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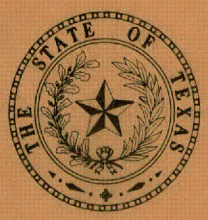

Report 144

CHEMICAL AND PHYSICAL CHARACTERISTICS OF WATER IN ESTUARIES OF TEXAS OCTOBER 1968-SEPTEMBER 1969

April 1972

TEXAS WATER DEVELOPMENT BOARD

REPORT 144

CHEMICAL AND PHYSICAL CHARACTERISTICS OF WATER IN ESTUARIES OF TEXAS OCTOBER 1968-SEPTEMBER 1969

D. C. Hahl and Karl W. Ratzlaff
United States Geological Survey

This report was prepared by the U.S. Geological Survey under cooperative agreement with the Texas Water Development Board.

April 1972

TEXAS WATER DEVELOPMENT BOARD

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CHEMICAL AND PHYSICAL CHARACTERISTICS OF WATER IN ESTUARIES OF TEXAS OCTOBER 1968-SEPTEMBER 1969

By

D. C. Hahl and Karl W. Ratzlaff
United States Geological Survey

INTRODUCTION

Purpose and Scope of the Investigation

Plans for the development and utilization of the water resources of Texas include provisions for the continued use and management of water in the estuaries of the State. This requires a continuing evaluation of the chemical and physical characteristics of estuarine waters.

In September 1967, the U.S. Geological Survey, in cooperation with the Texas Water Development Board, began a water-resources investigation of the principal estuaries along the Texas coast (Figure 1) except Galveston Bay, which is being studied by other agencies, and the Rio Grande, which is under the jurisdiction of the International Boundary and Water Commission.

The objectives of the investigation are to define: (1) the occurrence, source, and distribution of nutrients; (2) current patterns and directions and rates of movement; (3) physical, organic, and inorganic water quality and its areal distribution and time variation; (4) occurrence, quality, quantity, and dispersion of drainage entering the estuarine systems; and (5) chemical and physical characteristics of water which enters the estuaries from the Gulf of Mexico.

The method of acquiring and maintaining a knowledge of the chemical and physical characteristics of each estuarine system and of the relationship between the systems consists of three phases: (1) reconnaissance for establishment of an optimum data-collection network; (2) repetitive surveys throughout this network to determine the general chemical and physical characteristics of the estuarine systems; and (3) continued data collection at a reduced number of sites to maintain definition of the chemical and physical characteristics.

The coastal waters of Texas are not classical estuaries, but are similar to them in ecosystems and mixing phenomena. A description of various types of estuaries is presented in *Estuaries*, edited by George H. Lauff (1967, p. 3-11). In this report, the term estuary refers to concomitant water bodies in which overland runoff mixes with sea water.

Status of the Project

The three phases of the project for each of the estuaries are in various stages of completion. The following tabulation shows by estuary the progress made through September 1969:

ESTUARY	PHASE (1)	(2)	(3)
Sabine-Neches	Completed	Underway	No surveys
Brazos	No surveys	No surveys	Do.
East Matagorda	Underway	do.	Do.
Colorado	Completed	Underway	Do.
Lavaca-Tres Palacios	do.	do.	Do.
Guadalupe	do.	do.	Do.
Mission-Aransas	Underway	No survey	Do.
Nueces	Completed	Beginning	Do.
Laguna Madre	Underway	No survey	Do.

Previous and Related Reports

This report is the second in an annual series of basic-data reports. Hahl and Ratzlaff (1970), in the first report of the series, presented data collected before

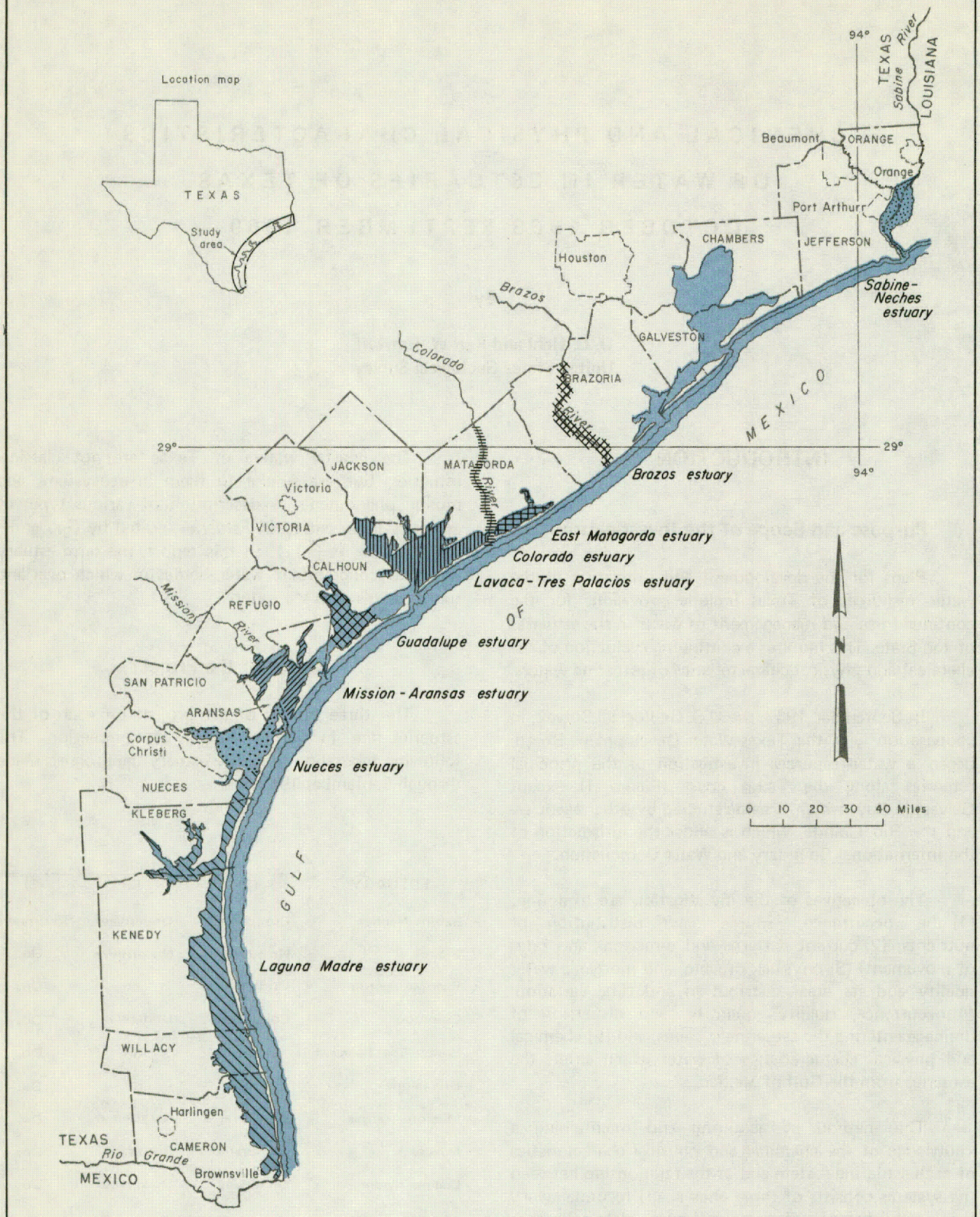


Figure 1

Locations of the Estuaries

Base from Official State Highway Map of Texas, 1971

October 1, 1968. Data collected during flooding caused by Hurricane Beulah have been published by the Texas Water Development Board (Grozier and others, 1968, p. 47-61). Interpretive reports will be published after sufficient data become available to establish the characteristics of an estuary.

Acknowledgements

Personnel of the U.S. Coast Guard at Sabine Pass, the U.S. Army Corps of Engineers at Galveston, the Texas Parks and Wildlife Department at Seadrift, and the Texas Water Development Board provided data and field assistance. Many private citizens and commercial fishermen furnished information on historical changes and existing conditions in the bays.

DATA-COLLECTION METHODS

A modified statistical grid was used to select initial data-collection sites. In areas where the sites were inadequate to provide a detailed record of significant changes in chemical and physical characteristics of the estuarine systems, the data-collection network was expanded. About 53 percent of the data-collection sites are located by navigation aids, bridge piers, power poles, survey platforms or well structures. These sites can be reoccupied exactly. About 32 percent of the sites are identified by shore features or reef structures and located by distance from the feature, compass heading, and water depth. These sites can be reoccupied within 100 feet. About 15 percent of the sites are remote to any reference. These sites are aligned with landmarks and other known reference points and located by compass heading and measured speed. These sites can be reoccupied within a quarter of a mile.

At each data-collection site, field data were collected from several points along a vertical. The sampler intake was lowered to the desired depth. Water was pumped through a manifold containing the probes of several instruments and then discharged over the side of the boat. Samples were collected and specific conductance was measured at the discharge point. Samples for laboratory analyses were collected at predetermined sites and at other sites where significant changes in field data were noted.

Properties or constituents measured in the field are dissolved oxygen, specific conductance, temperature, pH, and turbidity. Laboratory analyses include the principal inorganic ions, biochemical oxygen demand (BOD), chemical oxygen demand (COD), insecticides and herbicides, ammonia nitrogen, nitrite nitrogen, nitrate nitrogen, ortho and total phosphate as phosphorus, and several other selected ions such as bromide, iodide, strontium, lithium, boron, and iron. Work has begun on determination of chlorophyll and suspended sediment.

Before October 1968, results of analyses for nitrogen species were reported as ammonia, nitrite, or nitrate; those for phosphorus were reported as phosphate. In this report, each of the nitrogen species are reported as nitrogen; and phosphorus species are reported as phosphorus. Similar data reported before October 1968 may be converted to nitrogen or phosphorus by multiplying the concentrations by the following factors:

TO CONVERT	TO	MULTIPLY BY
Ammonia (NH_4)	Nitrogen (N)	0.777
Nitrite (NO_2)	Nitrogen (N)	.305
Nitrate (NO_3)	Nitrogen (N)	.226
Phosphate (PO_4)	Phosphorus (P)	.326

Field Instruments

The field instruments used in this investigation are as follows, but mention herein of the manufacturers and their instruments does not constitute an endorsement of the project:

PARAMETER MEASURED	INSTRUMENT	MODEL	MANUFACTURER
pH	Specific ion meter	401	Orion Research
Dissolved oxygen	Oxygen meter	54	Yellow Springs Instruments
Specific conductance	Solubridge	RB-3	Industrial Instruments
Temperature	Research thermometer	ET-100 Marine	Applied Research

The specific ion meter used for pH measurements was calibrated daily by using three standards: pH 4.0, 7.0, and 10.0. The dissolved-oxygen meter was calibrated at least daily by using the oxygen-saturation data in "Standard Methods for the Examination of Water and Waste Water," twelfth edition, (American Public Health Association and others, 1966; p. 409). The Winkler method was used to verify the oxygen saturation during some of the calibrations. The conductivity meter was calibrated monthly by using at least two standards in each of the three conductivity ranges on the instrument. The electrical thermometer was calibrated weekly.

Several tests were conducted to determine the effect of streaming potential on instrument output. Dissolved oxygen readings of water passing through the mainfold deviated from in situ readings by less than 0.1 mg/l (milligrams per liter), and pH readings differed by less than 0.05 pH units.

Treatment of Samples

All samples except those for insecticide and herbicide analyses were collected in plastic throwaway bottles. The BOD, COD, and nutrient samples were chilled to about 1°C stored in a refrigerator or ice chest, and shipped to the laboratory as soon as possible, usually within 24 hours. All other samples were stored at ambient temperature.

Five milliliters of chloroform were added to each sample collected for nutrient analysis. Samples for heavy metals and selected trace constituents (except boron, bromode, flouride, and iodide) were filtered through 0.45-micron membrane filters and collected in bottles prewashed with 10 percent nitric acid. Two milliliters of concentrated nitric acid were added to each filtered sample.

Depth-integrated water samples and bottom-sediment samples to be analyzed for insecticides and herbicides were collected in specially treated glass bottles and shipped to the laboratory as soon as possible. Sediment samples were collected by dragging a large-mouth bottle along the bottom until at least 100 grams of sediment were collected.

QUALITY OF WATER IN THE ESTUARIES

Sabine-Neches Estuary

The Sabine-Neches estuary covers an area of about 100 square miles and consists of the tidal parts of the Sabine and Neches Rivers and other tributaries, Sabine Lake, the Sabine-Neches Canal, the Port Arthur Canal, parts of the Intracoastal Waterway, and Sabine Pass (Figure 2). Water depth at mlw (mean low water) is greater than 40 feet in dredged parts of the rivers, canals, and pass; about 15 feet in the Intracoastal Waterway; and generally 10 feet or less in Sabine Lake.

Most of the water-quality data for the Sabine-Neches estuary (Table 1) were collected during February and July in conjunction with special-purpose sampling. Samples were not collected at all sites shown on Figure 2.

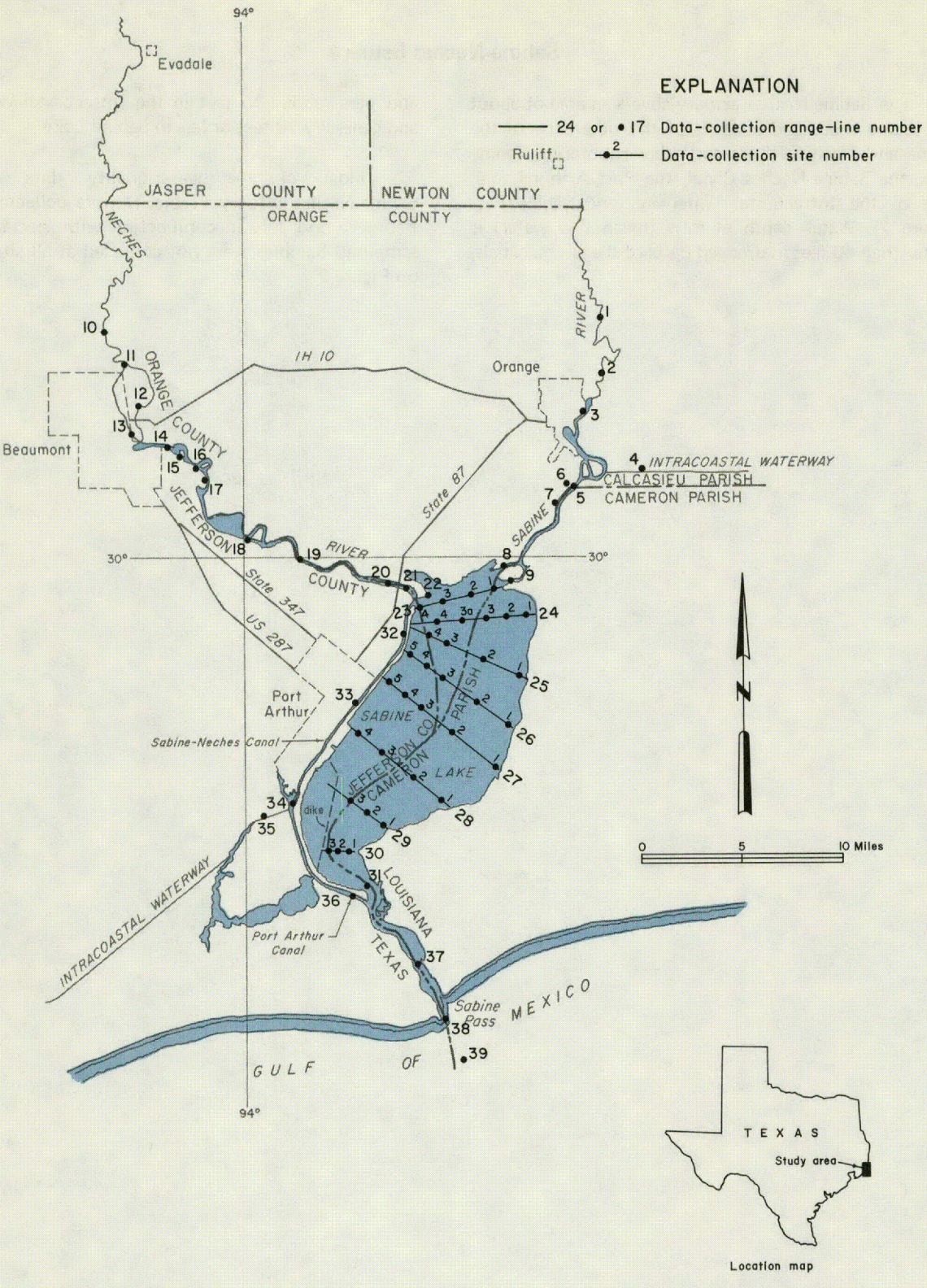


Figure 2

Data-Collection Sites in the Sabine-Neches Estuary

Base by US Geological Survey, 1956

Table 1A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE SABINE-NECHES ESTUARY, 1969 WATER YEAR

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
							Line 8. Sabine River										
July 9	1510	2	1	2,800	8.2	33.1	71	7.8	108	2.7	18	4.8	0.3	QN	QN	0.03	0.07
			3	3,000	7.7	32.3		7.0	97	--	--	--	--	--	--	--	--
			5	3,000	7.5	31.7		5.5	75	--	--	--	--	--	--	--	--
			8	5,000	7.6	31.8		5.5	75	--	--	--	--	--	--	--	--
			10	7,400	7.7	31.9		4.4	61	--	--	--	--	--	--	--	--
			15	10,000	7.7	32.3		2.9	40	--	--	--	--	--	--	--	--
			20	15,000	7.8	32.2		2.1	30	--	--	--	--	--	--	--	--
			30	17,000	7.8	32.0		1.4	20	--	--	--	--	--	--	--	--
			34	17,000	7.7	32.1		1.4	20	1.4	--	3.6	.1	QN	0.68	.02	.06
							Line 10. Neches River										
Feb. 27	1135	2	1	150	6.4	15.2	--	8.4	82	2.0	--	6.0	.1	QN	QN	--	.03
							Line 15. Neches River										
Feb. 26	1040	1	1	150	6.3	14.6	33	8.6	83	--	--	--	--	--	--	--	--
			5	160	6.5	15.1		8.0	78	--	--	--	--	--	--	--	--
Do.	1045	2	1	120	6.2	14.3	35	9.2	88	--	--	--	--	--	--	--	--
			5	150	6.2	14.3		9.2	88	--	--	--	--	--	--	--	--
			10	160	6.2	14.2		9.0	87	--	--	--	--	--	--	--	--
			20	160	6.2	14.2		8.8	85	--	--	--	--	--	--	--	--
			36.5	160	6.4	14.2		8.0	77	--	--	--	--	--	--	--	--
Do.	1102	3	1	150	6.2	14.6	33	8.7	84	--	--	--	--	--	--	--	--
			5	160	6.2	14.8		8.6	84	--	--	--	--	--	--	--	--
Feb. 27	1315	2	1	150	6.5	14.7	--	8.0	78	2.1	1.2	5.4	.2	QN	QN	--	.08
			10	150	6.3	14.7		7.8	76	--	--	--	--	--	--	--	--
			20	160	6.2	14.6		7.8	76	2.2	--	5.8	.1	QN	QN	--	.07
			36.5	160	6.1	14.5		7.8	76	2.5	56	5.8	.2	QN	QN	--	.03
							Line 17. Neches River										
Feb. 26	0955	1	1	190	6.0	14.5	30	8.4	82	--	--	--	--	--	--	--	--
			5	270	6.2	14.7		8.1	79	--	--	--	--	--	--	--	--
Do.	1005	2	1	150	6.2	14.3	35	9.0	87	--	--	--	--	--	--	--	--
			5	180	6.2	14.3		8.9	86	--	--	--	--	--	--	--	--
			10	160	6.1	14.2		8.8	85	--	--	--	--	--	--	--	--
			20	200	6.1	14.1		8.6	83	--	--	--	--	--	--	--	--
			41.5	200	6.2	14.2		7.8	75	--	--	--	--	--	--	--	--
Do.	1020	3	1	210	6.6	14.7	--	8.6	83	--	--	--	--	--	--	--	--
			5	180	6.5	14.6		8.6	83	--	--	--	--	--	--	--	--
Feb. 27	1330	2	1	160	6.5	15.1	--	7.8	76	3.9	--	5.6	.1	QN	QN	--	.07
			10	150	6.4	14.8		7.9	77	--	--	--	--	--	--	--	--
			20	150	6.3	14.6		7.8	76	2.4	--	5.6	.3	QN	QN	--	.08
			41.5	150	6.2	14.7		7.8	76	2.3	--	5.6	.1	QN	QN	--	.07
							Line 19. Neches River										
Feb. 27	1445	2	1	280	6.3	15.2	--	7.8	76	--	--	--	--	--	--	--	--
			10	310	6.3	15.2		7.8	76	--	--	--	--	--	--	--	--
			20	310	6.3	15.3		7.6	74	--	--	--	--	--	--	--	--
			36.5	310	6.3	15.6		7.2	71	--	--	--	--	--	--	--	--
							Line 21. Neches River										
Feb. 27	1600	2	1	550	6.5	15.7	--	7.6	75	2.6	18	5.2	.1	QN	QN	--	.09
			10	550	6.5	15.7		7.6	75	--	--	--	--	--	--	--	--
			20	520	6.6	15.6		7.4	73	2.4	--	5.4	.2	QN	QN	--	.06
			41.5	490	7.0	15.8		7.0	70	2.2	38	5.5	.1	QN	QN	--	.08
July 9	1430	2	1	5,400	8.6	35.6	--	4.2	61	5.6	35	6.1	.2	QN	.07	.02	.05
			2	5,500	8.5	35.5		4.4	64	--	--	--	--	--	--	--	--
			3	5,500	8.5	35.4		4.6	67	--	--	--	--	--	--	--	--
			5	5,900	8.0	33.8		3.0	43	--	--	--	--	--	--	--	--
			10	10,000	7.8	32.8		1.9	27	--	--	--	--	--	--	--	--
			15	16,000	7.9	32.3		1.7	24	--	--	--	--	--	--	--	--
			20	18,000	7.9	32.0		1.6	23	--	--	--	--	--	--	--	--
			30	23,000	7.9	31.7		.9	13	--	--	--	--	--	--	--	--
			35	23,000	7.9	31.7		1.0	15	--	--	--	--	--	--	--	--
			40	23,000	7.8	31.7		1.0	15	--	--	--	--	--	--	--	--
			44	22,000	7.9	31.7		.9	13	1.6	--	3.2	.0	QN	.23	.02	.06

See footnotes at end of table.

Table 1A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE SABINE-NECHES ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
							Line 23. Sabine Lake										
Feb. 25	1645	4	1	2,100	6.7	13.8	25	9.1	88	--	--	--	--	--	--	--	--
			3	2,100	6.7	14.0		9.1	88	--	--	--	--	--	--	--	--
Feb. 26	1450	1	1	1,200	6.6	15.7	30	9.1	90	--	--	--	--	--	--	--	--
			4	1,200	6.6	15.7		8.8	87	--	--	--	--	--	--	--	--
Do.	1415	3	1	240	6.3	14.6	30	8.9	86	--	--	--	--	--	--	--	--
			4	260	6.3	14.6		8.9	86	--	--	--	--	--	--	--	--
Do.	1400	4	1	710	6.8	14.7	36	8.0	78	--	--	--	--	--	--	--	--
			2	710	7.3	14.9		7.8	76	--	--	--	--	--	--	--	--
Feb. 27	1630	4	1	400	6.5	14.7	--	7.6	74	2.6	--	5.4	0.2	QN	QN	--	0.09
			4	440	6.5	14.8		7.6	74	2.2	--	5.6	.2	QN	QN	--	.05
							Line 24. Sabine Lake										
Feb. 26	1515	1	1	4,000	7.1	16.6	50	9.9	101	--	--	--	--	--	--	--	--
			5	3,400	7.0	16.8		9.8	100	--	--	--	--	--	--	--	--
Do.	1525	2	1	700	6.9	16.0	41	9.9	99	--	--	--	--	--	--	--	--
			5	2,800	7.0	15.9		9.7	97	--	--	--	--	--	--	--	--
Do.	1540	3	1	280	6.5	14.7	30	9.2	89	--	--	--	--	--	--	--	--
			5	330	6.5	14.7		9.3	90	--	--	--	--	--	--	--	--
Do.	1555	4	1	790	6.6	15.5	30	8.4	83	--	--	--	--	--	--	--	--
			4	790	6.6	15.5		8.4	83	--	--	--	--	--	--	--	--
July 9	1610	1	1	2,800	9.0	34.7	51	9.8	140	--	--	--	--	--	--	--	--
			2	2,800	9.0	34.8		10.1	144	--	--	--	--	--	--	--	--
			3	2,800	9.0	34.7		10.1	144	--	--	--	--	--	--	--	--
			4	3,000	7.6	32.4		5.9	81	--	--	--	--	--	--	--	--
Do.	1620	2	1	3,600	8.8	33.7	56	11.2	158	2.5	19	4.5	.2	QN	QN	0.03	.06
			3	3,400	8.4	32.7		10.4	144	--	--	--	--	--	--	--	--
			5	3,600	7.4	31.3		7.7	104	--	--	--	--	--	--	--	--
			7	3,800	7.3	31.4		6.6	89	--	--	--	--	--	--	--	--
Do.	1630	3	1	4,600	7.9	34.1	58	9.7	137	--	--	--	--	--	--	--	--
			3	4,600	7.6	33.2		9.0	125	--	--	--	--	--	--	--	--
			5	5,100	7.3	31.9		6.4	88	--	--	--	--	--	--	--	--
			7	5,200	7.3	31.9		5.4	74	--	--	--	--	--	--	--	--
Do.	1645	3a	1	4,900	7.6	34.2	104	6.6	93	1.6	20	4.3	.2	QN	QN	.01	.04
			3	4,700	7.7	33.9		6.5	92	--	--	--	--	--	--	--	--
			5	5,300	7.4	32.4		4.8	66	--	--	--	--	--	--	--	--
			6.5	5,300	7.4	32.3		6.3	86	1.1	--	4.8	.2	QN	QN	.03	.06
Do.	1720	4	1	7,500	8.4	34.7	--	6.1	88	--	--	--	--	--	--	--	--
			3	7,500	8.4	34.3		6.0	86	--	--	--	--	--	--	--	--
			6	8,700	8.0	33.2		4.6	65	--	--	--	--	--	--	--	--
Do.	1735	5	1	8,900	8.6	35.0	--	6.9	100	2.7	24	4.8	.2	QN	0.09	.03	.06
			3	9,000	8.6	34.9		6.8	99	--	--	--	--	--	--	--	--
							Line 25. Sabine Lake										
Feb. 26	1610	4	1	690	6.6	14.4	--	8.2	80	--	--	--	--	--	--	--	--
			4	710	6.7	14.6		8.2	80	--	--	--	--	--	--	--	--
							Line 30. Sabine Lake										
July 9	1840	2	1	8,600	8.3	32.3	--	8.0	111	1.2	--	4.7	.2	QN	QN	.01	.04
			3	8,600	8.3	32.3		8.0	111	--	--	--	--	--	--	--	--
			6.5	8,600	8.3	32.3		7.8	108	1.1	--	4.8	.2	QN	QN	.01	.04
							Line 31. Sabine Lake										
Feb. 25	1045	2	1	9,400	7.1	13.7	53	9.5	90	3.5	--	5.5	.2	QN	QN	--	.04
			5	10,000	7.1	13.6		9.7	92	--	--	--	--	--	--	--	--
			10	10,000	7.3	13.6		10.1	96	2.5	--	5.2	.2	QN	QN	--	.05
			20	12,000	7.4	13.6		10.5	100	--	--	--	--	--	--	--	--
			26.5	12,000	7.4	13.8		10.4	100	1.8	--	5.3	.2	QN	QN	--	.04
Feb. 26	1150	1	1	6,700	7.1	15.5	39	7.7	78	--	--	--	--	--	--	--	--
Do.	1135	2	1	6,300	7.0	15	--	6.7	67	--	--	--	--	--	--	--	--
			5	6,900	7.0	15		7.3	73	--	--	--	--	--	--	--	--
			20	11,000	7.6	15		9.8	99	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table 1A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE SABINE-NECHES ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 31. Sabine Lake (continued)																	
Feb. 26	1205	3	1	9,500	7.2	15	46	7.9	80	--	--	--	--	--	--	--	--
			5	10,000	7.2	15		7.5	76	--	--	--	--	--	--	--	--
Do.	1515	1	1	10,000	7.4	16.0	43	8.9	92	--	--	--	--	--	--	--	--
Do.	1520	2	1	10,000	7.4	15.5	33	8.4	86	--	--	--	--	--	--	--	--
			5	12,000	7.5	15.5		8.4	87	--	--	--	--	--	--	--	--
			20	16,000	7.7	15.4		8.2	85	--	--	--	--	--	--	--	--
			30	17,000	7.7	15.2		8.2	85	--	--	--	--	--	--	--	--
Do.	1530	3	1	10,000	7.4	15.5	39	7.8	80	--	--	--	--	--	--	--	--
			5	12,000	7.4	15.4		7.7	79	--	--	--	--	--	--	--	--
Line 32. Sabine-Neches Canal																	
Feb. 25	1630	2	1	2,200	6.7	14.0	25	9.4	90	2.3	--	5.7	0.2	QN	QN	--	0.05
			10	2,200	6.8	13.7		9.1	86	2.4	--	5.8	.2	QN	QN	--	.07
			20	2,200	6.8	13.7		9.1	86	--	--	--	--	--	--	--	--
			31.5	2,200	6.8	14.0		9.1	87	2.3	--	5.8	.2	QN	QN	--	.08
Line 33. Sabine-Neches Canal																	
Feb. 25	1550	2	1	2,700	6.8	14.0	25	9.3	89	--	--	--	--	--	--	--	--
			10	2,800	6.8	13.8		9.1	88	--	--	--	--	--	--	--	--
			20	3,000	6.9	13.6		8.9	85	--	--	--	--	--	--	--	--
			36.5	9,500	7.1	13.6		8.3	79	--	--	--	--	--	--	--	--
Line 34. Sabine-Neches Canal																	
Feb. 25	1515	2	1	4,000	6.9	14.3	28	8.6	83	2.7	--	5.4	.2	QN	QN	--	.05
			10	5,000	6.9	13.9		8.7	84	--	--	--	--	--	--	--	--
			20	8,000	7.0	13.7		8.4	80	2.5	--	5.4	.2	QN	QN	--	.06
			31.5	17,000	7.1	14.1		7.8	75	2.2	--	4.5	.1	QN	QN	--	.04
Line 35. Intracoastal Waterway																	
Feb. 25	1500	2	1	440	6.3	16.1	18	6.4	64	--	--	--	--	--	--	--	--
			15	490	6.7	16.5		6.5	66	--	--	--	--	--	--	--	--
Line 36. Port Arthur Canal																	
Feb. 25	1320	2	1	5,000	7.1	14.6	25	9.3	90	2.1	--	5.2	.2	QN	QN	--	.07
			5	6,000	7.0	14.2		8.8	85	--	--	--	--	--	--	--	--
			10	14,000	7.3	14.1		9.6	92	--	--	--	--	--	--	--	--
			20	21,000	7.7	13.9		9.9	95	2.6	--	4.2	.2	QN	QN	--	.06
			40	27,000	7.9	14.1		9.1	88	2.6	--	4.0	.0	QN	QN	--	.05
Feb. 26	1110	2	1	4,900	6.9	15	25	6.8	67	--	--	--	--	--	--	--	--
			5	5,000	6.9	15		6.5	64	--	--	--	--	--	--	--	--
Do.	1545	2	1	5,200	7.0	15.1	24	6.6	66	--	--	--	--	--	--	--	--
			5	5,300	7.0	15.1		6.8	68	--	--	--	--	--	--	--	--
July 9	1715	2	1	20,000	8.4	32.2	--	4.7	68	4.3	--	3.6	.1	QN	0.07	0.07	.16
			5	23,000	8.1	31.9		2.5	37	--	--	--	--	--	--	--	--
			10	24,000	8.1	31.5		1.9	28	--	--	--	--	--	--	--	--
			20	28,000	8.3	31.1		1.9	28	--	--	--	--	--	--	--	--
			32.5	34,000	8.4	30.8		1.8	27	.9	--	1.4	.1	QN	.11	.03	.05
Line 37. Sabine Pass																	
Feb. 25	1245	2	1	12,000	7.6	14.6	76	10.9	106	2.2	--	5.4	.2	QN	QN	--	.05
			10	12,000	7.6	14.1		10.6	102	--	--	--	--	--	--	--	--
			20	19,000	7.9	14.0		10.5	101	1.6	--	4.4	.2	QN	QN	--	.04
			30	24,000	8.0	14.0		10.2	98	--	--	--	--	--	--	--	--
			50	40,000	8.1	14.2		9.0	87	1.8	--	2.1	.1	QN	QN	--	.04
Feb. 26	1045	1	1	9,800	7.3	15	46	8.2	83	1.8	--	5.6	--	--	--	--	--
			5	9,800	7.3	15		8.2	83	2.8	--	--	--	--	--	--	--
Do.	1325	1	1	10,000	7.4	16.0	43	8.0	82	--	--	--	--	--	--	--	--
			5	11,000	7.4	16.0		8.0	82	--	--	--	--	--	--	--	--
Do.	1350	1	1	11,000	7.4	16.0	36	8.1	84	--	--	--	--	--	--	--	--
			5	11,000	7.4	16.0		8.1	84	--	--	--	--	--	--	--	--
Do.	1445	1	1	13,000	7.6	16.1	46	8.5	89	--	--	--	--	--	--	--	--
			5	15,000	7.7	16.1		8.4	88	--	--	--	--	--	--	--	--
Do.	--	1	1	18,000	7.8	16.0	48	8.6	91	--	--	--	--	--	--	--	--
			5	20,000	8.0	15.8		9.3	100	--	--	--	--	--	--	--	--

See footnotes at end of table.

TABLE 1A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE SABINE-NECHES ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C)	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
							Line 37. Sabine Pass (continued)										
Feb. 26	1035	2	1	9,400	7.3	15.0	46	8.0	81	--	--	--	--	--	--	--	--
			5	9,500	7.3	15.0		8.0	81	--	--	--	--	--	--	--	--
Do.	1330	2	1	10,000	7.4	16.0	48	8.0	82	--	--	--	--	--	--	--	--
			5	12,000	7.5	16.0		7.7	80	--	--	--	--	--	--	--	--
Do.	1015	3	1	8,900	7.2	15	41	7.8	79	1.8	--	--	--	--	--	--	--
			5	9,000	7.2	15		7.8	79	1.9	--	--	--	--	--	--	--
			20	10,000	7.4	15		8.6	87	--	--	--	--	--	--	--	--
			43	14,000	7.6	15		8.6	88	2.2	--	--	--	--	--	--	--
Do.	1335	3	1	10,000	7.4	16.0	43	8.0	82	--	--	--	--	--	--	--	--
			5	11,000	7.4	16.0		8.0	82	--	--	--	--	--	--	--	--
Do.	1355	3	1	12,000	7.6	16.0	43	7.9	82	--	--	--	--	--	--	--	--
			5	14,000	7.7	16.0		8.0	83	--	--	--	--	--	--	--	--
			20	32,000	8.1	15.8		7.9	89	--	--	--	--	--	--	--	--
			44	39,000	8.1	15.8		7.9	92	--	--	--	--	--	--	--	--
Do.	1450	3	1	14,000	7.7	16.1	51	8.3	86	--	--	--	--	--	--	--	--
			5	14,000	7.8	16.0		8.5	89	--	--	--	--	--	--	--	--
			20	37,000	8.1	15.8		8.0	92	--	--	--	--	--	--	--	--
			44	39,000	8.1	15.6		8.0	93	--	--	--	--	--	--	--	--
Do.	1615	3	1	13,000	7.7	15.9	48	8.5	89	1.9	--	--	--	--	--	--	--
			5	25,000	8.0	15.3		8.2	88	1.6	--	--	--	--	--	--	--
			20	37,000	8.1	15.2		8.6	98	--	--	--	--	--	--	--	--
			44	41,000	8.1	15.1		8.9	103	--	--	--	--	--	--	--	--
Do.	0950	4	1	7,000	7.1	15	36	8.1	81	--	--	--	--	--	--	--	--
			5	7,000	7.1	15		8.3	83	--	--	--	--	--	--	--	--
Do.	1320	4	1	10,000	7.3	16.1	43	8.0	82	--	--	--	--	--	--	--	--
			5	10,000	7.3	16.0		8.1	84	--	--	--	--	--	--	--	--
Do.	1005	5	1	7,000	7.1	15	36	8.0	80	3.0	--	--	--	--	--	--	--
			4	7,000	7.1	15		8.0	80	2.3	--	--	--	--	--	--	--
Do.	1315	5	1	10,000	7.3	16.1	34	8.1	84	--	--	--	--	--	--	--	--
			5	10,000	7.3	16.2		8.3	86	--	--	--	--	--	--	--	--
Do.	1410	5	1	12,000	7.6	16.1	43	7.7	80	--	--	--	--	--	--	--	--
			5	12,000	7.6	16.1		7.7	80	--	--	--	--	--	--	--	--
Do.	1455	5	1	11,000	7.5	16.0	46	8.3	86	--	--	--	--	--	--	--	--
			5	12,000	7.6	16.0		8.2	85	--	--	--	--	--	--	--	--
Do.	--	5	1	15,000	7.7	15.8	41	8.2	86	--	--	--	--	--	--	--	--
			5	18,000	7.8	15.5		8.5	89	--	--	--	--	--	--	--	--
Aug. 6	1845	2	5	--	--	--	--	--	--	2.1	--	2.1	0.2	QN	QN	0.02	0.05
							Line 38. Sabine Pass										
Feb. 25	1130	2	1	16,000	7.6	14.0	66	10.4	100	2.4	--	5.3	.2	QN	QN	--	.04
			10	18,000	7.8	13.7		10.2	97	--	--	--	--	--	--	--	--
			20	25,000	8.0	13.8		9.8	94	1.5	--	3.2	.1	QN	QN	--	.04
			30	35,000	8.0	13.8		9.2	88	--	--	--	--	--	--	--	--
			35	38,000	8.0	13.8		9.4	90	1.4	--	1.6	.1	QN	QN	--	.03

1/ Determined at data-collection site.

QN means qualitative test negative.

Table 1B.--CHEMICAL ANALYSES OF WATER FROM THE SABINE-NECHES ESTUARY, 1969 WATER YEAR

[Results in milligrams per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Density (g/ml at 20°C)
													Calcium, magnesium	Noncarbonate	
						Line 8. Sabine River									
July 9	1510	2	1	2,890	31	60	487	42		129	860	1,590	326	292	--
						Line 21. Neches River									
July 9	1430	2	1	5,680	63	113	909	54		258	1,620	3,000	620	576	--
			44	22,700	180	533	4,330	91		1,110	7,680	13,900	2,640	2,570	--
						Line 37. Sabine Pass									
Aug. 6	1845	2	5	20,500	145	466	3,950	59		1,040	6,900	12,500	2,280	2,230	--

a/ Included in sodium-ion concentration.

Table 1C.--ANALYSES FOR SELECTED IONS IN WATER FROM THE SABINE-NECHES ESTUARY, 1969 WATER YEAR

[Results in micrograms per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25°C)	Iron (Fe) -/	Manganese (Mn)	Lithium (Li)	Fluoride (F) a/	Boron (B)	Chromium VI (Cr)	Copper (Cu)	Lead (Pb)	Zinc (Zn)	Arsenic (As)	Selenium (Se)	Cadmium (Cd)	Bromide (Br) a/	Iodide (I) a/	Strontium (Sr)
								Line 8. Sabine River											
July 9	1510	2	1	2,890	--	--	--	0.2	230	--	--	--	--			--	0.0	0.039	--
								Line 21. Neches River											
July 9	1430	2	1	5,680	--	--	--	.2	390	--	--	--	--			--	3.7	.024	--
			44	22,700	--	--	--	.5	170	--	--	--	--			--	25	.048	--
								Line 37. Sabine Pass											
Aug. 6	1845	2	5	20,500	--	--	--	.5	1,600	--	--	--	--			--	23	.042	--

a/ Results in milligrams per liter.

Table 1 D.--INSECTICIDE AND HERBICIDE ANALYSES OF WATER AND SEDIMENT FROM THE SABINE-NECHES ESTUARY, 1969 WATER YEAR.

Date	Time (24 hour)		Micrograms per liter											
			Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Heptachlor epoxide	Lindane	2,4-D	Silvex	2,4,5-T
			Line 24 site 3a. Sabine Lake											
July 9	1645	Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
		Sediment	.00	1.1	1.6	.00	.00	.00	.00	.00	.00	--	--	--
			Line 30 site 2. Sabine Lake											
July 9	1840	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
		Sediment	.00	.00	.00	.00	.00	.00	.00	.00	.00	--	--	--

Brazos Estuary

The Brazos estuary covers an area of about 3 square miles and consists of the tidal parts of the Brazos River and parts of the Intracoastal Waterway (Figure 3). Although Freeport Harbor is not directly connected with the estuary, wastes from industrial operations around the harbor are discharged into the estuary.

No water-quality data for the Brazos estuary were collected during the 1969 water year, but the proposed data-collection sites are shown on Figure 3.

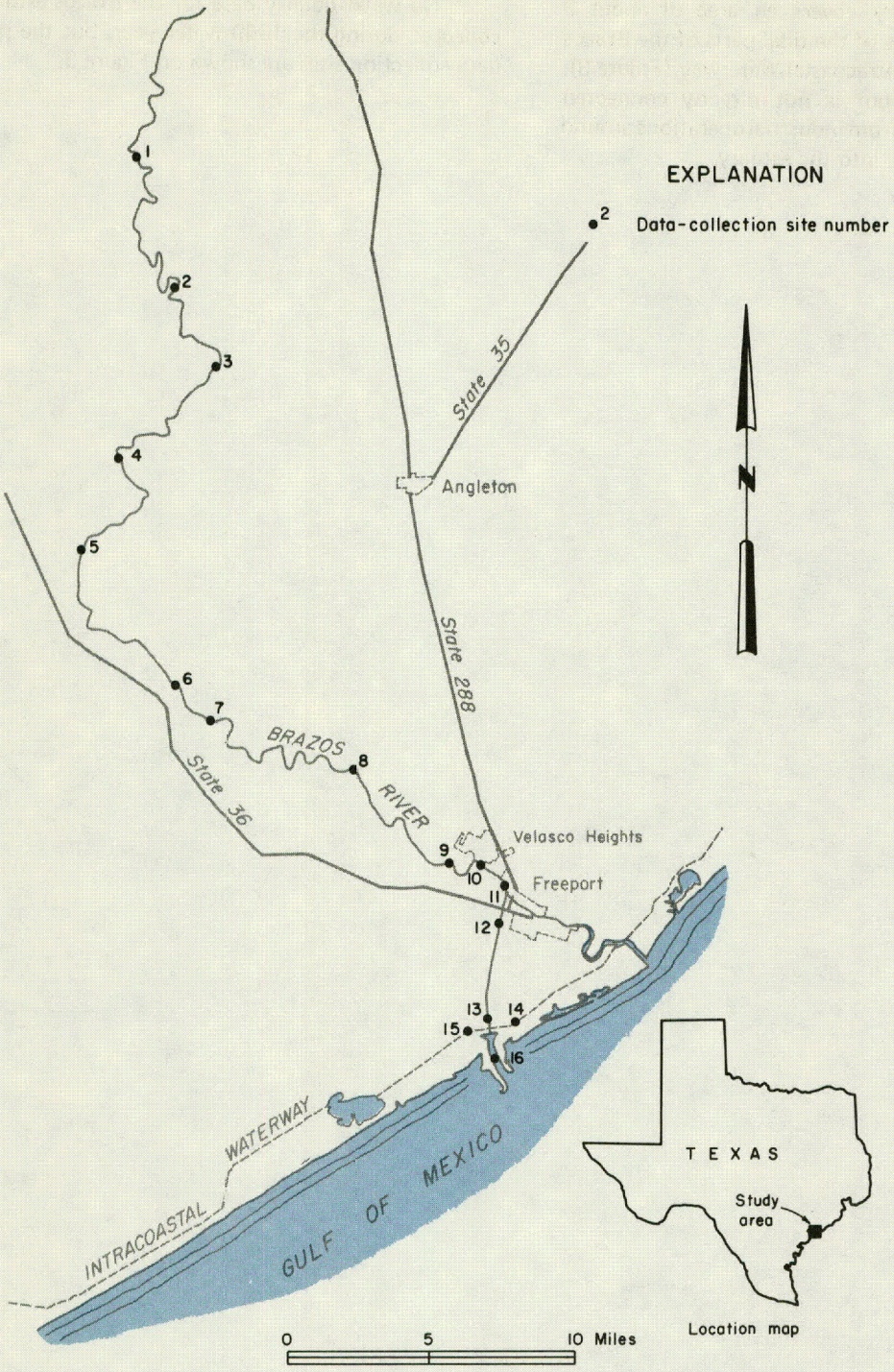


Figure 3

Proposed Data-Collection Sites in the Brazos Estuary

Base by U. S. Geological Survey, 1956

East Matagorda Estuary

The East Matagorda estuary covers an area of about 56 square miles and consists of East Matagorda Bay, part of the Intracoastal Waterway, the tidal reaches of Caney Creek, and Live Oak Bayou, and the tidal part of small tributaries (Figure 4). The maximum water depth at mlw is 5 feet in East Matagorda Bay and about 15 feet in the Intracoastal Waterway.

Water-quality data (Table 2) were collected during June at most of the sites shown in Figure 4.

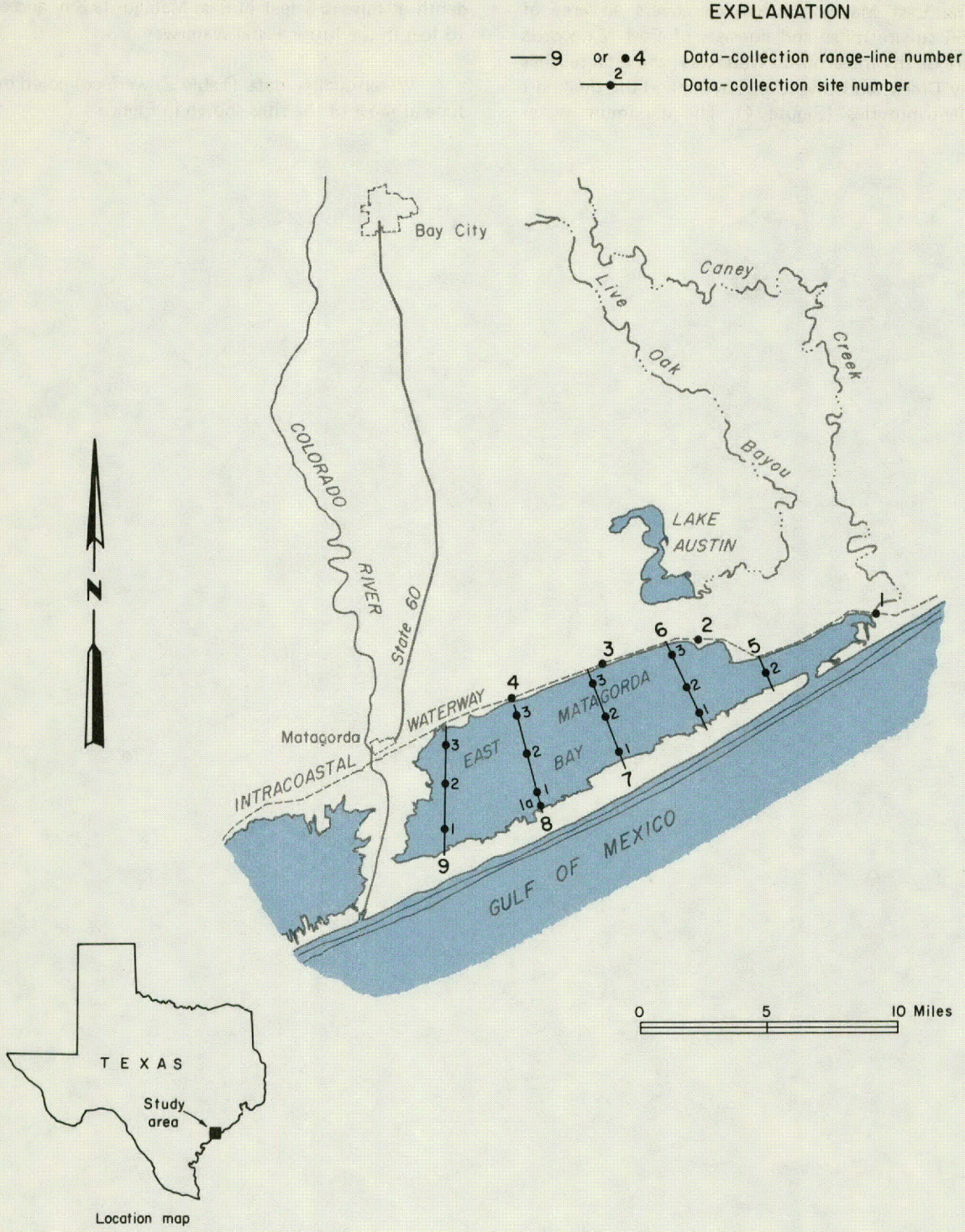


Figure 4

Data-Collection Sites in the East Matagorda Estuary

Base by U.S. Geological Survey, 1956

Table 2A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE EAST MATAGORDA ESTUARY, 1969 WATER YEAR

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen: Concentration 1/	Dissolved oxygen: Percent saturation	Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
Line 4. Intracoastal Waterway																	
June 12	1645	2	1	21,000	8.5	30.8	--	8.0	114	--	--	--	--	--	--	--	--
			5	24,000	8.4	30.5		7.3	104	--	--	--	--	--	--	--	--
			10	24,000	8.4	30.2		6.7	96	--	--	--	--	--	--	--	--
			14	25,000	8.3	28.7		6.2	87	--	--	--	--	--	--	--	--
Line 5. East Matagorda Bay																	
June 12	1545	2	1	40,000	8.5	29.9	41	8.2	126	2.3	--	0.9	0.0	QN	QN	0.04	0.04
			3	40,000	8.5	29.6		7.5	115	2.0	--	.6	.0	QN	QN	.02	.03
Line 6. East Matagorda Bay																	
June 12	1530	1	1	29,000	8.5	29.2	33	8.4	120	--	--	--	--	--	--	--	--
			2.5	31,000	8.4	29.1		8.0	116	--	--	--	--	--	--	--	--
Do.	1515	3	1	31,000	8.3	29.6	48	7.9	116	--	--	--	--	--	--	--	--
			3.5	31,000	8.3	29.6		7.8	115	--	--	--	--	--	--	--	--
Line 7. East Matagorda Bay																	
June 12	1350	1	1	29,000	8.4	29.5	66	7.8	113	.8	--	5.7	.0	QN	QN	.02	.04
			2	29,000	8.4	29.5		7.9	114	--	--	--	--	--	--	--	--
			3	29,000	8.4	28.8		8.1	116	--	--	--	--	--	--	--	--
			3.5	29,000	8.4	28.6		8.2	117	.9	--	5.5	.1	QN	QN	.04	.04
Do.	1415	2	1	26,000	8.4	29.3	69	8.2	115	1.2	--	4.5	.0	QN	QN	.03	.04
			5	27,000	8.4	28.5		8.1	114	1.4	--	4.9	.0	QN	QN	.05	.05
Do.	1445	3	1	24,000	8.4	29.7	33	8.5	121	2.3	--	6.2	.0	QN	QN	.05	.06
			3.5	24,000	8.3	29.3		8.1	112	2.3	--	5.9	.0	QN	QN	.02	.08
Line 8. East Matagorda Bay																	
June 12	1245	1	1	29,000	8.4	28.8	61	8.1	116	--	--	--	--	--	--	--	--
			3	29,000	8.4	28.5		8.1	114	--	--	--	--	--	--	--	--
Do.	1300	1a	1	31,000	8.5	29.7	56	8.6	126	--	--	--	--	--	--	--	--
			2	31,000	8.5	29.6		8.5	125	--	--	--	--	--	--	--	--
Do.	1235	2	1	31,000	8.4	28.4	48	7.4	106	--	--	--	--	--	--	--	--
			5	31,000	8.3	28.2		7.0	100	--	--	--	--	--	--	--	--
Do.	1215	3	1	27,000	8.3	28.2	33	7.5	106	--	--	--	--	--	--	--	--
			3.5	29,000	8.3	27.8		7.0	99	--	--	--	--	--	--	--	--
Line 9. East Matagorda Bay																	
June 12	1320	1	1	31,000	8.3	28.9	41	7.9	114	2.0	--	5.5	.0	QN	QN	.03	.04
			5	31,000	8.3	28.5		7.5	107	2.2	--	5.6	.0	QN	QN	.01	.03

1/ Determined at data-collection site.
QN means qualitative test negative.

