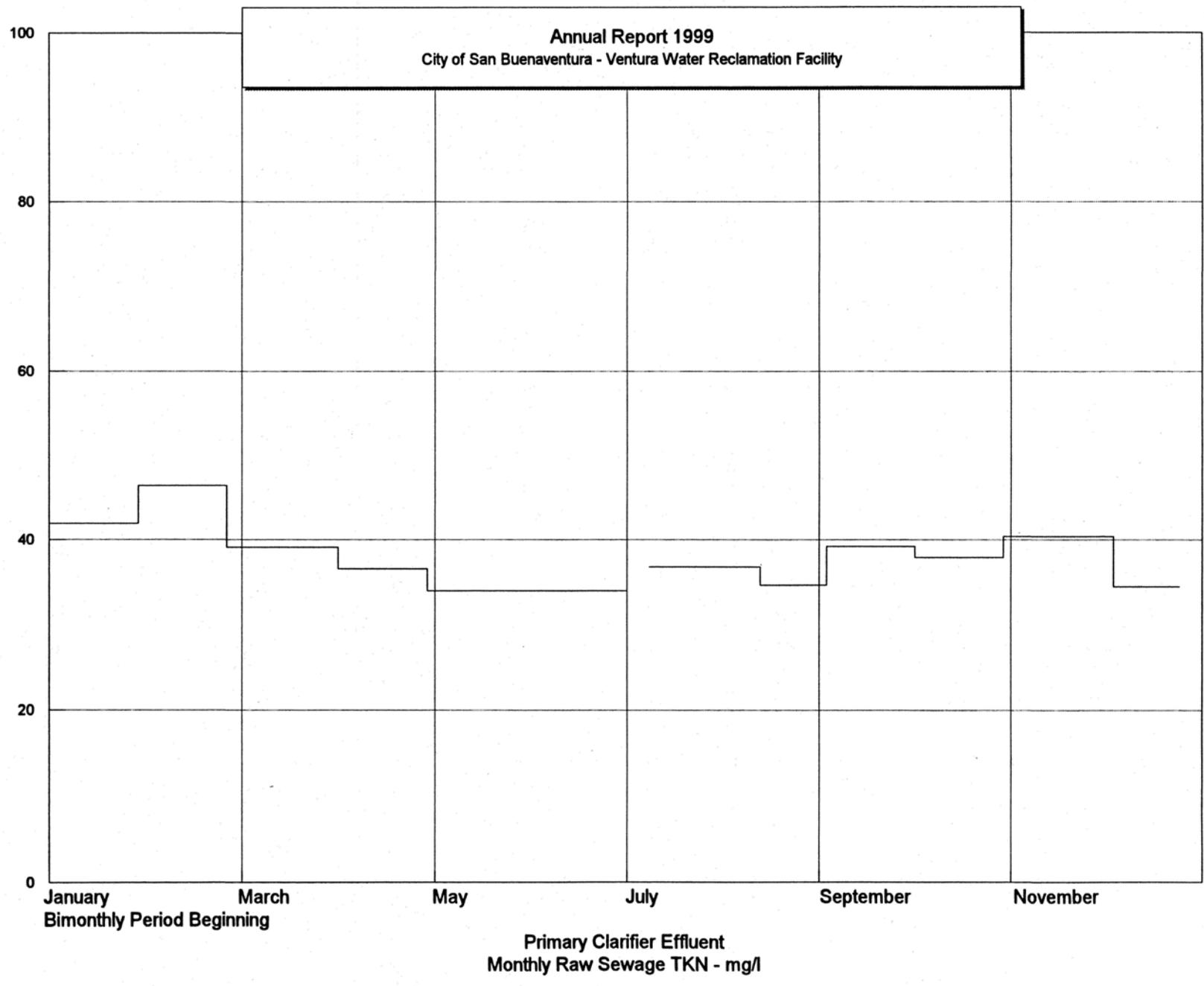


Primary Clarifier Effluent Splitter Box
Primary Effluent Weekly Ammonia-N mg/l

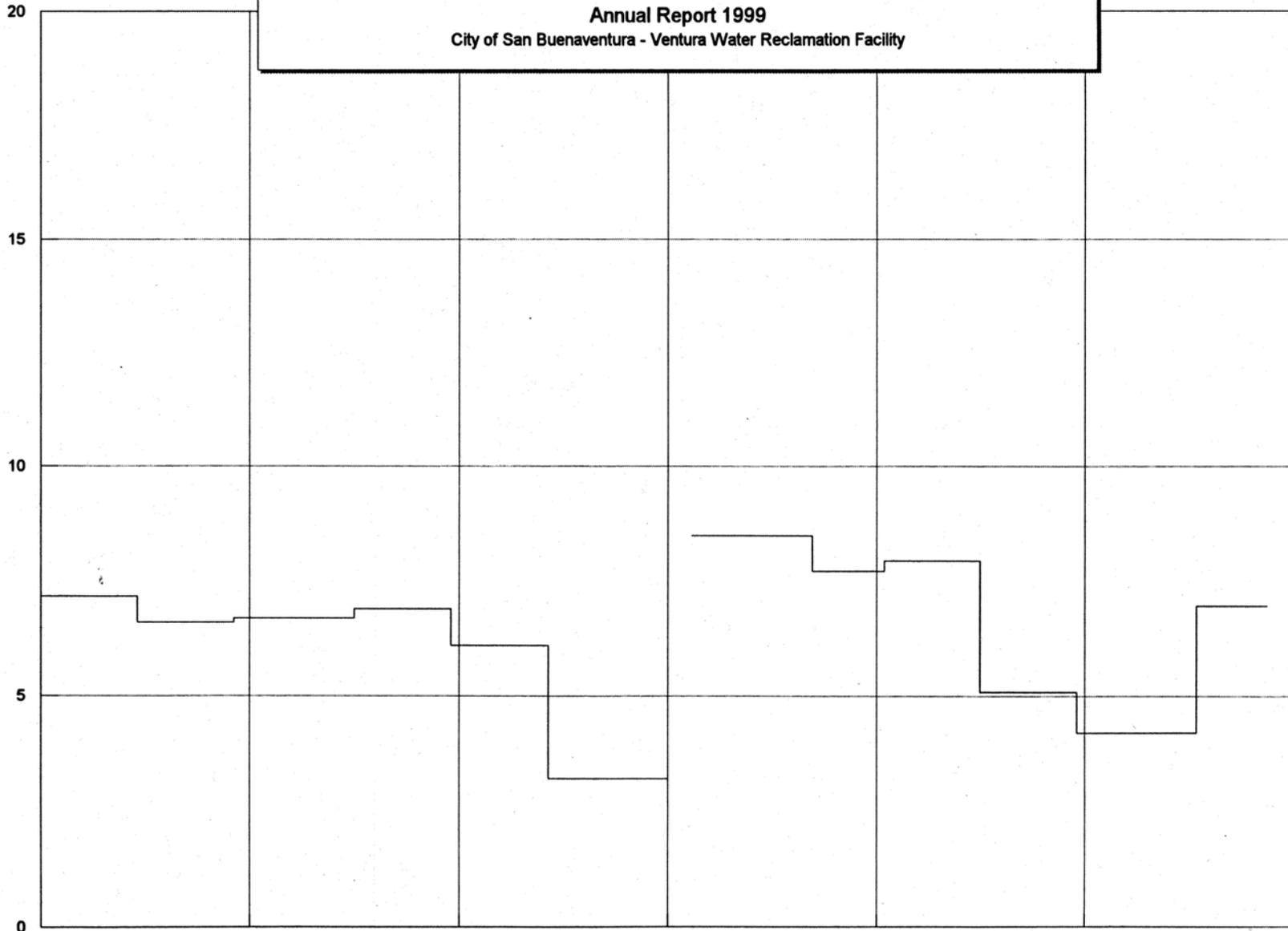
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Primary Clarifier Effluent Splitter Box
Primary Effluent 30 Day Average Ammonia-N mg/l



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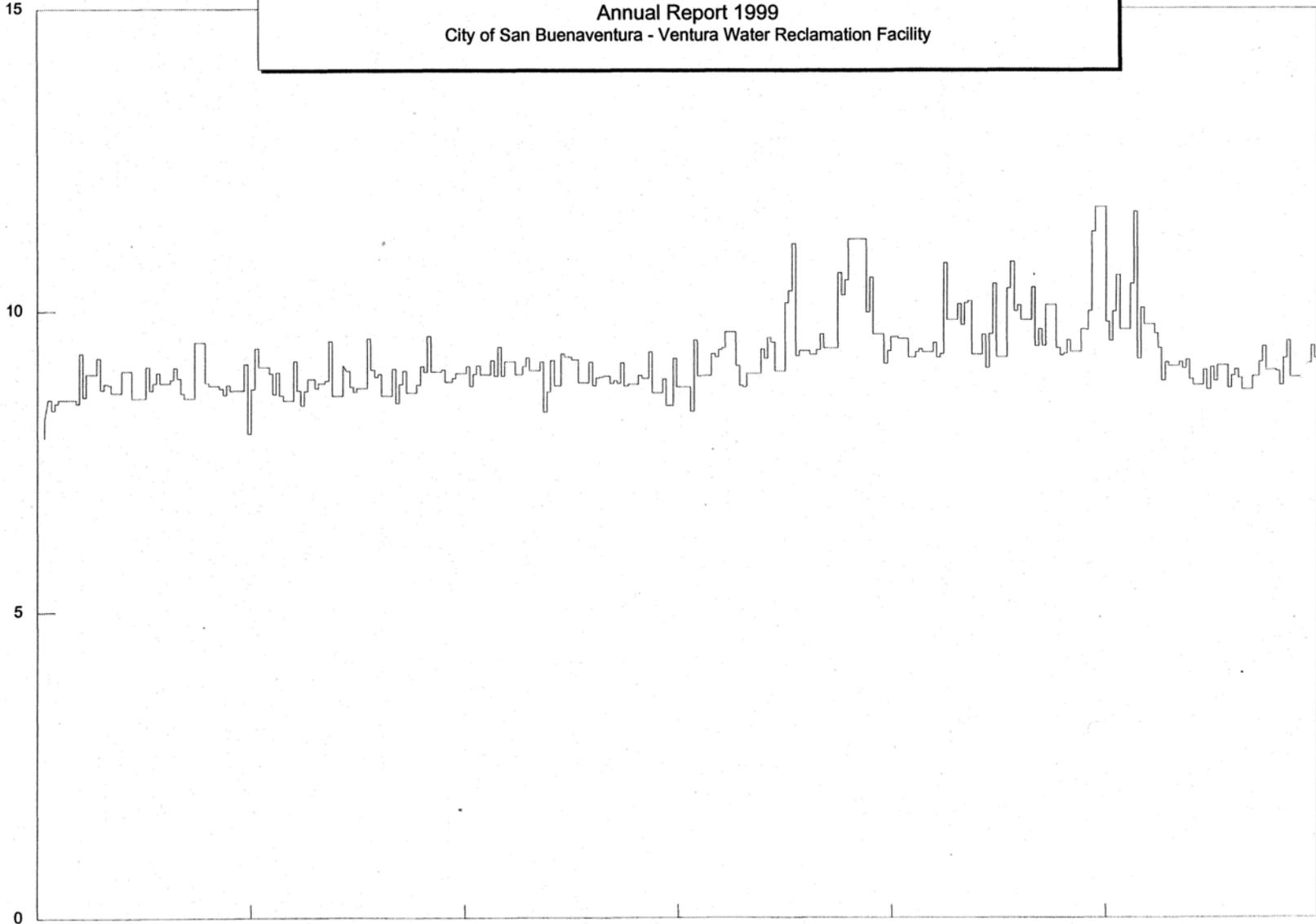


January March May July September November

Primary Clarifier Effluent
Primary Effluent Monthly MBAS - mg/l



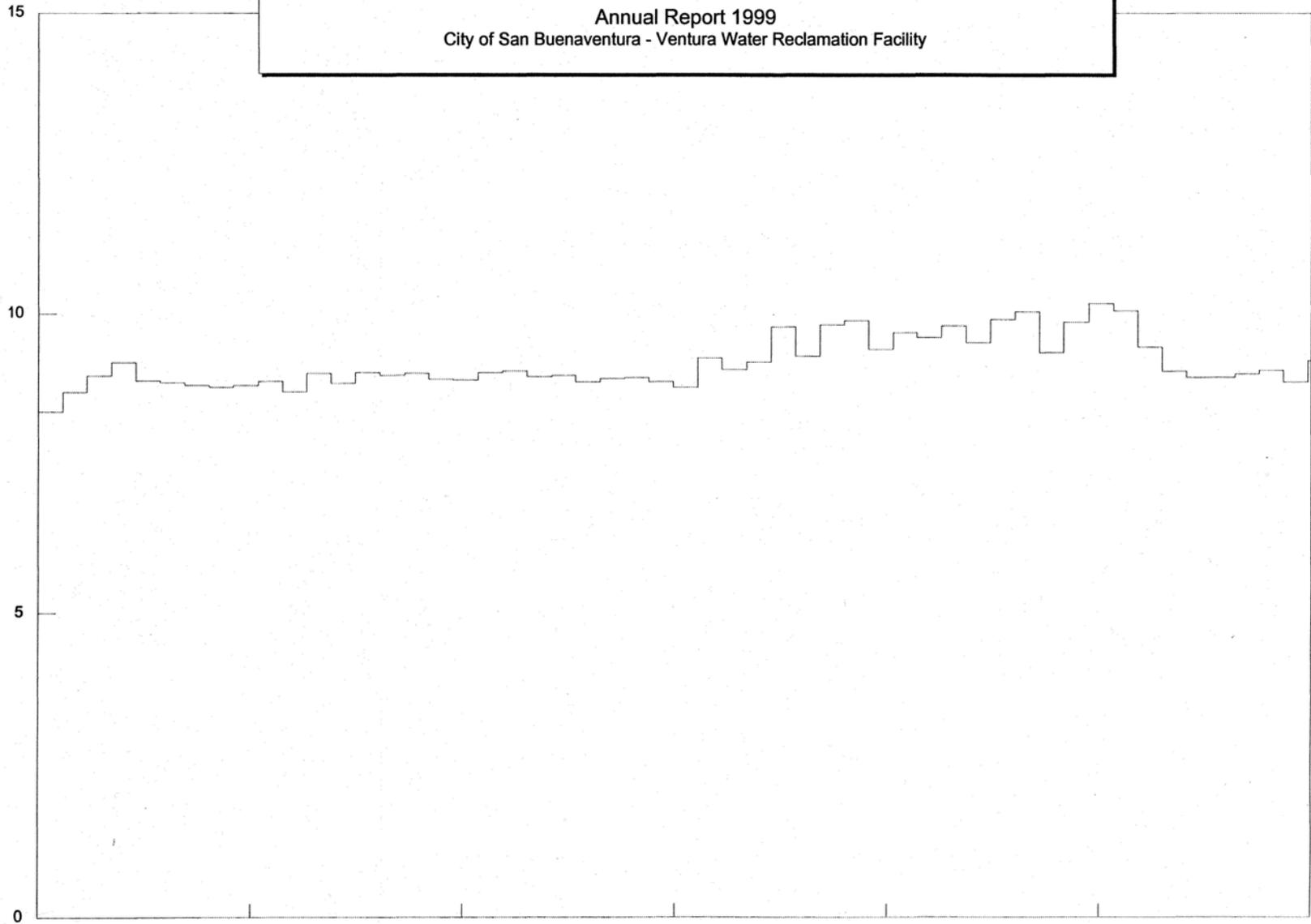
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January
Bimonthly Period Beginning

Mixed Media Filter Station
Mixed Media Filter Flows - MGD

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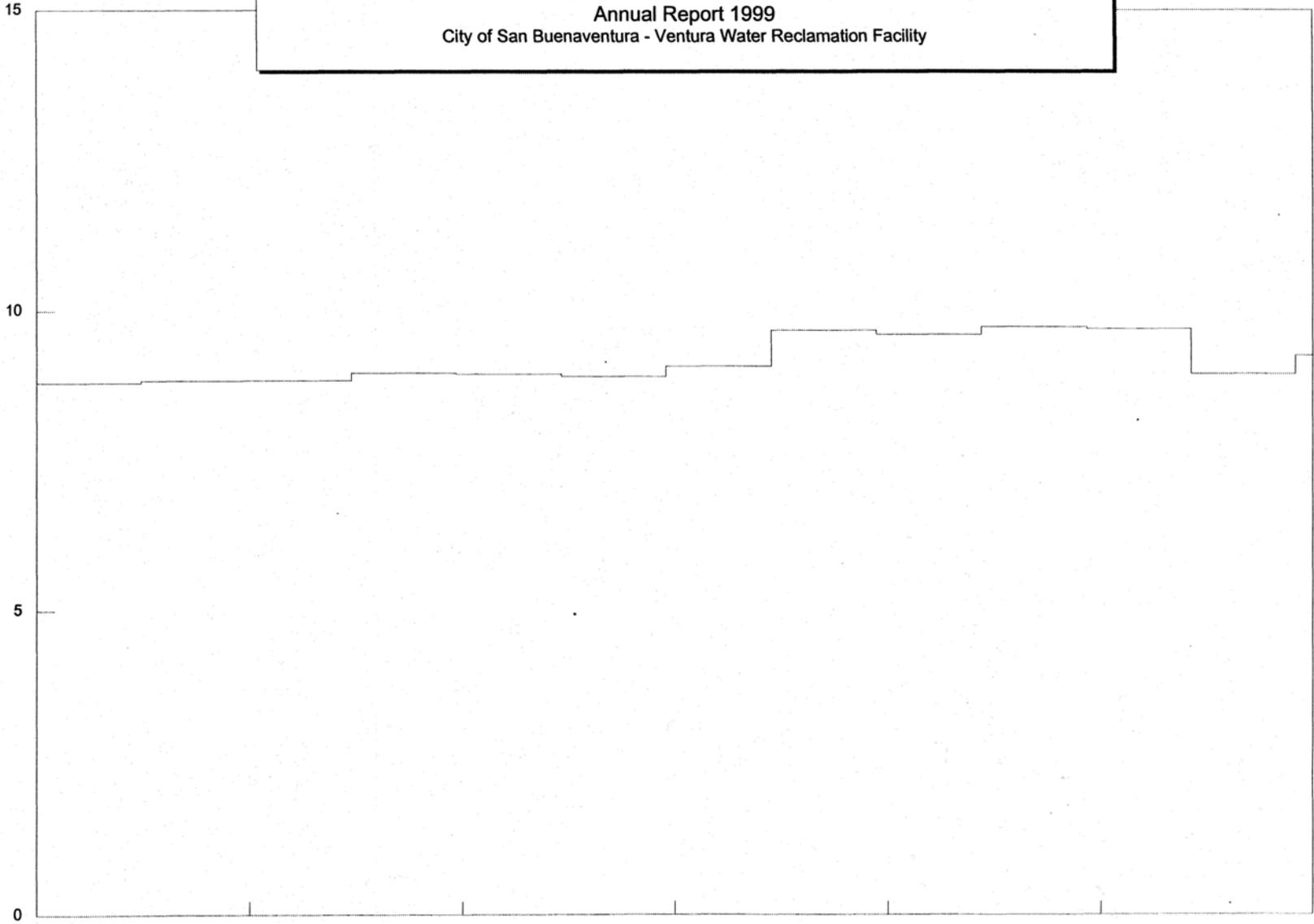
January
Bimonthly Period Beginning

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Mixed Media Filter Station
7 Day Average Mixed Media Filter Flows - MGD

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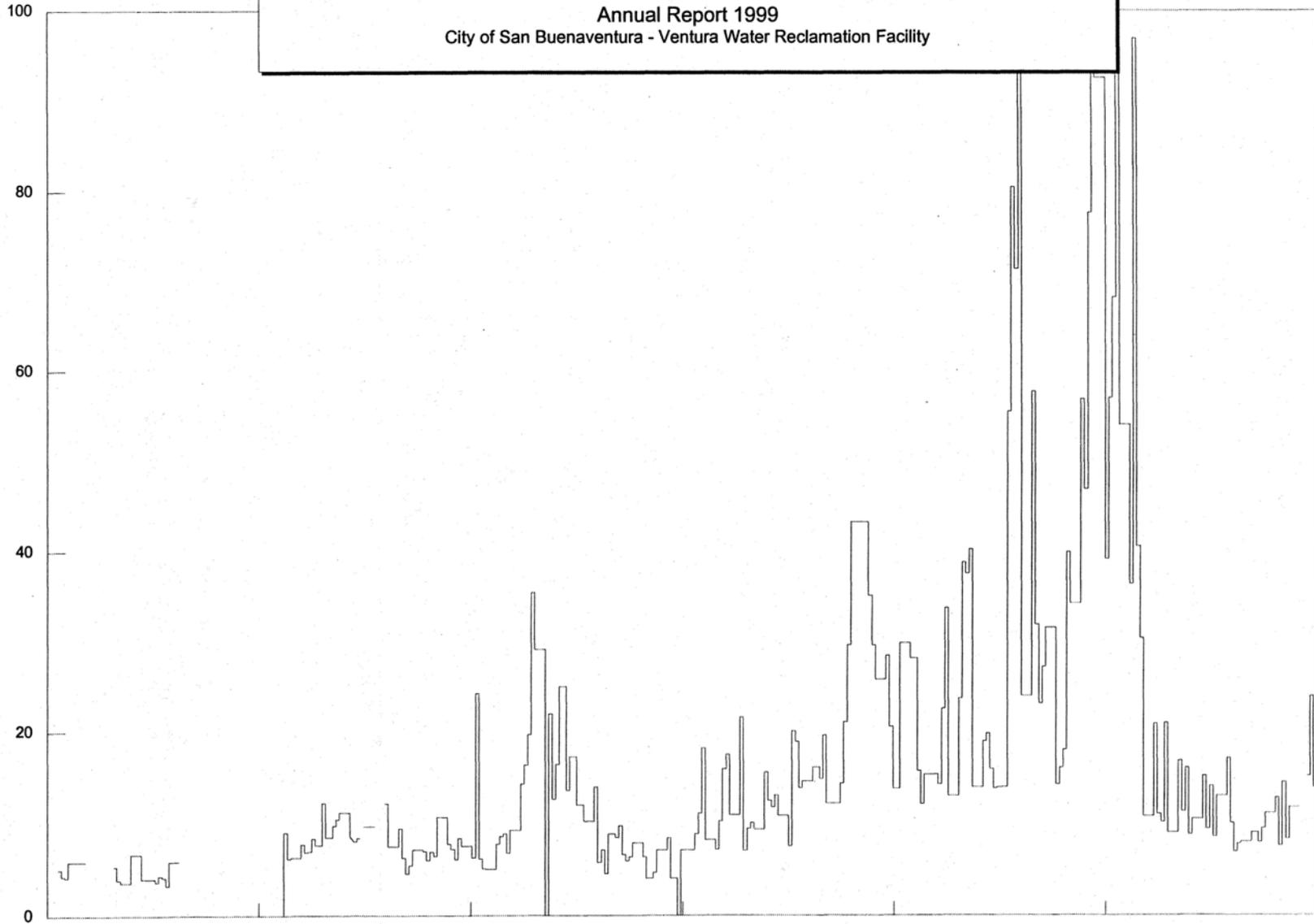
Influent
July

September

November

Mixed Media Filter Station
30 Day Average Mixed Media Filter Flows - MGD

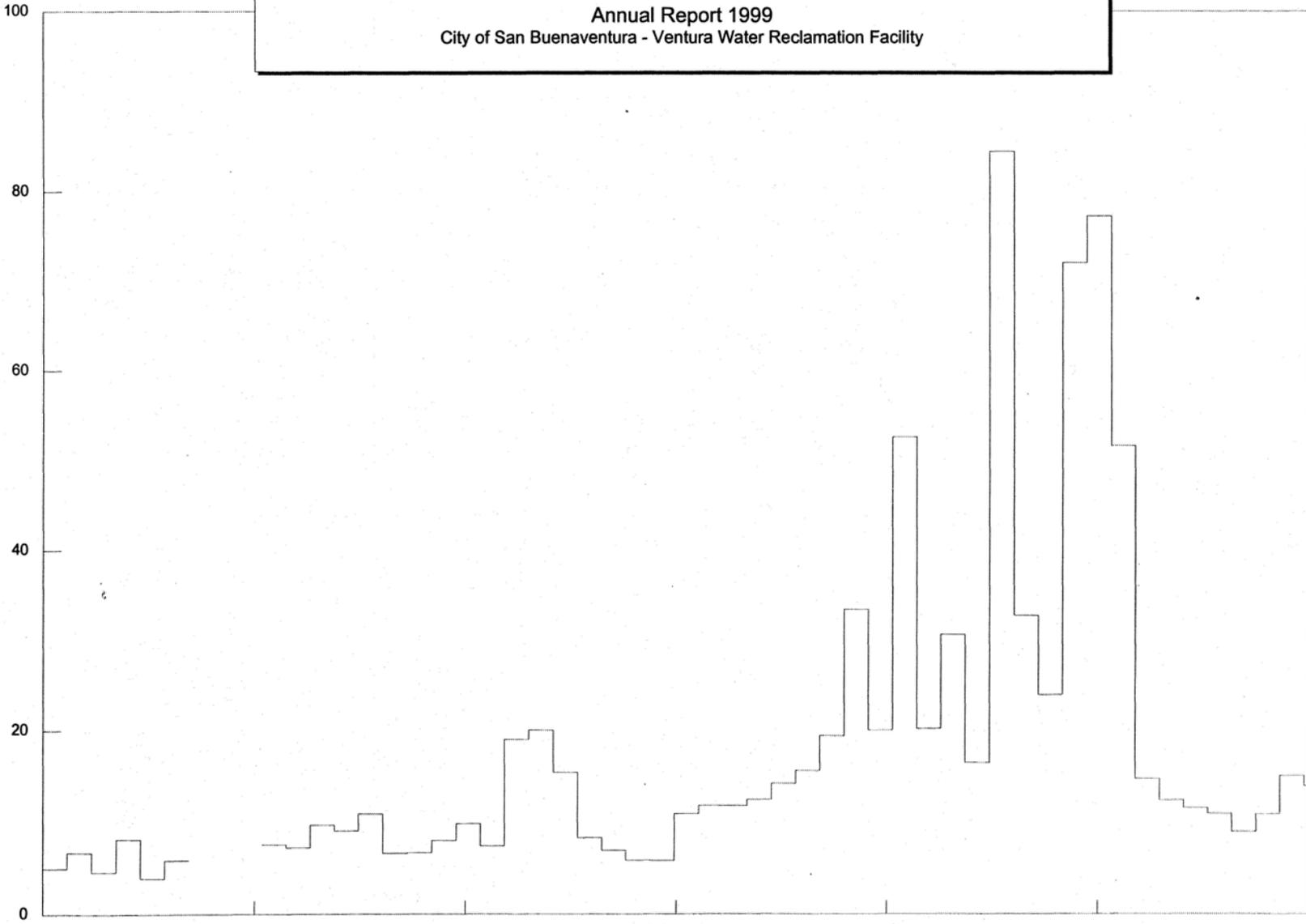
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January Bimonthly Period Beginning March May Inflow July September November

Mixed Media Filter Station Surge Pond Inflow
Activated Sludge Effluent Suspended Solids - mg/l

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January
Bimonthly Period Beginning

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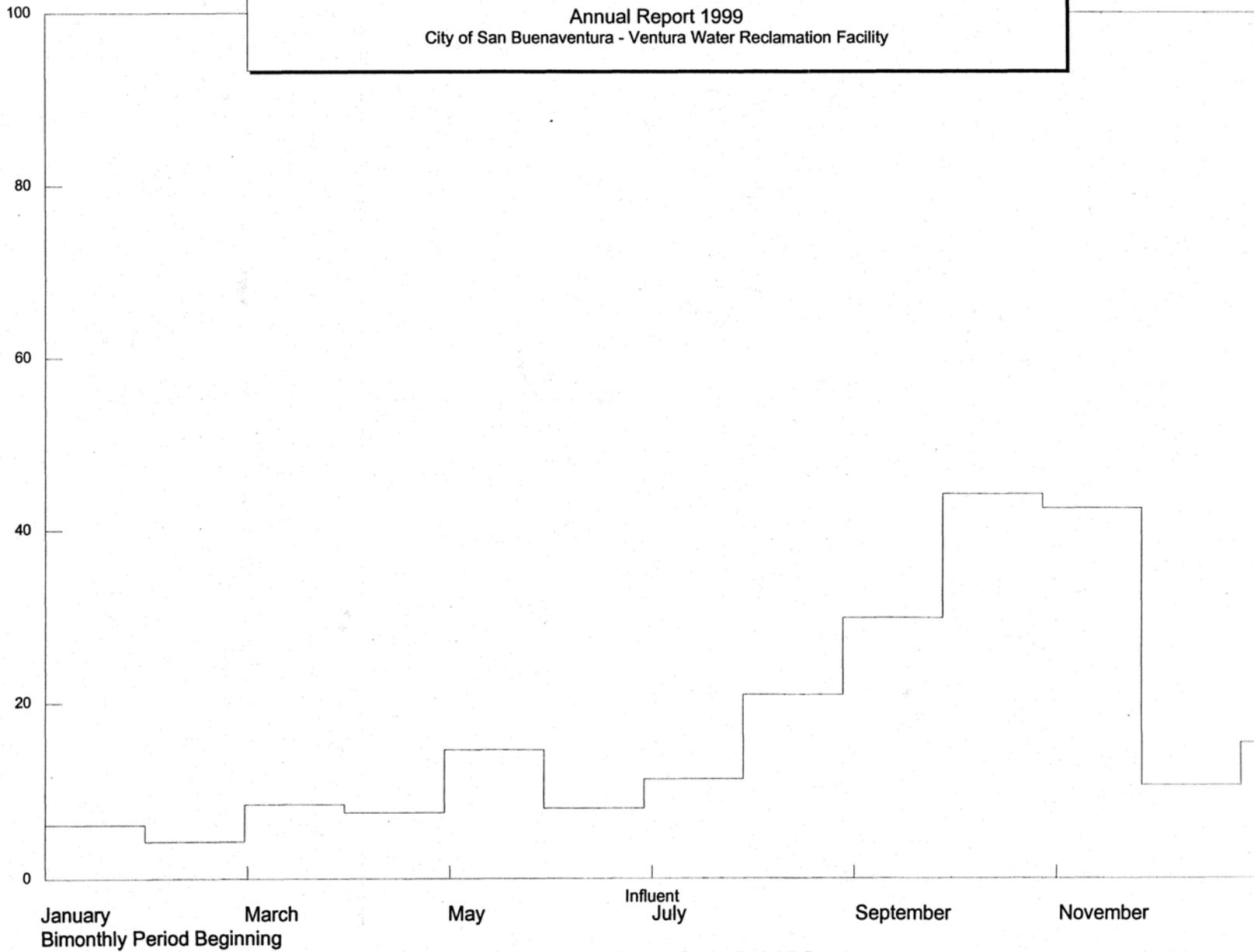
Influent
July

September

November

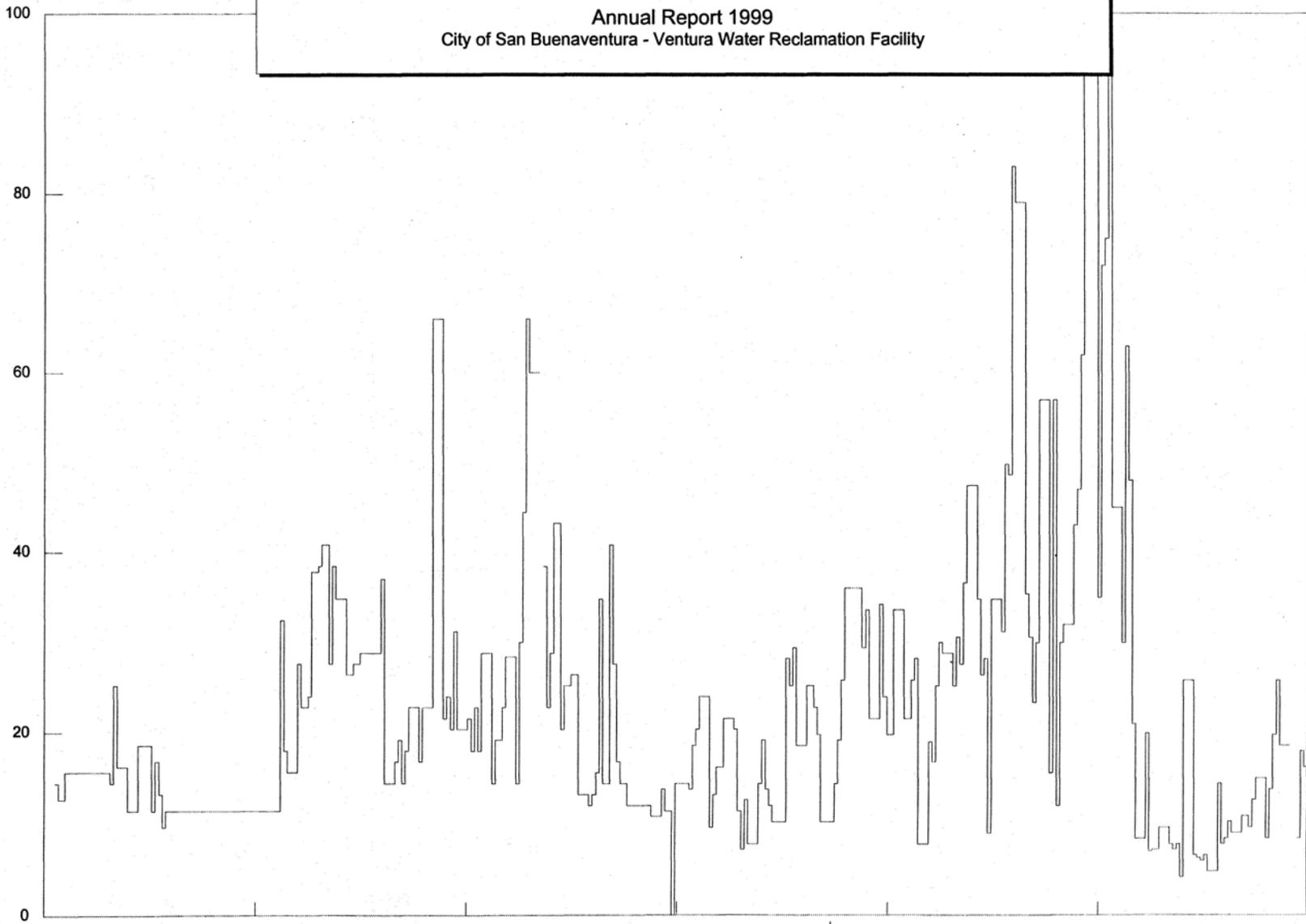
Mixed Media Filter Station Surge Pond Influent
Activated Sludge Effluent 7 Day Average Suspended Solids - mg/l

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Mixed Media Filter Station Surge Pond Influent
Activated Sludge Effluent 30 Day Average Suspended Solids - mg/l

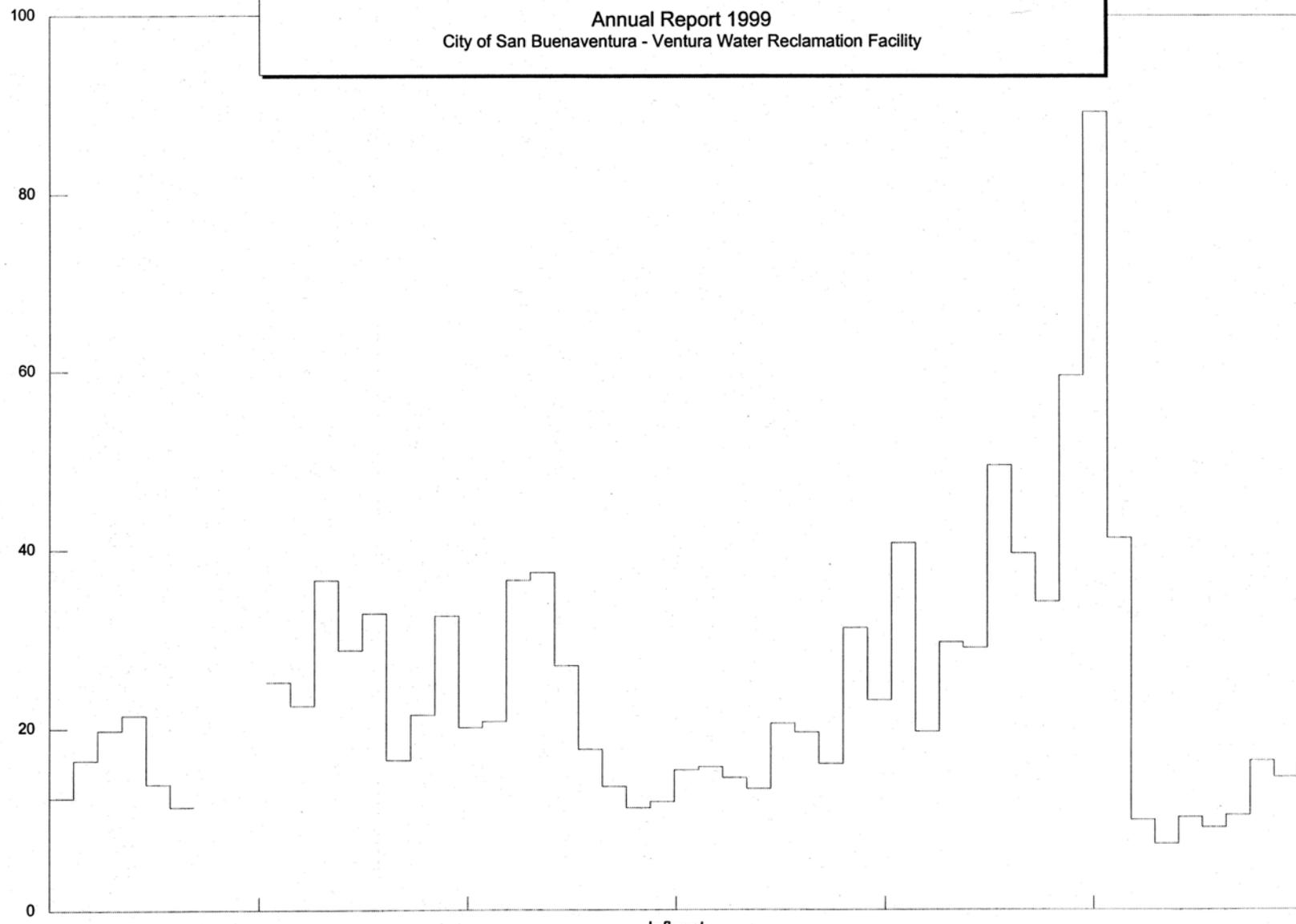
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January
Bimonthly Period Beginning

Mixed Media Filter Station Surge Pond Influent
Activated Sludge Effluent BOD - mg/l

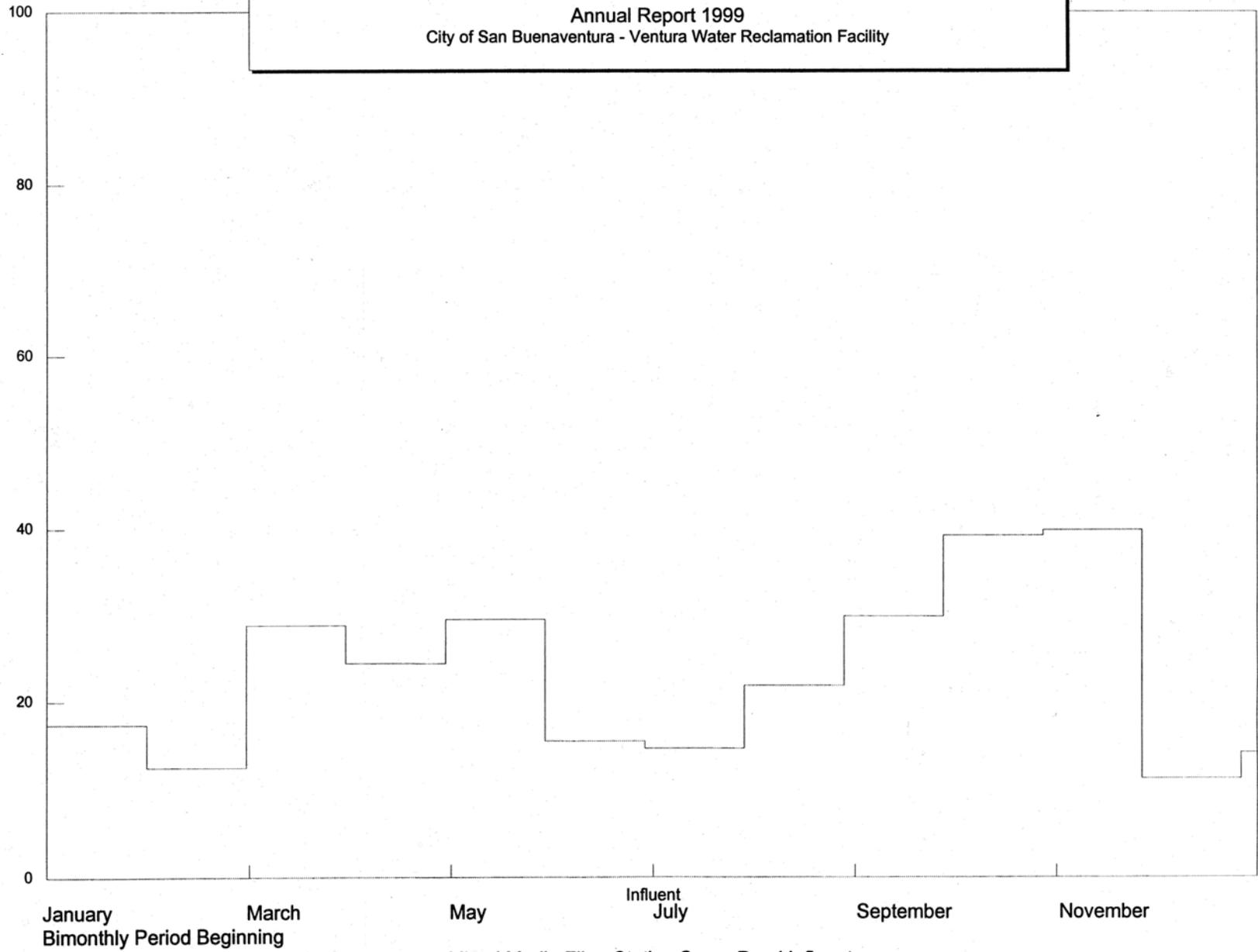
Annual Report 1999
City of San Buenaventura - Ventura Water Reclamation Facility



January
Bimonthly Period Beginning

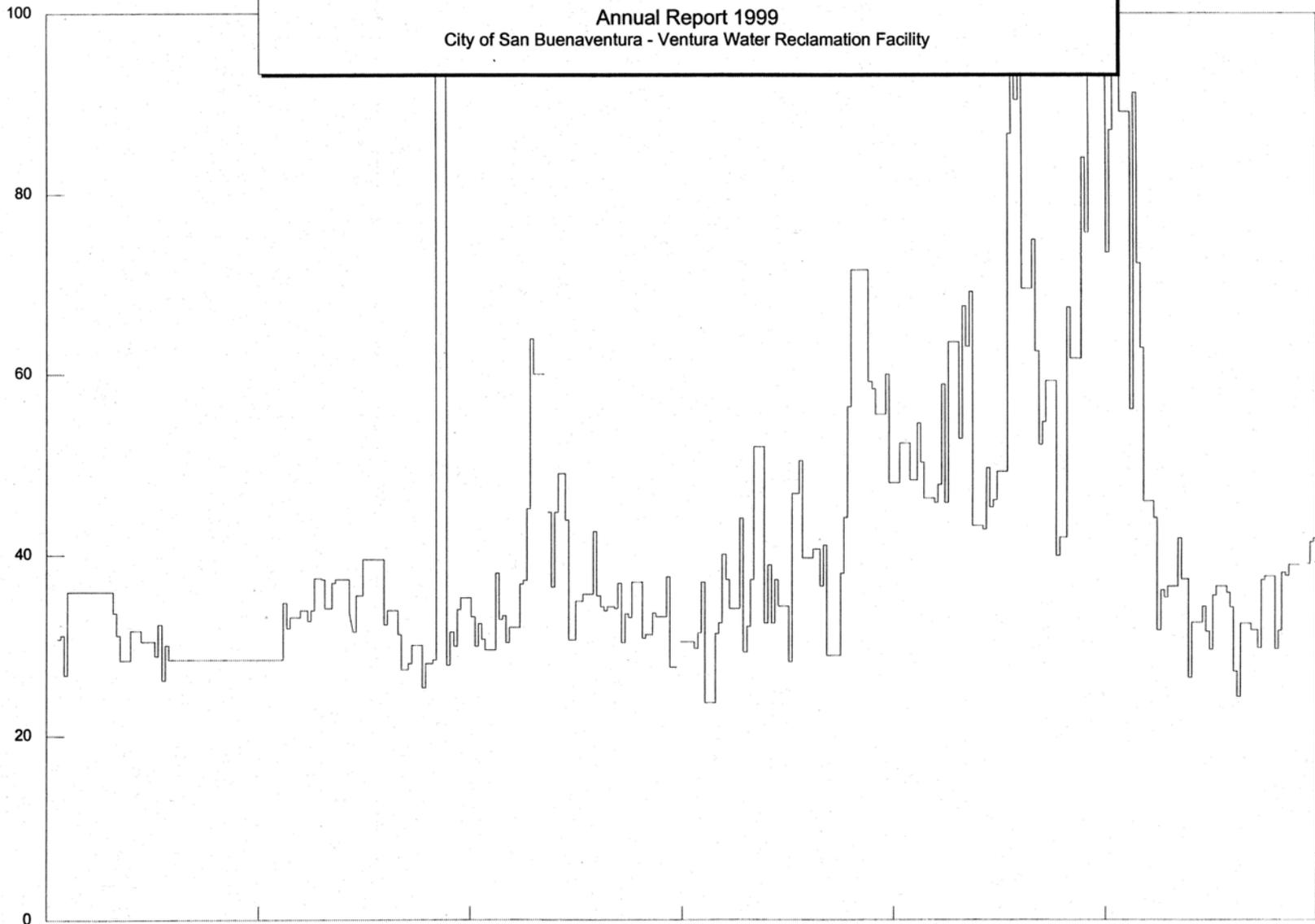
Mixed Media Filter Station Surge Pond Influent
Activated Sludge Effluent 7 Day Average BOD - mg/l

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City of San Buenaventura - Ventura Water Reclamation Facility



Mixed Media Filter Station Surge Pond Influent
Activated Sludge Effluent 30 Day Average BOD - mg/l

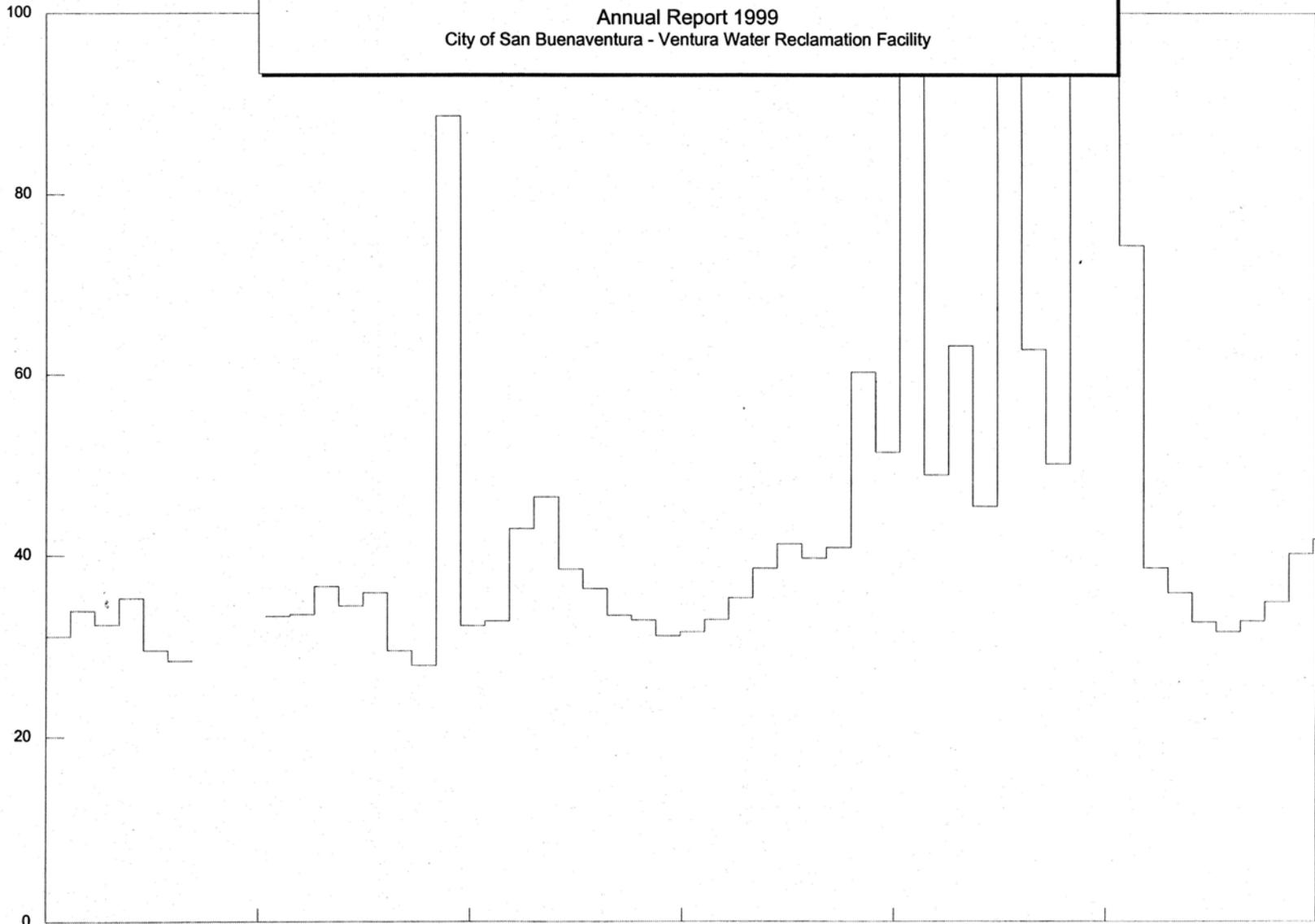
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City of San Buenaventura - Ventura Water Reclamation Facility



January
Bimonthly Period Beginning

Mixed Media Filter Station Surge Pond Influent
Activated Sludge Effluent COD - mg/l

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January
Bimonthly Period Beginning