Table 2B.--CHEMICAL ANALYSES OF WATER FROM THE EAST MATAGORDA ESTUARY, 1969 WATER YEAR

[Results in milligrams per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Density (g/ml at 20°C)
Line 5. East Matagorda Bay															
June 12	1545	2	3	38,500	285	970	7,330		133	1,840	13,200	b23,700	4,700	4,590	1.014
Line 7. East Matagorda Bay															
June 12	1415	2	5	25,400	202	573	5,290		132	1,360	9,100	c16,600	2,860	2,750	1.009
Line 9. East Matagorda Bay															
June 12	1320	1	5	27,600	226	690	5,680		124	1,480	10,000	c18,100	3,400	3,300	1.010

a/ Included in sodium-ion concentration.

b Includes 0.7 mg/l Fluoride.

c Includes 0.6 mg/l Fluoride.

Table 2 C.--INSECTICIDE AND HERBICIDE ANALYSES OF WATER AND SEDIMENT FROM THE EAST MATAGORDA ESTUARY, 1969 WATER YEAR.

Date	Time (24 hour)		Micrograms per liter											
			Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Heptachlor epoxide	Lindane	2,4-D	Silvex	2,4,5-T
Line 5 site 2. East Matagorda Bay														
June 12	1545	Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.02
			.00	.64	1.0	.47	.00	.00	.00	.00	.00	--	--	--
Line 7 site 2. East Matagorda Bay														
June 12	1415	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.01
		Sediment	.00	1.6	.77	1.2	.00	.00	.00	.00	.00	--	--	--

Colorado Estuary

The Colorado estuary covers an area of about 2 square miles and consists of the tidal part of the Colorado River and part of the Intracoastal Waterway (Figure 5). The minimum depth at mlw is about 6 feet in the river channel and about 15 feet in the Intracoastal Waterway.

Water-quality data (Table 3) for the Colorado estuary were collected in January, May, and June at sites shown on Figure 5. The specific conductance, dissolved oxygen, pH and water temperature data for different flow conditions are shown on Figures 6-9.

The average flow of the Colorado River at Bay City (U.S. Geological Survey, 1970a) was 655 cfs (cubic feet per second) for January 23-29; 6,640 cfs for May 1-7; and 1,940 cfs for June 5-11. Data collected at lines 5, 8, and 13 (Figure 10) during the January and May surveys show changes in specific conductance and percent saturation of dissolved oxygen with depth.

On May 7, 1969, data were collected during flood and ebb tides at lines 13 and 14. Figure 11 shows the influence of tidal action near the mouth of the Colorado River when the average flow at Bay City was 6,640 cfs.

The observed extremes of nutrients and other environmental characteristics of the water, without consideration of depth, location, or season, are as follows:

EXTREME	NITRATE NITROGEN	AMMONIUM NITROGEN	NITRITE NITROGEN	TOTAL PHOS-PHORUS	SILICA	BIO-CHEMICAL OXYGEN DEMAND	CHEMICAL OXYGEN DEMAND	DISSOLVED OXYGEN (PERCENT SATURATION)	SECCHI DISK TRANS-PARENCY (CM)
	(Results in Milligrams Per Liter Except As Indicated)								
Maximum	1.8	4.7	0.55	0.36	18	6.9	201	156	107
Minimum	.0	.00	.00	.04	.0	.9	.0	0	4

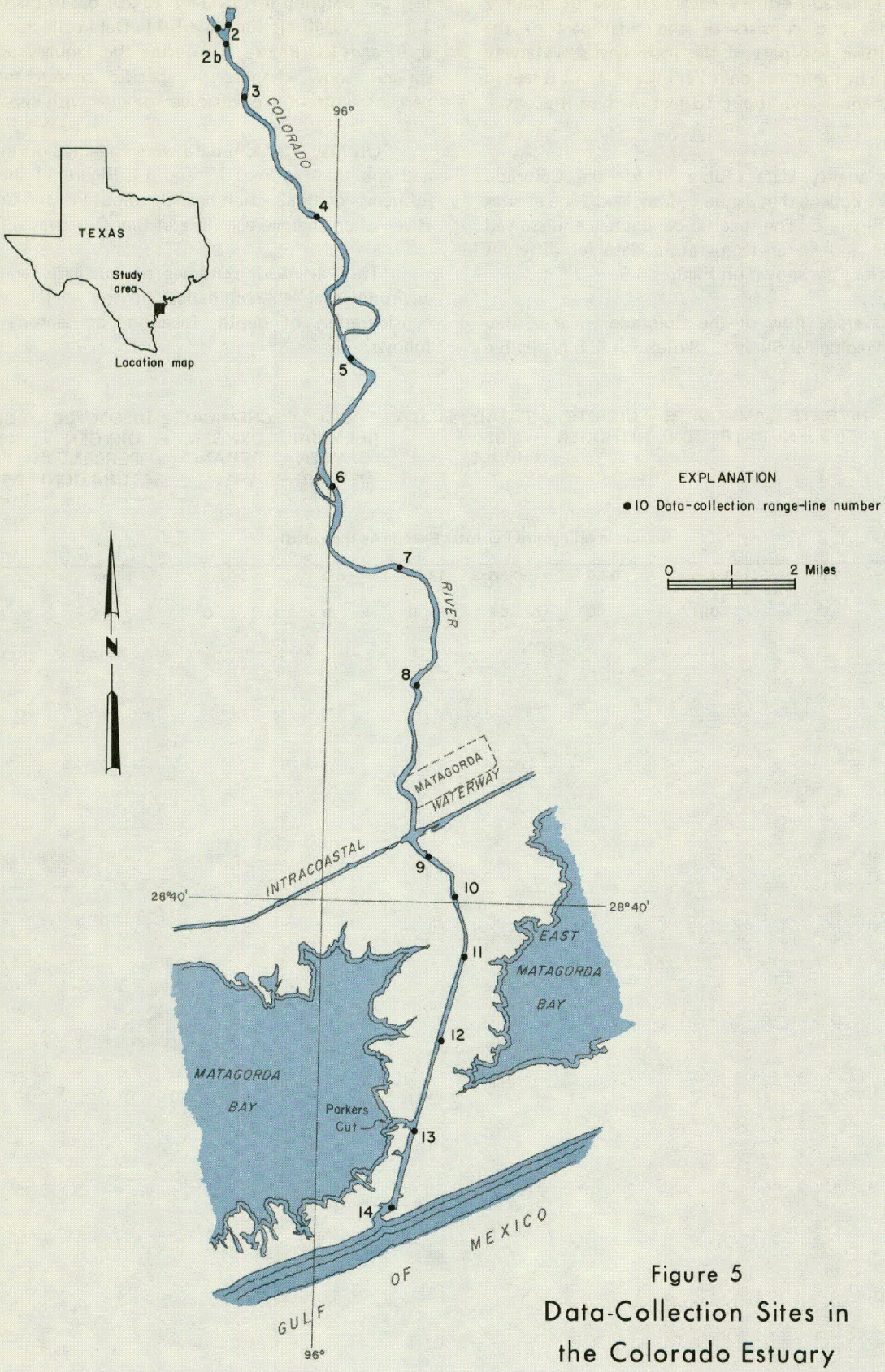
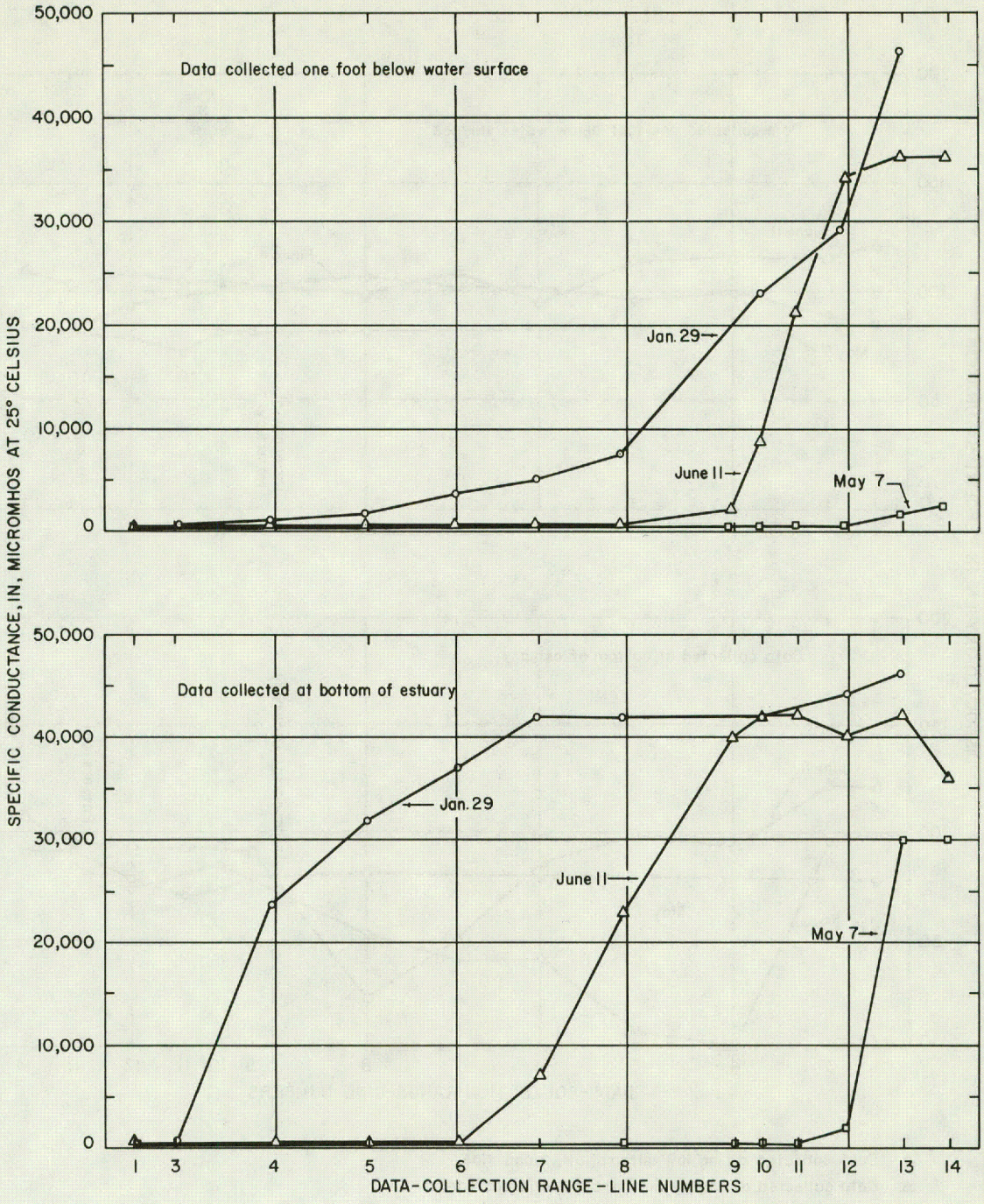


Figure 5
Data-Collection Sites in the Colorado Estuary

Base by US Geological Survey, 1956



○ Data collected during low streamflow, flood tide
△ Data collected during medium streamflow, flood tide
□ Data collected during high streamflow, flood tide

Figure 6

Specific Conductance for Different Flow Conditions in the Colorado Estuary

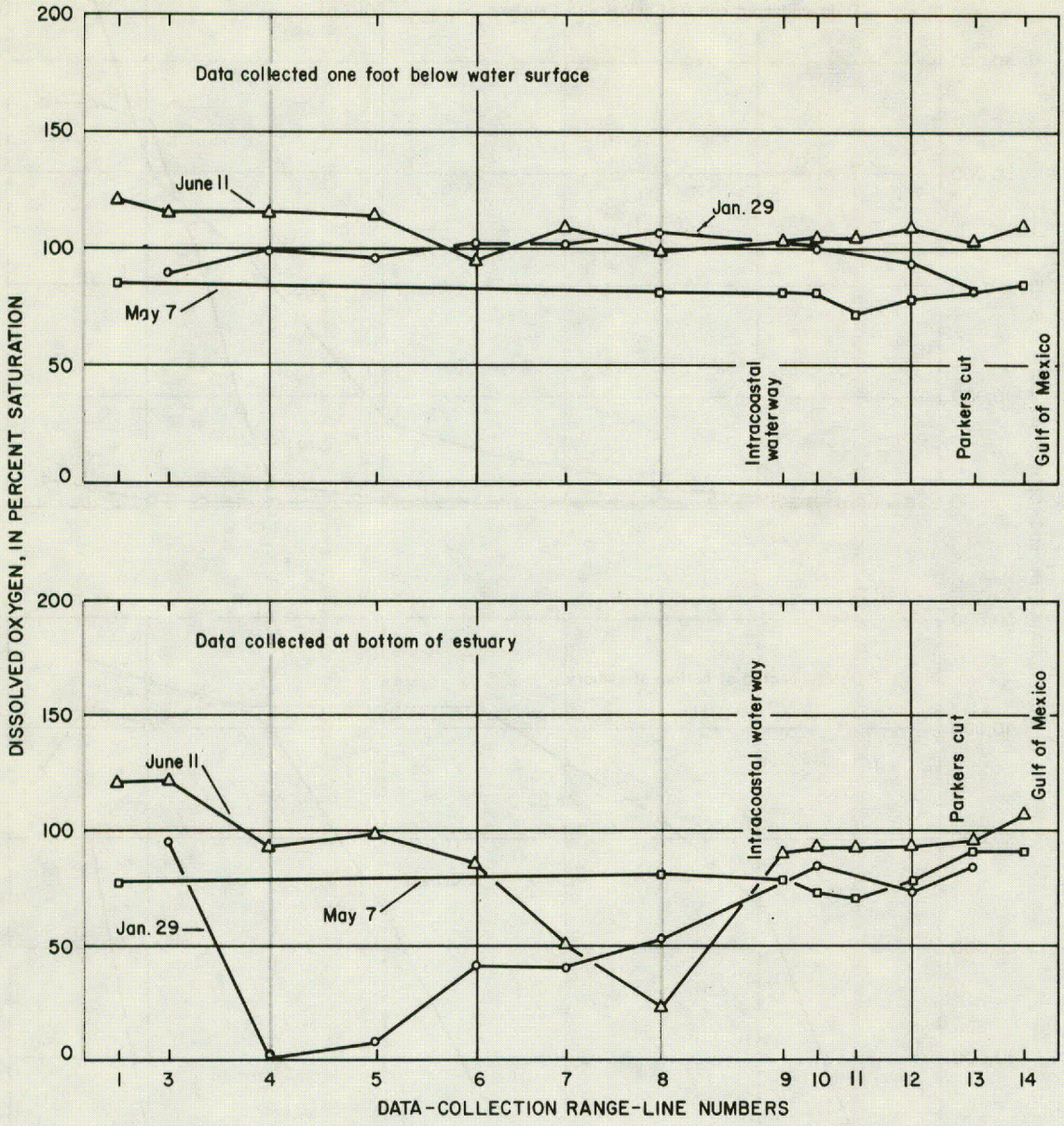
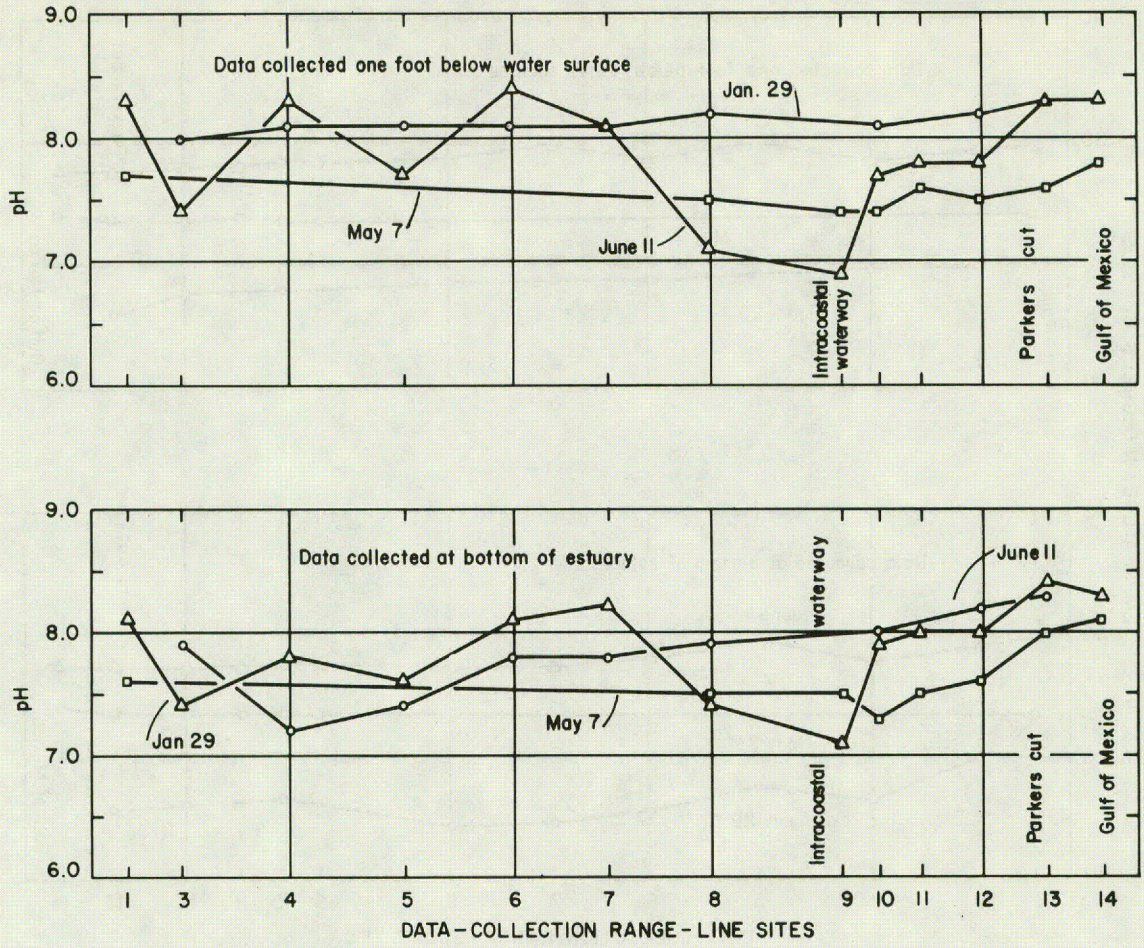


Figure 7

Percent Saturation of Dissolved Oxygen for Different Flow Conditions in the Colorado Estuary



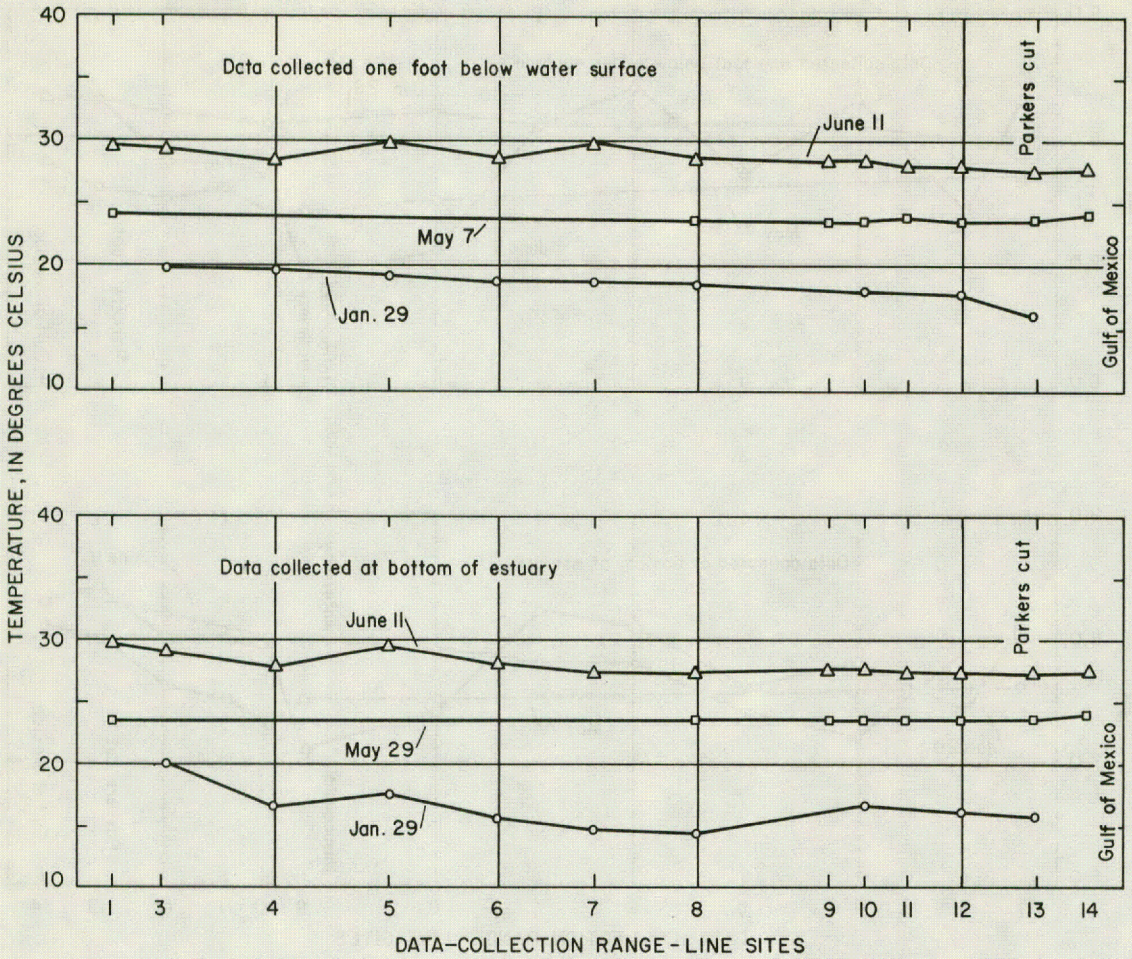
o Data collected during low streamflow, flood tide

△ Data collected during medium streamflow, flood tide

□ Data collected during high streamflow, flood tide

Figure 8

pH for Different Flow Conditions in the Colorado Estuary



o Data collected during low streamflow, flood tide

△ Data collected during medium streamflow, flood tide

□ Data collected during high streamflow, flood tide

Figure 9

Water Temperature for Different Flow Conditions in the Colorado Estuary

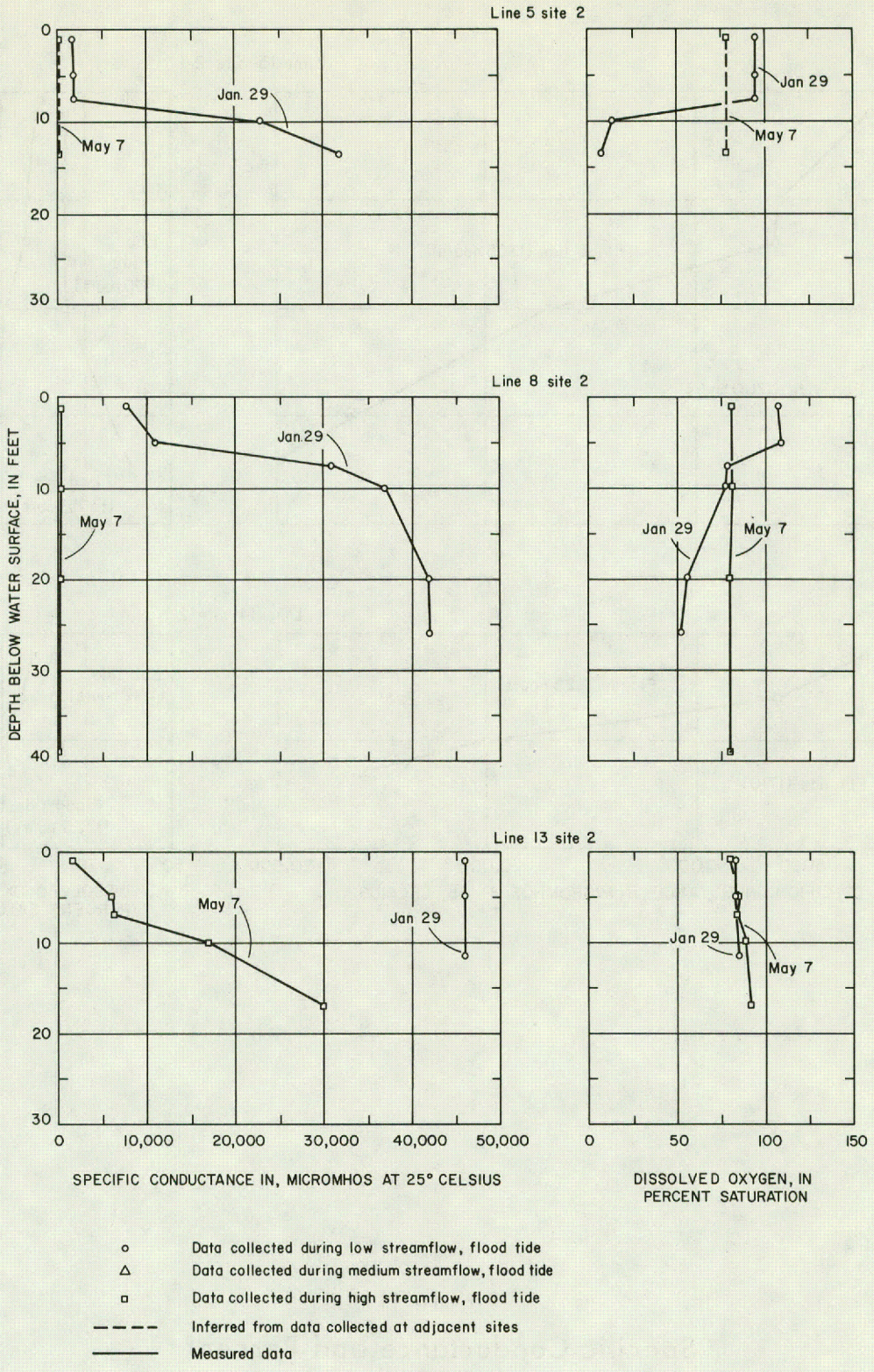


Figure 10

Specific Conductance and Percent Saturation of Dissolved Oxygen Versus Depth for Different Flow Conditions at Flood Tide in the Colorado Estuary

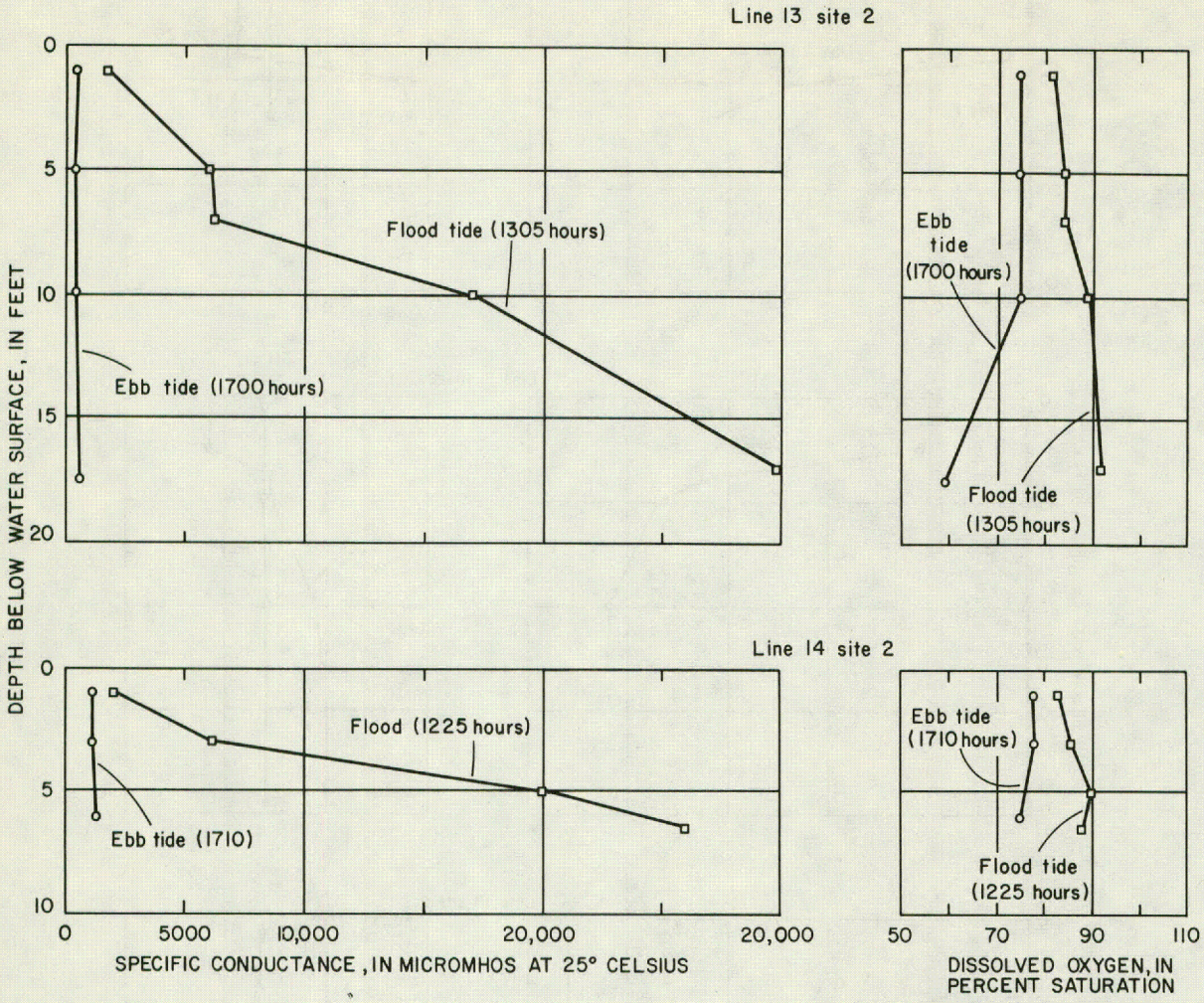


Figure 11

Specific Conductance and Percent Saturation of Dissolved Oxygen Versus Depth During High Flow for Flood and Ebb Tides Near the Mouth of the Colorado River, May 7, 1969

Table 3A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE COLORADO ESTUARY, 1969 WATER YEAR

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
							Line 1. Colorado River										
May 7	1530	2	1	180	7.7	24.0	4	7.2	85	1.8	20	9.4	0.3	QN	QN	0.15	0.33
			5	180	7.7	24.0		7.1	84	--	--	--	--	--	--	--	--
			10	180	7.6	23.5		6.6	78	2.0	16	9.6	.6	QN	QN	.16	.36
June 11	1530	1	1	600	8.4	30.3	--	9.2	121	3.1	--	8.5	.0	QN	QN	.08	.11
Do.	1510	2	1	580	8.3	29.7	20	9.2	121	3.4	.8	9.0	.0	QN	QN	.08	.11
			4	560	8.1	29.8		9.2	121	3.5	2.2	8.8	.0	QN	QN	.08	.16
Do.	1535	3	1	560	8.4	30.3	--	9.0	118	3.3	--	9.1	.0	QN	QN	.08	.08
							Line 2. Colorado River										
May 7	1545	2	1	290	7.6	24.6	9	6.8	80	1.9	12	9.7	.2	QN	QN	.03	.21
			5	290	7.6	24.0		6.6	78	--	--	--	--	--	--	--	--
			10	260	7.5	23.5		6.6	78	--	--	--	--	--	--	--	--
			17.5	280	7.4	23.6		6.2	73	2.3	17	9.9	.7	QN	QN	.12	.14
June 11	1540	2	1	520	8.3	28.8	--	12.2	156	4.5	1.8	10	.0	QN	QN	.05	.08
			5	520	8.4	28.4		10.6	134	--	--	--	--	--	--	--	--
			7.5	520	8.1	27.8		8.3	105	--	--	--	--	--	--	--	--
			8.5	520	7.9	26.9		5.0	62	--	--	--	--	--	--	--	--
			11	600	8.2	24.9		.2	24	2.2	4.6	11	.1	QN	QN	.11	.12
							Line 2b. Colorado River										
May 7	1600	2	.2	3,800	10.6	26.9	--	6.6	82	4.8	201	18	1.8	4.7	0.55	.22	.29
			3	2,200	9.8	25.5		6.7	83	6.9	140	14	1.4	3.2	.30	.25	.33
							Line 3. Colorado River										
Jan 29	1315	2	1	700	8.0	19.9	18	8.2	89	1.0	--	6.4	.0	.00	.00	--	.11
			13	1,000	7.9	20.0		8.8	96	1.6	--	6.2	.0	.00	.00	--	.12
Jan 31	0955	2	10	23,000	7.2	16.5		.0	0	--	--	--	--	--	--	--	--
			13	23,000	7.1	16.4		.0	0	--	--	--	--	--	--	--	--
June 11	1500	1	1	560	7.5	29.3	27	9.0	115	3.1	---	8.5	.0	QN	QN	.07	.12
Do.	1450	2	1	560	7.4	29.1	27	9.0	115	3.7	--	8.5	.2	QN	QN	.08	.14
			5	560	7.4	29.0		9.0	115	--	--	--	--	--	--	--	--
			11	580	7.4	29.0		9.5	122	3.0	--	8.4	.0	QN	QN	.11	.12
Do.	1455	3	1	580	7.5	29.2	27	9.0	115	3.8	--	8.8	.0	QN	QN	.07	.09
							Line 4. Colorado River										
Jan. 29	1300	2	1	1,000	8.1	19.6	--	9.2	99	1.0	--	6.4	.0	.00	.00	--	.11
			5	1,000	8.1	19.4		8.9	96	--	--	--	--	--	--	--	--
			10	2,200	8.1	19.1		7.6	81	--	--	--	--	--	--	--	--
			12.5	24,000	7.2	16.7		.0	0	2.1	--	4.7	.0	.12	.00	--	.22
June 11	1435	2	1	560	8.3	28.4	24	9.2	116	--	--	--	--	--	--	--	--
			5	560	7.9	28.2		8.6	109	--	--	--	--	--	--	--	--
			15	560	7.8	27.9		7.4	94	--	--	--	--	--	--	--	--
							Line 5. Colorado River										
Jan 29	1230	2	1	1,800	8.1	19.2	20	9.0	96	1.4	--	6.4	.0	.00	.00	--	.09
			5	2,000	8.2	19.3		8.9	96	--	--	--	--	--	--	--	--
			7.5	2,000	8.1	19.4		8.9	96	--	--	--	--	--	--	--	--
			10	23,000	7.4	17.3		1.5	15	--	--	--	--	--	--	--	--
			13.5	32,000	7.4	17.5		.8	8	1.9	--	3.0	.0	.20	.00	--	.10
June 11	1425	2	1	560	7.7	29.8	--	8.7	114	--	--	--	--	--	--	--	--
			5	560	7.7	29.7		8.6	113	--	--	--	--	--	--	--	--
			14	560	7.6	29.4		7.7	99	--	---	--	--	--	--	--	--
							Line 6. Colorado River										
Jan. 29	1353	2	1	3,700	8.1	18.7	--	9.6	102	2.2	--	7.0	.0	.00	.00	--	.08
			5	4,200	8.1	18.6		9.4	100	--	--	--	--	--	--	--	--
			7.5	4,600	8.0	18.4		9.0	95	--	--	--	--	--	--	--	--
			10	37,000	7.7	15.9		3.1	31	--	--	--	--	--	--	--	--
			15	37,000	7.8	15.5		4.1	41	2.3	--	1.4	.0	.00	.00	--	.10
June 11	1410	2	1	520	8.4	28.4	34	7.5	95	--	--	--	--	--	--	--	--
			5	480	8.4	28.4		7.4	94	--	--	--	--	--	--	--	--
			10	520	8.3	28.1		7.0	89	--	--	--	--	--	--	--	--
			16	640	8.1	28.0		6.8	86	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table 3A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE COLORADO ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 7. Colorado River																	
Jan. 29	1415	2	1	5,000	8.1	18.5	20	9.6	102	1.4	--	6.7	0.0	0.00	0.00	--	0.08
			5	5,300	8.1	18.5		9.6	102	--	--	--	--	--	--	--	--
			7.5	5,500	8.2	18.2		9.4	99	--	--	--	--	--	--	--	--
			10	40,000	7.9	14.7		5.4	52	--	--	--	--	--	--	--	--
			20	42,000	7.8	14.6		4.7	46	2.2	--	1.7	.0	.00	.00	--	.10
June 11	1350	2	1	450	8.1	29.8	28	8.2	108	--	--	--	--	--	--	--	--
			5	450	8.2	28.6		7.2	92	--	--	--	--	--	--	--	--
			10	640	8.2	28.1		6.8	86	--	--	--	--	--	--	--	--
			13	450	8.3	28.0		6.8	86	--	--	--	--	--	--	--	--
			15	600	8.5	28.0		6.7	85	--	--	--	--	--	--	--	--
			16	750	8.4	28.0		6.7	85	--	--	--	--	--	--	--	--
			19	7,000	8.2	27.4		4.0	51	--	--	--	--	--	--	--	--
Line 8. Colorado River																	
Jan. 29	1435	2	1	7,700	8.2	18.4	56	10.2	107	1.4	--	5.7	.0	.00	.01	--	.08
			5	11,000	8.2	18.3		10.4	110	--	--	--	--	--	--	--	--
			7.5	31,000	7.8	16.5		7.8	79	--	--	--	--	--	--	--	--
			10	37,000	8.0	16.0		7.8	78	--	--	--	--	--	--	--	--
			20	42,000	8.0	14.4		5.8	56	--	--	--	--	--	--	--	--
			26	42,000	7.9	14.6		5.5	53	2.5	--	.4	.0	.00	.00	--	.05
May 7	1440	2	1	290	7.5	23.6	5	7.0	82	2.6	--	9.7	.7	QN	QN	0.18	.22
			10	290	7.5	23.5		7.0	82	--	--	--	--	--	--	--	--
			20	310	7.5	23.5		6.8	80	--	--	--	--	--	--	--	--
			39	290	7.5	23.5		6.9	81	3.1	--	10	.4	QN	QN	.16	.28
June 11	1335	2	1	650	7.1	28.5	29	7.8	99	--	--	--	--	--	--	--	--
			7.5	900	7.2	28.0		7.3	92	--	--	--	--	--	--	--	--
			10	1,400	7.3	27.8		7.1	90	--	--	--	--	--	--	--	--
			12.5	8,800	6.9	27.3		4.5	57	--	--	--	--	--	--	--	--
			15	20,000	7.4	27.0		2.4	32	--	--	--	--	--	--	--	--
			20	23,000	7.4	27.2		1.8	24	--	--	--	--	--	--	--	--
Line 9. Colorado River																	
May 7	1425	2	1	310	7.4	23.5	--	7.0	82	2.4	--	9.5	.4	QN	QN	.18	.32
			5	310	7.4	23.5		7.0	82	--	--	--	--	--	--	--	--
			10	310	7.4	23.5		6.8	80	--	--	--	--	--	--	--	--
			15	310	7.4	23.5		6.6	78	--	--	--	--	--	--	--	--
			20	310	7.5	23.6		6.7	79	2.6	--	9.5	.6	QN	QN	.14	.33
June 11	1255	2	1	2,200	6.9	28.2	41	8.0	103	.9	0.0	10	.4	QN	QN	.07	.12
			3	2,800	6.6	28.3		8.2	105	--	--	--	--	--	--	--	--
			5	8,800	6.7	27.8		7.2	94	--	--	--	--	--	--	--	--
			7.5	10,000	6.7	27.8		6.9	90	--	--	--	--	--	--	--	--
			10	31,000	7.0	27.7		6.0	86	--	--	--	--	--	--	--	--
			18	40,000	7.1	27.6		6.2	91	1.5	--	1.8	.0	QN	QN	.05	.06
Line 10. Colorado River																	
Jan. 29	1515	2	1	23,000	8.1	17.8	102	9.5	100	2.4	--	3.8	.0	QN	QN	-.0	.06
			5	37,000	8.1	16.4		8.3	84	--	--	--	--	--	--	--	--
			10	44,000	8.1	16.4		8.2	83	--	--	--	--	--	--	--	--
			13	42,000	8.0	16.6		8.3	85	1.7	--	.8	.0	QN	QN	--	.04
May 7	1405	2	1	410	7.4	23.5	5	6.9	81	--	--	--	--	--	--	--	--
			5	410	7.4	23.5		6.9	81	--	--	--	--	--	--	--	--
			10	380	7.4	23.5		6.9	81	--	--	--	--	--	--	--	--
			15	380	7.4	23.5		6.8	80	--	--	--	--	--	--	--	--
			20	400	7.4	23.6		6.2	73	--	--	--	--	--	--	--	--
			24	410	7.3	23.6		6.6	78	--	--	--	--	--	--	--	--
June 11	1235	2	1	8,800	7.7	28.2	44	8.1	105	--	--	--	--	--	--	--	--
			3	8,800	7.7	28.1		8.1	105	--	--	--	--	--	--	--	--
			5	13,000	7.9	27.4		7.2	92	--	--	--	--	--	--	--	--
			7.5	17,000	7.9	27.5		7.2	97	--	--	--	--	--	--	--	--
			10	42,000	8.0	27.7		6.2	93	--	--	--	--	--	--	--	--
			16	42,000	7.9	27.7		6.2	93	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table 3A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE COLORADO ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
							Line 11. Colorado River										
May 7	1345	2	1	560	7.6	23.9	--	6.2	73	2.8	--	9.5	0.6	QN	QN	0.13	0.29
			5	580	7.6	23.8		6.2	73	--	--	--	--	--	--	--	--
			10	580	7.6	23.8		6.2	73	--	--	--	--	--	--	--	--
			18	580	7.5	23.8		6.0	71	3.3	--	9.6	.5	QN	QN	.13	.30
June 11	1225	2	1	21,000	7.8	27.9	65	7.7	105	--	--	--	--	--	--	--	--
			5	21,000	7.9	27.8		7.4	101	--	--	--	--	--	--	--	--
			7.5	34,000	8.0	27.7		6.5	94	--	--	--	--	--	--	--	--
			10	42,000	8.1	27.4		6.5	96	--	--	--	--	--	--	--	--
			16	42,000	8.0	27.7		6.2	93	--	--	--	--	--	--	--	--
							Line 12. Colorado River										
Jan. 29	1535	2	1	29,000	8.2	17.6	107	9.0	94	2.3	--	3.4	.0	0.00	0.00	--	.05
			5	44,000	8.2	16.2		8.0	80	--	--	--	--	--	--	--	--
			10	44,000	8.2	15.9		7.9	79	--	--	--	--	--	--	--	--
			16.5	44,000	8.2	16.0		7.4	74	1.7	--	.4	.0	.00	.00	--	.05
May 7	1330	2	1	340	7.5	23.7	6	6.6	78	--	--	--	--	--	--	--	--
			5	360	7.5	23.6		6.6	78	--	--	--	--	--	--	--	--
			10	380	7.5	23.6		6.6	78	--	--	--	--	--	--	--	--
			15	400	7.6	23.6		6.4	75	--	--	--	--	--	--	--	--
			22	2,100	7.6	23.6		5.9	79	--	--	--	--	--	--	--	--
June 11	1215	2	1	34,000	7.8	27.9	62	7.5	109	--	--	--	--	--	--	--	--
			5	38,000	7.8	27.7		7.5	110	--	--	--	--	--	--	--	--
			10	40,000	7.9	27.6		7.4	109	--	--	--	--	--	--	--	--
			17	40,000	8.0	27.3		6.5	94	--	--	--	--	--	--	--	--
							Parkers Cut										
May 7	1725	-	1	410	7.7	23.8	4	6.3	74	--	--	--	--	--	--	--	--
			5.5	520	7.7	24.0		6.2	73	--	--	--	--	--	--	--	--
June 11	1200	-	1	34,000	7.9	28.0	25	7.7	112	--	--	--	--	--	--	--	--
			5	36,000	7.8	28.4		7.4	107	--	--	--	--	--	--	--	--
							Line 13. Colorado River										
Jan. 29	1555	2	1	46,000	8.3	15.9	--	8.3	83	2.0	--	.2	.0	.00	.00	--	.05
			5	46,000	8.3	15.9		8.3	83	--	--	--	--	--	--	--	--
			11.5	46,000	8.3	15.8		8.5	85	1.4	--	.0	.0	.00	.00	--	.19
May 7	1305	2	1	1,700	7.6	23.6	8	7.0	82	2.2	--	8.9	.5	QN	QN	.10	.18
			5	6,000	7.7	23.6		7.0	84	--	--	--	--	--	--	--	--
			7	6,200	7.7	23.6		7.0	84	--	--	--	--	--	--	--	--
			10	17,000	7.9	23.5		7.1	89	--	--	--	--	--	--	--	--
			17	30,000	8.0	23.7		7.0	92	2.4	--	2.3	.2	QN	QN	.05	.08
Do.	1700	2	1	490	7.7	24.0	--	6.4	75	--	--	--	--	--	--	--	--
			5	450	7.7	24.0		6.4	75	--	--	--	--	--	--	--	--
			10	470	7.8	24.0		6.4	75	--	--	--	--	--	--	--	--
			17.5	520	8.0	24.4		5.0	59	--	--	--	--	--	--	--	--
June 11	1115	2	1	36,000	8.3	27.4	35	7.3	103	1.5	--	2.7	.1	QN	QN	.04	.06
			5	38,000	8.3	27.4		7.0	100	--	--	--	--	--	--	--	--
			10	40,000	8.4	27.3		6.8	99	--	--	--	--	--	--	--	--
			15	40,000	8.4	27.3		6.7	97	--	--	--	--	--	--	--	--
			18	42,000	8.4	27.4		6.5	96	1.6	--	1.6	.1	QN	QN	.02	.04
							Line 14. Colorado River										
May 7	1235	1	1	2,400	7.8	24.0	8	7.1	85	--	--	--	--	--	--	--	--
			3	8,000	7.8	23.6		7.0	84	--	--	--	--	--	--	--	--
			5	22,000	8.0	23.9		7.2	91	--	--	--	--	--	--	--	--
			10.5	30,000	8.1	24.0		7.0	92	--	--	--	--	--	--	--	--
Do.	1225	2	1	2,000	7.8	24.0	8	7.0	83	--	--	--	--	--	--	--	--
			3	6,200	7.7	23.8		7.1	86	--	--	--	--	--	--	--	--
			5	20,000	8.0	23.9		7.1	90	--	--	--	--	--	--	--	--
			6.5	26,000	8.0	23.9		6.9	88	--	--	--	--	--	--	--	--
Do.	1710	2	1	1,200	7.7	23.9	--	6.6	78	--	--	--	--	--	--	--	--
			3	1,200	7.7	23.9		6.6	78	--	--	--	--	--	--	--	--
			6	1,300	7.7	24.0		6.4	75	--	--	--	--	--	--	--	--
June 11	1050	2	1	36,000	8.3	27.5	43	7.6	110	--	--	--	--	--	--	--	--
			5	36,000	8.3	27.4		7.6	107	--	--	--	--	--	--	--	--

1/ Determined at data-collection site.
QN means qualitative test negative.

Table 3B.--CHEMICAL ANALYSES OF WATER FROM THE COLORADO ESTUARY, 1969 WATER YEAR

[Results in milligrams per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Density (g/ml at 20°C)
						Line 1. Colorado River									
May 7	1530	2	10	212	27	60	9.1		97	10	13	126	92	12	--
June 11	1510	2	4	549	54	19	34		200	36	59	310	212	48	--
						Line 2. Colorado River									
May 7	1545	2	17.5	291	34	7.3	14		118	17	19	163	115	18	--
						Line 2b. Colorado River									
May 7	1600	2	3	1,880	54	14	367		135	646	150	1,320	192	82	--
						Line 3. Colorado River									
Jan. 29	1315	2	1	680	53	19	65		200	56	91	389	212	48	--
						Line 8. Colorado River									
May 7	1440	2	39	311	36	8.3	15		125	20	22	175	124	22	--
						Line 9. Colorado River									
May 7	1425	2	20	319	36	9.0	17		128	20	24	182	127	22	--
June 11	1255	2	1	2,180	58	50	351		161	114	610	1,270	352	220	--
			18	35,100	278	998	6,910		136	1,860	12,600	22,700	4,800	4,690	1.015
						Line 11. Colorado River									
May 7	1345	2	1	518	38	14	49		128	28	86	291	154	49	--
						Line 13. Colorado River									
Jan. 29	1600	2	11.5	46,500	345	1,160	8,770		142	2,490	15,600	28,400	5,650	5,530	1.018
May 7	1305	2	1	1,570	42	32	212		120	68	372	797	238	140	--
			17	29,200	210	670	5,730		125	1,480	10,000	18,200	3,280	3,180	--
June 11	1115	2	1	32,500	270	828	6,670		140	1,760	11,800	21,400	4,080	3,970	1.013
			18	35,000	272	992	6,680		136	1,880	12,200	22,100	4,750	4,640	1.014

a/ Included in sodium-ion concentration.

Table 3C.--ANALYSES FOR SELECTED IONS IN WATER FROM THE COLORADO ESTUARY, 1969 WATER YEAR

[Results in micrograms per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25°C)	Iron (Fe)	Manganese (Mn)	Lithium (Li)	Fluoride (F) a/	Boron (B)	Chromium VI (Cr)	Copper (Cu)	Lead (Pb)	Zinc (Zn)	Arsenic (As)	Selenium (Se)	Cadmium (Cd)	Bromide (Br) a/	Iodide (I) a/	Strontium (Sr)
								Line 1. Colorado River											
May 7	1530	2	10	212	--	--	--	0.2	--	--	--	--	--			--	--	--	--
June 11	1510	2	4	549	--	--	--	.3	--	--	--	--	--			--	--	--	--
								Line 2. Colorado River											
May 7	1545	2	17.5	291	--	--	--	.2	--	--	--	--	--			--	--	--	--
								Line 2b. Colorado River											
May 7	1600	2	3	1,880	--	--	--	.3	--	--	--	--	--			--	--	--	--
								Line 3. Colorado River											
Jan. 29	1315	2	1	680	--	--	--	.2	--	--	--	--	--			--	0.62	0.052	--
								Line 8. Colorado River											
May 7	1440	2	39	311	--	--	--	.2	--	--	--	--	--			--	--	--	--
								Line 9. Colorado River											
May 7	1425	2	20	319	--	--	--	.2	--	--	--	--	--			--	--	--	--
June 11	1255	2	1	2,180	--	--	--	.3	--	--	--	--	--			--	--	--	--
			18	35,100	--	--	--	.7	--	--	--	--	--			--	--	--	--
								Line 11. Colorado River											
May 7	1345	2	1	518	--	--	--	.2	--	--	--	--	--			--	--	--	--
								Line 13. Colorado River											
Jan. 29	1600	2	11.5	46,500	--	--	--	.9	--	--	--	--	--			--	62	.035	--
May 7	1305	2	1	1,570	--	--	--	.2	--	--	--	--	--			--	--	--	--
			17	29,200	--	--	--	.6	--	--	--	--	--			--	--	--	--
June 11	1115	2	1	32,500	--	--	--	.7	--	--	--	--	--			--	--	--	--
			18	35,000	--	--	--	.7	--	--	--	--	--			--	--	--	--

a/ Results in milligrams per liter.