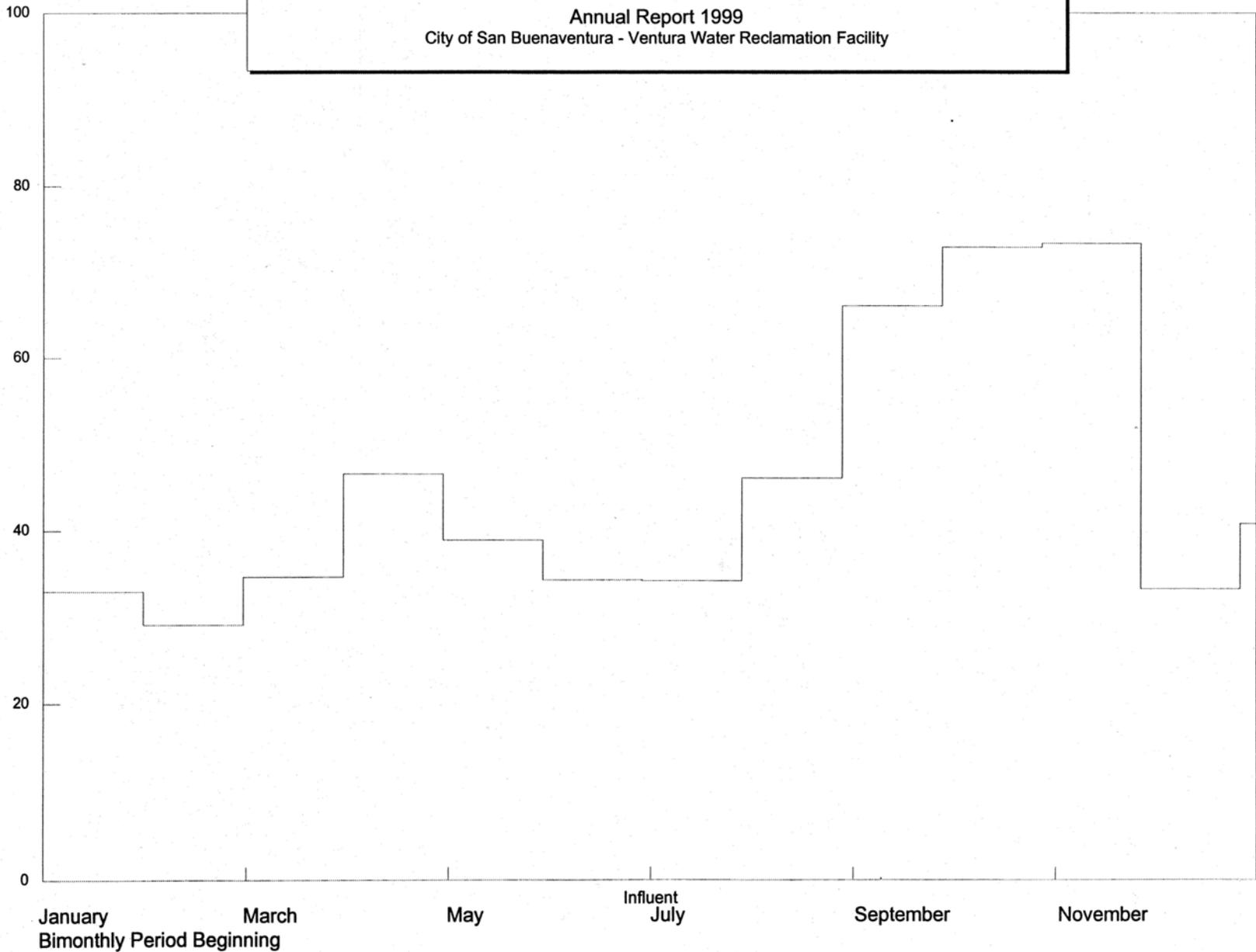
Influent
July

September

November

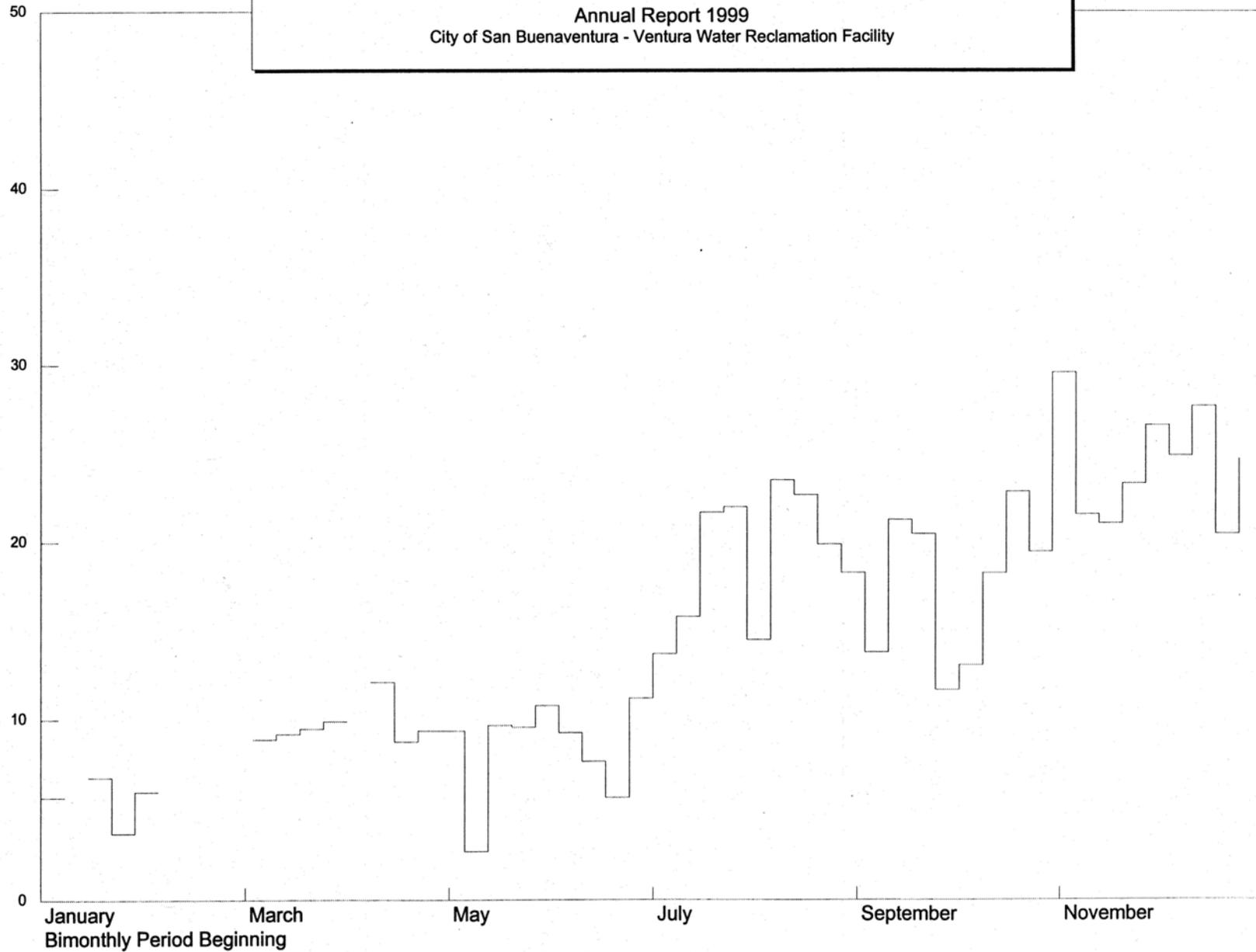
Mixed Media Filter Station Surge Pond Influent
Activated Sludge Effluent 7 Day Average COD - mg/l

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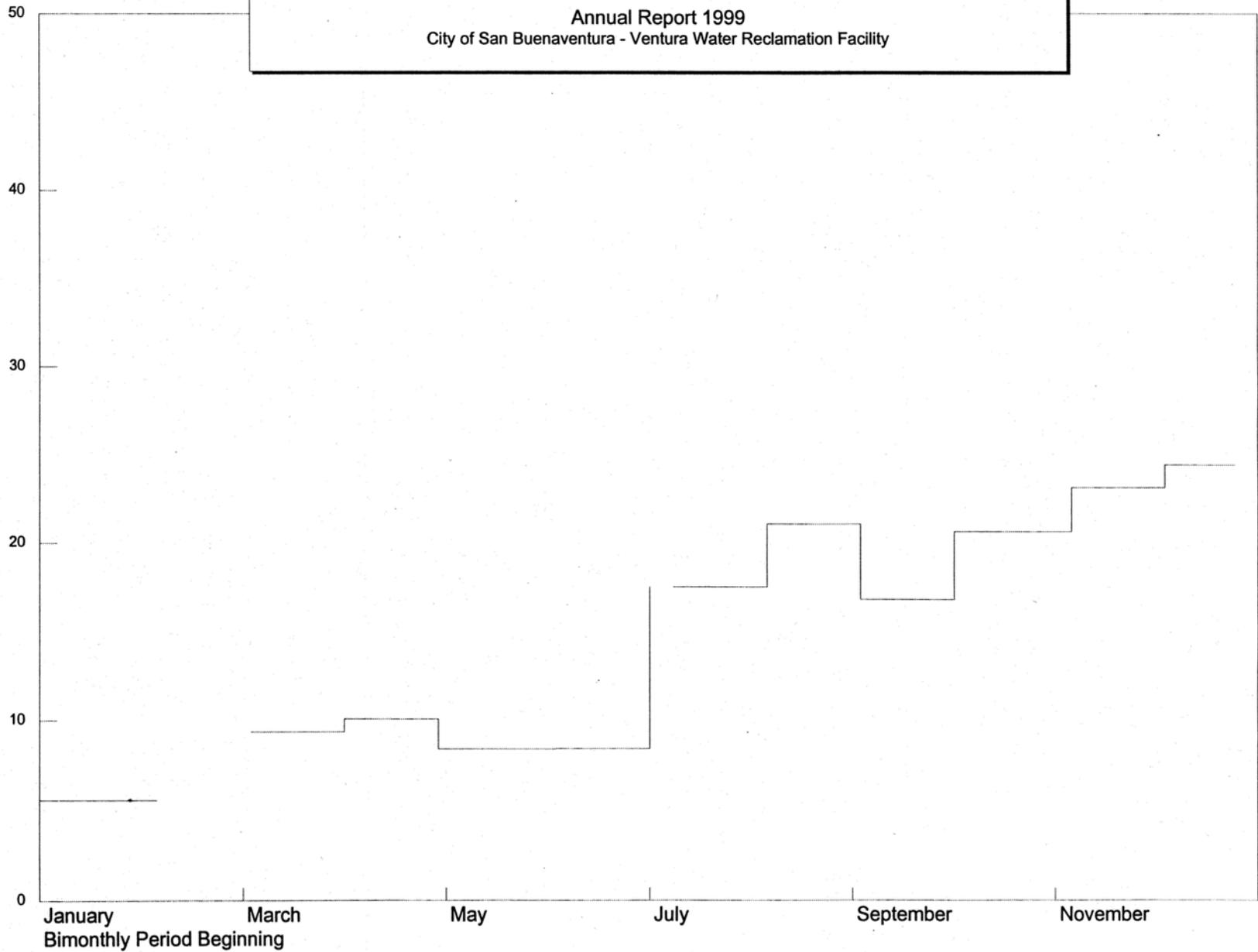
Mixed Media Filter Station Surge Pond Influent
Activated Sludge Effluent 30 Day Average COD - mg/l

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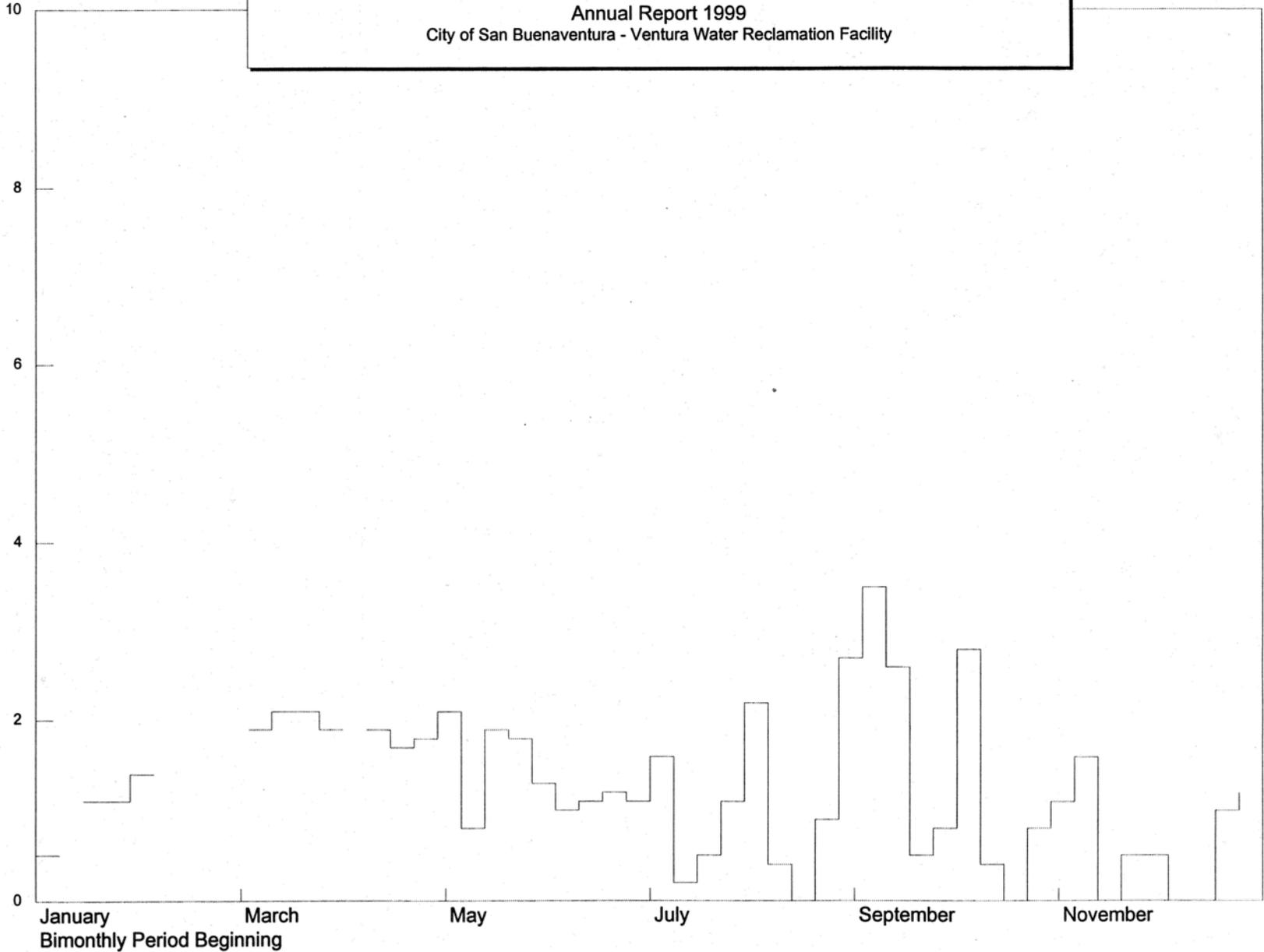
Mixed Media Filter Station Surge Pond Influent
Activated Sludge Effluent Weekly Nitrate-N mg/l

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City of San Buenaventura - Ventura Water Reclamation Facility



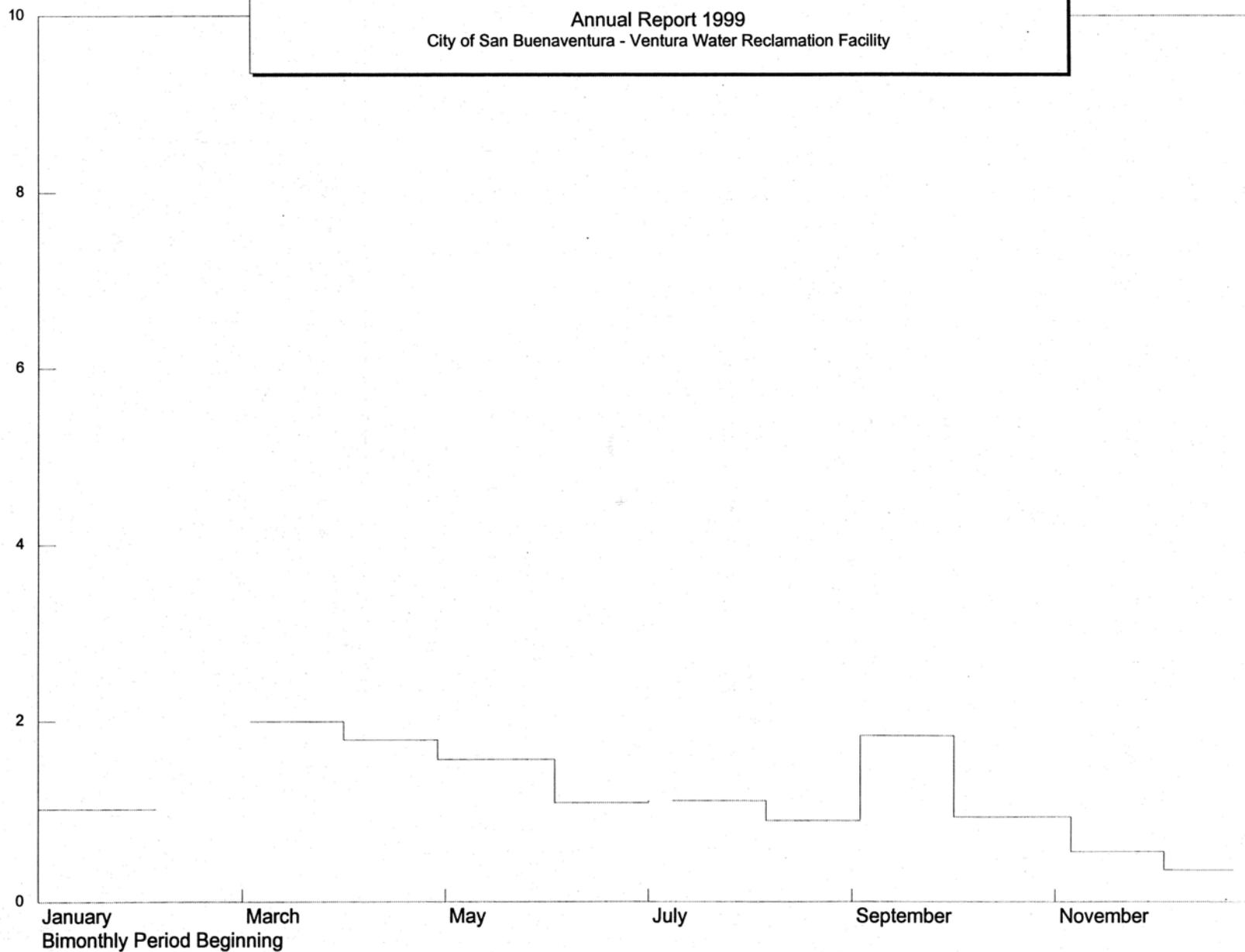
Mixed Media Filter Station Surge Pond Influent
Activated Sludge Effluent 30 Day Average Nitrate-N mg/l

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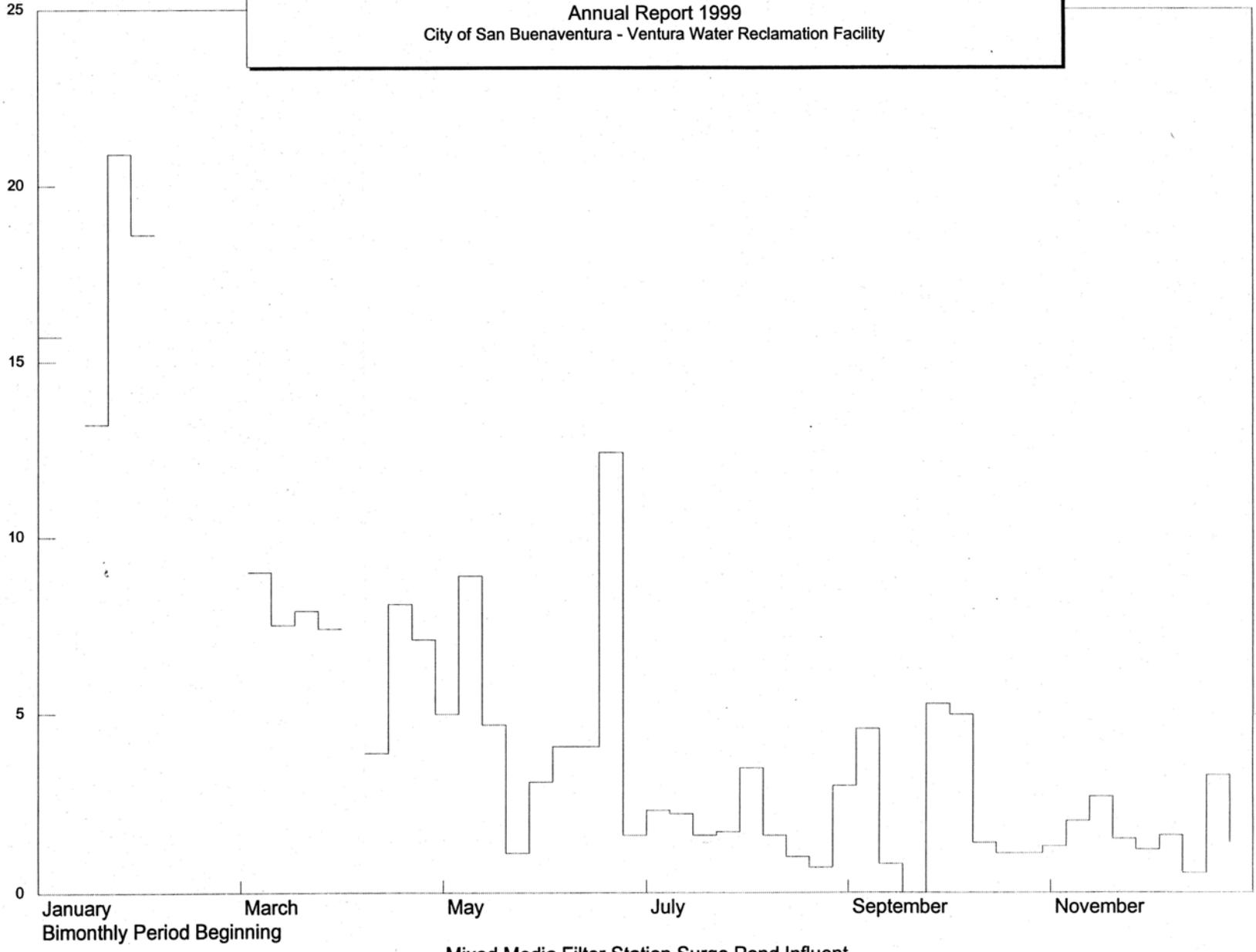
Mixed Media Filter Station Surge Pond Influent
Activated Sludge Effluent Weekly Nitrite-N mg/l

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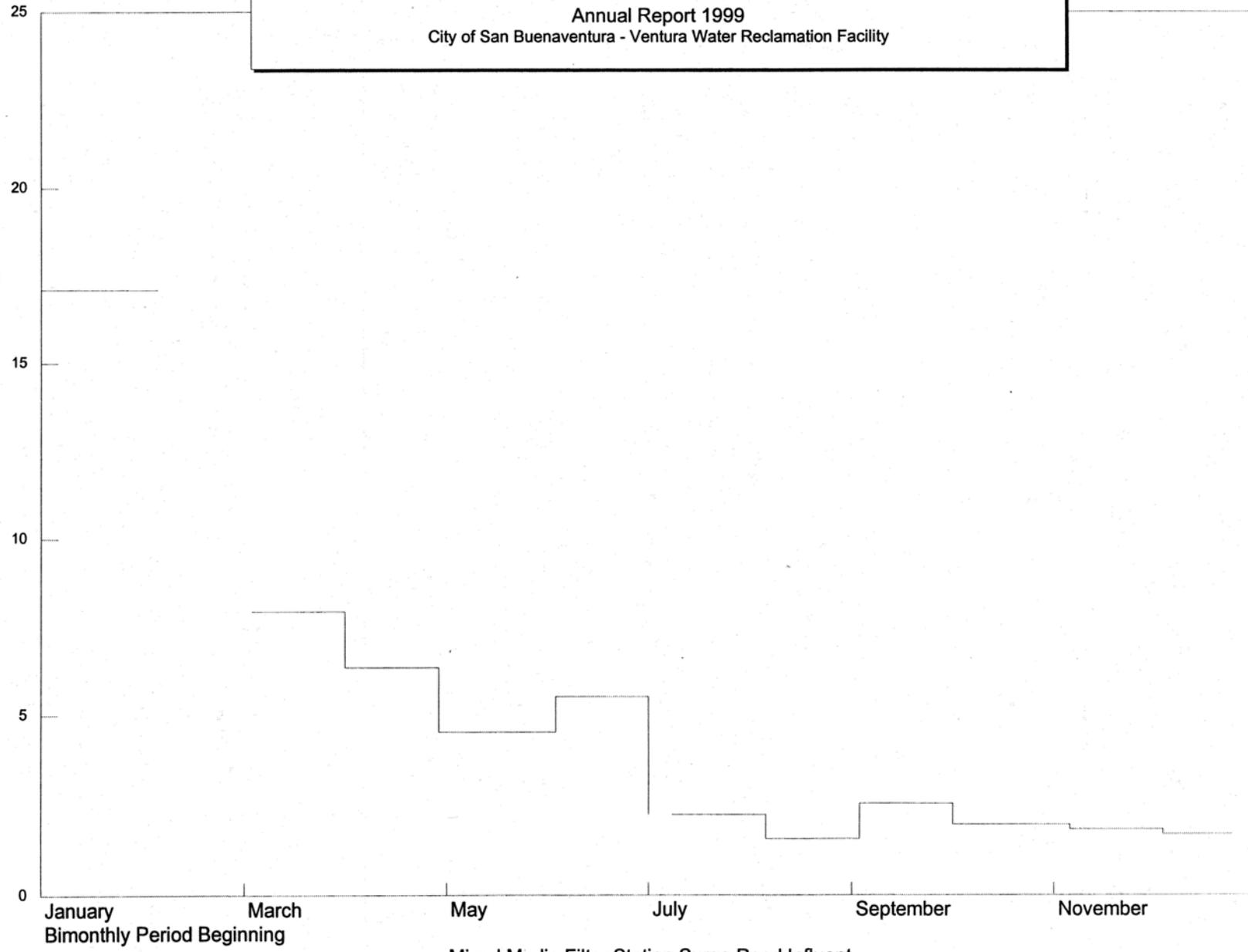
Mixed Media Filter Station Surge Pond Influent
Activated Sludge Effluent 30 Day Average Nitrite-N mg/l

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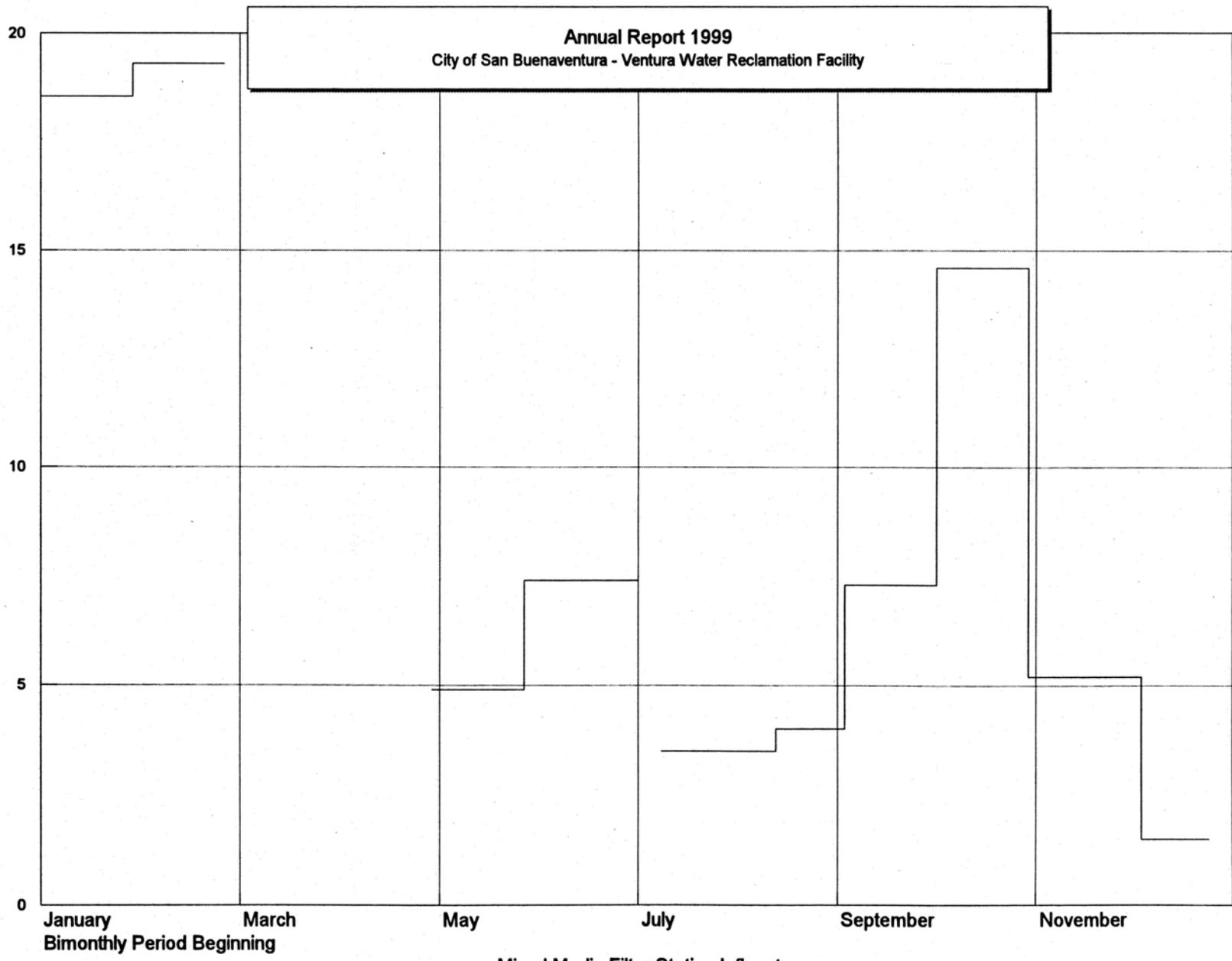


Mixed Media Filter Station Surge Pond Influent
Activated Sludge Effluent Weekly Ammonia-N mg/l

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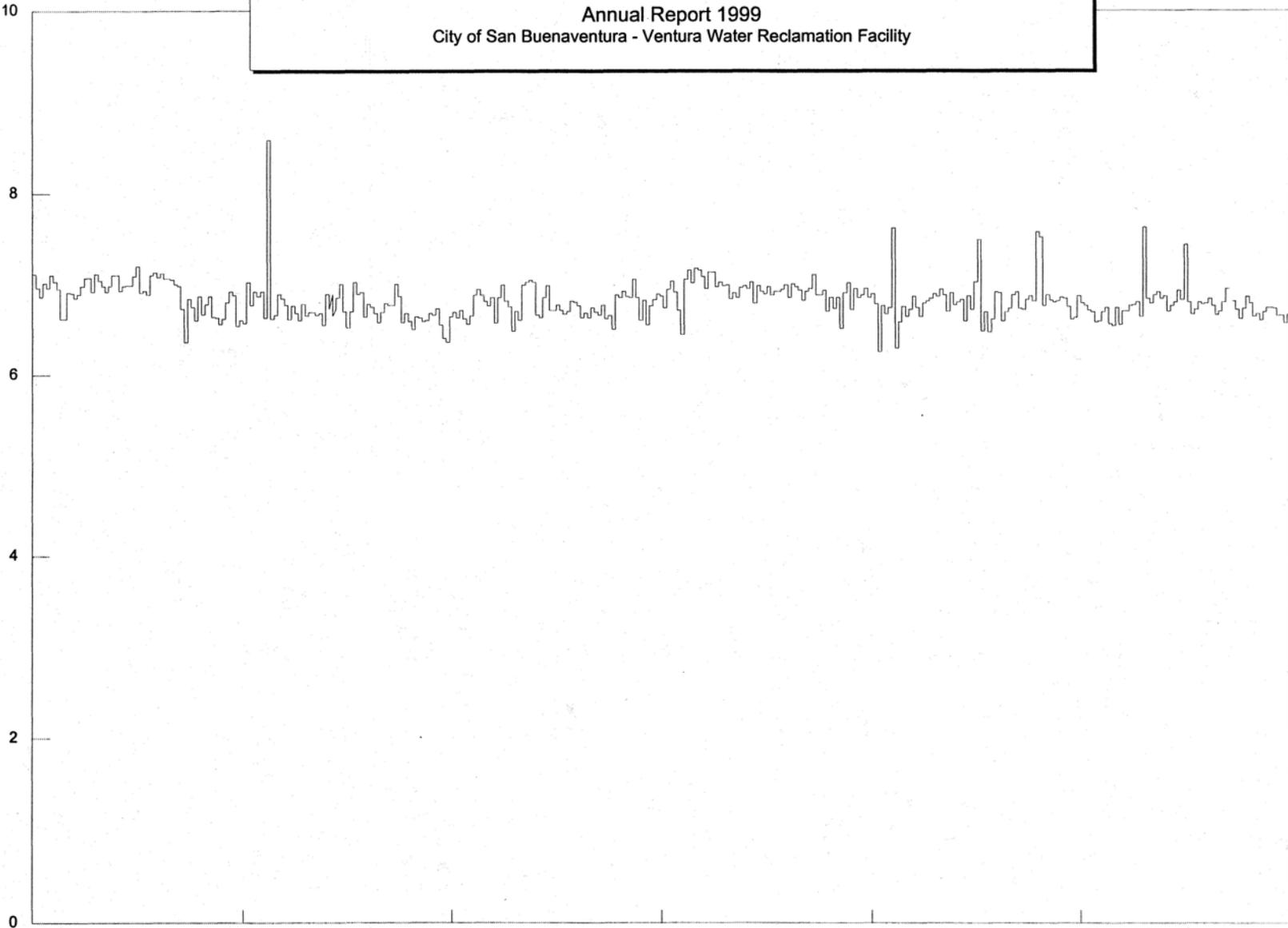


Mixed Media Filter Station Surge Pond Influent
Activated Sludge Effluent 30 Day Average Ammonia-N mg/l



Mixed Media Filter Station Influent
 Activated Sludge Effluent Monthly TKN - mg/l

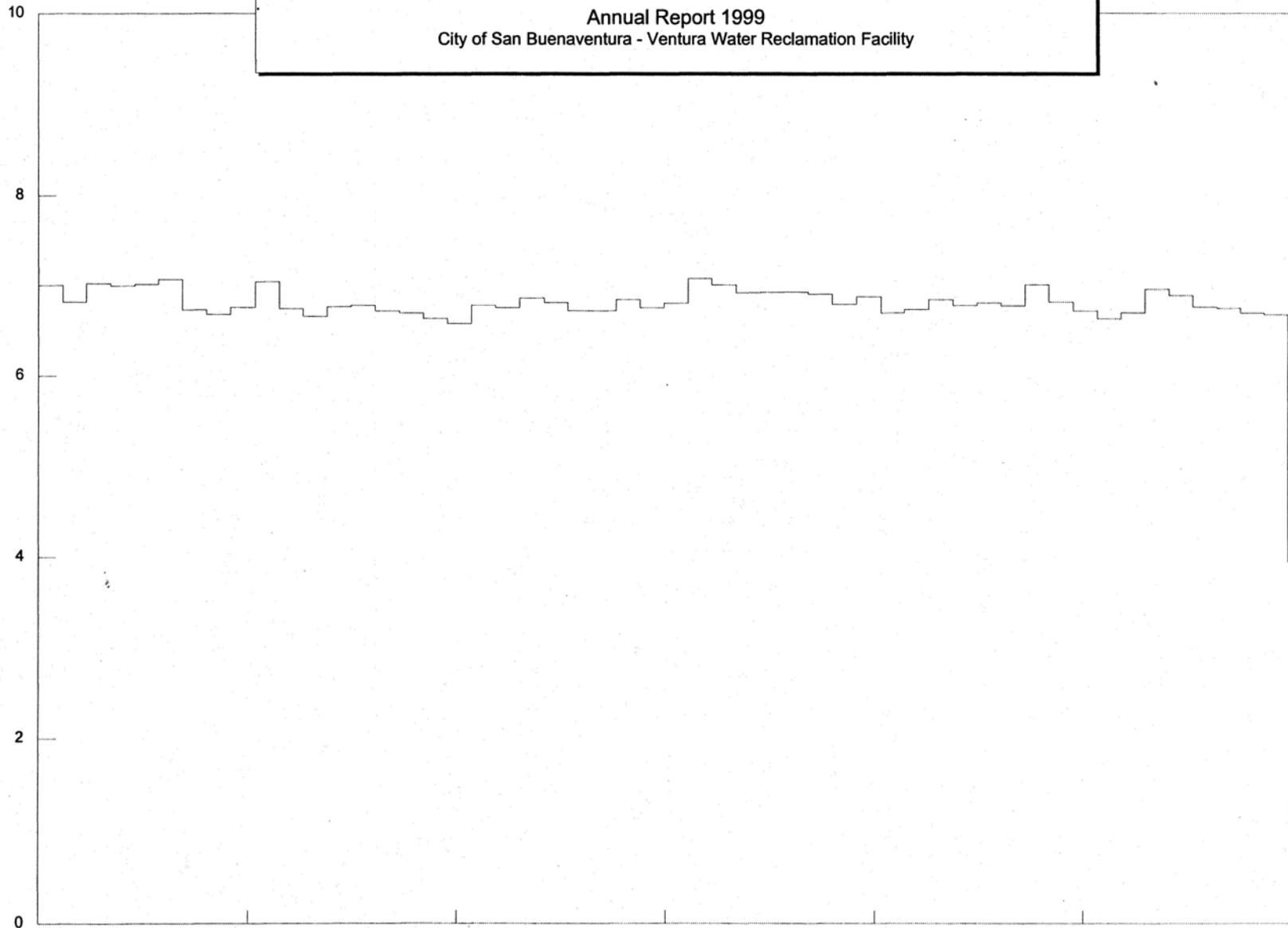
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Effluent Transfer Station
Effluent pH - pH Units

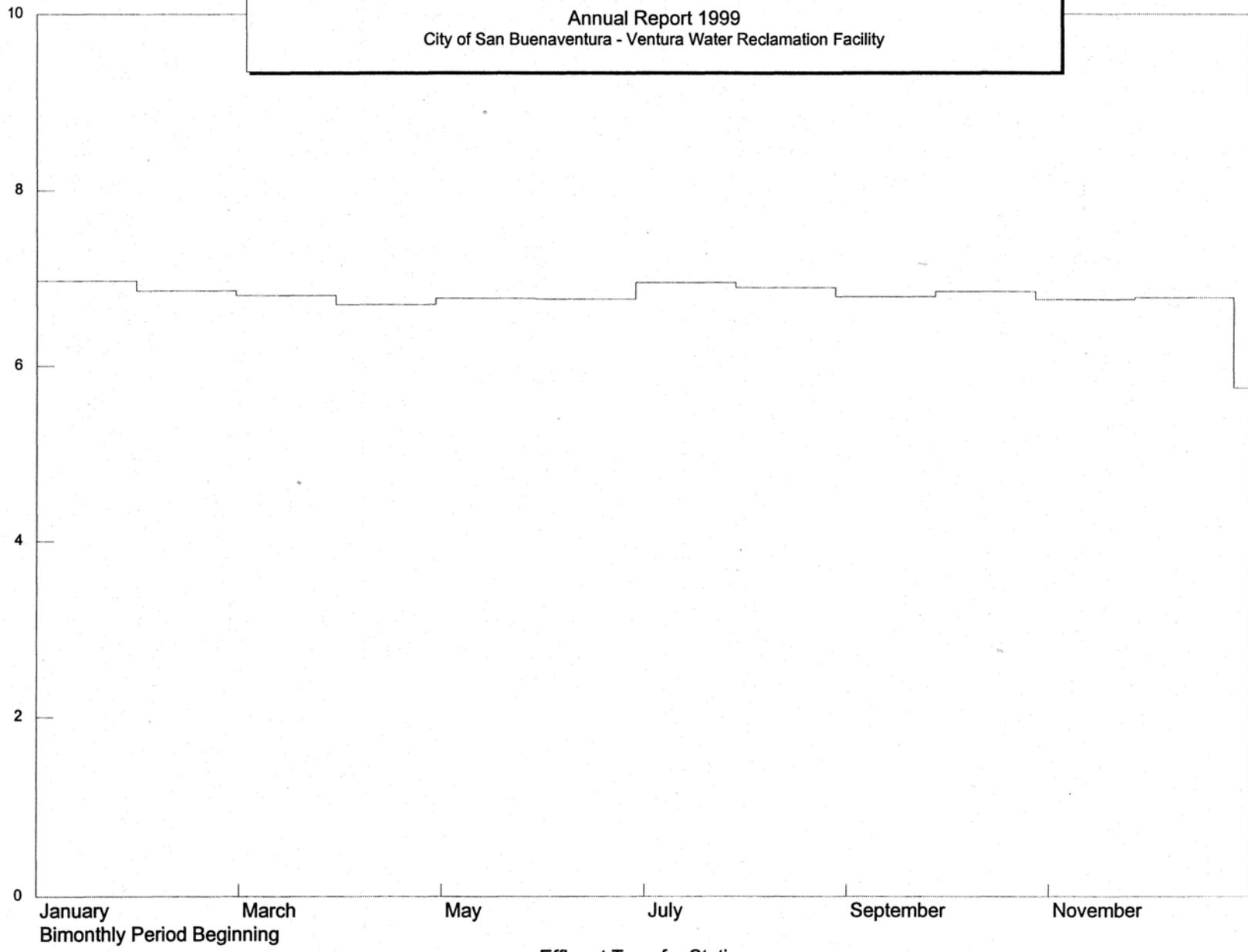
Annual Report 1999
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January March May July September November

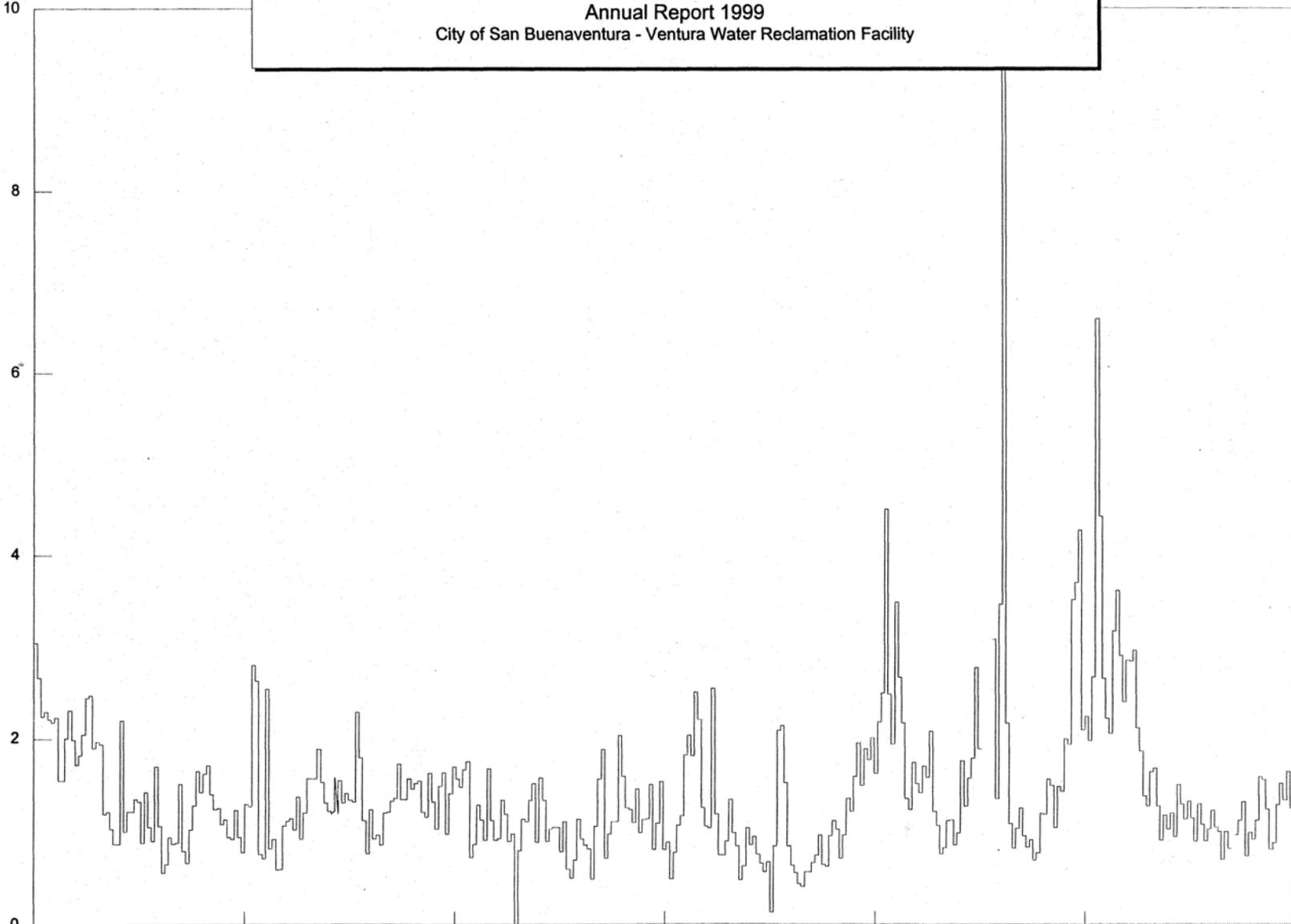
Effluent Transfer Station
Effluent 7 Day Average pH - pH Units

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Effluent Transfer Station
Effluent 30 Day Average pH - pH Units

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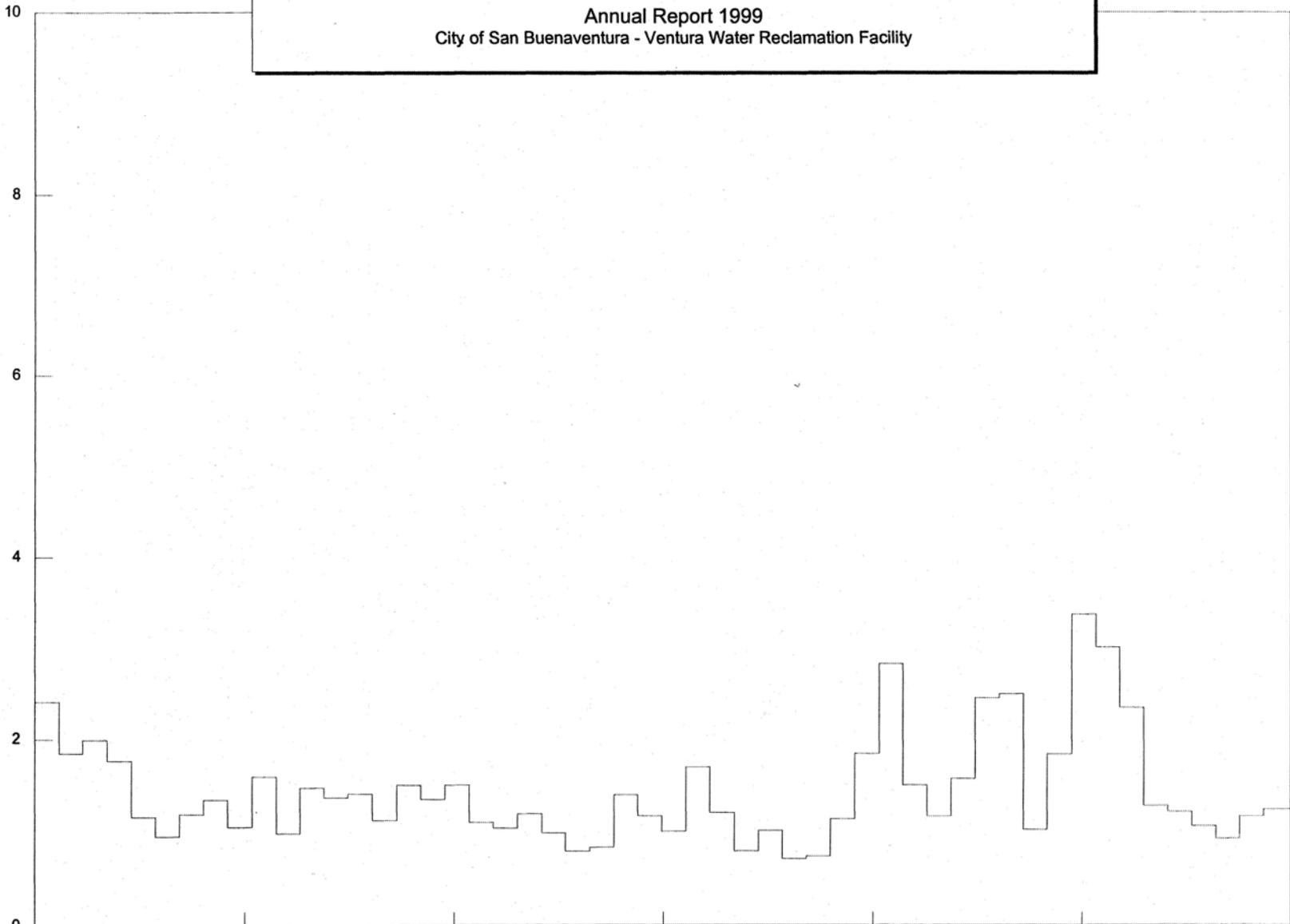
July

September

November

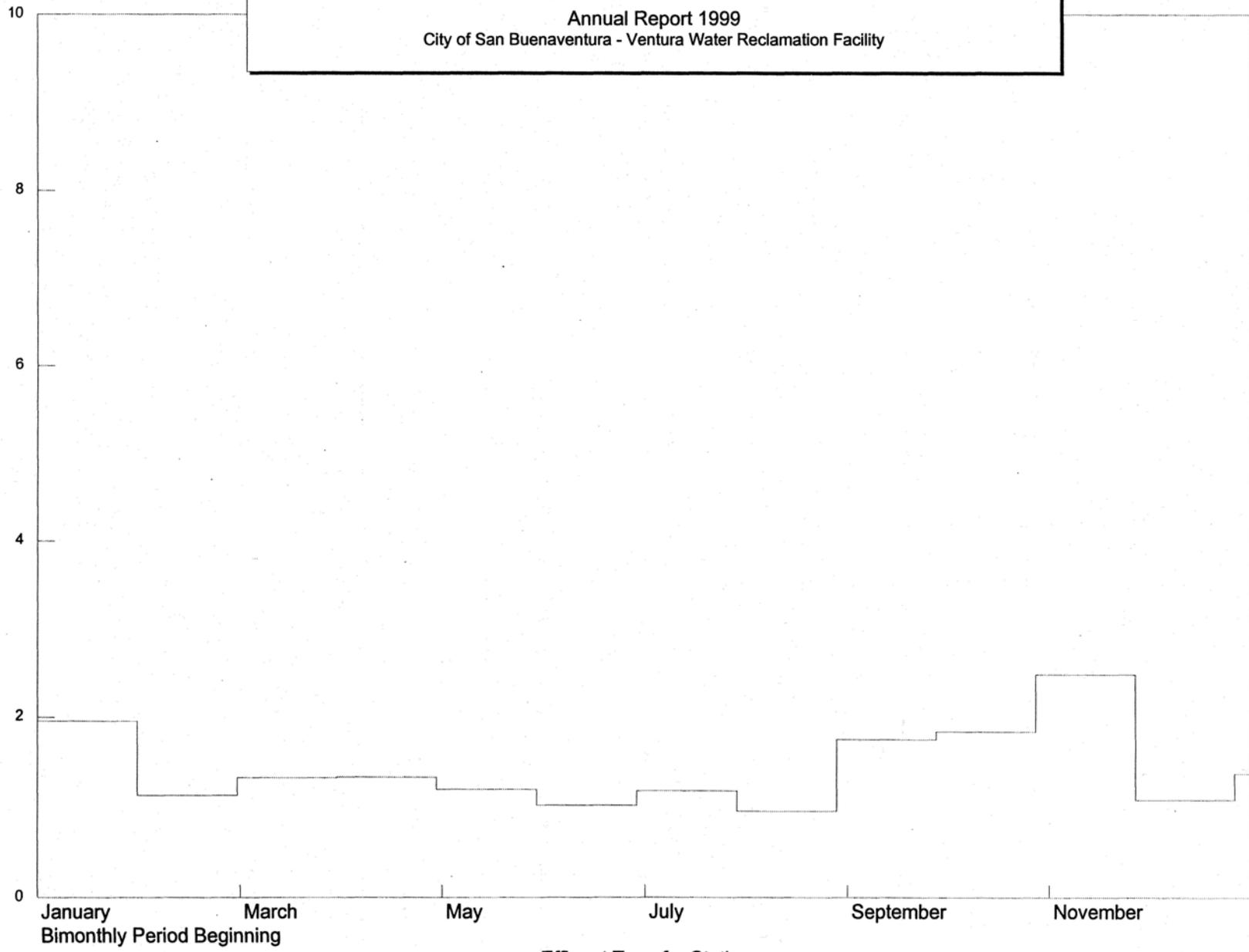
Effluent Transfer Station
Effluent Suspended Solids - mg/l

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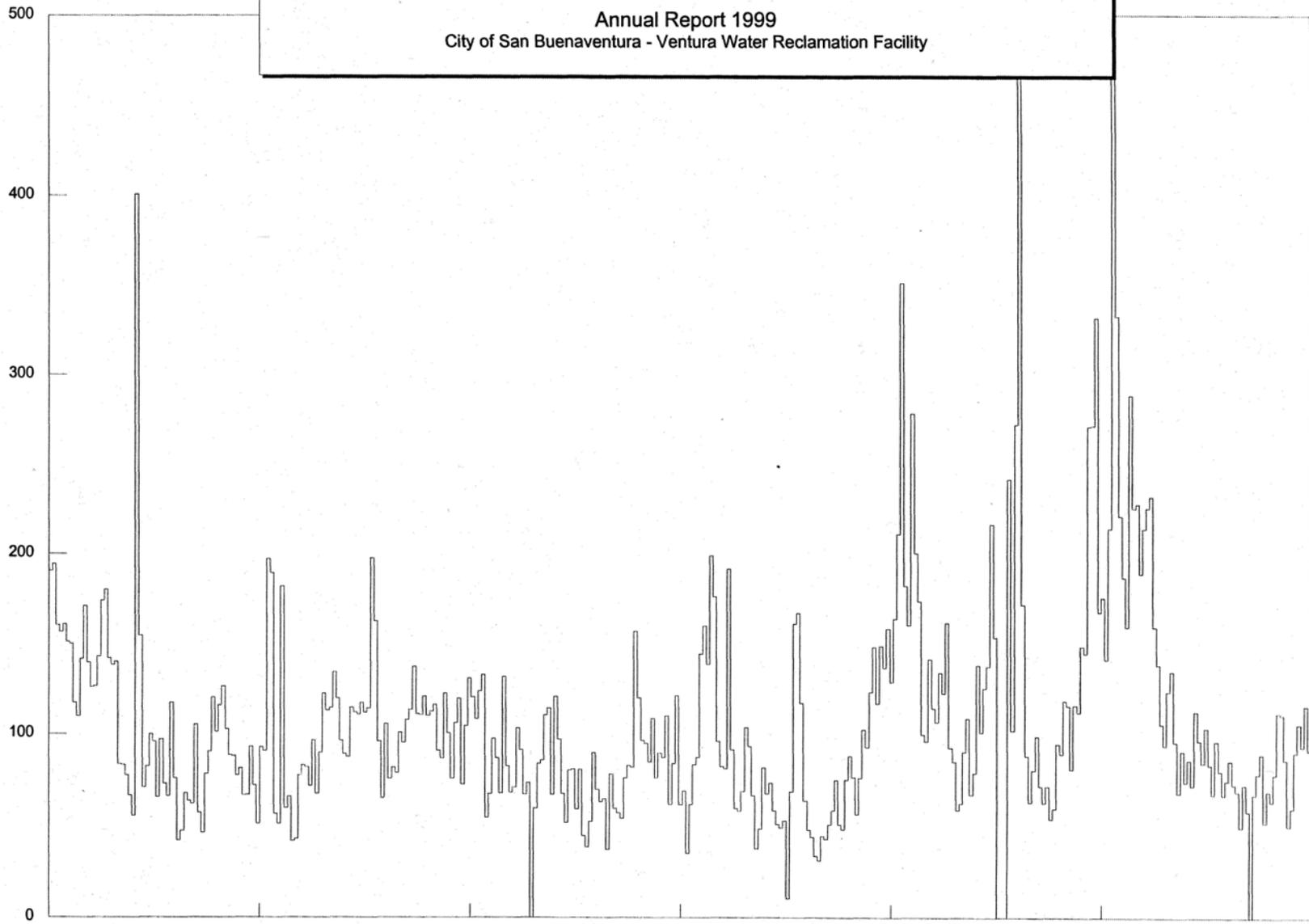
Effluent Transfer Station
Effluent 7 Day Average Suspended Solids - mg/l

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Effluent Transfer Station
Effluent 30 Day Average Suspended Solids - mg/l

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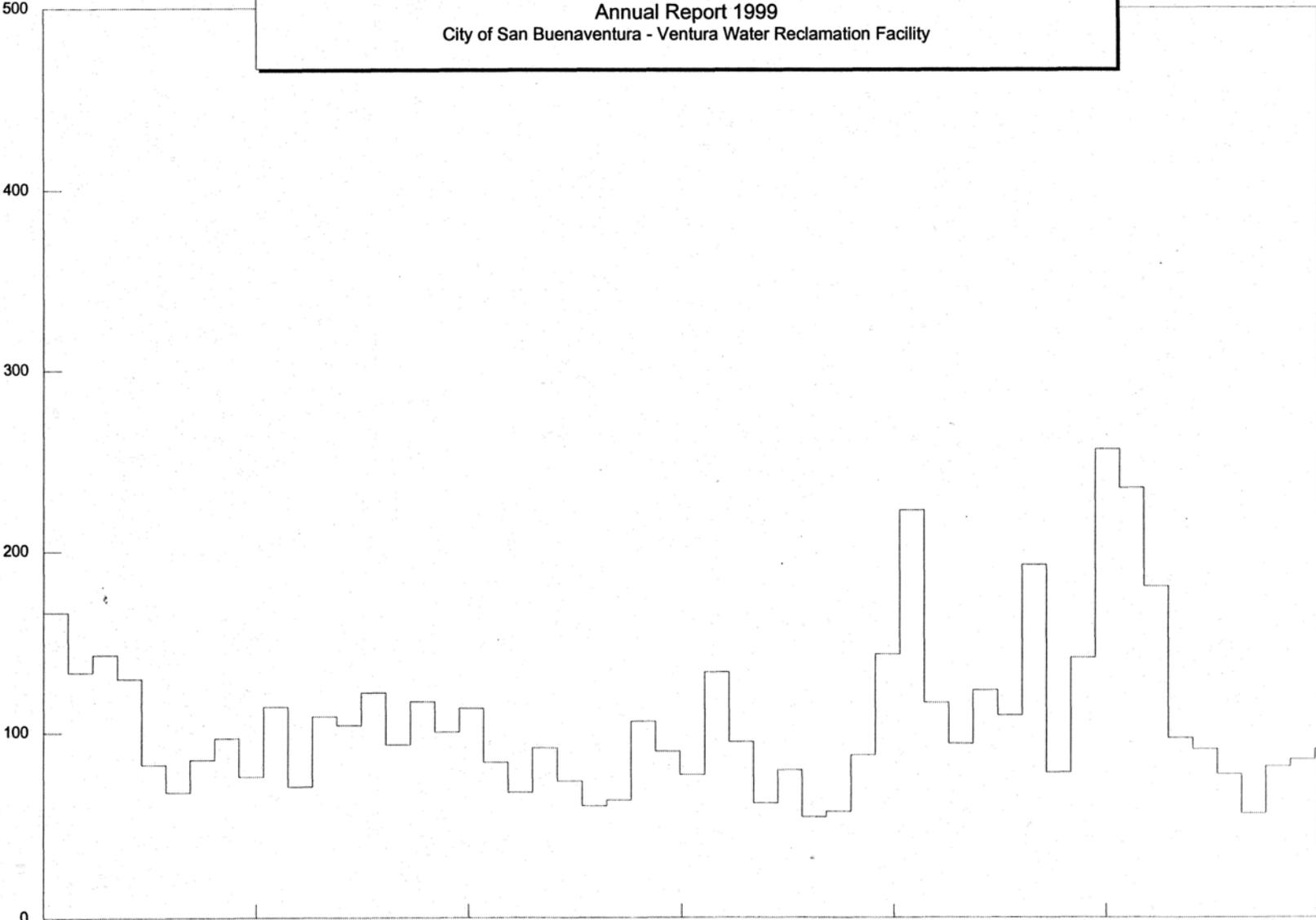
Influent
July

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Effluent Transfer Station
Effluent Suspended Solids Mass Emission Rate - lb/Day

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January
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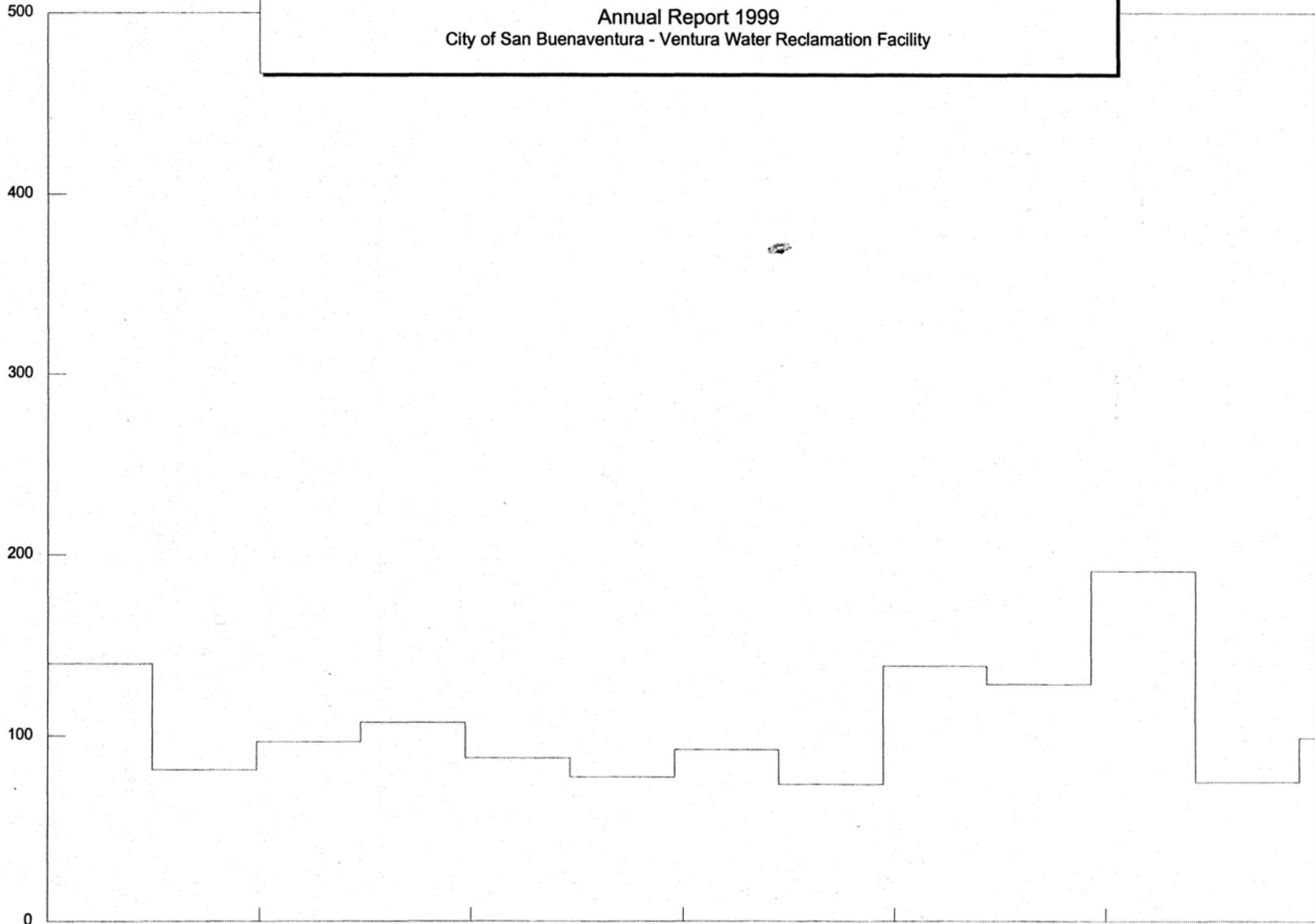
Influent
July

September

November

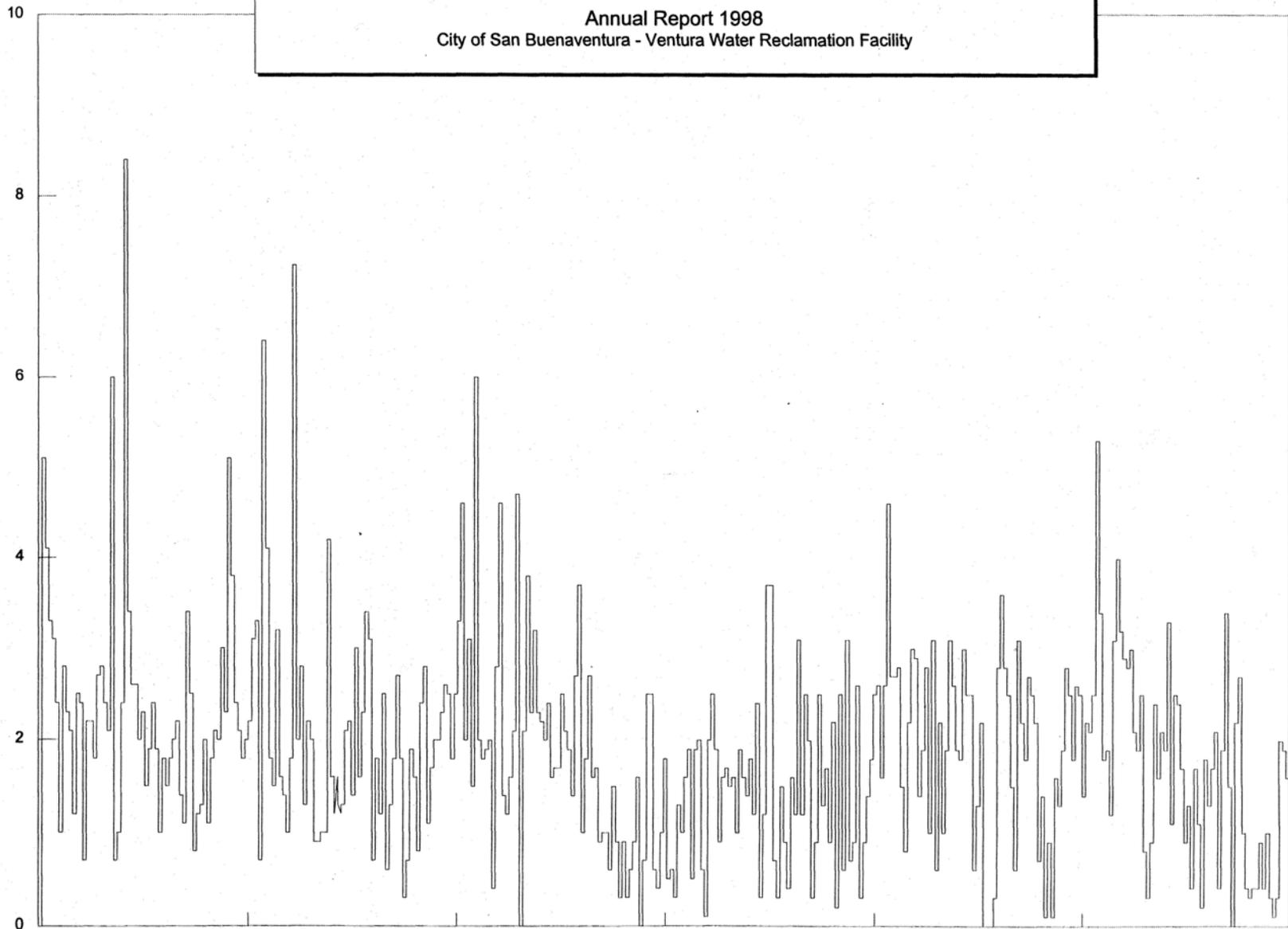
Effluent Transfer Station
Effluent 7 Day Average Suspended Solids Mass Emission Rate - lb/Day

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Effluent Transfer Station
Effluent 30 Day Average Suspended Solids Mass Emission Rate - lb/Day

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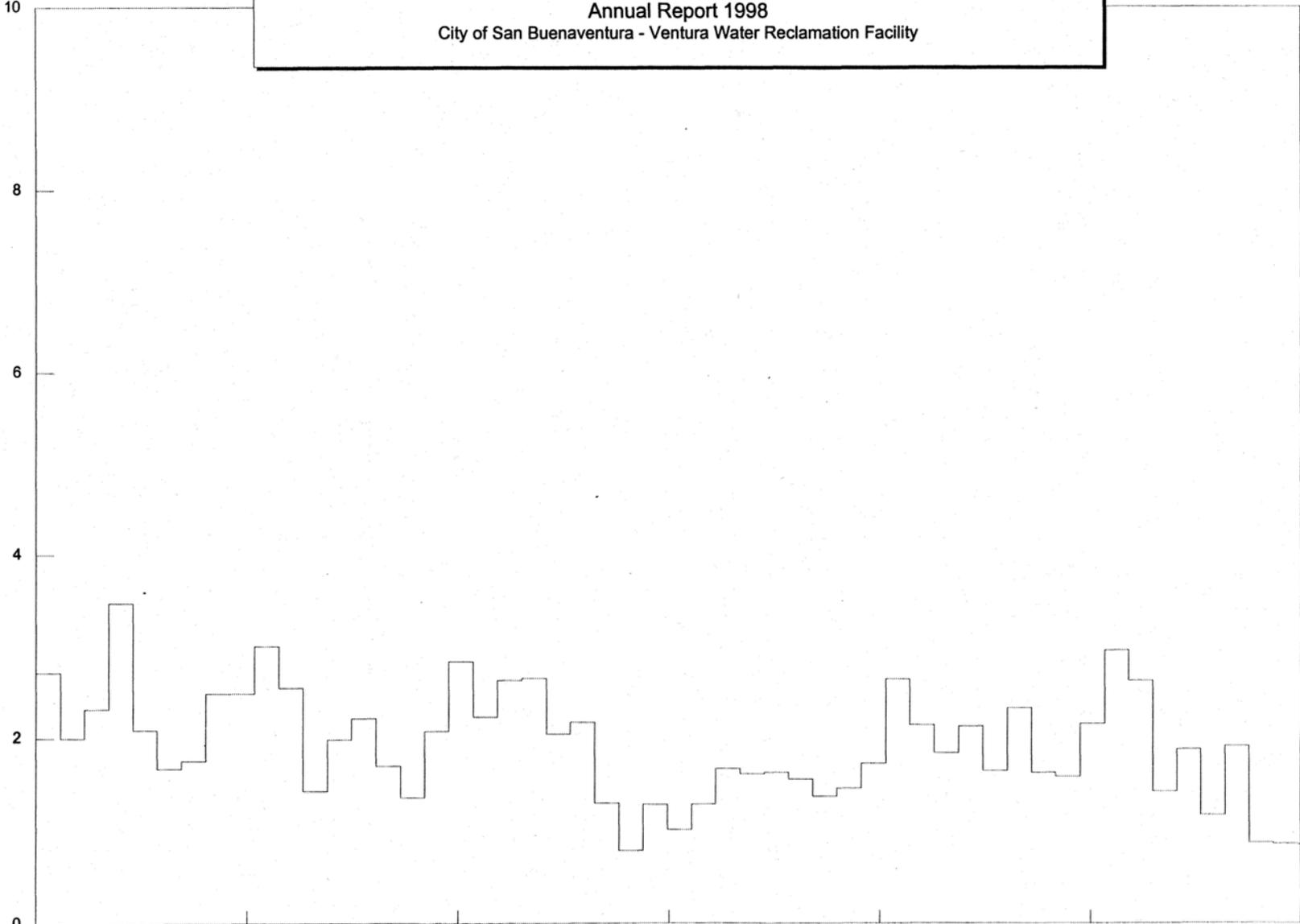
July

September

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Effluent Transfer Station
Effluent BOD - mg/l

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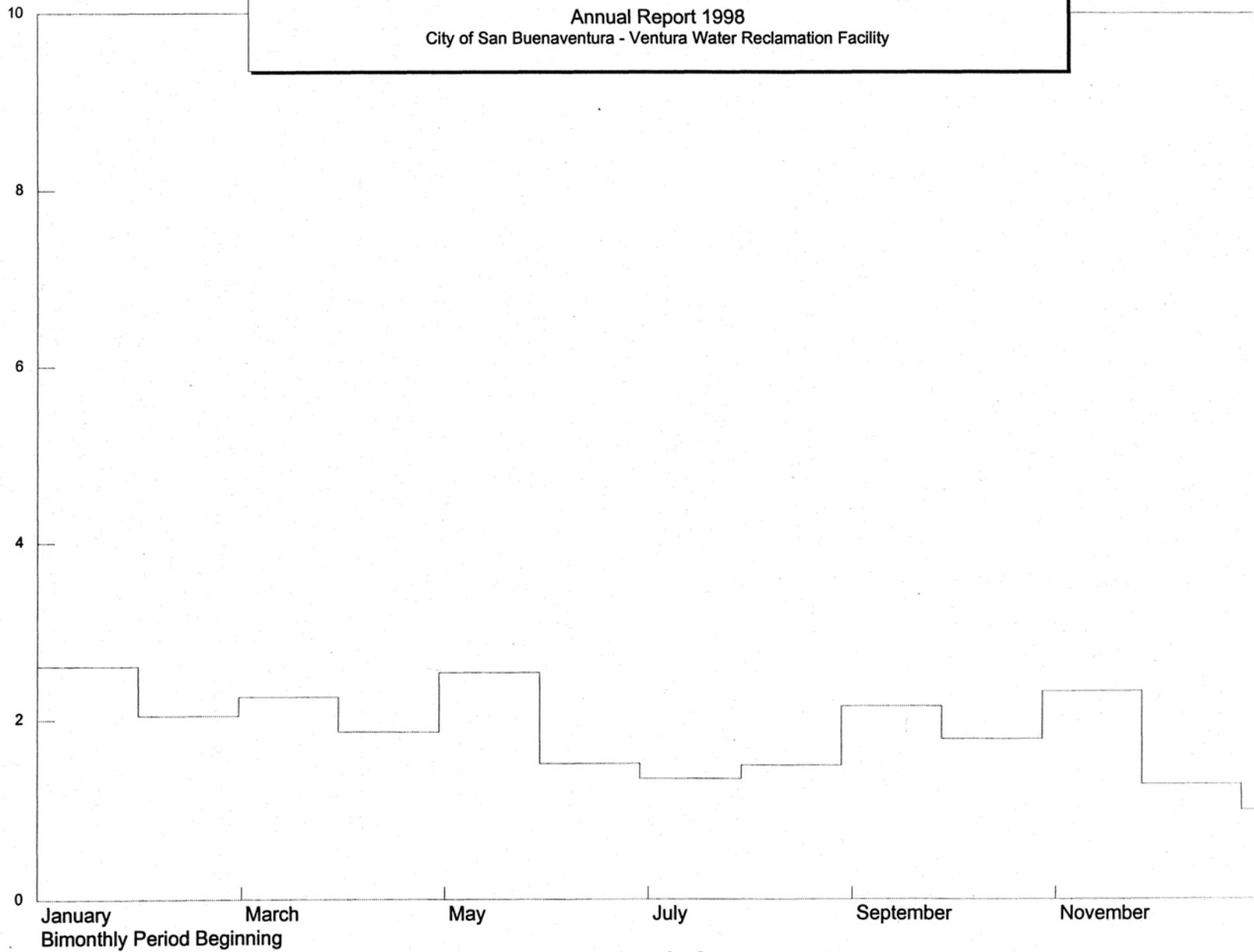
July

September

November

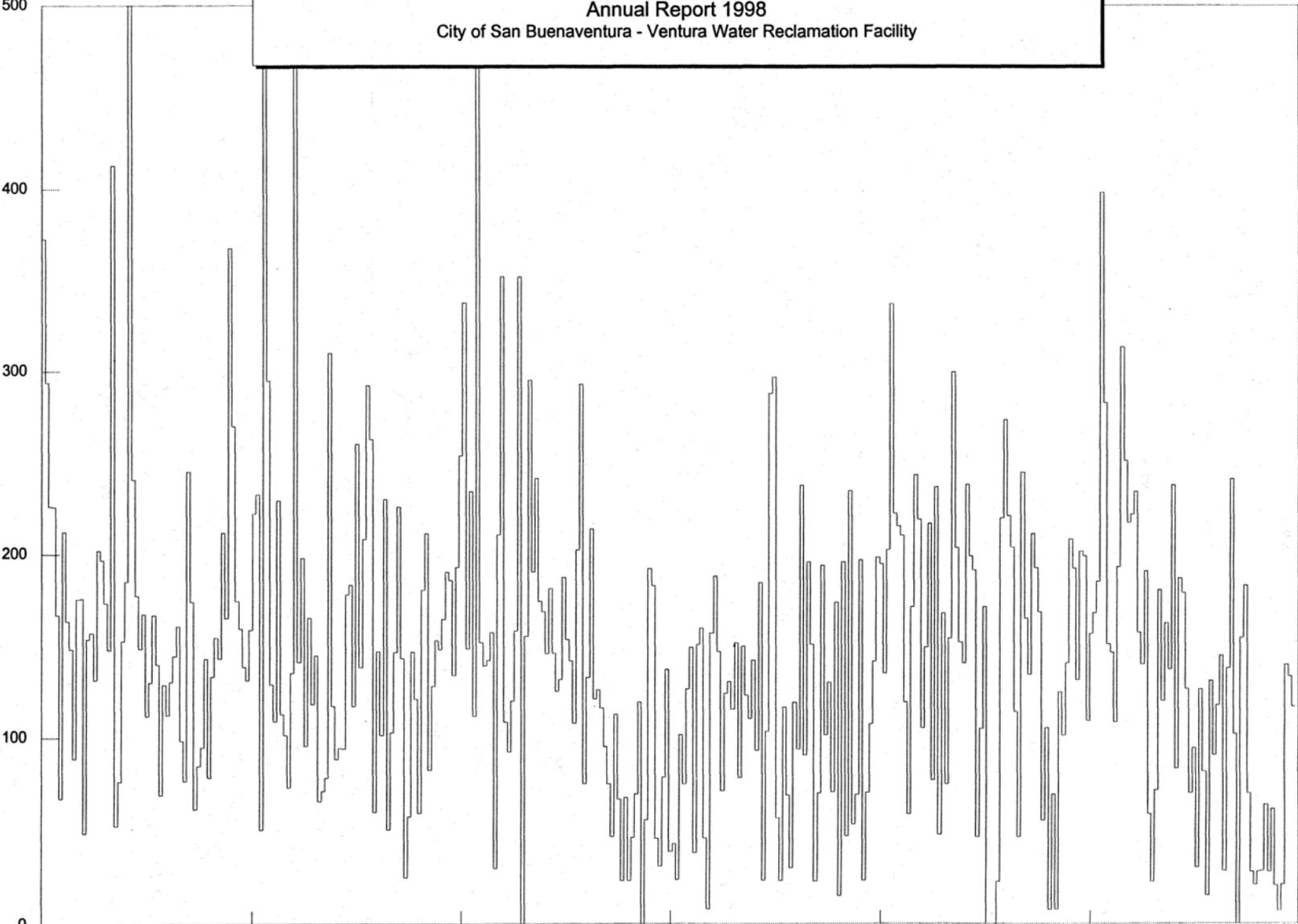
Effluent Transfer Station
Effluent 7 Day Average BOD - mg/l

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Effluent Transfer Station
Effluent 30 Day Average BOD - mg/l

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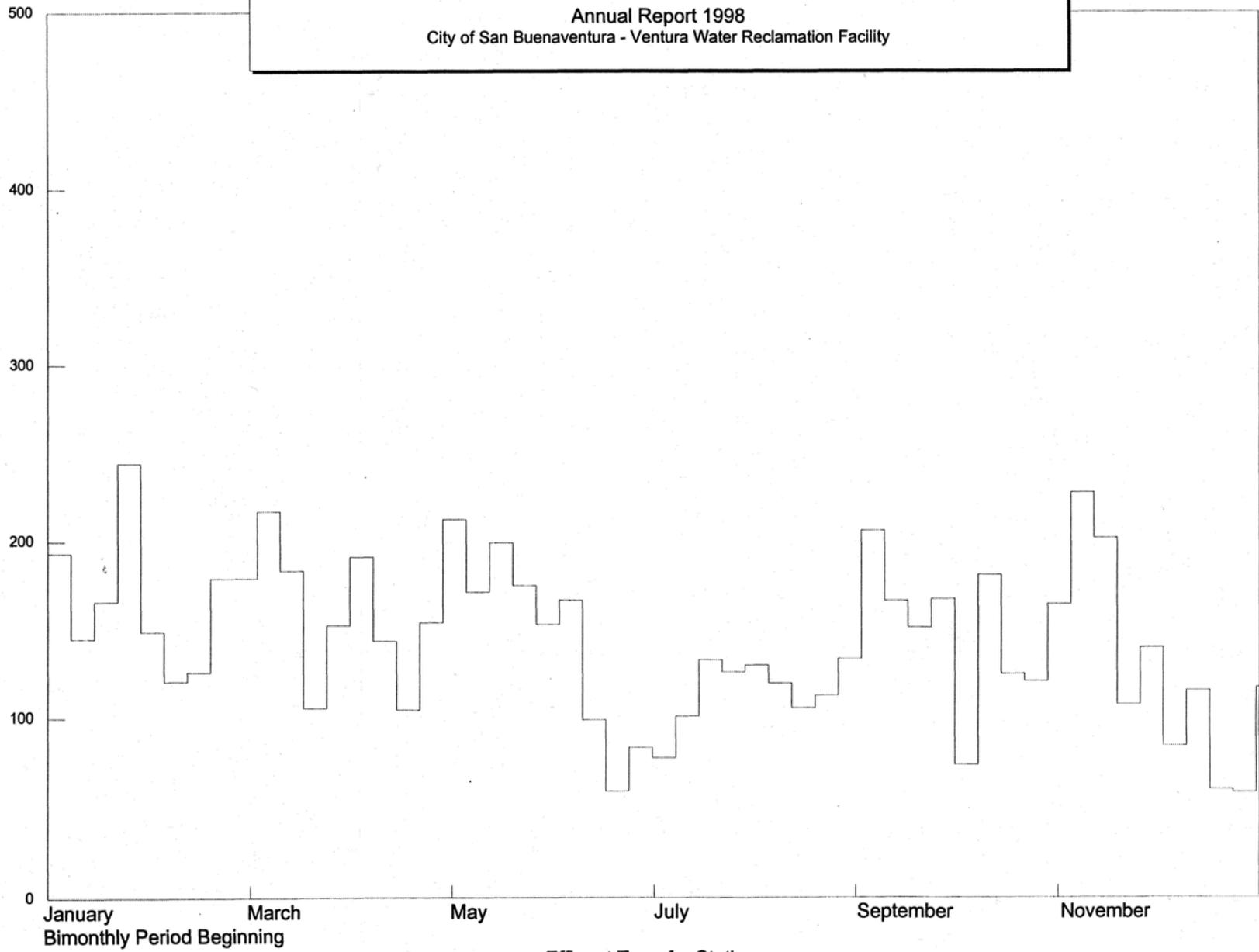
July

September

November

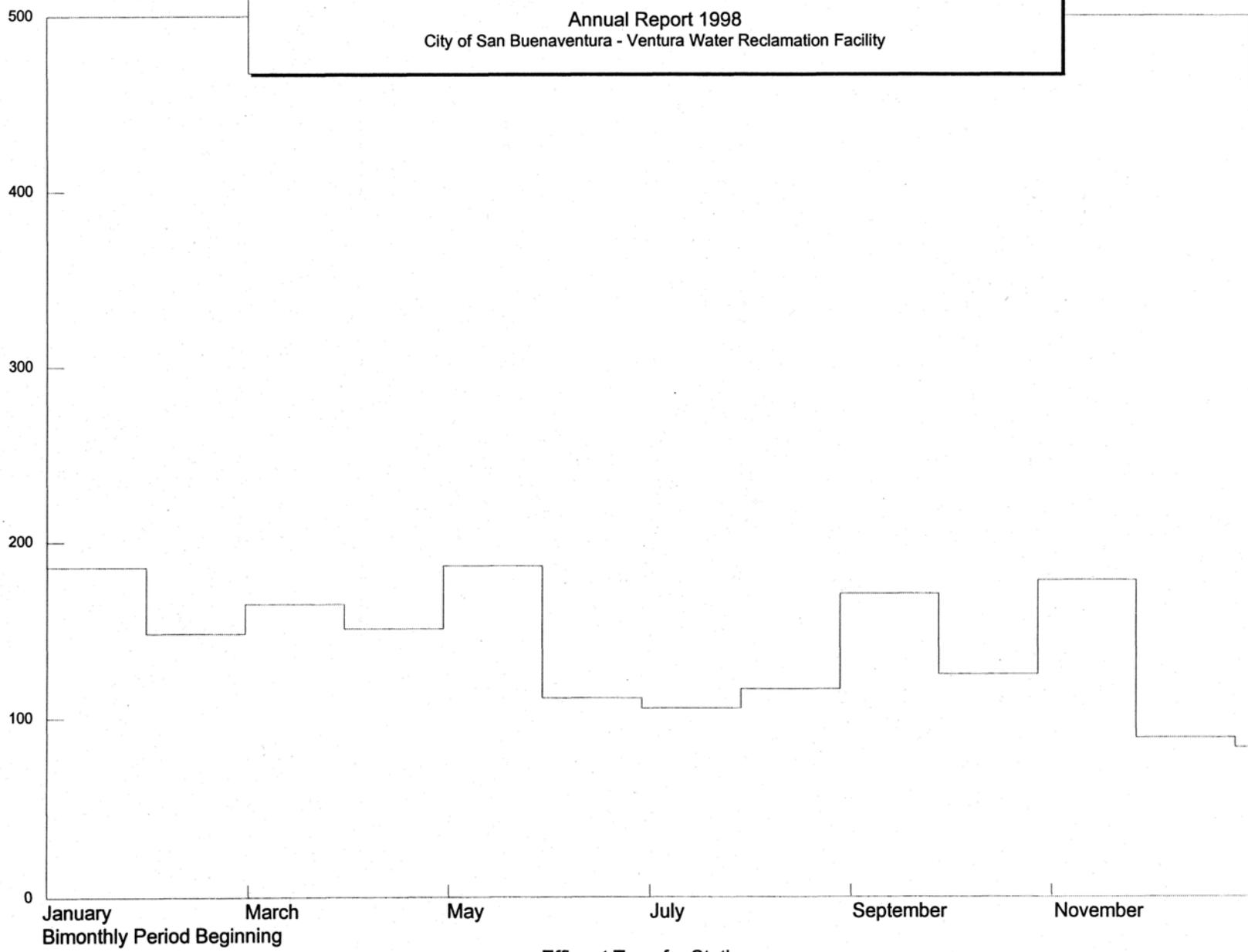
Effluent Transfer Station
Effluent BOD Mass Emission Rate - mg/l

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City of San Buenaventura - Ventura Water Reclamation Facility



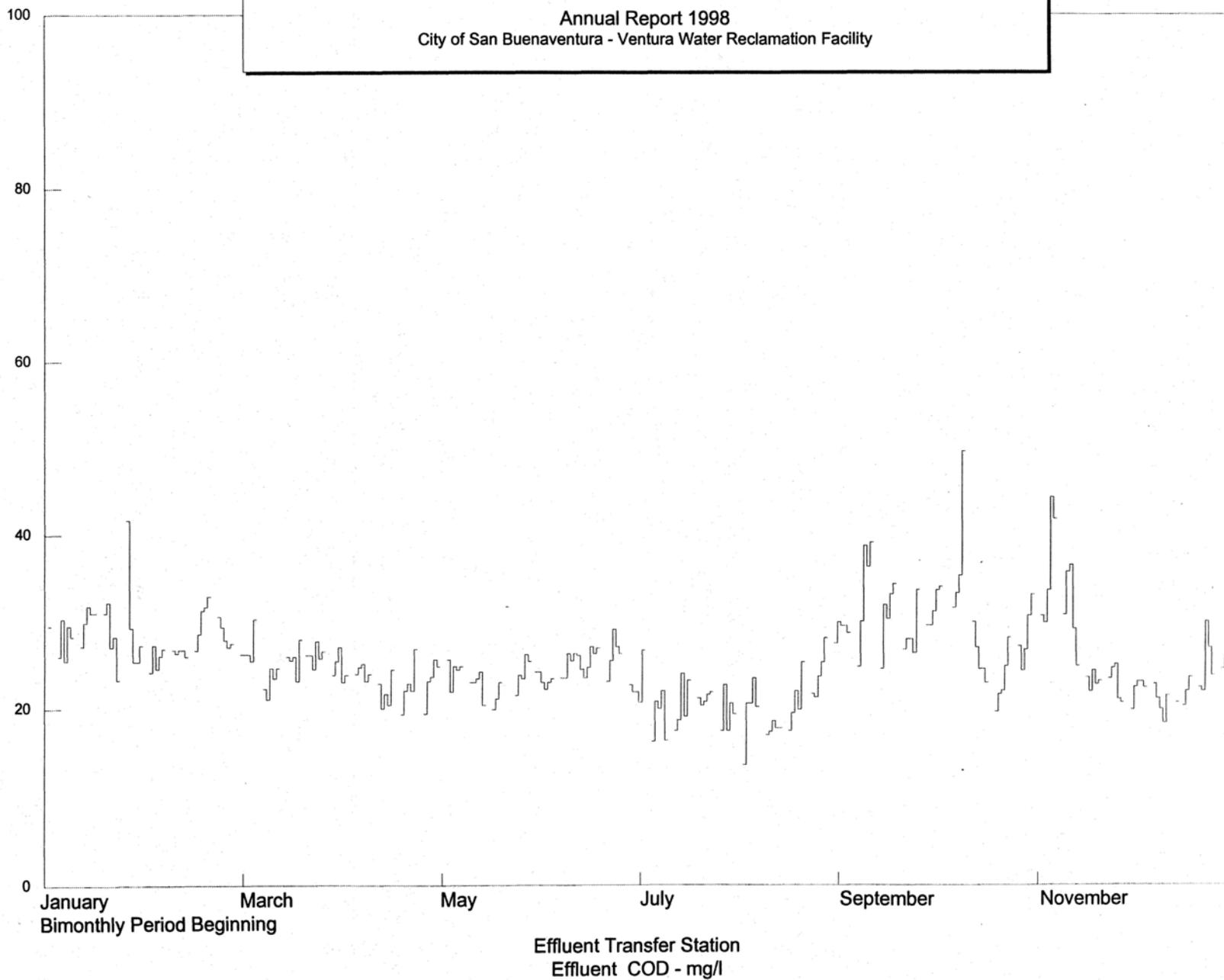
Effluent Transfer Station
Effluent 7 Day Average BOD Mass Emission Rate - mg/l

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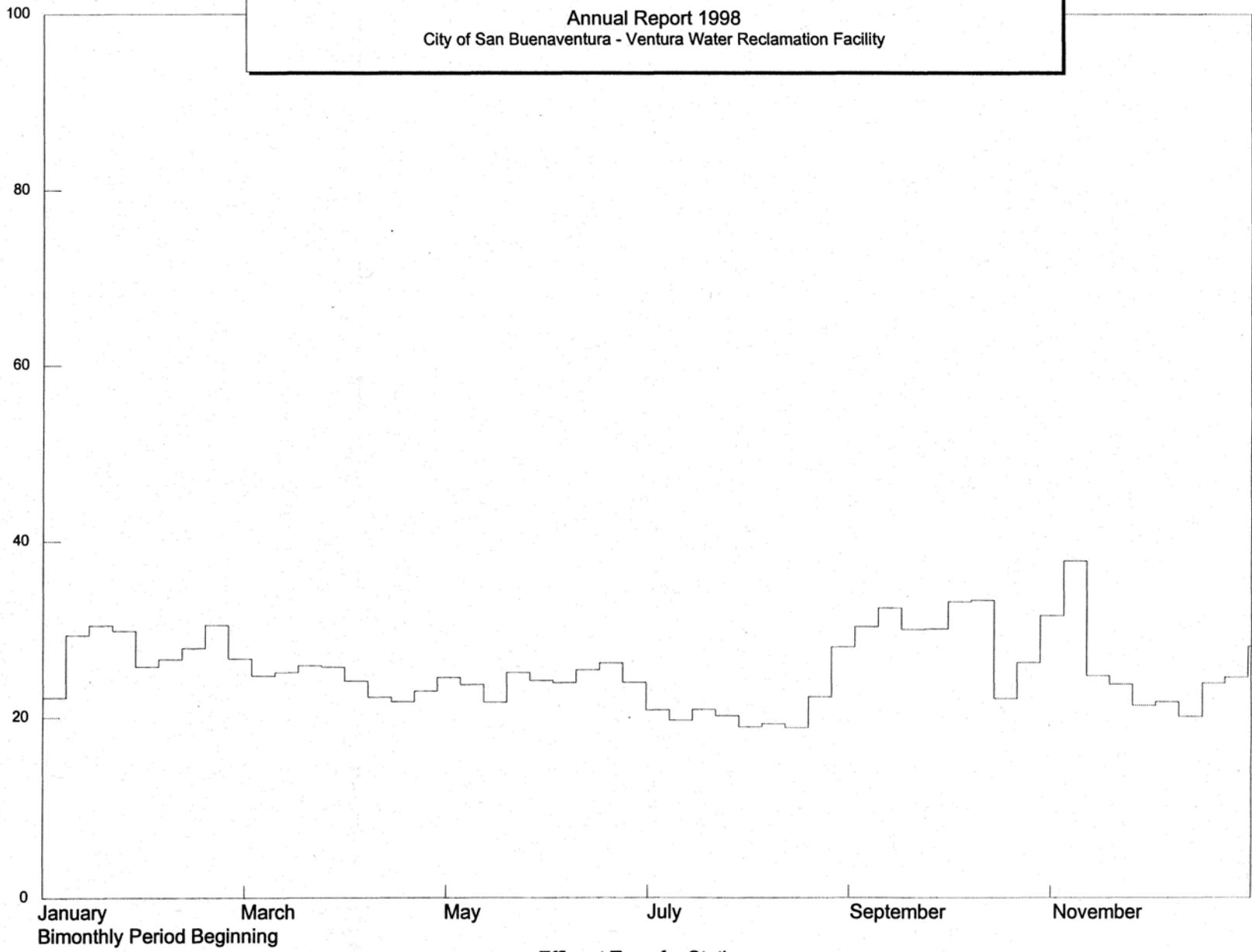


Effluent Transfer Station
Effluent 30 Day Average BOD Mass Emission Rate - mg/l

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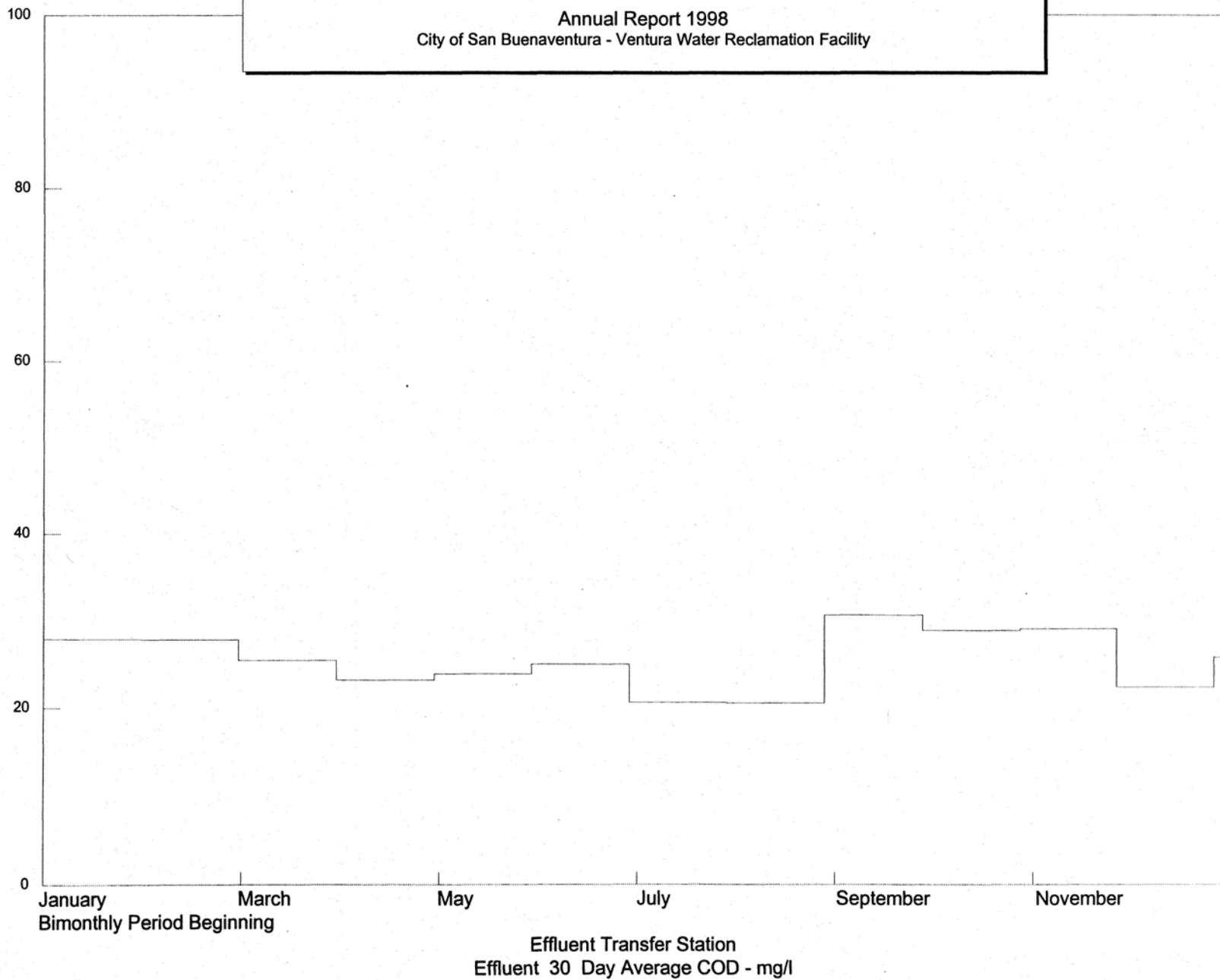


Annual Report 1998
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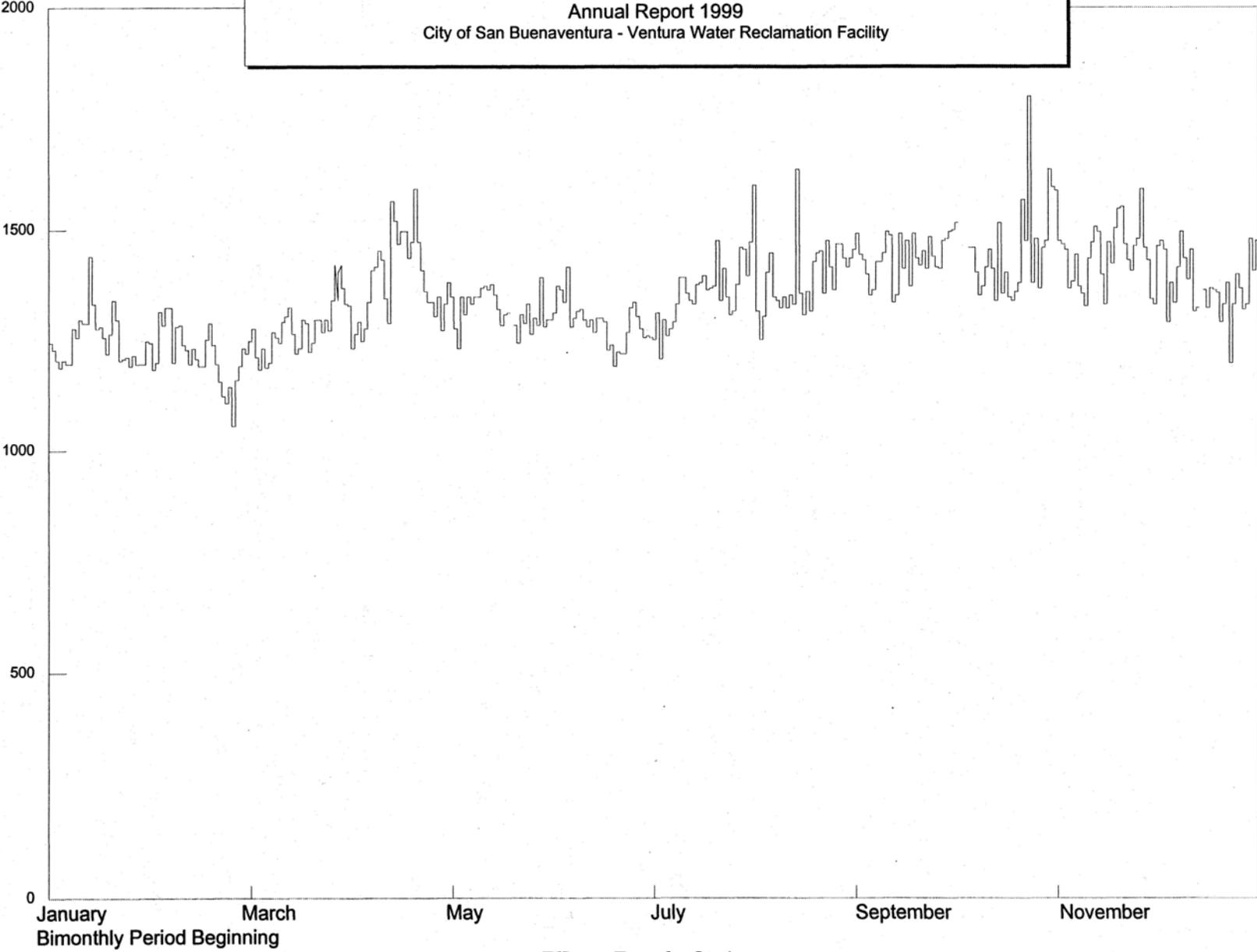


Effluent Transfer Station
Effluent 7 Day Average COD - mg/l

Annual Report 1998
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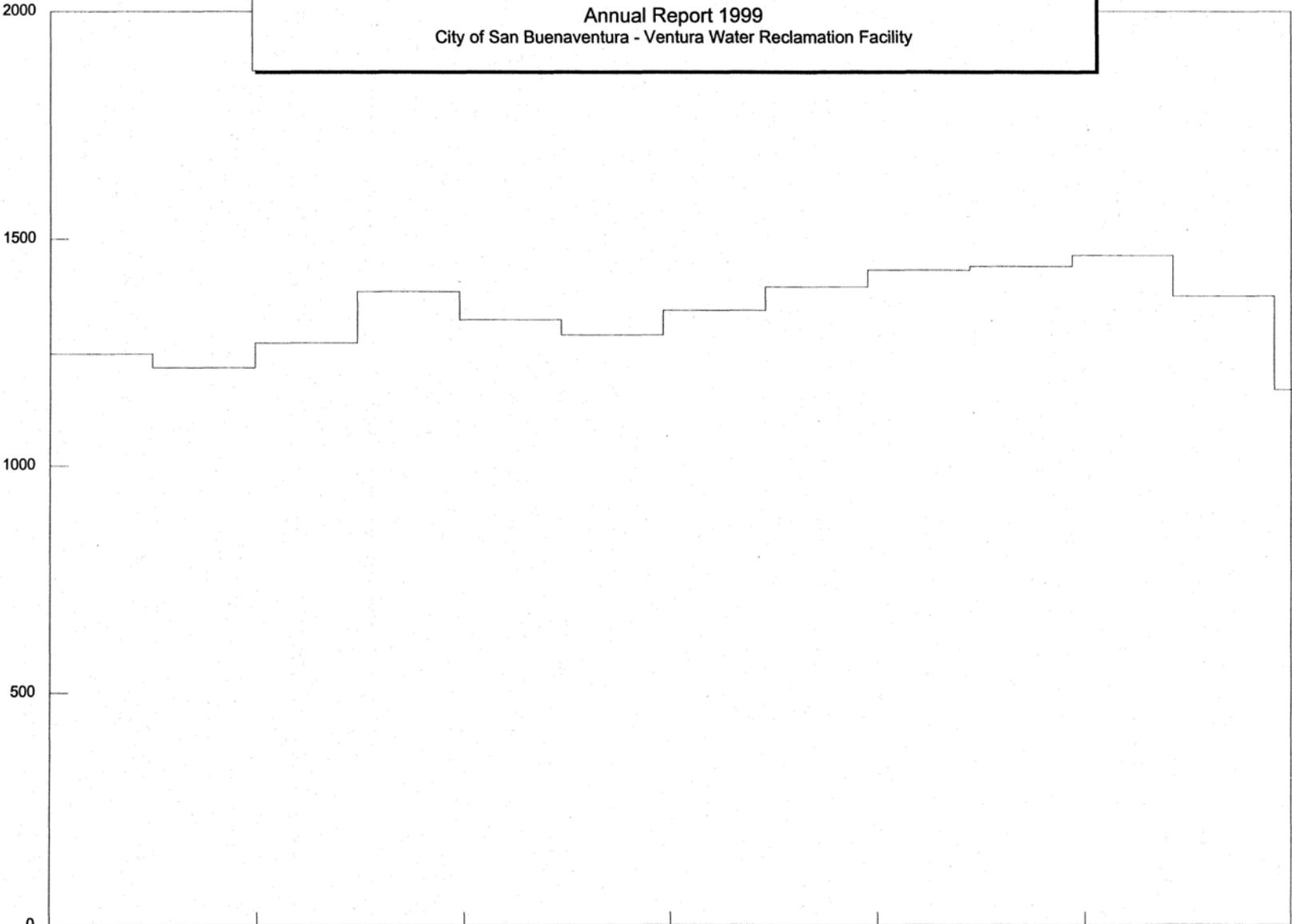


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Effluent Transfer Station
Effluent Total Dissolved Solids - mg/l