Table 3 D.--INSECTICIDE AND HERBICIDE ANALYSES OF WATER AND SEDIMENT FROM THE COLORADO ESTUARY, 1969 WATER YEAR.

Date	Time (24 hour)		Micrograms per liter											
			Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Heptachlor epoxide	Lindane	2,4-D	Silvex	2,4,5-T
Line 1 site 2. Colorado River														
June 11	1510	Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.02
		Sediment	.00	.00	.00	.00	.00	.00	.00	.00	.00	--	--	--
Line 9 site 2. Colorado River														
June 11	1255	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.04
		Sediment	(a)	5.8	6.1	4.3	.00	.00	(a)	.00	(a)	--	--	--
Line 13 site 2. Colorado River														
June 11	1115	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00	.03
		Sediment	(a)	15	9.6	8.8	.00	.00	(a)	.00	(a)	--	--	--

(a) Not detectable due to interfering compounds.

Lavaca-Tres Palacios Estuary

The Lavaca-Tres Palacios estuary covers about 350 square miles and consists of the tidal parts of the Lavaca and Navidad Rivers, Tres Palacios Creek and other tributaries, Lavaca Bay, Cox Bay, Keller Bay, Carancahua Bay, Tres Palacios Bay, Matagorda Bay, Matagorda Ship Channel pass, Pass Cavallo, and parts of the Intracoastal Waterway (Figure 12). Water depth at mlw is 13 feet or less in Matagorda Bay, except in the Matagorda Ship Channel, which is more than 40 feet deep. The rivers generally are less than 15 feet deep.

Water-quality surveys of the Lavaca-Tres Palacios estuary (Table 4) were made during two periods in April and one in June.

The average discharges for downstream gaging stations on the Lavaca and Navidad Rivers for four periods when water-quality surveys were made are shown in the following table. Many streams, which drain about 2,180 square miles of land contiguous to the estuary, are ungaged.

STREAMFLOW STATION	AVERAGE WATER DISCHARGE IN CUBIC FEET PER SECOND[1/]			
	APRIL 4-10	APRIL 11-16	APRIL 17-23	JUNE 13-19
Lavaca River near Edna	131	6,030	371	98
Navidad River near Ganado	115	6,360	598	76

1/ U.S. Geological Survey, 1970a.

Water-quality data were collected on the estuary during flood tide prior to and following a period of high inflow on April 11-16. Changes in specific conductance and percent saturation of dissolved oxygen that occurred as a result of this inflow are shown on Figures 13 and 14.

The observed extremes of nutrients and other environmental characteristics of water, without consideration of depth, location, or season, are as follows:

EXTREME	NITRATE NITROGEN	AMMONIUM NITROGEN	NITRITE NITROGEN	TOTAL PHOS-PHORUS	SILICA	BIO-CHEMICAL OXYGEN DEMAND	CHEMICAL OXYGEN DEMAND	DISSOLVED OXYGEN (PERCENT SATURATION)	SECCHI DISK TRANS-PARENCY (CM)
	(Results in Milligrams Per Liter Except As Indicated)								
Maximum	2.0	0.05	0.21	0.21	22	8.0	16	219	176
Minimum	.0	.00	.00	.01	.0	.3	8.3	0	15

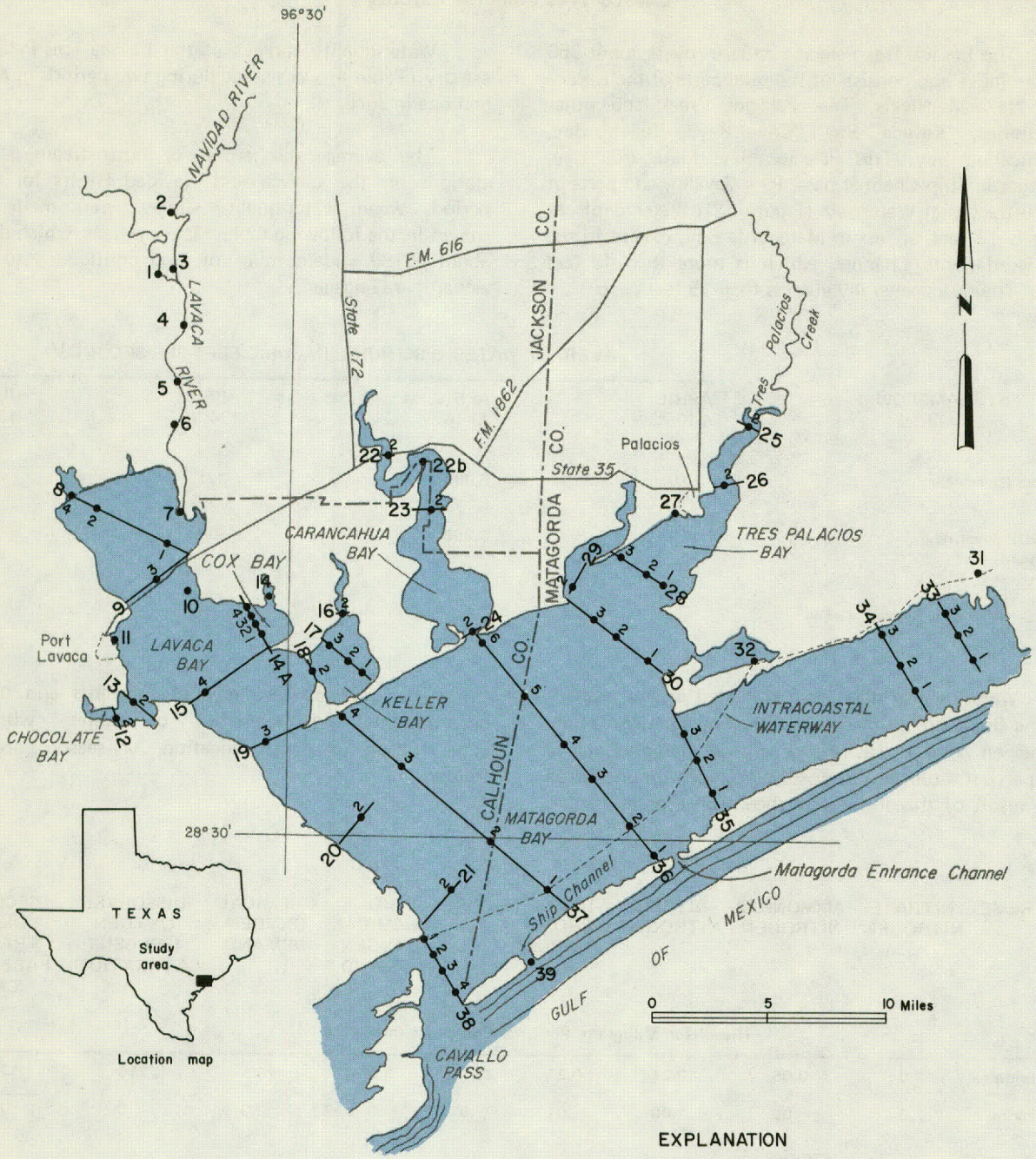


Figure 12

Data-Collection Sites in the Lavaca-Tres Palacios Estuary

Base by US Geological Survey, 1956

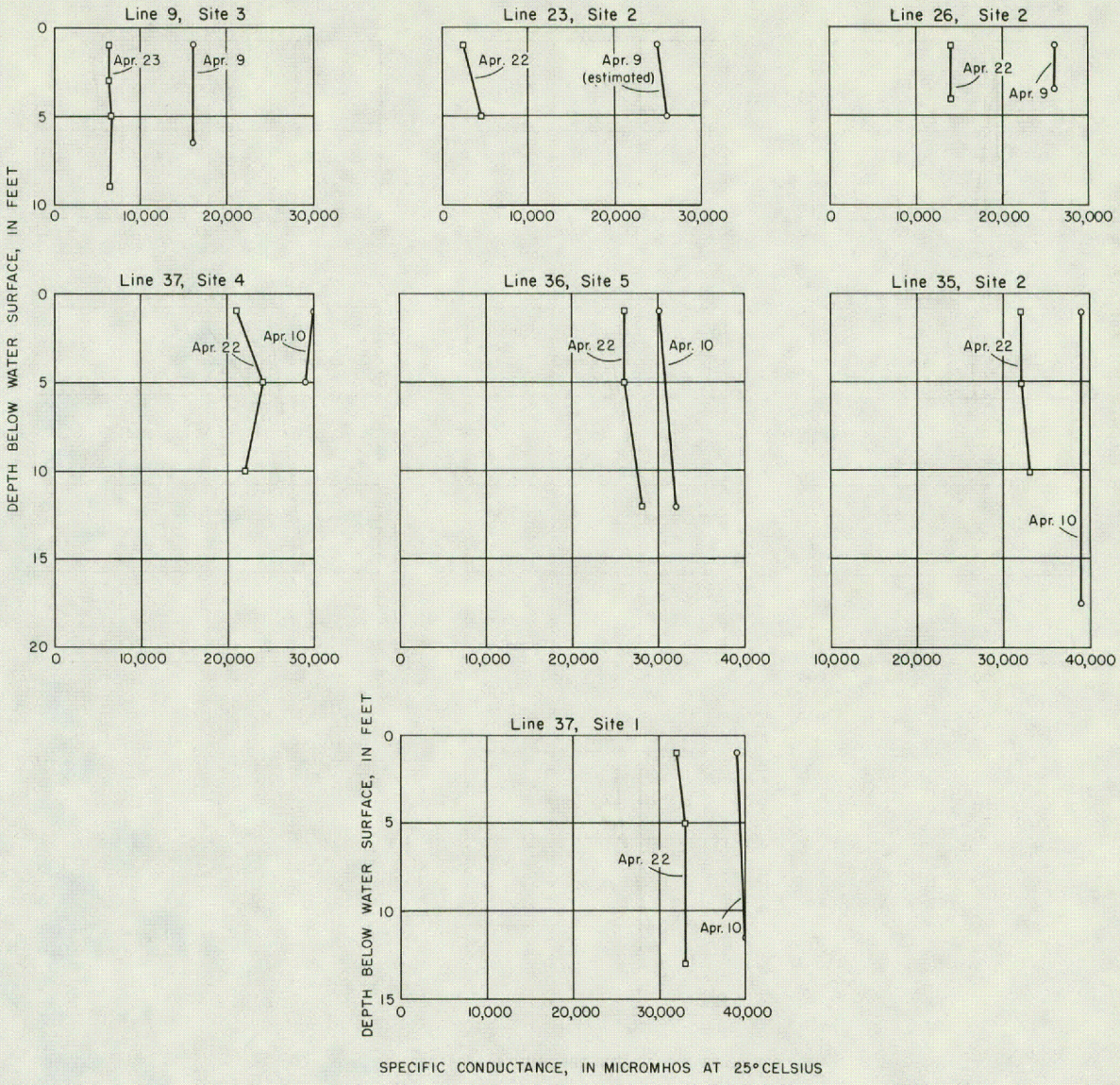


Figure 13

Specific Conductance Versus Depth for Different Flow Conditions at Flood Tide in the Lavaca-Tres Palacios Estuary

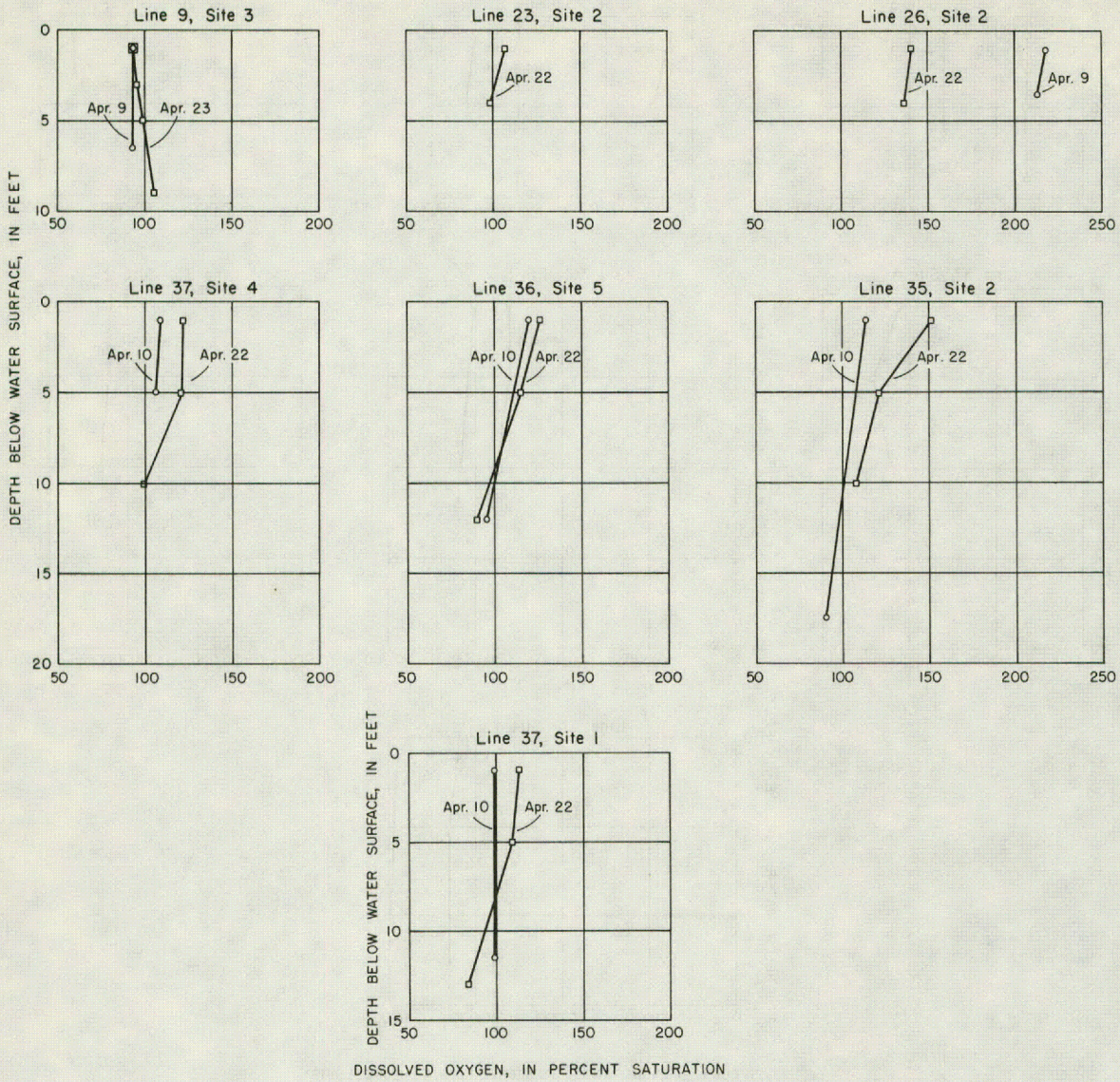


Figure 14

Percent Saturation of Dissolved Oxygen Versus Depth for Different Flow Conditions at Flood Tide in the Lavaca-Tres Palacios Estuary

Table 4A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
								Line 1. Lavaca River									
Apr. 9	1545	2	1	600	8.3	24.4	--	10.0	118	2.3	--	17	0.0	QN	QN	0.01	0.04
			8	600	8.1	23.9		8.5	100	3.0		18	.0	QN	QN	.04	.06
Apr. 23	1410	2	1	840	7.9	24.6	56	13.1	156	4.6	--	22	.0	QN	QN	.03	.07
			3	830	7.7	23.3		10.2	117	--	--	--	--	--	--	--	--
			5	850	7.6	23.0		9.4	108	--	--	--	--	--	--	--	--
			10	1,200	7.5	23.1		9.1	105	1.4	--	22	.0	QN	QN	.01	.10
June 19	1120	2	1	670	8.0	29.3	67	8.2	105	3.1	16	20	.0	QN	QN	.09	.12
			5	650	7.9	29.0		7.7	99	--	--	--	--	--	--	--	--
			9	730	7.7	28.9		7.2	92	3.2	13	21	.0	QN	QN	.11	.13
								Line 2. Navidad River									
Apr. 9	1510	2	1	600	8.2	24.3	--	10.6	125	2.5	--	17	.0	QN	QN	.03	.05
			8.5	700	7.8	23.5		9.4	111	2.8	--	16	.0	QN	QN	.04	.06
Apr. 23	1430	2	1	480	7.6	27.9	37	9.2	116	3.3	--	18	.0	QN	QN	.01	.06
			3	480	7.4	24.3		8.6	101	--	--	--	--	--	--	--	--
			5	480	7.4	23.4		8.3	95	--	--	--	--	--	--	--	--
			9	480	7.3	23.3		8.7	100	1.7	--	18	.1	QN	QN	.01	.09
June 19	1055	2	1	710	7.9	29.2	69	8.2	105	2.8	14	21	.0	QN	QN	.05	.10
			5	700	7.8	28.8		7.7	99	--	--	--	--	--	--	--	--
			9	720	7.6	28.6		6.7	86	2.4	8.3	22	.0	QN	QN	.05	.08
								Line 3. Navidad River									
Apr. 23	1450	2	1	510	7.9	25.8	33	11.5	140	--	--	--	--	--	--	--	--
			3	460	7.4	23.5		7.9	93	--	--	--	--	--	--	--	--
			6	540	7.3	23.3		7.8	90	--	--	--	--	--	--	--	--
June 19	1045	2	1	700	7.9	29.0	69	8.0	103	--	--	--	--	--	--	--	--
			5	700	7.9	28.9		7.7	99	--	--	--	--	--	--	--	--
			13	700	7.9	28.9		7.4	95	--	--	--	--	--	--	--	--
								Line 4. Lavaca River									
Apr. 9	1450	2	1	600	8.3	24.2	84	9.4	111	--	--	--	--	--	--	--	--
			9	900	8.3	24.1		9.2	108	--	--	--	--	--	--	--	--
Apr. 23	1500	2	1	670	8.2	27.3	43	13.8	170	--	--	--	--	--	--	--	--
			3	670	7.9	24.9		11.8	140	--	--	--	--	--	--	--	--
			7	650	7.6	24.0		9.8	115	--	--	--	--	--	--	--	--
June 19	1030	2	1	690	8.0	28.9	64	7.2	92	--	--	--	--	--	--	--	--
			5	700	8.0	28.9		7.2	92	--	--	--	--	--	--	--	--
			9	680	8.0	28.9		6.8	87	--	--	--	--	--	--	--	--
								Line 5. Lavaca River									
Apr. 23	1515	2	1	740	8.1	26.3	36	12.8	156	--	--	--	--	--	--	--	--
			3	710	8.0	25.5		12.0	146	--	--	--	--	--	--	--	--
			5	820	7.7	24.0		9.6	113	--	--	--	--	--	--	--	--
			10	690	7.6	23.8		9.5	112	--	--	--	--	--	--	--	--
June 19	1020	2	1	920	8.1	29.0	71	7.2	92	--	--	--	--	--	--	--	--
			5	920	8.1	28.9		7.2	92	--	--	--	--	--	--	--	--
			11	1,300	8.1	28.7		6.2	79	--	--	--	--	--	--	--	--
								Line 6. Lavaca River									
Apr. 9	1430	2	1	1,500	8.4	23.9	--	8.8	104	--	--	--	--	--	--	--	--
			5	1,500	8.5	23.8		8.8	104	--	--	--	--	--	--	--	--
			11.5	2,800	8.3	23.4		7.3	85	--	--	--	--	--	--	--	--
Apr. 23	1530	2	1	810	7.9	25.4	38	10.3	123	--	--	--	--	--	--	--	--
			3	760	7.9	24.9		10.0	119	--	--	--	--	--	--	--	--
			5	760	7.7	24.0		9.5	112	--	--	--	--	--	--	--	--
			11	760	7.6	23.8		9.8	115	--	--	--	--	--	--	--	--
June 19	1005	2	1	1,000	7.9	28.6	67	6.8	87	--	--	--	--	--	--	--	--
			5	1,000	7.9	28.6		6.8	87	--	--	--	--	--	--	--	--
			12	1,100	7.9	28.5		6.4	81	--	--	--	--	--	--	--	--
Do.	1150	2	1	970	8.0	29.1	--	7.5	96	--	--	--	--	--	--	--	--
			5	920	8.0	29.0		7.3	94	--	--	--	--	--	--	--	--
			11	970	7.8	29.0		6.7	86	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table 4A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 7. Lavaca River																	
Apr. 9	1400	2	1	15,000	8.2	24.4	--	7.8	96	1.5	--	7.1	0.0	QN	QN	0.02	0.04
			7	15,000	7.8	24.0		8.4	104	1.4	--	6.1	.0	QN	QN	.02	.03
Apr. 23	1550	2	1	1,500	7.8	26.3	20	8.6	105	2.8	--	12	.2	QN	QN	.05	.12
			5	1,500	7.7	25.7		8.5	104	--	--	--	--	--	--	--	--
			10	1,700	7.6	25.1		8.5	101	2.1	--	12	.1	QN	QN	.06	.13
June 19	0930	2	1	2,800	7.9	28.1	41	7.4	95	1.8	--	12	.0	QN	QN	.04	.07
			3	6,000	7.9	27.6		7.1	92	--	--	--	--	--	--	--	--
			5	8,300	7.9	27.5		7.0	91	--	--	--	--	--	--	--	--
			11	8,800	7.9	27.5		6.8	88	2.3	--	10	.0	QN	QN	.05	.09
Line 8. Lavaca Bay																	
Apr. 9	1330	1	1	15,000	8.0	23.5	30	8.0	99	--	--	--	--	--	--	--	--
			6	15,000	8.0	23.5		7.8	96	--	--	--	--	--	--	--	--
Do.	1345	3	1	10,000	8.1	23.6	--	8.2	99	--	--	--	--	--	--	--	--
			4	10,000	8.1	23.8		8.2	99	--	--	--	--	--	--	--	--
Apr. 23	1600	1	1	2,000	7.5	24.7	18	6.7	81	--	--	--	--	--	--	--	--
			5	2,000	7.5	24.6		6.7	81	--	--	--	--	--	--	--	--
			7	2,000	7.5	24.7		6.5	78	--	--	--	--	--	--	--	--
Do.	1620	2	1	1,400	7.5	24.2	23	7.9	93	--	--	--	--	--	--	--	--
			5	1,400	7.5	24.2		8.1	95	--	--	--	--	--	--	--	--
Do.	1615	3	1	900	7.4	24.8	15	8.0	95	--	--	--	--	--	--	--	--
			4.5	950	7.4	24.7		8.4	100	--	--	--	--	--	--	--	--
June 19	0840	1	1	9,000	7.9	27.6	43	6.8	88	--	--	--	--	--	--	--	--
			5	10,000	7.9	27.6		6.5	84	--	--	--	--	--	--	--	--
Do.	0900	3	1	4,300	7.9	27.8	46	7.4	95	1.5	--	10	.0	QN	QN	.04	.07
			4.5	4,500	7.9	27.7		7.2	92	1.5	--	10	.0	QN	QN	.04	.07
Line 9. Lavaca Bay																	
Apr. 9	1235	3	1	16,000	8.1	23.2	--	7.8	94	4.2	--	5.5	.0	QN	QN	.04	.06
			6.5	16,000	7.9	23.2		7.7	93	1.7	--	6.2	.0	QN	QN	.08	.03
Apr. 23	1655	2	1	6,100	7.7	24.6	29	7.7	94	--	--	--	--	--	--	--	--
			5	6,100	7.7	24.8		8.2	100	--	--	--	--	--	--	--	--
Do.	1640	3	1	6,300	7.7	24.8	30	7.7	94	2.1	--	8.5	.3	QN	QN	.07	.08
			3	6,300	7.7	24.9		7.8	95	--	--	--	--	--	--	--	--
			5	6,500	7.7	24.9		8.0	98	--	--	--	--	--	--	--	--
			9	6,300	7.7	25.1		8.6	105	1.9	--	8.6	.1	QN	QN	.01	.07
Do.	--	3a	1	5,100	7.6	24.8	20	7.6	92	--	--	--	--	--	--	--	--
			6	5,000	7.6	24.6		7.8	94	--	--	--	--	--	--	--	--
	--	4	1	1,500	7.6	24.1	19	7.7	91	--	--	--	--	--	--	--	--
			4	1,700	7.6	24.0		7.7	91	--	--	--	--	--	--	--	--
June 19	1640	3	1	13,000	8.2	29.6	48	8.0	110	3.0	--	8.1	.0	QN	QN	.03	.06
			5	13,000	8.2	29.6		7.9	108	--	--	--	--	--	--	--	--
			8.5	14,000	8.0	29.5		7.2	99	2.9	--	8.2	.0	QN	QN	.03	.06
Line 10. Lavaca Bay																	
Apr. 9	1135	1	1	24,000	8.1	22.9	51	7.5	94	--	--	--	--	--	--	--	--
			10	26,000	8.1	22.7		7.5	94	--	--	--	--	--	--	--	--
			20	26,000	8.1	22.5		7.3	90	--	--	--	--	--	--	--	--
			31.5	41,000	8.0	20.9		5.5	71	--	--	--	--	--	--	--	--
Apr. 23	1200	1	1	7,400	8.1	24.6	34	9.4	--	2.8	--	8.0	.1	QN	0.04	.02	.13
			3	10,000	8.0	24.1		8.8	--	--	--	--	--	--	--	--	--
			5	11,000	7.8	23.1		6.8	--	--	--	--	--	--	--	--	--
			10	11,000	7.7	22.8		6.2	--	--	--	--	--	--	--	--	--
			20	11,000	7.7	22.4		6.4	--	--	--	--	--	--	--	--	--
			34	10,000	7.6	22.0		6.2	--	2.3	--	2.4	.1	QN	QN	.03	.04
June 19	1600	1	1	18,000	8.2	29.7	58	7.5	104	2.7	--	6.8	.0	QN	QN	.03	.05
			5	20,000	8.2	29.6		7.3	103	--	--	--	--	--	--	--	--
			10	20,000	8.1	29.1		6.9	96	--	--	--	--	--	--	--	--
			20	31,000	7.9	28.5		3.3	47	--	--	--	--	--	--	--	--
			33	34,000	7.8	28.3		1.4	20	1.5	--	3.1	.0	QN	.21	.03	.05

See footnotes at end of table.

Table 4A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
								Line 11. Lavaca Bay									
Apr. 9	1210	2	1	18,000	7.6	23.3	--	2.6	32	7.5	--	6.0	0.0	QN	QN	0.20	0.21
			3	18,000	7.4	23.3		2.7	33	--	--	--	--	--	--	--	--
			5	18,000	7.7	22.8		5.7	70	--	--	--	--	--	--	--	--
			11.5	19,000	7.7	22.9		6.1	74	2.0	--	5.2	.0	QN	QN	.10	.12
Apr. 23	1740	2	1	4,800	7.7	26.4	23	7.6	94	4.4	--	8.4	.1	QN	QN	.11	.20
			5	6,300	7.7	26.0		7.6	95	--	--	--	--	--	--	--	--
			7	7,000	7.2	25.8		5.6	70	--	--	--	--	--	--	--	--
			10	19,000	7.1	22.6		3.3	40	--	--	--	--	--	--	--	--
			13	21,000	7.1	22.7		4.7	58	2.2	--	5.8	.1	QN	QN	.05	.11
June 19	1335	2	1	14,000	7.5	29.9	61	1.7	23	8.0	--	8.6	.0	QN	QN	.14	.15
			5	14,000	7.6	29.7		2.4	33	--	--	--	--	--	--	--	--
			10	16,000	7.6	29.1		1.8	24	--	--	--	--	--	--	--	--
			17	21,000	6.9	28.1		.0	0	5.6	--	7.5	.0	QN	QN	.08	.10
								Line 12. Chocolate Bay									
Apr. 23	1235	2	3	5,500	7.5	25.2	25	9.2	112	2.3	--	8.0	.0	QN	QN	.03	.06
								Line 13. Chocolate Bay									
Apr. 23	1250	2	1	5,600	8.1	25.5	37	9.4	117	--	--	--	--	--	--	--	--
			5	5,600	8.0	25.1		9.6	117	--	--	--	--	--	--	--	--
			9.5	8,600	7.6	24.2		8.7	105	--	--	--	--	--	--	--	--
								Line 14. Cox Bay									
Apr. 23	1050	2	1	5,900	8.0	25.8	39	9.2	115	--	--	--	--	--	--	--	--
			3	5,200	7.9	23.7		8.5	102	3.3	--	7.5	.3	QN	0.06	.05	.06
June 19	1515	2	1	18,000	8.0	30.3	46	8.0	111	--	--	--	--	--	--	--	--
			3.5	18,000	8.0	30.3		8.3	115	1.5	--	6.8	.0	QN	QN	.02	.04
Aug. 27	1150	2	1	38,000	7.7	28.8	68	6.7	100	--	--	--	--	--	--	--	--
			4.5	38,000	7.6	28.7		6.8	102	1.8	--	4.0	.0	QN	QN	.03	.03
								Line 14a. Cox Bay									
Apr. 23	1120		1	5,700	8.4	25.2	44	10.3	124	--	--	--	--	--	--	--	--
			3	5,700	8.0	23.8		9.4	113	--	--	--	--	--	--	--	--
			5	5,700	7.8	24.0		9.0	107	--	--	--	--	--	--	--	--
Aug. 27	1155	1	1	38,000	7.7	29.6	98	7.5	114	--	--	--	--	--	--	--	--
			3	40,000	7.7	29.5		7.3	112	--	--	--	--	--	--	--	--
			6	40,000	7.6	29.4		6.8	103	--	--	--	--	--	--	--	--
Do.	1230	2	1	38,000	7.7	29.5	72	7.1	108	--	--	--	--	--	--	--	--
			3	38,000	7.8	29.2		7.0	104	--	--	--	--	--	--	--	--
			5	38,000	7.7	29.1		6.5	97	--	--	--	--	--	--	--	--
			7	38,000	7.7	29.0		5.7	85	--	--	--	--	--	--	--	--
Do.	1215	3	1	38,000	7.8	29.2	71	7.2	108	--	--	--	--	--	--	--	--
			3	38,000	7.8	29.2		7.3	109	--	--	--	--	--	--	--	--
			7	38,000	7.7	29.0		6.5	97	--	--	--	--	--	--	--	--
Do.	1210	4	1	38,000	7.7	29.5	62	6.9	103	--	--	--	--	--	--	--	--
			3	36,000	7.7	29.4		7.0	103	--	--	--	--	--	--	--	--
			6	38,000	7.7	29.0		6.8	102	--	--	--	--	--	--	--	--
								Line 15. Lavaca Bay									
Apr. 9	1110	4	1	26,000	8.1	22.7	61	7.6	95	--	--	--	--	--	--	--	--
			10	26,000	8.1	22.7		7.5	94	--	--	--	--	--	--	--	--
			20	31,000	8.1	21.9		6.3	80	--	--	--	--	--	--	--	--
			36.5	32,000	8.0	21.7		5.9	75	--	--	--	--	--	--	--	--
Apr. 23	1135	2	1	6,200	8.5	25.3	51	9.2	111	--	--	--	--	--	--	--	--
			3	6,200	8.4	25.4		11.6	141	--	--	--	--	--	--	--	--
			5	6,300	8.0	23.5		12.6	154	--	--	--	--	--	--	--	--
			6.5	6,200	7.8	23.4		9.4	110	--	--	--	--	--	--	--	--
								Line 16. Keller Bay									
Jan. 14	1325	2	1	34,000	--	12.9	--	9.5	90	1.5	--	.0	.0	0.00	.00	--	.03
			4.5	34,000	--	12.9		9.5	90	1.6	--	.1	.1	.00	.00	--	.03
Apr. 23	1015	2	1	12,900	8.2	25.1	52	--	--	2.7	--	6.1	.1	QN	QN	.01	.03
			2	12,400	8.1	24.9		--	--	2.9	--	5.7	.1	QN	QN	.02	.04
Aug. 27	1110	2	1	38,000	7.8	28.9	90	6.6	99	--	--	--	--	--	--	--	--
			4	40,000	7.8	28.9		6.7	102	1.8	--	4.0	.0	QN	QN	.01	.03

See footnotes at end of table.

Table 4A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
								Line 17. Keller Bay									
Jan. 14	1440	1	1	34,000	--	12.4	--	9.5	89	0.9	--	0.1	0.0	0.00	0.00	--	0.03
			5	34,000	--	12.4		9.5	89	.7	--	.2	.0	.00	.00	--	.03
Do.	1425	2	1	34,000	--	12.5	--	9.4	88	.9	--	.3	.0	.02	.00	--	.03
			5.5	34,000	--	12.7		9.3	87	.9	--	.4	.0	.00	.00	--	.03
Do.	1355	3	1	34,000	--	12.9	--	9.5	90	.9	--	.0	.0	.00	.00	--	.03
			5	34,000	--	12.9		9.5	90	--	--	--	--	--	--	--	--
								Line 18. Keller Bay									
Jan. 14	1500	2	1	34,000	--	12.3	--	8.9	82	.5	--	.6	.0	.00	.00	--	.04
			5	34,000	--	12.4		9.5	89	.3	--	.5	.0	.00	.00	--	.04
Apr. 23	0950	2	1	13,800	8.4	23.9	61	--	--	--	--	--	--	--	--	--	--
			3	13,800	8.4	23.8		--	--	--	--	--	--	--	--	--	--
			5	13,800	8.2	22.8		--	--	2.7	--	5.3	.1	QN	QN	0.01	.03
Aug. 27	1050	2	1	42,000	7.9	29.2	78	6.6	102	1.7	--	3.7	.0	QN	QN	.01	.04
			3	42,000	7.9	29.2		6.3	97	--	--	--	--	--	--	--	--
			7	42,000	8.0	29.1		6.1	94	1.9	--	4.1	.0	QN	QN	.01	.04
								Line 19. Lavaca Bay									
Apr. 9	1040	3	1	31,000	8.1	22.7	61	5.9	76	.7	--	2.8	--	--	--	--	--
			10	32,000	8.1	22.6		6.1	78	--	--	--	--	--	--	--	--
			20	32,000	8.1	22.6		7.1	91	--	--	--	--	--	--	--	--
			31.5	38,000	8.5	21.4		5.5	71	.7	--	4.0	.0	QN	QN	.02	.03
June 19	1435	3	1	24,000	8.2	29.3	74	7.3	101	1.8	--	4.6	.0	QN	QN	.01	.04
			5	24,000	8.2	29.2		7.3	101	--	--	--	--	--	--	--	--
			10	24,000	8.2	29.2		7.3	101	--	--	--	--	--	--	--	--
			20	27,000	8.0	29.1		6.9	99	--	--	--	--	--	--	--	--
			35	40,000	8.0	28.3		4.3	63	1.3	--	2.0	.0	QN	QN	.02	.04
Aug. 27	1010	3	1	42,000	8.3	29.4	58	6.1	94	1.8	--	4.0	.0	QN	QN	.01	.04
			5	42,000	8.3	29.3		5.9	91	--	--	--	--	--	--	--	--
			10	42,000	8.4	29.4		6.0	94	--	--	--	--	--	--	--	--
			20	43,000	8.4	29.5		6.2	97	--	--	--	--	--	--	--	--
			30	47,000	8.3	29.9		5.4	87	--	--	--	--	--	--	--	--
			40	57,000	8.1	30.2		4.3	73	1.5	--	2.6	.1	QN	QN	.03	.06
								Line 20. Matagorda Bay									
Apr. 9	1020	2	1	30,000	8.2	22.5	--	7.5	95	--	--	--	--	--	--	--	--
			10	32,000	8.1	22.2		7.0	89	--	--	--	--	--	--	--	--
			20	32,000	8.2	22.0		6.9	87	--	--	--	--	--	--	--	--
			35	43,000	8.3	21.0		6.6	87	--	--	--	--	--	--	--	--
								Line 21. Matagorda Bay									
Apr. 9	0930	2	1	44,000	8.3	22.1	61	7.0	95	.6	--	1.9	.0	QN	QN	.01	.02
			10	44,000	8.3	22.0		7.2	97	--	--	--	--	--	--	--	--
			20	44,000	8.3	21.8		7.1	96	--	--	--	--	--	--	--	--
			36.5	44,000	8.3	21.7		7.0	95	.4	--	1.1	.0	QN	QN	.01	.02
								Line 22. Carancahua Bay									
Jan. 16	1210	2	1	18,000	8.1	17.1	--	13.8	142	--	--	--	--	--	--	--	--
			2	21,000	8.1	17.2		15.0	155	1.5	--	6.0	.0	.0	.01	--	.04
								Line 22b. Carancahua Bay									
Jan. 16	1235	2	1	31,000	8.1	16.4	--	9.3	94	--	--	--	--	--	--	--	--
			2	31,000	8.1	16.5		9.2	93	--	--	--	--	--	--	--	--
			3.5	31,000	8.1	16.4		9.3	94	--	--	--	--	--	--	--	--
								Line 23. Carancahua Bay									
Jan. 16	1115	2	1	33,000	8.0	15.9	--	14.9	149	.5	--	.5	.0	.00	.00	--	.03
			5	34,000	8.0	15.5		14.4	143	.4	--	.2	.0	.00	.00	--	.03
Apr. 22	1100	2	1	2,400	7.8	23.9	25	9.0	107	1.4	--	--	.4	QN	--	.07	.08
			4	4,500	7.6	23.1		8.4	98	1.1	--	8.5	.4	QN	.08	.05	.07
								Line 24. Carancahua Bay									
Jan. 16	1040	2	1	42,000	8.1	13.9	--	15.5	130	.5	--	.0	.0	.00	.00	--	--
			5	42,000	8.0	14.2		13.5	149	.4	--	.0	.0	.05	.00	--	.03
Apr. 22	1130	2	1	22,000	8.3	23.9	57	9.4	119	--	--	--	--	--	--	--	--
			4.5	22,000	8.3	24.1		9.8	124	--	--	--	--	--	--	--	--

See footnotes at end of table

Table 4A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 25. Tres Palacios Bay																	
Jan. 16	1515	2	1	33,000	7.8	20.2	--	1.9	18	1.4	--	0.0	0.0	0.02	0.00	--	0.05
			2	33,000	7.8	20.1		1.9	17	1.6	--	.0	.0	.00	.00	--	.05
Apr. 9	1200	2	1	24,000	8.5	24.0	--	17.3	219	--	--	--	--	--	--	--	--
			2	24,000	8.4	24.0		17.2	218	2.1	--	3.0	.0	QN	QN	0.04	.05
Line 26. Tres Palacios Bay																	
Jan. 16	1530	2	1	34,000	7.8	17.3	--	8.7	90	--	--	--	--	--	--	--	--
			4	36,000	7.8	17.8		8.5	89	--	--	--	--	--	--	--	--
Apr. 9	--	2	1	26,000	8.2	23.7	--	17.0	218	--	--	--	--	--	--	--	--
			3.5	26,000	8.0	23.7		16.6	213	--	--	--	--	--	--	--	--
Apr. 22	1730	2	1	14,000	8.3	25.0	31	11.3	140	4.6	--	6.6	.2	QN	.10	.05	.08
			4	14,000	8.3	24.8		11.1	137	3.9	--	6.5	.2	QN	.09	.05	.08
June 18	1450	2	1	18,000	8.2	29.9	48	7.3	101	3.5	--	7.0	.0	QN	QN	.04	.07
			4	20,000	8.2	29.6		7.8	110	3.1	--	6.7	.0	QN	QN	.05	.08
Line 27. Tres Palacios Bay																	
Apr. 9	--	2	1	28,000	8.1	23.5	--	14.5	188	1.3	--	1.3	.0	QN	QN	.05	.06
			5	28,000	8.1	23.4		14.6	185	--	--	--	--	--	--	--	--
			10	28,000	8.1	23.3		14.2	180	--	--	--	--	--	--	--	--
			15.5	28,000	8.0	23.1		13.8	175	1.2	--	3.0	.0	QN	QN	.03	.04
June 18	1535	2	1	23,000	8.3	30.5	46	7.3	104	4.8	--	3.3	.0	QN	QN	.05	.08
			6	23,000	8.1	29.7		5.6	80	4.5	--	4.4	.0	QN	QN	.08	.11
Line 28. Tres Palacios Bay																	
Jan. 16	1610	2	1	41,000	7.8	14.5	--	15.8	155	.3	--	.0	.0	.00	.00	--	.03
			5	41,000	7.7	14.4		16.8	164	--	--	--	--	--	--	--	--
			10	39,000	7.8	15.1		17.8	173	--	--	--	--	--	--	--	--
			13.5	41,000	7.7	15.2		16.7	162	.5	--	.0	.0	.00	.00	--	.03
Apr. 9	0940	1	1	32,000	8.3	22.8	--	7.2	92	--	--	--	--	--	--	--	--
			5	30,000	8.2	22.7		7.3	94	--	--	--	--	--	--	--	--
Do.	0950	2	1	29,000	8.3	23.1	--	7.4	94	.7	--	1.8	.0	QN	QN	.02	.02
			6	29,000	8.3	22.8		7.1	90	1.0	--	4.2	.1	QN	QN	.03	.03
Do.	1015	3	1	29,000	8.3	23.3	--	7.2	91	--	--	--	--	--	--	--	--
			6	29,000	8.2	23.2		7.0	89	--	--	--	--	--	--	--	--
Apr. 22	1750	2	1	26,000	8.1	23.2	51	8.9	111	--	--	--	--	--	--	--	--
			5	28,000	8.1	22.9		8.8	111	--	--	--	--	--	--	--	--
			10	28,000	8.0	22.4		8.0	100	--	--	--	--	--	--	--	--
			14	26,000	8.0	22.6		8.5	106	--	--	--	--	--	--	--	--
Line 30. Tres Palacios Bay																	
Apr. 22	1810	2	1	26,000	8.5	24.3	109	11.1	142	2.5	--	2.8	.0	QN	QN	.02	.03
			5	28,000	8.3	23.9		10.8	140	--	--	--	--	--	--	--	--
			10	28,000	8.2	23.2		9.4	119	2.3	--	2.2	.0	QN	QN	.02	.03
			14.5	28,000	8.2	22.9		9.1	115	--	--	--	--	--	--	--	--
June 18	1625	1	1	27,000	8.3	29.4	86	6.5	93	2.7	--	2.7	.0	QN	QN	.02	.04
			5	29,000	8.2	29.2		6.6	94	--	--	--	--	--	--	--	--
			10	29,000	8.2	28.4		6.0	85	--	--	3.4	.0	QN	QN	.03	.05
Do.	1625	2	1	27,000	8.3	29.4	74	6.6	94	2.5	--	3.2	.0	QN	QN	.01	.05
			5	29,000	8.3	28.9		6.5	93	--	--	--	--	--	--	--	--
			14	29,000	8.2	28.9		6.5	93	2.5	--	4.1	.0	QN	QN	.05	.07
Do.	1640	3	1	27,000	8.3	29.6	63	6.6	96	2.9	--	3.7	.0	QN	QN	.02	.05
			5	27,000	8.3	28.3		6.6	93	2.6	--	3.7	.0	QN	QN	.02	.05
Line 31. Intracoastal Waterway																	
Apr. 22	1430	2	1	5,800	8.0	24.0	20	9.6	116	1.3	--	9.3	1.8	QN	QN	.09	.10
			5	5,800	8.0	23.9		9.3	112	--	--	--	--	--	--	--	--
			10	5,800	8.0	23.8		9.2	111	--	--	--	--	--	--	--	--
			15	6,200	7.9	23.8		9.0	108	.8	--	10	2.0	QN	QN	.11	.12
June 18	1130	2	1	21,000	7.9	28.9	38	5.8	81	1.7	--	4.9	.2	QN	QN	.02	.03
			5	21,000	7.9	28.8		5.8	81	--	--	--	--	--	--	--	--
			10	23,000	7.9	28.7		5.7	79	--	--	--	--	--	--	--	--
			14	23,000	7.9	28.9		5.8	81	1.4	--	4.9	.2	QN	QN	.03	.04

See footnotes at end of table.

Table 4A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 32. Intracoastal Waterway																	
Apr. 10	1345	2	1	32,000	--	24.8	--	7.5	100	--	--	--	--	--	--	--	--
			13.5	32,000	--	24.6		7.7	103	--	--	--	--	--	--	--	--
Apr. 22	1400	2	1	22,000	8.3	24.3	48	9.6	122	--	--	--	--	--	--	--	--
			5	25,000	8.4	23.7		9.5	122	--	--	--	--	--	--	--	--
			10	25,000	8.3	23.3		8.7	109	--	--	--	--	--	--	--	--
			15	25,000	8.2	23.3		8.1	101	--	--	--	--	--	--	--	--
June 18	1055	2	1	26,000	8.1	27.9	43	6.7	93	--	--	--	--	--	--	--	--
			5	26,000	8.1	27.6		6.6	92	--	--	--	--	--	--	--	--
			13	26,000	8.1	27.6		6.7	93	--	--	--	--	--	--	--	--
Line 33. Matagorda Bay																	
Apr. 22	1535	1	1	26,000	8.8	25.3	76	14.8	192	--	--	--	--	--	--	--	--
			6.5	30,000	8.5	23.4		10.6	136	--	--	--	--	--	--	--	--
Do.	1545	2	1	18,000	8.7	25.1	52	15.2	192	4.8	--	3.2	0.2	QN	QN	0.03	0.06
			5	21,000	8.6	23.6		12.5	158	4.9	--	1.4	.0	QN	QN	.04	.06
June 18	1310	1	1	34,000	8.3	28.9	51	7.6	112	3.6	--	2.8	.0	QN	QN	.04	.06
			3	34,000	8.3	28.8		6.3	93	3.6	--	2.4	.0	QN	QN	.04	.07
Do.	1330	2	1	34,000	8.2	29.6	53	7.1	106	--	--	--	--	--	--	--	--
			5	34,000	8.2	29.2		6.8	104	--	--	--	--	--	--	--	--
Do.	1335	3	1	31,000	8.2	29.4	41	7.5	109	--	--	--	--	--	--	--	--
			3	31,000	8.1	29.1		7.2	104	--	--	--	--	--	--	--	--
Line 34. Matagorda Bay																	
Apr. 22	1520	1	1	33,000	8.7	25.2	84	12.8	173	--	--	--	--	--	--	--	--
			8	33,000	8.4	23.5		9.5	127	--	--	--	--	--	--	--	--
Do.	1515	2	1	32,000	8.4	24.2	70	11.1	146	--	--	--	--	--	--	--	--
			6.5	32,000	8.3	23.7		9.8	129	--	--	--	--	--	--	--	--
Do.	1505	3	1	28,000	8.3	24.9	43	12.4	163	--	--	--	--	--	--	--	--
			4	28,000	8.3	23.8		10.4	135	--	--	--	--	--	--	--	--
June 18	1255	1	1	34,000	8.2	28.9	66	7.2	106	--	--	--	--	--	--	--	--
			7	34,000	8.2	28.5		6.8	99	--	--	--	--	--	--	--	--
Do.	1245	2	1	31,000	8.2	28.6	46	7.2	104	--	--	--	--	--	--	--	--
			6	31,000	8.1	28.2		6.5	93	--	--	--	--	--	--	--	--
Do.	1235	3	1	29,000	8.1	29.1	43	7.9	113	--	--	--	--	--	--	--	--
			4	29,000	8.0	27.9		6.4	90	--	--	--	--	--	--	--	--
Line 35. Matagorda Bay																	
Apr. 10	1250	1	1	39,000	--	23.9	76	8.5	115	--	--	--	--	--	--	--	--
			12	41,000	--	22.5		6.3	83	--	--	--	--	--	--	--	--
Do.	1320	2	1	39,000	--	24.8	--	8.3	114	1.4	--	2.0	.0	QN	QN	.02	.03
			17.5	39,000	--	22.5		7.1	92	2.4	--	5.3	.0	QN	QN	.02	.02
Do.	1310	3	1	39,000	--	24.6	64	8.1	111	--	--	--	--	--	--	--	--
			9.5	39,000	--	23.1		7.1	95	--	--	--	--	--	--	--	--
Apr. 22	1320	1	1	33,000	8.4	24.4	137	10.2	136	--	--	--	--	--	--	--	--
			5	33,000	8.4	24.1		9.3	124	--	--	--	--	--	--	--	--
			10	33,000	8.3	24.1		9.0	120	--	--	--	--	--	--	--	--
Do.	1330	2	1	32,000	8.5	24.6	75	11.4	152	2.5	--	1.8	.0	QN	QN	.00	.03
			5	32,000	8.4	22.7		9.5	122	--	--	--	--	--	--	--	--
			10	33,000	8.2	22.9		8.4	109	1.4	--	2.2	.0	QN	QN	.02	.03
Do.	1340	3	1	29,000	8.6	25.1	53	12.2	161	--	--	--	--	--	--	--	--
			6.5	28,000	8.2	23.2		7.6	96	--	--	--	--	--	--	--	--
June 18	1010	1	1	34,000	8.2	27.7	69	6.2	90	--	--	--	--	--	--	--	--
			5	34,000	8.2	27.6		6.1	88	--	--	--	--	--	--	--	--
			9	34,000	8.1	27.4		5.0	70	--	--	--	--	--	--	--	--
Do.	1023	2	1	31,000	8.2	27.9	122	7.5	107	1.7	--	3.1	.0	QN	QN	.01	.06
			5	31,000	8.2	27.8		7.2	103	--	--	--	--	--	--	--	--
			10	34,000	8.2	27.7		5.9	86	1.3	--	2.5	.0	QN	QN	.03	.03
Do.	1035	3	1	31,000	8.2	28.0	96	7.3	104	--	--	--	--	--	--	--	--
			5	31,000	8.2	28.0		7.3	104	--	--	--	--	--	--	--	--
			8	31,000	8.2	28.0		6.9	99	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table 4A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
							Line 36. Matagorda Bay										
Apr. 10	1225	1	1	41,000	--	23.8	132	8.1	111	--	--	--	--	--	--	--	--
			4.5	40,000	--	23.0		7.9	107	--	--	--	--	--	--	--	--
Do.	1210	2	1	34,000	--	24.5	94	8.8	117	1.2	--	2.1	0.0	QN	QN	0.01	0.03
			14.5	43,000	--	22.2		7.0	93	1.3	--	2.0	.0	QN	QN	.02	.02
Do.	1150	3	1	34,000	--	24.9	--	8.6	116	--	--	--	--	--	--	--	--
			10.5	39,000	--	22.9		6.8	91	--	--	--	--	--	--	--	--
Do.	1100	4	1	34,000	--	24.7	58	8.4	114	1.4	--	2.3	.0	QN	QN	.01	.02
			11.5	34,000	--	23.1		6.8	88	1.1	--	3.0	.0	QN	QN	.01	.02
Do.	1030	5	1	30,000	--	24.3	56	9.1	120	--	--	--	--	--	--	--	--
			12	32,000	--	23.1		7.5	96	--	--	--	--	--	--	--	--
Do.	1005	6	1	24,000	--	24.5	58	8.2	104	1.4	--	3.1	.0	QN	QN	.01	.02
			4	24,000	--	24.2		8.5	108	1.6	--	3.1	.0	QN	QN	.01	.02
Apr. 22	1245	1	1	30,000	8.3	24.1	136	10.2	134	--	--	--	--	--	--	--	--
			4	32,000	8.3	24.4		9.5	125	--	--	--	--	--	--	--	--
Do.	1230	2	1	32,000	8.4	24.1	119	10.8	142	1.7	--	1.6	.0	QN	QN	.01	.02
			5	33,000	8.4	23.1		10.6	138	--	--	--	--	--	--	--	--
			12	36,000	8.0	22.6		5.7	75	1.8	--	1.7	.0	QN	QN	.03	.04
Do.	1220	3	1	29,000	8.2	24.2	94	9.8	127	--	--	--	--	--	--	--	--
			5	30,000	8.2	23.0		8.9	114	--	--	--	--	--	--	--	--
			10	33,000	7.9	23.0		6.0	78	--	--	--	--	--	--	--	--
Do.	1210	4	1	28,000	8.1	24.3	74	9.6	125	1.2	--	2.8	.0	QN	QN	.02	.02
			5	28,000	8.0	22.6		8.4	106	--	--	--	--	--	--	--	--
			12.5	29,000	8.0	23.1		8.2	104	.7	--	2.6	.1	QN	QN	.02	.02
Do.	1155	5	1	26,000	8.3	24.2	131	9.9	127	--	--	--	--	--	--	--	--
			5	26,000	8.3	22.7		9.2	115	--	--	--	--	--	--	--	--
			12	28,000	8.0	23.2		7.2	91	--	--	--	--	--	--	--	--
Do.	1145	6	1	22,000	8.5	23.9	98	11.2	142	2.0	--	3.6	.0	QN	QN	.01	.02
			5	25,000	8.2	22.8		9.5	119	--	--	--	--	--	--	--	--
			10.5	22,000	7.9	22.9		7.4	91	3.3	--	4.6	.0	QN	QN	.02	.03
June 18	0850	1	1	34,000	8.2	27.8	109	6.2	90	--	--	--	--	--	--	--	--
			7	38,000	8.1	27.5		4.7	69	--	--	--	--	--	--	--	--
Do.	0905	2	1	31,000	8.2	27.6	--	6.9	99	1.3	--	2.7	.0	QN	QN	.02	.04
			5	31,000	8.2	27.6		6.8	97	--	--	--	--	--	--	--	--
			7	38,000	8.0	27.9		1.9	28	--	--	--	--	--	--	--	--
			13	43,000	7.9	27.9		.3	4	1.7	--	2.3	.0	QN	QN	.02	.03
Do.	0925	3	1	31,000	8.2	27.7	53	6.4	91	--	--	--	--	--	--	--	--
			5	31,000	8.2	27.7		6.4	91	--	--	--	--	--	--	--	--
			10	31,000	8.2	27.7		6.4	91	--	--	--	--	--	--	--	--
Do.	0940	4	1	31,000	8.2	27.9	64	6.7	96	1.2	--	2.3	.0	QN	QN	.02	.03
			5	31,000	8.2	27.9		6.7	96	--	--	--	--	--	--	--	--
			12	31,000	8.2	27.9		6.7	96	1.4	--	2.5	.0	QN	QN	.02	.02
Do.	1710	6	1	27,000	8.3	29.4	79	5.9	84	2.6	--	3.6	.0	QN	QN	.01	.04
			5	27,000	8.3	29.2		6.0	86	--	--	--	--	--	--	--	--
			10	27,000	8.2	28.7		6.1	87	2.8	--	4.0	.0	QN	QN	.02	.05
							Line 37. Matagorda Bay										
Apr. 10	0800	1	1	39,000	--	22.5	110	7.7	100	1.0	--	1.2	.0	QN	QN	.01	.02
			11.5	40,000	--	21.9		7.6	100	1.5	--	.9	.0	QN	QN	.01	.02
Do.	0825	2	1	32,000	--	23.1	46	7.6	97	1.4	--	2.0	.0	QN	QN	.01	.02
			13	36,000	--	22.8		7.3	96	1.2	--	2.1	.0	QN	QN	.02	.02
Do.	0900	3	1	30,000	--	23.7	43	8.3	109	1.5	--	1.9	.0	QN	QN	.01	.02
			12	32,000	--	23.1		7.1	91	1.0	--	2.5	.0	QN	QN	.01	.03
Do.	0945	4	1	30,000	--	24.2	36	7.6	109	1.7	--	2.0	.0	QN	QN	.01	.03
			5	29,000	--	23.9		7.7	106	1.6	--	2.0	.0	QN	QN	.01	.02
Apr. 22	0905	1	1	32,000	7.4	22.2	127	8.9	113	1.4	--	1.9	.1	QN	QN	.01	.03
			5	33,000	7.3	22.0		8.6	110	--	--	--	--	--	--	--	--
			13	33,000	7.1	21.7		6.6	85	2.0	--	2.8	.0	QN	QN	.02	.03
Do.	0930	2	1	28,000	8.3	22.2	103	9.3	116	1.7	--	2.9	.1	QN	QN	.01	.04
			5	33,000	8.3	22.2		8.4	108	--	--	--	--	--	--	--	--
			12	33,000	8.0	22.1		6.0	77	1.2	--	3.1	.1	QN	QN	.01	.02

See footnotes at end of table.

Table 4A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 37. Matagorda Bay (continued)																	
Apr. 22	0950	3	1	28,000	8.5	22.7	110	10.8	137	1.6	--	3.7	0.0	QN	QN	0.01	0.04
			5	28,000	8.3	22.3		9.4	118	--	--	--	--	--	--	--	--
			12.5	28,000	8.2	22.6		9.2	116	1.3	--	3.7	.1	QN	QN	.01	.03
Do.	1005	4	1	21,000	8.4	23.0	109	10.0	123	1.9	--	4.0	.0	QN	QN	.02	.04
			5	24,000	8.4	22.4		10.0	122	--	--	--	--	--	--	--	--
			10	22,000	7.9	23.1		8.0	99	2.5	--	4.2	.1	QN	QN	.02	.03
June 17	1405	1	1	42,000	8.2	28.6	127	7.2	111	1.8	--	.7	.0	QN	QN	.01	.02
			5	42,000	8.2	28.9		6.9	106	--	--	--	--	--	--	--	--
			13	47,000	8.2	29.1		6.0	94	1.4	--	.2	.0	QN	QN	.01	.01
Do.	1440	2	1	34,000	8.2	29.1	122	8.0	118	--	--	--	--	--	--	--	--
			5	38,000	8.2	28.9		7.7	115	--	--	--	--	--	--	--	--
			12.5	42,000	8.2	28.6		6.1	94	--	--	--	--	--	--	--	--
Do.	1500	3	1	31,000	8.2	29.0	127	8.3	120	1.4	--	2.4	.0	QN	QN	.01	.03
			5	31,000	8.2	28.9		8.0	116	--	--	--	--	--	--	--	--
			12.5	34,000	8.1	28.5		5.8	84	1.9	--	2.5	.0	QN	QN	.03	.04
Do.	1510	4	1	27,000	8.3	29.3	--	8.8	126	--	--	--	--	--	--	--	---
			5	26,000	8.3	29.2		8.8	124	--	--	--	--	--	--	--	--
			9	27,000	8.2	29.1		7.9	113	--	--	--	--	--	--	--	--
June 18	0835	1	1	36,000	8.2	27.8	99	6.1	88	--	--	--	--	--	--	--	--
			5	36,000	8.2	27.8		6.0	87	--	--	--	--	--	--	--	--
			12	40,000	8.0	28.1		3.2	47	--	--	--	--	--	--	--	--
Line 38. Matagorda Bay																	
Apr. 9	0745	1	1	43,000	8.3	21.6	122	7.7	103	2.1	--	.8	.0	QN	QN	.01	.02
			9.5	43,000	8.2	21.6		7.5	100	1.1	--	.8	.0	QN	QN	.01	.02
June 17	1210	1	1	47,000	8.2	28.6	173	7.1	111	1.9	--	.4	.0	QN	QN	.00	.02
			5	45,000	8.2	28.5		7.1	108	--	--	--	--	--	--	--	--
			11	42,000	8.2	28.5		7.2	107	1.6	--	.3	.0	QN	QN	.02	.02
Line 39. Matagorda Ship Channel																	
Apr. 9	0855	2	1	43,000	8.4	20.7	160	6.6	87	.5	--	.7	.0	QN	QN	.01	.01
			10	43,000	8.4	20.7		7.8	103	--	--	--	--	--	--	--	--
			20	43,000	8.4	20.6		8.4	111	--	--	--	--	--	--	--	--
			30	43,000	8.4	20.6		8.6	113	--	--	--	--	--	--	--	--
			41.5	43,000	8.4	20.7		8.6	113	.3	--	1.0	.0	QN	QN	.01	.02
June 17	1250	2	1	47,000	8.2	28.4	176	6.5	98	1.2	--	.4	.0	QN	QN	.00	.02
			10	45,000	8.2	28.3		6.6	100	--	--	--	--	--	--	--	--
			20	45,000	8.2	28.3		6.6	100	--	--	--	--	--	--	--	--
			30	47,000	8.2	28.2		6.7	102	--	--	--	--	--	--	--	--
			41	47,000	8.2	28.2		6.7	102	1.3	--	.2	.0	QN	QN	.00	.01

1/ Determined at data-collection site.
QN means qualitative test negative.

Table 4B.--CHEMICAL ANALYSES OF WATER FROM THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR

[Results in milligrams per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Density (g/ml at 20°C)
							Line 1. Lavaca River								
April 9	1545	2	8	755	96	8.9	53		304	21	84	430	276	27	--
April 23	1410	2	10	857	109	9.7	64		346	22	102	499	312	28	--
June 19	1120	2	9	742	95	7.5	61		308	24	86	446	268	16	--
							Line 2. Navidad River								
April 9	1510	2	8.5	821	99	10	64		222	26	96	470	288	24	--
April 23	1430	2	9	527	68	7.2	34		225	14	52	305	199	14	--
June 19	1055	2	9	816	98	10	63		328	25	90	470	286	17	--
							Line 7. Lavaca River								
April 9	1400	2	1	13,400	116	280	2,140		120	616	3,800	8,210	1,440	1,340	1.002
			7	15,600	124	338	2,510		110	654	4,520	7,020	1,700	1,610	1.003
June 19	0930	2	1	3,460	50	53	510		136	122	860	1,670	344	232	--
			11	9,320	90	185	1,600		130	418	2,780	5,150	985	878	--
							Line 9. Lavaca Bay								
April 9	1235	3	1	15,600	126	371	2,510		105	694	4,600	8,360	1,840	1,750	1.003
			6.5	15,700	128	350	2,750		106	712	4,900	8,900	1,760	1,670	1.003
April 23	1640	3	9	7,560	72	165	1,240		106	260	2,260	4,060	860	773	--
June 19	1640	3	1	13,300	121	277	2,470		129	614	4,300	7,850	1,440	1,330	1.002
			8.5	14,500	127	310	2,690		129	672	4,700	8,570	1,590	1,480	1.002
							Line 14. Cox Bay								
June 19	1515	2	3.5	18,100	145	413	3,300		122	776	5,900	10,200	2,060	1,960	1.005
							Line 17. Keller Bay								
Jan. 14	1355	3	5	38,100	282	923	7,060		152	2,010	12,500	22,900	4,500	4,380	1.014
							Line 19. Lavaca Bay								
April 9	1040	3	1	29,600	212	698	5,240		114	1,390	9,400	17,000	3,400	3,310	1.011
			31.5	36,500	265	897	6,770		127	1,700	12,200	21,900	4,350	4,250	1.013
June 19	1435	3	1	25,100	205	586	5,080		132	1,260	8,900	16,100	2,920	2,810	1.009
			35	39,300	295	964	7,630		139	1,920	13,600	24,500	4,700	4,590	1.015
Aug. 27	1010	3	40	54,400	425	1,350	11,000		148	2,170	19,600	35,200	6,600	6,480	--
							Line 22. Carancahua Bay								
Jan. 16	1210	2	1	18,600	168	438	3,210		208	1,060	5,620	10,600	2,220	2,050	1.004
							Line 23. Carancahua Bay								
April 22	1100	2	4	4,250	46	92	754		89	188	1,320	2,450	492	419	--
							Line 24. Carancahua Bay								
Jan. 16	1040	2	1	41,600	310	1,020	7,640		162	2,100	13,700	24,900	4,950	4,820	1.016
							Line 25. Tres Palacios Bay								
April 9	1200	2	2	23,800	190	580	4,470		125	1,150	8,000	14,500	2,860	2,760	1.007
							Line 28. Tres Palacios Bay								
April 9	0950	2	6	29,100	220	698	5,650		131	1,290	10,100	18,000	3,420	3,310	1.011
							Line 30. Tres Palacios Bay								
June 18	1625	2	14	27,800	220	679	5,560		140	1,440	9,800	17,800	3,340	3,230	1.009
							Line 31. Intracoastal Waterway								
April 22	1430	2	1	6,230	84	125	1,000		168	270	1,760	3,330	725	588	--
June 18	1135	2	1	22,300	195	543	4,270		161	1,110	7,600	13,800	2,720	2,590	1.006
			14	23,000	200	559	4,520		161	1,160	8,000	14,500	2,800	2,670	1.007
							Line 33. Matagorda Bay								
June 18	1310	1	3	34,800	272	808	6,680		151	1,700	11,800	21,300	4,000	3,880	1.013
							Line 35. Matagorda Bay								
June 18	1025	2	10	34,500	265	807	6,570		143	1,710	11,600	21,000	3,980	3,860	1.012

See footnote at end of table

Table 4B.--CHEMICAL ANALYSES OF WATER FROM THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR--continued

[Results in milligrams per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K). a/	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Density (g/ml at 20°C)
						Line 36. Matagorda Bay									
April 10	1100	4	11.5	36,400	262	862	6,740		129	1,760	12,000	21,700	4,200	4,090	1.013
April 22	1210	4	12.5	27,400	215	667	5,130		117	1,320	9,200	16,600	3,280	3,180	1.009
June 18	0945	4	1	31,300	242	719	5,900		137	1,540	10,400	18,900	3,560	3,450	1.011
			12	31,300	232	715	5,890		137	1,490	10,400	18,800	3,520	3,410	1.011
						Line 37. Matagorda Bay									
June 17	1405	1	13	41,700	305	992	8,150		136	2,050	14,400	26,000	4,840	4,730	1.017
	1500	3	12.5	32,900	255	760	6,310		136	1,640	11,100	20,100	3,760	3,650	1.011
						Line 38. Matagorda Bay									
June 17	1210	1	11	41,600	298	996	7,910		132	2,110	14,000	25,400	4,840	4,730	1.016
						Line 39. Matagorda Ship Channel									
April 9	0855	2	41.5	44,900	320	1,140	8,470		134	2,130	15,300	27,400	5,500	5,390	1.017
June 17	1250	2	1	41,600	302	1,010	8,060		137	2,070	14,300	25,800	4,920	4,810	1.017
			41	42,100	302	1,010	8,320		135	2,200	14,600	26,500	4,920	4,810	1.017

a/ Included in sodium-ion concentration.

Table 4C.--ANALYSES FOR SELECTED IONS IN WATER FROM THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR

[Results in micrograms per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25°C)	Iron (Fe)	Manganese (Mn)	Lithium (Li)	Fluoride (F) a/	Boron (B)	Chromium VI (Cr)	Copper (Cu)	Lead (Pb)	Zinc (Zn)	Arsenic (As)	Selenium (Se)	Cadmium (Cd)	Bromide (Br) a/	Iodide (I) a/	Strontium (Sr)
Line 1. Lavaca River																			
Apr. 9	1545	2	8	755	--	--	--	0.3	--	--	--	--	--			--	--	--	--
Apr. 23	1410	2	10	857	--	--	--	.3	--	--	--	--	--			--	--	--	--
June 19	1120	2	9	742	90	0	10	.3	--	0	4	--	100			0	0.70	0.029	600
Line 2. Navidad River																			
Apr. 9	1510	2	8.5	821	--	--	--	.4	--	--	--	--	--			--	--	--	--
Apr. 23	1430	2	9	527	--	--	--	.2	--	--	--	--	--			--	--	--	--
June 19	1055	2	9	816	40	0	10	.3	--	0	5	--	70			0	.93	.030	400
Line 7. Lavaca River																			
Apr. 9	1400	2	1	13,400	--	--	--	.5	--	--	--	--	--			--	--	--	--
			7	15,600	--	--	--	.6	--	--	--	--	--			--	--	--	--
June 19	0930	2	1	3,460	--	--	--	.3	--	--	--	--	--			--	--	--	--
			11	9,320	--	--	--	.5	--	--	--	--	--			--	--	--	--
Line 9. Lavaca Bay																			
Apr. 9	1235	3	1	15,600	--	--	--	.5	--	--	--	--	--			--	--	--	--
			6.5	15,700	--	--	--	.5	--	--	--	--	--			--	--	--	--
Apr. 23	1640	3	9	7,560	--	--	--	.3	--	--	--	--	--			--	--	--	--
June 19	1640	3	1	13,300	60	0	40	.5	540	0	9	--	70			0	14	.059	1,800
			8.5	14,500	2,000	0	50	.6	780	0	29	--	840			3	14	.056	2,000
Line 10. Lavaca Bay																			
June 19	1600	2	1	19,300	60	0	60	--	780	0	8	--	90			1	21	.052	2,800
			33	35,000	90	190	120	--	820	0	9	--	80			0	30	.009	5,000
Line 14. Cox Bay																			
June 19	1515	2	3.5	18,100	90	0	60	.6	1,700	0	8	--	70			0	18	.057	2,500
Line 17. Keller Bay																			
Jan. 14	1355	3	5	38,100	--	--	--	.8	--	--	--	--	--			--	44	.035	--
Line 19. Lavaca Bay																			
Apr. 9	1040	3	1	29,600	--	--	--	.7	--	--	--	--	--			--	--	--	--
			31.5	36,500	--	--	--	.7	--	--	--	--	--			--	--	--	--
June 19	1435	3	1	25,100	--	--	--	.6	--	--	--	--	--			--	--	--	--
			35	39,300	--	--	--	.7	--	--	--	--	--			--	--	--	--
Aug. 27	1010	3	40	54,400	--	--	--	.8	4,800	--	--	--	--			--	63	.047	--
Line 22. Carancahua Bay																			
Jan. 16	1210	2	1	18,600	--	--	--	.5	--	--	--	--	--			--	21	.034	--
Line 23. Carancahua Bay																			
Apr. 10	1100	2	4	4,250	--	--	--	.3	--	--	--	--	--			--	--	--	--
Line 24. Carancahua Bay																			
Jan. 16	1040	2	1	41,600	--	--	--	.8	--	--	--	--	--			--	49	.020	--
Line 25. Tres Palacios Bay																			
Apr. 9	1200	2	2	23,800	--	--	--	.5	--	--	--	--	--			--	--	--	--
Line 28. Tres Palacios Bay																			
Apr. 9	0950	2	6	29,100	--	--	--	.7	--	--	--	--	--			--	--	--	--
Line 30. Tres Palacios Bay																			
June 18	1625	2	14	27,800	--	--	--	.6	--	--	--	--	--			--	--	--	--
Line 31. Intracoastal Waterway																			
Apr. 22	1430	2	1	6,230	--	--	--	.2	--	--	--	--	--			--	--	--	--
June 18	1135	2	1	22,300	--	--	--	.5	--	--	--	--	--			--	--	--	--
			14	23,000	--	--	--	.5	--	--	--	--	--			--	--	--	--

See footnote at end of table.

Table4C.--ANALYSES FOR SELECTED IONS IN WATER FROM THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR--continued

[Results in micrograms per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25°C)	Iron (Fe)	Manganese (Mn)	Lithium (Li)	Fluoride (F) a/	Boron (B)	Chromium VI (Cr)	Copper (Cu)	Lead (Pb)	Zinc (Zn)	Arsenic (As)	Selenium (Se)	Cadmium (Cd)	Bromide (Br) a/	Iodide (I) a/	Strontium (Sr)
								Line 33. Matagorda Bay											
June 18	1310	1	3	34,800	50	0	120	0.7	3,700	0	8	--	100			0	35	0.005	4,700
								Line 35. Matagorda Bay											
June 18	1025	2	10	34,500	--	--	--	.7	--	--	--	--	--			--	--	--	--
								Line 36. Matagorda Bay											
Apr. 10	1100	4	11.5	36,400	--	--	--	.7	--	--	--	--	--			--	--	--	--
Apr. 22	1210	4	12.5	27,400	--	--	--	.6	--	--	--	--	--			--	--	--	--
June 18	0940	4	1	31,300	--	--	--	.6	--	--	--	--	--			--	--	--	--
			12	31,300	--	--	--	.7	--	--	--	--	--			--	--	--	--
Do	1710	6	10	26,600	100	0	80	--	3,000	0	8	--	50			0	27	.005	3,800
								Line 37. Matagorda Bay											
June 17	1405	1	13	41,700	160	40	120	.8	5,400	0	17	--	110			3	40	.008	5,800
Do	1500	3	12.5	32,900	--	--	--	.7	--	--	--	--	--			--	--	--	--
								Line 38. Matagorda Bay											
June 17	1210	1	11	41,600	70	0	120	.8	4,800	0	20	--	70			0	39	.005	5,800
								Line 39. Matagorda Ship Channel											
Apr. 9	0855	2	41.5	44,900	--	--	--	.8	--	--	--	--	--			--	--	--	--
June 17	1250	2	1	41,600	--	--	--	.8	--	--	--	--	--			--	--	--	--
			41	42,100	30	0	120	.8	4,700	0	15	--	80			0	41	.005	5,900

a/ Results in milligrams per liter.

Table 4 D.--INSECTICIDE AND HERBICIDE ANALYSES OF WATER AND SEDIMENT FROM THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR.

Date	Time (24 hour)		Micrograms per liter											
			Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Heptachlor epoxide	Lindane	2,4-D	Silvex	2,4,5-T
Line 1 site 2. Lavaca River														
June 19	1130	Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Sediment	.00	9.2	27	13	.00	.00	.00	.00	.00	--	--	--
Line 2 site 2. Navidad River														
Apr. 9	1515	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Sediment	.00	2.8	4.6	.42	.34	.00	.00	.00	.00	--	--	--
June 19	1100	Water	.00	.00	.00	.00	.00	.00	.00	.00	.05[a/]	.00	.00	.00
		Sediment	.00	14	20	4.4	.00	.00	.00	.00	.00	--	--	--
Line 8 site 3. Lavaca Bay														
June 19	0900	Water	.00	.00	.00	.01	.00	.00	.00	.00	.00	.05	.00	.02
		Sediment	.00	7.1	11	4.3	.00	.00	.00	.00	.00	--	--	--
Line 9 site 3. Lavaca Bay														
Apr. 9	1255	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.19	.00	.02
		Water	.00	.01	.01	1.0	.00	.00	.00	.00	.00	.14	.00	.00

See footnotes at end of table.

Table 4 D.--INSECTICIDE AND HERBICIDE ANALYSES OF WATER AND SEDIMENT FROM THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR--Continued

Date	Time (24 hour)		Micrograms per liter											
			Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Heptachlor epoxide	Lindane	2,4-D	Silvex	2,4,5-T
Line 25 site 2. Tres Palacios Bay														
Apr. 9	1200	Water	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.03
		Sediment	.00	21	52	26	1.2	.00	.00	.00	.00	--	--	--
Line 26 site 2. Tres Palacios Bay														
June 18	1500	Water	.00	.00	.00	.01	.00	.00	.00	.00	.03[b]	.05	.00	.03
		Sediment	.00	.00	2.0	.00	.00	.00	.00	.00	.00	--	--	--
Line 28 site 2. Tres Palacios Bay														
Apr. 9	1030	Water[c]	.00	.00	.00	.00	.00	.00	.00	.00	.00	.15	.00	.02
		Water[d]	.00	.00	.00	.00	.00	.00	.00	.00	.00	.25	.00	.02
		Sediment	.00	1.2	1.8	.00	.17	.00	.00	.00	.00	--	--	--
Line 37 site 1. Matagorda Bay														
June 17	1415	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
		Sediment	.00	2.2	3.1	.00	.00	.00	.00	.00	.00	--	--	--
Line 38 site 2. Matagorda Bay														
Apr. 9	0745	Water[c]	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Water[e]	.00	.01	.01	.67	.00	.00	.00	.00	.00	.00	.00	.00

See footnotes at end of table.

Table 4 D.--INSECTICIDE AND HERBICIDE ANALYSES OF WATER AND SEDIMENT FROM THE LAVACA-TRES PALACIOS ESTUARY, 1969 WATER YEAR--Continued

Date	Time (24 hour)		Micrograms per liter											
			Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Heptachlor epoxide	Lindane	2,4-D	Silvex	2,4,5-T
Line 39 site 2. Matagorda Ship Channel														
June 17	1300	Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02

a/ Includes 0.01 micrograms per liter alpha-BHC and 0.01 micrograms per liter delta-BHC.
b/ Includes 0.01 micrograms per liter alpha-BHC.
c/ Collected 1 foot below water surface.
d/ Collected 6 feet below water surface.
e/ Collected 9.5 feet below water surface.

Guadalupe Estuary

The Guadalupe estuary covers an area of almost 150 square miles and consists of the tidal parts of the Guadalupe River, Mission Lake, Guadalupe Bay, Hynes Bay, San Antonio Bay, Victoria Channel, and parts of the Intracoastal Waterway (Figure 15).

At mlw, the Guadalupe River is about 10 feet deep; Mission Lake, Guadalupe Bay, and Hynes Bay are less than 3 feet deep; San Antonio Bay is less than 6 feet deep; Victoria Channel is more than 8 feet deep; and the Intracoastal Waterway is about 15 feet deep.

Water-quality data for the Guadalupe estuary (Table 5) were collected in November, January, April, June, and August at the sites shown on Figure 15.

The most downstream gaging station on the Guadalupe River is at Victoria. Two major streams, Coleto Creek and San Antonio River, join the Guadalupe River downstream from the station at Victoria. Flows of these three streams at gaging stations nearest the estuary for four periods when water-quality surveys were made are given in the following table. Runoff from an additional 860 square miles of drainage area contiguous to the estuary is ungaged.

STREAMFLOW STATION	AVERAGE DISCHARGE, IN CUBIC FEET PER SECOND[1]			
	NOV. 15-21	APRIL 11-17	JUNE 7-13	AUG. 8-14
Guadalupe River at Victoria	810	9,570	1,850	662
Coleto Creek near Schroeder	11	2,570	87	7
San Antonio River at Goliad	326	1,810	984	139

1/ U.S. Geological Survey, 1970a.

Because the Guadalupe estuary is connected to the Gulf of Mexico indirectly through Espiritu Santo and Mesquite Bays, the stage of tides averages only about half a foot. Stage changes caused by increases in streamflow may be considerably greater than those caused by tides. For example, the surface elevation of San Antonio Bay averaged about 0.5 foot above mean sea level during the November survey and 1.4 feet above mean sea level during the April survey. Measured inflows to the bay for the weeks preceding the surveys averaged 1,147 cfs and 13,950 cfs, respectively.

Changes in specific conductance and percent saturation of dissolved oxygen are shown in Figures 16, 17, and 18. Figures 16 and 17 show a salt-water wedge and other water-quality changes with depth in water less than 5 feet deep. Figure 18 shows that even though Victoria Channel is 25-miles long and closed at one end, water quality in the channel changes with flow conditions in the estuary.

The observed extremes of nutrients and other environmental characteristics of the water, without consideration of depth, location, or season are given in the following table. In addition to the listed extremes, temperatures observed in June and August were generally above 30°C and some were as high as 34°C.

EXTREME	NITRATE NITROGEN	AMMONIUM NITROGEN	NITRITE NITROGEN	TOTAL PHOS-PHORUS	SILICA	BIO-CHEMICAL OXYGEN DEMAND	CHEMICAL OXYGEN DEMAND	DISSOLVED OXYGEN (PERCENT SATURATION)	SECCHI DISK TRANS-PARENCY (CM)
	(Results in Milligrams Per Liter Except As Indicated)								
Maximum	2.7	1.9	0.11	0.68	24	8.6	19	128	132
Minimum	.0	.00	.00	.03	3.7	.4	1.5	43	11

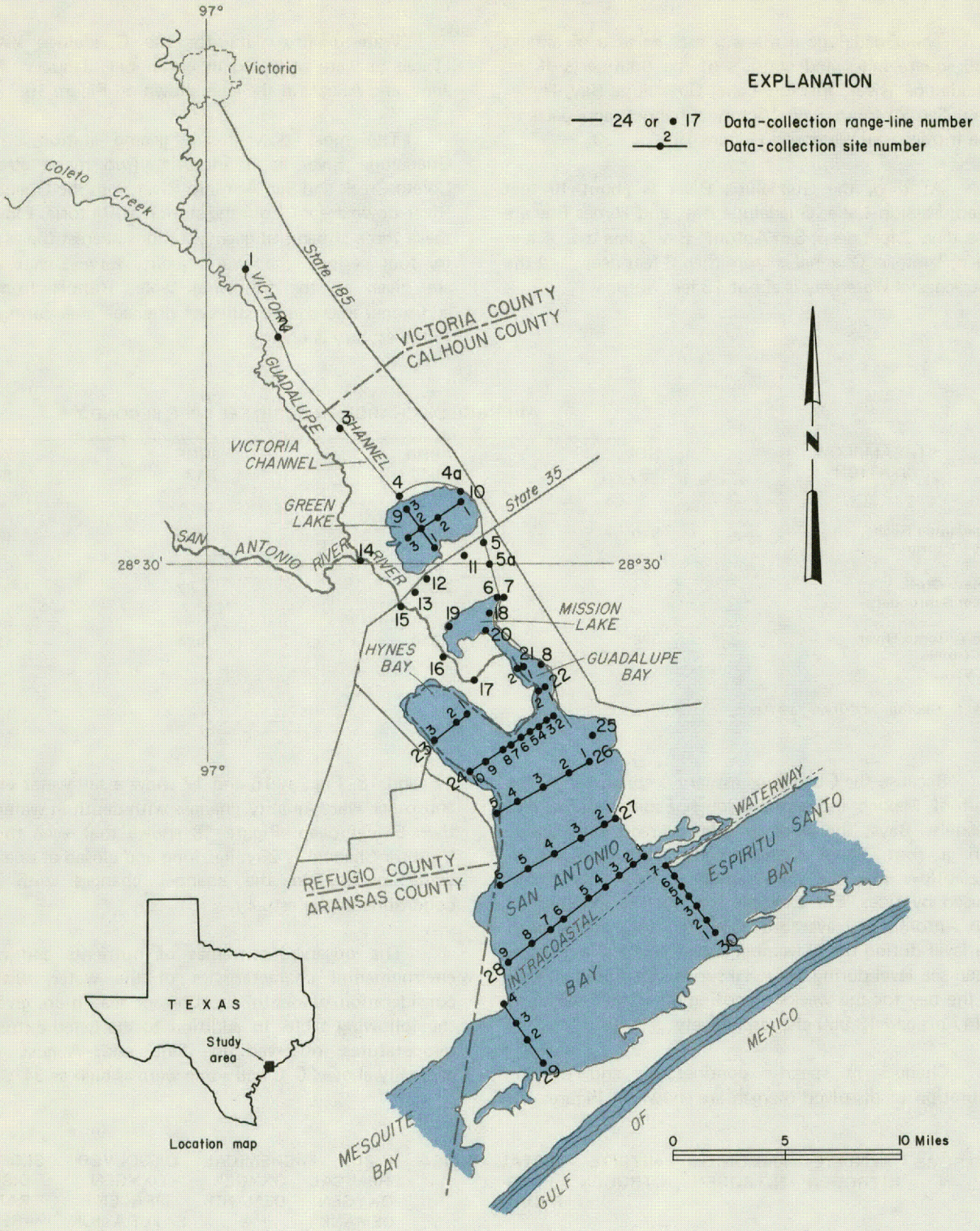


Figure 15

Data-Collection Sites in the Guadalupe Estuary

Base by US Geological Survey, 1956

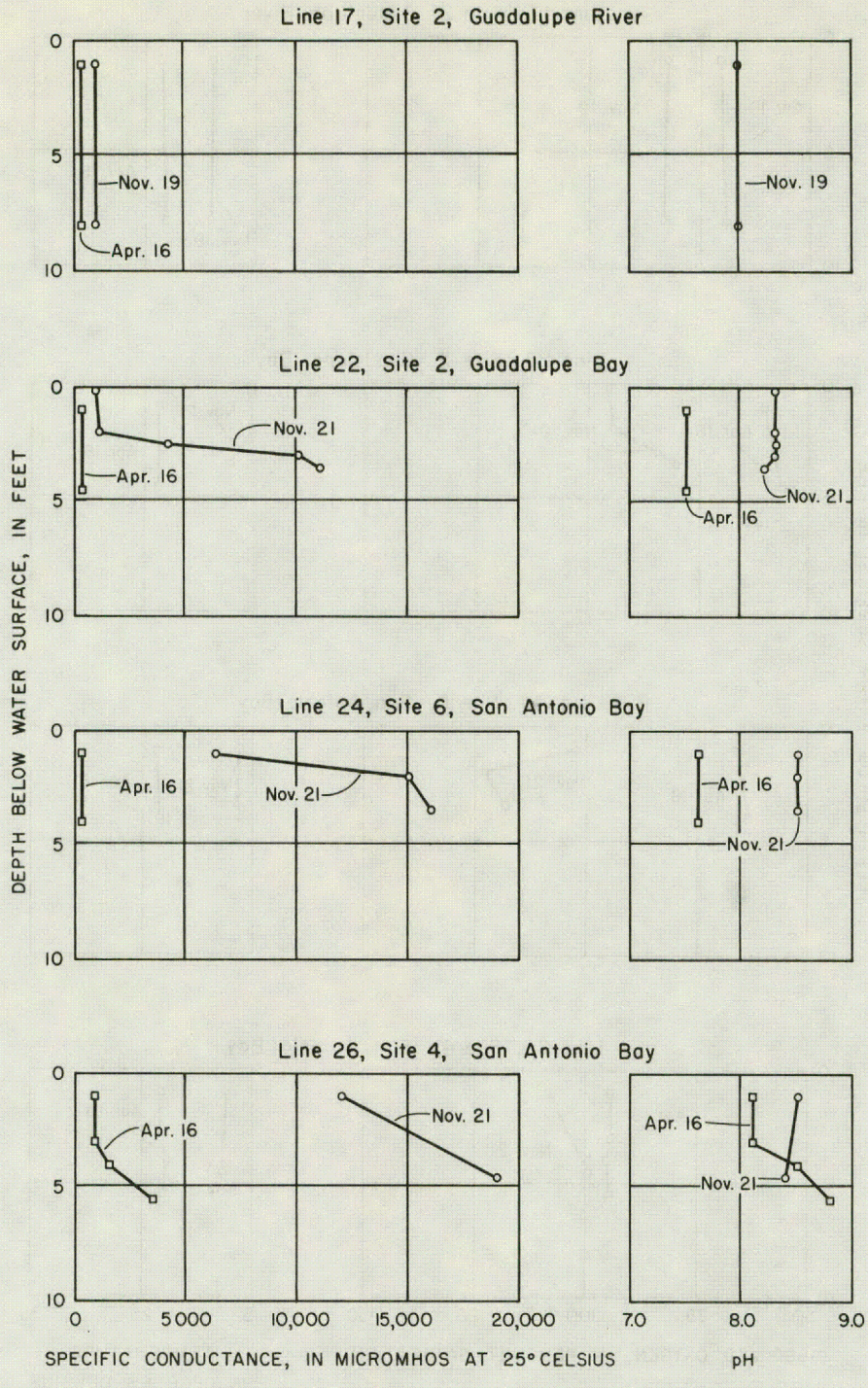


Figure 16

Specific Conductance and pH Versus Depth for Different Flow Conditions in the Guadalupe Estuary

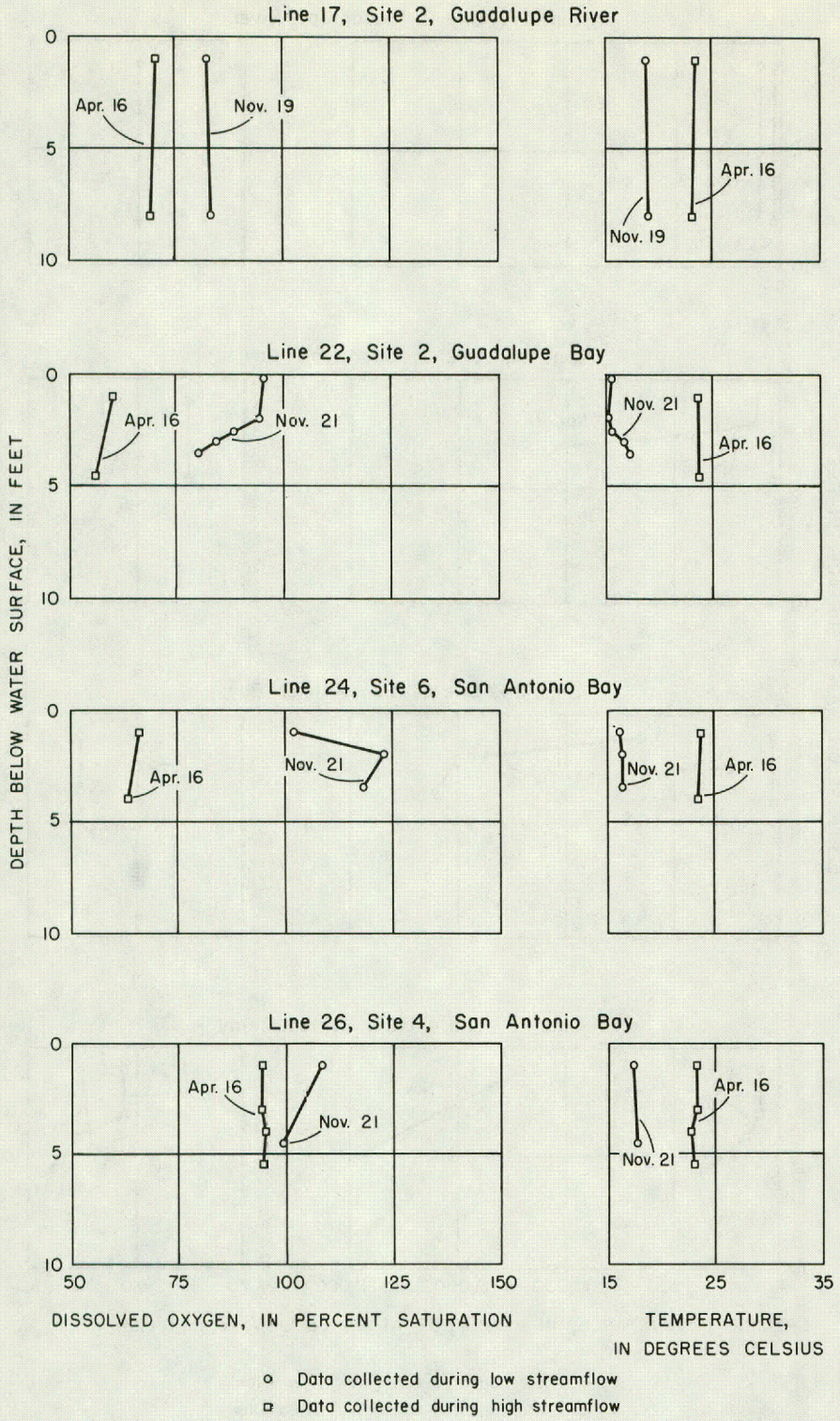


Figure 17

Percent Saturation of Dissolved Oxygen and Temperature Versus Depth for Different Flow Conditions in the Guadalupe Estuary

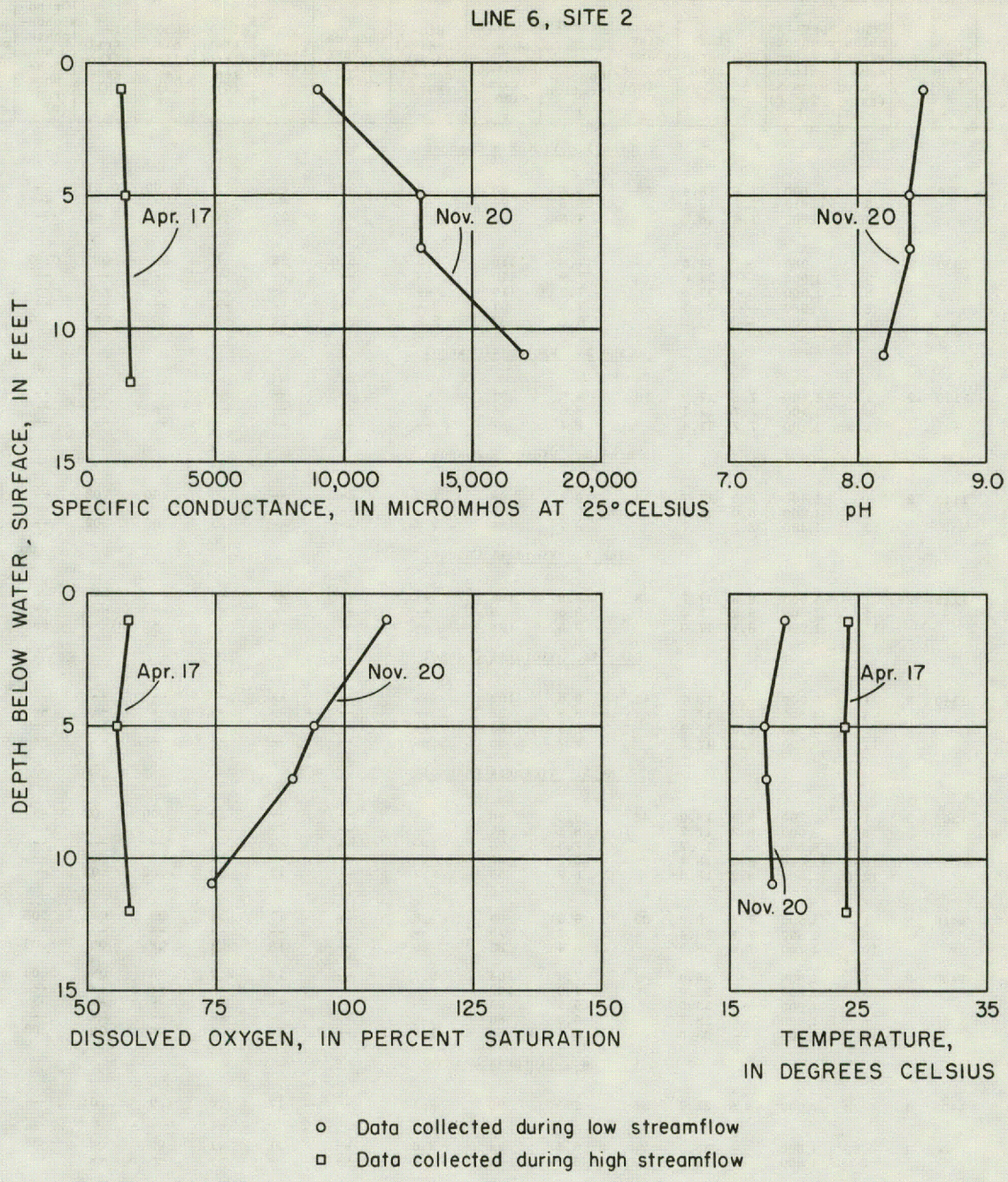


Figure 18

Change in Specific Conductance, pH, Percent Saturation of Dissolved Oxygen, and Temperature with Depth in the Victoria Channel for Different Flow Conditions in the Guadalupe Estuary

Table 5A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE GUADALUPE ESTUARY, 1969 WATER YEAR

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 1. Victoria Channel																	
1968																	
Nov. 20	1050	1	1	830	7.8	18.4	56	8.4	88	1.8	--	--	0.0	0.00	0.01	--	0.03
			5	810	7.7	18.1		8.5	90	--	--	--	--	--	--	--	--
			13.5	800	7.6	18.2		7.8	82	1.9	--	23	.0	.00	.02	--	.06
1969																	
Aug. 14	1350	2	1	980	--	34.5	--	7.9	110	2.2	5.0	24	.0	QN	QN	0.02	.05
			3	1,000	--	34.0		7.9	110	--	--	--	--	--	--	--	--
			5	1,000	--	33.5		7.9	110	--	--	--	--	--	--	--	--
			8	980	--	33.5		7.0	97	--	--	--	--	--	--	--	--
			10	1,000	--	33.5		6.0	83	2.2	3.3	24	.0	QN	QN	.02	.05
Line 2. Victoria Channel																	
1968																	
Nov. 20	1120	2	1	1,100	7.8	17.9	38	9.2	96	--	--	--	--	--	--	--	--
			5	1,100	7.7	17.1		8.6	89	--	--	--	--	--	--	--	--
			11.5	1,100	7.7	17.4		8.4	87	--	--	--	--	--	--	--	--
Line 3. Victoria Channel																	
1968																	
Nov. 20	1140	2	1	1,400	8.0	17.7	38	9.4	98	1.6	--	--	.0	.00	.02	--	.03
			5	1,200	8.0	16.7		9.4	96	--	--	--	--	--	--	--	--
			13	1,400	7.8	16.7		8.7	89	1.7	--	--	.0	.00	.02	--	.08
Line 4. Victoria Channel																	
1968																	
Nov. 20	1245	2	1	1,500	8.2	17.7	38	9.8	102	--	--	--	--	--	--	--	--
			5	1,500	8.2	17.0		9.6	99	--	--	--	--	--	--	--	--
			11	1,500	8.1	17.0		9.5	98	--	--	--	--	--	--	--	--
Line 4a. Victoria Channel																	
1968																	
Nov. 20	1340	2	1	3,200	8.4	18.7	41	9.6	102	--	--	--	--	--	--	--	--
			5	4,500	8.3	17.7		8.8	93	--	--	--	--	--	--	--	--
			7	5,000	8.3	17.3		8.3	85	--	--	--	--	--	--	--	--
			11	6,200	8.2	17.5		7.7	80	--	--	--	--	--	--	--	--
Line 5. Victoria Channel																	
1968																	
Nov. 20	1305	2	1	6,200	8.4	18.0	48	9.3	98	1.4	--	--	.0	.00	.02	--	.05
			5	8,000	8.3	17.7		8.1	84	--	--	--	--	--	--	--	--
			7	9,500	8.3	17.7		7.3	76	--	--	--	--	--	--	--	--
			10	12,000	8.2	18.4		5.2	55	--	--	--	--	--	--	--	--
			12.5	12,000	8.2	18.3		5.2	55	2.7	--	12	.0	.02	.03	--	.08
1969																	
June 13	1410	2	1	1,600	7.8	29.9	33	6.3	83	.6	--	17	.1	QN	QN	.05	.06
			5	1,600	7.8	29.4		6.2	79	--	--	--	--	--	--	--	--
			10	1,700	7.9	28.9		6.4	82	.6	--	18	.1	QN	QN	.06	.06
Aug. 14	1450	2	1	1,800	--	34.0	--	7.4	104	2.7	--	18	2.7	QN	QN	.04	.06
			3	1,800	--	33.0		7.3	100	--	--	--	--	--	--	--	--
			5	1,800	--	33.0		6.9	94	--	--	--	--	--	--	--	--
			8	1,800	--	32.5		6.3	86	--	--	--	--	--	--	--	--
			10	1,700	--	33.0		6.1	85	1.8	--	18	.0	QN	QN	.03	.08
Line 5a. Victoria Channel																	
1968																	
Nov. 20	1405	1	.2	2,000	8.6	21.7	36	7.9	90	8.1	--	17	.0	1.9	.04	--	.20
1969																	
Apr. 17	--	1	.2	1,800	--	25.0	28	6.2	74	8.6	--	11	.1	QN	QN	.13	.20
			2	1,800	--	25.0		6.2	74	--	--	--	--	--	--	--	--
June 13	1425	1	.2	1,900	8.1	31.3	18	5.4	73	--	--	--	--	--	--	--	--
			1	1,800	7.8	30.4		4.7	62	7.2	--	14	.1	QN	QN	.12	.12
			2	1,800	7.7	30.4		4.8	63	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table 5A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE GUADALUPE ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 6. Victoria Channel																	
1968																	
Nov. 20	1425	2	1	9,000	8.5	19.2	46	10.1	108	4.8	--	--	0.0	0.02	0.02	--	0.09
			5	13,000	8.4	17.6		9.0	94	--	--	--	--	--	--	--	--
			7	13,000	8.4	17.7		8.6	90	--	--	--	--	--	--	--	--
			11	17,000	8.2	18.1		7.0	74	2.6	--	10	.0	.00	.03	--	.12
1969																	
Apr. 17	1330	2	1	1,400	--	24.1	--	4.9	58	3.5	--	14	.2	QN	QN	0.07	.10
			5	1,500	--	24.0		4.8	56	--	--	--	--	--	--	--	--
			12	1,700	--	24.0		4.9	58	2.5	--	13	.2	QN	QN	.06	.07
June 12	1200	2	1	2,100	7.6	29.1	--	5.1	68	2.5	--	16	.1	QN	QN	.09	.11
			5	2,100	7.6	28.7		4.8	62	--	--	--	--	--	--	--	--
			10	2,000	7.6	28.9		4.7	61	2.6	--	16	.2	QN	QN	.09	.13
June 13	1440	2	1	1,700	7.6	29.7	43	6.1	80	1.5	--	16	.2	QN	.08	.07	.07
			10	1,700	7.5	29.1		4.8	62	.9	--	15	.2	QN	.08	.07	.07
Aug. 14	1510	2	1	2,000	--	33.0	--	6.3	88	2.0	12	16	.1	QN	QN	.04	.07
			5	2,000	--	32.5		5.9	81	--	--	--	--	--	--	--	--
			8	2,000	--	32.5		5.2	71	--	--	--	--	--	--	--	--
			10	2,000	--	33.0		5.1	71	1.8	14	17	.1	QN	QN	.05	.12
Line 7. Victoria Channel																	
1968																	
Nov. 20	1450	2	1	12,000	8.5	18.7	53	11.9	127	5.5	--	--	.0	.00	.02	--	.08
			5	13,000	8.3	18.2		7.6	80	--	--	--	--	--	--	--	--
			7	14,000	8.2	18.6		5.5	59	--	--	--	--	--	--	--	--
			12	17,000	8.0	19.0		4.0	43	3.6	--	--	.0	.05	.03	--	.19
1969																	
Apr. 17	1325	2	1	230	--	24.2	--	7.2	85	--	--	--	--	--	--	--	--
			12.5	2,800	--	24.2		6.3	75	--	--	--	--	--	--	--	--
June 12	1145	2	1	2,400	7.8	29.6	--	6.2	83	3.4	--	13	.1	QN	QN	.06	.09
			5	2,400	7.7	29.6		6.2	83	--	--	--	--	--	--	--	--
			11	2,300	7.8	29.6		5.1	68	2.1	--	13	.1	QN	QN	.07	.10
Line 8. Victoria Channel																	
1968																	
Nov. 20	1520	2	1	14,000	8.5	18.5	46	10.9	116	--	--	--	--	--	--	--	--
			5	17,000	8.4	17.3		9.0	93	--	--	--	--	--	--	--	--
			7	19,000	8.4	17.3		8.5	88	--	--	--	--	--	--	--	--
			13	22,000	8.2	17.3		7.2	74	--	--	--	--	--	--	--	--
1969																	
Apr. 17	1300	2	1	2,200	--	23.9	46	5.5	65	1.4	--	13	.1	QN	QN	.06	.08
			13.5	2,000	--	23.8		5.7	68	1.6	--	13	.1	QN	QN	.11	.15
June 12	1110	2	1	2,400	7.8	28.8	--	7.0	91	--	--	--	--	--	--	--	--
			5	2,400	7.7	28.8		6.6	86	--	--	--	--	--	--	--	--
			12	2,400	7.8	28.7		6.0	78	--	--	--	--	--	--	--	--
Line 14. Guadalupe River																	
1968																	
Nov. 19	1045	2	1	760	8.1	18.1	30	7.4	77	--	--	--	--	--	--	--	--
			7.5	800	8.0	18.2		7.9	83	2.1	--	14	.0	.16	.02	--	.68
1969																	
Jan. 30	1345	2	1	900	8.2	19.4	--	8.1	87	1.3	--	12	1.0	.00	.01	--	.46
			8.5	900	8.1	19.2		8.0	85	1.3	--	12	.9	.00	.01	--	.46
June 13	1115	2	1	570	7.9	28.8	--	5.1	65	1.5	1.5	13	.6	QN	QN	.27	.36
			9	600	7.6	28.7		5.1	65	1.7	2.8	13	.3	QN	QN	.19	.27
Aug. 13	1200	2	1	750	--	34.0	--	5.6	78	1.5	4.9	14	.6	QN	QN	.32	.39
			5	750	--	34.0		5.6	78	--	--	--	--	--	--	--	--
			10	750	--	34.0		5.4	75	1.7	9.9	14	.0	QN	QN	.26	.39
Line 15. Guadalupe River																	
1968																	
Nov. 19	1115	2	1	800	8.1	18.1	36	7.5	79	--	--	--	--	--	--	--	--
			12	840	8.0	18.0		7.9	83	--	--	--	--	--	--	--	--
1969																	
Jan. 30	1325	2	1	1,000	8.2	19.3	--	8.0	86	1.2	--	12	1.0	.00	.01	--	.49
			15	1,000	8.2	19.1		8.4	89	1.3	--	12	.9	.00	.01	--	.49
Apr. 16	1730	2	1	280	7.4	23.8	--	6.0	71	2.1	--	12	.1	QN	QN	.03	.24

See footnotes at end of table.