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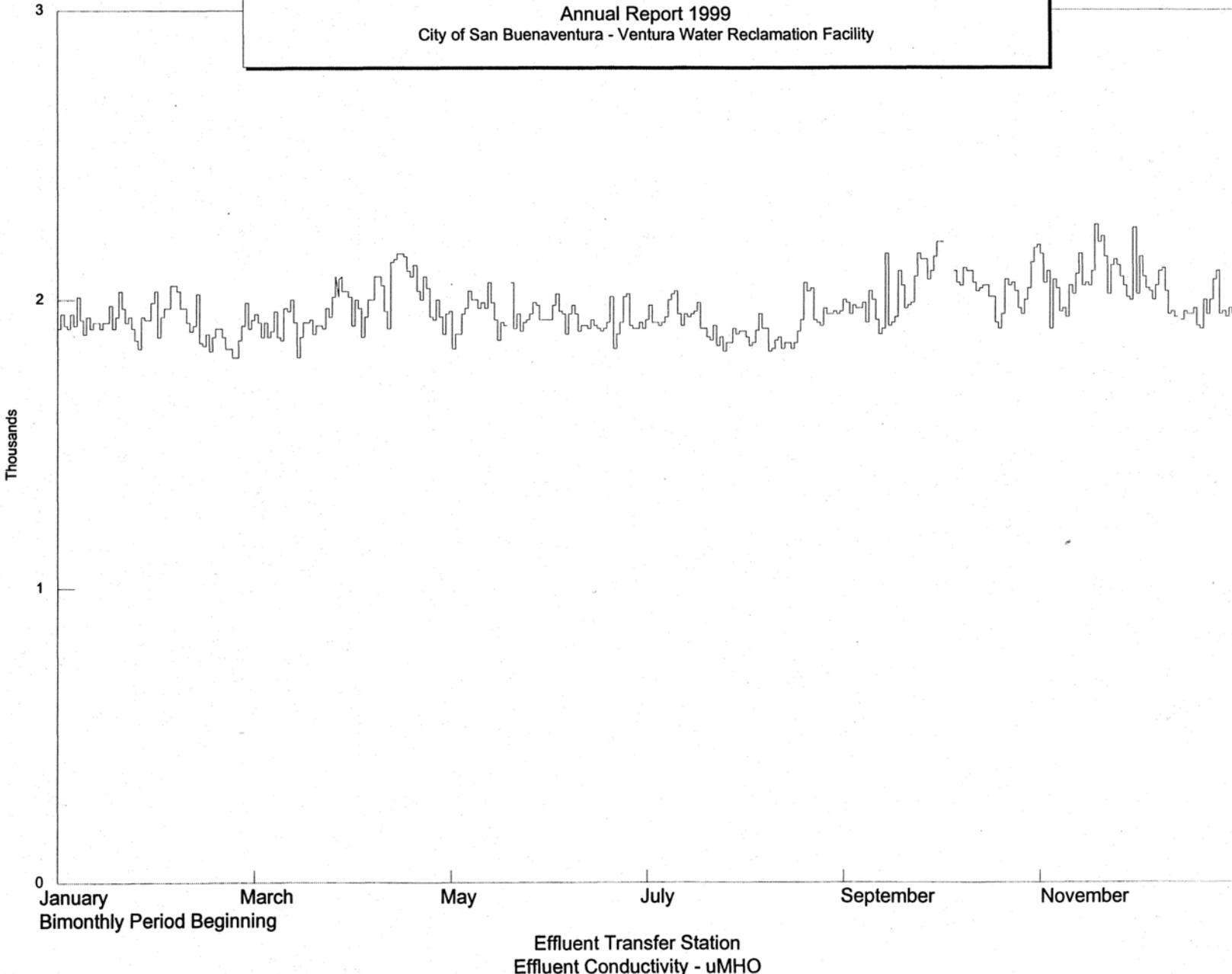


January March May July September November

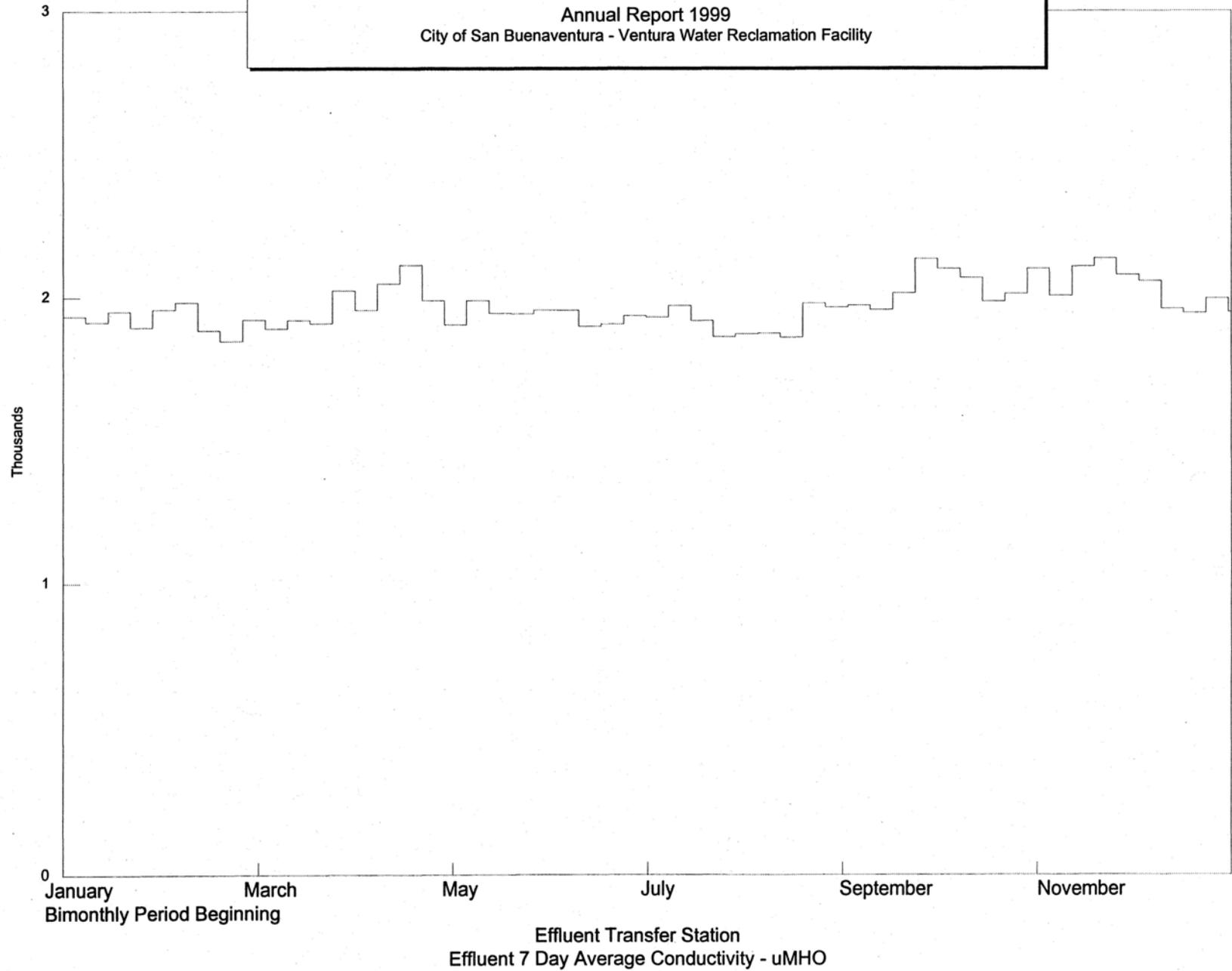
Bimonthly Period Beginning

Effluent Transfer Station
Effluent 30 Day Average Total Dissolved Solids - mg/l

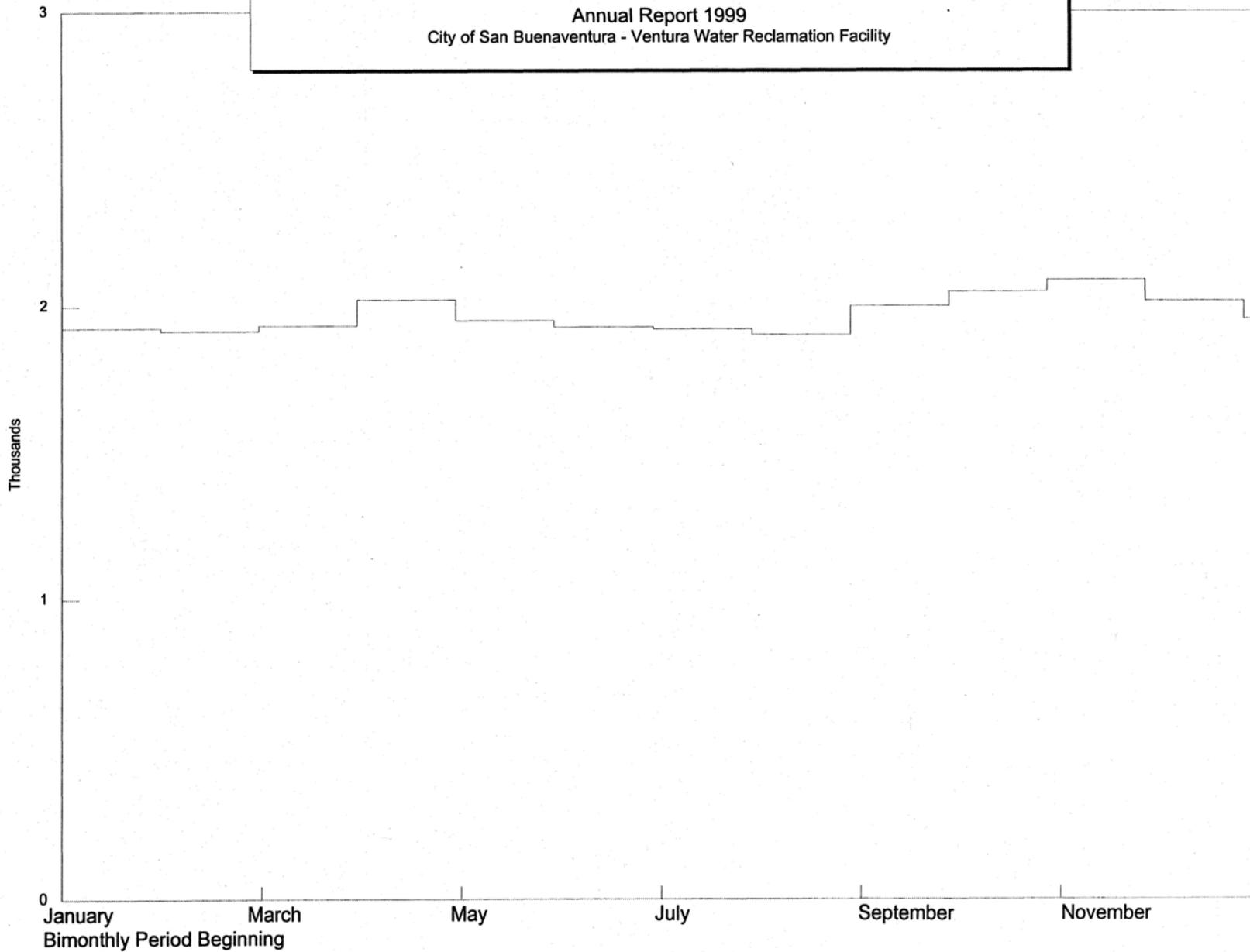
Annual Report 1999
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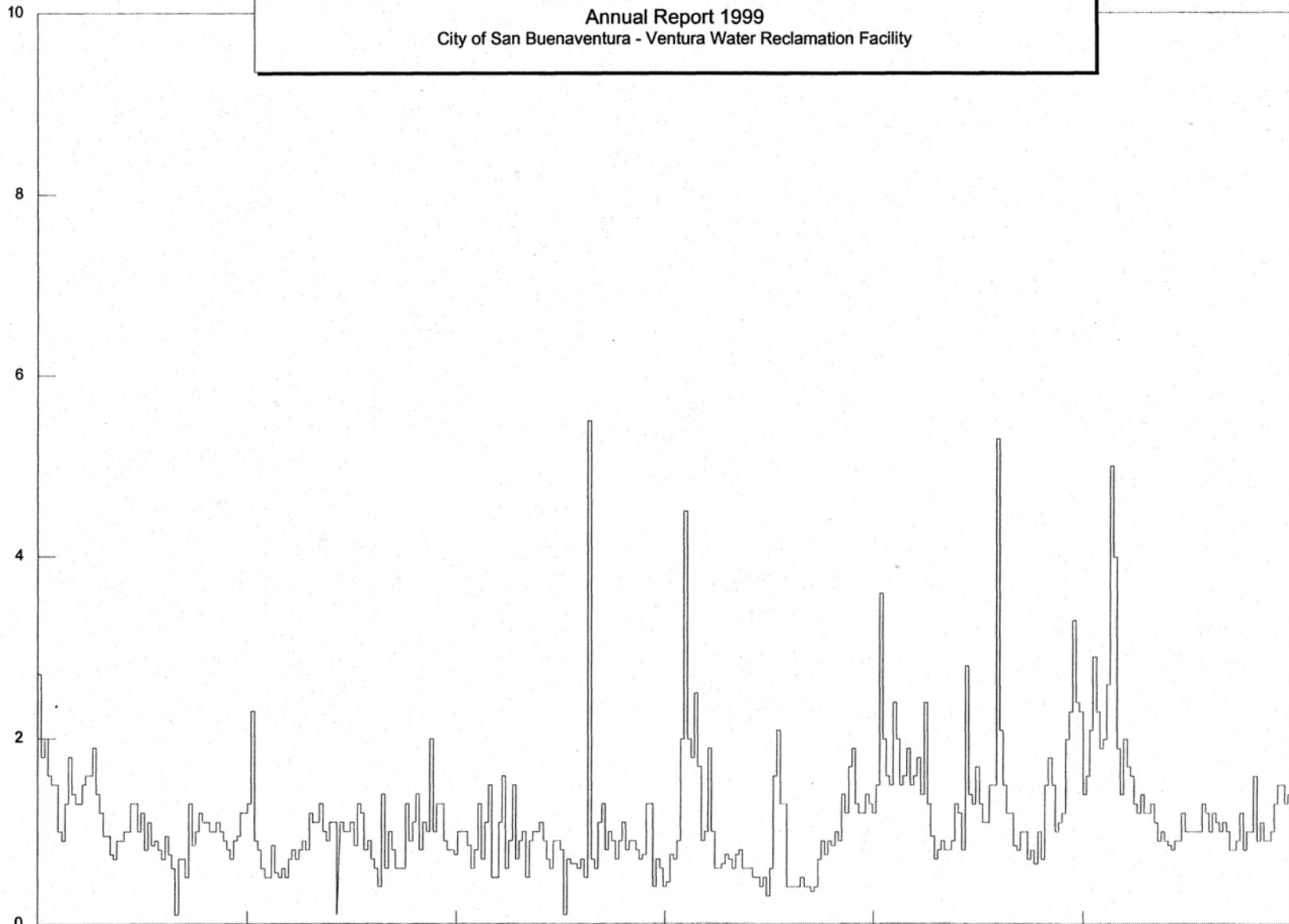


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Effluent Transfer Station
Effluent 30 Day Average Conductivity - uMHO

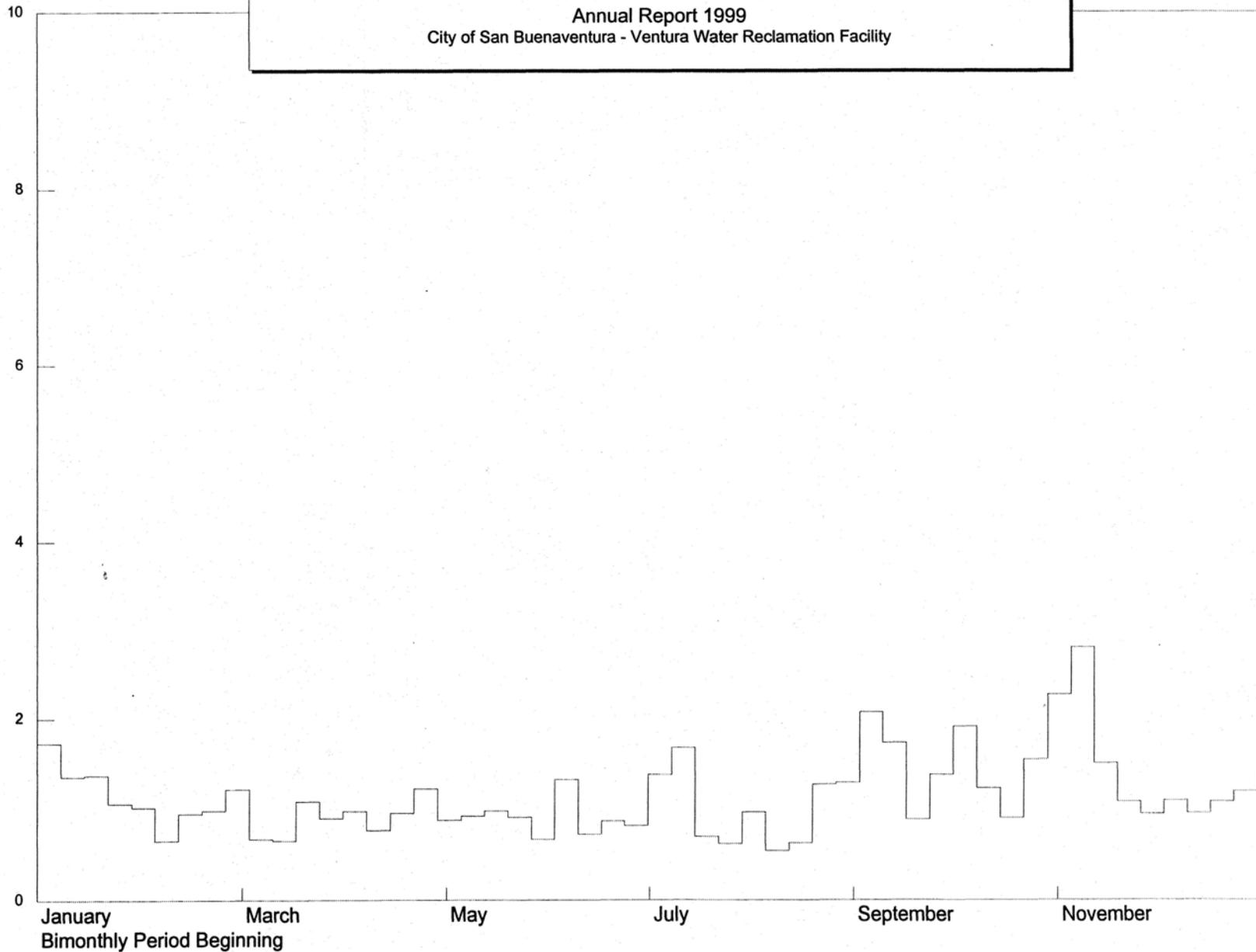
Annual Report 1999
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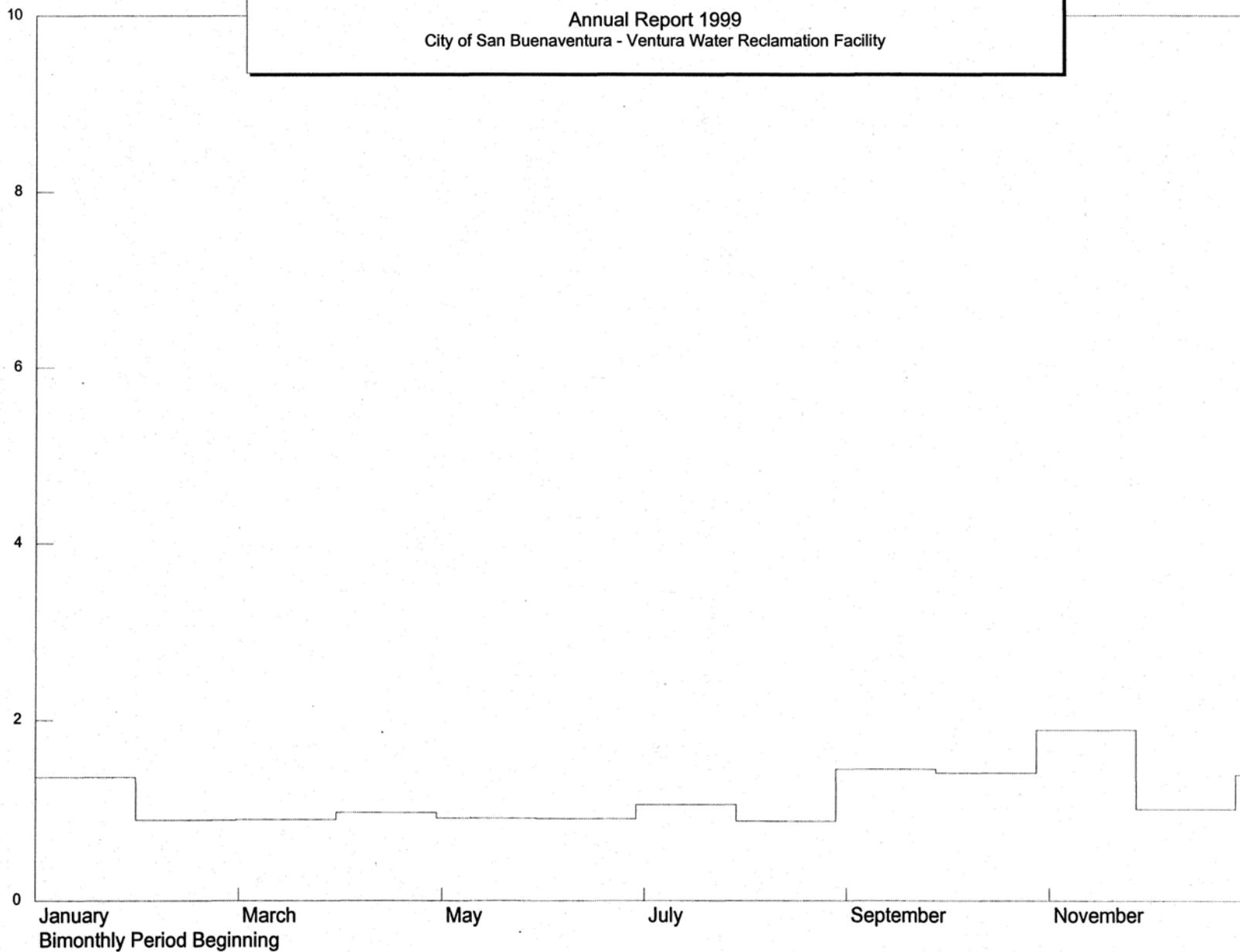
Effluent Transfer Station
Effluent Daily Average Turbidity - NTU

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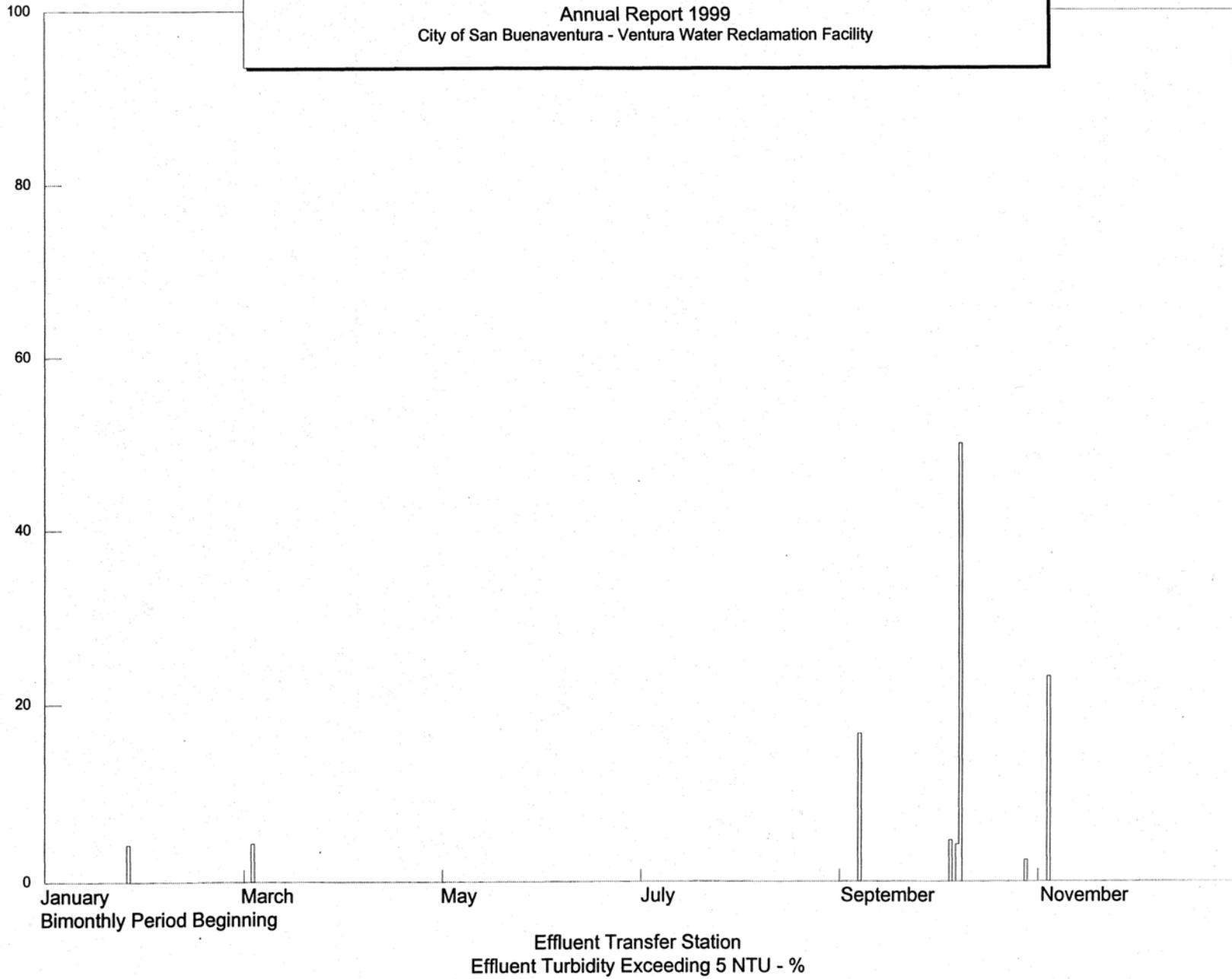
Effluent Transfer Station
Effluent 7 Day Average Turbidity - NTU

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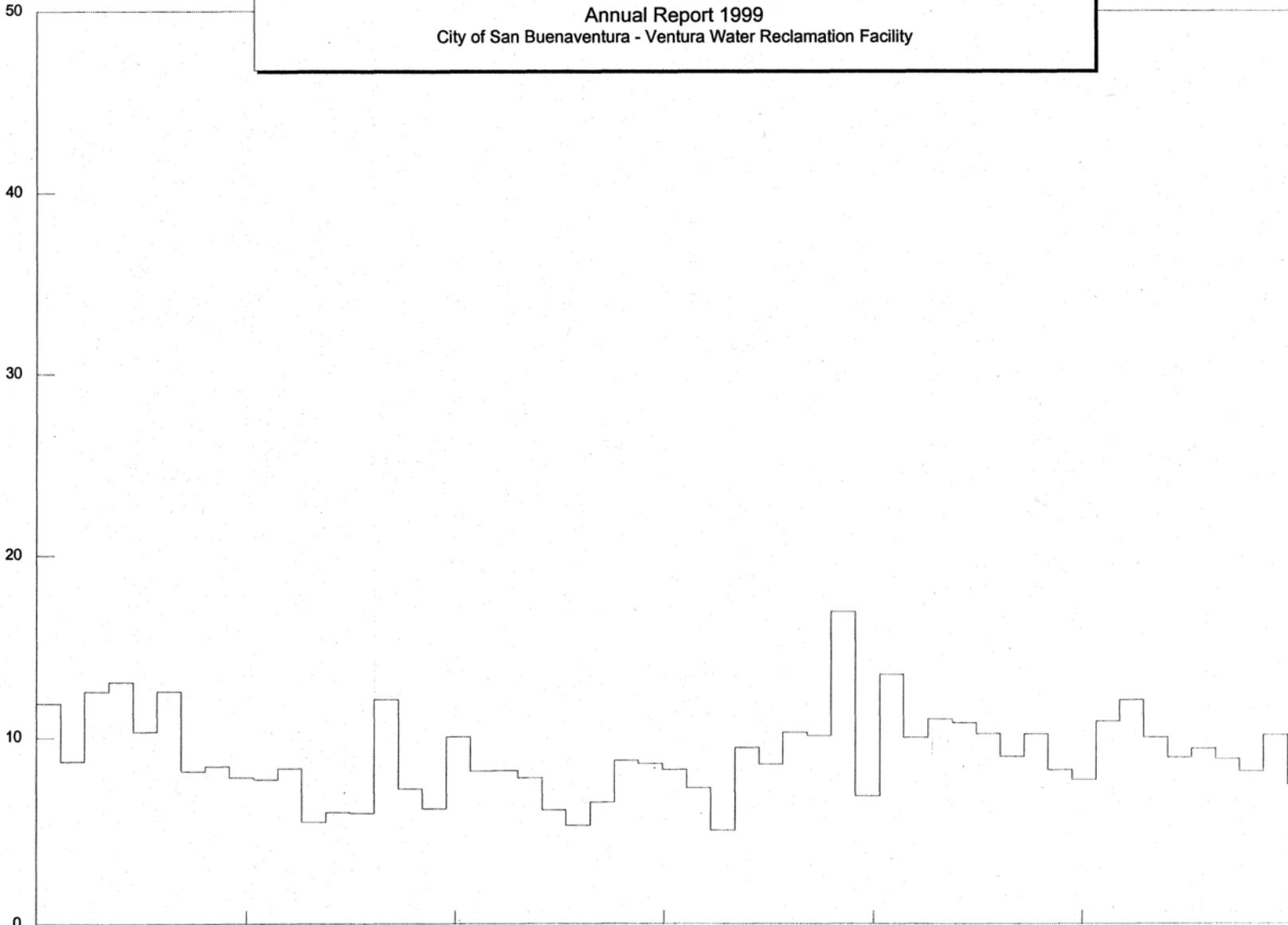


Effluent Transfer Station
Effluent 30 Day Average Turbidity - NTU

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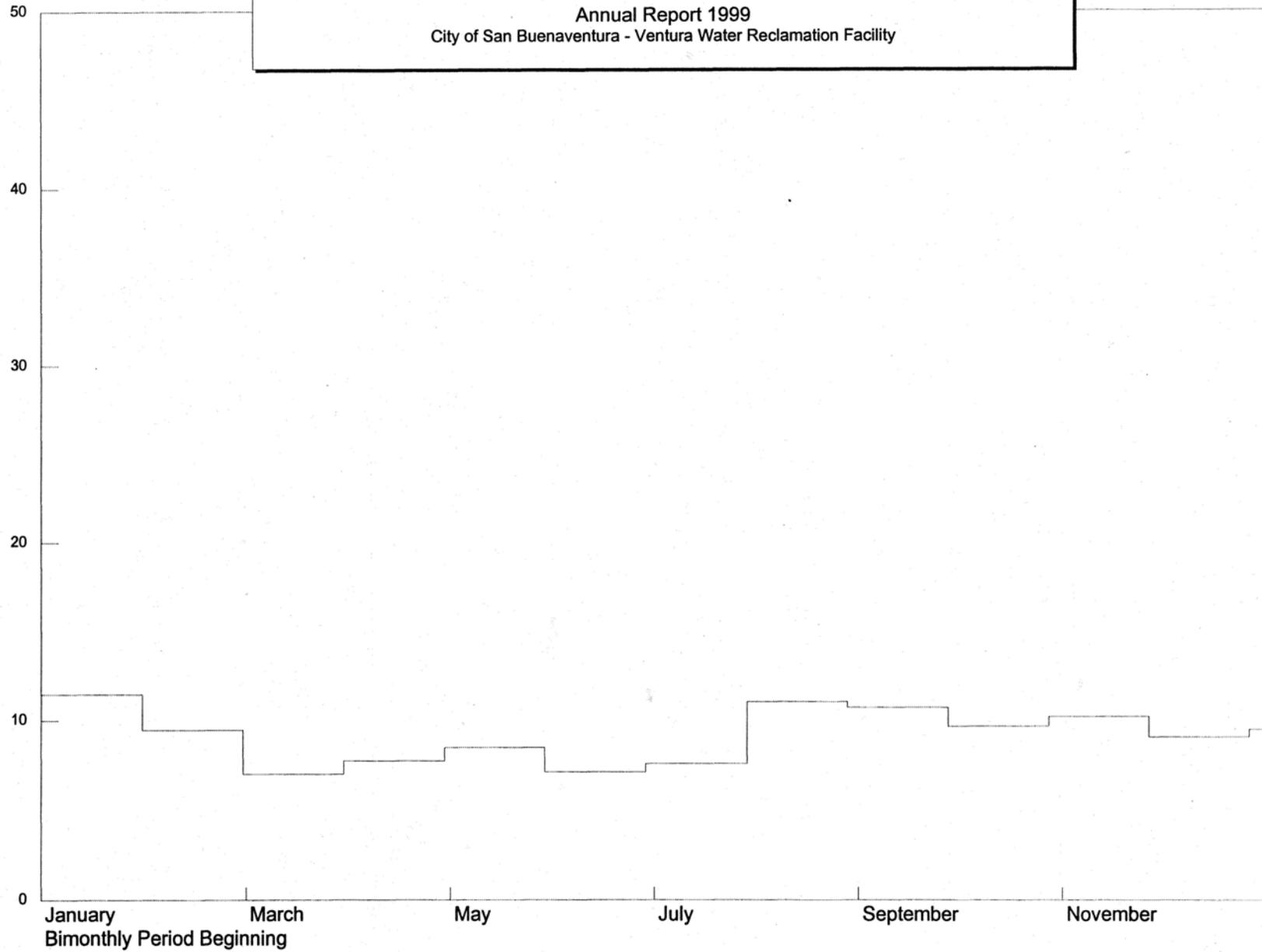
Annual Report 1999
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January Bimonthly Period Beginning March May July September November

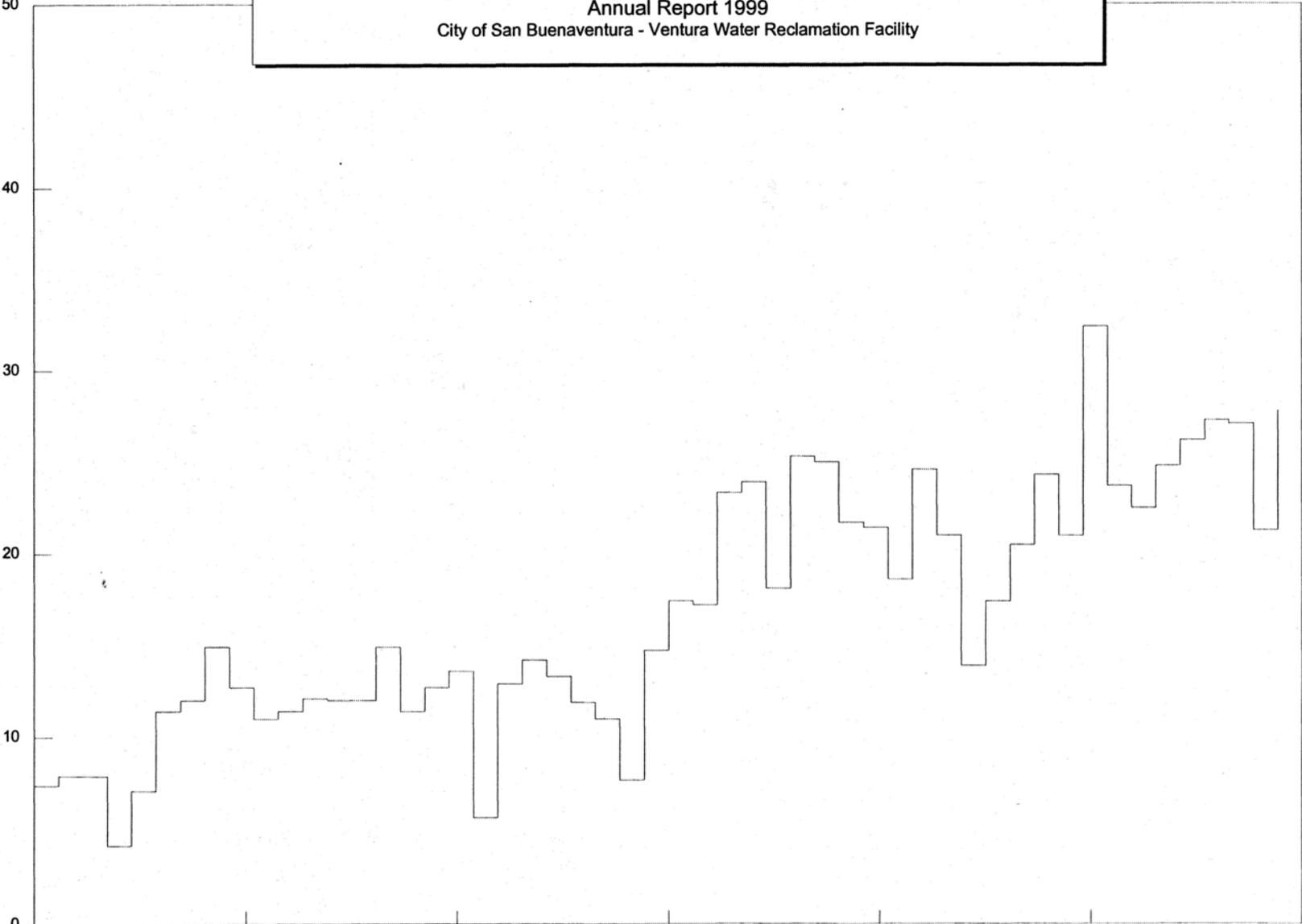
Effluent Transfer Station
Effluent 7 Day Average Chlorine Residual - mg/l

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Effluent Transfer Station
Effluent 30 Day Average Chlorine Residual - mg/l

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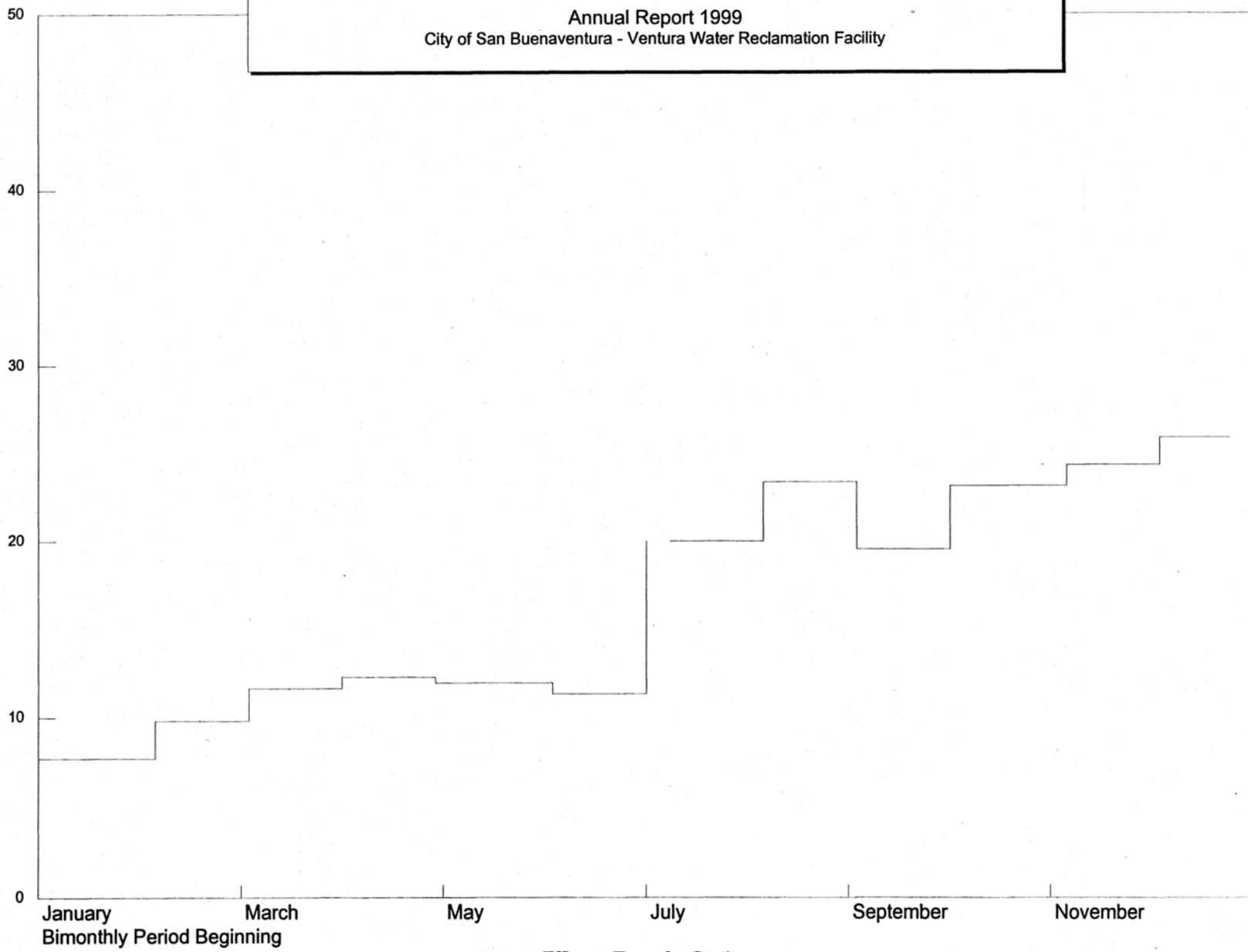
July

September

November

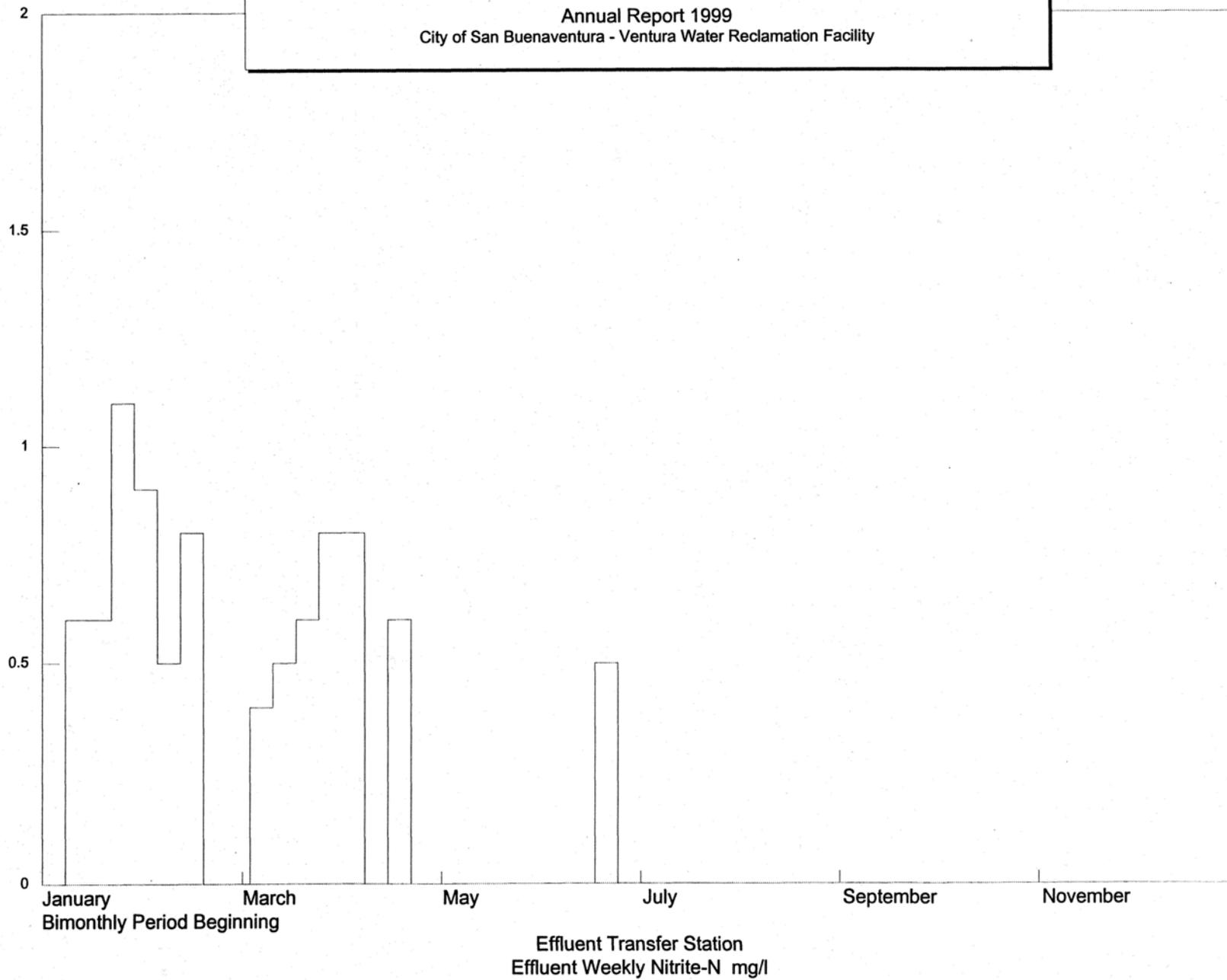
Effluent Transfer Station
Effluent Weekly Nitrate-N mg/l

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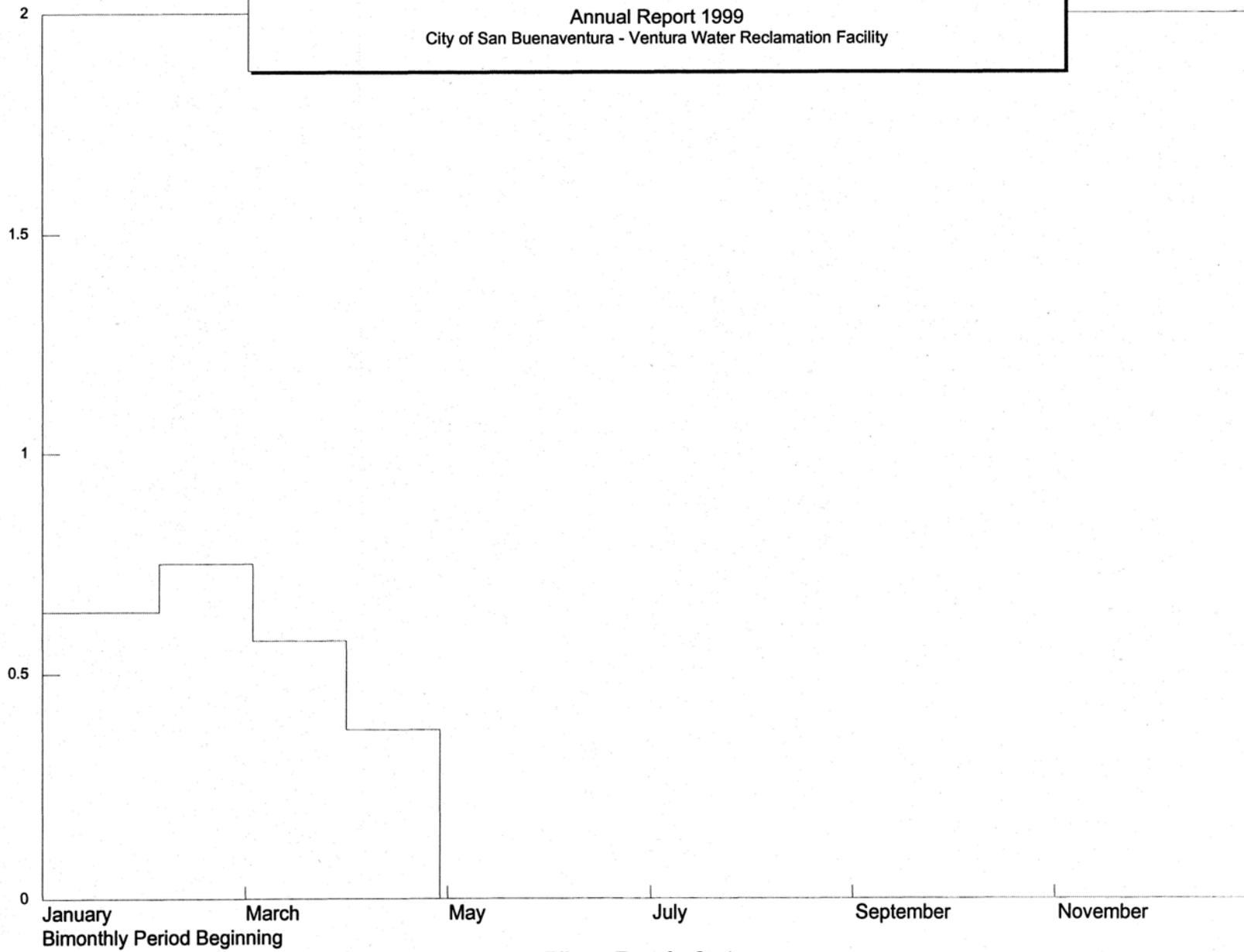


Effluent Transfer Station
Effluent 30 Day Average Nitrate-N mg/l

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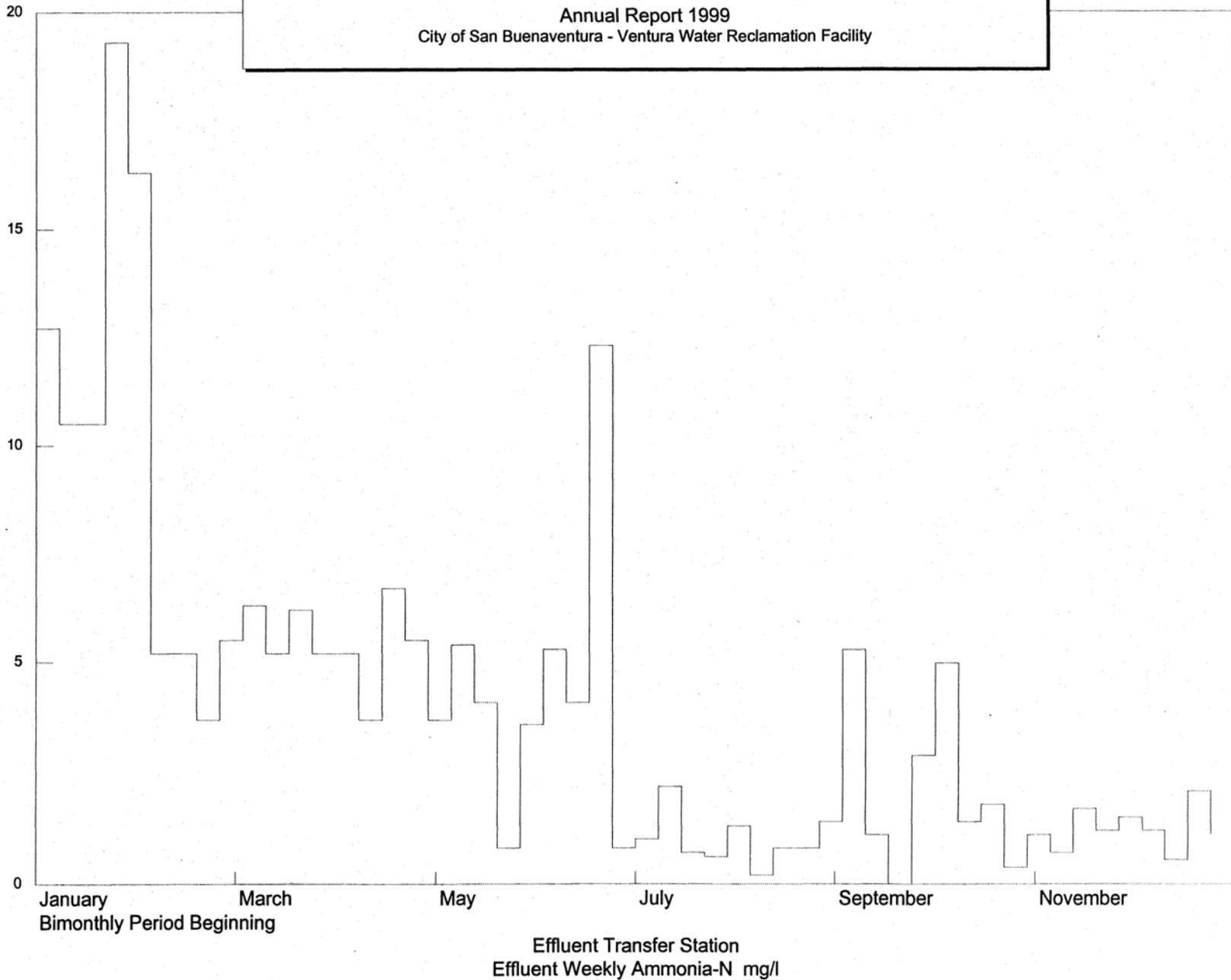


Annual Report 1999
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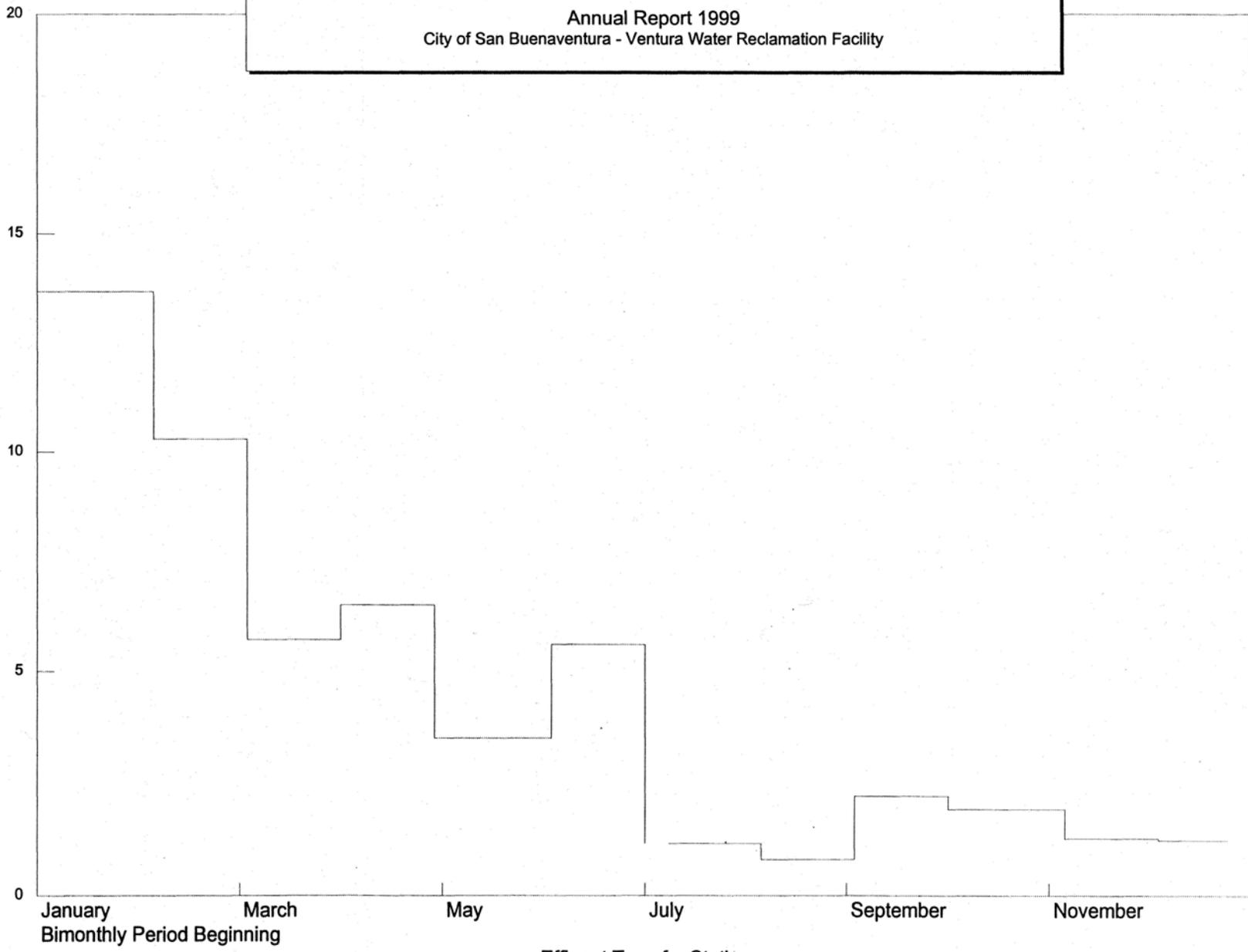


Effluent Transfer Station
Effluent 30 Day Average Nitrite-N mg/l

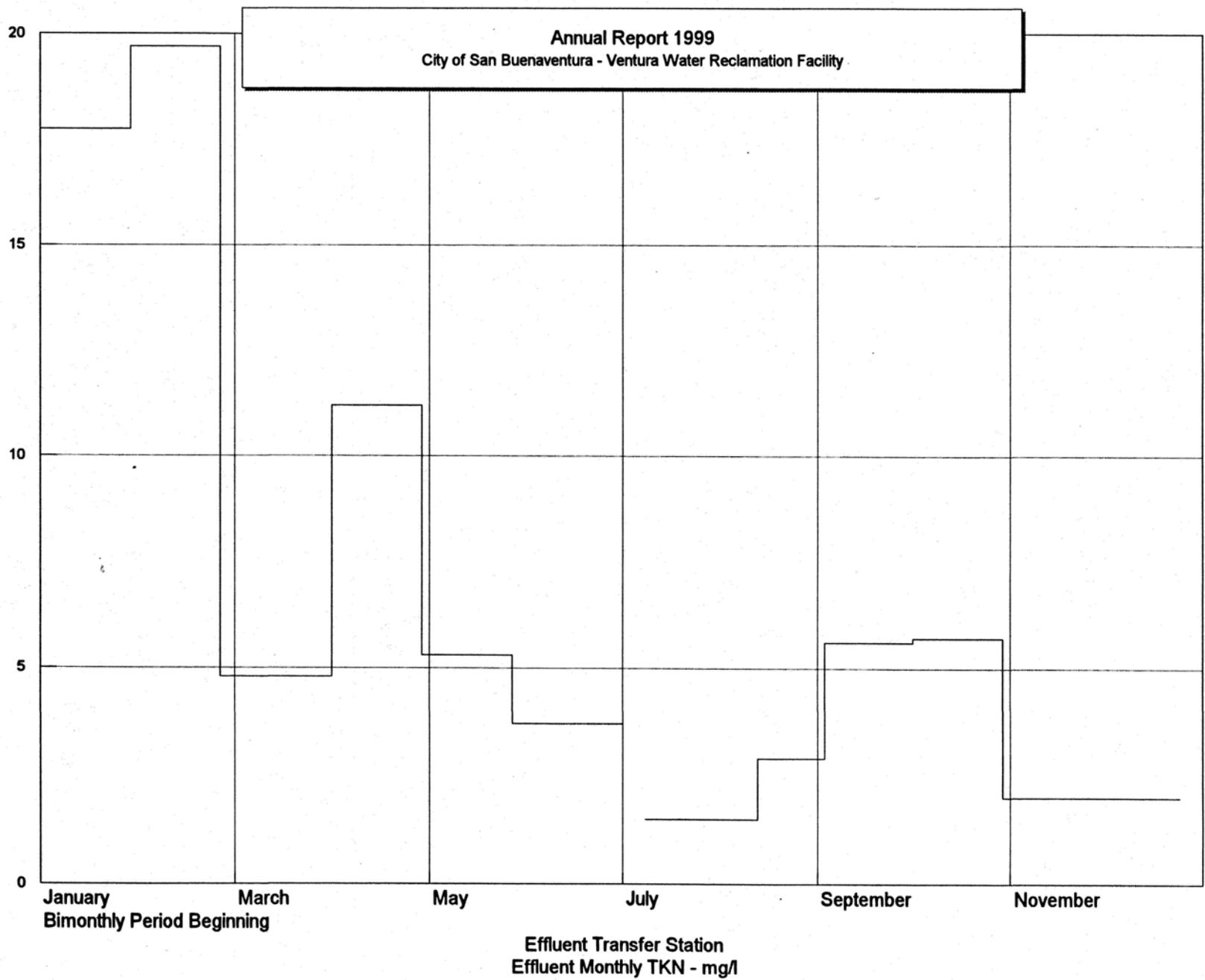
Annual Report 1999
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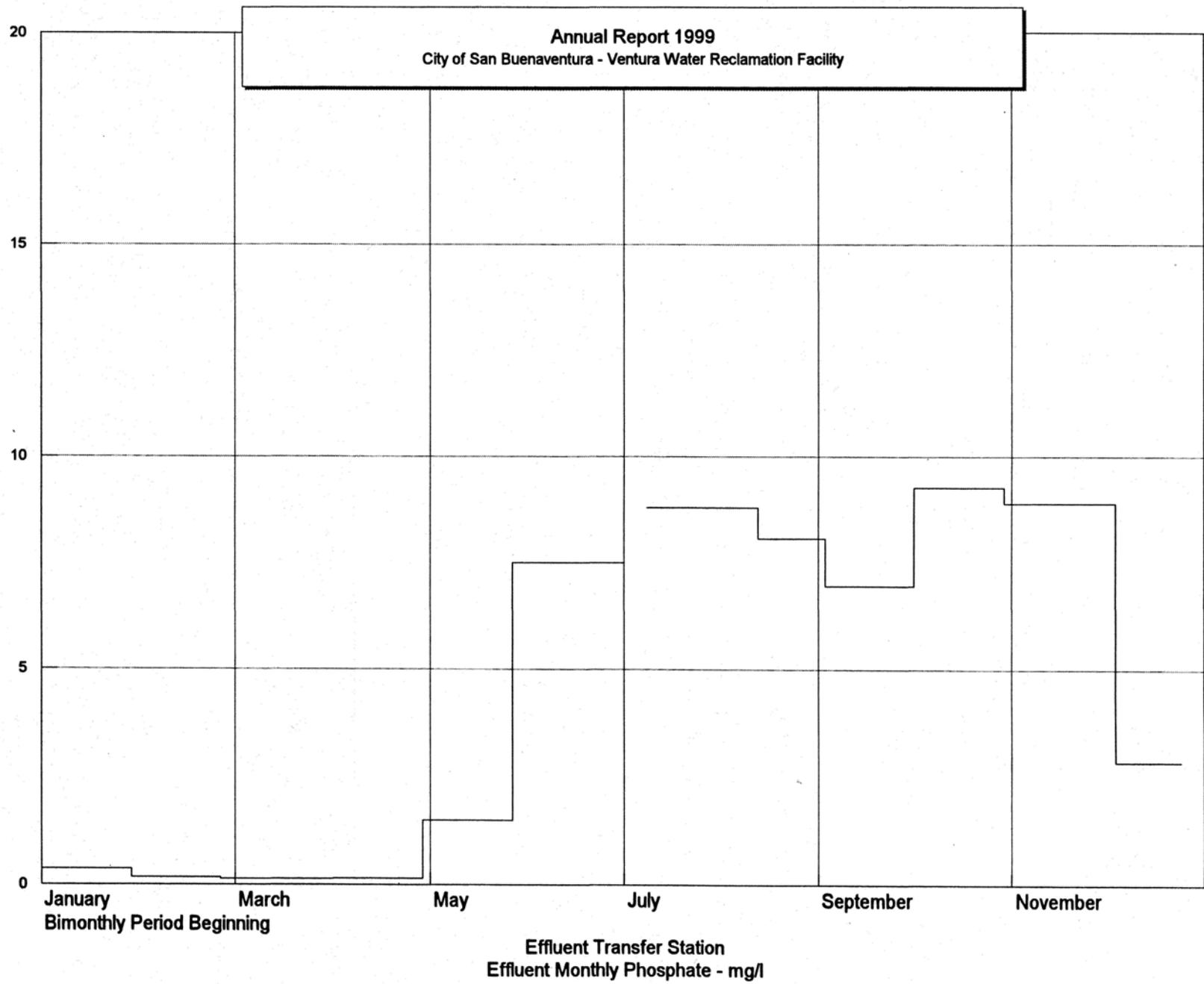


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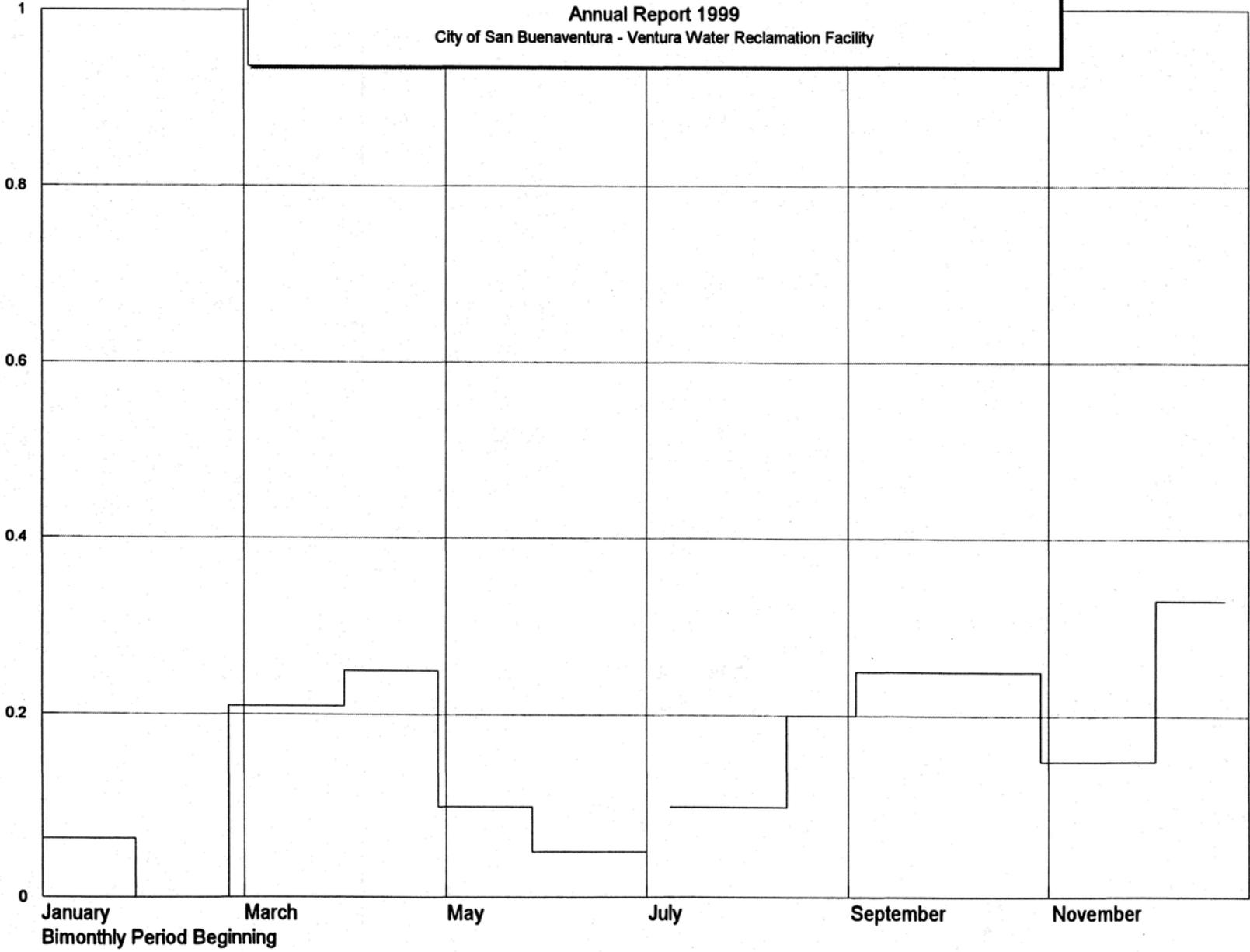


Effluent Transfer Station
Effluent 30 Day Average Ammonia-N mg/l



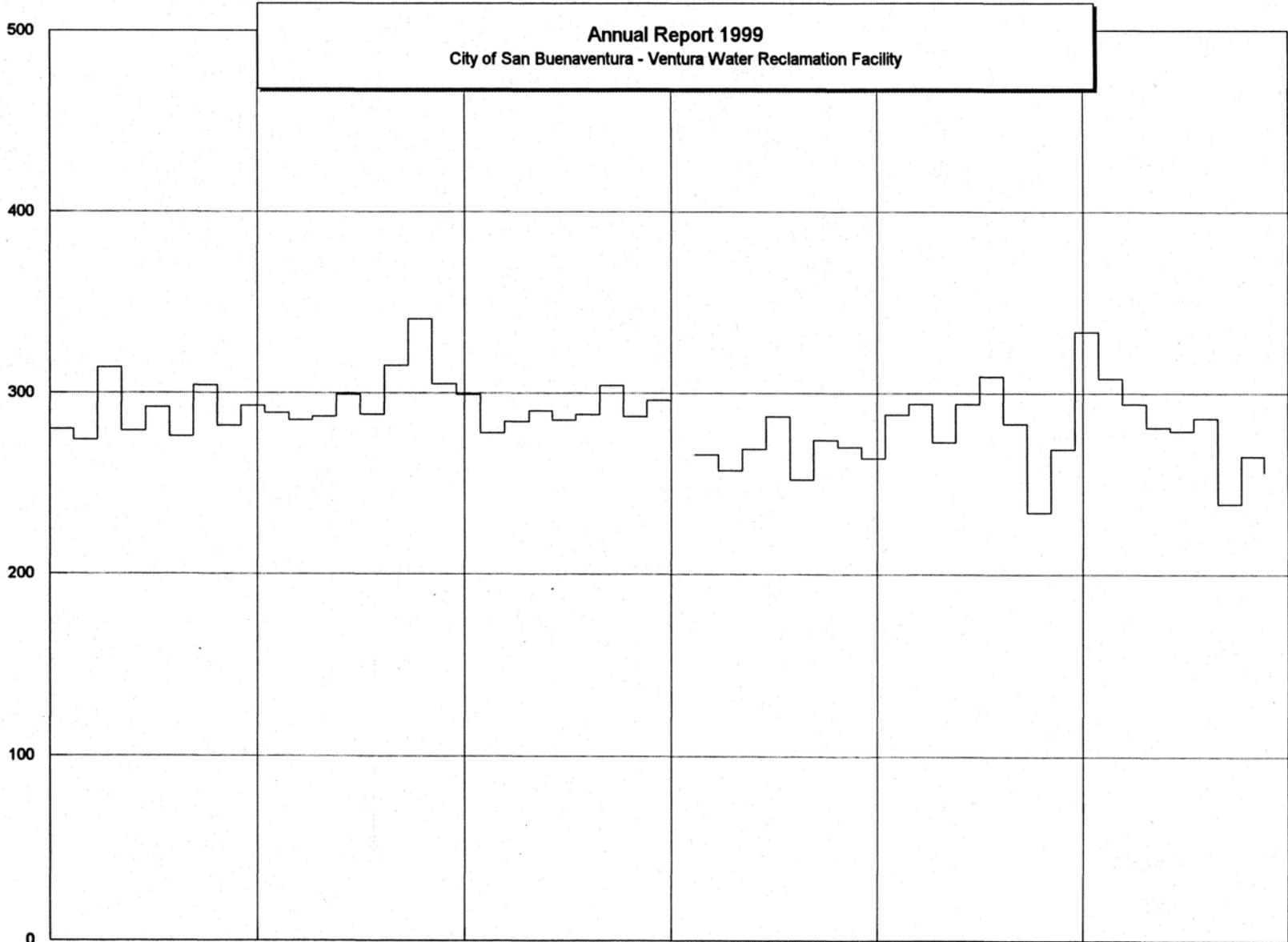


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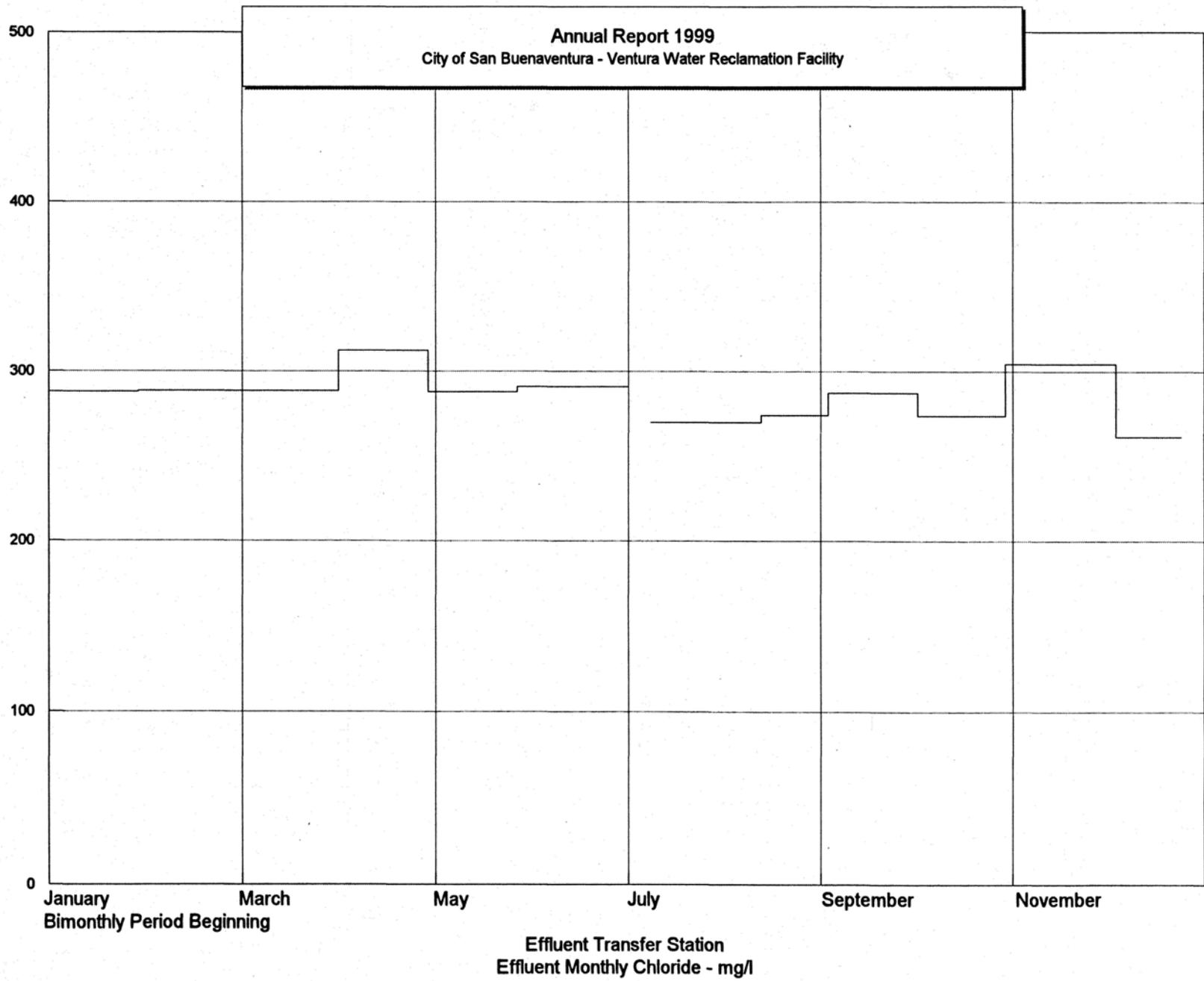
Effluent Transfer Station
Effluent Monthly MBAS - mg/l

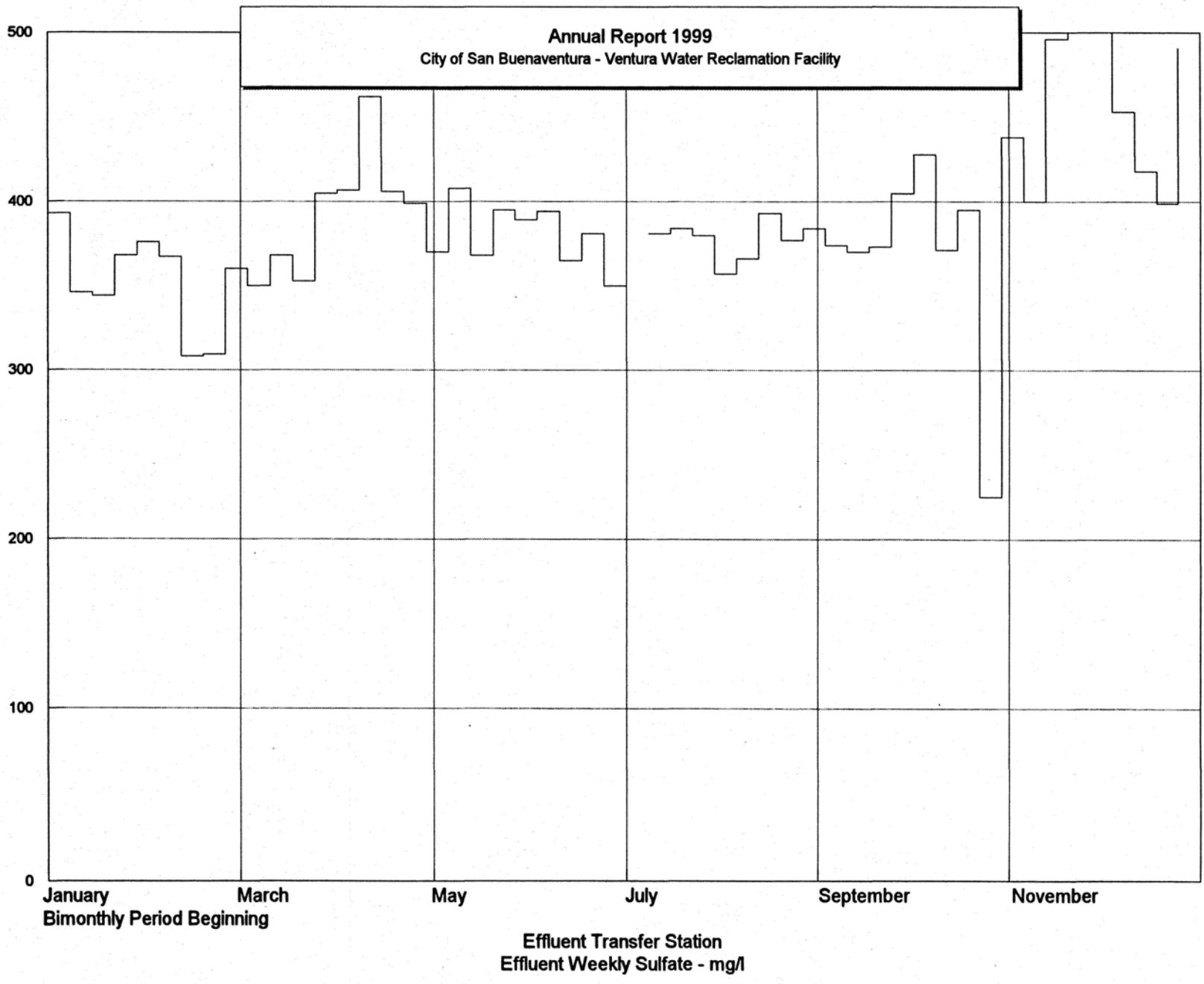
Annual Report 1999
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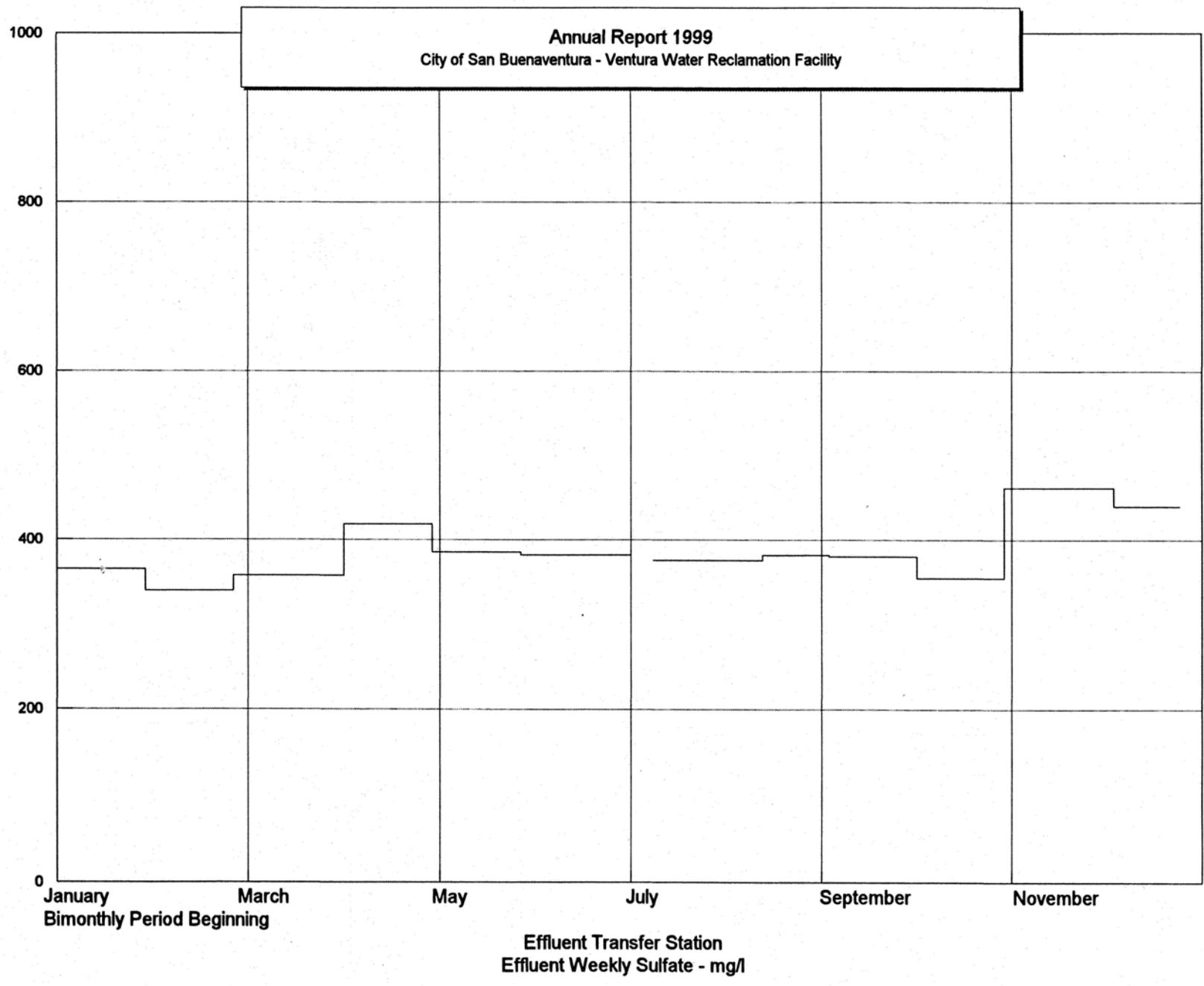


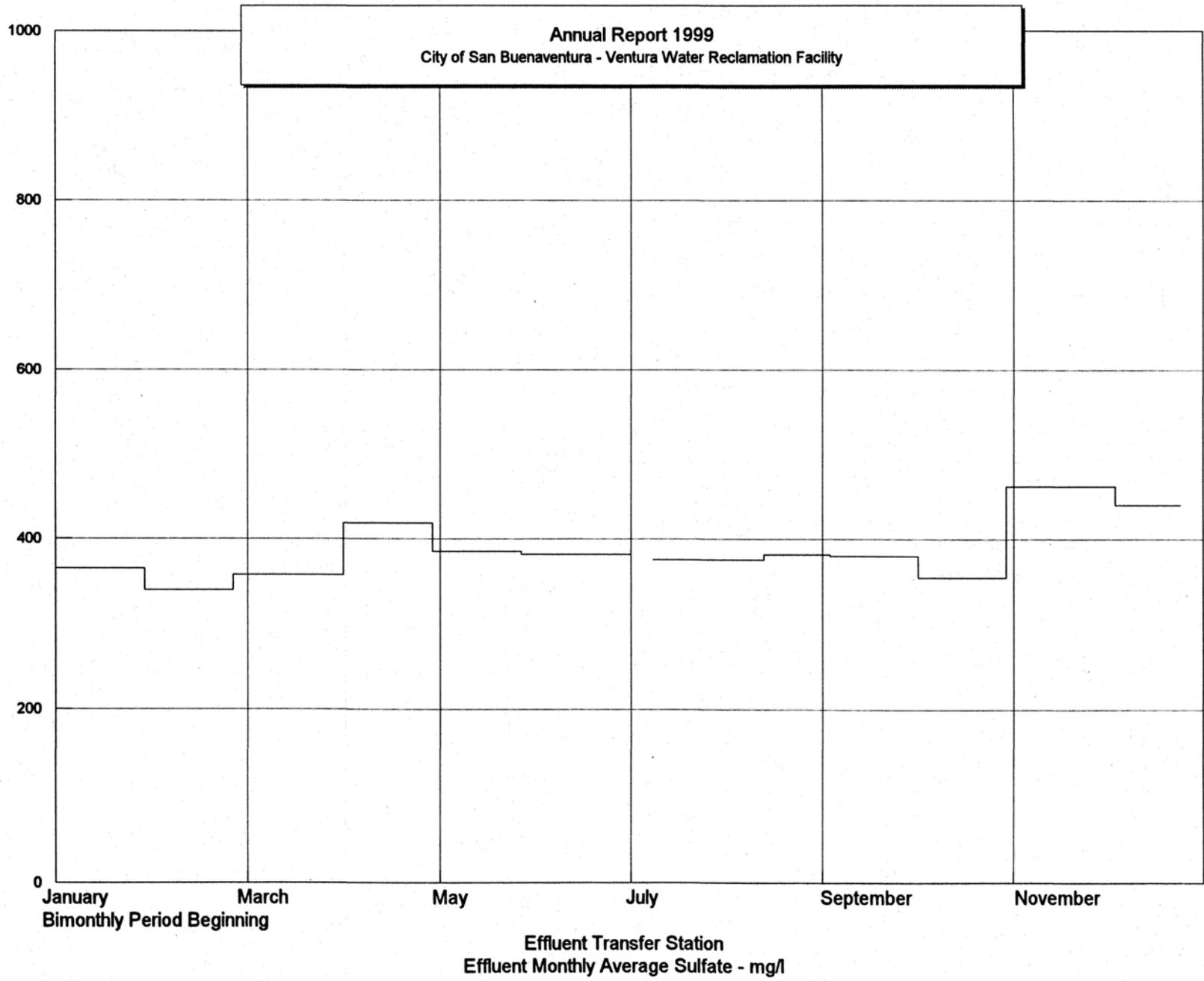
January Bimonthly Period Beginning March May July September November

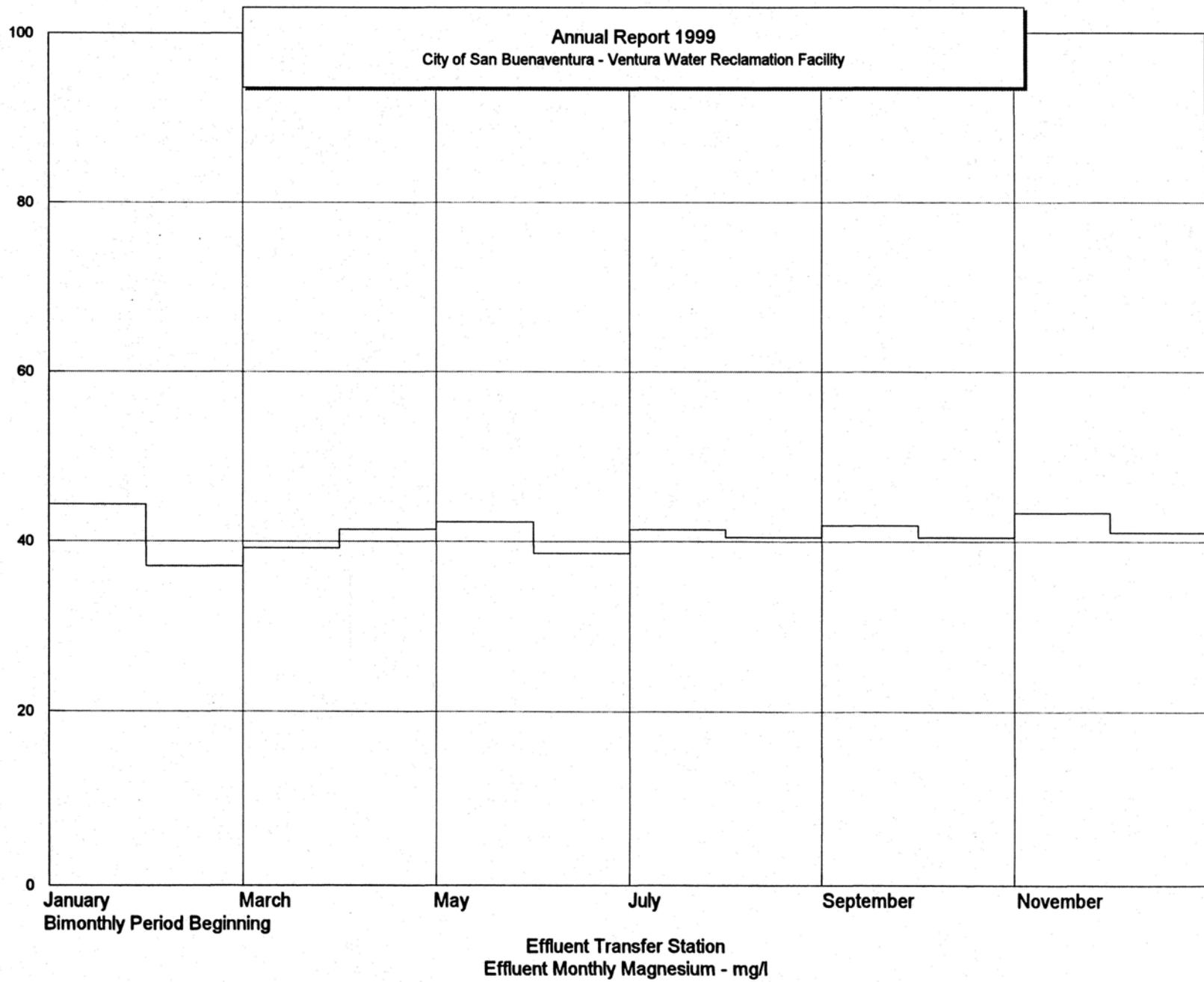
Effluent Transfer Station
Effluent Weekly Chloride - mg/l



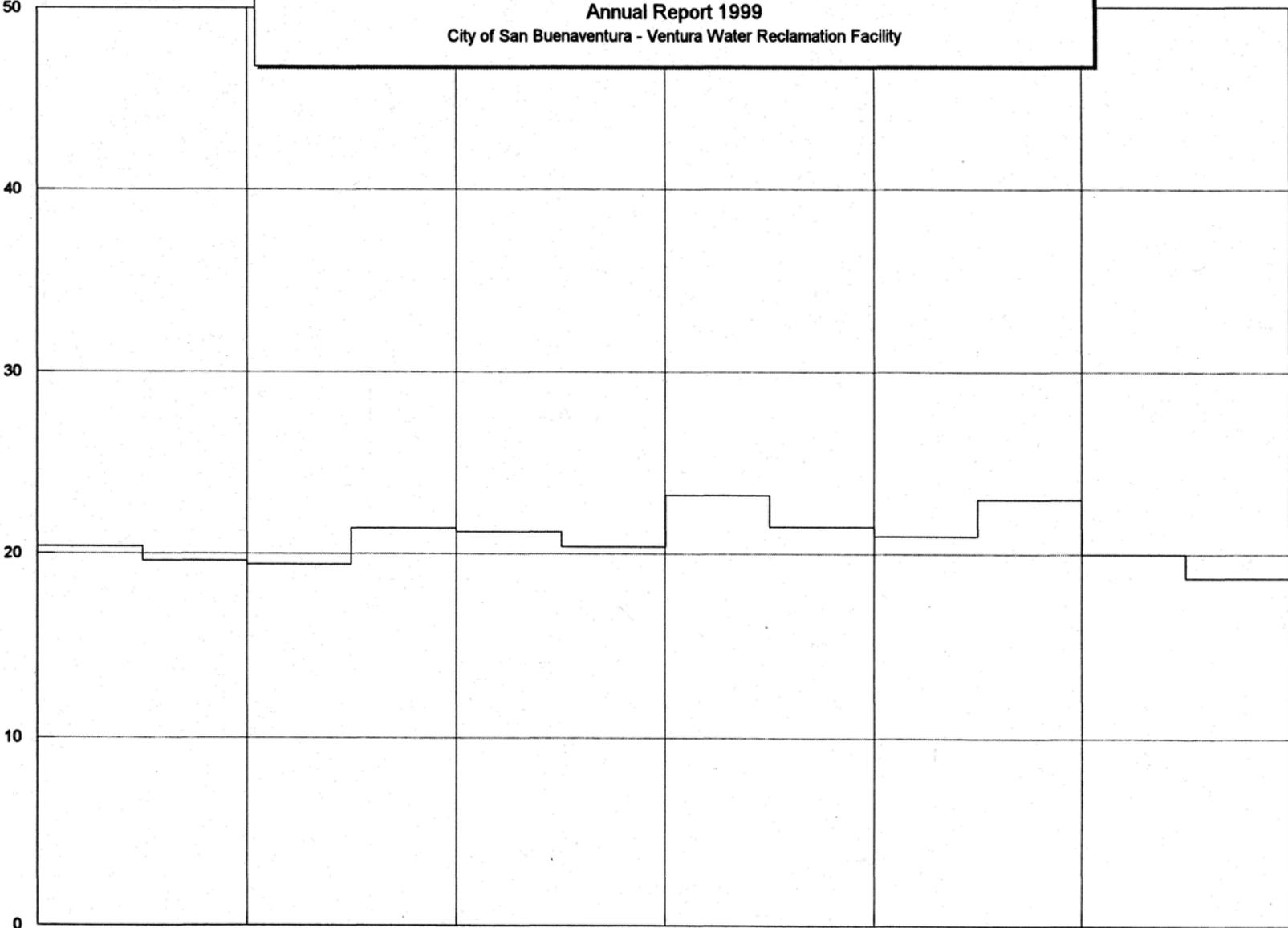








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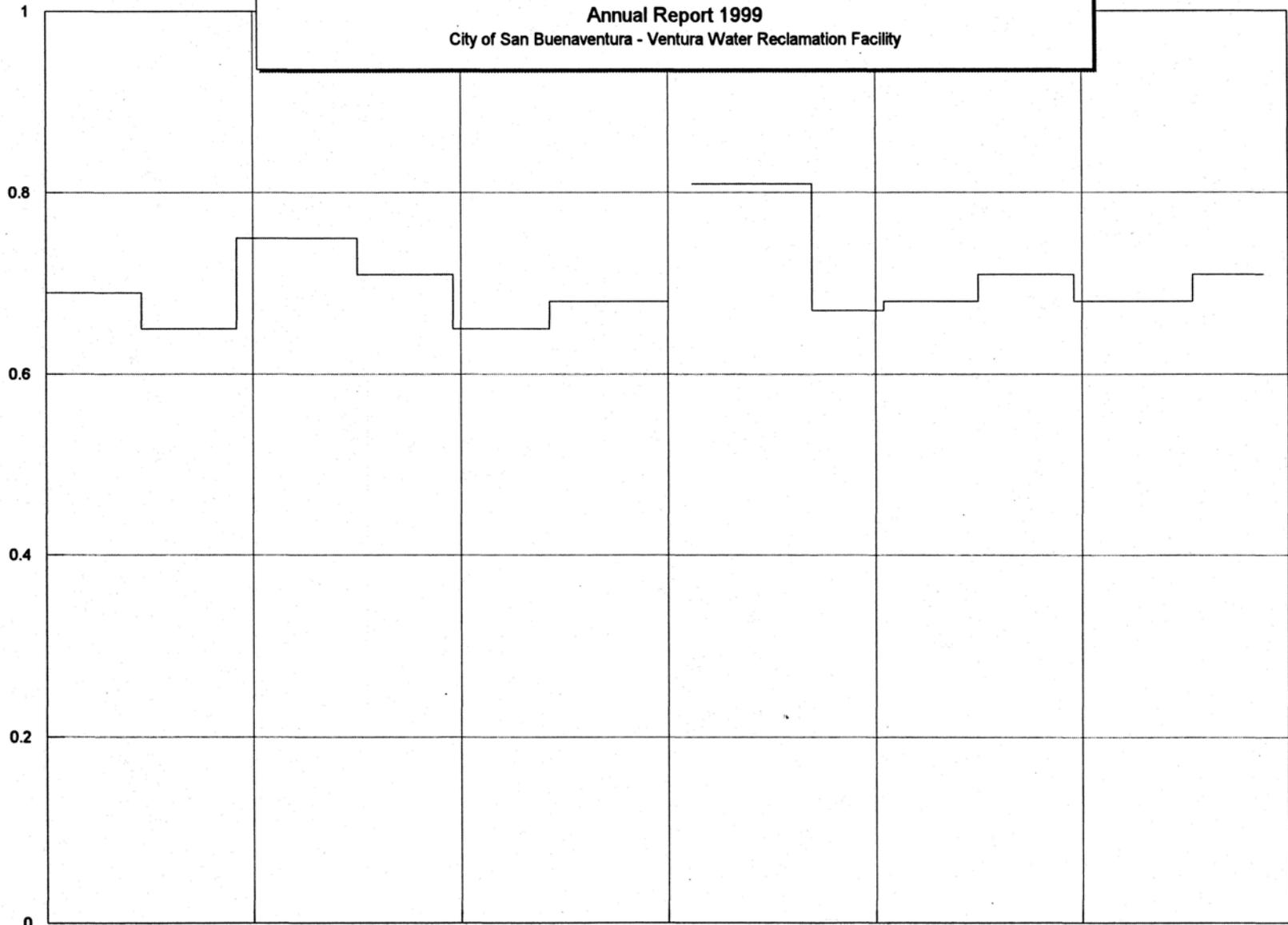
July

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Effluent Transfer Station
Effluent Monthly Potassium - mg/l

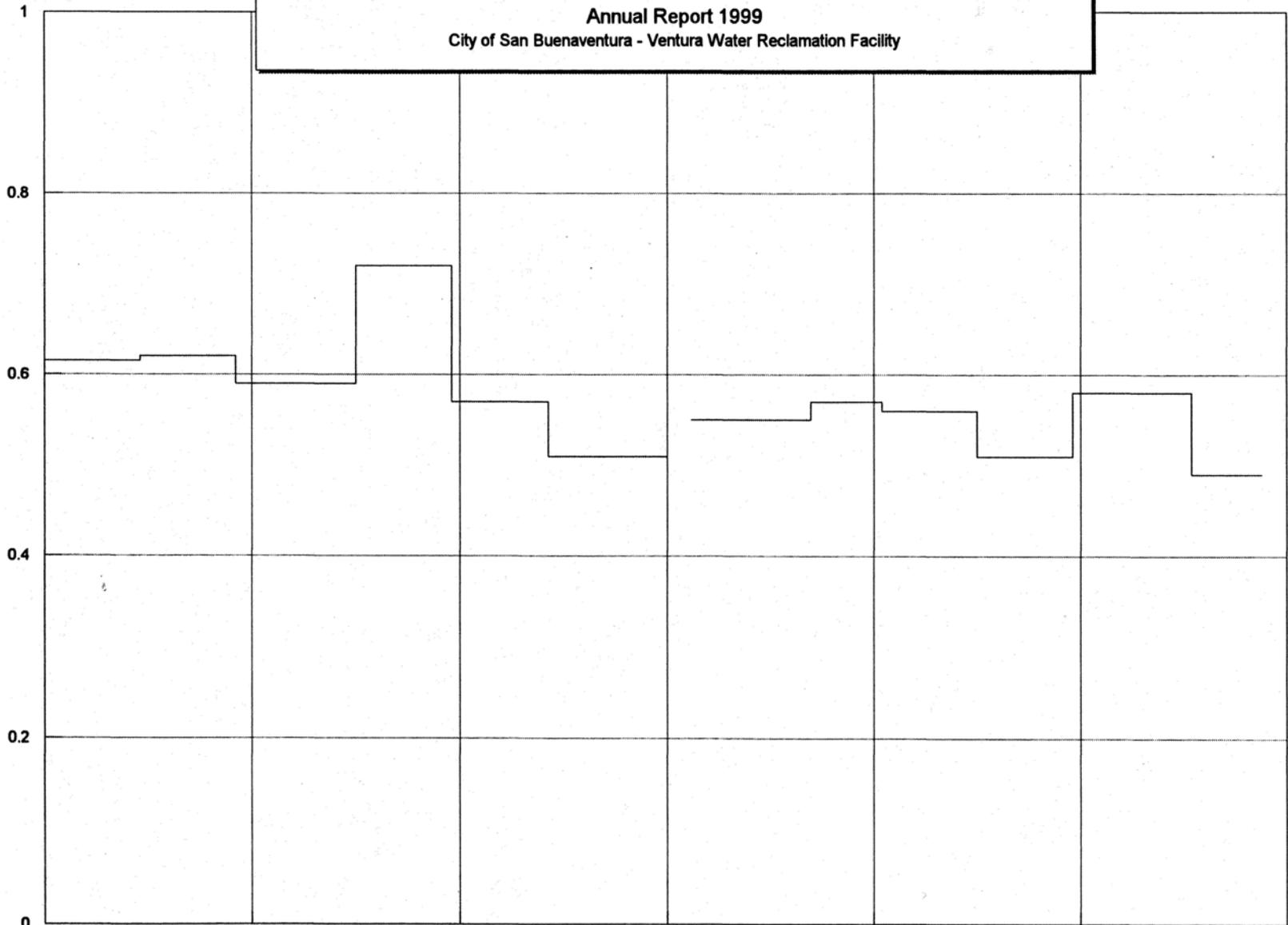
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Effluent Transfer Station
Effluent Monthly Boron - mg/l

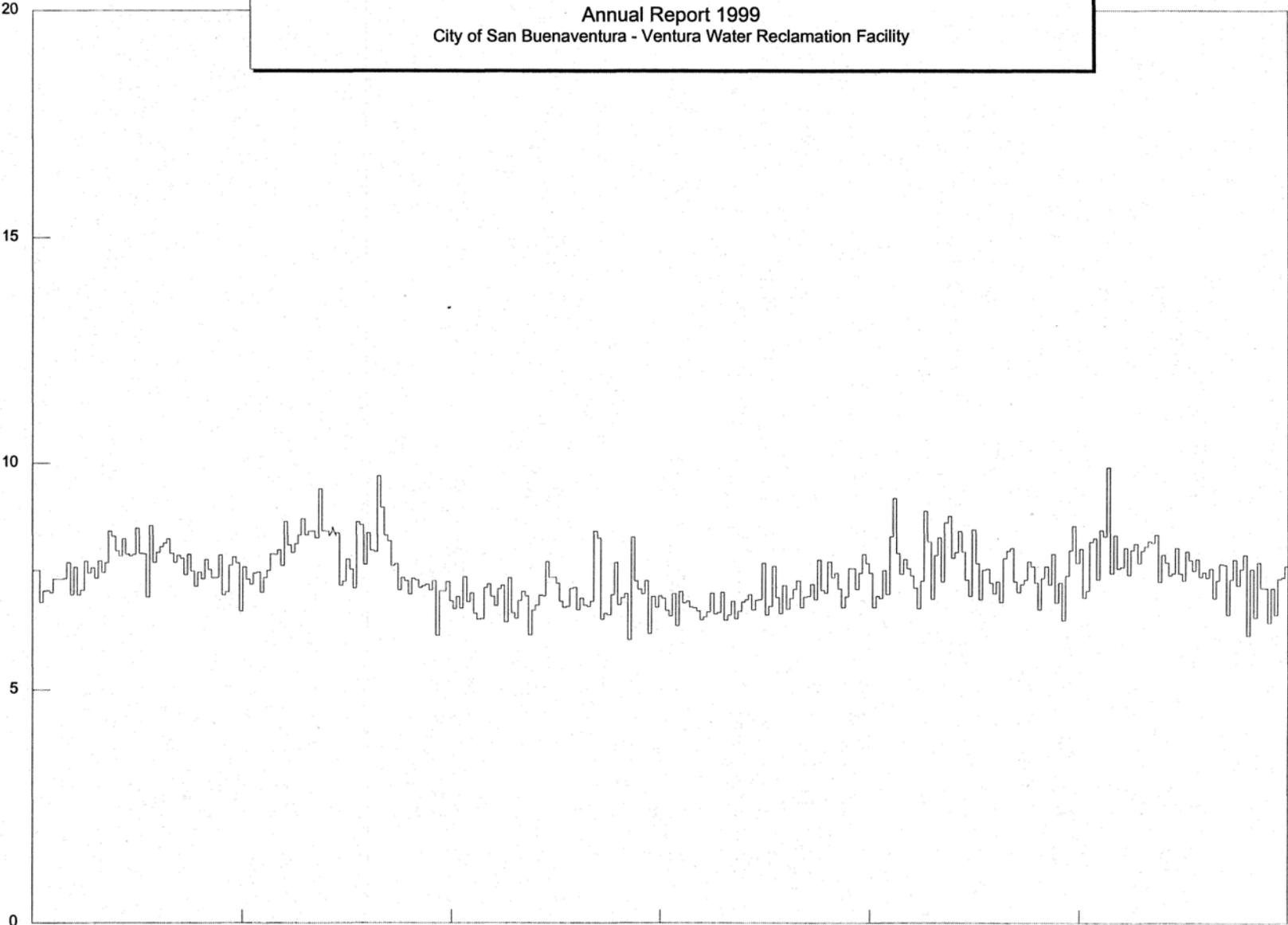
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Effluent Transfer Station
Effluent Monthly Fluoride - mg/l