Table 5A--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE GUADALUPE ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk taansparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 16. Guadalupe River																	
1968																	
Nov. 19	1150	2	1	800	8.0	18.6	41	7.4	79	--	--	--	--	--	--	--	--
			13	780	8.0	18.6		7.3	78	--	--	--	--	--	--	--	--
1969																	
Jan. 30	1305	2	1	840	8.4	18.9	--	8.0	85	1.5	--	12	1.2	0.00	0.02	--	0.65
			13.5	900	8.3	18.9		8.4	89	1.2	--	12	1.0	.00	.01	--	.59
Line 17. Guadalupe River																	
1968																	
Nov. 19	1220	2	1	800	8.0	18.8	41	7.7	82	--	--	--	--	--	--	--	--
			8	840	8.0	19.0		7.8	83	--	--	--	--	--	--	--	--
1969																	
Jan. 30	1240	2	1	920	8.0	19.6	--	8.2	88	1.3	--	12	1.1	.00	.01	--	.55
			9.5	940	7.9	19.6		8.2	88	1.2	--	12	1.0	.00	.01	--	.59
Apr. 16	1420	2	1	280	--	23.3	3	6.1	70	2.4	--	13	.0	QN	QN	0.09	.21
			8	280	--	23.1		6.0	69	1.5	--	13	.6	QN	QN	.23	.26
June 13	1200	2	1	570	7.9	29.4	--	5.3	68	1.8	--	13	.7	QN	QN	.25	.42
			10	570	8.0	29.6		5.2	68	1.5	--	13	.7	QN	QN	.26	.36
Aug. 13	1300	2	1	800	--	33.0	--	5.8	74	1.4	--	15	.5	QN	QN	.32	.36
			5	800	--	33.0		5.4	74	--	--	--	--	--	--	--	--
			10	800	--	33.0		5.4	74	1.6	--	14	.5	QN	QN	.33	.39
Line 18. Mission Lake																	
1968																	
Nov. 19	1355	1	2	760	8.1	15.5	36	9.7	96	--	--	--	--	--	--	--	--
1969																	
Jan. 30	1118	2	1	790	8.2	21.0	28	8.6	96	.9	--	11	1.1	.00	.03	--	.55
			2	820	8.2	21.3		9.6	108	--	--	--	--	--	--	--	--
Line 19. Mission Lake																	
1968																	
Nov. 19	1420	2	2	830	8.0	17.7	23	8.5	89	--	--	--	--	--	--	--	--
Line 20. Guadalupe Bay																	
1968																	
Nov. 19	1335	2	1	850	8.2	14.6	51	9.3	90	--	--	--	--	--	--	--	--
			3.5	790	8.1	15.0		9.5	93	1.2	--	14	.0	.09	.02	--	.52
1969																	
Jan. 30	1055	2	1	890	8.2	20.8	25	8.4	93	.8	--	11	1.2	.00	.01	--	.52
			3	890	8.2	20.7		8.7	96	.9	--	11	1.2	.30	.01	--	.55
Apr. 16	1330	2	1	250	--	24.1	18	6.0	71	1.6	--	8.6	.2	QN	QN	.09	.14
			4.5	250	--	24.0		5.7	67	1.7	--	9.2	.3	QN	QN	.17	.30
June 13	1410	2	1	570	8.1	30.9	--	6.2	83	1.2	--	12	.2	QN	QN	.08	.10
			3	570	8.1	31.0		6.2	83	1.1	--	12	.2	QN	QN	.08	.11
Aug. 13	1000	2	1	800	--	30.0	--	6.4	84	2.6	11	12	.0	QN	QN	.17	.25
Line 21. Guadalupe Bay																	
1968																	
Nov. 19	1323	1	1	800	8.3	16.2	--	9.9	99	--	--	--	--	--	--	--	--
			3.5	840	8.2	16.4		9.6	97	--	--	--	--	--	--	--	--
Do.	1315	3	1	840	8.1	17.8	41	8.7	92	--	--	--	--	--	--	--	--
			3	850	8.1	17.2		9.4	97	--	--	--	--	--	--	--	--
1969																	
Jan. 30	1043	1	1	860	8.3	20.6	--	8.8	97	.9	--	11	1.4	.00	.02	--	.65
			3	900	8.2	20.6		9.0	99	.8	--	12	.8	.00	.01	--	.59
Do.	1030	3	1	860	8.3	20.5	28	8.8	97	1.3	--	11	1.3	.00	.04	--	.62
			3	1,100	8.3	20.5		8.7	96	1.5	--	11	.9	.00	.01	--	.12
Apr. 16	1320	1	1	280	8.0	23.7	20	6.8	80	--	--	--	--	--	--	--	--
			4	300	7.9	23.1		6.6	76	--	--	--	--	--	--	--	--
Do.	1310	3	1	250	7.4	23.8	25	4.5	53	--	--	--	--	--	--	--	--
			3.5	250	7.4	23.8		4.8	56	--	--	--	--	--	--	--	--
June 13	1430	1	1	550	8.2	31.2	--	6.1	81	--	--	--	--	--	--	--	--
			3	570	8.2	31.1		6.2	83	--	--	--	--	--	--	--	--
Do.	1440	3	1	520	8.3	30.4	--	7.0	92	--	--	--	--	--	--	--	--
			3	570	8.3	30.4		7.1	93	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table 5A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE GUADALUPE ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 22. Guadalupe Bay																	
1968																	
Nov. 21	0930	1	0.2	1,000	8.3	15.2	51	9.3	91	1.0	--	--	0.2	0.00	0.11	--	0.49
			1	860	8.3	15.1		9.2	90	--	--	--	--	--	--	--	--
			2	5,600	8.3	16.6		8.2	84	--	--	--	--	--	--	--	--
			2.5	6,200	8.2	16.6		8.3	85	2.6	--	12	.0	.00	.01	--	.46
Do.	0945	2	.2	940	8.3	15.6	--	9.6	95	--	--	--	--	--	--	--	--
			2	1,000	8.3	15.0		9.6	94	--	--	--	--	--	--	--	--
			2.5	4,200	8.3	15.6		8.9	88	--	--	--	--	--	--	--	--
			3	10,000	8.3	16.7		8.2	84	--	--	--	--	--	--	--	--
			3.5	11,000	8.2	17.1		7.8	80	--	--	--	--	--	--	--	--
1969																	
Jan. 30	1200	1	1	2,300	8.3	20.9	28	9.4	104	--	--	--	--	--	--	--	--
			3	2,400	8.3	20.9		9.2	102	1.3	--	11	.8	.00	.01	--	.52
Do.	1150	2	1	970	8.2	20.6	25	8.8	97	--	--	--	--	--	--	--	--
			3.5	970	8.3	20.7		8.8	97	--	--	--	--	--	--	--	--
Apr. 16	1300	1	1	320	8.1	23.5	--	7.3	86	--	--	--	--	--	--	--	--
			3.5	310	8.0	23.4		7.2	83	--	--	--	--	--	--	--	--
Do.	1250	2	1	260	7.5	23.7	13	5.1	60	2.0	--	9.5	.2	QN	QN	0.09	.17
			4.5	270	7.5	23.7		4.8	56	2.0	--	9.3	.3	QN	QN	.15	.19
June 13	1505	1	1	510	8.4	31.5	--	7.9	107	1.9	--	13	.1	QN	QN	.10	.12
			2	570	8.5	31.5		7.9	107	2.1	--	13	.1	QN	QN	.10	.13
Do.	1455	2	1	540	8.3	30.4	--	7.3	96	--	--	13	.6	QN	QN	.30	.33
			3	550	8.4	30.6		7.3	97	1.1	--	12	.6	QN	QN	.29	.36
Aug. 12	1440	1	1	1,800	--	25.4	18	8.3	100	--	--	--	--	--	--	--	--
			2	2,300	--	25.4		8.3	100	2.4	--	13	.0	QN	QN	.13	.15
Do	1410	2	1	1,100	--	25.5	20	8.6	104	--	--	--	--	--	--	--	--
			2	1,300	--	26.0		8.5	104	3.0	--	13	.0	QN	QN	.14	.17
Line 23. Hynes Bay																	
1968																	
Nov. 21	1135	1	1	14,000	8.5	17.6	53	11.2	117	--	--	--	--	--	--	--	--
			2.5	15,000	8.6	17.7		11.8	123	--	--	--	--	--	--	--	--
Do.	1120	2	1	12,000	8.4	16.9	76	9.6	99	--	--	--	--	--	--	--	--
			2.5	13,000	8.7	16.4		11.6	117	5.6	--	--	.0	.00	.01	--	.21
Do.	1115	3	1	12,000	8.5	16.8	51	9.3	95	--	--	--	--	--	--	--	--
			2.5	12,000	8.5	16.2		9.1	91	--	--	--	--	--	--	--	--
1969																	
Apr. 16	1010	1	1	3,000	8.7	23.2	23	9.8	114	--	--	--	--	--	--	--	--
			3	3,400	8.7	23.1		9.3	108	--	--	--	--	--	--	--	--
Do.	1020	2	1	4,000	8.8	23.3	20	9.1	106	2.6	--	6.0	.0	QN	QN	.21	.29
			3	4,200	8.8	23.3		8.8	102	1.8	--	8.2	.0	QN	QN	.11	.20
Do.	1035	3	1	5,400	8.8	23.4	20	9.0	106	--	--	--	--	--	--	--	--
			3	5,600	8.8	23.2		8.6	101	--	--	--	--	--	--	--	--
June 13	1645	2	1	850	8.8	30.5	--	9.7	128	1.6	--	13	.1	QN	QN	.36	.36
			3.5	850	8.8	30.5		9.7	128	1.7	4.3	14	.1	QN	QN	.39	.39
Aug. 12	1510	2	1	4,500	--	25.4	11	8.1	98	--	--	--	--	--	--	--	--
			2	4,500	--	25.5		8.0	99	2.1	19	11	.0	QN	QN	.15	.20
Do.	1545	3	1	7,200	--	25.4	13	8.4	102	--	--	--	--	--	--	--	--
			2	7,200	--	25.4		8.8	107	--	--	--	--	--	--	--	--
Line 24. San Antonio Bay																	
1968																	
Nov. 20	1540	2	1	16,000	8.6	17.8	71	11.1	117	--	--	--	--	--	--	--	--
			3	16,000	8.6	17.8		11.1	117	--	--	--	--	--	--	--	--
			5	22,000	8.5	16.8		10.5	107	--	--	--	--	--	--	--	--
			11.5	29,000	8.2	16.5		7.2	73	--	--	--	--	--	--	--	--
Nov. 21	1005	4	1	9,000	8.5	15.9	64	10.6	106	1.6	--	--	.0	.00	.02	--	.36
			2	17,000	8.5	16.6		11.6	118	--	--	--	--	--	--	--	--
			3.5	18,000	8.5	16.7		12.0	122	3.6	--	--	.0	.00	.01	--	.17
Do.	1020	6	1	6,300	8.4	16.1	76	10.2	102	--	--	--	--	--	--	--	--
			2	15,000	8.5	16.3		12.2	123	--	--	--	--	--	--	--	--
			3.5	16,000	8.5	16.4		11.7	118	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table 5A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE GUADALUPE ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 24. San Antonio Bay (continued)																	
1968																	
Nov. 21	1035	8	1	11,000	8.5	16.1	--	10.3	103	--	--	--	--	--	--	--	--
			2	12,000	8.6	16.0		10.2	102	--	--	--	--	--	--	--	--
			3.5	15,000	8.5	16.6		11.2	114	--	--	--	--	--	--	--	--
Do.	1050	9	1	12,000	8.7	16.0	61	10.1	101	3.7	--	--	0.0	0.00	0.01	--	0.16
			2	12,000	8.7	15.8		10.1	101	--	--	--	--	--	--	--	--
			4	13,000	8.5	16.4		8.1	82	6.0	--	--	.0	.05	.02	--	.21
Do.	1105	10	1	13,000	8.6	16.7	53	9.1	93	--	--	--	--	--	--	--	--
			2.5	13,000	8.5	16.2		8.9	89	--	--	--	--	--	--	--	--
1969																	
April 16	1220	4	1	340	8.2	23.4	18	7.7	89	--	--	--	--	--	--	--	--
			3	340	8.2	23.3		7.4	85	--	--	--	--	--	--	--	--
Do.	1205	6	1	280	7.6	23.6	15	5.6	66	--	--	--	--	--	--	--	--
			4	270	7.6	23.4		5.5	63	--	--	--	--	--	--	--	--
Do.	1150	8	1	300	7.7	23.3	20	6.6	76	--	--	--	--	--	--	--	--
			4.5	340	7.7	23.1		6.5	75	--	--	--	--	--	--	--	--
Do.	1135	9	1	1,900	8.7	23.3	20	8.8	102	--	--	--	--	--	--	--	--
			3	2,400	8.7	23.2		8.9	103	--	--	--	--	--	--	--	--
			4.5	6,000	8.8	23.0		8.0	94	--	--	--	--	--	--	--	--
Do.	1130	10	1	6,000	8.9	23.2	--	8.8	103	--	--	--	--	--	--	--	--
			3.5	5,600	8.9	23.2		8.6	101	--	--	--	--	--	--	--	--
June 12	1045	2	1	1,100	7.7	27.9	--	7.4	94	2.1	--	13	.1	QN	QN	0.08	.21
			5	1,400	7.3	27.6		7.5	95	--	--	--	--	--	--	--	--
			10	2,000	7.3	27.7		7.1	91	2.2	--	12	.0	QN	QN	.16	.22
Aug. 12	1400	3	1	14,000	--	32.5	--	7.7	108	1.7	--	10	.0	QN	QN	.10	.13
Do.	1415	6	1	14,000	--	32.5	--	8.6	121	2.4	--	10	.1	QN	QN	.12	.26
			2.5	13,000	--	32.5		8.6	121	2.5	--	11	.0	QN	QN	.12	.14
Do.	1435	9	1	14,000	--	32.5	--	8.2	115	1.7	--	11	.0	QN	QN	.12	.25
			4	14,000	--	32.5		8.1	114	2.1	--	11	.1	QN	QN	.12	.23
Line 25. San Antonio Bay																	
1968																	
Nov. 20	1615	2	1	22,000	8.5	16.7	48	9.9	101	--	--	--	--	--	--	--	--
			5	22,000	8.5	16.7		10.5	107	--	--	--	--	--	--	--	--
			7	25,000	8.5	16.6		10.5	107	--	--	--	--	--	--	--	--
			11	29,000	8.3	16.8		6.5	66	--	--	--	--	--	--	--	--
1969																	
Aug. 12	1240	2	1	22,000	--	25.6	--	7.0	92	2.4	--	8.0	.1	QN	QN	.09	.12
			5	26,000	--	25.5		6.8	91	1.8	--	8.2	.0	QN	QN	.10	.18
Line 26. San Antonio Bay																	
1968																	
Nov. 20	1600	1	1	22,000	8.6	16.4	69	10.6	107	--	--	--	--	--	--	--	--
			5	27,000	8.4	15.9		9.5	95	--	--	--	--	--	--	--	--
			8.5	29,000	8.3	16.2		8.0	80	--	--	--	--	--	--	--	--
Nov. 21	1610	1	1	24,000	8.0	17.6	100	9.9	103	2.3	--	--	.0	.00	.01	--	.10
			5	25,000	7.9	16.5		8.2	83	--	--	--	--	--	--	--	--
			12	27,000	7.8	16.6		7.6	78	1.3	--	--	.0	.00	.01	--	.09
Do.	1235	4	1	12,000	8.5	17.3	132	10.5	108	--	--	--	--	--	--	--	--
			4.5	19,000	8.4	17.6		9.5	99	--	--	--	--	--	--	--	--
1969																	
April 16	0935	1	1	1,500	8.3	23.1	20	8.5	98	1.8	--	8.7	.0	QN	QN	.06	.11
			13.5	5,200	8.4	22.9		8.0	94	2.9	--	9.1	.1	QN	QN	.06	.14
Do.	1105	4	1	840	8.1	23.1	--	8.2	94	2.3	--	13	.0	QN	QN	.06	.17
			3	840	8.1	23.1		8.2	94	--	--	--	--	--	--	--	--
			4	1,500	8.5	22.9		8.3	95	--	--	--	--	--	--	--	--
			5.5	3,500	8.8	23.0		8.1	94	2.3	--	8.1	.0	QN	QN	.20	.36
Aug. 12	--	1	1	19,000	8.5	29.9	--	8.4	118	--	--	--	--	--	--	--	--
			5	19,000	8.5	29.6		7.8	110	--	--	--	--	--	--	--	--
Do.	--	2	1	19,000	8.5	29.9	--	6.8	96	3.8	--	8.5	.0	QN	QN	.10	.27
			5	19,000	8.5	29.7		6.8	96	2.1	--	8.2	.0	QN	QN	.09	.18
Do.	--	3	1	16,000	8.5	30.0	--	7.6	106	--	--	--	--	--	--	--	--
			5	16,000	8.5	29.9		7.6	106	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table 5A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE GUADALUPE ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 26. San Antonio Bay (continued)																	
1969																	
Aug. 12	--	4	1	10,000	8.5	30.6	--	6.8	93	2.8	--	11	0.0	QN	QN	0.13	0.16
			5	10,000	8.6	30.1		7.0	95	1.3	--	11	.0	QN	QN	.12	.16
Do.	--	5	1	10,000	8.5	31.1	--	6.8	93	--	--	--	--	--	--	--	--
			3	9,000	8.5	30.8		6.6	90	--	--	--	--	--	--	--	--
Line 27. San Antonio Bay																	
1968																	
Nov. 21	1305	5	1	18,000	8.1	18.1	122	9.2	97	2.0	--	--	.0	0.00	0.01	--	.14
			4.5	25,000	7.9	17.6		7.6	79	.8	--	--	.0	.00	.01	--	.09
1969																	
April 17	0855	1	1	5,800	--	23.2	48	8.2	96	--	--	--	--	--	--	--	--
			5	6,200	--	23.2		7.9	93	--	--	--	--	--	--	--	--
			10	12,000	--	23.3		7.2	86	--	--	--	--	--	--	--	--
			14	13,000	--	23.4		7.1	85	--	--	--	--	--	--	--	--
Aug. 12	1020	1	1	20,000	8.0	30.5	24	6.8	97	1.6	--	8.1	.2	QN	QN	.09	.12
			5	20,000	8.1	30.5		6.8	97	--	--	--	--	--	--	--	--
			10	20,000	8.1	30.5		6.7	96	2.1	--	8.1	.0	QN	QN	.09	.16
Do.	1110	3	1	13,000	8.1	31.0	37	7.8	108	2.1	--	9.7	.0	QN	QN	.11	.15
			4	14,000	8.0	31.0		7.7	107	1.6	--	9.6	.0	QN	QN	.11	.14
Do.	1135	5	1	12,000	8.0	31.0	24	7.4	103	1.4	--	11	.1	QN	QN	.12	.14
			5	12,000	8.0	31.5		7.6	106	2.0	--	11	.1	QN	QN	.13	.16
Line 28. San Antonio Bay																	
1968																	
Nov. 21	1430	8	1	20,000	8.0	18.0	122	9.6	101	--	--	--	--	--	--	--	--
			5.5	25,000	7.8	17.7		10.2	106	--	--	--	--	--	--	--	--
1969																	
April 17	0905	1	1	16,000	--	23.2	--	7.6	92	2.2	--	3.9	.0	QN	QN	.03	.05
			5	21,000	--	23.4		7.2	89	--	--	--	--	--	--	--	--
			10	21,000	--	23.4		7.2	89	--	--	--	--	--	--	--	--
			14	22,000	--	23.4		6.6	81	2.3	--	4.6	.0	QN	QN	.02	.04
Aug. 12	0920	1	1.6	22,000	--	28.9	--	6.8	94	5.9	--	8.2	.0	QN	QN	.12	.14
			9.8	22,000	--	28.9		6.7	93	1.2	--	8.0	.0	QN	QN	.10	.13
Do.	--	2	1.6	22,000	--	28.9	--	6.6	92	--	--	--	--	--	--	--	--
			3.2	22,000	--	29.1		6.6	92	--	--	--	--	--	--	--	--
Do.	0955	3	1.6	21,000	--	29.4	--	6.4	89	3.5	--	8.5	.0	QN	QN	.13	.16
			3.6	21,000	--	29.4		6.4	89	2.2	--	8.7	.1	QN	QN	.09	.12
Do.	--	4	1.6	24,000	--	29.5	--	6.4	91	--	--	--	--	--	--	--	--
			3.6	24,000	--	29.4		6.2	86	--	--	--	--	--	--	--	--
Do.	--	5	1.6	27,000	--	29.5	--	6.4	93	--	--	--	--	--	--	--	--
			7.4	30,000	--	29.3		6.1	88	--	--	--	--	--	--	--	--
Do.	--	6	1.6	33,000	--	29.5	--	6.2	93	--	--	--	--	--	--	--	--
			3.6	35,000	--	29.6		6.0	91	--	--	--	--	--	--	--	--
Do.	--	7	1.6	33,000	--	29.7	--	6.2	93	--	--	--	--	--	--	--	--
			4.2	33,000	--	29.7		6.0	90	--	--	--	--	--	--	--	--
Do.	1130	8	1.6	35,000	--	30.0	--	6.0	91	3.3	--	6.8	.0	QN	QN	.06	.12
			4.2	35,000	--	30.0		5.4	82	1.9	--	6.4	.0	QN	QN	.08	.22
Do.	--	9	1.6	41,000	8.2	30.3	--	5.7	88	--	--	--	--	--	--	--	--
			2.1	41,000	8.2	30.2		5.5	85	--	--	--	--	--	--	--	--
Aug. 14	1100	8	1	36,000	--	32.0	--	6.3	100	--	--	--	--	--	--	--	--
			2.5	39,000	--	31.5		6.1	100	--	--	--	--	--	--	--	--
			3.5	40,000	--	31.0		5.9	95	--	--	--	--	--	--	--	--
			5	40,000	--	32.0		5.8	95	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table 5A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE GUADALUPE ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 29. San Antonio Bay																	
1968																	
Nov. 21	1455	1	1	22,000	7.9	19.5	51	8.7	94	0.9	--	--	0.0	0.00	0.01	--	0.10
			5	22,000	7.9	17.9		8.2	86	--	--	--	--	--	--	--	--
			10	24,000	7.8	17.1		7.7	79	--	--	--	--	--	--	--	--
			16.5	25,000	7.8	16.8		7.5	77	5.1	--	--	.0	.00	.01	--	.15
1969																	
April 17	1045	2	1	13,000	--	23.2	--	7.7	92	2.2	--	5.0	.0	QN	QN	0.04	.07
			8	13,000	--	23.2		7.8	93	2.1	--	5.5	.0	QN	QN	.01	.08
Do.	1120	4	1	11,000	--	23.3	--	7.7	91	2.1	--	5.9	.0	QN	QN	.03	.15
			16	13,000	--	23.3		6.7	80	3.3	--	8.0	.0	QN	QN	.01	.08
June 13	1115	2	1	12,000	8.4	28.2	15	7.5	99	2.0	--	9.0	.1	QN	QN	.14	.17
			7	12,000	8.4	28.0		6.3	83	2.9	--	9.2	.0	QN	QN	.17	.28
Do.	1145	4	1	14,000	8.5	28.4	20	7.4	97	.8	--	8.2	.0	QN	QN	.10	.16
			5	17,000	8.4	28.0		6.3	85	--	--	--	--	--	--	--	--
			10	17,000	8.4	27.9		7.0	95	--	--	--	--	--	--	--	--
			14	17,000	8.3	27.9		5.3	72	1.5	--	8.4	.1	QN	QN	.16	.17
Line 30. San Antonio Bay																	
1968																	
Nov. 21	1540	1	1	31,000	7.8	17.7	76	8.2	86	.7	--	--	.0	.00	.01	--	.07
			5	31,000	7.8	18.2		8.1	85	--	--	--	--	--	--	--	--
			10	32,000	7.8	18.1		8.2	86	--	--	--	--	--	--	--	--
			15.5	31,000	7.8	18.1		7.9	83	.4	--	3.8	.0	.00	.01	--	.04
1969																	
April 17	0955	3	1	25,000	--	23.0	43	8.2	102	2.1	--	3.7	.0	QN	QN	.02	.06
			6	25,000	--	23.0		7.7	96	8.3	--	10	.0	QN	QN	.05	.07
Do.	0945	6	1	25,000	--	23.2	--	7.7	96	--	--	--	--	--	--	--	--
			6.5	25,000	--	23.2		7.4	92	--	--	--	--	--	--	--	--
Do.	0925	7	1	22,000	--	23.3	59	7.8	96	1.5	--	3.8	.0	QN	QN	.04	.05
			5	22,000	--	23.3		7.4	91	--	--	--	--	--	--	--	--
			10	22,000	--	23.3		7.5	93	--	--	--	--	--	--	--	--
			14	24,000	--	23.2		7.2	89	1.4	--	4.1	.0	QN	QN	.02	.05
June 13	1010	3	1	14,000	8.5	27.8	45	7.6	100	.8	--	8.2	.0	QN	QN	.11	.12
			3	16,000	8.5	27.8		7.4	99	--	--	--	--	--	--	--	--
			5	17,000	8.3	27.7		6.3	85	--	--	--	--	--	--	--	--
			6.5	18,000	8.3	27.7		5.3	72	.9	--	8.2	.0	QN	QN	.11	.22
Do.	0930	7	1	11,000	8.5	28.2	27	7.0	91	1.2	--	8.3	.0	QN	QN	.12	.16
			5	12,000	8.5	28.2		6.7	88	--	--	--	--	--	--	--	--
			10	12,000	8.5	28.2		6.6	87	--	--	--	--	--	--	--	--
			15	13,000	8.4	28.2		6.7	88	2.0	--	8.6	.0	QN	QN	.18	.26

1/ Determined at data-collection site.
QN means qualitative test negative.

Table 5B.--CHEMICAL ANALYSES OF WATER FROM THE GUADALUPE ESTUARY, 1969 WATER YEAR

[Results in milligrams per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Density (g/ml at 20°C)
													Calcium, magnesium	Noncarbonate	
Line 1. Victoria Channel															
1968															
Nov. 20	1055	2	13.5	849	90	13	88		276	45	138	534	280	54	--
1969															
Aug. 14	1350	2	1	922	80	12	94		228	46	155	523	248	61	--
			10	948	84	14	97		248	50	157	548	268	65	--
Line 5. Victoria Channel															
1968															
Nov. 20	1305	2	12.5	12,500	142	266	2,170		227	576	3,820	7,100	1,450	1,260	1.003
Line 5a. Victoria Channel															
1968															
Nov. 20	1405	1	.2	2,310	42	29	333		350	64	425	1,090	225	0	--
Line 6. Victoria Channel															
1968															
Nov. 20	1425	2	11	18,400	170	412	3,200		215	852	5,680	10,400	2,120	1,940	1.004
1969															
Aug. 14	1510	2	1	1,990	56	111	182		160	111	528	1,080	598	467	--
			10	1,920	56	109	172		162	110	505	1,050	588	455	--
Line 14. Guadalupe River															
1968															
Nov. 19	1045	2	1	840	85	22	65		310	56	93	488	304	50	--
1969															
Jan. 30	1345	2	1	878	--	--	--		--	--	104	--	--	--	--
			8.5	881	--	--	--		--	--	104	--	--	--	--
June 13	1115	2	1	542	63	13	33		216	36	45	313	212	35	--
			9	527	64	12	31		212	36	44	306	210	36	--
Aug. 13	1200	2	10	760	78	19	68		268	57	99	468	272	52	--
Line 15. Guadalupe River															
1969															
Jan. 30	1325	2	1	878	--	--	--		--	--	104	--	--	--	--
			15	878	--	--	--		--	--	104	--	--	--	--
Line 16. Guadalupe River															
1968															
Jan. 30	1310	2	1	877	--	--	--		--	--	103	--	--	--	--
			13.5	877	--	--	--		--	--	103	--	--	--	--
Line 17. Guadalupe River															
1968															
Jan. 30	1245	2	1	898	--	--	--		--	--	104	--	--	--	--
			9.5	886	--	--	--		--	--	104	--	--	--	--
April 16	1420	2	8	337	39	5.5	23		125	24	27	196	120	18	--
1969															
Aug. 13	1300	2	1	771	77	20	62		270	58	87	456	276	54	--
			10	791	76	21	62		272	59	87	457	276	53	--
Line 18. Mission Lake															
1968															
Jan. 30	1120	2	1	805	--	--	--		--	--	95	--	--	--	--
Line 20. Guadalupe Bay															
1968															
Nov. 19	1340	2	3.5	860	86	21	75		317	63	98	514	300	40	--
1969															
Jan. 30	1105	2	1	850	85	20	70		286	67	97	497	296	62	--
			3	846	--	--	--		--	--	97	--	--	--	--
April 16	1330	2	1	311	33	8.4	15		115	13	29	165	117	23	--
			4.5	313	36	5.9	24		123	15	34	186	114	13	--
Aug. 13	1000	2	1	760	66	21	66		237	57	92	438	252	48	--

See footnote at end of table

Table 5B.--CHEMICAL ANALYSES OF WATER FROM THE GUADALUPE ESTUARY, 1969 WATER YEAR--continued

[Results in milligrams per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Density (g/ml at 20°C)
							Line 21. Guadalupe Bay								
1969															
Jan. 30	1045	1	1	828	--	--	--		--	--	96	--	--	--	--
			3	831	--	--	--		--	--	98	--	--	--	--
do	1035	3	1	818	--	--	--		--	--	96	--	--	--	--
			3	826	--	--	--		--	--	96	--	--	--	--
							Line 22. Guadalupe Bay								
1968															
Nov. 21	0930	1	2.5	6,820	118	144	1,050		279	308	1,860	3,630	885	660	--
1969															
Jan. 30	1200	1	3	2,310	91	52	345		265	132	590	1,350	440	223	--
April 16	1250	2	4.5	300	35	5.3	22		120	12	31	176	109	11	--
							Line 23. Hynes Bay								
1969															
June 13	1645	2	3.5	965	50	20	125		172	57	186	547	208	60	--
Aug. 12	1510	2	2	4,060	60	105	718		220	217	1,230	2,450	580	400	--
							Line 24. San Antonio Bay								
1969															
June 12	1045	2	1	1,030	54	21	129		194	48	206	567	222	63	--
			10	2,060	58	37	287		198	90	470	1,050	296	134	--
							Line 25. San Antonio Bay								
1969															
Aug. 12	1240	2	1	23,900	210	563	4,470		172	1,160	7,950	14,400	2,840	2,700	--
			5	24,000	214	541	4,510		174	1,160	7,950	14,500	2,760	2,620	--
							Line 26. San Antonio Bay								
1969															
Aug. 12	--	4	1	11,700	126	269	2,050		206	506	3,680	6,750	1,420	1,250	--
			5	11,800	126	254	2,130		205	554	3,720	6,900	1,360	1,190	--
							Line 27. San Antonio Bay								
1969															
Aug. 12	1030	1	1	23,100	206	546	4,500		174	1,070	8,000	14,400	2,760	2,620	--
			10	23,100	204	542	4,350		176	1,110	7,720	14,000	2,740	2,600	--
do	1110	3	1	16,200	162	369	2,940		194	780	5,200	9,500	1,920	1,760	--
			4	15,900	160	380	2,910		194	772	5,200	9,530	1,960	1,800	--
do	1145	5	1	12,200	138	266	2,180		204	558	3,850	7,110	1,440	1,270	--
			5	12,200	132	255	2,180		205	564	3,800	7,050	1,380	1,210	--
							Line 28. San Antonio Bay								
1969															
Aug. 12	0955	3	1.6	21,100	192	477	4,030		179	1,000	7,100	12,900	2,440	2,290	--
			3.6	21,000	192	496	3,930		179	1,030	6,980	12,700	2,520	2,370	--
do	1130	8	1.6	33,200	272	844	6,300		166	1,160	11,700	20,400	4,150	4,010	--
			4.3	36,900	282	899	6,570		166	880	12,500	21,200	4,400	4,260	--
							Line 29. San Antonio Bay								
1969															
June 13	1145	4	14	17,200	150	395	3,250		164	860	5,700	10,400	2,000	1,870	1.005
							Line 30. San Antonio Bay								
1968															
Nov. 21	1540	1	15.5	33,500	248	810	6,370		172	1,660	11,300	20,500	3,950	3,810	1.013
1969															
April 17	0955	3	1	22,300	188	552	4,250		142	1,100	7,600	13,800	2,740	2,620	1.007
			6	23,000	190	541	4,350		140	1,100	7,720	14,000	2,700	2,590	1.007
June 13	1010	3	6.5	18,100	154	446	3,360		162	900	6,000	10,900	2,220	2,090	1.005

a/ Included in sodium-ion concentration.

Table 5C.--ANALYSES FOR SELECTED IONS IN WATER FROM THE GUADALUPE ESTUARY, 1969 WATER YEAR

[Results in micrograms per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25°C)	Iron (Fe)	Manganese (Mn)	Lithium (Li)	Fluoride (F) a/	Boron (B)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Zinc (Zn)	Arsenic (As)	Selenium (Se)	Cadmium (Cd)	Bromide (Br) a/	Iodide (I) a/	Strontium (Sr)
Line 1. Victoria Channel																			
1968 Nov. 20	1055	2	13.5	849	--	--	--	0.3	130	--	--	--	--			--	1.3	0.038	--
1969 Aug. 14	1350	2	1	922	--	--	--	.2	150	--	--	--	--			--	1.2	.063	--
			10	948	--	--	--	.2	120	--	--	--	--			--	1.7	.066	--
Line 5. Victoria Channel																			
1968 Nov. 20	1315	2	12.5	12,500	--	--	--	.4	630	--	--	--	--			--	13	.044	--
Line 5a. Victoria Channel																			
1968 Nov. 20	1405	2	.2	2,310	--	--	--	.4	390	--	--	--	--			--	1.9	.056	--
Line 6. Victoria Channel																			
1968 Nov. 20	1425	2	11	18,400	--	--	--	.5	390	--	--	--	--			--	21	.027	--
1969 Aug. 14	1510	2	1	1,990	--	--	--	.3	310	--	--	--	--			--	2.4	.111	--
			10	1,920	--	--	--	.3	330	--	--	--	--			--	2.6	.108	--
Line 14. Guadalupe River																			
1968 Nov. 19	1050	2	1	840	--	--	--	.4	200	--	--	--	--			--	.98	.013	--
1969 June 13	1115	2	1	542	--	--	--	.2	--	--	--	--	--			--	--	--	--
			9	527	--	--	--	.2	--	--	--	--	--			--	--	--	--
Aug. 13	1200	2	1	753	20	0	20	--	--	0	7	2	20			0	--	--	700
			10	760	20	0	20	.3	160	0	12	0	20			0	.99	.030	720
Line 17. Guadalupe River																			
1969 Apr. 16	1420	2	8	337	--	--	--	.2	--	--	--	--	--			--	--	--	--
Aug. 13	1300	2	1	771	--	--	--	.3	180	--	--	--	--			--	1.8	.042	--
			10	791	--	--	--	.3	180	--	--	--	--			--	1.0	.042	--
Line 20. Guadalupe Bay																			
1968 Nov. 19	1340	2	3.5	860	--	--	--	.4	190	--	--	--	--			--	.98	.016	--
1969 Jan. 30	1140	2	1	850	--	--	--	.2	--	--	--	--	--			--	.82	.030	--
Apr. 16	1335	2	1	311	--	--	--	.1	--	--	--	--	--			--	--	--	--
			4.5	313	--	--	--	.2	--	--	--	--	--			--	--	--	--
Aug. 13	1000	2	1	760	10	0	20	.3	200	0	16	5	30			0	1.3	.046	690
Line 22. Guadalupe Bay																			
1968 Nov. 21	0940	1	2.5	6,820	--	--	--	.4	590	--	--	--	--			--	7.6	.014	--
1969 Jan. 30	1200	1	3	2,310	--	--	--	.3	--	--	--	--	--			--	2.6	.029	--
Apr. 16	1250	2	4.5	300	--	--	--	.2	--	--	--	--	--			--	--	--	--
Line 23. Hynes Bay																			
1969 June 13	1645	2	3.5	965	--	--	--	.3	--	--	--	--	--			--	--	--	--
Aug. 12	1510	2	2	4,060	--	--	--	.4	480	--	--	--	--			--	4.6	.058	--
Line 24. San Antonio Bay																			
1969 June 12	1045	2	1	1,030	--	--	--	.2	--	--	--	--	--			--	--	--	--
			10	2,060	--	--	--	.3	--	--	--	--	--			--	--	--	--
Line 25. San Antonio Bay																			
1969 Aug. 12	1240	2	1	23,900	0	20	80	.6	2,200	0	40	35	60			0	28	.090	3,900
			5	24,000	0	50	80	.6	2,400	2	48	2	50			0	28	.085	4,300

See footnote at end of table.

Table 5C.--ANALYSES FOR SELECTED IONS IN WATER FROM THE GUADALUPE ESTUARY, 1969 WATER YEAR--continued

[Results in micrograms per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25°C)	Iron (Fe)	Manganese (Mn)	Lithium (Li)	Fluoride (F) a/	Boron (B)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Zinc (Zn)	Arsenic (As)	Selenium (Se)	Cadmium (Cd)	Bromide (Br) a/	Iodide (I) a/	Strontium (Sr)
								Line 26. San Antonio Bay											
1969																			
Aug. 12	--	4	1	11,700	--	--	--	0.5	1,100	--	--	--	--			--	14	0.076	--
			5	11,800	--	--	---	.5	1,100	--	--	--	--			--	13	.073	--
								Line 27. San Antonio Bay											
1969																			
Aug. 12	1030	1	1	23,100	--	--	--	.6	2,000	--	--	--	--			--	28	.074	--
			10	23,100	--	--	---	.6	2,000	--	--	--	--			--	27	.092	--
do	1110	3	1	16,200	--	--	--	.5	1,300	--	--	--	--			--	19	.083	--
			4	15,900	--	--	--	.5	1,800	--	--	--	--			--	20	.085	--
do	1145	5	1	12,200	--	--	--	.5	1,100	--	--	--	--			--	14	.076	--
			5	12,200	--	--	--	.5	1,100	--	--	--	--			--	14	.075	--
								Line 28. San Antonio Bay											
1969																			
Aug. 12	0955	3	1.6	21,100	--	--	--	.6	2,200	--	--	--	--			--	25	.084	--
			3.6	21,000	--	--	--	.6	1,800	--	--	--	--			--	26	.084	--
do	1130	8	1	33,200	10	0	160	.7	2,900	0	6	1	30			0	40	.085	5,800
			5	36,900	30	0	160	.7	3,000	0	5	26	50			0	42	.094	6,900
								Line 29. San Antonio Bay											
1969																			
June 13	1145	4	14	17,200	--	--	--	.6	--	--	--	--	--			--	--	--	--
								Line 30. San Antonio Bay											
1968																			
Nov. 21	1540	1	15.5	33,500	--	--	--	.6	5,100	--	--	--	--			--	41	.016	--
1969																			
Apr. 17	1000	3	1	22,300	--	--	--	.5	--	--	--	--	--			--	--	--	--
			6	23,000	--	--	--	.5	--	--	--	--	--			--	--	--	--
June 13	1010	3	6.5	18,100	--	--	--	.5	--	--	--	--	--			--	--	--	--

a/ Results in milligrams per liter.

Table 5 D.--INSECTICIDE AND HERBICIDE ANALYSES OF WATER AND SEDIMENT FROM THE GUADALUPE ESTUARY, 1969 WATER YEAR--Continued

Date	Time (24 hour)		Micrograms per liter											
			Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Heptachlor epoxide	Lindane	2,4-D	Silvex	2,4,5-T
Line 25 site 2. San Antonio Bay														
Apr. 16	1525	Water	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.03
		Sediment	.00	2.5	3.2	2.0	.33	.00	.00	.00	.00	--	--	--
Aug. 12	1240	Water	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00
		Sediment	.00	2.9	1.9	.00	.00	.00	.00	.00	.00	--	--	--
Line 28 site 8. San Antonio Bay														
Aug. 14	1100	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Sediment	.00	.00	.00	.00	.00	.00	.00	.00	.00	--	--	--
Line 30 site 3. San Antonio Bay														
June 13	1010	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07	.00	.03

Table 5 D.--INSECTICIDE AND HERBICIDE ANALYSES OF WATER AND SEDIMENT FROM THE GUADALUPE ESTUARY, 1969 WATER YEAR.

Date	Time (24 hour)		Micrograms per liter											
			Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Heptachlor epoxide	Lindane	2,4-D	Silvex	2,4,5-T
Line 14 site 2. Guadalupe River														
Aug. 13	1200	Water	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Sediment	.00	2.2	1.8	.00	.00	.00	.00	.00	.00	--	--	--
Line 20 site 2. Guadalupe Bay														
Apr. 16	1340	Water	.00	.00	.00	.61	.00	.00	.00	.00	.00	.23	.00	.04
		Sediment	.00	2.9	2.6	3.0	.64	.00	.00	.00	.00	--	--	--
June 13	1415	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07	.00	.03
Aug. 13	1000	Water	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
		Sediment	.00	2.4	1.9	.00	.00	.00	.00	.00	.00	--	--	--
Line 23 site 2. Hynes Bay														
June 13	1645	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00	.03
		Sediment	.00	2.4	1.8	2.0	.00	.00	.00	.00	.00	--	--	--
Aug. 12	1510	Water	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00
		Sediment	.00	.85	1.5	.00	.00	.00	.00	.00	.00	--	--	--

Mission-Aransas Estuary

The Mission-Aransas estuary covers an area of about 140 square miles and consists of the tidal parts of Mission River, Aransas River, Copano Creek and other tributaries; Mission Bay, Copano Bay, Aransas Bay, St. Charles Bay, parts of the Intracoastal Waterway, Lydia Ann Channel, and Aransas Pass (Figure 19).

Water depth at mlw is less than 2 feet in Mission Bay, less than 8 feet in Copano Bay, less than 13 feet in Aransas Bay, less than 5 feet in St. Charles Bay, about 15 feet in the Intracoastal Waterway, about 20 feet in the Lydia Ann Channel, and more than 40 feet in Aransas Pass.

No water-quality data for the Mission-Aransas estuary were collected during the 1969 water year, but the locations of sites previously established for data collection are shown on Figure 19.

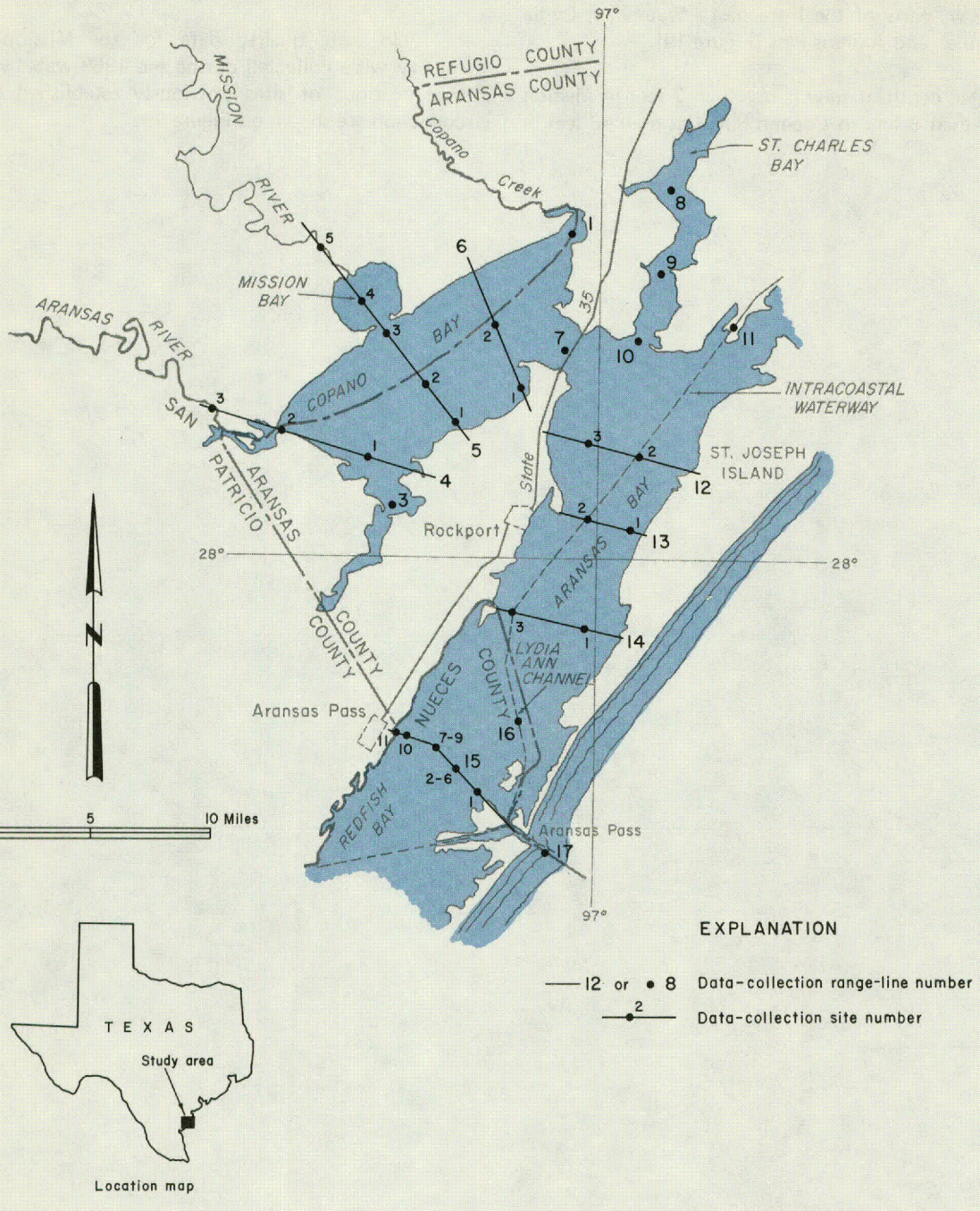


Figure 19

Data-Collection Sites in the Mission-Aransas Estuary

Base by US Geological Survey, 1956

Nueces Estuary

The Nueces estuary covers an area of about 180 square miles and consists of the tidal parts of the Nueces River and other tributaries; Nueces Bay, Tule Lake Channel, Corpus Christi Bay, Aransas Pass, and parts of the Intracoastal Waterway (Figure 20).

Water depth at mlw is less than 13 feet in Corpus Christi Bay; less than 3 feet in Nueces Bay; more than 40 feet in Aransas Pass, Corpus Christi Ship Channel, and Tule Lake Channel; and about 15 feet in the Intracoastal Waterway.

Water-quality data for the estuary (Table 6) were collected during March and September at most of the sites shown on Figure 20.