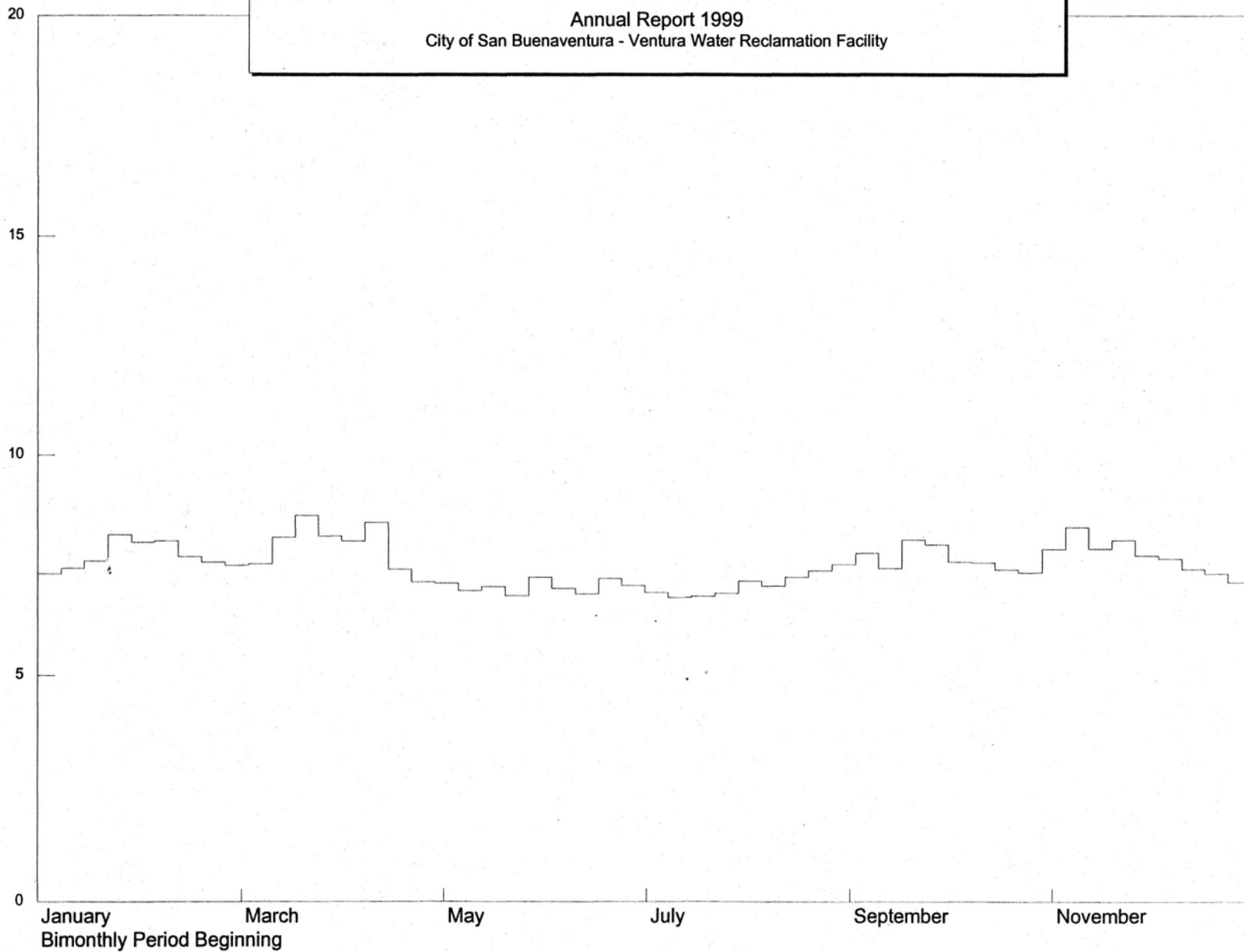
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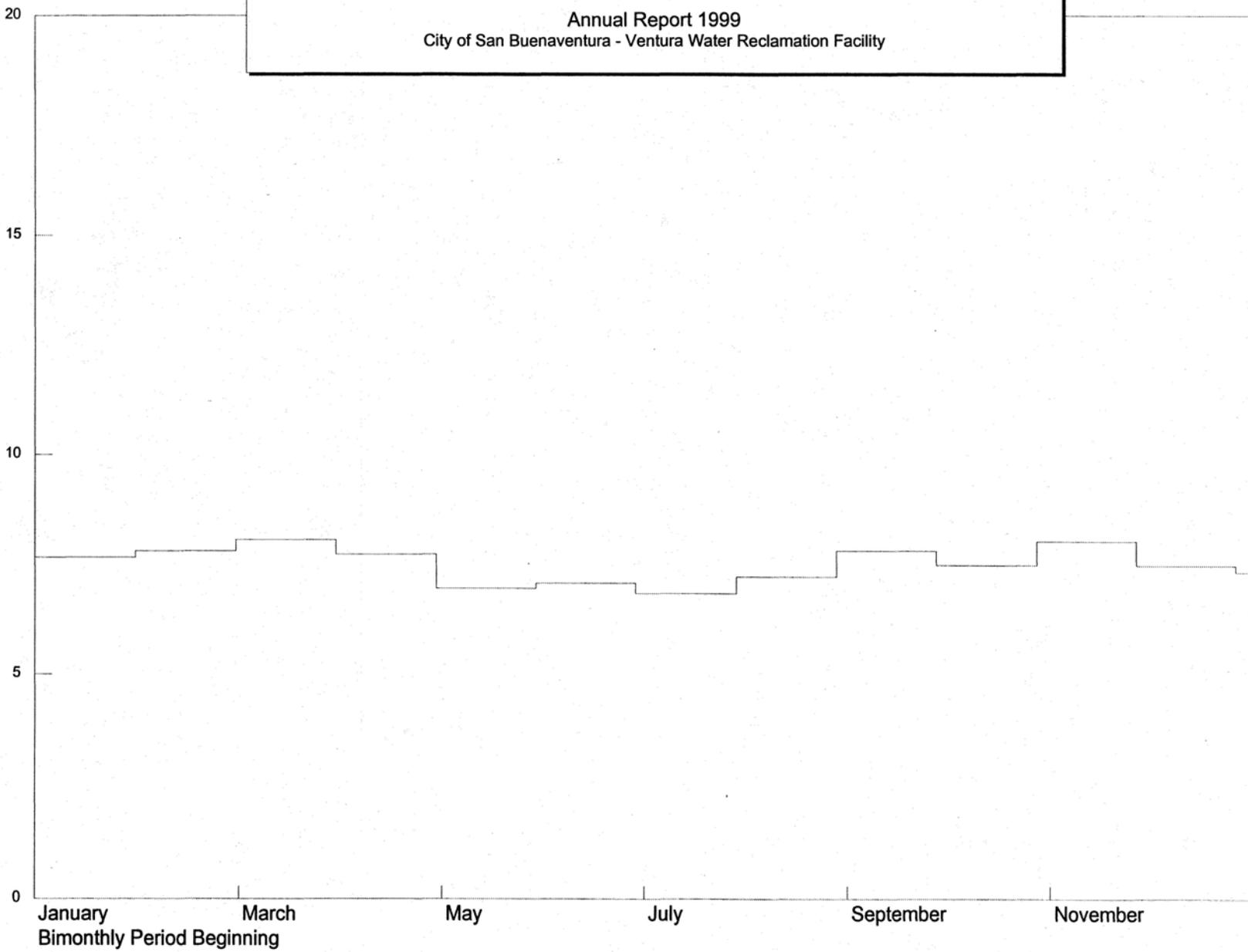
Outfall Junction Structure
Effluent Discharge to the Santa Clara Tida Prism - MGD

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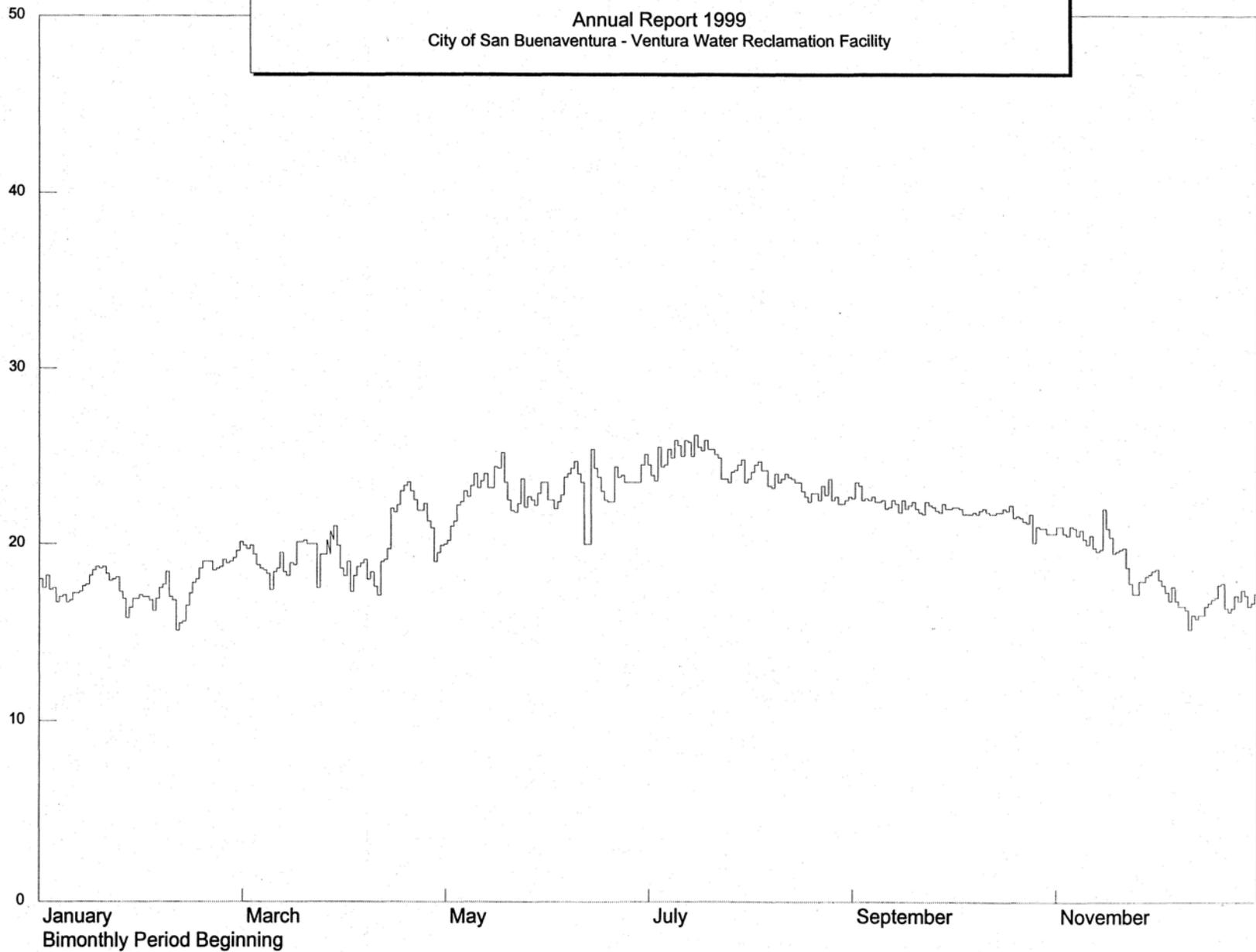
Outfall Junction Structure
Effluent Discharge 7 Day Average to the Santa Clara Tida Prism - MGD

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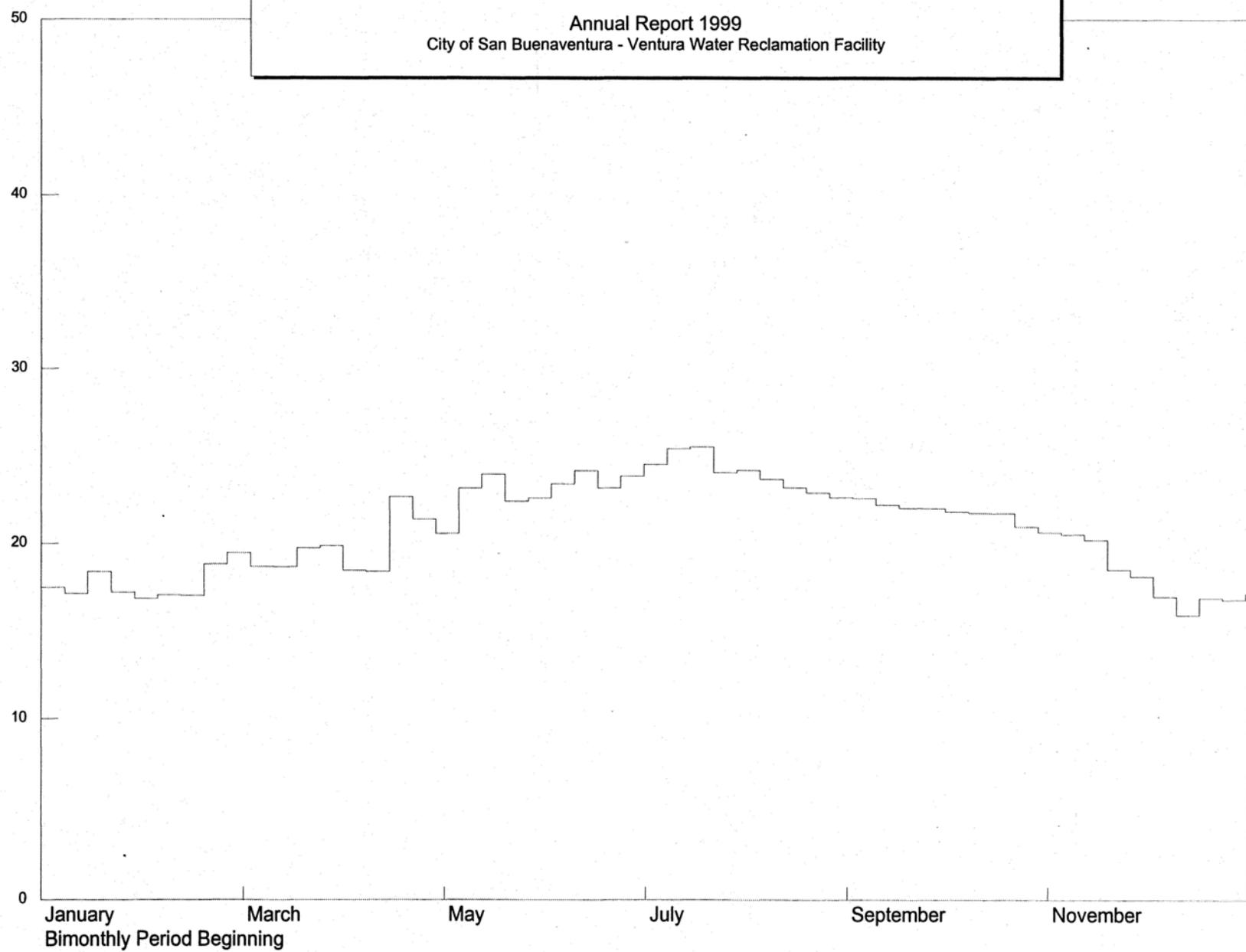
Outfall Junction Structure
Effluent Discharge 30 Day Average to the Santa Clara Tida Prism - MGD

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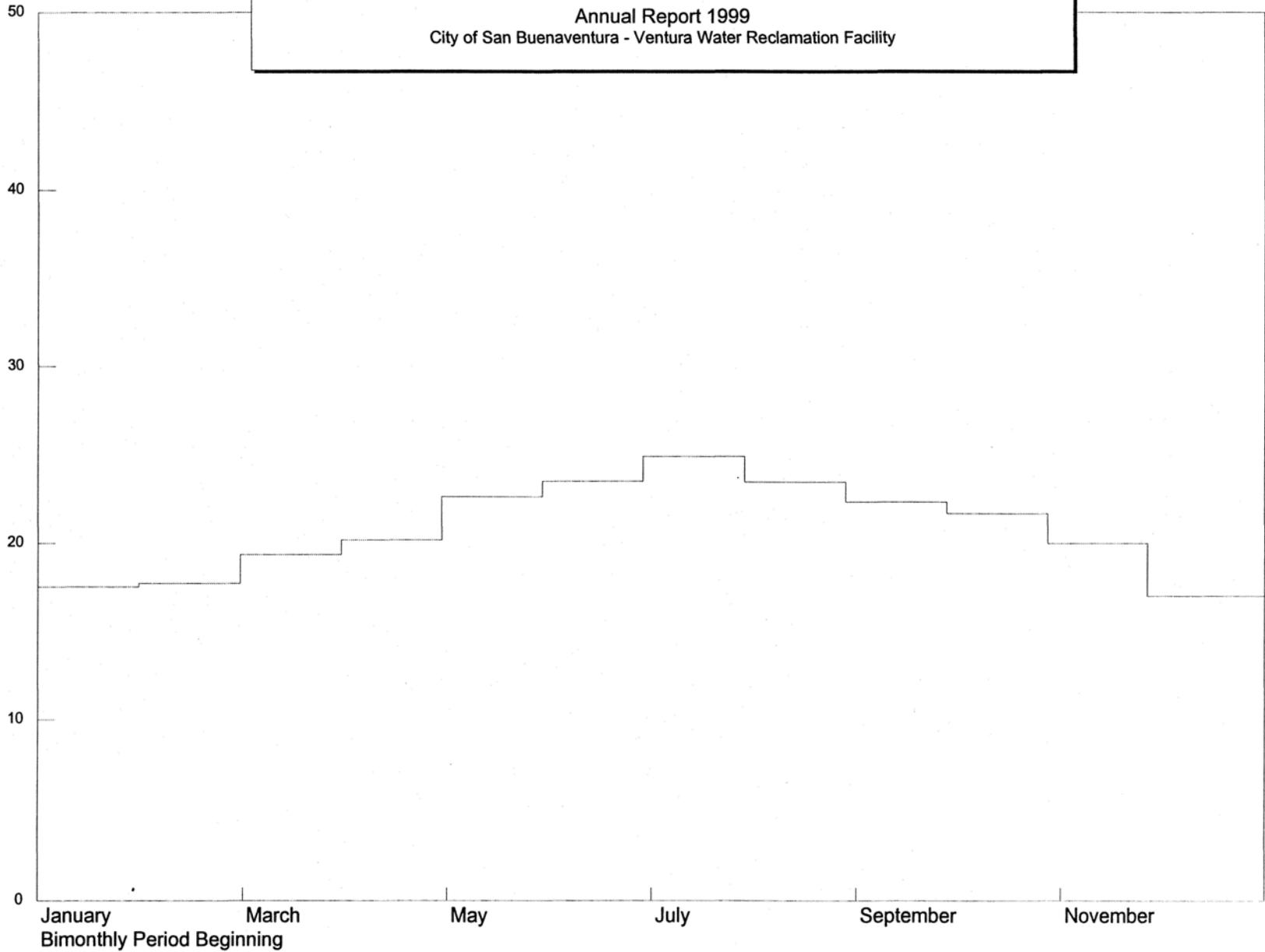
Outfall Junction Structure
Effluent Temperature at 11:00 AM - Degrees C

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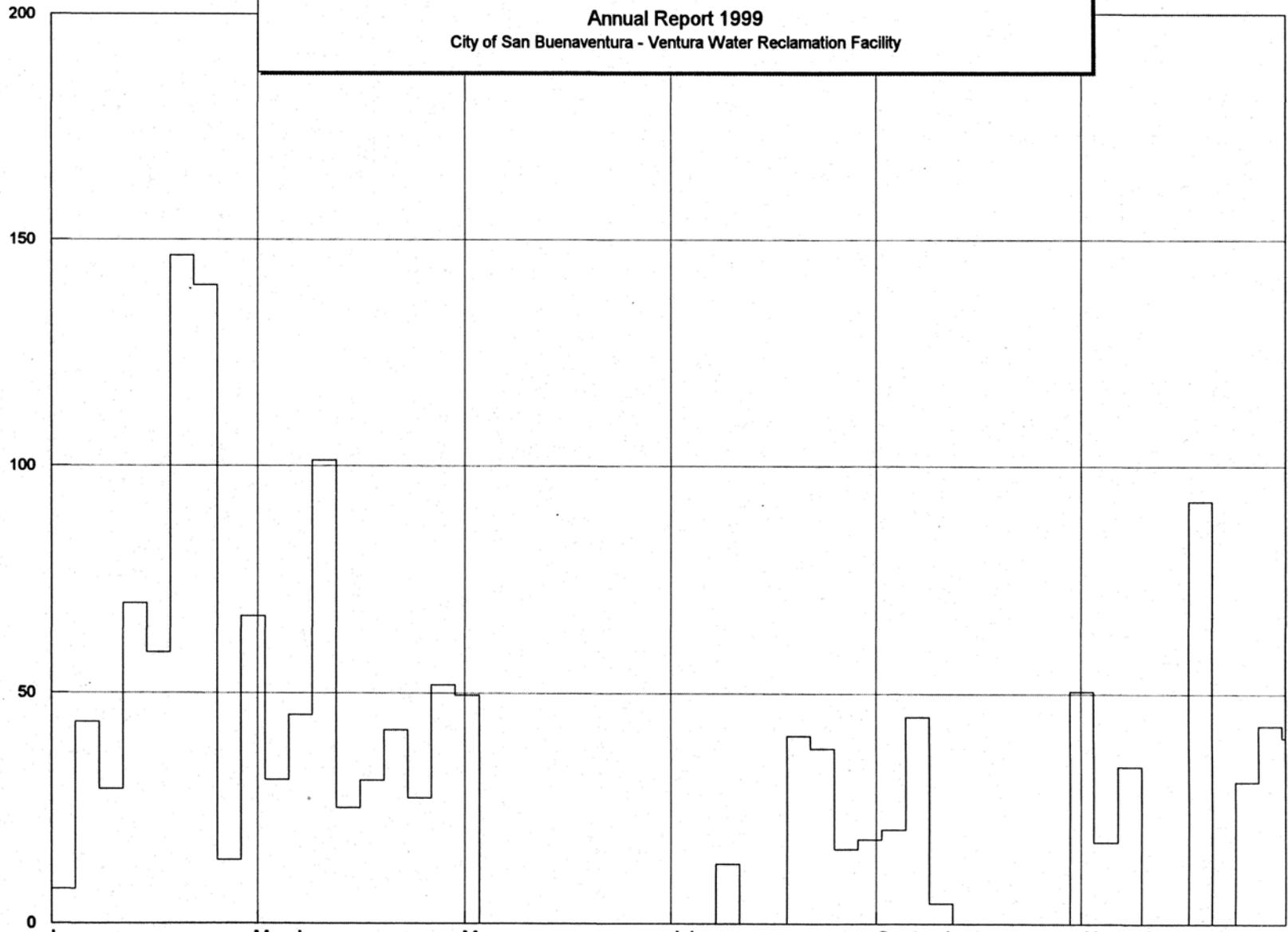
Outfall Junction Structure
Effluent 7 Day Average Temperature at 11:00 AM - Degrees C

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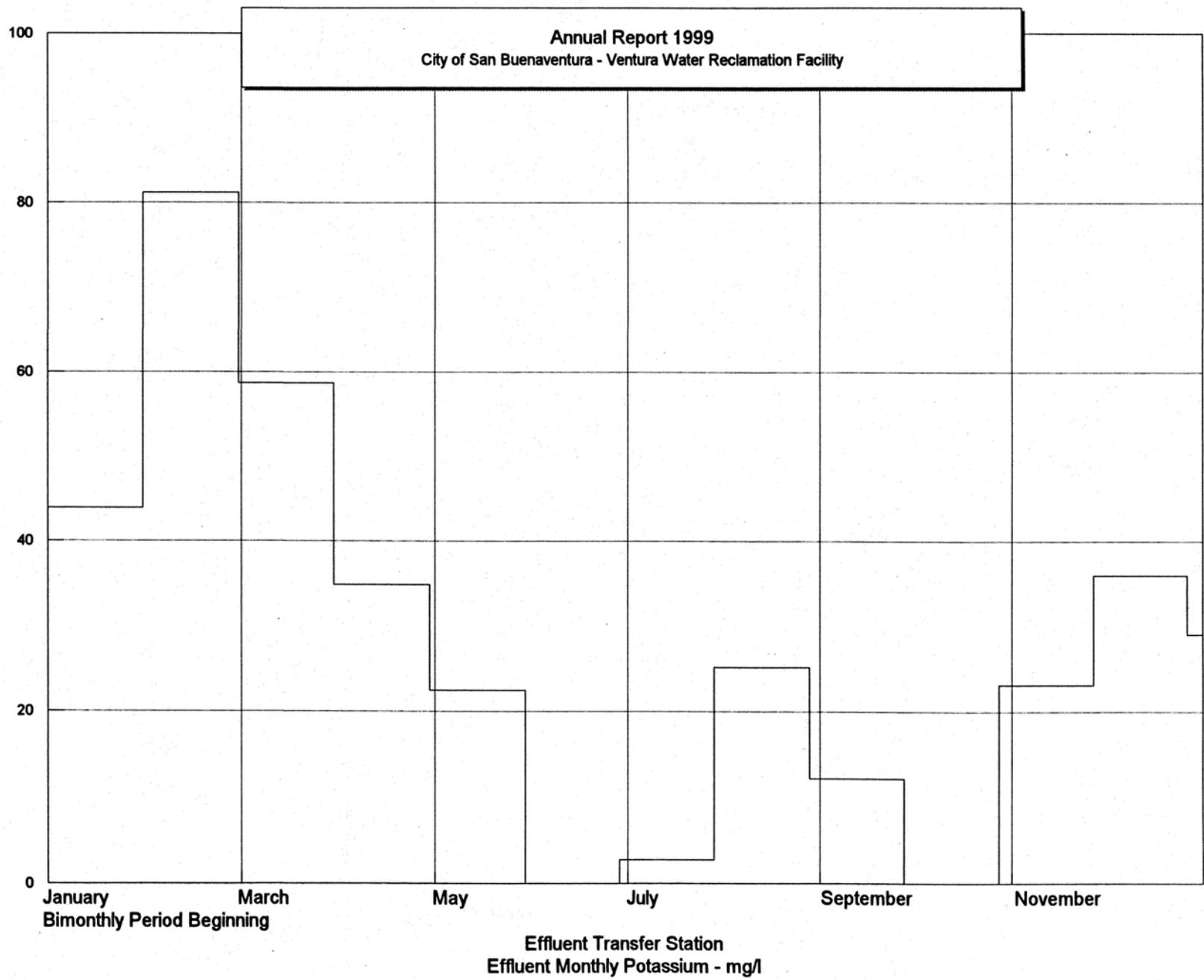


Outfall Junction Structure
Effluent 30 Day Average Temperature at 11:00 AM - Degrees C

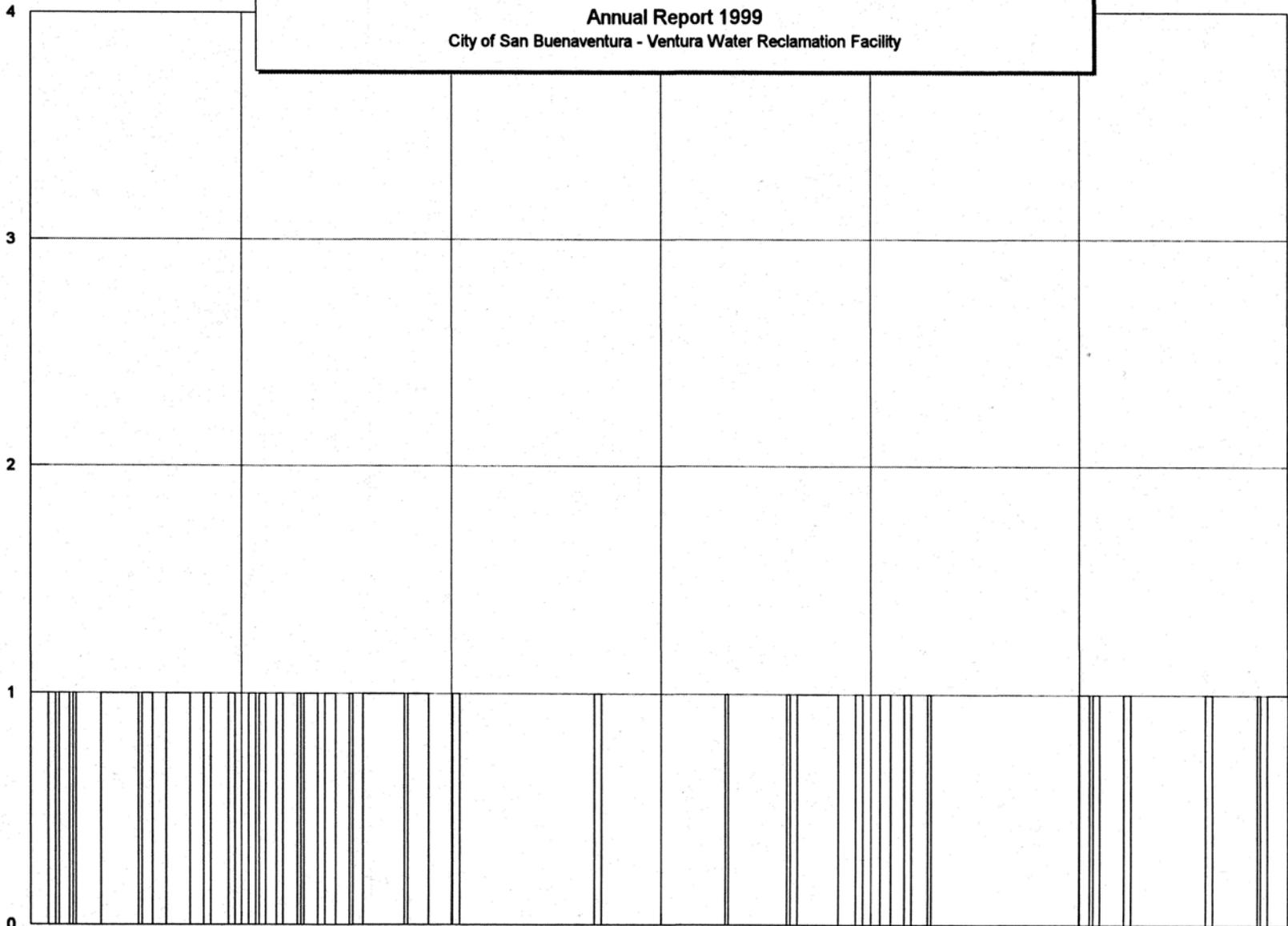
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Effluent Transfer Station
Effluent Monthly Potassium - mg/l



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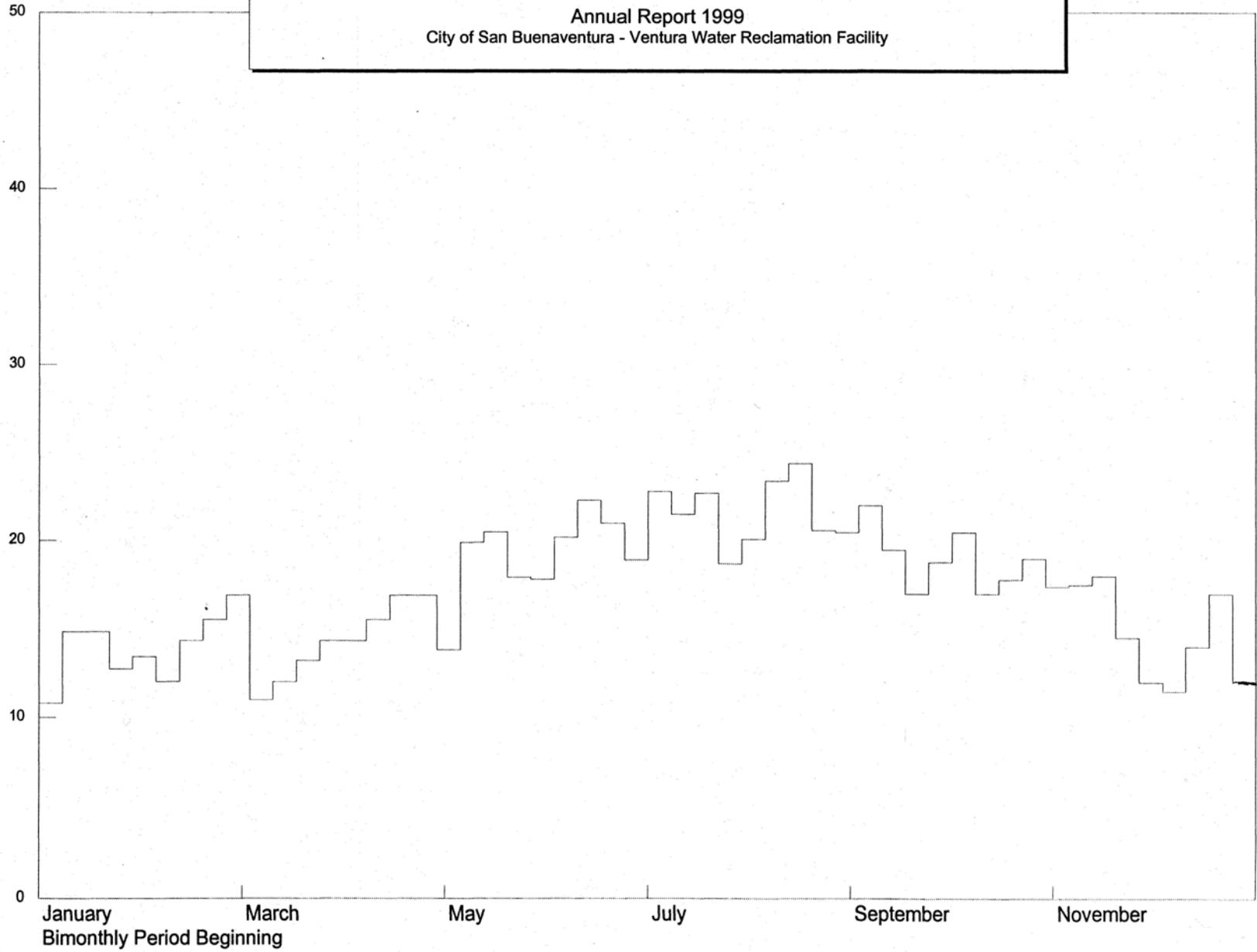


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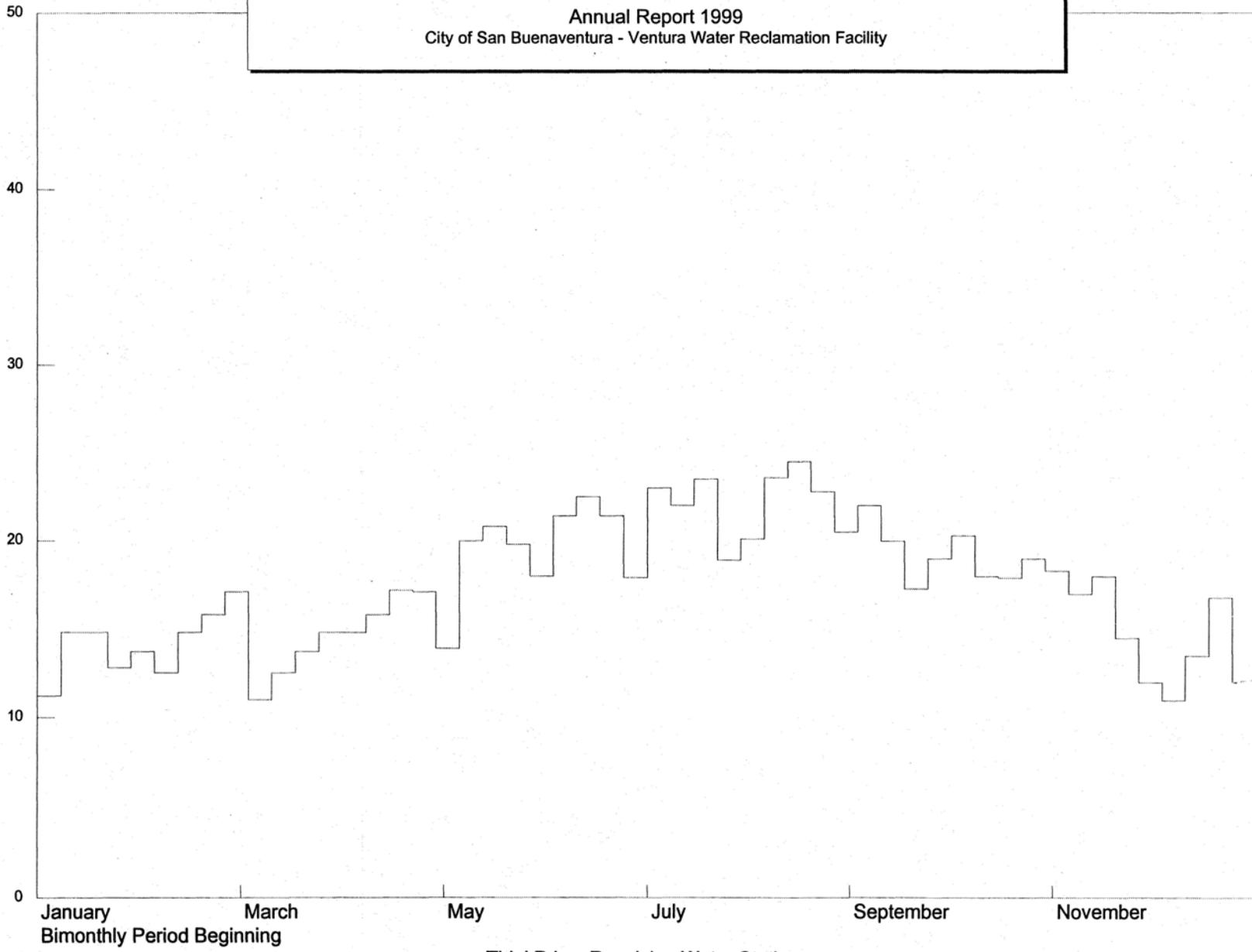
Effluent Transfer Station
Effluent Monthly Potassium - mg/l

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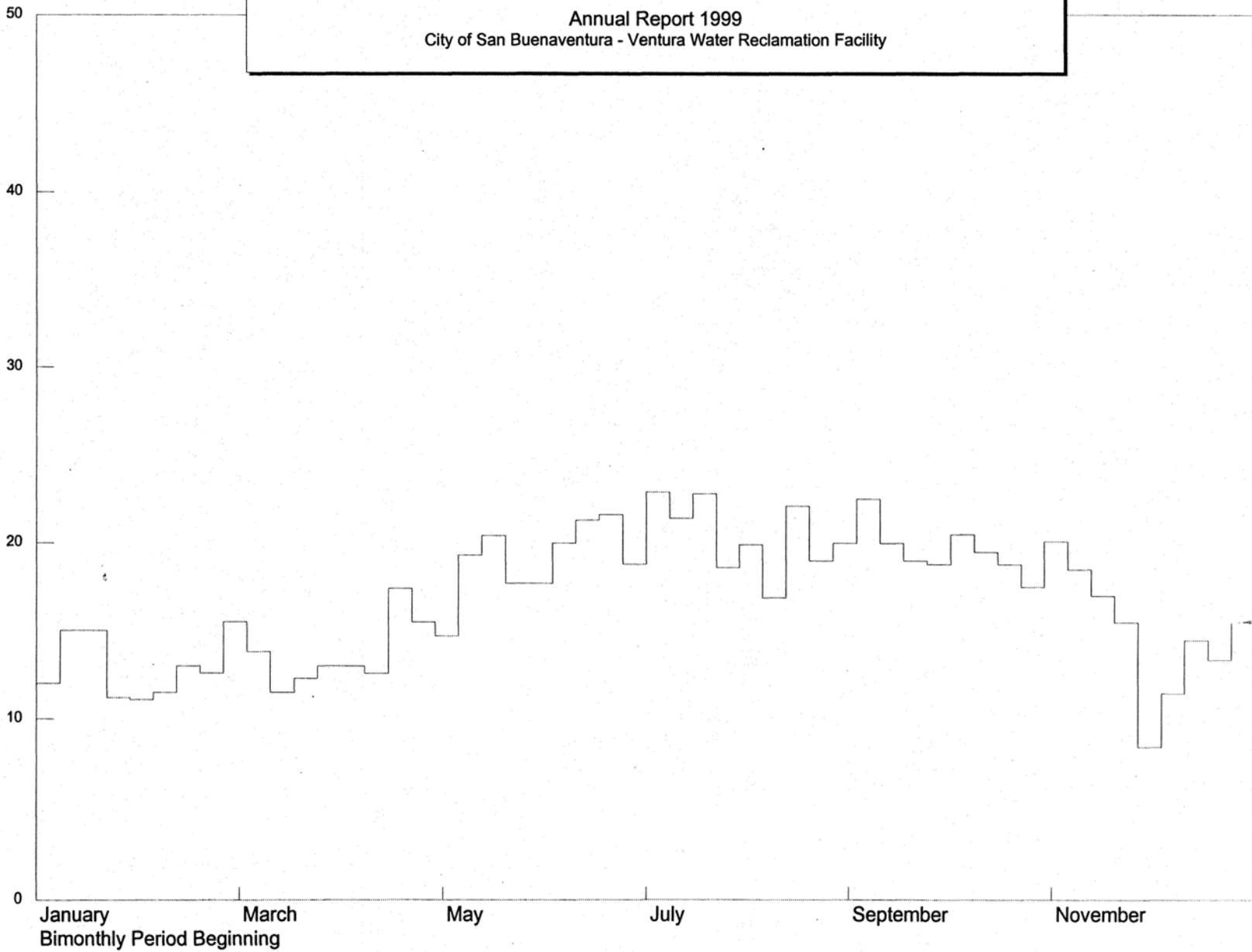
Tidal Prism Receiving Water Stations
R1 Weekly Temperature - Degrees C

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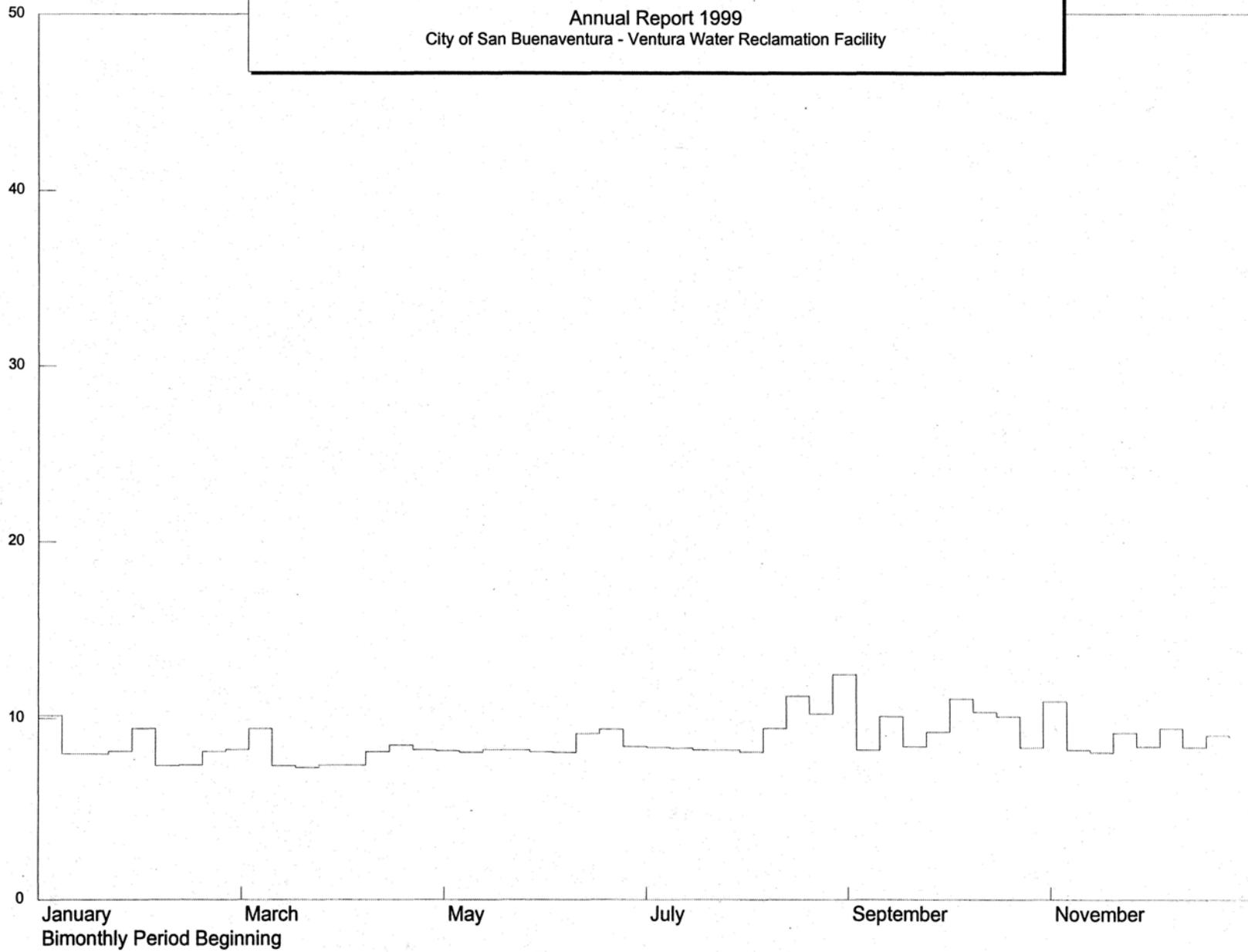
Tidal Prism Receiving Water Stations
R2 Weekly Temperature - Degrees C

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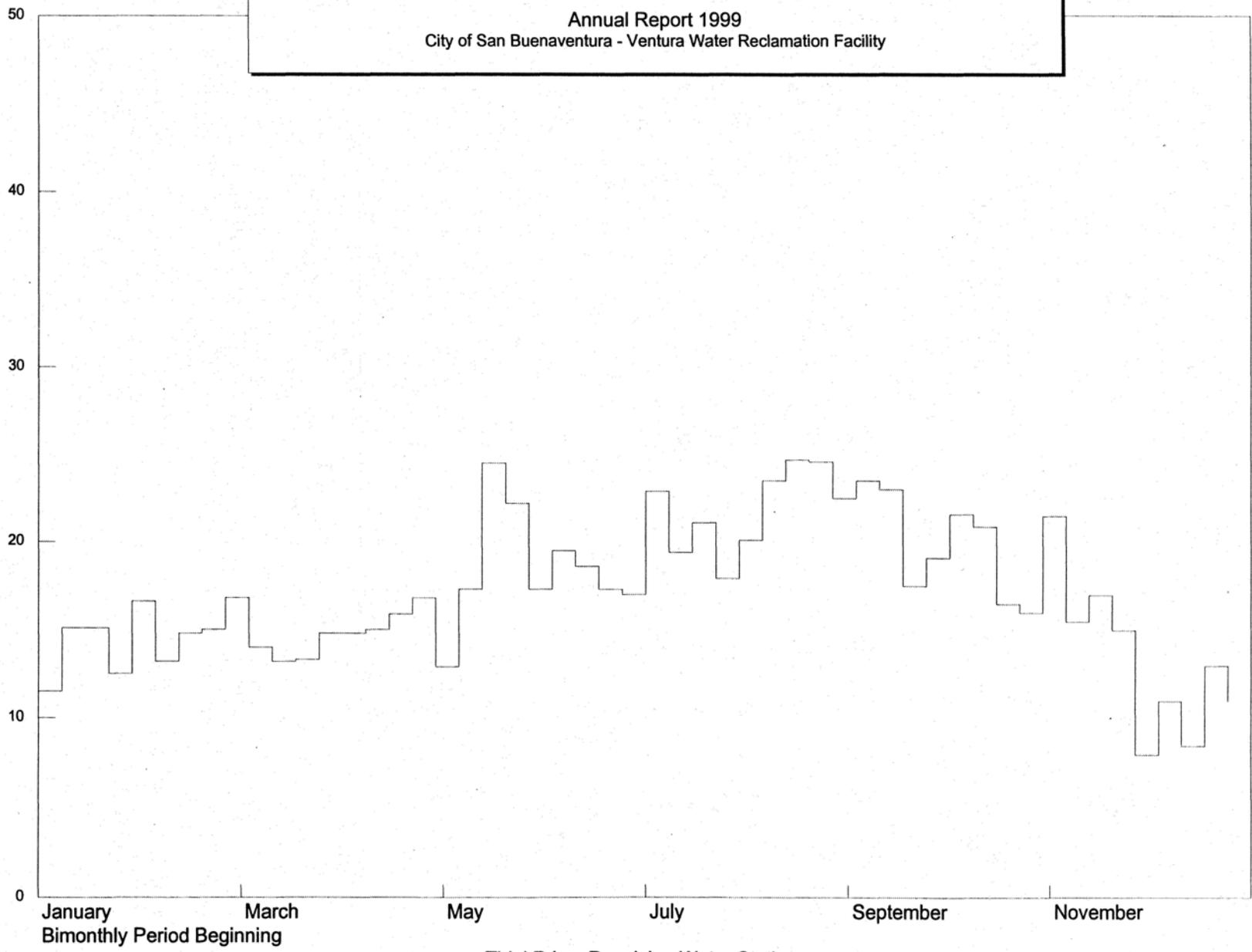
Tidal Prism Receiving Water Stations
R3 Weekly Temperature - Degrees C

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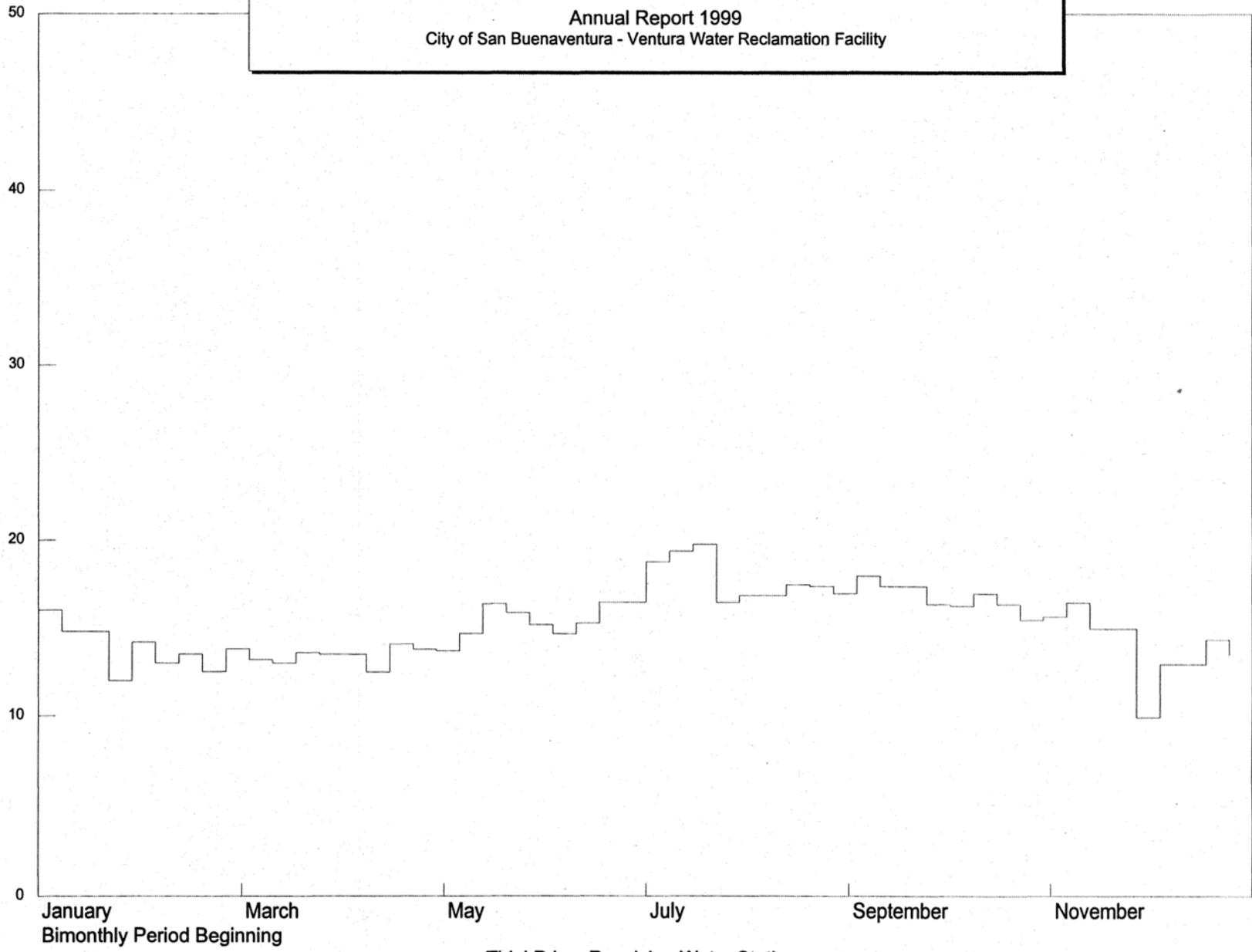
Tidal Prism Receiving Water Stations
R4 Weekly Temperature - Degrees C