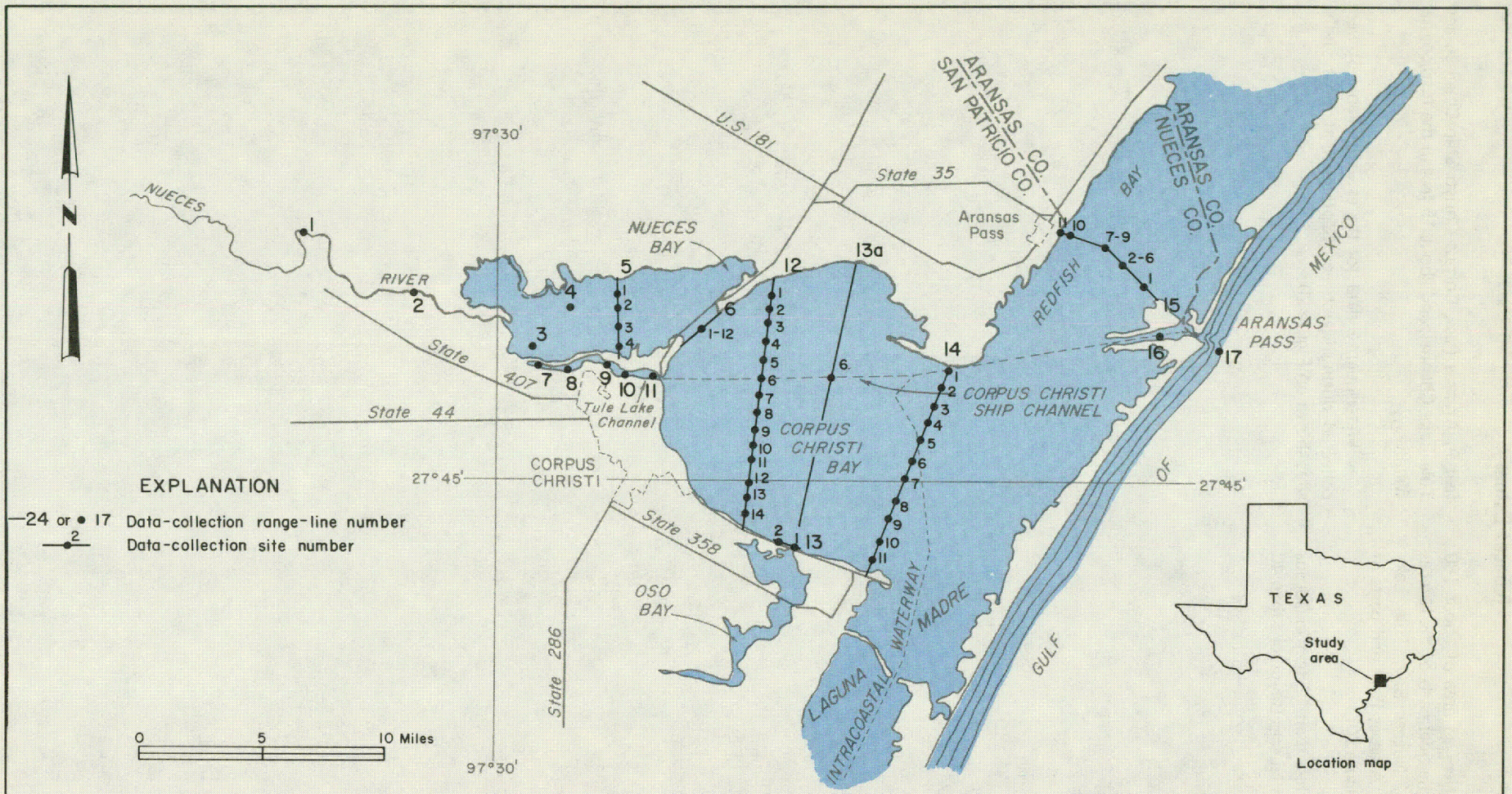


Figure 20

Data-Collection Sites in the Nueces Estuary

Base by US Geological Survey, 1956

Table 6A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE NUECES ESTUARY, 1969 WATER YEAR

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen: Concentration 1/	Dissolved oxygen: Percent saturation	Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Line 1. Nueces River									
Mar. 25	1315	2	1	1,500	7.8	19.2	--	8.6	92	2.5	--	17	0.0	QN	QN	0.07	0.12
			5	1,300	7.8	18.2		8.2	86	--	--	--	--	--	--	--	--
			7	2,200	7.6	18.7		7.0	75	--	--	--	--	--	--	--	--
			10	5,500	7.1	17.2		2.0	21	--	--	--	--	--	--	--	--
			11	6,300	7.0	17.5		1.5	16	--	--	--	--	--	--	--	--
			12	11,000	6.8	17.1		.5	5	--	--	--	--	--	--	--	--
			13	14,000	6.6	17.2		.0	0	--	--	--	--	--	--	--	--
			14	29,000	6.4	17.6		.0	0	1.3	--	32	.2	QN	QN	.32	.32
Do.	1450	2	1	1,300	8.0	21	41	7.9	88	--	--	--	--	--	--	--	--
			5	1,600	8.0	20		7.1	77	--	--	--	--	--	--	--	--
			10	5,200	7.2	19		2.0	22	--	--	--	--	--	--	--	--
			14	31,000	6.4	19		.0	0	--	--	--	--	--	--	--	--
								Line 4. Nueces Bay									
Mar. 26	1215	2	1	40,000	8.1	18	20	7.9	96	--	--	--	--	--	--	--	--
								Line 5. Nueces Bay									
Mar. 26	1125	2	1	40,000	8.1	17	--	7.6	92	--	--	--	--	--	--	--	--
			2	40,000	8.1	17		8.1	98	2.2	--	2.9	.0	QN	QN	.02	.06
Do.	1115	3	2	44,000	8.1	17	25	7.8	96	--	--	--	--	--	--	--	--
Do.	1105	4	1	44,000	8.2	18	--	7.2	90	2.2	--	2.6	.0	QN	QN	.05	.08
Do.	1050	5	1	44,000	8.2	21	23	7.1	95	--	--	--	--	--	--	--	--
								Line 6. Nueces Bay									
Mar. 26	0830	6	1	42,000	8.0	17	--	6.5	79	--	--	--	--	--	--	--	--
			10	42,000	8.0	18		6.2	77	2.0	--	2.2	.0	QN	QN	.03	.04
Do.	0900	12	1	44,000	8.1	17	28	6.8	84	--	--	--	--	--	--	--	--
			8	44,000	8.1	17		6.9	85	2.2	--	2.2	.0	QN	QN	.07	.08
Sept. 18	1345	8	1	54,000	8.1	30.4	42	6.4	107	2.1	--	.4	.1	QN	QN	.03	.05
			5	54,000	8.1	29.9		5.9	98	--	--	--	--	--	--	--	--
			10	57,000	8.0	29.3		4.3	70	--	--	--	--	--	--	--	--
			15	57,000	8.0	29.2		3.8	62	1.9	--	1.9	.0	QN	QN	.04	.08
Do.	1410	12	1	54,000	8.2	30.9	65	7.0	119	--	--	--	--	--	--	--	--
			5	54,000	8.2	30.3		6.6	110	--	--	--	--	--	--	--	--
			8	54,000	8.2	30.5		6.9	115	--	--	--	--	--	--	--	--
								Line 7. Tule Channel									
Mar. 25	1040	1	1	44,000	8.4	17.1	--	7.3	90	7.9	--	2.0	.0	QN	QN	.19	.30
			5	44,000	8.4	17.1		7.4	91	--	--	--	--	--	--	--	--
			10	44,000	8.4	17.0		7.1	88	--	--	--	--	--	--	--	--
			15	44,000	8.4	16.9		7.2	89	--	--	--	--	--	--	--	--
			20	44,000	8.4	16.9		7.6	94	--	--	--	--	--	--	--	--
			28.5	44,000	8.3	16.9		7.8	96	--	--	--	--	--	--	--	--
Sept. 18	0930	2	1	53,000	7.3	30.2	94	.0	0	3.8	--	2.0	.0	QN	QN	.20	.23
			6	53,000	7.3	29.8		.0	0	--	--	--	--	--	--	--	--
			8	53,000	7.3	29.8		.0	0	--	--	--	--	--	--	--	--
			10	53,000	7.3	29.8		.0	0	--	--	--	--	--	--	--	--
			20	52,000	7.3	29.6		.0	0	--	--	--	--	--	--	--	--
			30	52,000	7.2	29.6		.0	0	--	--	--	--	--	--	--	--
			40	52,000	7.3	29.4		.0	0	3.6	--	2.0	.0	QN	QN	.23	.25
								Line 9. Tule Channel									
Sept. 18	1015	2	1	54,000	7.4	30.2	112	.6	10	--	--	--	--	--	--	--	--
			5	54,000	7.4	29.9		.6	10	--	--	--	--	--	--	--	--
			10	54,000	7.4	29.9		.4	7	--	--	--	--	--	--	--	--
			15	54,000	7.3	29.8		.5	8	--	--	--	--	--	--	--	--
			20	54,000	7.3	29.7		1.4	23	--	--	--	--	--	--	--	--
			25	54,000	7.2	29.3		.0	0	--	--	--	--	--	--	--	--
			35	54,000	7.4	28.9		.0	0	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table 6A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE NUECES ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
							Line 10. Tule Channel										
Mar. 25	1120	2	1	44,000	8.4	17.0	--	7.6	94	--	--	--	--	--	--	--	--
			10	44,000	8.5	17.0		7.1	88	--	--	--	--	--	--	--	--
			20	44,000	8.4	17.0		7.0	86	--	--	--	--	--	--	--	--
			30	45,000	8.4	17.1		7.1	88	--	--	--	--	--	--	--	--
			45.5	45,000	8.4	17.0		7.0	86	--	--	--	--	--	--	--	--
Sept. 18	1035	2	1	53,000	7.6	29.7	122	3.8	62	--	--	--	--	--	--	--	--
			5	53,000	7.6	29.7		3.7	61	--	--	--	--	--	--	--	--
			10	53,000	7.6	29.6		3.1	51	--	--	--	--	--	--	--	--
			20	54,000	7.6	29.6		2.6	43	--	--	--	--	--	--	--	--
			30	56,000	7.5	29.3		.9	15	--	--	--	--	--	--	--	--
			41	56,000	7.5	28.8		.0	0	--	--	--	--	--	--	--	--
							Line 11. Tule Channel										
Sept. 18	1050	2	1	54,000	8.0	29.8	122	4.4	73	2.2	--	1.2	0.0	QN	QN	0.08	0.13
			5	54,000	8.0	29.7		4.4	73	--	--	--	--	--	--	--	--
			10	54,000	8.0	29.7		4.2	70	--	--	--	--	--	--	--	--
			20	54,000	8.0	29.7		4.2	70	--	--	--	--	--	--	--	--
			30	54,000	7.9	29.7		4.2	70	--	--	--	--	--	--	--	--
			40	54,000	7.8	29.6		4.0	67	1.7	--	1.8	.0	QN	QN	.05	.08
							Line 12. Corpus Christi Bay										
Mar. 25	1245	2	1	42,000	8.5	17.2	--	7.8	95	--	--	--	--	--	--	--	--
			5	42,000	8.5	17.1		7.1	87	--	--	--	--	--	--	--	--
			12	42,000	8.5	17.0		7.9	96	--	--	--	--	--	--	--	--
Do.	1330	6	1	45,000	8.5	17.1	--	7.6	94	3.3	--	1.5	.0	QN	QN	.04	.07
			5	44,000	8.6	17.0		7.4	91	--	--	--	--	--	--	--	--
			20	44,000	8.5	16.9		7.6	94	--	--	--	--	--	--	--	--
			44	45,000	8.5	16.8		7.7	95	3.2	--	.9	.0	QN	QN	.04	.07
Do.		12	1	45,000	8.4	17.6	--	7.9	99	--	--	--	--	--	--	--	--
			5	44,000	8.5	17.6		7.8	98	--	--	--	--	--	--	--	--
			13	45,000	8.5	17.6		7.8	98	--	--	--	--	--	--	--	--
Mar. 26	1515	6	1	42,000	8.4	16.6	33	7.1	87	--	--	--	--	--	--	--	--
			30	44,000	8.4	16.4		7.4	89	--	--	--	--	--	--	--	--
Sept. 18	1130	3	1	53,000	8.1	29.4	78	6.4	102	--	--	--	--	--	--	--	--
			5	53,000	8.1	29.1		6.1	97	--	--	--	--	--	--	--	--
			10	53,000	8.1	29.1		5.3	84	--	--	--	--	--	--	--	--
			12	54,000	8.0	29.0		3.4	55	--	--	--	--	--	--	--	--
Do.	1145	6	1	53,000	8.1	29.5	69	6.4	105	2.2	--	.9	.0	QN	QN	.02	.05
			5	53,000	8.1	29.5		6.4	105	--	--	--	--	--	--	--	--
			10	53,000	8.1	29.4		5.6	89	--	--	--	--	--	--	--	--
			20	53,000	8.1	29.3		4.7	75	--	--	--	--	--	--	--	--
			30	53,000	8.1	29.3		4.6	73	--	--	--	--	--	--	--	--
			38	53,000	8.0	29.3		4.7	75	5.0	--	3.0	.5	QN	QN	.22	.36
Do.	1210	9	1	54,000	8.1	29.6	67	6.4	107	--	--	--	--	--	--	--	--
			5	54,000	8.1	29.4		6.3	102	--	--	--	--	--	--	--	--
			13	54,000	8.0	29.2		5.5	89	--	--	--	--	--	--	--	--
Do.	1220	14	1	56,000	8.2	29.8	57	6.5	108	--	--	--	--	--	--	--	--
			5	56,000	8.1	29.5		6.4	107	--	--	--	--	--	--	--	--
			8	56,000	8.1	29.3		5.2	84	--	--	--	--	--	--	--	--
			10	56,000	8.1	29.2		4.9	79	--	--	--	--	--	--	--	--
			12	56,000	8.1	29.2		4.7	76	--	--	--	--	--	--	--	--
							Line 13. Corpus Christi Bay										
Sept. 18	1300	2	1	59,000	8.3	31.6	41	8.1	142	--	--	--	--	--	--	--	--
			5	59,000	8.3	31.5		8.1	142	--	--	--	--	--	--	--	--
							Line 13a. Corpus Christi Bay										
Sept. 17	1100	6	1	53,000	8.3	29.1	83	8.7	138	--	--	--	--	--	--	--	--
			5	54,000	8.3	29.0		8.2	132	--	--	--	--	--	--	--	--
			10	56,000	8.3	28.8		7.8	126	--	--	--	--	--	--	--	--
			20	56,000	8.3	28.8		8.4	136	--	--	--	--	--	--	--	--
			30	56,000	8.3	28.8		8.7	140	--	--	--	--	--	--	--	--
			39	56,000	8.3	28.9		9.5	153	--	--	--	--	--	--	--	--

See footnotes at end of table.

Table 6A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE NUECES ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 14. Corpus Christi Bay																	
Mar. 26	1205	1	1	44,000	8.4	16.5	104	7.1	86	2.5	--	0.8	0.0	QN	QN	0.03	0.04
			10	44,000	8.4	16.4		7.3	88	--	--	--	--	--	--	--	--
			30	44,000	8.4	16.4		7.2	87	2.7	--	1.0	.0	QN	QN	.05	.09
Do.	1230	4	1	44,000	8.4	16.8	38	7.0	86	--	--	--	--	--	--	--	--
			5	44,000	8.4	16.8		7.5	93	--	--	--	--	--	--	--	--
			13	44,000	8.4	16.6		7.4	91	--	--	--	--	--	--	--	--
Do.	1255	7	1	45,000	8.5	16.6	51	7.5	93	4.2	--	1.5	.0	QN	QN	.03	.05
			13	44,000	8.5	16.5		7.4	89	2.7	--	1.2	.0	QN	QN	.04	.05
Do.	1320	10	1	44,000	8.4	16.6	135	7.5	93	--	--	--	--	--	--	--	--
			13.5	44,000	8.5	16.5		7.5	90	--	--	--	--	--	--	--	--
Sept. 17	1120	1	1	52,000	8.3	29.4	98	8.2	130	.7	--	.2	.0	QN	QN	.01	.02
			5	52,000	8.3	29.1		8.0	127	--	--	--	--	--	--	--	--
			10	52,000	8.3	29.1		7.5	119	--	--	--	--	--	--	--	--
			20	53,000	8.3	29.1		7.4	117	--	--	--	--	--	--	--	--
			30	54,000	8.3	29.0		7.9	127	--	--	--	--	--	--	--	--
			44	56,000	8.2	28.9		8.3	134	2.9	--	1.0	.3	QN	QN	.03	.05
Do.	1035	3	1	56,000	8.4	29.2	87	9.9	160	--	--	--	--	--	--	--	--
			5	54,000	8.4	29.1		8.9	144	--	--	--	--	--	--	--	--
			10	56,000	8.4	29.0		9.0	145	--	--	--	--	--	--	--	--
			12.5	56,000	8.4	29.0		8.9	144	--	--	--	--	--	--	--	--
Do.	1000	6	1	57,000	8.4	28.9	65	9.0	148	1.0	--	2.0	.0	QN	QN	.05	.05
			5	56,000	8.4	28.9		7.7	124	--	--	--	--	--	--	--	--
			10	57,000	8.4	28.9		7.2	118	--	--	--	--	--	--	--	--
			13.5	57,000	8.4	28.8		7.4	121	2.3	--	2.6	.2	QN	QN	.05	.07
Do.	0945	9	1	57,000	8.4	29.5	88	7.1	120	--	--	--	--	--	--	--	--
			5	57,000	8.4	29.5		7.2	122	--	--	--	--	--	--	--	--
			10	59,000	8.5	29.5		7.9	134	--	--	--	--	--	--	--	--
			14	60,000	8.5	29.2		7.4	121	--	--	--	--	--	--	--	--
Line 15. Aransas Pass																	
Mar. 26	1100	8	1	32,000	8.5	15.3	81	8.6	96	--	--	--	--	--	--	--	--
			5	33,000	8.5	15.2		8.5	96	--	--	--	--	--	--	--	--
			9	34,000	8.5	15.3		8.3	93	--	--	--	--	--	--	--	--
Do.	1130	10	1	32,000	8.6	15.8	145	7.6	85	1.8	--	2.4	.0	QN	QN	.03	.05
			5	34,000	8.5	15.9		7.5	85	--	--	--	--	--	--	--	--
			7	37,000	8.5	15.9		7.4	85	--	--	--	--	--	--	--	--
			10	42,000	8.5	15.9		7.1	85	--	--	--	--	--	--	--	--
			18	42,000	8.4	16.0		7.6	90	1.9	--	1.2	.0	QN	QN	.03	.03
Sept. 17	1345	8	1	45,000	8.3	30.6	--	8.3	134	--	--	--	--	--	--	--	--
			5	45,000	8.3	30.6		8.4	135	--	--	--	--	--	--	--	--
			9	45,000	8.3	30.5		8.5	135	--	--	--	--	--	--	--	--
Do.	1515	10	1	45,000	7.9	31.0	--	5.2	84	.8	--	1.2	.0	QN	QN	.02	.03
			5	45,000	8.0	31.0		5.2	84	--	--	--	--	--	--	--	--
			10	45,000	8.0	31.0		5.3	86	--	--	--	--	--	--	--	--
			16	45,000	8.0	31.0		5.5	89	1.4	--	1.2	.0	QN	QN	.03	.03
Do.	1410	11	1	45,000	8.3	30.6	94	8.2	132	--	--	--	--	--	--	--	--
			5	45,000	8.3	30.2		7.7	122	--	--	--	--	--	--	--	--
			9.5	45,000	8.3	30.3		8.1	129	--	--	--	--	--	--	--	--
Line 16. Corpus Christi Ship Channel																	
Mar. 26	0915	2	1	34,000	8.5	15.7	--	8.3	94	2.5	--	2.3	.0	QN	QN	.02	.06
			5	40,000	8.4	16.0		8.5	100	--	--	--	--	--	--	--	--
			10	42,000	8.4	15.8		7.5	89	--	--	--	--	--	--	--	--
			30	42,000	8.4	16.1		7.9	94	2.2	--	1.2	.0	QN	QN	.02	.05
Sept. 17	1155	2	1	47,000	8.2	29.3	91	7.8	122	.5	--	1.0	.0	QN	QN	.02	.02
			5	47,000	8.2	29.3		7.8	122	--	--	--	--	--	--	--	--
			10	49,000	8.2	29.2		7.3	116	--	--	--	--	--	--	--	--
			20	50,000	8.2	29.2		6.9	110	--	--	--	--	--	--	--	--
			30	52,000	8.3	29.1		6.9	110	--	--	--	--	--	--	--	--
			40	53,000	8.3	29.1		6.9	110	--	--	--	--	--	--	--	--
			47	52,000	8.3	29.1		7.1	113	2.1	--	1.1	.2	QN	QN	.03	.04

See footnotes at end of table.

Table 6A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE NUECES ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 17. Gulf of Mexico																	
Mar. 26	1045	2	1	44,000	8.4	15.4	39	8.2	98	1.2	--	0.3	0.0	QN	QN	0.01	0.02
			30	45,000	8.4	15.0		8.2	98	1.3	--	.2	.0	QN	QN	.03	.03
Sept. 17	1225	2	1	45,000	8.2	30.1	172	8.7	138	1.4	--	.2	.0	QN	QN	.01	.02
			5	45,000	8.2	29.7		8.6	136	--	--	--	--	--	--	--	--
			10	45,000	8.2	29.4		7.3	114	--	--	--	--	--	--	--	--
			20	47,000	8.2	29.2		6.7	105	--	--	--	--	--	--	--	--
			30	49,000	8.1	29.2		6.7	106	--	--	--	--	--	--	--	--
			36	59,000	8.1	29.2		7.3	116	2.4	--	1.5	.2	QN	QN	.03	.04

1/ Determined at data-collection site.
QN means qualitative test negative.

Table 6B.--CHEMICAL ANALYSES OF WATER FROM THE NUECES ESTUARY, 1969 WATER YEAR

[Results in milligrams per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Density (g/ml at 20°C)
													Calcium, magnesium	Noncarbonate	
Line 1. Nueces River															
Mar. 25	1325	2	1	1,310	77	19	169		200	74	280	735	272	108	--
			14	29,800	1,030	761	4,450		344	1,630	9,500	17,600	5,700	5,420	1.009
Line 6. Nueces Bay															
Mar. 26	0830	6	10	41,800	420	956	7,370		155	2,170	13,200	24,200	4,980	4,850	1.015
do	0900	12	8	43,300	402	972	7,760		164	2,190	13,800	25,200	5,000	4,870	1.015
Sept. 18	1345	8	15	59,100	628	1,520	12,100		150	3,020	21,900	39,300	7,800	7,680	--
Line 12. Corpus Christi Bay															
Sept. 18	1145	6	38	56,600	502	1,450	11,600		154	2,900	20,800	37,300	7,200	7,070	--
Line 14. Corpus Christi Bay															
Sept. 17	1000	6	13.5	57,700	505	1,470	12,000		170	3,000	21,300	38,400	7,300	7,160	--
Line 16. Corpus Christi Ship Channel															
Sept. 17	1155	2	47	53,500	452	1,380	11,000		158	2,750	19,700	35,400	6,800	6,670	--
Line 17. Gulf of Mexico															
Sept. 17	1225	2	1	47,200	365	1,190	9,140		145	2,330	16,400	29,500	5,800	5,680	--
			36	55,700	405	1,240	10,400		147	2,590	18,300	33,000	6,100	5,980	--

a/ Included in sodium-ion concentration.

Table 6C.--ANALYSES FOR SELECTED IONS IN WATER FROM THE NUECES ESTUARY, 1969 WATER YEAR

[Results in micrograms per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Elevation in feet above (+) or below (-) mean sea level	Specific conductance (micromhos at 25°C)	Iron (Fe)	Manganese (Mn)	Lithium (Li)	Fluoride (F) a/	Boron (B)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Zinc (Zn)	Arsenic (As)	Selenium (Se)	Cadmium (Cd)	Bromide (Br) a/	Iodide (I) a/	Strontium (Sr)
Line 1. Nueces River																			
Mar. 25	1325	2	1	1,310	--	--	--	0.3	--	--	--	--	--			--	--	--	--
			14	29,800	--	--	--	.3	--	--	--	--	--			--	--	--	--
Line 6. Nueces Bay																			
Mar. 26	0830	6	10	41,800	--	--	--	.7	--	--	--	--	--			--	--	--	--
do	0900	12	8	43,300	--	--	--	.7	--	--	--	--	--			--	--	--	--
Sept. 18	1345	8	15	59,100	--	--	--	.9	6,200	--	--	--	--			--	73	0.016	--
Line 12. Corpus Christi Bay																			
Sept. 18	1145	6	38	56,600	--	--	--	.8	4,500	--	--	--	--			--	69	.069	--
Line 14. Corpus Christi Bay																			
Sept. 17	1000	6	13.5	57,700	--	--	--	.9	5,300	--	--	--	--			--	66	.077	--
Line 16. Corpus Christi Ship Channel																			
Sept. 17	1155	2	47	53,500	--	--	--	.8	5,400	--	--	--	--			--	64	.103	--
Line 17. Gulf of Mexico																			
Sept. 17	1225	2	1	47,200	0	0	140	.8	4,600	0	21	7	30			0	51	.042	6,400
			36	55,700	30	0	160	.8	5,000	0	16	2	60			0	61	.042	7,000

a/ Results in milligrams per liter.

Laguna Madre Estuary

The Laguna Madre estuary covers an area of about 640 square miles and consists of the tidal parts of the Arroyo Colorado and other tributaries; upper Laguna Madre, Baffin Bay, lower Laguna Madre, Brownsville Ship Channel, part of the Intracoastal Waterway, Port Mansfield Channel, and Brazos Santiago Pass (Figure 21).

At mlw, upper and lower Laguna Madre and Baffin Bay are generally less than 4 feet deep, but in a few areas are as much as 10 feet deep. The Intracoastal Waterway, Port Mansfield Channel, and Arroyo Colorado are about 15 feet deep; the Brownsville Ship Channel is about 40 feet deep.

Water-quality data for the estuary (Table 7) were collected during September at sites shown on Figure 21.

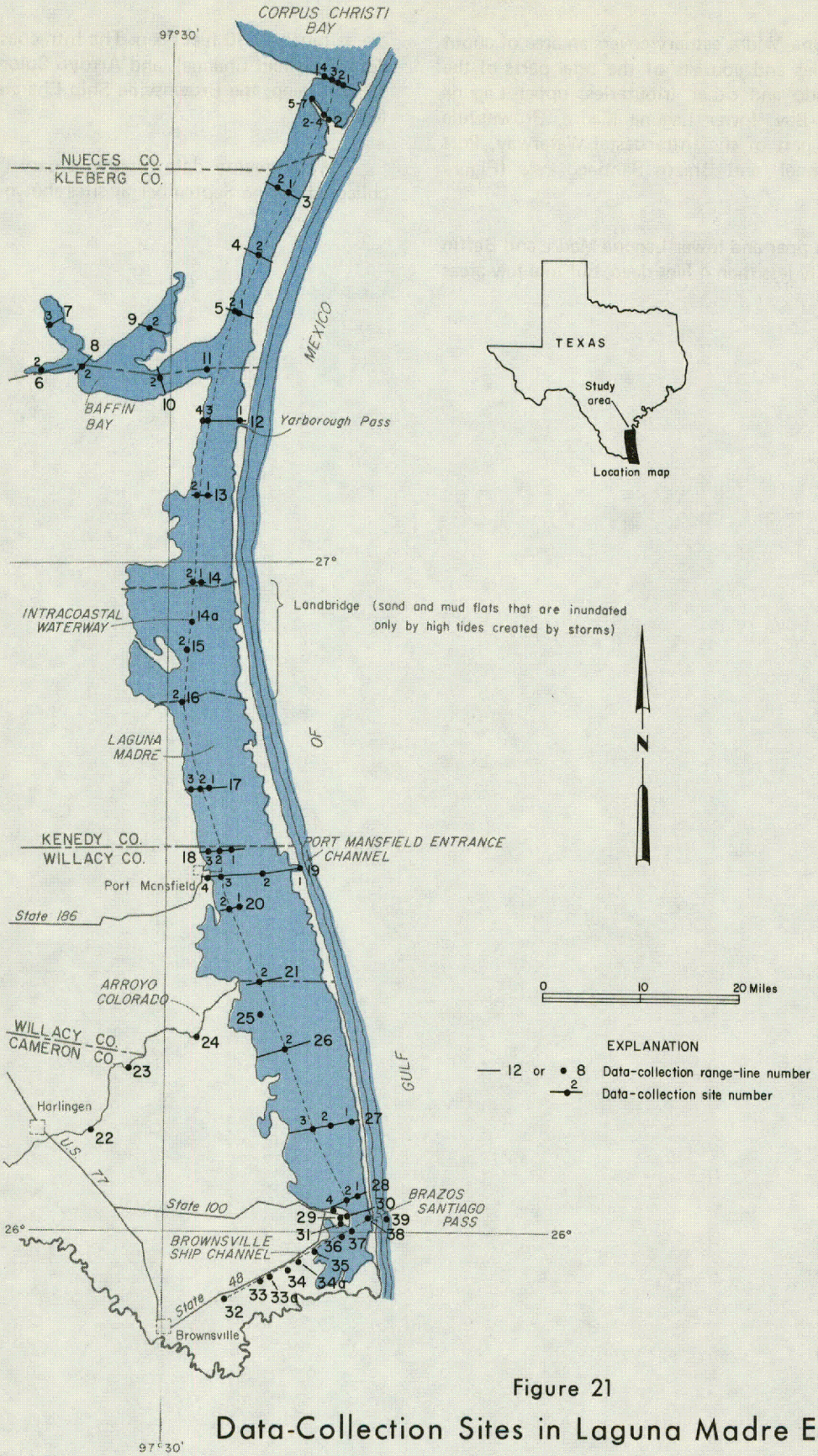


Figure 21

Data-Collection Sites in Laguna Madre Estuary

Base by U.S. Geological Survey, 1956

Table 7A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE LAGUNA MADRE ESTUARY, 1969 WATER YEAR

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 1. Upper Laguna Madre																	
Mar. 26	1410	3	1	45,000	8.4	15.5	145	6.8	82	2.4	--	0.5	0.0	QN	QN	0.02	0.03
			5	45,000	8.4	15.5		7.1	86	--	--	--	--	--	--	--	--
			10	45,000	8.4	15.5		7.3	88	--	--	--	--	--	--	--	--
			16	45,000	8.4	15.5		7.3	88	2.7	--	.5	.0	QN	QN	.03	.07
Do.	1345	4	1	45,000	8.5	17.0	82	7.4	91	--	--	--	--	--	--	--	--
			5	45,000	8.4	16.9		7.8	96	--	--	--	--	--	--	--	--
Sept. 16	1620	3	1	64,000	8.7	31.3	--	8.7	155	4.2	--	2.8	.0	QN	QN	.02	.03
			5	64,000	8.7	30.8		7.5	134	--	--	--	--	--	--	--	--
			10	64,000	8.7	30.5		6.3	110	--	--	--	--	--	--	--	--
			16	66,000	8.7	30.7		7.4	134	3.5	--	3.4	.0	QN	QN	.03	.04
Do.	1650	4	1	62,000	8.6	30.4	--	8.1	140	--	--	--	--	--	--	--	--
			4	63,000	8.7	30.7		9.1	162	4.5	--	2.9	.0	QN	QN	.02	.03
Sept. 17	0920	2	1.5	57,000	8.4	28.2	59	7.2	116	--	--	--	--	--	--	--	--
Do.	0910	3	1	57,000	8.4	28.4	69	6.6	106	1.6	--	2.5	.0	QN	QN	.03	.04
			5	57,000	8.5	28.5		6.7	108	--	--	--	--	--	--	--	--
			13.5	65,000	8.7	29.6		6.7	117	4.5	--	3.4	.0	QN	QN	.04	.05
Do.	0935	4	1	59,000	8.5	28.8	74	7.8	128	--	--	--	--	--	--	--	--
			5	59,000	8.6	29.0		7.8	128	--	--	--	--	--	--	--	--
Line 2. Upper Laguna Madre																	
Sept. 16	1545	3	1	64,000	8.8	31.4	67	10.5	188	5.0	--	2.0	.0	QN	QN	.02	.03
			5	64,000	8.8	31.2		11.1	198	--	--	--	--	--	--	--	--
			7	66,000	8.8	31.0		9.6	174	--	--	--	--	--	--	--	--
			10	68,000	8.7	29.7		7.1	129	--	--	--	--	--	--	--	--
			20	69,000	8.6	29.6		6.4	116	--	--	--	--	--	--	--	--
			27	69,000	8.6	29.4		7.5	132	6.8	--	5.4	.0	QN	QN	.03	--
Do.	1520	6	1	64,000	8.7	31.5	56	9.9	183	--	--	--	--	--	--	--	--
			5	64,000	8.7	31.4		10.9	195	--	--	--	--	--	--	--	--
			10	66,000	8.7	31.0		9.7	176	--	--	--	--	--	--	--	--
			12.5	66,000	8.6	31.0		9.4	171	--	--	--	--	--	--	--	--
Line 3. Upper Laguna Madre																	
Sept. 16	1415	1	1	75,000	8.6	30.2	48	7.0	132	8.0	--	6.8	.0	QN	QN	.03	.03
			5	75,000	8.6	29.9		6.8	128	--	--	--	--	--	--	--	--
			7	75,000	8.6	29.7		5.7	108	--	--	--	--	--	--	--	--
			10	75,000	8.5	28.7		3.7	67	--	--	--	--	--	--	--	--
			14	79,000	8.5	28.5		3.0	54	7.1	--	5.7	.1	QN	QN	.04	.04
Do.	1430	2	1	75,000	8.7	31.4	52	11.4	220	--	--	--	--	--	--	--	--
			2	75,000	8.7	31.4		11.0	212	8.1	--	5.5	.0	QN	QN	.03	.03
Line 4. Upper Laguna Madre																	
Sept. 16	1345	2	1	75,000	8.5	29.5	50	6.7	126	--	--	--	--	--	--	--	--
			5	75,000	8.5	29.2		6.2	113	--	--	--	--	--	--	--	--
			10	73,000	8.5	28.7		4.8	86	--	--	--	--	--	--	--	--
			15	71,000	8.4	28.7		4.5	79	--	--	--	--	--	--	--	--
Line 5. Upper Laguna Madre																	
Sept. 16	1320	1	1	75,000	8.7	29.7	48	7.2	136	--	--	--	--	--	--	--	--
			3	75,000	8.7	29.7		7.4	140	7.9	--	4.4	.0	QN	QN	.04	.04
Do.	1300	2	1	75,000	8.7	29.6	50	6.9	130	8.0	--	7.2	.0	QN	QN	.04	.04
			5	75,000	8.6	29.4		6.4	116	--	--	--	--	--	--	--	--
			10	71,000	8.6	28.8		5.1	89	--	--	--	--	--	--	--	--
			14	71,000	8.6	28.6		3.8	67	8.0	--	5.7	.0	QN	QN	.03	.03
Line 6. Baffin Bay																	
Sept. 15	1615	2	1	75,000	8.5	29.8	29	7.7	145	--	--	--	--	--	--	--	--
			4	75,000	8.5	29.8		7.6	143	6.6	--	11	.0	QN	QN	.06	.06
Line 7. Baffin Bay																	
Sept. 15	1515	2	1	71,000	8.2	29.9	21	6.5	118	--	--	--	--	--	--	--	--
			4	71,000	8.2	29.9		5.0	91	4.2	--	12	.0	QN	QN	.05	.08
Line 8. Baffin Bay																	
Sept. 15	1445	2	1	71,000	8.5	29.3	41	6.9	121	7.8	--	10	.0	QN	QN	.06	.08
			3	71,000	8.6	29.4		7.0	123	--	--	--	--	--	--	--	--
			6	71,000	8.5	29.3		5.0	88	8.0	--	11	.0	QN	QN	.06	.10

See footnotes at end of table.

Table 7A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE LAGUNA MADRE ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
							Line 10. Baffin Bay										
Sept. 15	1415	2	1	68,000	8.6	29.1	33	7.3	128	--	--	--	--	--	--	--	--
			3	68,000	8.6	29.1		7.2	126	--	--	--	--	--	--	--	--
			5	68,000	8.6	29.0		7.0	123	--	--	--	--	--	--	--	--
			7	68,000	8.5	28.9		5.4	95	--	--	--	--	--	--	--	--
							Line 11. Baffin Bay										
Sept. 15	1340	3	1	65,000	8.8	28.9	33	6.1	103	7.9	--	5.9	0.0	QN	QN	0.05	0.05
			7.5	66,000	8.8	28.7		6.4	110	7.6	--	6.6	.0	QN	QN	.05	.07
Sept. 16	1235	3	1	69,000	8.6	29.3	41	8.5	149	--	--	--	--	--	--	--	--
			3	68,000	8.6	29.2		8.3	146	--	--	--	--	--	--	--	--
			5	73,000	8.5	29.1		7.2	128	--	--	--	--	--	--	--	--
			8	73,000	8.5	29.8		4.2	78	--	--	--	--	--	--	--	--
							Line 12. Upper Laguna Madre										
Sept. 16	1150	1	1	68,000	8.7	29.0	52	7.5	132	7.6	--	3.2	.0	QN	QN	.02	.04
			5	73,000	8.7	28.7		7.2	129	--	--	--	--	--	--	--	--
			7	73,000	8.6	28.4		4.8	84	--	--	--	--	--	--	--	--
			10	79,000	8.2	29.2		0	0	6.9	--	6.2	.0	QN	QN	.18	.18
Do.	1140	2	1	65,000	8.7	29.3	61	7.6	129	--	--	--	--	--	--	--	--
			5	68,000	8.7	28.9		6.9	121	--	--	--	--	--	--	--	--
			7	68,000	8.7	28.9		5.9	104	--	--	--	--	--	--	--	--
Do.	1115	3	1	65,000	8.7	29.3	65	7.3	124	5.3	--	2.7	.0	QN	QN	.02	.03
			3	65,000	8.7	29.2		7.1	120	--	--	--	--	--	--	--	--
			5	68,000	8.6	28.8		5.3	93	--	--	--	--	--	--	--	--
			10	69,000	8.6	28.8		4.7	82	--	--	--	--	--	--	--	--
			16.5	69,000	8.6	28.8		4.5	79	7.1	--	3.8	.0	QN	QN	.01	.03
Do.	1125	4	1	62,000	8.7	29.4	69	6.2	107	--	--	--	--	--	--	--	--
			5.5	68,000	8.7	29.8		5.5	100	--	--	--	--	--	--	--	--
							Line 13. Land Cut										
Sept. 11	1620	1	1	66,000	8.8	28.7	47	9.6	166	--	--	--	--	--	--	--	--
			4	69,000	8.8	29.0		9.9	174	--	--	--	--	--	--	--	--
Do.	1610	2	1	69,000	8.8	29.1	65	8.3	146	--	--	--	--	--	--	--	--
			5	71,000	8.8	29.0		8.2	144	--	--	--	--	--	--	--	--
			10	71,000	8.7	29.1		7.5	132	--	--	--	--	--	--	--	--
			14	75,000	8.7	28.9		4.6	84	--	--	--	--	--	--	--	--
Sept. 16	1040	1	1.5	53,000	8.6	29.1	46	7.9	125	--	--	--	--	--	--	--	--
Do.	1050	2	1	53,000	8.6	29.1	90	5.7	90	--	--	--	--	--	--	--	--
			5	53,000	8.6	28.9		5.5	87	--	--	--	--	--	--	--	--
			10	53,000	8.6	28.8		5.5	87	--	--	--	--	--	--	--	--
			17	52,000	8.5	28.8		5.1	81	--	--	--	--	--	--	--	--
							Line 14. Land Cut										
Sept. 11	1515	2	1	32,000	8.9	27.4	76	10.1	140	--	--	--	--	--	--	--	--
			2	48,000	8.8	27.8		9.8	148	--	--	--	--	--	--	--	--
			3	54,000	8.8	28.2		9.4	149	--	--	--	--	--	--	--	--
			4	60,000	8.8	28.5		9.3	150	--	--	--	--	--	--	--	--
			5	66,000	8.7	28.7		8.4	145	--	--	--	--	--	--	--	--
			6	68,000	8.7	28.7		8.3	146	--	--	--	--	--	--	--	--
			7	69,000	8.7	29.0		7.5	132	--	--	--	--	--	--	--	--
			8	69,000	8.7	28.9		7.4	130	--	--	--	--	--	--	---	--
			10	71,000	8.7	29.0		7.6	133	--	--	--	--	--	--	--	--
			15	73,000	8.7	28.7		8.1	144	--	--	--	--	--	--	--	--
			17	73,000	8.6	28.6		9.1	162	--	--	--	--	--	--	--	--
							Line 14a. Land Cut										
Sept. 11	1505	2	.2	6,000	9.0	27.3	--	8.5	108	--	--	--	--	--	--	--	--
							Line 15. Land Cut										
Sept. 11	1430	2	1	16,000	8.9	26.0	65	9.3	119	1.4	--	1.9	.2	QN	QN	.01	.02
			3	18,000	8.9	25.7		9.1	118	--	--	--	--	--	--	--	--
			4	25,000	8.9	26.0		8.6	115	--	--	--	--	--	--	--	--
			5	33,000	8.9	26.5		8.3	115	--	--	--	--	--	--	--	--
			6	50,000	8.8	27.3		7.5	114	--	--	--	--	--	--	--	--
			7	62,000	8.7	28.2		7.3	118	--	--	--	--	--	--	--	--
			8	65,000	8.7	28.4		6.7	112	--	--	--	--	--	--	--	--
			10	68,000	8.7	28.6		6.3	110	--	--	--	--	--	--	--	--
			17.5	77,000	8.7	29.1		7.0	130	1.8	--	4.0	.0	QN	QN	.02	.03

See footnotes at end of table.

Table 7A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE LAGUNA MADRE ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen: Concentration 1/	Dissolved oxygen: Percent saturation	Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
							Line 16. Lower Laguna Madre										
Sept. 11	1400	2	1	12,000	8.9	26.5	57	9.3	118	--	--	--	--	--	--	--	--
			3	13,000	8.8	26.4		9.9	125	--	--	--	--	--	--	--	--
			4	22,000	8.8	26.2		9.4	124	--	--	--	--	--	--	--	--
			5	42,000	8.9	26.2		9.5	138	--	--	--	--	--	--	--	--
			7.5	62,000	8.7	27.4		6.9	111	--	--	--	--	--	--	--	--
			10	73,000	8.8	28.3		6.8	119	--	--	--	--	--	--	--	--
			16	75,000	8.8	28.6		5.9	107	--	--	--	--	--	--	--	--
							Line 17. Lower Laguna Madre										
Sept. 11	1300	1	1	64,000	8.6	28.2	77	7.7	128	3.5	--	4.6	0.0	QN	QN	0.01	0.03
			3	64,000	8.6	28.2		8.1	135	3.8	--	4.7	.0	QN	QN	.04	.07
Do.	1240	2	1	66,000	8.7	29.4	69	7.0	121	--	--	--	--	--	--	--	--
			5	68,000	8.7	29.4		5.7	100	--	--	--	--	--	--	--	--
			13.5	73,000	8.6	29.6		5.8	107	2.5	--	4.2	.0	QN	QN	.02	.05
Do.	1310	3	.2	66,000	8.7	29.1	122	6.8	117	--	--	--	--	--	--	--	--
			1	66,000	8.7	29.1		7.0	121	--	--	--	--	--	--	--	--
			4	66,000	8.7	29.1		8.6	148	.8	--	2.5	.0	QN	QN	.02	.04
							Line 18. Lower Laguna Madre										
Sept. 11	1155	1	.1	66,000	8.4	28.4	76	5.4	92	--	--	--	--	--	--	--	--
			1	66,000	8.4	28.2		5.8	98	--	--	--	--	--	--	--	--
			3	66,000	8.4	28.2		7.6	129	--	--	--	--	--	--	--	--
Do.	1145	2	1	65,000	8.5	29.2	67	6.5	110	--	--	--	--	--	--	--	--
			5	65,000	8.5	29.2		6.5	110	--	--	--	--	--	--	--	--
			12	68,000	8.5	29.4		4.7	82	--	--	--	--	--	--	--	--
Do.	1215	3	.1	59,000	8.4	29.2	112	5.9	94	--	--	--	--	--	--	--	--
			1	60,000	8.4	29.1		6.1	100	--	--	--	--	--	--	--	--
			4.5	60,000	8.4	28.8		9.1	149	--	--	--	--	--	--	--	--
							Line 19. Lower Laguna Madre										
Sept. 11	1020	1	1	52,000	8.3	28.9	94	5.7	91	.8	--	.8	.0	QN	QN	.02	.04
			5	52,000	8.3	29.1		5.5	87	--	--	--	--	--	--	--	--
			10	53,000	8.3	29.2		5.5	87	--	--	--	--	--	--	--	--
			15	53,000	8.3	29.1		5.5	87	.8	--	.8	.0	QN	QN	.01	.03
Do.	1110	2	1	49,000	8.5	28.7	82	6.5	103	--	--	--	--	--	--	--	--
			5	49,000	8.5	28.5		6.0	92	--	--	--	--	--	--	--	--
			10	60,000	8.5	28.5		5.4	87	--	--	--	--	--	--	--	--
			19	62,000	8.5	28.6		6.0	100	--	--	--	--	--	--	--	--
Do.	0945	3	1	63,000	8.6	28.6	81	4.7	80	2.4	--	3.4	.0	QN	QN	.02	.03
			5	63,000	8.6	28.6		4.7	80	--	--	--	--	--	--	--	--
			10	64,000	8.5	28.8		4.3	73	--	--	--	--	--	--	--	--
			15	66,000	8.5	29.2		3.8	66	2.7	--	3.8	.0	QN	QN	.03	.04
Do.	0920	4	.2	54,000	8.4	28.0	51	5.4	86	1.7	--	3.3	.0	QN	QN	.02	.04
			1	53,000	8.5	28.0		5.3	83	--	--	--	--	--	--	--	--
			5	49,000	8.5	29.3		4.9	78	--	--	--	--	--	--	--	--
			10	63,000	8.4	29.7		1.5	26	--	--	--	--	--	--	--	--
			16.5	66,000	7.6	28.6		.0	0	7.9	--	8.6	.0	QN	QN	.12	.15
							Line 20. Lower Laguna Madre										
Sept. 11	1125	4	1	59,000	8.5	28.6	98	6.1	100	--	--	--	--	--	--	--	--
			5	60,000	8.5	28.7		6.1	100	--	--	--	--	--	--	--	--
			13	62,000	8.5	29.0		5.6	93	--	--	--	--	--	--	--	--
							Line 21. Lower Laguna Madre										
Sept. 10	1035	2	1	54,000	8.1	28.6	51	4.0	65	--	--	--	--	--	--	--	--
			5	54,000	8.1	28.7		4.2	68	--	--	--	--	--	--	--	--
			10	56,000	8.1	28.7		4.4	71	--	--	--	--	--	--	--	--
			16	56,000	8.1	28.7		4.6	74	--	--	--	--	--	--	--	--
							Line 22. Arroyo Colorado										
Sept. 10	1340	2	1	5,500	7.8	31.0	41	10.5	144	5.2	20	25	.6	QN	0.12	.62	.62
			2	5,500	7.8	30.7		11.0	151	--	--	--	--	--	--	--	--
			3	5,400	7.7	30.2		8.8	119	--	--	--	--	--	--	--	--
			4	5,500	7.5	29.5		6.2	84	--	--	--	--	--	--	--	--
			5	5,800	7.4	28.9		3.2	42	--	--	--	--	--	--	--	--
			6	7,500	7.4	28.8		1.5	20	--	--	--	--	--	--	--	--
			7	32,000	6.9	28.9		.1	1	--	--	--	--	--	--	--	--
			8	40,000	6.9	28.4		.3	4	--	--	--	--	--	--	--	--
			10	44,000	6.8	28.1		.4	6	7.0	--	33	.0	13	QN	3.6	3.6

See footnotes at end of table.

Table 7A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE LAGUNA MADRE ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
Line 23. Arroyo Colorado																	
Sept. 10	1300	2	1	13,000	8.6	31.2	39	18.7	262	--	--	--	--	--	--	--	--
			2	11,000	8.6	31.4		17.8	244	--	--	--	--	--	--	--	--
			3	11,000	8.5	31.4		17.8	244	--	--	--	--	--	--	--	--
			4	11,000	8.5	31.0		16.6	228	--	--	--	--	--	--	--	--
			5	12,000	8.2	30.4		7.5	103	--	--	--	--	--	--	--	--
			6	27,000	7.3	29.7		.1	1	--	--	--	--	--	--	--	--
			8	45,000	7.6	29.4		.0	0	--	--	--	--	--	--	--	--
			10	52,000	7.9	29.4		.0	0	--	--	--	--	--	--	--	--
			15.5	57,000	7.6	29.4		.0	0	--	--	--	--	--	--	--	--
Line 24. Arroyo Colorado																	
Sept. 10	1220	2	1	23,000	8.4	30.5	60	8.8	126	--	--	--	--	--	--	--	--
			3	22,000	8.4	30.4		8.4	120	--	--	--	--	--	--	--	--
			5	23,000	8.3	30.2		5.8	83	--	--	--	--	--	--	--	--
			6	28,000	8.1	30.2		.5	7	--	--	--	--	--	--	--	--
			7	52,000	8.1	29.5		.0	0	--	--	--	--	--	--	--	--
			10	57,000	8.1	29.6		.3	5	--	--	--	--	--	--	--	--
			15	57,000	8.0	29.3		.3	5	--	--	--	--	--	--	--	--
			18	59,000	7.7	29.0		.3	5	--	--	--	--	--	--	--	--
Line 25. Arroyo Colorado																	
Sept. 10	1055	2	1	28,000	8.3	29.9	48	9.2	133	5.4	--	15	0.0	QN	QN	0.13	0.20
			3	28,000	8.2	29.8		7.3	106	--	--	--	--	--	--	--	--
			4	30,000	8.2	29.8		4.6	68	--	--	--	--	--	--	--	--
			5	50,000	8.1	29.5		2.6	42	--	--	--	--	--	--	--	--
			10	56,000	8.1	29.6		3.4	57	--	--	--	--	--	--	--	--
			16	59,000	8.0	29.6		3.9	63	2.5	--	4.0	.0	QN	QN	.01	.08
Line 26. Lower Laguna Madre																	
Sept. 10	1005	2	1	53,000	8.2	28.9	81	4.9	78	--	--	--	--	--	--	--	--
			5	53,000	8.2	28.7		4.4	70	--	--	--	--	--	--	--	--
			10	54,000	8.2	28.7		3.8	61	--	--	--	--	--	--	--	--
			14.5	54,000	8.2	28.7		4.4	71	--	--	--	--	--	--	--	--
Line 27. Lower Laguna Madre																	
Sept. 10	0855	1	1	59,000	8.1	29.3	100	4.4	72	--	--	--	--	--	--	--	--
			3	59,000	8.0	29.3		5.1	84	1.8	--	.3	.0	QN	QN	.01	.04
Do.	0835	2	1	62,000	8.4	29.3	119	5.6	93	--	--	--	--	--	--	--	--
			4	62,000	8.4	29.4		6.2	103	1.2	--	.6	.0	QN	QN	.01	.03
Do.	0815	3	1	62,000	8.4	29.8	47	6.9	131	1.8	--	1.8	.0	QN	QN	.01	.04
			3	63,000	8.4	29.8		6.7	118	--	--	--	--	--	--	--	--
			5	63,000	8.4	29.7		6.6	116	--	--	--	--	--	--	--	--
			10	63,000	8.4	29.5		6.3	110	--	--	--	--	--	--	--	--
			14.5	65,000	8.4	29.4		6.4	108	3.5	--	2.2	.0	QN	QN	.01	.04
Line 28. Lower Laguna Madre																	
Sept. 9	0900	1	1	56,000	7.7	29.5	99	4.5	75	--	--	--	--	--	--	--	--
			2.5	56,000	7.8	29.3		4.8	78	--	--	--	--	--	--	--	--
Do.	0850	2	1	54,000	7.7	29.1	131	5.2	85	--	--	--	--	--	--	--	--
			3	54,000	7.7	29.1		5.2	85	--	--	--	--	--	--	--	--
			5	54,000	7.7	29.1		5.2	85	--	--	--	--	--	--	--	--
			10	54,000	7.7	29.1		5.2	85	--	--	--	--	--	--	--	--
			14	56,000	7.7	29.0		5.2	85	--	--	--	--	--	--	--	--
Do.	0835	4	1	56,000	7.8	29.6	47	5.0	83	--	--	--	--	--	--	--	--
			3	56,000	7.8	29.6		5.0	83	--	--	--	--	--	--	--	--
			6.5	59,000	7.8	29.6		5.2	88	--	--	--	--	--	--	--	--
Sept. 10	0740	2	1	56,000	8.1	29.8	156	6.0	100	--	--	--	--	--	--	--	--
			5	56,000	8.0	29.8		6.0	100	--	--	--	--	--	--	--	--
			10	56,000	8.0	29.8		6.2	103	--	--	--	--	--	--	--	--
			13.5	56,000	8.0	29.8		6.4	107	--	--	--	--	--	--	--	--
Line 29. Industrial Channel																	
Sept. 9	1110	2	1	57,000	7.8	30.5	42	6.1	103	1.3	--	.7	.0	QN	QN	.01	.05
			5	57,000	7.8	30.4		5.9	100	--	--	--	--	--	--	--	--
			10	57,000	7.8	30.3		5.7	97	--	--	--	--	--	--	--	--
			13.5	57,000	7.8	30.3		5.6	95	1.6	--	.8	.0	QN	QN	.02	.06

See footnotes at end of table.

Table 7A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE LAGUNA MADRE ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
							Line 30. Industrial Channel										
Sept. 9	1100	2	1	57,000	7.9	30.7	86	5.4	93	--	--	--	--	--	--	--	--
			5	57,000	7.9	30.7		5.5	95	--	--	--	--	--	--	--	--
			10	57,000	7.9	30.7		5.5	95	--	--	--	--	--	--	--	--
			20	57,000	7.9	30.7		5.4	93	--	--	--	--	--	--	--	--
							Line 31. Industrial Channel										
Sept. 9	1045	2	1	56,000	7.9	30.9	95	5.4	92	--	--	--	--	--	--	--	--
			5	56,000	7.9	30.8		5.4	92	--	--	--	--	--	--	--	--
			10	56,000	7.8	30.7		5.4	92	--	--	--	--	--	--	--	--
			20	56,000	7.8	30.6		5.2	88	--	--	--	--	--	--	--	--
			30	56,000	7.8	30.6		5.2	88	--	--	--	--	--	--	--	--
			35.5	57,000	7.8	30.5		5.0	86	--	--	--	--	--	--	--	--
							Line 32. Brownsville Ship Channel										
Sept. 9	1400	2	1	52,000	7.7	30.9	--	12.7	211	3.9	--	2.0	0.0	QN	QN	0.02	0.07
			5	52,000	7.6	30.8		12.4	207	--	--	--	--	--	--	--	--
			10	52,000	7.6	30.6		11.6	194	--	--	--	--	--	--	--	--
			12.5	52,000	7.4	30.4		6.5	106	--	--	--	--	--	--	--	--
			15	53,000	7.4	29.9		4.9	80	--	--	--	--	--	--	--	--
			20	53,000	7.3	29.6		3.3	56	--	--	--	--	--	--	--	--
			25	54,000	7.2	29.5		2.0	33	--	--	--	--	--	--	--	--
			30	54,000	7.2	29.1		.2	3	--	--	--	--	--	--	--	--
			37	56,000	7.2	28.5		.0	0	2.3	--	4.0	.0	QN	QN	.17	.19
							Line 33. Brownsville Ship Channel										
Sept. 9	1340	2	1	53,000	7.6	30.5	80	9.8	160	--	--	--	--	--	--	--	--
			5	53,000	7.6	30.3		8.9	144	--	--	--	--	--	--	--	--
			10	53,000	7.4	29.7		5.8	95	--	--	--	--	--	--	--	--
			15	53,000	7.4	29.6		3.9	64	--	--	--	--	--	--	--	--
			20	53,000	7.3	29.6		1.5	25	--	--	--	--	--	--	--	--
			30	54,000	7.3	29.6		1.8	30	--	--	--	--	--	--	--	--
			35	54,000	7.3	29.6		1.8	30	--	--	--	--	--	--	--	--
			41	54,000	7.3	29.5		.8	13	--	--	--	--	--	--	--	--
							Line 33a. Brownsville Ship Channel										
Sept. 9	1300	2	1	49,000	6.6	30.2	61	.0	0	7.8	--	4.2	.0	QN	QN	.04	.09
			2	50,000	7.0	30.2		.0	0	--	--	--	--	--	--	--	--
			5	52,000	7.2	30.3		1.6	26	--	--	--	--	--	--	--	--
			10	53,000	7.3	29.9		1.7	28	--	--	--	--	--	--	--	--
			15	54,000	7.4	29.8		2.4	40	--	--	--	--	--	--	--	--
			20	54,000	7.5	29.8		3.4	57	--	--	--	--	--	--	--	--
			30	56,000	7.5	30.2		5.3	88	--	--	--	--	--	--	--	--
							Line 34. Brownsville Ship Channel										
Sept. 9	1220	2	1	53,000	7.4	30.4	66	2.3	38	--	--	--	--	--	--	--	--
			5	53,000	7.4	30.3		3.1	51	--	--	--	--	--	--	--	--
			10	53,000	7.5	29.8		2.9	48	--	--	--	--	--	--	--	--
			15	54,000	7.5	29.9		3.8	63	--	--	--	--	--	--	--	--
			20	54,000	7.6	30.2		5.0	83	--	--	--	--	--	--	--	--
			30	56,000	7.7	30.6		5.3	90	--	--	--	--	--	--	--	--
			38	56,000	7.7	30.7		5.3	90	--	--	--	--	--	--	--	--
							Line 34a. Brownsville Ship Channel										
Sept. 9	1240	2	1	53,000	7.5	30.3	81	4.0	66	--	--	--	--	--	--	--	--
			5	53,000	7.5	30.2		4.5	74	--	--	--	--	--	--	--	--
			10	53,000	7.5	29.7		3.9	64	--	--	--	--	--	--	--	--
			15	53,000	7.6	29.8		4.8	79	--	--	--	--	--	--	--	--
			20	54,000	7.6	30.2		5.3	88	--	--	--	--	--	--	--	--
			30	56,000	7.7	30.7		5.3	88	--	--	--	--	--	--	--	--
							Line 35. Brownsville Ship Channel										
Sept. 9	1150	2	1	54,000	7.7	30.2	60	6.4	107	1.2	--	1.3	.0	QN	QN	.01	.04
			5	54,000	7.7	29.8		6.1	101	--	--	--	--	--	--	--	--
			10	54,000	7.7	29.7		5.7	95	--	--	--	--	--	--	--	--
			20	56,000	7.8	30.3		5.4	90	--	--	--	--	--	--	--	--
			30	56,000	7.8	30.3		5.4	90	--	--	--	--	--	--	--	--
			34	56,000	7.8	30.3		5.5	92	.8	--	1.4	.0	QN	QN	.01	.04

See footnotes at end of table.

Table 7A.--NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS OF WATER IN THE LAGUNA MADRE ESTUARY, 1969 WATER YEAR--continued

(Results in milligrams per liter except as indicated)

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C) 1/	pH 1/	Temperature (°C) 1/	Secchi disk transparency (cm) 1/	Dissolved oxygen		Biochemical oxygen demand (BOD)	Chemical oxygen demand (COD)	Silica (SiO_2)	Nitrate nitrogen (N)	Ammonia nitrogen (N)	Nitrite nitrogen (N)	Orthophosphate as phosphorus (P)	Total phosphorus (P)
								Concentration 1/	Percent saturation								
							Line 38. Lower Laguna Madre										
Sept. 9	1015	2	1	54,000	7.8	29.8	252	5.5	92	0.6	--	0.6	0.0	QN	QN	0.00	0.03
			5	54,000	7.8	29.8		5.5	92	--	--	--	--	--	--	--	--
			10	54,000	7.8	29.8		5.5	92	--	--	--	--	--	--	--	--
			20	54,000	7.8	29.7		5.4	90	--	--	--	--	--	--	--	--
			30	54,000	7.8	29.7		5.5	92	--	--	--	--	--	--	--	--
			38	56,000	7.8	29.7		5.8	97	.8	--	.5	.0	QN	QN	.01	.06
							Line 39. Gulf of Mexico										
Sept. 9	0935	2	1	56,000	7.7	29.6	455	5.7	95	.6	--	.7	.0	QN	QN	.00	.02
			5	56,000	7.8	29.5		5.7	95	--	--	--	--	--	--	--	--
			10	56,000	7.7	29.5		5.7	95	--	--	--	--	--	--	--	--
			20	56,000	7.7	29.5		5.7	95	--	--	--	--	--	--	--	--
			30	56,000	7.7	29.5		5.7	95	--	--	--	--	--	--	--	--
			48	56,000	7.7	29.4		5.6	90	.7	--	.6	.0	QN	QN	.00	.02

1/ Determined at data-collection site.
QN means qualitative test negative.

Table 7B.--CHEMICAL ANALYSES OF WATER FROM THE LAGUNA MADRE ESTUARY, 1969 WATER YEAR

[Results in milligrams per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25° C)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Density (g/ml at 20°C)
							Line 3. Upper Laguna Madre								
Sept. 16	1415	1	14	74,200	650	1,960	15,700		146	4,100	27,900	50,400	9,700	9,580	--
							Line 7. Baffin Bay								
Sept. 15	1515	2	4	71,500	645	1,890	15,000		133	4,080	26,700	48,400	9,400	9,290	--
							Line 11. Baffin Bay								
Sept. 15	1340	3	7.5	69,900	650	1,820	14,300		158	4,220	25,300	46,400	9,100	8,970	--
							Line 12. Upper Laguna Madre								
Sept. 16	1115	3	1	65,200	565	1,680	13,400		129	3,540	23,800	43,100	8,300	8,190	--
							Line 15. Land Cut								
Sept. 11	1430	2	1	14,000	155	334	2,530		40	780	4,550	8,370	1,760	1,730	--
			17.5	68,100	560	1,620	14,900		149	3,710	25,800	46,700	8,050	7,930	--
							Line 19. Lower Laguna Madre								
Sept. 11	1020	1	15	53,100	402	1,320	10,800		146	2,700	19,100	34,400	6,450	6,330	--
							Line 22. Arroyo Colorado								
Sept. 10	1340	2	1	5,270	230	113	771		276	840	1,140	3,260	1,040	814	--
			10	46,300	500	1,130	9,170		708	2,480	16,100	29,800	5,900	5,320	--
							Line 25. Arroyo Colorado								
Sept. 10	1055	2	1	27,000	325	649	5,680		209	1,770	9,800	18,300	3,480	3,310	--
			16	57,100	468	1,420	11,800		161	3,030	20,800	37,600	7,000	6,870	--
							Line 27. Lower Laguna Madre								
Sept. 10	0815	3	14.5	60,800	465	1,590	12,500		150	3,160	22,300	40,100	7,700	7,580	--
							Line 29. Industrial Channel								
Sept. 9	1110	2	13.5	56,200	422	1,410	11,400		149	2,880	20,300	36,500	6,850	6,730	--
							Line 32. Brownsville Ship Channel								
Sept. 9	1400	2	37	55,000	422	1,370	11,200		166	2,780	19,800	36,700	6,700	6,560	--
							Line 33a. Brownsville Ship Channel								
Sept. 9	1300	2	1	50,200	420	1,240	10,000		198	2,600	17,800	32,200	6,150	5,990	--
							Line 39. Gulf of Mexico								
Sept. 9	0935	2	48	55,800	448	1,380	11,300		147	3,000	20,000	36,200	6,800	6,680	--

a/ Included in sodium-ion concentration.

Table 7C.--ANALYSES FOR SELECTED IONS IN WATER FROM THE LAGUNA MADRE ESTUARY, 1969 WATER YEAR

[Results in micrograms per liter, except as indicated]

Date of collection	Time (24 hour)	Site	Depth below water surface (ft)	Specific conductance (micromhos at 25°C)	Iron (Fe)	Manganese (Mn)	Lithium (Li)	Fluoride (F) a/	Boron (B)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Zinc (Zn)	Arsenic (As)	Selenium (Se)	Cadmium (Cd)	Bromide (Br) a/	Iodide (I) a/	Strontium (Sr)
								Line 3. Upper Laguna Madre											
Sept. 16	1415	1	1	72,300	0	0	280	--	--	0	12	1	20			0	--	--	12,000
			14	74,200	0	0	280	0.9	6,800	0	11	0	40			0	89	0.240	12,000
								Line 7. Baffin Bay											
Sept. 15	1515	2	4	71,500	0	0	320	1.2	8,100	0	18	4	60			0	94	.250	15,000
								Line 11. Baffin Bay											
Sept. 15	1340	3	7.5	69,600	0	0	240	1.0	7,800	0	7	0	40			0	90	.036	12,000
								Line 12. Upper Laguna Madre											
Sept. 16	1115	3	1	65,200	--	--	--	.9	6,300	--	--	--	--			--	82	.140	--
								Line 15. Land Cut											
Sept. 11	1430	2	1	14,000	0	0	40	.4	920	0	7	3	10			0	14	.040	2,900
			17.5	68,100	0	0	240	1.0	4,500	0	14	5	20			0	87	.150	11,000
								Line 19. Lower Laguna Madre											
Sept. 11	1020	1	1	52,000	0	0	160	--	--	0	35	5	50			0	--	--	7,400
			15	53,100	0	0	160	.9	4,000	0	43	7	40			0	51	.062	7,600
								Line 22. Arroyo Colorado											
Sept. 10	1340	2	1	5,270	10	10	150	.8	1,800	0	4	4	40			0	3.4	.450	5,200
			10	46,300	80	2,100	240	.8	5,300	0	7	2	30			0	45	--	10,000
								Line 25. Arroyo Colorado											
Sept. 10	1055	2	1	27,000	0	0	180	.9	3,000	0	7	2	20			0	26	.420	6,800
			16	57,100	10	0	240	.9	4,800	0	11	4	20			0	47	.074	8,500
								Line 27. Lower Laguna Madre											
Sept. 10	0815	3	1	60,800	20	0	200	--	--	0	13	2	30			0	--	--	9,200
			14.5	60,800	20	0	200	.9	5,200	0	4	5	20			0	43	.056	9,000
								Line 29. Industrial Channel											
Sept. 9	1110	2	13.5	56,200	--	--	--	.9	4,200	--	--	--	--			--	57	.051	--
								Line 32. Brownsville Ship Channel											
Sept. 9	1400	2	37	55,000	--	--	--	.9	4,700	--	--	--	--			--	36	.140	--
								Line 33a. Brownsville Ship Channel											
Sept. 9	1300	2	1	50,200	--	--	--	.9	4,500	--	--	--	--			--	45	.116	--
								Line 39. Gulf of Mexico											
Sept. 9	0935	2	48	55,800	--	--	--	.9	4,600	--	--	--	--			--	45	.056	--

a/ Results in milligrams per liter.

Table 7 D.--INSECTICIDE AND HERBICIDE ANALYSES OF WATER AND SEDIMENT FROM THE LAGUNA MADRE ESTUARY, 1969 WATER YEAR.

Date	Time (24 hour)		Micrograms per liter											
			Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Heptachlor epoxide	Lindane	2,4-D	Silvex	2,4,5-T
Line 6 site 2. Baffin Bay														
Sept. 15	1630	Water	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Sediment	.00	2.2	5.4	.00	.00	.00	.00	.00	.00	--	--	--
Line 7 site 2. Baffin Bay														
Sept. 15	1530	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05
		Sediment	.00	.00	.00	.00	.00	.00	.00	.00	.00	--	--	--
Line 11 site 3. Baffin Bay														
Sept. 15	1750	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Sediment	.00	.00	.00	.00	.00	.00	.00	.00	.00	--	--	--
Line 22 site 2. Arroyo Colorado														
Sept. 10	1340	Water[a/]	--[b/]	.00	.00	.00	.00	.00	--[b/]	.00	--[b/]	.00	.00	.02
		Sediment[c/]	.00	2.0	5.1	.00	.00	.00	.00	.00	.00	--	--	--
Line 25 site 2. Arroyo Colorado														
Sept. 10	1055	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Sediment	.00	.00	.84	.00	.00	.00	.00	.00	.00	--	--	--

a/ H_2S odor.
b/ Not detectable due to interfering sulphur compounds.
c/ H_2S odor; Qualitative test for parathion, methylparathion, and diazinon negative.

WATER STAGES IN THE ESTUARIES

Celestial tides along the Texas coast vary during a 2-week period from diurnal to semidiurnal. The tides generate variable water stages in the estuaries and cause a cyclic exchange of water between the Gulf of Mexico and the estuaries. At times, however, winds or streamflow exert a greater influence on the estuarine water stage than celestial tides; therefore, at certain water stages in the estuaries, flow during one or more tidal cycles may be constantly out of the estuary or constantly into the estuary.

All water-stage recorder sites in the estuaries are shown on Figure 22 and are numbered arbitrarily for convenience. The data given in Tables 8 through 15 represent peaks and troughs in water stages caused by tides, wind, or inflow.

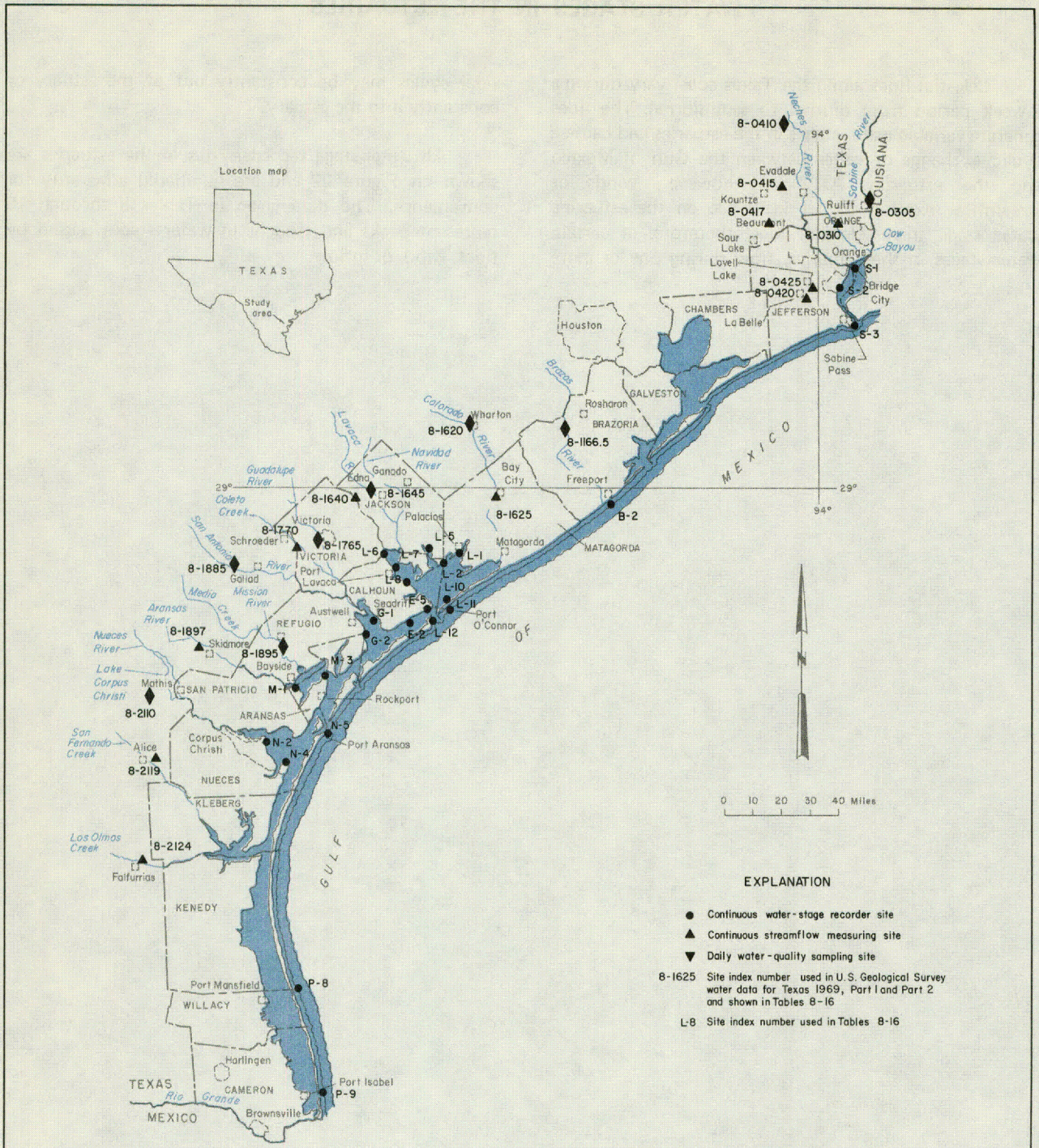


Figure 22

Locations of Continuous Water-Stage and Daily Water-Quality Data-Collection Sites

Base from Official State Highway Map of Texas, 1971

Table 8A.--81, Sabine Lake near Bridge City, Tex.

LOCATION.-- Lat 29°57'42" long 93°48'16", at the Texas-Louisiana State line, on well platform in north end of Sabine Lake about 4 miles east southeast of Rainbow Bridge and about 5 miles south southeast of Bridge City, Orange Co.

RECORDS AVAILABLE.-- July 1966 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1968 water year: maximum elevation 3.1 feet June 24; minimum -2.3 feet Mar. 13.
1969 water year: maximum elevation 2.8 feet Mar. 23; minimum -1.4 feet Nov. 11.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records since Aug. 1967 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1966 to September 1967.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																														0800	-0.9	1	1400	0.6
																														2200	-.2		2400	-.4
																														1000	1.0	2	1400	.9
																														2300	-.2	3	0100	-.2
																														1400	1.0		1700	1.2
																														0100	-.1	4	0200	.1
																														1000	1.0		1800	1.4
																														0100	-.2	5	0100	.4
																														1600	1.1		0800	1.4
																														0200	-.2		1200	.9
																														1700	1.1		1900	1.4
																														0200	.0	6	0200	.8
																														1700	1.2		0700	1.4
																														0300	.1		1600	.8
																														1100	.9		2000	1.0
																														1500	.8	7	0300	.4
																														2000	1.0		0800	.8
																														0400	.1		1600	.1
																														1000	.7		2400	.8
																														1600	.3	8	0500	.7
																														2200	.8		0900	.6
																														0500	.3		1700	-.3
																														1000	.7	9	0100	.6
																														1600	.2		0900	.6
																														2200	.9		1800	-.3
																														0600	.3	10	0500	.8
																														1100	.6		1900	-.3
																														1900	-.2	11	0600	.8
																														2400	.2		2100	-.3
																														0500	.1	12	0800	.8
																														1300	.6		2100	-.2
																														1900	-.2	13	1200	1.4
																														0200	.6		2300	.1
																														1200	.7	14	1400	1.4
																														2000	-.2		2200	.5
																														1100	1.0	15	1500	1.8
																														2100	.2		2400	.8
																														1000	1.4	16	0600	1.5
																														2400	.3		1100	1.4
																														0600	1.1		1600	1.7
																														1500	1.1	17	0100	.8
																														2400	.0		0800	1.4
																														1200	1.4		1200	1.2
																														2400	.1		1800	1.5
																														0800	1.0	18	0100	.9
																														1600	1.0		0800	1.4
																														0100	.0		1200	1.2
																														1300	1.2		1900	1.7
																														0100	.2	19	0100	1.2
																														1500	1.3		0800	1.6
																														0300	.4		1200	1.4
																														1000	1.0		2000	2.0
																														1400	.8	20	0100	1.8
																														2000	1.3		0800	2.3
																														0200	.5		1200	2.1
																														0900	1.0		2000	2.5
																														1300	.8	21	0400	2.1
																														2000	1.1		0800	2.2
																														0400	.4		1500	1.6
																														1000	.9		2000	2.0
																														1500	.6	22	1600	.6
																														2100	1.1		2400	1.3
																														0500	.6	23	1600	.4
																														0900	.9	24	0300	1.3
																														1600	.5		1800	.2
																														2200	1.0	25	0700	1.2
																														0500	.8		1900	.4
																														1300	1.1	26	0600	1.4
																														1700	.6		1900	.4
																														2400	1.2	27	0600	1.5
																														1000	1.3		2400	-.7
																														1800	.5	28	1200	.0
																														2300	1.1		2100	-.9
																														0700	.9	29	1500	1.0
																														1000	1.1		2300	.2
																														2000	.3	30	0600	1.0
																														0700	1.1		1100	.8
																														2100	-.1		1500	1.0
																														0600	.8		2300	.1
																														2100	-.2			
																														0800	.9			
																														2100	-.2			
																														0800	.9			
																														2300	-.5			

Table 8A.--S1, Sabine Lake near Bridge City, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0600	1.0	1	0500	0.7	1	1300	-0.1	1	0600	0.8	1	0800	1.3	1	0200	-1.8	1	a	a	1	0300	0.0	1	0400	0.3	1	0500	0.5	1	0400	0.9	1	0700	1.4
	1100	.8		1300	-.1	2	0500	1.6		1600	-.4		1600	.7		1100	-.9	2	a	a		1400	1.0		1300	1.4		1200	1.1		0800	.7		2100	.2
	1600	.9		2100	.7		1500	.2	2	0600	1.2		2200	1.1		1600	-1.0	3	a	a	2	0400	-.2	2	0400	.4		2100	1.1		1100	.8	2	0900	1.5
	2400	.2	2	0200	.4		2000	.6		1600	.0	2	1600	-.6		2200	-.3	4	a	a		1500	1.0		1300	1.2	2	0500	.6		2000	.1		2300	.3
2	0700	1.0		0500	.6	3	0400	-1.3	3	0400	1.1		2400	.1	2	0300	-.7	5	a	a	3	0500	-.2	3	0600	.3		1200	1.1	2	0500	1.0	3	1400	2.1
	1100	.8		1300	-.2	4	0800	.7		1600	.2	3	0400	.0		1000	.0	6	a	a		1700	1.0		1600	1.3	3	0400	.5		1100	1.0		2300	.8
	1800	1.3		2200	1.0		1700	-.3	4	0200	1.0		1200	.8		1600	-.2	7	a	a	4	0600	-.2	4	0700	.4		1200	1.0		2200	.0	4	1100	2.0
	2400	.7	3	0500	1.4	5	0700	1.1		1700	-1.0		1600	.7		2100	.1	8	a	a		1400	.8		1500	1.0		2000	.5	3	0600	1.2		2400	.9
3	0600	1.2		1700	-.4		1700	.2	5	1100	.9		2200	1.1	3	0700	-.6	9	a	a	5	0600	-.6	5	0700	.4	4	0200	.8		2200	-.2	5	0800	1.8
	1200	.8		2200	.0	6	0300	1.3		1600	.6	4	0600	.5		0900	-.5	10	a	a		2000	.9		1500	1.0		0700	.7	4	1000	1.1		1600	1.4
	1900	1.4	4	0300	-.1		1800	-.1	6	0200	1.4		1100	.7		1600	-.8	11	a	a	6	0800	.0		2100	.5		1200	1.1		2300	.0		2400	.6
4	0100	.9		0700	.1	7	0500	.9	7	1100	-1.4		1700	.7		2300	-.6	12	a	a		1700	1.1	6	0300	.8		2200	.4	5	1300	1.3	6	0800	1.4
	0700	1.3		1400	-.7		1700	.0	8	0600	-.1		2200	1.0	4	0600	-1.0	13	a	a	7	0100	1.4		0900	.7	5	0500	1.0		2300	.1		1300	1.2
	1300	.6	5	0600	.9	8	0400	.9		1000	-.3	5	0800	.3		2300	.4	14	a	a		0700	1.0		1400	.9		1400	1.2	6	1000	1.3		1700	1.6
	2200	1.4		1600	-.4		2000	.3	9	0500	1.1		2000	.8	5	0700	-.4	15	a	a		1500	1.4		2300	.2		2200	.4		1400	1.4	7	0200	.8
5	0100	.9	6	0400	.8	9	0300	1.0		1000	.6	6	0900	-.3		2200	.7	16	1600	1.5		2100	.9	7	0600	1.0	6	0700	1.1		2400	.0		0800	1.4
	0700	1.2		1700	-.3		1700	1.1		1700	1.2		1800	.2	6	0800	-.1	17	0400	.5	8	0200	1.1		1000	.8		1300	1.1	7	0900	1.2		1300	1.2
	1400	.3	7	0700	1.0		2000	.9	10	0200	.8	7	1100	-1.3		1900	.7		1400	1.6		1000	.4		1500	.9		2300	.0		1600	1.4		1700	1.7
	a	.a		1800	-.1	10	0500	1.3		1100	-.2		2100	.3	7	1000	-.6	18	0600	.3		1600	1.0		2300	.0	7	0800	1.1	8	0200	.1	8	0200	1.0
6	1600	.1	8	0400	.9		1400	.5	11	0200	.4	8	0900	-1.5		2100	.4		1400	1.4		2300	.6	8	1200	1.1		2400	-.1		1000	1.2		0800	1.5
7	0600	1.4		1900	-.3		1700	.7		1100	-.3		2200	.2	8	1000	-.5	19	0600	.2	9	0400	1.1		2400	.0	8	0900	1.3		1700	1.2		1500	1.0
	1600	.2	9	0500	.7		2100	.4		2200	.7	9	1100	-1.0		2400	.7		1600	1.5		1000	.8	9	0900	1.3	9	0900	-.2	9	0200	.1		2000	1.5
8	0300	1.4		1200	.8	11	0300	.6	12	1200	-.3		2400	.4	9	1000	-.2	20	0700	.3		1600	1.3		2400	-.1		1000	1.2		1000	1.1	9	0300	.9
	1800	-.4		2000	.2		1300	-.5		1900	.3	10	1200	-1.0		2400	1.0		1600	1.2		2300	.7	10	0900	1.4	10	0100	-.3		1800	1.4		0700	1.2
9	0800	.9	10	0500	1.0		1600	-.2	13	1300	-1.5	11	0200	.2	10	1200	-.1		2400	.9	10	0600	1.6		1500	1.4		1300	1.1	10	0300	.4		1500	.6
	1900	-.1		1000	.7		2400	-.7		1900	-1.0		1300	-1.0	11	0300	1.1	21	0900	.2		1200	1.4	11	0200	.0	11	0200	-.3		1000	1.1		2200	1.4
10	0600	1.0		1400	.8	12	0500	-.5	14	1300	-1.9	12	0400	.3		1200	.5		1700	1.2		1500	1.8		1400	1.3		1000	1.1		1500	1.0	10	0400	.8
	2000	-.2		2000	.3		1100	-1.0	15	0400	-.1		1300	-.4		1900	1.7		2200	.9	11	0100	.8	12	0300	-.2	12	0300	-.2		1900	1.2		0900	.9
11	0600	.8	11	0500	1.0	13	0500	.9		1400	-1.0	13	0300	.9	12		b	22	0300	1.1		0900	1.8		1000	1.0		1500	1.0	11	0400	.5		1600	.4
	2100	-.2		1000	.7		1300	.3	16	0400	.4		1500	-.3	13	0400	-2.2		0900	.5		1500	1.5	13	0300	-.5	13	0300	-.1		1000	1.0		2300	1.0
12	0700	.8		1500	1.0	14	0100	1.4		1500	-.8		2200	.5		0800	-2.0		1700	1.2		2400	.2		1700	1.0		1200	1.2		1500	.7	11	0300	.8
	1500	.9		2200	.3		1200	.4	17	0500	.5	14	0100	.4		1400	-2.3		2200	.9	12	1000	1.9	14	0400	-.2		1900	1.1		2200	1.0		0800	.9
	2200	.2	12	0400	.7		2100	1.2		1500	-.6		0500	.6	14	0900	.4	23	0500	1.1	13	0100	.4		1400	1.1	14	0400	.3	12	0400	.4		1500	.4
13	0600	1.1		1000	.2	15	1400	-.3	18	0600	1.0		1400	-.4	15	a	a		1000	.5		0900	1.7	15	0500	.0		1100	1.2		1000	.9	12	0100	1.1
	1500	1.1		1700	.6	16	0300	.6		1700	.0		2300	.5	16	a	a		1700	.8		1700	1.6		1400	1.1		1500	1.1		1600	.5		1000	1.0
	2400	.4		2300	.3		1400	.4	19	0400	.9	15	0700	.5	17	a	a		2400	.0	14	0200	.5	16	0600	.0		2000	1.2		2300	.9		1700	.6
14	0600	1.0	13	0400	.6	17	0600	1.4		1700	-.1		1400	-.4	16	a	a	24	0400	.2		1100	1.6		1400	.9	15	0600	.6	13	0400	.7	13	0300	1.5
	1100	1.0		1200	.0		1400	.3		2400	.6		2100	.2	19	a	a		1100	-.5	15	0200	.3	17	0600	.0		1200	1.1		1100	1.0		1900	.6
	1500	1.3		1800	.6	18	0500	1.5	20	0300	.4	16	0300	-.2	20	a	a		1800	.2		1400	1.5		1400	.8		1800	.8		1800	.5	14	0600	1.5
	2300	.6	14	0400	.8		1500	.2		1000	.8		0800	.3	21	a	a		2300	.0	16	0300	.2		2200	.4	16	0100	1.2	14	1000	1.4		1900	.6
15	0600	1.2		1400	e.3	19	0200	1.2		1700	.4		1500	-.4	22	a	a	25	0600	.7		1400	1.3	18	0200	.6		0600	.9		1900	.6	15	1100	2.1
	1000	1.1		1800	e.8		1600	-.1		2400	.9		2200	.5	23	a	a		1000	.4	17	0400	.1		0500	.3		1200	1.2	15	0500	1.5		2100	.9
	1700	1.4	15	a	a	20	0700	1.3	21	0600	.4	17	0300	.0	24	a	a		1800	.9		1400	1.3		1400	1.0		1900	.7		1200	1.5	16	1300	2.0
	2400	.8	16	a	a		1700	.2		2400	1.2		0700	.3	25	a	a		2400	.4	18	0500	-.1		2000	.5	17	0200	1.1		2000	.6		2400	.9
16	0400	1.3	17	a	a	21	0500	1.5	22	0800	.6		1500	-.2	26	a	a	26	0800	1.1		1800	1.0	19	0300	.8		1100	1.0	16	0800	1.6	17	1200	1.8
	1500	.1	18	a	a		1600	.0		1300	1.2		2100	.2	27	a	a		1300	.8	19	0800	-.2		0700	.6		2000	.3		2000	.5		2200	.5
	1800	.3	19	a	a		2200	.5		2300	1.1	18	0300	-.3	28	a	a		1700	.9		1500	.6		1400	.9	18	0400	1.0	17	0600	1.4	18	1200	1.0
17	0200	-.4	20	a	a	22	1700	-1.4	23	1000	.1		2200	1.0	29	a	a		2400	.2	20	0900	-.6		2200	.3		0900	.9		2200	.2		2200	.1
	0700	-.1	21	a	a	23	0100	-1.0		1400	.3	19	0600	.4	30	a	a	27	0700	1.0		1600	.5	20	0600	1.0		1400	.9	18	0600	1.3	19	0700	1.2
	1400	-.8	22	a	a		0700	-1.3	24	0800	-1.2		1300	1.0	31	a	a		1700	1.0		2200	.2		1500	1.0		2000	.2		2100	.2		1500	1.2
	2000	-.2	23	a	a		1500	-1.2		2400	.4		1700	.7				28	0100	.1	21	0200	.4		1900	.4	19	0900	1.0	19	0800	1.3		2300	.2
18	1300	-1.1	24	a	a	24	0300	.2	25	1000	-.8		2200	1.1					1300	1.0		0800	.0	21	1000	1.6		2200	.1		2200	.1	20	0600	1.2
	2100	-.1	25	a	a		1300	.4	26	0200	.8	20	0700	.1				29	0300	.0		1500	.7		2300	.5	20	0800	1.2	20	0900	1.2		1000	1.0
19	0200	-.3	26	a	a		1900	.1		1200	.3		1500	.9					1000	.9		2200	.3	22	1100	1.8		2300	.1		2300	.1		1600	1.2
	0800	.0	27	a	a	25	0100	.6	27	0300	.9		2100	.9				30	0300	-.6	22	0500	.9		2400	.6	21	0900	1.3	21	0800	1.0		2300	.4
	1300	-.4	28	a	a		0900	.0		1300	-.3	21	0800	-.3					1700	1.1		1000	.6	23	1200	2.0		2300	.0		2400	-.1	21	0600	1.2
	2200	.6	29	0400	1.1		1500	.4	28	0300	1.0		1500	.6								1600	.9		2400	1.2	22	0900	1.1	22	1600	1.1		1100	1.0
20	0200	.5		1100	.6	26	0100	.2		1300	-.1	22	1000	-1.2								2200	.4	24	1000	3.1		2400	-.2	23	0100	.1		1700	1.4
	0500	.6		2000	1.5		1000	-.8	29	0300	1.0		2400	.7							23	0600	1.4		2400	1.4	23	1000	1.1		1000	1.1		2300	.9
	1400	-.3	30	0300	1.6	27	0200	.8		1500	-.2	23	1100	-.7								2300	.3	25	0800	2.2		2400	-.1		1400	1.0	22	0700	1.7
21	0400	.6		1200	.3		1100	.0		2200	.7		2200	.0							24	0800	1.2		2400	1.0	24	1500	1.3		1800	1.3		1100	1.4
	1500	-.4		2200	1.1		2000	.8	30	0500	1.0	24	1100	-1.0								1500	1.1	26	0900	1.8	25	0100	.1	24	0200	.3		1700	1.9
22	0500	.8				28	1100	-.8		1500	-.1	25	0300	.5								2400	.4	27	0300	.4		1600	1.4		1000	1.2		2400	1.4
	1600	-.3					2200	.4		2300	.7		1300	-.6							25	0800	1.4		1500	1.3	26	0200	.3		1200	1.0	23	0600	1.8
23	0600	1.1				29	1300	-.8	31	0600	.8	26	0400	.5								1600	1.4	28	0300	.4		1000	1.1		1700	1.4		1200	1.2
	1600	.3				30	0400	.8		1500	.0		1400	-.8								2400	.5		1100	1.5		1700	1.2	25	0200	.5		1400	2.0
24	0400	1.4					1400	-.6		2400	.9		2100	.0							26	1100	1.3	29	0200	.6	27	0300	.3		0900	1.2	24	0100	1.5
	1900	.1				31	0300	1.6				27	0500	.0								1600	1.3		1200	1.7		1000	1.2		1400	.9		0600	1.7
25	0200	.8					1500	-.1					1400	-1.0							27	0100	.2	30	0300	.8		1800	1.1		2000	1.1		1300	.9
	1900	-.3										28	0800	.7								1000	1.2		1100	1.5	28	0300	.2	26	0300	.5		2000	1.7
26	1000	1.4											1600	.1							28	0300	-.3					1100	.9		0900	1.1	25	0200	1.3
	1900	-.5											1800	.4								1100	.9					1500	.8		1500	.6		0600	1.5
27	0300	1.2										29	0400	-.6							29	0300	-.3					1900	1.0		2000	1.2		1500	.5
	2000	-.2											0800	-.5								1700	1.1				29	0400	.2	27	0400	.6		2200	1.2
28	1400	1.0											1800	-2.0							30	0200	.0					1100	.9		1000	1.0	26	0300	1.0
	2000	.6																				1400	1.1					1600	.6		1500	.5		0600	1.1
29	0500	1.6																			31	0400	.0					2300	.8		2300	1.0		1600	.0
	0900	1.5																				1400	1.2				30	0400	.3	28	0400	.8	27	0500	1.2
	1500	1.8																										1200	1.0		1000	1.2		1700	.1
	2200	1.2																										1700	.5		1700	.6	28	0600	1.5
30	0600	2.3																									31	0900	1.1	29	0100	1.2		1800	.3
	1300	1.5																										1900	.3		1000	1.3	29	0400	1.4
	1400	1.9																													1800	.6		2000	.1
31	1200	-.3																												30	0900	1.7	30	0500	1.0
	1800	.7																													1900	.7		2100	-.2
	2300	.1																												31	0600	1.6			
																															2100	.3			

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

Day	October Time	Stage	Day	November Time	Stage	Day	December Time	Stage	Day	January Time	Stage	Day	February Time	Stage	Day	March Time	Stage	Day	April Time	Stage	Day	May Time	Stage	Day	June Time	Stage	Day	July Time	Stage	Day	August Time	Stage	Day	September Time	Stage
1	1400	1.2	1	0500	0.9	1	0100	1.5	1	1000	-0.9	1	a	a	1	a	a	1	0100	0.8	1	a	a	1	0200	0.5	1	0100	0.2	1	0400	0.0	1	0200	1.5
	2200	.4		1100	.4		1200	.3	2	0400	1.0	2	a	a	2	a	a		0700	1.3	2	a	a		1200	2.0		1600	1.7		1100	.7		2100	.1
2	0600	1.4		1700	.9		2000	1.1		1200	.0	3	a	a	3		a		1300	.8	3	1700	2.1	2	0400	.5	2	0300	.3		1500	.5	2	0500	1.3
	1000	1.2		2400	.5	2	1200	-.2	3	a	a	4	a	a	4	a	a		1900	1.2	4	0400	1.0		1100	1.7		1800	1.6		2200	1.0		2200	.2
	1400	1.3	2	0500	.9	3	0200	1.4	4	a	a	5	a	a	5	a	a		2400	.9		1400	2.3	3	0400	.1	3	0400	.3	2	0500	.5	3	0700	1.4
	2300	.5		1100	.4		1600	-.5	5	a	a	6	a	a	6	a	a	2	0600	1.4	5	0500	1.1		1700	2.0		1200	1.2		1100	.9		2300	.3
3	0600	1.3		1900	1.0		2000	-.2	6	a	a	7	a	a	7	a	a		1400	.9		1500	2.4	4	0300	.7		2100	1.3		1600	.5	4	1000	1.5
	1100	1.0		2300	.9	4	1300	-1.1	7	a	a	8	a	a	8	a	a		1900	1.1	6	0500	1.2		1200	1.9	4	0500	.3		2300	1.1		2400	.3
	1600	1.2	3	0400	1.1	5	0300	.4	8	a	a	9	a	a	9	a	a	3	0100	.7		1400	2.3	5	0500	.6		1400	1.0	3	0600	.6	5	1100	1.6
	2400	.0		1400	.2		a	a	9	a	a	10	a	a	10	a	a		0800	1.4	7	0700	1.3		1400	1.6		2300	1.0		1100	.8	6	0200	.3
4	0600	.5		1800	.4	6	0400	.9	10	a	a	11	a	a	11	a	a		1400	1.0		1300	1.9		a	a	5	0500	.5		1800	.2		1100	1.3
	1100	.0	4	1300	-.7		1400	-.1	11	a	a	12	a	a	12	a	a		1900	1.3	8	0200	2.0	6	1400	1.6		1200	1.3	4	0200	.9	7	0200	.5
	1800	.7		2200	.5		2400	.9	12	a	a	13	a	a	13	a	a	4	0200	.8		0900	1.4	7	0700	.8		1800	.6		1000	.9		1200	1.4
	2400	.2	5	0500	.7	7	1600	-.9	13	a	a	14	a	a	14	a	a		0900	1.6		1600	2.2		1400	1.4	6	0200	1.1		2100	.3	8	0300	.1
5	1800	1.8		1300	.0	8	0700	.2	14	a	a	e15	e1400	0.8	15	a	a		1800	1.7	9	1200	.4		2100	1.0		1200	1.2	5	0600	1.1		1100	1.1
	2400	1.3	6	0500	1.6		1500	-.4	15	a	a		e1900	1.1	16	a	a	5	0300	.9		1800	1.1	8	0300	1.4		2100	.5		2200	.1		2100	.8
6	0600	1.9		1400	.2	9	0500	.9	16	a	a	e16	e1400	-.4	17	a	a		1100	2.0	10	0400	1.0		0900	1.0	7	0300	e1.1	6	0800	1.1	9	0400	.0
	1400	.9		2100	.8		1600	.0	17	a	a		e2200	.6	18	a	a	6	0500	.5		1100	.6		1400	1.4		1200	1.3		2200	.1		1100	.8
	2000	1.4	7	1400	-.6	10	0400	1.1	18	a	a	e17	e0700	1.0	19	2000	0.9		1200	1.5		1800	1.4		2100	.8		2200	.4	7	0900	1.2		2000	.9
7	0200	.8	8	0500	.5		1700	-.1	19	a	a		e1400	.3	20	0200	.4		2000	1.4		2400	1.1	9	0300	1.3	8	0700	1.2		2300	.0	10	0500	.1
	0600	1.1		1900	-.9	11	0400	.9	20	a	a		e2000	.9		0900	1.2	7	0600	.4	11	0500	1.3		1300	1.0		2000	.1	8	1100	1.2		1200	.8
	1300	.4	9	0700	.6		1600	.3	21	a	a	e18	e0400	.4		1400	.7		1400	1.6		1400	.7		2200	.5	9	0700	1.2		2400	.0		2000	1.0
	2000	1.3		1600	-.4	12	0300	1.3	22	a	a		e0800	.6		1800	.8	8	0600	.7		1800	1.0	10	0600	1.3		2300	-.1	9	1400	1.2	11	0500	.3
8	0200	1.1	10	0700	1.3		1300	1.3	23	a	a		e1600	-.2	21	0400	.1		1700	1.7		2400	.7		1700	.9	10	1100	1.2		2400	.1		1100	.8
	0600	1.3		1500	.8		1600	1.1	24	a	a		e2200	.3		1200	.8	9	0800	.8	12	0700	1.3		2200	.4		2300	.0	10	0900	1.1		1800	.5
	1300	.7		2100	1.4		2400	1.7	25	a	a	e19	e0400	.0		1500	.7		1600	1.8		1300	.9	11	0800	1.5	11	0700	1.4		1700	.9		2100	.8
	2000	1.5	11	2000	-1.4	13	1200	.7	26	a	a		e0900	.6		1900	.8		2300	1.6		1700	1.2		1600	1.2		2400	.0	11	0100	-.1	12	0600	.3
9	1800	.4	12	1000	-.3	14	1000	-.6	27	a	a		e1500	.1	22	0400	.2	10	0800	.8		2400	.8		2300	.5	12	1200	1.2		1000	.8		1300	.8
10	0500	1.2		1700	-.8		1800	.1	28	a	a		e2200	.7		1900	1.3		1600	1.7	13	0800	1.8	12	0900	1.8	13	0100	-.1		1900	1.0		1700	.6
	1400	.2	13	0600	.5		2300	-.1	29	a	a	e20	e0300	.3	23	0400	.8	11	1100	.5		1500	1.5		2400	.6		1000	1.0	12	0200	-.3		2300	1.1
11	0400	1.2		1900	-.2	15	0300	.0	30	a	a		e1100	1.2		1300	2.8		1700	1.4		2000	1.7	13	0800	1.7	14	0100	-.3		1200	.9	13	0700	.5
	1700	.2	14	1300	.8		0900	-.2	31	a	a		e1500	1.2	24	0600	1.2		2100	1.1	14	0200	1.2	14	0100	.5		1000	.8		1700	1.1		1100	.8
12	0300	1.3		2000	.3		1700	.4					e2200	1.4		1200	1.6	12	0300	1.6		0800	2.0		0900	1.6		1600	.9	13	0300	-.1		1800	.4
	1700	.4	15	1400	1.6		2000	.3				e21	e0600	1.1	25	0700	-.2		0900	.8		1700	1.6	15	0100	.3	15	0200	-.3		1100	.9	14	0200	1.1
13	0300	1.6		2300	.9	16	0200	.8					e2300	1.9		1600	.6		1700	1.9	15	0200	1.0		1000	1.2		1000	.7		1800	1.2		0700	.9
	1800	.7	16	a	a		1000	-.1				e22	e0800	.8	26	0900	-.4	13	0600	2.2		0900	1.8	16	0200	-.2		1800	1.4	14	0300	.3		1100	1.2
14	0500	1.8	17	0400	1.1	17	0100	1.2					e1300	.9		1700	.8		1200	1.5		2100	1.6		1100	1.3	16	0400	-.1		1000	1.0		1900	.7
	2000	.8		1100	.6		1100	.1				e23	e0700	.1	27	0900	.0		1700	1.6	16	0300	1.0	17	0200	.2		1700	1.1		1500	.9	15	0400	1.4
15	0500	1.8		1700	1.1		1800	1.2					e2000	1.6		1700	1.0	14	0100	1.0		0900	2.1		1500	1.5	17	0300	.0		2000	1.1		1600	1.6
	2000	.8	18	1300	-1.0	18	0300	1.3				24	a	a	28	0900	.1		0600	1.2		2000	1.6	18	0200	.4		1000	.8	15	0400	.4		2000	.6
16	1200	1.9		2000	-.1		1200	.2				25	a	a		1800	1.1		1200	.8	17	0200	1.1		1100	1.5		1800	.9		1100	1.0	16	0400	1.3
	2100	1.2	19	1200	-1.3		2100	1.6				26	a	a	29	0400	.8		1800	1.3		1400	2.3	19	0300	.2	18	0400	.0		2200	1.2		1200	1.4
17	0500	1.8	20	0400	.4	19	1300	.0				27	a	a		1000	.4	15	0100	.9	18	0500	1.2		1400	1.3		1100	.6	16	0500	.6		2200	.4
	2200	.4		1300	-.7	20	0100	1.3				28	a	a		1800	1.2		0800	1.6		1400	2.0	20	0400	.4		2300	.5		1100	1.1	17	0800	1.4
18	0500	.9	21	0100	.6		1400	.0								2400	.9		1200	1.2	19	0600	.9		1300	1.5	19	0400	.0		1600	.5		2300	.2
	1000	.7		1400	-.9	21	0500	1.9							30	0300	1.0		1800	1.6		1500	1.8	21	0500	.4		1200	1.0		2300	1.2	18	1200	1.2
	1700	1.1	22	0400	.7		1500	.7								1200	.2	16	0100	1.1	20	0600	.8		1200	1.1		1800	.3	17	0400	e.8		2400	.4
	2300	.7		1500	-.6		2400	1.9								1800	.2		0800	2.0		1500	1.6	22	0600	.6		2400	.7		1100	1.2	19	1100	1.7
19	0500	1.2	23	0600	1.0	22	1700	.2								2400	.6		1400	1.6	21	0800	.5		1300	1.3	20	0500	.3		1900	e.8	20	a	a
	1100	.8		1600	-.3		2100	.7							31	0500	.6		1800	2.2		1700	1.5		2000	.8		1100	1.1		2400	1.3	21	a	a
	1700	1.4	24	0600	1.1	23	1600	-1.1								1100	.2	17	0900	2.6	22	0800	.6	23	0800	1.5		1800	.3	18	a	a	22	a	a
	2300	.9		1800	-.5	24	0300	-.1								1900	1.1	18	0400	1.1		1700	1.4		2000	.6		2400	.9		1100	1.3	23	a	a
20	0500	1.4	25	0900	.7		0900	.0											1000	1.6	23	0900	.5	24	0300	1.4	21	0600	.5		1700	.6	24	a	a
	1200	.8		1700	-.1		1700	-.5										19	0400	.0		1800	1.3		1200	1.6		1000	.8	19	1000	1.6	25	1300	.7
	1800	1.4	26	1000	1.4	25	0300	.6											1300	1.1	24	0800	.4		2000	.8		1900	.4		1900	.9		2000	1.4
	2400	.9		1800	.7		0700	.4										20	0400	.1		1800	1.2	25	0900	2.0	22	1100	1.6	20	1100	1.9	26	0300	.7
21	0500	1.2	27	1400	1.2		1300	.5											1400	1.2	25	a	a		2100	.9		2000	.3		2200	.6		0700	.9
	1300	.3	28	2100	-.4		1700	.3										21	0500	.3	26	a	a		1200	2.1	23	0300	1.1	21	0700	1.4		1300	.4
	1900	1.1	29	0300	-.1	26	0200	1.2											1400	1.1	27	a	a		2200	.9		0900	1.1		2300	.2		2200	1.3
	2400	.9		0900	-.6		0800	.8										22	0600	.2	28	a	a	27	0700	2.0		2100	-.1	22	1100	1.5	27	0300	1.0
22	0500	1.1		1700	.4		1300	1.3											1700	1.2	29	1300	1.3		2300	.4	24	1000	1.1		2400	.1		0800	1.3
	1300	.2		2300	.2		1800	1.0										23	0700	.2		2400	.5	28	1200	1.7		2200	-.2	23	1000	1.2		1600	.5
	2100	1.3	30	0400	.8	27	0300	1.4											1800	1.2	30	0800	1.7		2400	.3	25	0900	1.0	24	0100	-.1		2400	1.4
23	0200	1.1		1100	.1		0900	1.0										24	0900	-.1	31	0100	.4	29	1400	1.6		2200	-.4		1500	1.2	28	0700	1.1
	0500	1.2					1400	1.8											1900	1.2		1000	1.7	30	0100	.2	26	1200	1.0	25	0200	.0		1600	.2
	1400	.2				28	1000	-.2										25	0800	.6					1300	1.5		2300	-.3		1100	1.2		2400	e1.2
	2400	1.3					1600	.4											1800	1.7							27	1400	1.2		1800	1.4	29	1700	.1
24	1600	-.4					2200	-.1											2200	1.6							28	0100	-.2	26	0300	.3	30	0300	1.3
	2400	.6				29	0300	.2										26	0200	1.7								1500	1.1		1100	1.5		1700	.4
25	0700	.4					0900	-.4											1000	1.3							29	0100	-.3		1900	1.7			
	1700	-.6				30	0100	1.2											1700	2.2								0900	.7	27	0400	.7			
26	0600	.9					1100	.4											2400	1.8								1300	.6		1200	1.8			
	1700	-.3					1900	1.2										27	0400	1.9								1600	.8		1600	1.5			
27	0500	1.1				31	1300	-.8											0800	1.6							30	0300	-.5		2100	2.0			
	1900	-.3					2100	-.2											1700	2.4								1100	.6	28	0500	1.0			
28	0400	.6																	2400	1.4								1300	.5		1100	1.7			
	2100	-.8																28	0500	1.5								1800	1.0		1500	1.4			
29	0600	.3																	1100	.8							31	0300	-.2		2100	2.0			
	1300	.3																	1800	1.1								1100	.7	29	0600	1.2			
	2000	-.3																29	a	a								1300	.5		1200	1.7			
30	0500	.6																30	a	a								2000	.9		1700	1.2			
	0900	.5																												30	0100	1.9			
	1400	.6																													0600	1.4			
	2200	-.1																													1200	1.6			
31	0600	.7																													1800	1.0			
	1100	.5																												31	0100	1.8			
	1600	.8																													0800	1.4			
	2300	.3																													1200	1.5			
																															2000	.7			

Table 8B.--S2, Sabine-Neches Canal at Port Arthur, Tex.

LOCATION.-- Lat 29°52'00" long 93°55'50", in harbor on Pleasure Island, at U. S. Army Corps of Engineers area office, Port Arthur, Jefferson Co.