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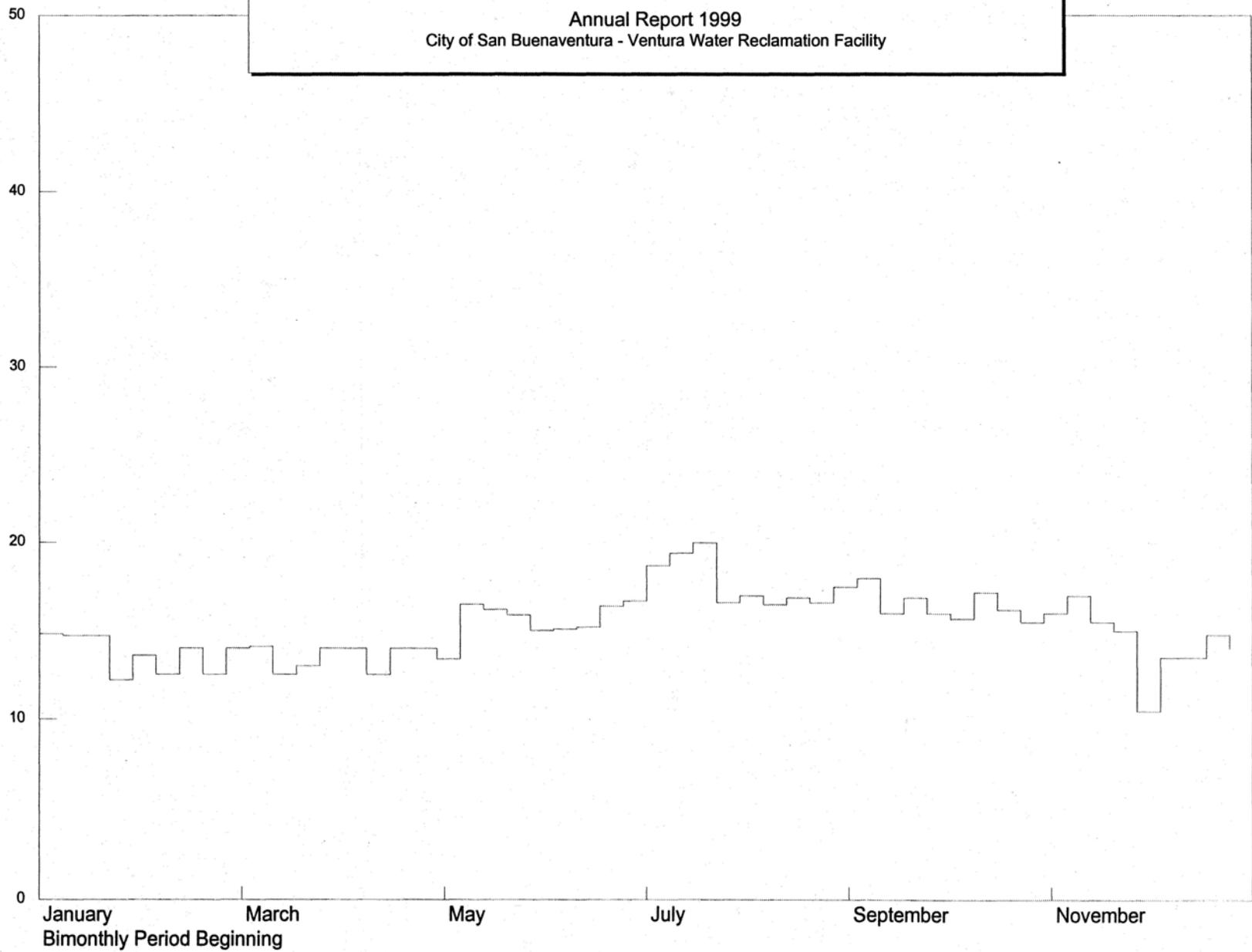
Tidal Prism Receiving Water Stations
L5 Weekly Temperature - Degrees C

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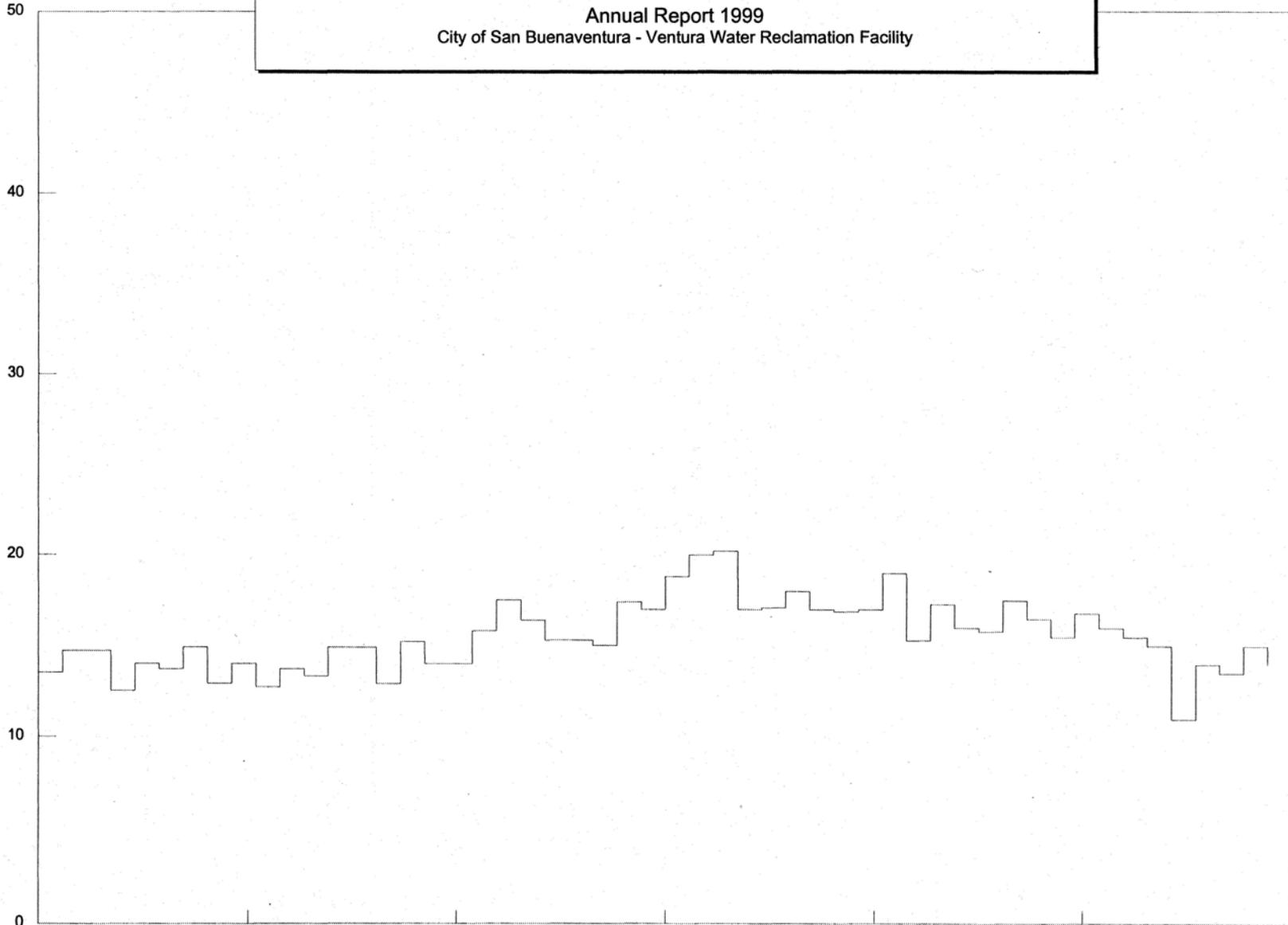
Tidal Prism Receiving Water Stations
R5 Weekly Temperature - Degrees C

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Tidal Prism Receiving Water Stations
R6 Weekly Temperature - Degrees C

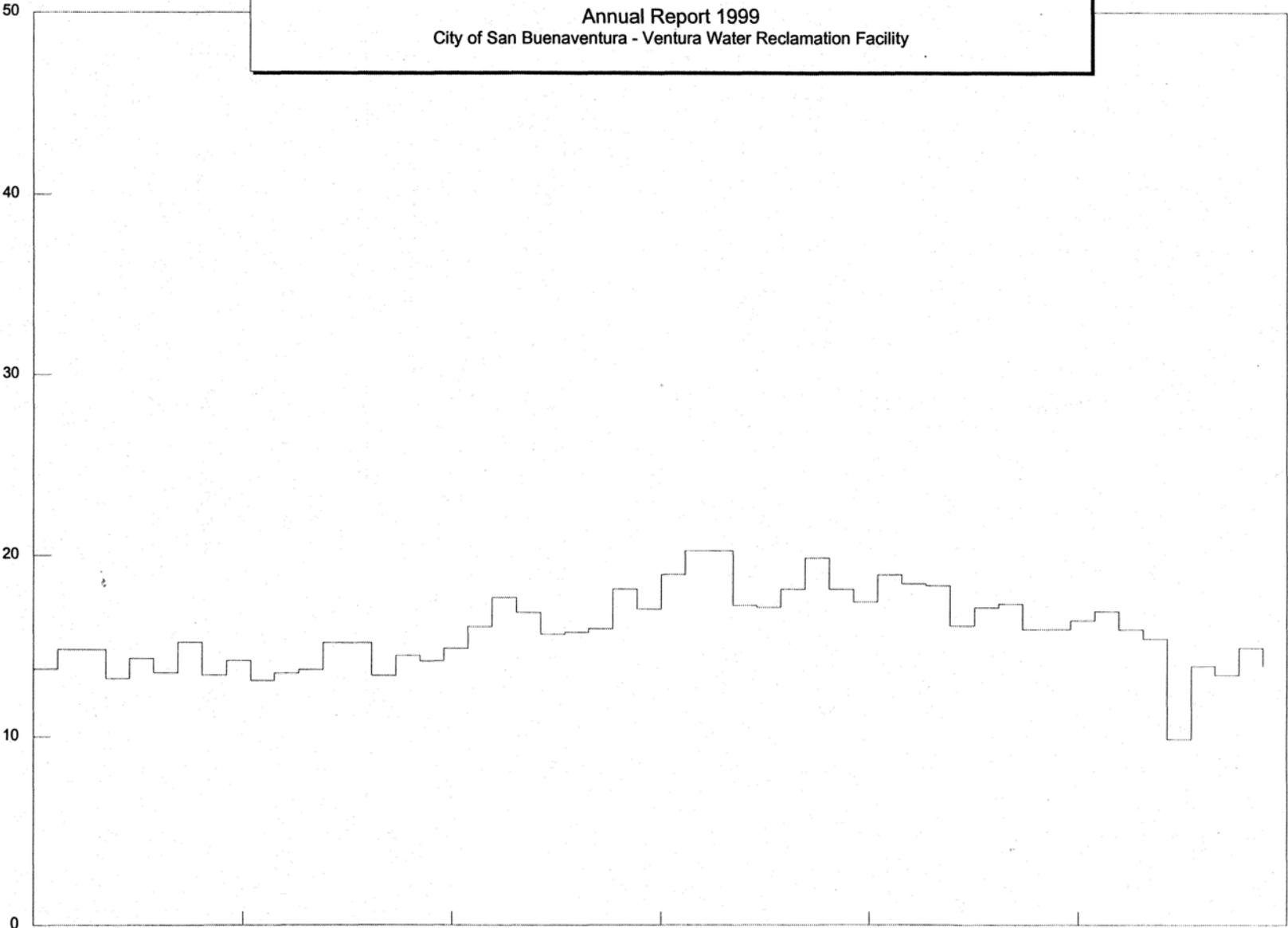
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Tidal Prism Receiving Water Stations
R7 Weekly Temperature - Degrees C

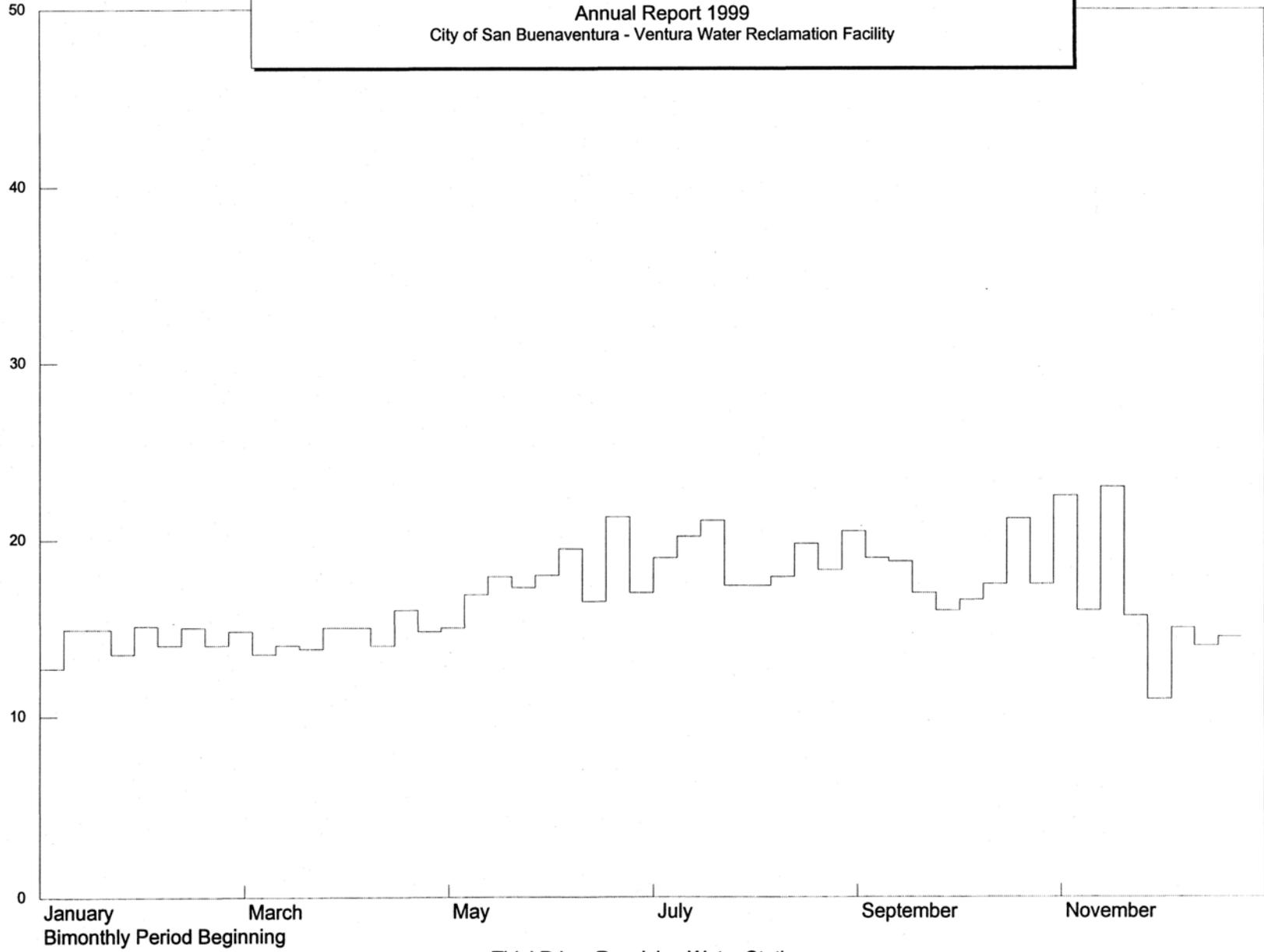
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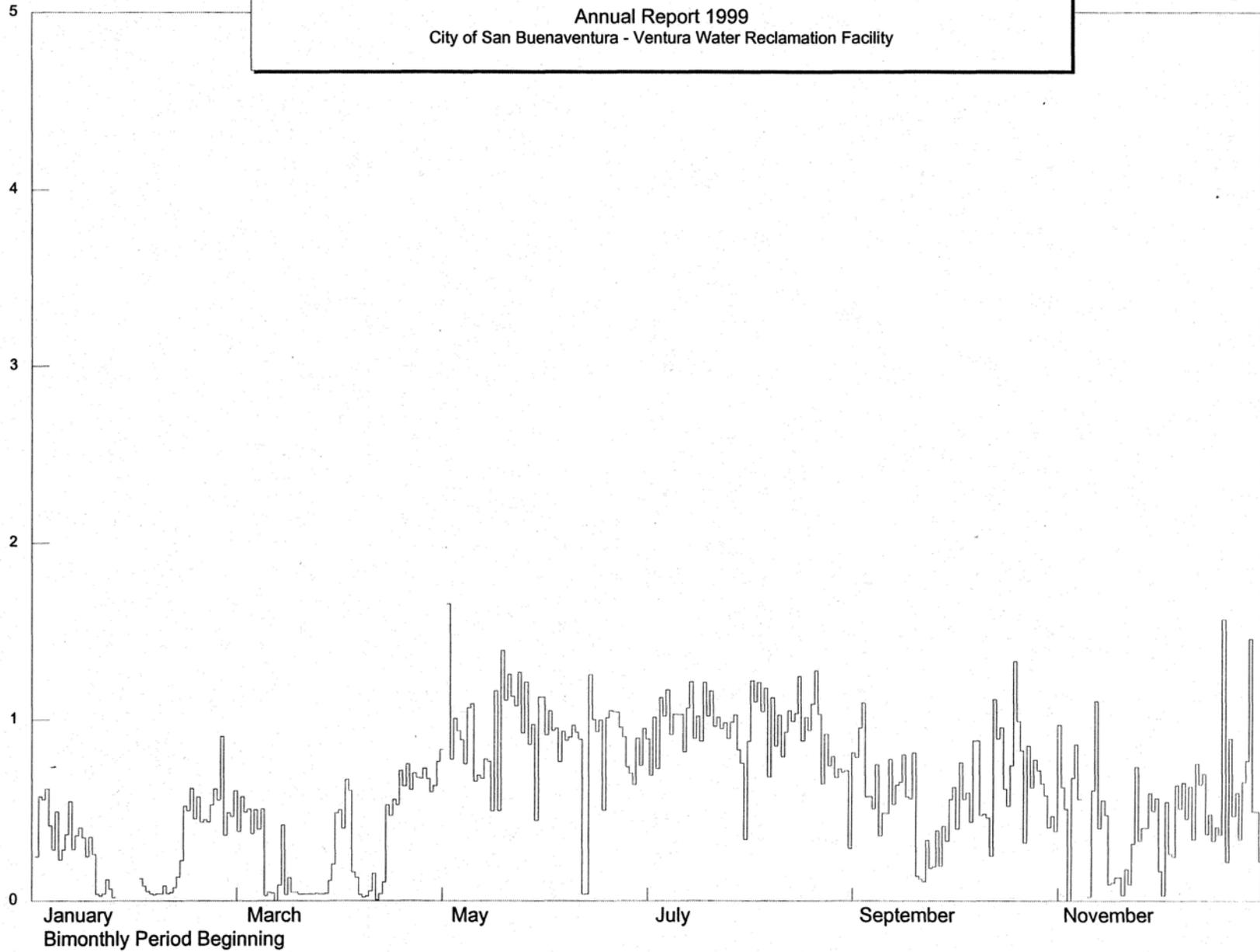
Tidal Prism Receiving Water Stations
R8 Weekly Temperature - Degrees C

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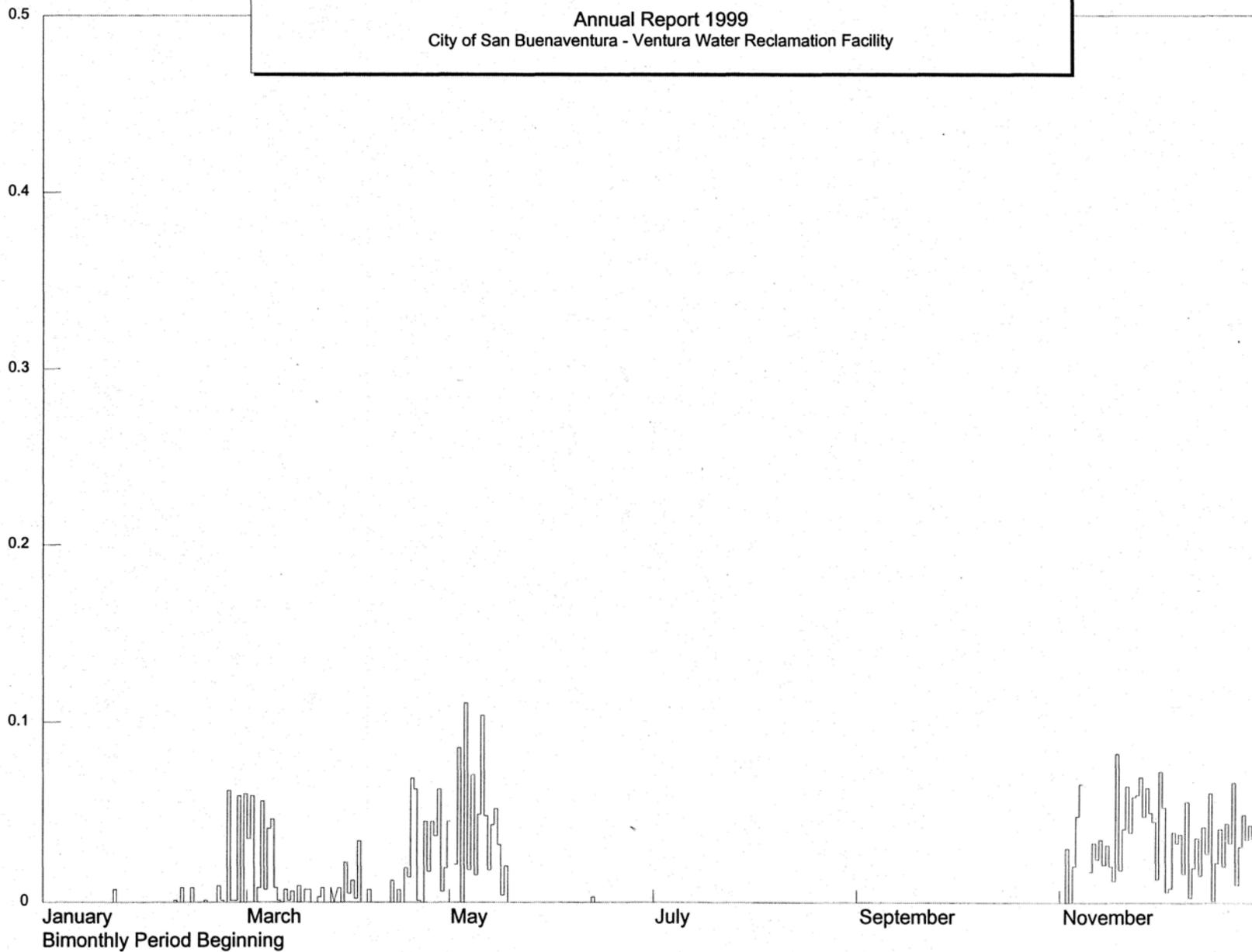
Tidal Prism Receiving Water Stations
R9 Weekly Temperature - Degrees C

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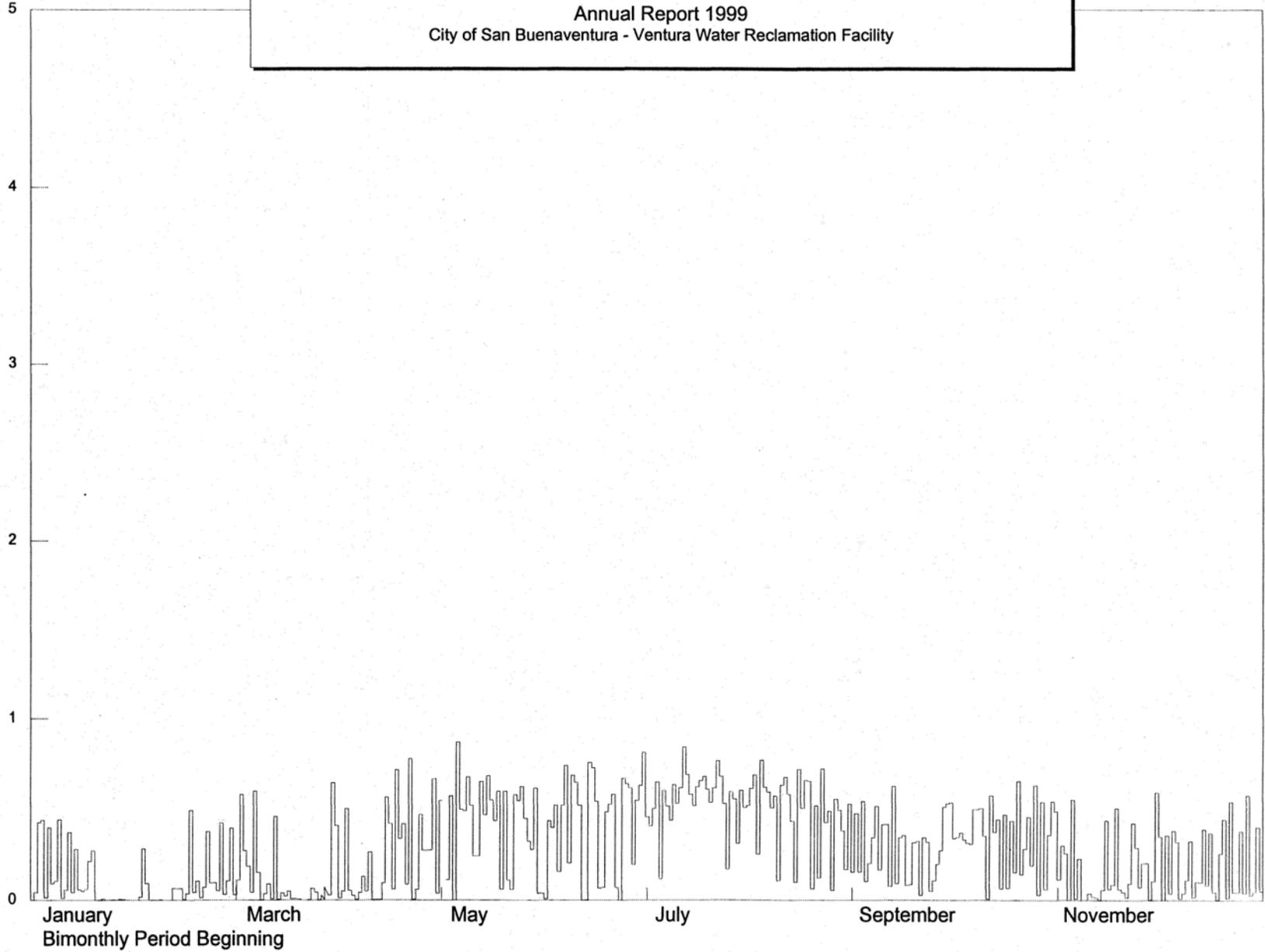
Olivas Pump Station
Daily Reclaimed Water Delivery - MGD

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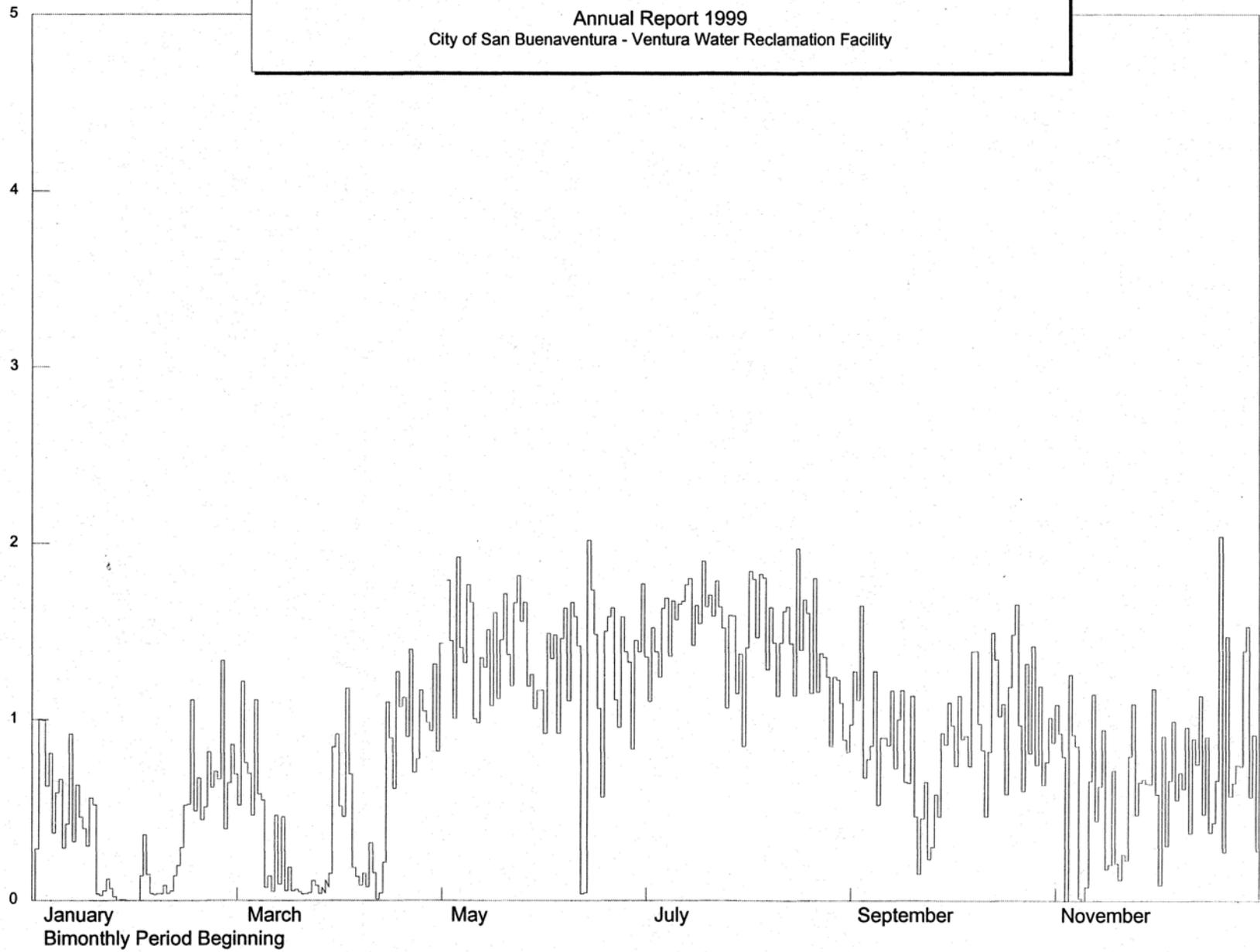
Marina Park Irrigation Systems
Daily Reclaimed Water Delivery - MGD

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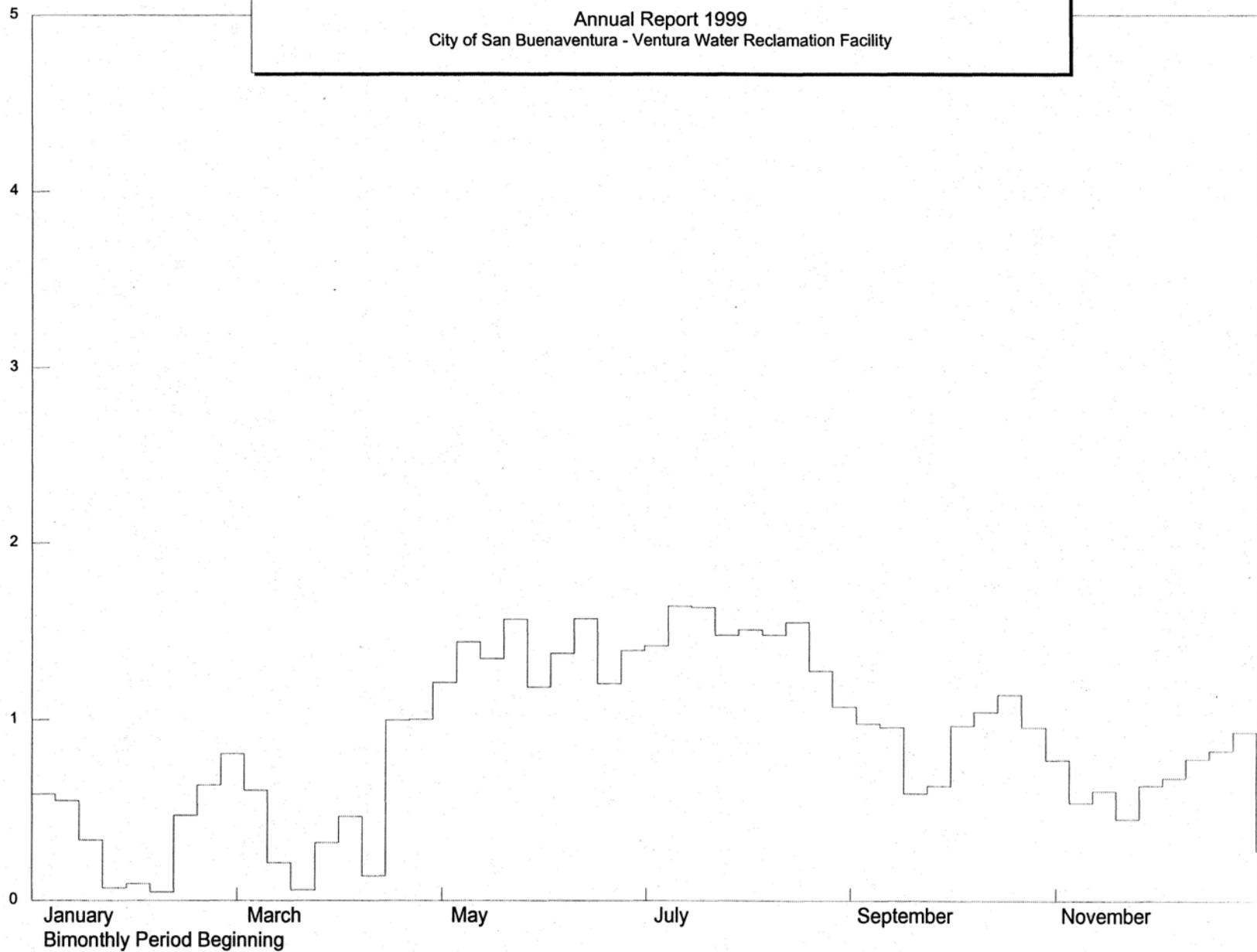
Buena Pump Station
Daily Reclaimed Water Delivery - MGD

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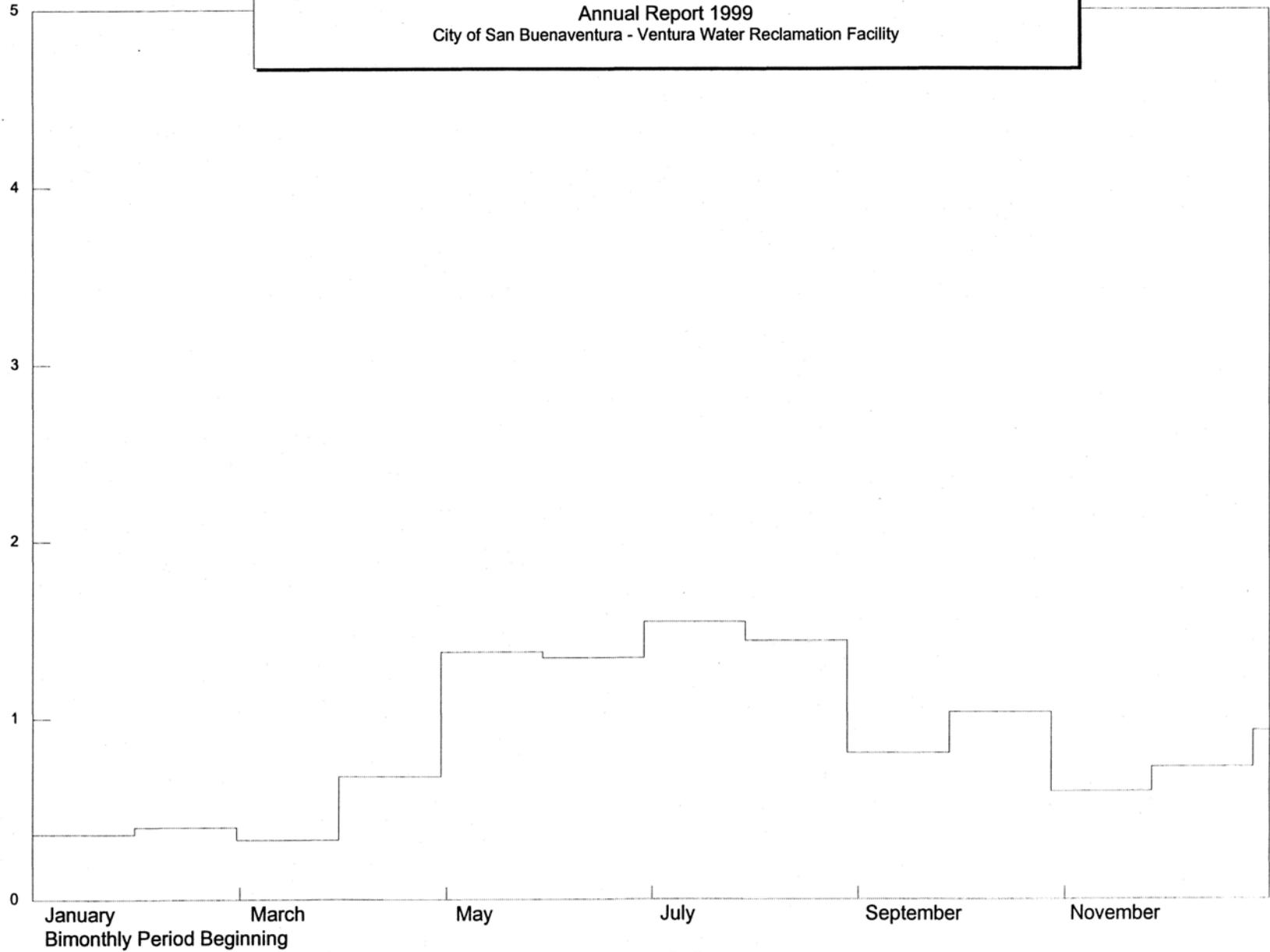
All Irrigation Deliveries
Daily Reclaimed Water Delivery - MGD

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All Irrigation Deliveries
Daily Reclaimed Water 7 Day Average Delivery - MGD

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All Irrigation Deliveries
Daily Reclaimed Water 30 Day Average Delivery - MGD

ANALYTICAL QUALITY ASSURANCE PROGRAM 1999

I. LABORATORY DUTIES AND OBJECTIVES

The City of San Buenaventura Sanitation Division Laboratory is responsible for all sampling and analysis for purposes of NPDES compliance monitoring related to the City operated wastewater treatment plant and for the City domestic water supply and water distribution system monitoring for SDWA compliance.

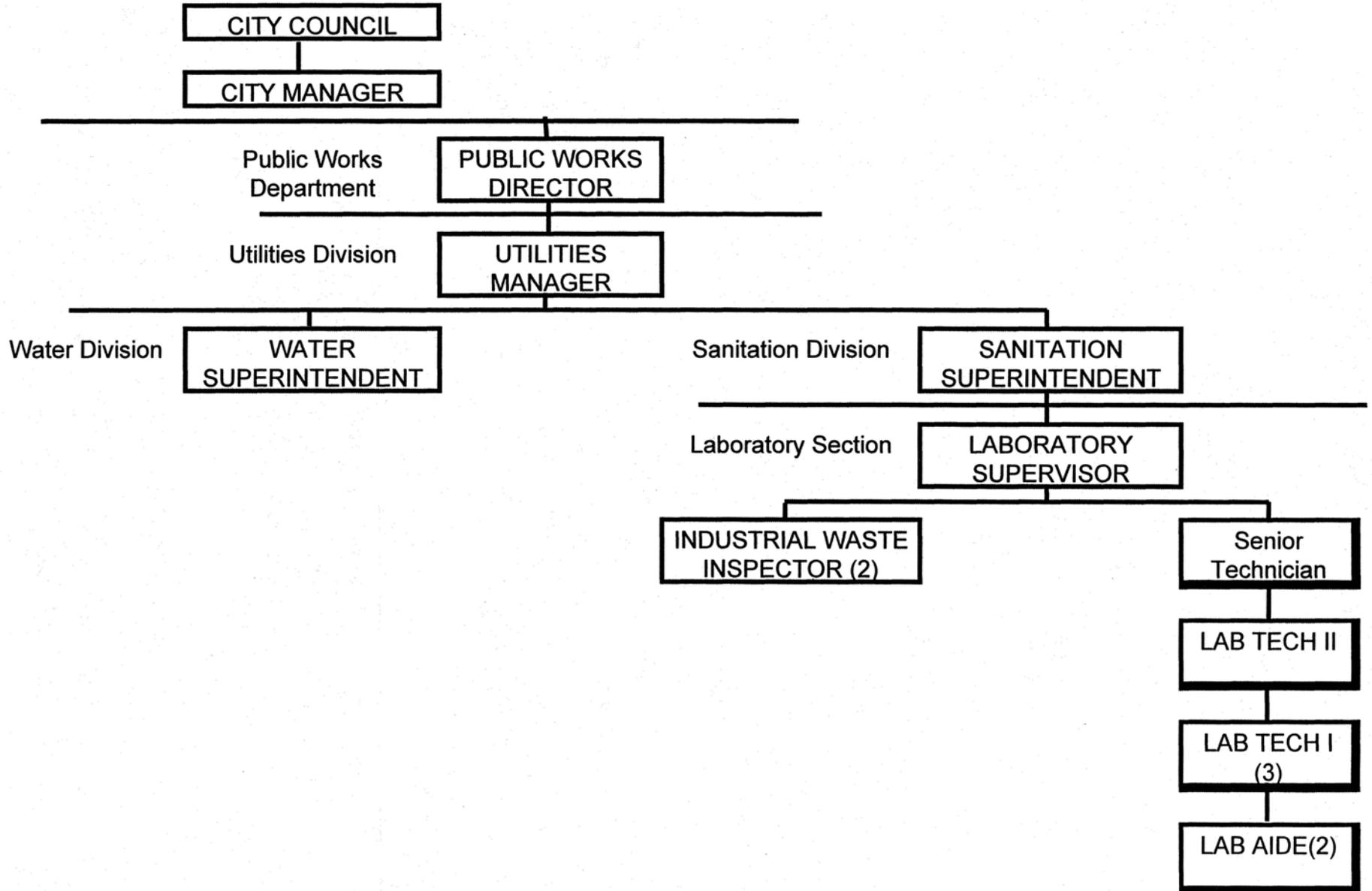
Current State of California Department of Health Services laboratory approval is attached.

All analyses for purposes of NPDES and SDWA reporting or for industrial waste monitoring conforms to the current requirements of 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants" or of 40 CFR Part 141, "National Interim Primary Drinking Water Regulations."

The purpose of this document is to outline the laboratory quality assurance procedures as they relate to compliance monitoring and to evaluate performance where statistically valid numbers of control results are available.

II. Laboratory Overview

A. Organization



B. Laboratory Personnel Qualifications and Experience

Laboratory Supervisor: **Florence Jay**

1979 to Present

Education

Bachelor of Sciences Fort Valley State College Major - Biology

Master of Sciences Iowa State University Major - Fisheries Biology

Experience

Lab Tech I City of San Buenaventura Water Division

Lab Tech II City of San Buenaventura Wastewater Division

Present Duties

Responsibility for the laboratory service including planning, budget and QA functions. Perform and supervise others in performing routine and sophisticated chemical, physical and biological analysis of water and waste.

Senior Technician: Michael L. Torres

1999 to Present

Education

Bachelor of Science Microbiology – California State University @
Northridge (Pending)

Experience

Microbiologist – Montgomery Watson Laboratories

Present Duties

Supervise Laboratory personnel and perform chemical, physical
and biological analysis of water and wastewater.

Lab Tech II: Michele G. Holmes

1989 to Present

Education

Associate of Arts, Ventura College, Major - Natural Science

Experience

Laboratory Technician, BTC Laboratories, Ventura California

Laboratory Technician, SOCI Laboratory, Westlake, California

Laboratory Technician, City of Oxnard, Oxnard, California

Present Duties

Under supervision, perform routine chemical, physical and
biological analysis of water and wastewater.

Lab Tech I: George Beswick

1972 to Present

Education

Waynesburg College Seton Hill College University of Pittsburg
Total 60 Units Major - General Education

Experience

Lab Technician University of Pittsburg School of Medicine

Present Duties

Under supervision, perform routine chemical, physical and biological analysis of water and wastewater.

Lab Tech I: Dat Tien Le

1975 to Present

Education

Bachelor of Science Saigon School of Pedagogy

Experience

Biology Instructor Petrus Ky High School Saigon, Vietnam

Present Duties

Under supervision, perform routine chemical, physical and biological analysis of water and wastewater.

Lab Tech I: **Lotfollah Momen-Safai**

1992 to Present

Education

Bachelor of Sciences Southern Utah State College - Biology

Experience

Laboratory Technician, Ventura Regional Sanitary District

Present Duties

Under supervision, perform routine chemical, physical and biological analysis of water and wastewater.

C. Instrumentation and Equipment

The division laboratory owns and maintains the following equipment and instrumentation.

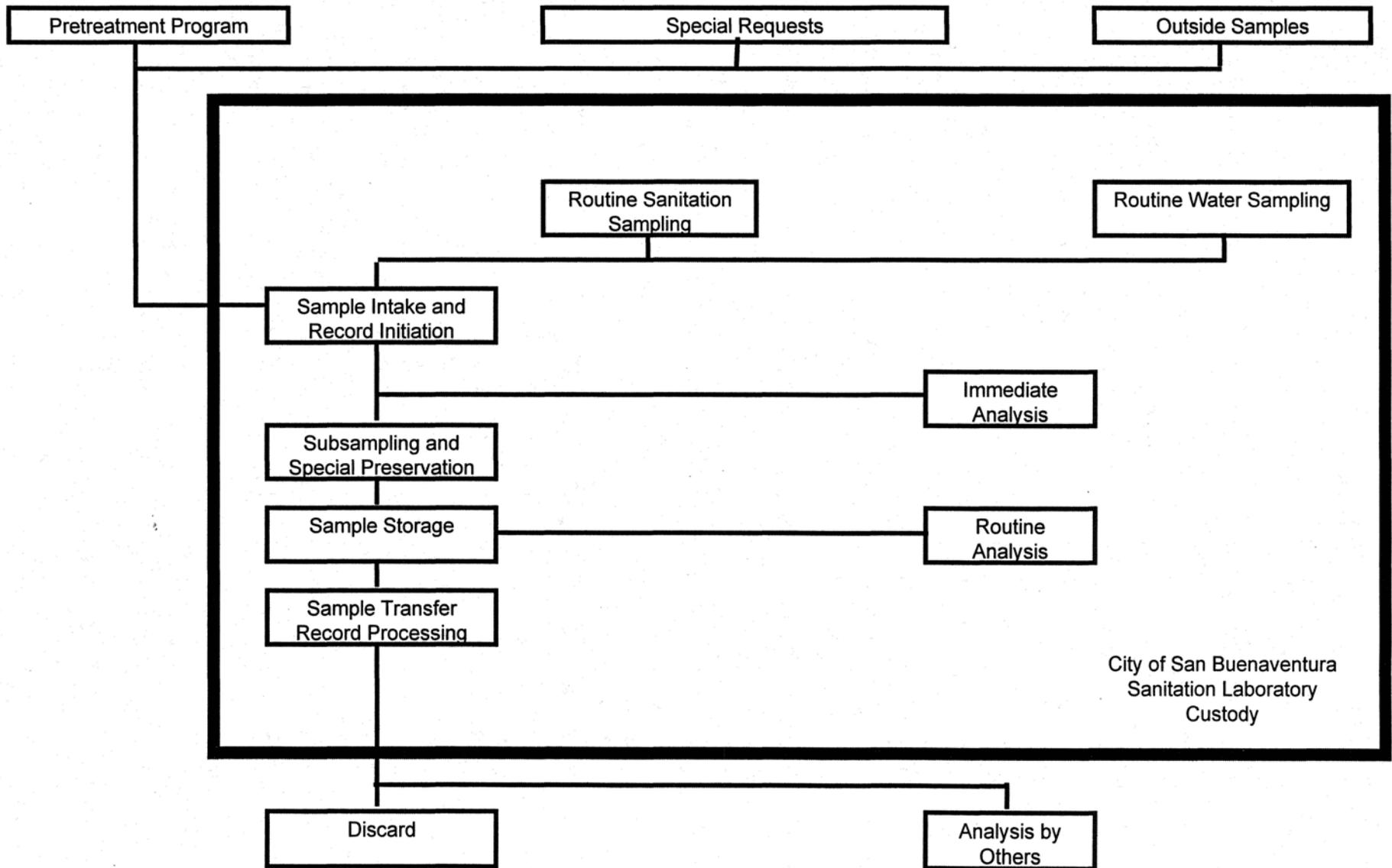
UNIT	MANUFACTURER/MODEL	MAINTENANCE
Water Still	Corning 3 Liter Megapure	Division
D. I. Water Supply	Culligan Commercial Units	Culligan
Forced Convection Oven	NAPCO Model 630	Division
Oven	VWR Model 1670 HAFO Series	Division
Muffle Furnace	Thermoline Model FA-1730/Temcometer	Division
Incubator (Air)	Precision Model 30M	Division
Incubator (Water Bath)	Blue M Magniwhirl Model 1110A	Division
Incubator (BOD)	Freas Model 815	Division
Autoclave	Pharmetics Datacon II	Division
pH Meters	Orion Model 601	Division
	Orion Model 701	Division
	Cole-Parmer 5938-00 Portable	Division
Specific Ion System	Orion Model EA 940 Meter/Electrodes	Division
Conductivity Meter	Barnstead Model PM 70-CB	Division
D.O. Meters	Orion SL 9 Portable Probe	Division
	Orion Model 9708 Electrode	Division
Nephelometers	Hach Model 2100A	Division
	Hach Ratio/XR	Division
Analytical Balances	Mettler Model AT 201	Division
	Mettler Model AE 163	
	Mettler Model H20T	Division
Top-Loading Balances	Mettler Model PM2000	Division
	Mettler Model PM2000	Division
Microscopes	American Optical 40-1000X Phastar	Division
	American Optical .7-3X Stereo	Division
Spectrophotometers	HP 8453 UV-Visible Spectrophotometer	HP
	Bausch & Lomb Spectronic 20	Division
Spectrophotometer AA-AE	Varian Spectra220/Furnace Atomizer/ GTA110 Autosamplers	Varian
Ion Chromatograph	Waters/Millipore/Dionex ASRS-I Self Regenerating Suppressor/Dionex CD20 conductivity Detector	Waters
Gas Chromatograph	HP 6890 GCSystem Series Autosampler; Micro ECDetector Flame Ionization Detector	HP
Purge/Trap system	HP 7695	HP
Dispenser/Diluter	Gilson 222	Division
Samplers	4 ISCO Model 2700	Division
	3 ISCO Model 2900	Division
	3 American Sigma 800SL	Division
	2 American Sigma 900	Division
	1 ECOA Model E	Division
Hewlett Packard	-- Hewlett Packard Co. Van Nuys, Ca.	
Varian	-- Varian Sugarland, Texax	
Division	-- Ventura Sanitation Division Personnel	

III. PROCEDURES, RECORDS AND REPORTS

A. Sampling

Procedures for sampling, sample preservation and transportation conform to the requirements of 40 CFR Part 136 and/or to 40 CFR Part 141 and amendments.

The laboratory sample path is shown below.



Sample Identification

Sampling sites for routine Sanitation and Drinking Water monitoring are fixed and identified by name, number or acronym. This identification is used on location maps, in sample logs, on bench worksheets, on permanent records and on analysis reports.

Other Water or Sanitation samples, Industrial Waste samples and any non-routine sample received is assigned a unique Laboratory Identification Number. As above, this number is used in sample logs, bench worksheets, permanent records and on analysis reports.

Custody

Change of custody occurs when a sample enters or leaves the laboratory unit as defined by the double line of the sample path diagram on Page 7.

Custody documents vary with the sampling purpose, but all custody transfers identify the sample by name and/or Laboratory Identification Number, identify the sample collector and document date, time, location and circumstances of sample collection along with the history of sample transfers by person and/or organization.

B. Analysis Procedures

Bench procedures for routine analytical methods performed by the Laboratory are maintained in a loose-leaf notebook in the Laboratory work area. These are derived from approved standard procedures with analytical options for interference correction, sample volume etc. defined for the samples routinely examined. These procedures are reviewed periodically and revised to accommodate method and sample changes.

These detailed analytical procedures are numerous, lengthy and inappropriate for inclusion here. A summary listing of the references for procedures employed in routine analysis is given as part of the performance evaluation data tables that follow.

For unfamiliar and non-routine samples, the primary analytical procedures are followed for determining dilution, interference correction and all other method variables.

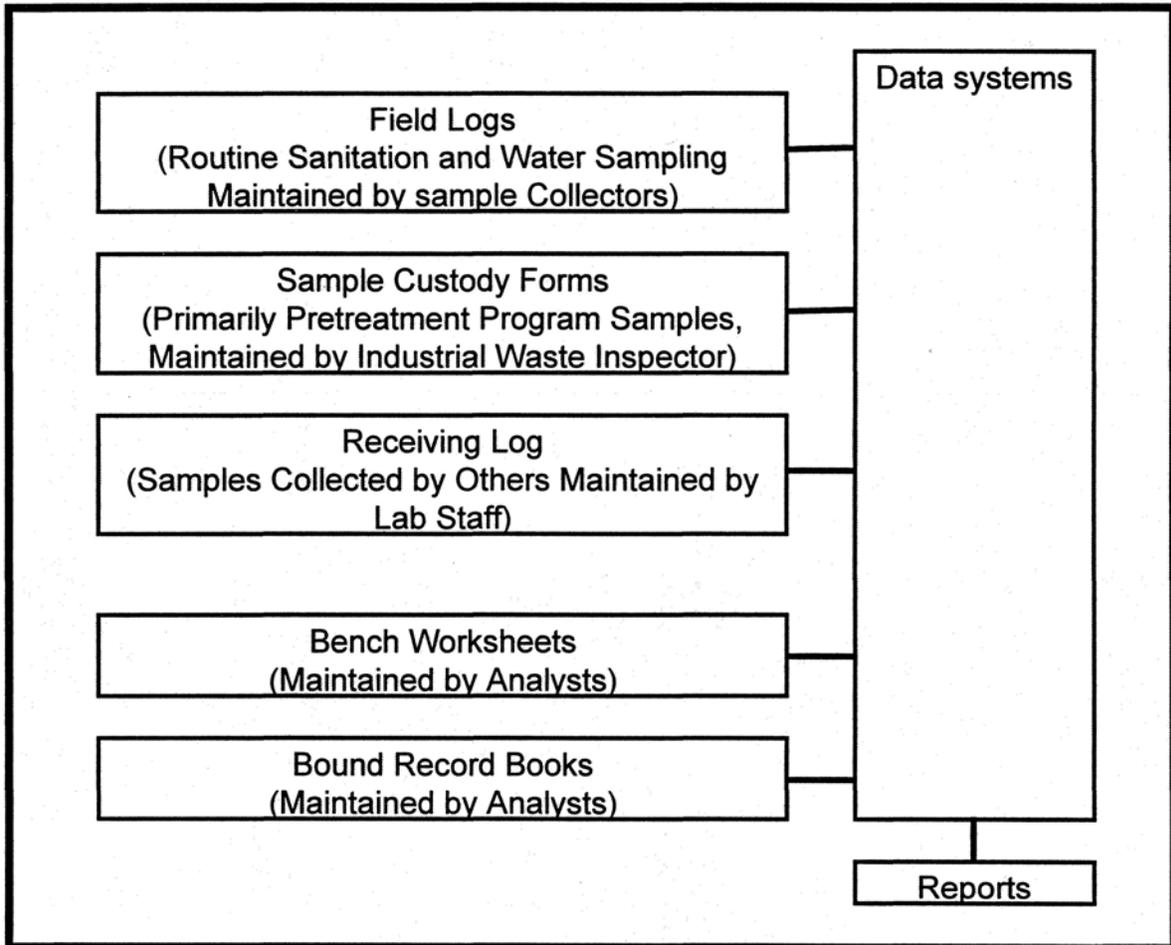
C. Records

Systematic procedures for record keeping and retention have been established in conformance with the requirements of compliance monitoring and good practice.

The following summarizes the purposes and retention criteria for each general type of written laboratory record.

Record	Function	Retention
Field Logs	Record of Field Measurements and Circumstances of Sampling	7 Years
Receiving Log	Record of Samples Received from Others	7 Years
Sample/Custody Form	Pretreatment Program Sampling	7 Years
Bench Logs	Worksheets for Data and Calculation	7 Years
Bound Record Books	Permanent Record of Analysis Results	7 Years
Reports	Transmittal of Information to Others	7 Years

Data flow from generation to reporting is shown below.



D. Reports

Report formats and contents are generally specified by the agency requesting such reports. Reports of routine monitoring are provided by computer methods designed to meet these specifications.

All current procedures, records and reports are available at the laboratory for review and inspection. Records of analytical results are available from 1971 to date.

Sample Retention Requirements

Sample Source	Frequency	Subsample	Discard After:	Authorization by:
Drinking Water	Weekly	Turbidity, Iron Filters	Analysis Complete	Analysts
Drinking Water	Any	Bacti	Innoculation Complete	Analysts
Drinking Water	Monthly	Chemistry	Report Reviewed	Lab Supervisor
Drinking Water	Quarterly	THM	Report Reviewed	Lab Supervisor
Drinking Water	Annual	Metals, Organics	Report Reviewed	Lab Supervisor
Conjunctive Use	Any	All	Report Reviewed	Lab Supervisor
Surface and Ocean	Any	Bacti	Innoculation Complete	Analysts
Wastewater	Daily Grab	pH, Turbidity, Residual, Oil and Grease	Analysis Complete	Analysts
Wastewater	Daily Grab	Bacti	Innoculation Complete	Analysts
Wastewater	Daily Composite	pH, Solids, Oxygen Demands, Conductivity	Analysis Complete	Analysts
Wastewater	Weekly Composite	Nitrogen, Chloride	Analysis Complete	Analysts
Wastewater	Weekly Composite	MBAS	Analysis Complete	Analysts
Wastewater	Weekly Composite	Sulfate	Report Reviewed	Lab Supervisor
Wastewater	Monthly Composite	Phenols	Report Reviewed	Lab Supervisor
Wastewater	Monthly Composite	Minerals	Report Reviewed	Lab Supervisor
Wastewater	Monthly Composite	CN, PO4, Alkalinity, B, F	Analysis Complete	Analysts
Wastewater	Monthly Grab	Bioassay	Test Setup	Analysts
Wastewater	Quarterly Composite	Metals	Report Reviewed	Lab Supervisor
Wastewater	Quarterly Composite	Pesticides	Report Reviewed	Lab Supervisor
Source Control	Any	All	Report Reviewed	IW Inspector
Special	Any	All	Report Reviewed	Lab Supervisor

IV. QUALITY ASSURANCE PROCEDURES AND DOCUMENTATION

A. General

The quality assurance procedures employed by the laboratory are intended to accomplish the following objectives:

1. Provide primary control over the accuracy reagents and standards employed in analysis.
2. Provide day-to-day control over the accuracy of measurements.

Specific actions designed to accomplish these goals in each area of laboratory measurement are discussed in the following.

B. Laboratory Equipment

Equipment subject to read-out drift for environmental, mechanical or electronic reasons is checked periodically for alignment. Other units, such as ovens or incubators are monitored for accuracy and consistency. Readings are taken or calibration procedures are performed and recorded at the frequency indicated below.

Unit	Calibration Procedure	Frequency
Ovens	Verify Temperature and Adjust as needed	Daily
Incubators	Verify Temperature and Adjust as needed	Daily
Furnace	Verify Temperature and Adjust as needed	Daily
pH Meters	Calibrate with Buffer Solutions	Prior to Use
D.O. Meters	Air Calibrate	Prior to Use
D.O. Meters	Check Against Winkler Titration	Weekly
Turbidimeters	Calibrate with Secondary Turbidity Standards	Prior to Use
Turbidimeters	Calibrate with Certified Standards	Prior to Use
Spectrophotometer	Verify Wavelength Accuracy with Holmium Oxide Filter	Quarterly
Autoclave	Verify Accuracy of Integral Recorder with Lag Thermometer	Weekly
Balances	Verify Accuracy with External Calibration Weights	Weekly

C. Chemical Analysis

Analysis reagents and standards are prepared from Primary standard materials, calibrated against Primary Standard materials, or purchased as certified purity and/or certified concentration standards.

These procedures are used to assure conformance to narrow concentration or purity limits when procedures require it, to determine when a reagent must be discarded and for purposes of determining calculation factors to avoid determinant errors in analysis results.

D. Day-to-day control of accuracy of results

Testing for chemical and physical composition is routinely conducted on a batch basis. Each sample batch is run with controls and acceptance of sample results as valid is based on the results of the control analysis.

Most such routine control samples are prepared in house for frequently performed analyses. For other procedures the Division Laboratory analyzes Spex Certiprep - EMSL or NIST traceable commercial reference samples.

In addition to these primary checks on the accuracy and precision of measurement, sample replicates and matrix spikes are carried through all procedures.

E. Corrective Actions

Some laboratory data reduction is automated, in many cases including instrument data generation. For an automated applications, when a control, spike or sample duplicate evaluation fails to meet a standard criteria for method performance, the analysis process is halted and/or sample results are withheld by the software system and analysis cannot continue until the cause of the failure is identified and acceptable results from the control materials are produced.

In procedures where automation is not employed, the analyst performs the same function: data is not reportable unless results from analysis of control, spike and sample duplicates run with the analysis batch are within acceptance standards.

F. Special considerations for Trace Organic Analyses

The Quality Assurance requirements for trace organic analysis are narrowly defined by the approved analytical procedures. These requirements are adhered to.

Standard materials used in Trace Organic Analysis are normally obtained from Supelco Incorporated, Bellefonte, PA. If appropriate materials are not available

from this source, they are obtained from manufacturers or from normal chemical supply sources.

Control materials employed in these analyses are also obtained from Supelco Incorporated. Bellefonte, PA.

As with all other measurements, acceptability of sample results is dependent on control analysis results being within acceptance limits.

G. Special Considerations for Toxicity Analysis

Instrument Calibration

Continuous temperature recorders for monitoring test solution temperatures are Taylor Instrument drum recorders with remote sensor probes. Recorders are calibrated against ASTM 90C glass thermometers by adjustment of the pen arm.

pH measurement is made with a Markson 6100 portable meter. Calibration is noted in section IV.B.

D.O. measurement is made with an Orion SL9 portable meter. Calibration is noted in section IV.B.

Reference materials are analyzed as noted below.

Analysis	Reference Material	Frequency of Reference Analysis
Acute Toxicity	Copper Sulfate	With Every Test Sample
Algae Growth Chronic Toxicity	Cadmium Chloride	With Every Test Sample
Ceriodaphnia Survival and Reproduction	Copper Sulfate	With Every Test Sample
Larval Fathead Minnow Survival and Growth	Copper Sulfate	With Every Test Sample

Other test acceptance criteria are noted below.

Analysis	Criterion
Acute Toxicity	Survival in Controls >> 90 %
Algae Growth Chronic Toxicity	Control cell counts >> 200,000/ml
Algae Growth Chronic Toxicity	Control Replicate Counts << 20% Different
Ceriodaphnia Survival and Reproduction	Survival in Controls >> 90 %
Ceriodaphnia Survival and Reproduction	Average Number of Offspring >>= 15
Larval Fathead Minnow Survival and Growth	Survival in Controls >> 90 %
Larval Fathead Minnow Survival and Growth	Control Average Dry Weight >> 0.250 mg

H. Bacteriological Analysis

Bacteriological analysis required by NPDES and SDWA monitoring is routinely performed by the multiple-tube fermentation procedure.

The Laboratory is equipped to perform MTF tests for Total Coliform, Fecal Coliform and Fecal Streptococci; Membrane Filter tests for Total and Fecal Coliform; and Heterotrophic Plate Count.

Quality assurance is directed primarily toward control of the MTF procedures. Other procedures above are utilized at irregular intervals and generally for other than compliance monitoring. Basic media and equipment quality control for these other procedures is conducted similar to that for MTF analysis described herein.

Total Coliform testing is routinely performed following the procedures of Section 9221B of "Standard Methods for the Examination of Water and Wastewater," 18th Edition. All Samples are carried through the Brilliant Green Bile confirmation step.

At least 5% of all samples testing positive in the confirmed coliform procedure are carried through the completed procedure.

Fecal Coliform testing is routinely performed following the procedures of Section 9221E of "Standard Methods for the Examination of Water and Wastewater," 18th Edition.

Fecal streptococcus testing is routinely performed following the procedures of Section 9230B of "Standard Methods for the Examination of Water and Wastewater," 18th Edition.

Control tests for water suitability and for inhibitory residues are performed annually following the procedures of Section 9020B(3)(a)(2) and 9020A(3)(c)(1)

of "Standard Methods for the Examination of Water and Wastewater," 18th Edition.

Commercial dehydrated media is used for all analysis. Media is tested for accurate response by inoculation of portions from each prepared batch with *Escherichia coli* (ATCC 25922), *Staphylococcus aureus* (ATCC 25923) and *Streptococcus faecalis* (USEPA-EMSL Cincinnati 111054). Coliform test materials failing to give a positive response to *Escherichia coli*, a negative response to *Staphylococcus aureus* and no response upon incubation of un-inoculated media are discarded. Fecal strep test materials failing to give a positive response to *Streptococcus faecalis*, a negative response to *Staphylococcus aureus* and no response upon incubation of un-inoculated media are discarded.

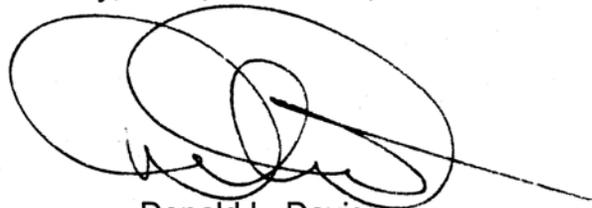
Both media and equipment are prepared in weekly batches, and materials are tested for sterility using Tryptic Soy Broth before use and dated to assure they are used within acceptable holding periods or discarded.

ANNUAL REPORT OF ANALYSIS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

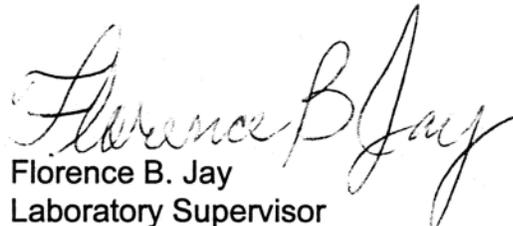
Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Executed on the 25th day of February, 2000, at Ventura, CA.



Donald L. Davis
Wastewater Superintendent

Daniel E. Pfeifer
Operations Supervisor



Florence B. Jay
Laboratory Supervisor

**NON-DOMESTIC DISCHARGE SOURCE CONTROL
PROGRAM ANNUAL REPORT**

CITY OF SAN BUENAVENTURA

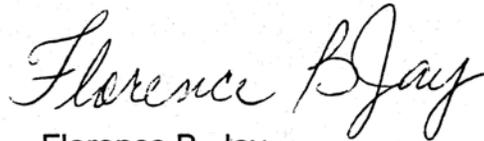
VENTURA WATER RENOVATION FACILITY

1999

Please direct inquiries regarding this report to:

Florence B. Jay
Laboratory Supervisor
City of San Buenaventura
Sanitation Division
P.O. Box 99
Ventura, CA 93002

I have personally examined and am familiar with the information submitted in this document and attachments. Based upon my inquiry of those individuals immediately responsible for obtaining the information reported herein, I believe that the information is true, accurate and complete.

A handwritten signature in cursive script that reads "Florence B. Jay".

Florence B. Jay
Laboratory Supervisor
February 25, 2000

I Pretreatment Program Summary

The City of San Buenaventura operates its source control program in conformance with the program submittal of June 1982 as amended and approved. There were no significant changes in program operation occurring in 1999.

The program monitors 1700 commercial and industrial users, of which 18 hold current Non-Domestic Waste Discharge Permits.

Five of these 18 permitted system users are categorical industries. These are identified in the summary tables which follow

II Program Effectiveness

A summary of treatment plant influent, effluent and sludge stream monitoring follows. A summary of industrial discharger self monitoring and City verification monitoring is also attached.

Based on treatment plant liquid and solid analysis, the program continues to effectively control pollutants discharged by industrial users.

III Process Upset, Interference or Pass-through

There were no incidents of treatment process upset, process interference or pass-through during 1999.

IV BMR Status

The current status of all users subject to BMR requirements is summarized in the tables which follow.

V. Discharger List and Compliance Status

A complete list of permitted dischargers and quarterly compliance information where applicable is included in tables following.

VI. Discharger Monitoring and Inspection History

Inspection, user self-monitoring and City verification monitoring activities are included in the tables following.

VII. Enforcement Activity Summary

Enforcement activities implemented during 1999 are included in tables following.

VIII. Pretreatment Program Budget

Program Cost Estimates for 1999

1. Industrial Waste Inspector

Inspection and Sampling	\$26,540
Data and Reports	\$17,740
Discharger Consultation	\$8,000

Total Direct Labor Costs	\$52,280
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2. Administrative Costs	\$5,000
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3. Vehicles	\$8,950
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4. Laboratory Support	\$9,060
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TOTAL	\$75,290
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IX. Public Participation

No significant violation of Federal Pretreatment Standards occurred in 1999 and therefore no publication of significant violators was made in 1999. There were no significant violations of Federal Pretreatment Standards in 1998 and no publication of significant violators will be made in 2000.

No annual user rate review was done and no new user rates were adopted in 1999.

X. Sludge Disposal

During 1999 sludge from treatment processes was land applied for agricultural uses at River Island Farm near Wasco, CA.

LOCATION OF SAMPLE POINTS FOR MONITORING AND REPORTING PROGRAMS

The liquid fraction flow path for both discharge to the Santa Clara Tidal Prism and treated effluent reused for landscape irrigation was as shown in the schematic plant flow diagram which follows. This has been the treatment plant operating mode throughout all of 1998.

The total wastewater flow is treated and disinfected through the system as shown without regard to the ultimate discharge.

The following describes sample locations designated and the purposes for which each is used.

LOCATION 1 - INFLUENT PUMP STATION

This location receives all raw wastewater flow to the treatment plant unless failure of pumping systems occurs. If such failure occurs, or should storm flows exceed the capacity of this primary station, all or part of the influent flow will be diverted to a standby facility which has no provision for sampling or flow measurement. Such events are infrequent and duplication of influent sampling programs is not warranted.

The sampler used here is an ECOA model E dip sampler controlled by a PLC using the signal from the influent flow meters.

The sampler is located downstream of comminution equipment and upstream of grit removal and the entry point for recirculation from the Activated Sludge process.

Sampling is performed here for compliance monitoring and for process control. Analyses for pH, 5-day BOD, COD, Suspended Solids, Nitrogen Compounds and Priority Pollutants are performed on samples collected at this station.

LOCATION 2 - PRIMARY EFFLUENT

Through this location passes all effluent from the Primary Clarifier. This sample station can be bypassed and raw sewage delivered directly to the Activated Sludge System if routine maintenance or emergency requires it.

The sampler used here is an ISCO Model 2700 sampler programmed to collect samples at non-uniform time intervals proportional to the flow to the Roughing Filter System.

Sampling is performed here for process control.

Analyses for 5-day BOD, COD, Suspended Solids, Settleable Solids, MBAS and Nitrogen Compounds are performed on samples collected at this station.

LOCATION 3 - ROUGHING FILTER EFFLUENT

Interim sample point in use only during Upgrade construction for monitoring roughing filter performance and activated sludge process loading.

The sampler used here is an ISCO Model 2700 sampler programmed to collect samples at non-uniform time intervals proportional to the flow to the Activated Sludge System.

Sampling is performed here for process control.

Analyses for 5-day BOD, COD, Suspended Solids and Nitrogen Compounds are performed on samples collected at this station.

LOCATION 4 - ACTIVATED SLUDGE PROCESS EFFLUENT

This location is at the end of the 36 inch line from the Activated Sludge Final Sedimentation Tanks and before the Mixed Media Filter Station Surge Ponds. Effluent from the Trickling Filter secondary process does not ordinarily pass through this sample point.

The sampler used here is an ISCO Model 2700 sampler programmed to collect samples at non-uniform time intervals proportional to the flow to the Activated Sludge System.

Sampling is performed here for process control.

Analyses for pH, 5-day BOD, COD, Suspended Solids, Settleable Solids, MBAS and Nitrogen Compounds are performed on samples collected at this station. The stream from the Activated Sludge System is also continuously monitored by a process turbidimeter.

LOCATION 5 - EFFLUENT TRANSFER STATION

This location follows Filtration and Disinfection and from here treated effluent is pumped to the Wildlife Ponds. All treated effluent passes through this station.

The sampler used here is an ISCO Model 2700 sampler programmed to collect samples at non-uniform time intervals proportional to the flow leaving the Mixed Media Filter Station.

Sampling is performed here for compliance monitoring and for process control. Analyses for pH, 5-day BOD, COD, Suspended Solids, Grease and Oil, Nitrogen Compounds, Phosphate, MBAS, Phenols, Chloride, Sulfate, Boron, Fluoride, Sodium, Potassium, Calcium, Magnesium and Priority Pollutants are performed on samples collected at this station. The flow from the Filtration and Disinfection processes is also continuously monitored here by a process turbidimeter.

Grab samples for bacteriological examination are collected three times daily, at 7:00 AM, 11:00 AM and 8:00 PM, just ahead of this sample station from the outlet end of the first contact chamber in use.

LOCATION 6 - OUTFALL METERING STRUCTURE

This sample location follows the Wildlife Pond System and the point of addition of Sulfur Dioxide used for Chlorine Residual neutralization and is

immediately ahead of the point of discharge to the Santa Clara River Tidal Prism. All effluent reaching the Tidal Prism must pass through this Station.

Sampling is performed here for compliance monitoring and for process control.

Grab samples for Temperature and Composite samples used for Acute Toxicity and Chronic Toxicity are collected here. The flow from the station is also continuously monitored by a Residual Chlorine Analyzer.

RECEIVING WATER SAMPLE STATIONS

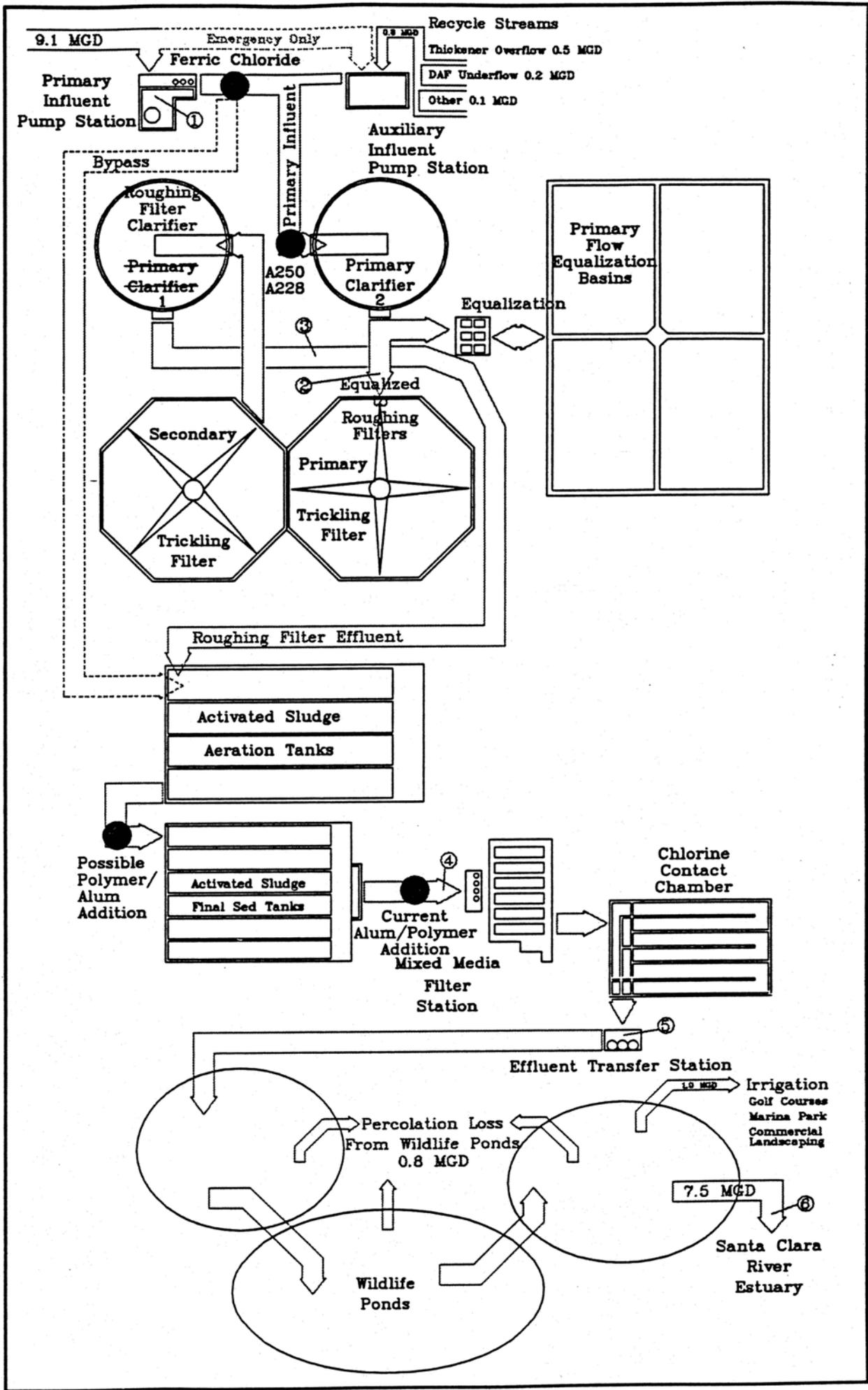
Ten sample stations, designated R1 through R4 within the Santa Clara Tidal Prism and R5 through R9 along the Pacific Ocean shore are specified by the Los Angeles Regional Water Quality Control Board in the facility NPDES permit. An additional sample station, designated L5, is located on the Santa Clara River approximately 1 mile east of the Harbor Boulevard Bridge. This additional station was monitored by the City voluntarily until 1995 when the renewed NPDES permit made it a required monitoring station.

Water quality observations and temperature measurements are made at each of these sites.

Grab samples from these locations are taken weekly and analyzed for Total Coliform and, for stations within the Tidal Prism, for Residual Chlorine.

Grab samples from station R1, on the flowing stream as it enters the Tidal Prism, and R2, on the South shore of the Tidal Prism opposite the discharge from the Ventura Water Reclamation Facility, are also taken monthly for three months during the winter and analyzed Chronic Toxicity using the same three species protocol applied to the discharge.

A map showing these sample locations follows the schematic plant flow diagram.



Ventura Water Reclamation Facility
Annual Report 1999

Influent Pump Station

Month	Average Flow MGD	pH Units	Suspended Solids mg/l	BOD mg/l	COD mg/l	Ammonia Nitrogen mg/l	Total Kjeldahl Nitrogen mg/l
January	8.54	7.46	216	279	547	22.7	35.4
February	8.63	7.50	210	272	516	26.0	46.3
March	8.75	7.49	216	273	531	26.3	40.3
April	9.65	7.50	266	298	529	23.4	40.0
May	9.10	7.44	225	287	515	23.6	33.2
June	9.15	7.46	212	270	513	23.1	37.9
July	9.41	7.41	223	268	507	22.2	33.0
August	9.28	7.34	217	264	505	22.2	35.1
September	9.44	7.32	224	274	540	24.6	37.2
October	9.29	7.29	233	279	552	26.5	38.4
November	9.16	7.32	225	289	541	25.5	38.5
December	8.50	7.34	223	278	544	26.9	37.1
Average	9.08	7.41	224	278	528	24.4	37.7
Maximum	11.59	8.13	419	540	684	34.5	46.3
Minimum	7.41	7.00	110	155	369	17.3	33.0
Total	37703.88						

Ventura Water Reclamation Facility
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Influent Pump Station

Month	Aluminum mg/l	Antimony mg/l	Arsenic mg/l	Barium mg/l	Beryllium mg/l	Cadmium mg/l	Chromium mg/l	Cobalt mg/l	Copper mg/l	Iron mg/l
February	1.569	<0.001	<0.002	0.176	<0.00008	<0.00059	<0.005	0.007	0.152	1.300
February	1.150	<0.001	<0.002	0.093	<0.0002	<0.004	<0.007	<0.001	0.157	
May	1.178	<0.006	<0.002	0.101	<0.00008	<0.00059	<0.005	0.004	0.024	0.800
August	1.100	<0.001	<0.002	0.011	<0.00008	<0.00059	<0.005	<0.0007	0.155	0.060
August	0.095	<0.001	<0.002	0.079	<0.0002	<0.004	<0.005	<0.001	0.182	
November	0.471	<0.006	<0.002	<0.096	<0.00008	<0.00059	<0.005	<0.0007	0.142	0.800
Average	0.927			0.077				0.002	0.135	0.740
Maximum	1.569			0.1756				0.00714	0.182	1.300
Minimum	0.095			<0.096				0.000	0.024	0.060

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Influent Pump Station

Month	Acetone	Chloroform	1,4 Dichlorobenzene	Ethylbenzene
February	<0.0005	<0.00005	0.0016	0.0311
August	0.0994	0.0081	<0.0005	<0.00034

Month	Tetrachloroethylene	Toluene	1,1,1-Trichloroethane	Xylenes
February	<0.00003	<0.0002	<0.00003	0.199
August	0.0015	<0.0002	<0.00003	<0.0005

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Effluent Transfer Station

Month	Suspended			TDS mg/l	Specific		BOD mg/l	COD mg/l	Settleable Solids ml/l
	pH Units	Solids mg/l	lb/day		Cond uMHO	lb/day			
January	6.97	1.94	124	1246	1929	2.5	164	29.1	<0.1
February	6.85	1.13	73	1215	1911	2.1	134	27.8	<0.1
March	6.79	1.32	89	1269	1932	2.2	148	25.5	<0.1
April	6.70	1.34	86	1384	2022	1.9	121	23.1	<0.1
May	6.77	1.20	70	1321	1950	2.5	148	23.9	<0.1
June	6.75	1.03	61	1288	1928	1.4	81	24.8	<0.1
July	6.95	1.15	66	1352	1918	1.5	85	20.5	<0.1
August	6.89	1.07	66	1396	1908	1.5	89	21.4	<0.1
September	6.77	1.78	115	1438	2019	2.2	139	30.9	<0.1
October	6.84	2.06	130	1454	2050	1.9	117	28.7	<0.1
November	6.77	2.21	148	1440	2080	2.2	149	27.9	<0.1
December	6.75	1.13	70	1378	1997	1.2	69	23.4	<0.1
Annual Average	6.82	1.44	91	1348	1970	1.9	120	25.5	<0.1
Maximum	8.58	10.16	627	1800	2260	8.4	565	49.7	<0.1
Minimum	6.25	0.13	7	1056	1800	<0.3	<19	13.7	<0.1
Limitations of Permit CA0053651									
Maximum		45.00	5250			45	5250		0.3
7 Day Average		40.00	4670			30	3500		
30 Day Average		15.00	1751			20	2340		0.1

Ventura Water Reclamation Facility
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Effluent Transfer Station

Month	Grease and Oil mg/l	lb/day	Continuous Turbidity NTU	Nitrate Nitrogen mg/l	Nitrite Nitrogen mg/l	Ammonia Nitrogen mg/l	Total Kjeldahl Nitrogen mg/l
January	0.3	20	1.6	7.9	<0.4	13.0	15.8
February	0.2	15	0.9	9.8	<0.4	10.3	4.8
March	0.4	30	1.0	11.5	<0.4	6.3	4.8
April	0.6	40	1.1	12.2	<0.4	6.3	11.2
May	0.1	6	1.1	11.6	<0.4	3.5	5.3
June	0.4	20	0.8	11.0	<0.4	6.3	3.7
July	0.2	12	0.9	19.3	<0.4	1.1	1.5
August	0.1	8	0.9	22.5	<0.4	0.8	0.2
September	0.4	23	1.5	19.9	<0.4	2.1	5.6
October	0.4	27	1.4	20.8	<0.4	2.1	5.7
November	0.3	23	1.5	25.9	<0.4	1.2	2.0
December	<0.1	-6	1.0	25.9	<0.4	1.3	2.0
Annual Average	0.3	18	1.1	16.7	<0.4	4.5	6.5
Maximum	1.2	84	5.1	32.4	1.7	19.3	19.7
Minimum	<0.1	<7	0.5	3.9	<0.4	<0.4	0.2
Limitations of Permit CA0053651							
Maximum	15.0	1750	2.0				
7 Day Average							
30 Day Average	10.0	1170					

Ventura Water Reclamation Facility Annual Report 1999

Effluent Transfer Station

Month	MBAS mg/l	Chloride mg/l	Sulfate mg/l	Phosphate mg/l	Boron mg/l	Fluoride mg/l
January	<0.05	287	363	0.55	0.73	0.61
February	<0.05	289	336	0.13	0.75	0.59
March	<0.05	289	358	0.13	0.75	0.59
April	<0.05	310	416	0.15	0.71	0.72
May	<0.05	288	385	1.5	0.65	0.57
June	<0.05	291	382	7.5	0.68	0.51
July	<0.05	275	372	8.8	0.81	0.55
August	<0.05	271	373	9.2	0.66	0.58
September	0.25	283	381	6.96	0.68	0.56
October	0.25	274	355	9.27	0.71	0.51
November	0.15	304	462	8.9	0.68	0.58
December	0.33	265	456	2.85	0.71	0.49
Annual Average	0.16	285	388	4.7	0.70	0.57
Maximum	0.33	341	518	9.27	0.81	0.72
Minimum	<0.05	234	225	0.13	0.65	0.49

Limitations of Permit CA0053651

Maximum
7 Day Average
30 Day Average

Ventura Water Reclamation Facility
Annual Report 1999

Effluent Transfer Station

Month	Sodium mg/l	Calcium mg/l	Magnesium mg/l	Potassium mg/l
January	179	114	44.3	20.4
February	264	121	37.1	19.6
March	242	115	39.2	19.4
April	253	118	41.4	21.4
May	247	108	42.3	21.2
June	254	111	38.6	20.4
July	262	115	41.4	23.2
August	255	110	40.5	21.5
September	241	115	41.9	21.0
October	265	130	40.5	23.0
November	251	116	43.4	20.0
December	270	115	41.1	18.7
Annual Average	249	116	41.0	20.8
Maximum	270	130	44.3	23.2
Minimum	179	108	37.1	18.7

Limitations of Permit CA0053651

Maximum
7 Day Average
30 Day Average

Ventura Water Reclamation Facility
Annual Report 1999

Effluent Transfer Station

Month	0700 Bay 1 Chlorine Residual mg/l	1100 Bay 1 Chlorine Residual mg/l	2000 Bay 1 Chlorine Residual mg/l	1100 ETS Chlorine Residual mg/l
January	13.8	10.6	12.4	11.4
February	11.4	9.9	10.7	9.7
March	11.1	10.4	11.2	6.9
April	10.0	10.2	11.8	7.7
May	10.3	12.7	11.3	8.5
June	9.4	11.8	11.6	7.1
July	11.3	10.2	10.5	7.6
August	12.7	11.0	10.7	11.0
September	13.5	11.6	12.8	11.1
October	12.5	11.5	12.0	9.3
November	13.1	11.6	12.8	10.4
December	11.8	11.4	12.2	9.0
Annual Average	11.8	11.1	11.7	9.1
Maximum	64.0	32.1	33.3	54.0
Minimum	2.0	1.7	5.6	0.6

Limitations of Permit CA0053651

Maximum
7 Day Average
30 Day Average

Ventura Water Reclamation Facility
Annual Report 1999

Effluent Transfer Station

Month	Cyanide mg/l	Aluminum mg/l	Antimony mg/l	Arsenic mg/l	Barium mg/l	Beryllium mg/l	Cadmium mg/l	Chromium mg/l	Cobalt mg/l	Copper mg/l
January										<0.001
February	0.007	0.158	<0.001	<0.002	<0.096	<0.00008	<0.00059	<0.005	0.00631	0.010
February		0.160	<0.001	<0.002	0.033	<0.0002	<0.004	<0.007	<0.001	0.010
March										0.004
April										0.010
May	<0.004	0.079	0.00174	<0.002	<0.096	<0.00008	<0.00059	<0.005	0.0025	0.004
June										0.000
July										0.018
August	<0.004	0.079	<0.006	<0.002	<0.096	<0.00008	<0.00059	<0.005	0.00583	0.010
August		0.084	<0.001	<0.002	0.024	<0.0002	<0.0002	<0.007	<0.001	<0.006
September										<0.0025
October										0.019
November	0.009	0.066	<0.006	<0.002	<0.096	<0.00008	<0.00059	<0.005	0.0051	0.020
December										0.016
Annual Average	<0.004	0.037	<0.001		<0.065	<0.0004	<0.0002		0.00329	0.009
Maximum	0.009	0.16	0.00174		0.033				0.00631	0.020
Minimum	<0.004	<0.0372	<0.001		<0.030				<0.0007	<0.001
Limitations of Permit CA0053651										
Maximum	0.012			0.076			0.016			0.098
7 Day Average										
30 Day Average							0.050			

Ventura Water Reclamation Facility
Annual Report 1999

Effluent Transfer Station

Month	Iron mg/l	Manganese mg/l
January	<0.1	0.04
February	<0.1	0.08
March	<0.1	0.09
April	<0.1	0.08
May	<0.1	0.01
June	<0.1	<0.03
July	<0.1	0.08
August	<0.1	<0.03
September	0.01	0.14
October	0.02	0.15
November	<0.1	0.03
December	<0.1	<0.03
Annual Average	<0.1	0.06
Maximum	0.1	0.15
Minimum	<0.1	<0.03

Limitations of Permit CA0053651

Maximum
7 Day Average
30 Day Average

Ventura Water Reclamation Facility
Annual Report 1999

Effluent Transfer Station

	Chloroform mg/l	Carbon tetrachloride	Chlorobenzene	Dibromochloromethane	1,4-Dichlorobenzene
Month					
February	0.0118	<0.00012	<0.0002	0.0073	<0.0005
May	0.0196	<0.00100	<0.0001	<0.0009	<0.0005
August	0.1150	<0.00012	<0.0002	0.0095	<0.0010
November	0.1140	<0.00100	<0.0001	0.0149	<0.0010
Annual Average	0.0651	<0.00012	<0.0002	0.0079	<0.0005
Maximum	0.115			0.0149	
Minimum	0.0118			<0.0009	<0.0005

Limitations of Permit CA0053651

Maximum
7 Day Average
30 Day Average

	Pentachlorophenol mg/l	bis (2-Ethylhexyl)phthalate
Month		
February	<0.0036	0.0889
May	<0.0100	<0.0100
August	<0.0036	<0.0025
November	<0.0100	<0.0100
Annual Average	0	0.022225

Maximum

Minimum

Limitations of Permit CA0053651

Maximum	0.013	0.0059
7 Day Average		
30 Day Average	0.0079	

Ventura Water Reclamation Facility
Annual Report 1999

Solids Streams

Total Metal in mg/Kg Dry Weight

Dissolved Air Flotation System (Waste Activated Sludge)

Month	Cadmium mg/Kg	Chromium mg/Kg	Copper mg/Kg	Lead mg/Kg	Nickel mg/Kg	Silver mg/Kg	Zinc mg/Kg
February	2.7	10.9	700	29.3	14.6	1.3	354
May	1.7	10.1	2522	37.8	17.2	1.0	590
August	2.1	14.7	862	32.4	39.8	1.0	458
November	3.2	17.4	1000	26.2	26.6	1.1	611
Average	2.4	13.3	1270.8	31.4	24.5	1.1	503.3

Gravity Thickener (Primary Sludge)

Month	Cadmium mg/Kg	Chromium mg/Kg	Copper mg/Kg	Lead mg/Kg	Nickel mg/Kg	Silver mg/Kg	Zinc mg/Kg
February	2.1	12.3	341	22.4	13.2	1.1	401
May	2.1	14.9	383	26.9	13.2	2.1	397
August							
November	2.7	15.1	519	23.5	18.3	0.9	642
Average	2.3	14.1	414.3	24.3	14.9	1.3	480.0

Ventura Water Reclamation Facility Annual Report 1999

Solids Streams

Total Metal in mg/Kg Dry Weight

Filter Press Product (Dewatered Digested Sludge)

Date	Sample	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium
03-Feb-99	FILTER PRESS 1 RUN 1						4.5	30.8
03-Feb-99	FILTER PRESS 1 RUN 2						4.4	31.0
03-Feb-99	FILTER PRESS 2 RUN 1						4.7	31.5
03-Feb-99	FILTER PRESS 2 RUN 2						4.5	31.2
10-Feb-99	FILTER PRESS 1 RUN 1	9791	<2.6	<2.6	373	<2.6	<2.6	28.5
14-Apr-99	FILTER PRESS 2 RUN 1	10824	<2.9	<2.9	421	<2.9	<2.9	26.6
05-May-99	FILTER PRESS 1 RUN 1						4.3	30.3
05-May-99	FILTER PRESS 1 RUN 2						4.3	30.1
05-May-99	FILTER PRESS 2 RUN 1						4.5	30.0
05-May-99	FILTER PRESS 2 RUN 2						3.8	26.3
02-Jun-99	FILTER PRESS 1 RUN 1	12010	<2.5	<2.5	404	<2.5	<2.5	29.1
18-Aug-99	FILTER PRESS 1 RUN 1						4.3	25.6
18-Aug-99	FILTER PRESS 1 RUN 2						4.3	26.7
18-Aug-99	FILTER PRESS 2 RUN 1						4.3	25.6
18-Aug-99	FILTER PRESS 2 RUN 2						4.2	25.0
18-Aug-99	FILTER PRESS 1 RUN 1	9519	<2.6	<2.6	443	<2.6	<2.6	29.3
06-Oct-99	FILTER PRESS 2 RUN 1	11404	<2.2	<2.2	544	<2.2	<2.2	32.4
03-Nov-99	FILTER PRESS 2 RUN 1						4.5	26.6
03-Nov-99	FILTER PRESS 2 RUN 2						4.2	26.5
08-Dec-99	FILTER PRESS 1 RUN 1	26667	<2.1	<2.1	461	<2.1	<2.1	26.6
Average		13369	<2.8	<2.8	441	<2.8	3.0	28
Maximum		26667			544		5	32
Minimum		9519	<2.3	<2.3	373	1.8	<2.7	25

Ventura Water Reclamation Facility Annual Report 1999

Solids Streams

Total Metal in mg/Kg Dry Weight

Filter Press Product (Dewatered Digested Sludge)

Date	Sample	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium
03-Feb-99	FILTER PRESS 1 RUN 1		927	49.0			29.2	
03-Feb-99	FILTER PRESS 1 RUN 2		925	49.0			25.7	
03-Feb-99	FILTER PRESS 2 RUN 1		929	49.2			24.9	
03-Feb-99	FILTER PRESS 2 RUN 2		1152	61.5			21.2	
10-Feb-99	FILTER PRESS 1 RUN 1	7.3	890	26.1	3.1	12.9	34.7	12.3
14-Apr-99	FILTER PRESS 2 RUN 1	6.6	971	44.6	<1.2	15.0	38.0	14.4
05-May-99	FILTER PRESS 1 RUN 1		887	54.7			26.8	
05-May-99	FILTER PRESS 1 RUN 2		848	54.9			29.5	
05-May-99	FILTER PRESS 2 RUN 1		1075	62.6			30.3	
05-May-99	FILTER PRESS 2 RUN 2		788	53.3			26.6	
02-Jun-99	FILTER PRESS 1 RUN 1	7.2	879	26.3	<0.1	14.8	27.1	13.5
18-Aug-99	FILTER PRESS 1 RUN 1		953	56.2			40.5	
18-Aug-99	FILTER PRESS 1 RUN 2		962	56.0			40.8	
18-Aug-99	FILTER PRESS 2 RUN 1		976	55.8			40.7	
18-Aug-99	FILTER PRESS 2 RUN 2		950	55.7			40.3	
18-Aug-99	FILTER PRESS 2 RUN 1	12.3	866	26.8	3.2	6.1	41.2	17.6
								22.4
06-Oct-99	FILTER PRESS 1 RUN 1	21.9	1022	37.5	5.2	20.8	53.1	25.3
03-Nov-99	FILTER PRESS 2 RUN 1		971	47.9			39.5	
03-Nov-99	FILTER PRESS 2 RUN 2		935	47.4			36.8	
08-Dec-99	FILTER PRESS 1 RUN 1	14.9	860	29.8	1.2	18.2	28.7	18.3
Average		11.7	938.2	47.2	2.1	14.6	33.8	17.7
Maximum		21.9	1151.7	62.6	5.2	20.8	53.1	25.3
Minimum		6.6	788.0	26.1	<0.91	6.1	21.2	12.3

Ventura Water Reclamation Facility
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Solids Streams

Total Metal in mg/Kg Dry Weight

Filter Press Product (Dewatered Digested Sludge)

Date	Sample	Silver	Thallium	Tin	Vanadium	Zinc
03-Feb-99	FILTER PRESS 1 RUN 1	1.7				732
03-Feb-99	FILTER PRESS 1 RUN 2	1.9				739
03-Feb-99	FILTER PRESS 2 RUN 1	1.9				776
03-Feb-99	FILTER PRESS 2 RUN 2	1.6				774
10-Feb-99	FILTER PRESS 1 RUN 1	38.5	10.9	<26.2	5.8	770
14-Apr-99	FILTER PRESS 2 RUN 1	40.8	11.1	2.5	6.2	671
05-May-99	FILTER PRESS 1 RUN 1	2.1				679
05-May-99	FILTER PRESS 1 RUN 2	2.4				655
05-May-99	FILTER PRESS 2 RUN 1	2.1				663
05-May-99	FILTER PRESS 2 RUN 2	2.0				555
02-Jun-99	FILTER PRESS 1 RUN 1	33	12.3	<25.1	5.0	683
18-Aug-99	FILTER PRESS 1 RUN 1	2.4				874
18-Aug-99	FILTER PRESS 1 RUN 2	1.9				858
18-Aug-99	FILTER PRESS 2 RUN 1	2.0				589
18-Aug-99	FILTER PRESS 2 RUN 2	2.2				859
18-Aug-99	FILTER PRESS 2 RUN 1	38.4	13.7	31.7	6.4	733
06-Oct-99	FILTER PRESS 1 RUN 1	37.9	15.7	37.9	7.8	956
03-Nov-99	FILTER PRESS 2 RUN 1	1.2				955
03-Nov-99	FILTER PRESS 2 RUN 2	1.3				973
08-Dec-99	FILTER PRESS 1 RUN 1	36.9	8.3	32.7	5.5	844
Average		12.6	12.0	17.5	6.1	767
Maximum		40.8	15.7	37.9	7.8	973
Minimum		1.2	<2.7	<2.5	5.0	555

Ventura Water Reclamation Facility
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Solids Streams

Total Compound in mg/Kg Dry Weight

Filter Press Product (Dewatered Digested Sludge)

Date	Sample	Acetone	Chloromethane	1,4-Dichlorobenzene	Toluene
10-Feb-99	FILTER PRESS 1 RUN 1	<1.3	<1.3	<0.26	<0.26
14-Apr-99	FILTER PRESS 2 RUN 1				
18-Aug-99	FILTER PRESS 1 RUN 1	<2.6	<2.6	<0.05	<0.05
06-Oct-99	FILTER PRESS 1 RUN 1				

Date	Sample	Xylenes	Bis (2-Ethylhexyl)phthalate	TOX
10-Feb-99	FILTER PRESS 1 RUN 1	<0.52	38884.8	<26
14-Apr-99	FILTER PRESS 2 RUN 1			<29
02-Jun-99	FILTER PRESS 1 RUN 1	0.19	<1.76	105.5
18-Aug-99	FILTER PRESS 2 RUN 1			40.1
06-Oct-99	FILTER PRESS 2 RUN 1			87.7
08-Dec-99	FILTER PRESS 1 RUN 1			<18

Significant Discharge Compliance Summary 1999

Electroplating/Metal Finishing Categorical Industries
40 CFR Part 413/433

Discharger:

ID	Facility Name	Activity	SMP	City Quarterly				Enforcement							
				Compliance	Status	1	2	3	4	Notice	Viol	Time	Admin	Civil	
6	VALLEY PLATING	Scheduled Inspections		0											
	Electroplating	Inspections		0											
	223 S. Laurel St 93001	Scheduled Samples			1	2	3	4	Notice	Notice	Sched	Order	Action	Other	
	* Facility closed July, 98	Samples			*	*	*	*	None	None	None	None	None	None	None
32	GENERAL MAGNAPLATE	Scheduled Inspections		1											
	Metal Finishing	Inspections		3											
	2707 Palma Dr 93003	Scheduled Samples	16	16	1	2	3	4	Notice	Notice	Sched	Order	Action	Other	
		Samples	16	16	CC	CC	CC	CC	None	None	None	None	None	None	None
16	VALEX CORPORATION	Scheduled Inspections		1											
	Metal Finishing	Inspections		2											
	6080 Lelend 93003	Scheduled Samples	16	16	1	2	3	4	Notice	Notice	Sched	Order	Action	Other	
		Samples	16	17	CC	IL	CC	CC	0		1	None	None	None	None
12	Bell Powder Coating	Scheduled Inspections		1											
	2897 S. Pama Dr.	Inspections		6											
	Ventura, CA 93003	Scheduled Samples	16	16	1	2	3	4	Notice	Notice	Sched	Order	Action	Other	
		Samples	16	15	CC	IF	CC	CC	1	None	None	None	None	None	None
12	CFC Applied Holographics	Scheduled Inspections		1											
	Metal Finishing	Inspections		2											
	2001 Palma Drive	Scheduled Samples	0	0	1	2	3	4	Notice	Notice	Sched	Order	Action	Other	
	Ventura, CA 93003	Samples	0	0			CC	CC	None	None	None	None	None	None	None

* New facility, Categorical Operations not on line; BMR on file.

34 MC GRATH STATE BEACH	Scheduled Inspections	SMP	City	Quarterly					Enforcement					
Contract Service Area	Inspections			0 Compliance					Actions					
	Scheduled Samples	0	0	1	2	3	4	Warn	Viol	Time	Admin	Civil		
	Samples	0	0	CC	CC	CC	CC	None	None	None	None	None	None	None

40 EDDIE'S CHEVRON SERVICE	Scheduled Inspections	SMP	CITY	Quarterly					Enforcement					
7700 Telegraph Rd.	Inspections			2 Compliance					Actions					
Ventura, CA 93004	Scheduled Samples	18	16	1	2	3	4	Warn	Viol	Time	Admin	Civil		
	Samples	18	21	CC	IL	CC	CC	1	1	None	None	None	None	None

45 HOLGUIN, FAHAN and ASSOC	Scheduled Inspections	SMP	City	Quarterly					Enforcement					
2501 Eastmen Street	Inspections			1 Compliance					Actions					
Ventura, CA 93003	Scheduled Samples	16	8	1	2	3	4	Warn	Viol	Time	Admin	Civil		
Ground Water Test Laboratory	Samples	16	8	CC	IL	IL	CC	3	3	None	None	None	None	None

46 Gold Coast Recycling Center	Scheduled Inspections			1 Quarterly					Enforcement					
2501 Eastmen Street	Inspections			9 Compliance					Actions					
Ventura, CA 93003	Scheduled Samples	12	8	1	2	3	4	Warn	Viol	Time	Admin	Civil		
	Samples	12	8	IL	IL	IL	CC	4	5	None	None	None	None	None

47 James Springer Trustee	Scheduled Inspections			1 Quarterly					Enforcement						
4476 DuPont Court	Inspections			1 Compliance					Actions						
(Kalgard Facility)	Scheduled Samples	1	0	Status					Warn	Viol	Time	Admin	Civil		
Ground Water Remediation	Samples	1	0	1	2	3	4	Notice	Notice	Sched	Order	Action	Other		
				IL	IL	CC	CC	2	1	None	None	None	None	None	