RECORDS AVAILABLE.-- December 1934 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1968 water year: maximum elevation 2.5 feet Oct. 30; minimum -2.4 feet Mar. 13.
1969 water year: maximum elevation 3.4 feet Feb. 14; minimum -1.7 feet Nov. 19.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records since August 1967 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1966 to September 1967.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																														1	0900	1.1	1	0500	1.3
																															1900	-.1		1600	1.7
																														2	0200	1.0		2400	.7
																															1100	1.2	2	0600	1.7
																															1900	-.2		1100	1.1
																														3	0300	.9		1900	1.9
																															1200	1.2		2300	1.2
																															2200	-.1	3	0600	1.7
																														4	0300	.9		1100	.9
																															1300	1.2		1800	1.3
																															2100	-.3		2300	.6
																														5	0200	.7	4	0500	1.0
																															1400	1.3		1000	.2
																															2200	-.2		1900	1.1
																														6	0500	1.0	5	0100	.7
																															1600	1.3		0600	.9
																															2200	.0		1200	-.1
																														7	0500	1.0		1800	.8
																															1600	1.3	6	0700	.9
																														8	0100	.2		1400	-.1
																															0500	1.0		1900	.8
																															1800	1.1	7	0500	1.2
																														9	0100	.3		1400	-.2
																															0500	1.0		1900	.6
																															1200	.6	8	0500	1.2
																															1900	1.0		1600	-.2
																															2400	.4		2100	.7
																														10	0700	.9	9	0700	1.1
																															1400	.4		1800	-.1
																															2200	1.1	10	0100	1.1
																														11	0300	.6		1100	1.6
																															0800	.9	11	a	a
																															1500	.1	12	a	a
																														12	0100	.8	13	a	a
																															0300	.6	14	a	a
																															0800	1.1	15	2100	1.0
																															1500	.1	16	0200	1.7
																														13	0300	1.1		1200	1.7
																															0900	1.0		1500	2.1
																															1700	.0		2200	1.0
																														14	0300	1.2	17	0600	1.7
																															1100	1.4		1000	1.5
																															1800	.4		1700	e1.8
																														15	0200	1.4		2300	1.2
																															1200	1.8	18	a	a
																															2000	.6	19	1800	2.4
																														16	0700	1.6		2400	2.2
																															1200	1.4	20	0700	2.8
																															2100	.1		1300	2.6
																														17	0300	1.2		1900	3.0
																															1100	1.7		2400	2.3
																															2000	.2	21	0700	2.6
																														18	0200	1.1		1300	1.8
																															1300	1.4		1900	2.4
																															2000	.1	22	0300	1.7
																														19	0900	1.7		a	a
																															1400	1.1		1400	.9
																															1700	1.4		2300	1.7
																															2400	.6	23	a	a
																														20	0800	1.2		1300	.6
																															1300	.9		a	a
																															2100	1.4	24	0500	1.6
																															2400	.9		1400	.3
																														21	0700	1.3		1900	1.0
																															1400	.8	25	0600	1.7
																															2100	1.4		1500	.6
																														22	0300	1.1	26	0100	1.7
																															0900	1.4		a	a
																															1400	.8	27	0400	1.8
																															2400	1.8		1100	1.4
																														23	0100	1.4		1800	-.1
																															0800	1.8	28	0900	.4
																															1500	.6		1900	-.5
																															2100	1.4	29	0400	e.8
																														24	0400	1.1		1300	e1.2
																															1000	1.4		2100	.3
																															1400	.5	30	0200	1.2
																															2100	.6		1400	1.2
																														25	0600	1.4		2000	.4
																															1800	.0			
																														26	0100	.8			
																															0600	1.1			
																															1800	-.2			
																														27	0100	.8			
																															1000	1.1			
																															1800	-.1			
																														28	0900	1.2			
																															2000	-.2			
																														29	0300	.8			
																															1400	1.1			
																															2000	-.1			
																														30	1300	1.2			
																															2200	-.1			
																														31	0300	.9			
																															1600	1.4			
																															2200	.3			

Note: No usable record for October through July.

Table 8B.--S2, Sabine-Neches Canal at Port Arthur, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

Day	October Time	Stage	Day	November Time	Stage	Day	December Time	Stage	Day	January Time	Stage	Day	February Time	Stage	Day	March Time	Stage	Day	April Time	Stage	Day	May Time	Stage	Day	June Time	Stage	Day	July Time	Stage	Day	August Time	Stage	Day	September Time	Stage
1	0200	1.1	1	0300	0.9	1	0700	1.7	1	0600	1.1	1	0800	e1.5	1	0500	-0.7	1	a	a	1	0100	0.0	1	a	a	1	0300	0.5	1	0800	1.1	1	0800	1.7
	1500	1.2		0900	-.1		1300	.1		1300	-.4		1400	.6		1400	-.7	2	a	a		1300	1.1	2	a	a		1100	1.5		1700	.1		1800	.2
	2100	.4		1800	1.0		2400	.9		1700	.5		1800	e1.3		2000	-.1	3	a	a	2	0200	-.1	3	a	a		1800	1.1		2200	1.1	2	0800	1.7
2	0500	1.2		2100	.5	2	a	a	2	0500	1.5	2	1300	-.3	2	0100	-.4	4	a	a		0800	.8	4	a	a		2200	1.4	2	0800	1.4		1800	.4
	1000	1.1	2	0500	.8	3	a	a		1400	.1	3	2200	1.5		0700	.2	5	a	a		1800	1.1	5	a	a	2	0400	.7		1600	.0	3	0100	1.4
	1700	1.5		1000	-.3	4	a	a		1900	1.0	4	0500	.7		1300	.0	6	a	a	3	0300	-.1	6	a	a		1200	1.4	3	0800	1.5		1400	2.3
	2200	.9		1600	1.0	5	a	a	3	0600	1.4		2300	1.3		1900	.4	7	a	a		1000	.9	7	a	a		1600	.9		1800	-.1		1900	.7
3	0500	1.5	3	0500	1.7	6	a	a		1500	.2	5	0400	.5	3	0200	-.3	8	2400	1.0		1900	1.1	8	a	a		2200	1.3	4	0900	1.4	4	0300	2.0
	1000	1.0		1200	.0	7	a	a		2000	1.1		2200	1.1		1000	.0	9	0800	-.1	4	0600	-.1	9	a	a	3	0400	.7		1900	.0		1400	2.3
	1800	e1.6		1600	.6	8	a	a	4	0300	1.2	6	0600	-.1		1500	-.5		1100	.6		1400	1.0	10	a	a		1000	1.3	5	0200	1.2		2100	.9
	2400	1.1		2100	.5	9	a	a		1500	-.4		1900	.6		2100	.0		2200	.9	5	0400	-.5	11	a	a		1900	.7		1200	1.7	5	0500	2.0
4	0400	1.6		2200	.2	10	a	a	5	1100	1.3	7	0800	-1.0	4	0400	-.8	10	1100	.0		2100	1.1	12	a	a		2400	1.3		2000	.1		1600	1.7
	a	a	4	0600	.3	11	a	a		1700	1.0		2100	.0		1000	.2		1600	.7	6	0700	.2	13	a	a	4	0400	1.0	6	0400	1.4		2200	.7
	2100	1.5		1100	-.7	12	a	a		2400	1.6	8	0600	-1.2		2200	.6		2000	.1		1700	1.3	14	a	a		1100	1.5		1100	1.6	6	0500	1.7
	2400	1.1		1600	-.4	13	a	a	6	0500	1.2		1300	-.2	5	0300	-.2	11	0500	.8	7	0100	1.5	15	a	a		1800	.6		2100	.0		1000	1.4
5	0500	1.5	5	0400	1.2	14	a	a		1400	1.1		2400	.5		1100	.7		0900	.0		0900	1.0	16	a	a	5	0100	1.4	7	0300	1.2		1600	2.0
	1200	.5		1300	-.2	15	a	a		1700	.6	9	0800	-1.0		2000	1.1		1900	.9		1400	1.5	17	a	a		1200	1.6		1400	1.5		2100	.9
	1600	1.1		2000	.8	16	a	a		2200	.7		1400	.1	6	0300	.2		2200	.3		2100	1.0	18	a	a		1900	.5		2100	.0	7	0600	1.7
6	0500	1.4	6	0500	1.2	17	a	a	7	0500	-.9		2400	.6		1800	1.1	12	0400	1.4	8	0300	1.2	19	a	a	6	0300	1.5	8	0500	1.3		1100	1.3
	1300	.3		1400	-.2	18	a	a		2300	.2	10	0900	-1.0	7	0700	-.4		1000	.7		0800	.6	20	a	a		1100	1.3		1500	1.5		1600	1.9
	1800	1.1		1900	.6	19	a	a	8	1000	.2		1500	.1		1300	.5		1800	1.6		1500	1.2	21	a	a		1900	-.1		2300	.1		a	a
7	0600	1.6	7	0500	1.3	20	a	a	9	0300	1.5	11	0200	.6		2100	.7		2200	.5		2000	.8	22	a	a	7	0100	1.2	9	0400	1.1	8	a	a
	1300	.3		1500	.0	21	a	a		0900	.6		1000	-1.0	8	0600	-.4	13	0800	1.7	9	0300	1.2	23	a	a		1000	1.3		1700	1.5	9	a	a
	2000	1.4	8	0400	1.1	22	a	a		1700	1.6		1600	.3		1200	.5		1100	1.2		0900	.9	24	a	a		1900	-.2		2400	.3	10	a	a
8	0200	1.6		1700	-.2	23	a	a		1900	1.0	12	0300	.8		2200	1.1		1800	1.5		1500	1.4	25	0800	2.3	8	0800	1.6	10	0600	1.2	11	a	a
	1500	-.3	9	0200	e.9	24	1600	.3	10	0200	1.3		1000	-.3	9	0800	.0		2300	.4		2100	.7		2300	.8		2200	-.3		1200	1.0	12	a	a
	2000	.6		1100	e1.1		2200	.8		0800	-.2		1600	.7		1400	.9	14	0900	1.4	10	0600	1.7	26	0900	2.1	9	0700	1.4		1700	1.4	13	a	a
9	0700	1.2		1800	e.5	25	0500	.1		1600	.4	13	0300	1.4		2400	1.3		1800	1.1		1300	1.6		2400	.4		1400	1.3		2400	.4	14	a	a
	1600	.0	10	0400	e1.2		1300	.5	11	0300	.7		1200	-.1	10	1000	.0		2300	.0		2300	.6	27	1400	1.6		2200	.4	11	0700	1.2	15	a	a
10	0500	1.3		a	a		2200	.5		0800	-.2		1800	.7		1500	1.0	15	0900	1.2	11	1100	1.4		2400	.2	10	0500	1.1		1300	.8	16	a	a
	1800	-.1	11	a	a	26	0600	-.6		2300	1.2	14	0400	1.1	11	0300	1.4		1300	.9		2400	.4	28	0800	1.7		1300	1.4		2000	1.1	17	a	a
11	0700	1.1	12	a	a		1300	.4	12	1000	-.3		1200	-.1		1000	.6		1800	1.1	12	a	a		1700	1.6		2400	-.4	12	0200	.5	18	a	a
	1800	.0	13	a	a	27	0100	1.2		1700	.6		1900	.9		1700	1.8		2400	-.1	13	a	a		2400	.3	11	0500	1.0		0800	1.0	19	a	a
	2400	.8	14	a	a		0800	.3	13	1100	-1.8	15	0600	1.0		2300	.5	16	0500	.9	14	1200	1.9	29	1300	2.0		1400	1.5		1300	.5	20	a	a
12	1300	1.1	15	a	a		2000	1.2		1900	-.9		1300	-.2	12	0200	.7		1700	1.5		2400	.1	30	0100	.6		2300	-.3		2000	1.1	21	a	a
	2000	.3	16	2200	1.1	28	1000	-.9		2300	-.3		2000	.6		1200	-2.0	17	0200	.1	15	0700	1.5		1000	1.8	12	1000	1.5	13	0200	.7	22	a	a
13	0300	1.2	17	0600	1.1		1500	.3	14	a	a	16	0200	.0		1700	-1.4		1600	1.7		1500	1.7					2300	-.1		0700	1.1	23	1100	1.4
	1500	1.3		1400	-.3	29	0100	.8		2000	-.3		0700	.6		2200	-2.2	18	0300	.2	16	0100	.0				13	1000	1.3		1400	.5		1800	2.1
	2200	.5		1900	.7		1000	-.9	15	0400	.1		1200	-.3	13	0500	-1.5		1400	1.5		0800	1.4					1800	1.5		2100	1.2		2300	1.6
14	0300	1.2	18	0500	1.1		1600	.4		1100	-1.2		1800	.8		1000	-2.4	19	0500	.3		1800	1.3				14	0200	-.4	14	0800	1.5	24	0500	1.9
	1100	1.2		1500	-.1	30	0400	1.2		1600	.2	17	0100	.3		1900	-.3		1700	.7	17	0200	-.1					0800	1.5		1500	.6		1100	1.0
	1500	1.5		2000	.6		1100	-.3	16	0300	.6		0700	.8		2200	-.4	20	0700	.0		0900	1.4					1400	1.2	15	0400	1.6		2000	1.8
	2000	.8	19	0800	1.3		1700	1.0		1100	-.9		1300	.0	14	0500	.7		1700	1.4		1700	1.5					1900	1.6		1700	.6		2400	1.5
15	0300	1.4		1600	.1	31	0100	1.9		1700	.3		1800	.7		1100	.0	21	0600	.5	18	0100	-.2				15	0300	.9		2400	1.5	25	0400	1.7
	1100	1.3		2000	.9		1300	.0	17	0400	.7	18	0100	.1		1600	.7		1600	1.3		1300	1.4					1200	1.4	16	1000	1.6		1200	.5
	1400	1.7	20	0800	1.5		1900	.9		1200	-.5		1000	1.0		2300	.3		2200	.9	19	0500	.0					1700	.9		1700	.5		2100	1.5
	2100	1.0		1600	.2					1800	.5		2300	1.4	15	0600	1.0	22	0200	1.1		1500	.9					2100	1.5	17	0500	1.6	26	0100	1.1
16	0400	1.5		2100	1.0				18	0500	1.3	19	0400	.7		1200	.2		0700	.4		2000	.3				16	0500	1.1		1800	.3		0600	1.4
	1100	.2	21	0600	1.4					1400	.2		1100	1.4		1800	.9		1600	1.2		2200	.7					1000	1.5	18	0500	1.5		1300	.1
	1300	.6		1700	.1				19	0300	1.3		1600	1.0		2400	.2		2200	1.0	20	0700	-.4					1600	.8		1900	.2	27	0400	1.5
	1700	.6		2400	1.0					1400	-.1		2100	1.6	16	0700	.8	23	0500	1.2		1300	.7					2300	1.3	19	0700	1.5		1400	.2
	2300	-.3	22	0800	1.4					2100	.9	20	0500	.2		1300	.2		0900	.7		1900	.5				17	1100	1.3		1900	.0	28	0600	1.7
17	0600	.0		1800	.2				20	0200	.7		1000	1.0		1900	.5		1600	1.0	21	0100	.8					1800	.5	20	0800	1.5		1600	.4
	1000	-.7		2300	1.1					1000	1.1		2000	1.2	17	0100	-.4		1900	.4		0700	.1				18	0300	1.3		2100	.1	29	0500	1.6
	1900	.0	23	0700	1.3					1600	.6	21	0500	-.2		0700	.5	24	0100	.5		1500	.9					1200	1.1	21	0900	1.2		1700	.1
	2300	-.4		2000	.3					2100	1.3		1800	1.6		1400	.6		0900	-.2		2000	.5											
18	0400	-.2		2400	.9				21	0500	.6	22	0500	-.9		1800	1.3		1500	.4	22	0400	1.2				19	0500	1.4	22	0400	1.0		1100	.9
	1200	-.7	24	1400	1.0					2200	1.5		1300	.5	18	0200	.3		2100	.0		0900	.8					1800	.2		1400	1.3		1800	-.2
	1800	.2		2100	.4				22	0700	.9		2400	1.3		0700	1.1	25	0600	.8		1500	1.1				20	0700	1.5		2100	.1		2400	.8
	2300	.0	25	0200	1.0					1400	1.4	23	0900	-.6		2100	1.3		1000	.4		2000	.4					2000	.1	23	0500	1.1			
19	0600	.3		0900	.7					2100	1.4		1700	.5	19	0400	.2		1800	.9	23	0300	1.6				21	0800	1.4		1700	1.4			
	1100	-.4		1600	.8				23	0600	.1	24	0200	.3		1000	1.2		2400	.5		1400	1.3					2000	.0		2300	.3			
	1800	.7		2000	.4					1200	.6		0900	-1.2		a	a	26	0700	1.2		2000	.4				22	0900	1.4	24	0400	1.2			
20	0600	.8	26	0400	1.0					1700	-.3		1400	.1	20	a	a		2100	.5	24	0300	1.4					2100	-.1		1700	1.7			
	1200	-.2		1100	.3					2100	-.2	25	0400	.8	21	a	a	27	0600	1.0		1500	1.4				23	0700	1.4		2300	.5			
	1800	.6		1800	.4				24	0500	-1.2		0900	-1.0	22	a	a		1600	1.1		2100	.5					1500	1.2	25	0800	1.4			
21	0500	.8		2100	-.1					1200	.0		1600	.5	23	a	a	28	0100	.2	25	0700	1.7					2100	-.1		1100	1.0			
	1200	-.3	27	0700	.7					2200	.5	26	0300	.7	24	a	a		0800	1.1		1400	1.6				24	0300	1.1		1800	1.4			
	1700	.5		1200	.4				25	0700	-1.0		1100	-.8	25	a	a		1500	1.2		2200	.5					1200	1.6		2300	.5			
22	0400	1.0		2100	1.3					1300	.4		1700	.3	26	a	a		2400	.1	26	1000	1.8					2200	.2	26	0600	1.3			
	1300	-.1	28	0600	1.4					2400	1.1	27	0300	.3	27	a	a	29	1000	1.0		2000	.0				25	0400	1.3		1200	.7			
23	0500	1.5		1200	.5				26	0900	-.4		1100	-1.1	28	a	a		2400	-.5	27	0600	1.5					1400	1.7		1900	1.5			
	1500	.4		1500	1.3					1600	.9		1700	.2	29	a	a	30	0500	.3		1200	1.8					2300	.3		2300	.8			
	2100	1.2	29	0100	1.6				27	0100	1.2		2200	.2	30	a	a		0800	.1	28	0100	-.2				26	0500	1.3	27	0700	1.3			
24	0600	1.5		1100	.2					1000	-.2	28	0500	1.0	31	a	a		1800	1.1		1100	1.2					1400	1.5		1200	.7			
	1600	.2	30	0100	1.4					1500	.8		1200	.2								2200	a					2400	.4		2200	1.3			
	2100	1.0		0800	.1				28	0300	1.3		1600	1.0							29	a	a				27	1000	1.5	28	0100	1.1			
25	0200	1.2		1300	-.1					1100	.0	29	0400	-1.2							30	a	a					2400	.2		0800	1.5			
	0700	.5		1800	1.0					1600	1.0		0900	-.7							31	a	a				28	0600	1.1		1400	.7			
	1700	-.1							29	0300	1.3		1500	-2.2														1900	1.1		2300	1.5			
	2200	.7								1100	-.2		1900	-1.3													2400	.3	29	0900	1.5			
26	1000	1.5								1700	.8		2400	-1.6													29	0800	1.1		1500	.6			
	1900	.6							30	0600	1.2																	1400	.6		1900	1.6			
27	0500	1.5								1200	.0																	1900	1.0	30	0700	2.1			
	1700	.1								1800	1.0																	0200	.3		1600	.8			
28	1300	1.3							31	0600	1.1																	0900	1.1	31	0500	1.9			
	1900	.8								1200	-.1																	1400	.5		1800	.3			
29	0400	1.9								1700	1.0																	2100	1.1						
	0900	1.6																									31	0100	.9						
	1400	2.0																										0800	1.3						
	2000	1.1																										1600	.4						
30	0200	2.4																										2200	1.1						
	0800	2.5																																	
	1200	1.1																																	
	1300	2.2																																	
	2100	.4																																	
31	0400	.7																																	
	0900	-.7																																	
	1500	.6																																	
	1800	.7																																	
	2000	.3																																	

Table 8B.--S2, Sabine-Neches Canal at Port Arthur, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	1200	1.4	1	0300	1.1	1	0100	0.4	1	0900	-1.0	1	0200	1.3	1	a	a	1	0400	1.3	1	0400	0.7												
	1900	.4		0800	.5		0300	1.8		1700	.5		1000	.0	2	a	a		1100	.6		0500	1.8												
2	0100	1.3		1500	1.1		0400	.5	2	0400	1.1		1500	1.1	3	a	a		1700	1.3		0700	1.2												
	1300	1.4		2100	.6		1000	.1		1000	-.3	2	0500	1.3	4	a	a		2200	.6		1600	1.7												
	2100	.5	2	0300	1.0		1800	1.3		1700	.9		1000	.2	5	a	a	2	0400	1.6		2100	.4												
3	0400	1.4		0800	.4	2	0900	-.2	3	0400	1.6		1900	1.4	6	1200	.9		1100	.7	2	0700	2.0												
	1000	1.2		1500	1.1		1500	1.1		1100	.1	3	0900	-.7		1800	1.3		1800	1.2		1500	1.6												
	1500	1.3	3	0200	1.2	3	0100	1.6		1900	.9	4	0500	.8		2300	.5		2200	.4		2200	.3												
	2100	.4		1300	.2		1400	-.6	4	1000	-1.1		1200	.0	7	0900	1.6	3	0600	1.6	3	0600	1.9												
4	0200	.8		1500	.6		1800	.0		1900	.3		1700	.9		1900	2.0		1100	1.0		1500	2.0												
	1000	.4		2300	-.1	4	0100	-.8	5	0500	.6	5	0400	1.1	8	0200	1.2		1700	1.5		2300	.6												
	1600	1.0	4	0300	.1		0500	-.5		1200	-.5		1200	.4		0800	2.1		2300	.6	4	1100	2.4												
	2100	.4		1000	-.7		1100	-1.3		1800	.8		2100	1.3		1800	1.5	4	0600	1.7		2300	.7												
5	1600	2.1		1500	.4		1600	.2	6	0400	1.1	6	0700	1.3	9	0400	-.5		1200	1.5	5	1300	2.7												
	2300	1.4	5	0400	1.0	5	0400	.6		1200	-.3		1300	.4		0600	.2		1700	1.7	6	0100	.9												
6	0500	2.2		1000	-.1		1100	-.7	7	0100	.9		1900	.7		1900	.8		2300	.5		0900	2.4												
	0900	.9		1700	1.1		1600	.5		1300	-.6	7	0100	.1	10	0300	-.5	5	0900	2.2		1900	2.2												
	1900	1.5	6	0100	2.0	6	0200	.8		2100	.6		0700	.7		1800	1.3		1900	1.3	7	0200	1.0												
	2300	.9		1100	.2		1100	-.3	8	0600	.8		1400	.5	11	0400	-.4	6	0100	.2		1200	2.4												
7	0400	1.4		1700	1.1	7	0100	1.0		1300	.1		2100	1.1		1800	1.0		0900	1.7		2200	2.1												
	1000	.5	7	0400	.7		1400	-.7		2400	1.1	8	0200	.6	12	0500	-.3		1800	1.4	8	0500	1.1												
	1600	1.4		1000	-.5	8	0400	.5	9	1500	-.5		0900	1.1		2000	1.3	7	0100	.1		1100	2.1												
8	0600	1.6	8	0200	.9		1400	-.5	10	1100	-.1		1600	.4	13	0500	-.2		1500	1.8		2100	1.5												
	1100	.7		1300	-.1	9	0500	1.1		2300	.9		2000	.5		1300	1.0	8	0300	.4	9	0400	.3												
	2000	1.7	9	0500	.9		1500	.0	11	0500	.2	9	0400	-1.2		2300	1.3		1500	2.1		1400	1.2												
9	0600	1.5		1300	-.4	10	0400	1.2		2400	.9		2100	.9	14	0700	.0	9	0500	.5		2300	1.1												
	1000	.6	10	0400	1.7		1600	-.1	12	0600	.0	10	0100	-.1	15	0100	2.2		1200	1.9	10	0500	.3												
	1600	.8		1400	.9	11	0400	.9		1400	.9		1900	1.1		0900	1.0		2300	1.7		1300	1.3												
	1700	1.7		2000	1.8		1500	.3		2400	1.2	11	0600	-.1		1700	2.0	10	0500	.5		1900	.9												
	2000	1.0	11	1500	-1.6	12	0300	1.3	13	0700	.1		1800	1.2		2300	1.5		1500	1.9	11	0100	1.3												
10	0200	1.6		2100	-.7		1700	.6		1700	1.2	12	0700	-.4	16	0400	1.9	11	0600	.3		0800	.4												
	1100	.3	12	0800	-.1	13	0100	1.9		2400	1.1		1700	1.0		1100	.7		1600	1.7		1200	1.1												
11	0300	1.5		1400	-.9		0600	.6	14	0600	-.3		2300	1.3		1600	1.8		1900	.9		2000	.3												
	1400	.3	13	0600	.8	14	0100	.3		1300	.9	13	0800	-.2		2200	1.3		2400	1.9	12	0200	1.3												
12	0200	1.5		1700	.0		0800	-.5		2400	1.3	14	0700	3.3	17	0300	2.1	12	0800	.8		0800	.7												
	1300	.5		2200	.8		1600	.3	15	0800	-.1		1000	2.1		0800	1.1		1700	2.3		1400	1.2												
13	0500	1.9	14	1100	1.0		2000	.0		1400	1.2		1500	3.4		1700	2.1	13	0400	2.3		2000	.2												
	1600	.7		1600	.3	15	0100	.3	16	0100	1.6		2300	2.1		2200	1.3		0900	1.3	13	0300	1.8												
14	0500	1.9		2200	1.2		0700	-.7		1000	-.1	15	0100	2.4	18	0400	1.6		1600	1.7		1100	1.3												
	1700	.9	15	1400	1.7		1400	.4		1400	1.3		0800	.5		1100	.0		2100	.8		1700	1.7												
15	0200	2.0		1700	.8		1600	.1	17	0100	1.5		1600	1.3		1700	.5		a	a		2000	.6												
	1800	.8	16	0100	1.2		2400	.7		1000	-.1		2200	.5		2300	-.4	14	1300	.5	14	0300	1.9												
16	0600	2.2		0800	.5	16	0700	-.2		1600	1.2	16	0300	.8	19	0700	.7		2100	1.4		1000	1.3												
	1800	1.2		1500	1.0		1400	.8	18	0300	1.8		0800	-.8		1200	.2	15	0100	.7		1400	1.6												
17	0300	2.0		2000	.7	17	0100	1.2		1100	.1		1700	.7		1800	1.0		0900	1.7		2000	.6												
	1900	.6	17	0200	1.2		0900	-.1		1700	1.4	17	0500	1.1		2300	.2		1400	1.1	15	0500	1.9												
18	0400	1.2		0700	.6		1500	.9	19	0400	1.6		1100	.1	20	0600	1.3		2000	1.7		1700	1.4												
	0800	.9		1500	1.4	18	0300	1.3		1200	-.1		2000	.9		1300	.6	16	0100	.9		1900	.5												
	1700	1.4	18	0800	-.9		0900	-.1		1800	1.1		2400	.4		1700	.8		1000	2.1	16	0600	2.1												
	2100	.8		1700	.2		1600	1.3	20	0500	1.2	18	0600	.7		2400	-.2		1500	1.7		1600	1.7												
19	0300	1.4	19	0200	-.1		2300	1.7		1300	-.1		1100	-.4	21	0700	1.0		1900	2.5		2100	.4												
	0800	.9		0800	-1.7	19	1000	-.3		1900	1.0		1800	.5		1300	.7	17	0200	1.9	17	0400	2.3												
	1500	1.5		1600	.2		2400	1.6	21	0500	1.3		2400	.0		1800	.9		1000	2.8		1600	2.1												
	2100	.9	20	0200	.6	20	1200	-.3		1200	.2	19	0900	.6	22	0100	.0	18	0300	.8		2200	.7												
20	0200	1.6		1000	-.9		1900	1.5		1900	1.1		1200	.2		0900	1.2		1100	1.5	18	1000	1.9												
	0800	.8		1600	.5	21	0300	2.1	22	0900	1.1		1700	.8		1800	1.5	19	0400	-.4		2300	.5												
	1700	1.5	21	0100	.7		1200	.5		1400	.3		2400	.4	23	0200	.8		1200	1.2	19	1100	1.8												
	2100	1.0		1100	-1.2		1900	1.7		2000	1.1	20	1900	1.7		1200	2.8		2100	1.0		2400	.3												
21	0300	1.4		1600	.3	22	0300	2.0	23	0400	.7	21	0200	1.1	24	0400	1.0	20	0400	-.1	20	1100	1.7												
	1000	.4	22	0400	.9		1400	-.1		0900	1.1		1600	2.0		1200	1.7		1400	1.4	21	0200	.3												
	1600	1.2		1200	-.9		2000	.9		1700	.4	22	0500	.6	25	0300	-.6		2100	1.4		a	a												
	2200	1.0		1800	.5	23	0400	-.1		2200	.8		1200	1.1		1600	.7	21	0500	-.1	22	a	a												
22	0300	1.2	23	0400	1.1		1300	-1.2	24	0400	.2		1900	.9	26	0400	-.6		1800	1.2	23	a	a												
	1000	.2		1300	-.5		2200	.0		1300	-.1	23	0200	.0		1400	.8	22	0500	-.1	24	a	a												
	1800	1.4		1800	.7	24	0800	.2		2200	.6		0800	.9		2300	.7		1800	1.2	25	a	a												
23	0400	1.5	24	0500	1.2		1400	-.5	25	0400	.0		2200	e1.5	27	0500	-.4	23	0700	.0	26	a	a												
	1100	.1		1500	-.5	25	0200	.6		1600	1.0	24	0300	.7		1500	1.0		1800	1.2	27	a	a												
	1600	1.2		2100	.5		1500	.2		2300	1.1		0900	e.7	28	0700	-.3	24	0700	.0	28	a	a												
24	0300	1.6	25	0800	.8		2400	1.2	26	0600	.2		1400	1.4		1700	1.1		2000	1.4	29	a	a												
	1200	-.3		1300	-.2	26	0600	.8		1800	1.5		2200	e1.2	29	0300	.8	25	0800	.6	30	a	a												
	2000	.8		2100	1.0		1200	1.2	27	0100	1.4	25	0600	.3		0700	.1		1800	1.9	31	a	a												
25	0600	.6	26	0800	1.6		1800	.9		0700	.4		1600	1.6		1400	1.2	26	0400	1.9														
	1200	-.8		1600	.8		2300	1.4		1900	1.5	26	0700	.2		2200	.8		1100	1.2														
26	0500	1.1	27	0100	1.7	27	0600	.8	28	0700	.1		1900	1.8	30	0300	.9		1900	2.3														
	1400	-.4		1200	1.8		1700	1.7		2100	1.5		a	a		0800	.0	27	1100	1.4														
27	0300	1.2	28	0800	.0	28	0900	-.7	29	0700	.2	27	a	a		1500	1.0		1900	2.7														
	1600	-.4		1900	-.2		1400	.5		1300	1.1	28	a	a	31	0300	.9		2400	1.3														
28	0200	.9	29	0100	.3		2000	.0		2400	1.6					0800	.1	28	0700	1.7														
	1800	-.8		0700	-.4	29	0100	.4	30	0900	.3					1600	1.2		1300	.6														
	2300	.2		1800	.7		0700	-.5		1500	1.2					2100	.7		1900	1.2														
29	1000	.6		1900	.3		1400	.9	31	0200	1.1							29	0100	.5														
	1700	-.4	30	0200	1.1	30	0100	1.4		1000	-.1								0700	1.1														
	2300	.6		0900	.3		0800	.3		1500	.9								1200	.7														
30	1300	.6		2000	1.6		1900	1.4										30	0100	.6														
	1800	-.2		2100	1.3	31	1000	-.7																										
																			0900	1.5														
31	0100	.7		2300	1.8		1700	.2											1200	1.0														
	0900	.5																	2000	1.6														
	1500	.9																	2400	.5														
	1900	.3																																

Note: No usable record for June through September.

Table 8C.--S3, Sabine Pass at Texas Point, near Sabine Pass, Tex.

LOCATION.-- Lat 29°40'54" long 93°50'17", on concrete pile near landward end of west jetty, about 4 miles southeast of city of Sabine Pass, Jefferson Co.

RECORDS AVAILABLE.-- May 1965 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers). Gage moved about 300 yards southeast off west jetty to present location Sept. 23, 1968.

EXTREMES.-- 1968 water year: maximum elevation 3.5 feet, June 24; minimum -3.2 feet, May 27.
1969 water year: maximum elevation 5.0 feet, Feb. 14; minimum -2.4 feet, Nov. 21 and Dec. 23.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records since August 1967 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1966 to September 1967.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																														1	0500	0.9			
																															1000	1.3			
																															1800	-.8			
																														2	0200	1.6			
																															1100	1.1			
																															1900	-1.0			
																														3	0300	1.7			
																															0800	1.1			
																															1100	1.3			
																															1900	-.9			
																														4	0300	1.7			
																															0900	1.1			
																															1200	1.3			
																															2000	-1.2			
																														5	0500	1.7			
																															0900	1.1			
																															1400	1.5			
																															2200	-1.3			
																														6	0400	1.9			
																															0900	.9			
																														6	0300	2.6			
																															1300	1.7			
																															2100	-1.0			
																														7	0400	1.8			
																															1000	1.1			
																															1400	1.5			
																															2200	-.6			
																														8	0600	1.6			
																															1100	.7			
																															1700	1.4			
																															2300	-.4			
																														9	0500	1.5			
																															1200	.2			
																															1800	1.2			
																															2400	.0			
																														10	0700	1.2			
																															1300	.1			
																															2000	1.4			
																														11	0100	.5			
																															0700	1.5			
																															1500	-.2			
																															2100	1.4			
																														12	0300	.7			
																															0800	1.6			
																															1400	-.6			
																															2300	1.5			
																														13	0700	1.3			
																															1700	-.5			
																															2400	1.8			
																														14	1000	1.6			
																															1700	-.2			
																														15	0300	2.2			
																															0700	1.8			
																															1000	2.1			
																															1800	-.1			
																														16	0300	1.9			
																															1400	1.4			
																															1900	-.5			
																														17	0300	2.0			
																															0800	1.4			
																															1200	2.0			
																															2000	-.9			
																														18	0300	1.8			
																															0900	1.1			
																															1300	1.6			
																															2000	-.9			
																														19	0400	2.0			
																															0900	1.3			
																															1300	2.0			
																															1900	-.2			
																														20	0600	1.8			
																															1600	1.6			
																															2400	.0			
																														21	0500	2.0			
																															1100	.8			
																															1600	1.9			
																															2300	-.1			
																														22	0600	1.8			
																															1100	.9			
																															1600	1.7			
																															2400	.3			
																														23	0700	1.6			
																															1300	.8			
																															1800	1.8			
																															2400	.7			
																														24	0500	1.7			
																															1200	.6			
																															1800	1.6			
																															2300	1.1			
																														25	0400	1.8			
																															1300	.6			
																															1900	2.1			
																														26	0400	2.0			
																															1400	.1			
																															2100	1.9			
																														27	0600	1.8			
																															1300	-.1			
																														28	0200	1.6			
																															1700	-.2			
																														29	1600	-.7			
																														30	0100	1.4			
																															1700	-.6			
																														31	0200	1.6			
																															1700	-.8			
																															2400	1.6			

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

Day	October Time	Stage	Day	November Time	Stage	Day	December Time	Stage	Day	January Time	Stage	Day	February Time	Stage	Day	March Time	Stage	Day	April Time	Stage	Day	May Time	Stage	Day	June Time	Stage	Day	July Time	Stage	Day	August Time	Stage	Day	September Time	Stage
1	0100	1.9	1	a	a	1	a	a	1	a	a	1	0500	1.8	1	0400	0.2	1	0600	1.4	1	0600	1.7	1	0800	1.9	1	0100	0.1	1	0200	1.0	1	1700	-0.2
	0700	1.1	2	a	a	2	1200	0.1	2	a	a		1100	-.1		1100	-1.1		1100	.8		2400	-.6	2	0100	-.3		0800	1.8		0700	1.4	2	0100	2.4
	1100	1.5	3	a	a		1800	1.6	3	a	a		1900	1.8		1700	.5		1400	1.1	2	0800	1.7		0900	1.9		1500	1.1		1400	-.4		1900	-.3
	1800	-.1	4	a	a	3	a	a	4	a	a	2	1100	-.4		2100	-.6		2100	-.2	3	0100	-.7		1500	.9		1900	1.5		2100	1.8		2400	2.6
2	0200	2.0	5	a	a		2000	1.4	5	a	a		1800	1.1	2	0500	.9	2	0800	1.8		0900	1.5		2000	1.4	2	0200	.4	2	0200	1.1	3	0800	2.1
	0800	1.1	6	a	a		2300	1.0	6	a	a	3	0100	.3		1000	.0		1100	1.4		1500	1.3	3	0100	-.2		0900	1.8		0900	1.7		1000	2.5
	1400	2.0	7	a	a	4	0400	1.7	7	a	a		0600	1.5		1700	.9		1500	1.6	4	0200	-.6		1000	1.9		1500	.7		1500	-.6		1800	-.5
	1900	.5	8	a	a		1100	-1.0	8	a	a		1200	.9		2300	-.6	3	0100	.3		1200	1.7	4	0300	.3		2200	1.5		2300	1.9	4	0200	2.9
3	0300	2.0	9	a	a		2000	1.7	9	a	a		2000	1.7	3	0500	.5		0800	2.2		1800	.5		1000	1.5	3	0200	.6	3	1700	-.8		0800	2.0
	0800	.8	10	a	a		2300	1.5	10	a	a	4	0200	.8		1400	-.4		1400	1.8		2100	.8		1700	.4		1000	1.8		2400	2.0		1200	2.6
	1400	2.0	11	a	a	5	0500	1.8	11	a	a		0900	1.4		1900	.5		1600	2.1	5	0300	-1.0		2200	1.0		1700	.7	4	1000	1.6		1900	-.3
	2100	.8	12	a	a		1200	-.3	12	a	a		1400	1.1		2400	-1.2		2400	.7		1100	1.8	5	0400	.4		2300	1.8		1700	-.7	5	0200	2.7
4	0200	2.2	13	a	a		2000	2.4	13	a	a		1800	1.5	4	0700	1.1	4	1200	2.1		1500	1.1		1100	1.5	4	0500	1.2	5	0200	2.4		1000	1.5
	0900	.2	14	1500	1.6	6	1300	-.6	14	a	a	5	0300	.3		1500	.3	5	0200	-.9		1900	1.5		1900	.2		1100	2.1		0700	1.7		1300	2.1
	1600	2.2		2000	.8		2200	1.6	15	a	a		1000	1.4		1800	1.0		1000	1.6	6	0400	-.1		2300	1.4		1700	.2		0900	2.0		2000	-.1
	2200	.9		2400	1.3	7	1400	-.2	16	a	a		1400	1.1		2400	-.7		1800	.6		1200	1.8	6	0600	.8	5	0200	2.0		1800	-.8	6	0400	2.5
5	0200	1.8	15	0800	-.4		2100	1.6	17	a	a	5	0900	1.2		2000	.8		1700	1.3		1300	1.4		0500	1.4	6	0300	2.4		0900	1.4		1400	2.4
	0900	-.3		1600	1.8	8	1600	.5	18	a	a	6	0300	-.6		1200	.8	6	0200	-.6		2200	1.9		1900	-.3		1100	2.0		1300	1.7		1300	2.5
	1600	2.0		2000	1.3		2400	1.8	19	a	a		1000	.8		1900	1.2		1100	1.6	7	0600	1.0	7	0300	1.8		1800	-.1		1900	-1.0		2000	.0
	2200	1.0	16	0100	1.6	9	0600	1.0	20	a	a		1900	.6	6	0100	-.2		1500	1.2		1200	2.0		0800	.7	6	0300	2.1	7	0300	2.4	7	0400	2.2
6	0300	1.7		0800	-.1		1200	1.9	21	a	a	7	0300	-1.2		0800	1.2		1800	1.6		1900	.8		1300	1.4		0900	1.3		0900	1.5		0900	1.4
	1000	-.6		1600	2.0		1700	1.0	22	a	a		1400	.5		1800	1.2	7	0300	.0	8	0200	1.6		1900	-1.0		1200	1.7		1400	2.0		1500	2.4
	1900	2.1		2100	1.5	10	0100	2.1	23	a	a	8	0400	-1.5	7	0300	-.8		1200	1.7		0700	.2	8	0300	1.8		1900	-.9		2000	-1.2		2100	.7
	2300	1.6		2400	1.7		1000	.5	24	a	a		1300	.8		1100	1.1		2300	1.2		1100	1.8		0900	1.2	7	0300	2.0	8	0400	2.3	8	0400	2.0
7	0400	1.9	17	0900	-.5		1300	1.5	25	a	a		2300	.5		2100	.7	8	0500	.0		1800	.6		1100	1.5		1900	-1.1		1000	1.4		1000	.9
	1200	-.6		1700	1.9		1900	.4	26	1400	1.6	9	0600	-1.5	8	0400	-.7		1200	1.6	9	0100	1.6		2000	-1.0	8	0400	2.2		1400	1.8		1600	2.1
	2000	2.0	18	0100	1.5		2400	1.2		1800	.9		1300	-.8		1400	1.3		1800	.9		0800	.8	9	0500	2.2		2100	-1.2		2100	-.9		2200	.8
8	1100	-1.3	19	a	a	11	0700	-1.7		2400	1.4	10	0600	-1.1		2000	1.1	9	0100	1.1		1400	1.9		1400	1.3	9	0500	2.3	9	0400	2.1	9	0400	1.8
	2000	1.5	20	a	a		1300	.5	27	0600	-1.4		1300	.9	9	0400	-.4		0700	-.4		2000	.4		2100	-1.6		2100	-1.4		1000	1.3		1300	.6
9	0100	1.2	21	a	a		1900	-1.0		1500	1.5		1800	.4		1200	1.6		1200	1.6	10	0300	2.6	10	0500	2.4	10	0500	2.0		1400	1.8		1800	2.2
	0600	1.5	22	a	a		2400	.1		2000	.9		2400	.6	10	0500	-.4		2000	.6		0800	1.6		1100	1.3		1100	1.3		2200	-.4		2300	.7
	1400	-.6	23	a	a	12	0600	-1.2		2400	1.5	11	0700	-1.8		0800	1.8	10	0200	1.0		1300	2.4		1400	1.9		1200	1.6	10	0600	1.9	10	0400	1.7
10	0100	1.7	24	a	a		1400	1.1	28	0800	-1.0		1500	1.1		1700	1.3		0800	-.4		2000	.0		2200	1.6		2000	-1.7		1100	1.1		1100	.1
	1500	-.8	25	a	a		1800	.7		1600	1.9		2000	.6		2200	1.6		1500	1.4	11	0300	2.4	11	0600	2.1	11	0500	1.9		1600	1.7		1800	1.9
	2400	1.6	26	a	a	13	0100	1.6	29	0100	1.5		2400	1.1	11	0600	.0		2000	.0		1000	1.3		1400	1.5		1000	1.1		2200	.0		2200	1.2
11	1700	-.5	27	a	a		0700	-.2		0900	-1.3	12	0800	-.7		1500	2.8	11	0300	1.3		1100	2.1	12	a	a		1400	1.7	11	0500	1.6	11	0400	1.7
12	0100	1.6	28	a	a		1500	1.8		1700	1.8		1500	1.6		2100	-.2		0800	-.4		2100	-.6		1500	1.1		2100	-1.8		1200	.6		1100	.6
	0600	1.1	29	a	a		1800	1.5		2100	.8		2100	1.2		2400	.5		1500	1.5	12	0300	3.0		2100	-2.0	12	0600	1.8		1800	1.5		1900	1.9
	1200	1.3	30	a	a		2200	1.8	30	0200	1.6		2300	1.7	12	a	a		2000	-.1		1600	1.6	13	0600	1.8		2200	-.8		2300	.2	12	0200	1.6
	1800	-.2				14	0700	-.2		0900	-1.0	13	0800	-.8		1500	-1.2	12	0300	2.0		2000	-.6		1000	.9	13	0500	2.0	12	0600	1.5		0600	1.8
13	0200	2.0					1500	2.0		1700	1.7		1600	1.5		a	a		0900	.4	13	0600	2.7		1400	1.5		1100	1.0		1200	.3		1300	.7
	0800	1.1				15	0100	1.5		2200	.8		2100	1.0	13	0200	-1.0		1500	1.8		1100	1.6		2200	-1.3		1700	1.6		2000	1.3		2000	2.3
	1200	1.5					0800	-.6	31	0300	1.4	14	0200	1.5		a	a		2000	.0		1400	1.9	14	0800	1.7		2300	-.2	13	0200	.7	13	1400	.5
	1900	.0					1600	1.5		1000	-.9		1000	-.7		1500	.8	13	0300	2.1		2100	-1.2		1700	1.1	14	0700	2.1		0600	1.6	14	0400	2.1
14	0200	1.8					2000	1.1		1800	1.8		1800	1.7		2000	-.2		1000	.9	14	0600	2.5		2400	-.5		1300	1.1		1300	.1		1400	.6
	0700	1.1					2400	1.4		2300	1.0		2100	1.0	14	0200	1.6		1400	1.7		1300	1.9	15	0800	1.9		1800	1.8		2100	1.6	15	0100	2.4
	1200	1.8				16	0800	-.9				15	0200	1.3		0800	-.7		2100	-.7		2200	-1.0		1500	1.0	15	0200	.7		2400	1.1		1600	.0
	1800	.2					1600	1.8					1000	.7		1400	1.3	14	0500	2.0	15	0700	2.3		1700	1.3		0800	1.7	14	0600	1.7		2300	2.4
15	0200	2.0					1900	1.6					1800	1.2		2100	.0		1000	.8		2300	-1.0		2400	-.3		1500	.8		1400	.4	16	1000	2.2
	0600	1.2					2400	2.0					2400	-.1	15	0400	1.5		1500	1.4	16	0800	2.0	16	0800	1.5		2100	1.8		2400	1.8		1800	.1
	1300	2.0				17	0900	-.5				16	0500	1.1		1000	-.2		2100	-1.1		1800	1.2		1500	.6	16	0200	1.0	15	1700	.0	17	0100	2.3
	2000	.4					1700	2.2					1100	-.8		1500	1.4	15	0500	1.9	17	0100	-.9		2100	1.1		0700	1.9		2400	2.0		1200	1.7
16	0200	2.0					2200	1.7					1700	1.6		2200	-.3		1000	.8		0900	2.0	17	0200	1.1		0700	1.8		1800	-.7		1800	-.7
	0800	-.4					2400	2.0					2300	.0	16	0400	1.4		1500	1.5		1900	1.2		0900	1.3		2200	1.7		1600	-.2		2300	1.5
	1400	1.2				18	a	a				17	0500	1.2		1100	-.3		2300	-1.3	18	0200	-.6		1600	.6	17	0300	1.2		2400	1.8	18	0300	1.0
	2000	-.7				19	a	a					1100	-.2		a	a	16	0600	2.1		0700	1.8		2300	1.1		0800	1.6	17	1700	-.2		0800	1.6
17	0200	.5				20	a	a					1700	1.2		2200	-1.0		1200	1.5		1800	1.6	18	0300	.7		1500	.2		2400	2.3		1800	-.2
	0900	-1.1				21	a	a					2300	.0	17	0600	1.4		1500	1.7	19	0500	-.3		1000	1.5		2400	1.7	18	1700	-.2	19	0300	2.2
	1600	.6				22	a	a				18	0700	1.6		1100	.4		2300	-.9		1200	1.6		1800	.5	18	0700	1.1	19	0300	2.1		0700	1.3
	2200	-.6				23	a	a					1300	1.1		1700	1.5	17	0800	2.3		1900	.3		2300	1.5		1000	1.4		1900	-.5		1300	1.7
18	0400	.2				24	a	a					1900	1.2		2200	-.4	18	0100	-.5		2300	1.1	19	0400	.8		1600	-.2	20	0200	2.0		1900	-.5
19	a	a				25	a	a				19	0200	.6	18	0700	1.9		0900	1.9	20	0600	-.6		0800	1.7		2300	1.6		2000	-.4	20	0300	2.1
20	a	a				26	a	a					0900	1.9		1200	1.0	19	0200	-.3		1300	1.5		1700	.3	19	1700	.0	21	0200	1.9		0800	1.0
21	a	a				27	a	a					1500	1.1		1600	1.4		1200	2.1		1800	.3		2400	1.9	20	0200	2.1		1400	1.3		1300	1.8
22	a	a				28	a	a					1700	1.8		2300	-.4	20	0400	-.3		2400	1.3	20	0500	1.1		1800	-.2		2000	-.7		2000	.0
23	a	a				29	a	a				20	0200	-.4	19	0800	2.0		1200	1.9	21	0600	.0		1200	1.6	21	0100	2.0	22	0300	1.9	21	0200	2.1
24	a	a				30	a	a					0900	1.7		1200	1.2		1700	.8		1200	1.4		1800	.3		1300	-.5		0700	1.2		0800	1.2
25	a	a				31	a	a					1500	1.0		1600	1.5		2200	1.4		1900	.3	21	0400	2.0	22	0200	1.9		1100	1.6		1300	2.1
26	a	a											1800	1.3		2400	-.6	21	0400	-.2	22	0200	1.5		1800	-.1		2000	-.7		2000	-.6		2000	.8
27	a	a										21	0200	-.8	20	0900	2.0		1200	1.9		0800	.6	22	0200	2.5	23	0400	2.0	23	0300	1.9	22	0300	2.6
28	a	a											1300	1.4	21	0200	-1.6		1800	.8		1300	1.3		1300	1.9		1400	1.2		0900	1.2		1000	1.6
29	a	a										22	0200	-1.3		0900	1.4		2300	1.5		1900	.2		2000	-.6		2000	-.9		1400	1.8		1500	2.5
30	a	a											1100	1.6		1500	.6	22	0600	.4	23	0200	2.1	23	0300	2.5	24	0300	2.1		2100	-.4		2100	1.2
31	a	a											1700	1.1		2000	.9		1300	1.6		1100	.9		0900	2.1		0800	1.4	24	0300	2.1	23	0400	2.6
													2200	1.4	22	0400	e-2.0		1800	.9		1300	1.4		1100	3.1		1300	1.8		1000	1.2		0900	1.3
												23	0400	-1.2		1200	.9	23	0100	1.7		2000	-.2		1800	.9		2000	-.7		1400	2.1		1200	2.5
													1400	1.4		2200	.1		0700	.5	24	0300	2.0	24	0400	3.5	25	0300	2.1		2100	-.1		2200	1.4
												24	0500	-1.6	23	a	a		1300	1.8		0900	1.3		2100	-.9		1200	1.8	25	0400	2.2	24	0400	2.2
													1400	1.3		1200	.5		1900	.0		1300	1.6	25	0400	3.0		2000	-.5		1100	1.0		1000	.3
													1900	.6		1700	-.6	24	0100	1.0		2000	-.1		1000	1.5	26	0400	2.0		1500	1.8		1800	2.3
													2400	1.1		2200	.3		0700	-.5	25	0700	2.0		1300	2.1		0900	1.3		2200	.1		2300	1.3
												25	0700	-1.7	24	0500	e-2.0		1400	1.1		1000	1.4		2200	-.2		1400	1.7	26	0500	1.9	25	0400	2.0
													1500	1.4		1200	.8		2000	-.1		1400	1.8	26	0400	2.3		2000	-.2		1100	.7		1000	-.4
													2000	.6		1900	.4	25	0400	1.3		2100	-.1		1300	1.8	27	0500	2.3		1800	2.0		1800	2.2
													2400	1.0		2200	.8		0900	.4	26	0600	2.0		2300	-.8		1000	1.2		2300	.6		2400	1.1
												26	0700	-1.8	25	0700	-.8		1400	1.3		0900	1.0	27	0700	1.9		1500	1.8	27	0400	1.8	26	0500	1.7
													1600	1.0		1500	1.2		2100	.3		1300	1.8		2200	-.6		2100	-.3		1100	.6		1100	-.7
													2100	.1		1900	.3	26	0300	1.8		2100	-1.4	28	0600	2.3	28	0500	1.7		1800	2.0		1900	1.8
												27	0200	.6		2400	1.0		1000	.8	27	0700	2.0		1200	1.3		1000	1.0		2400	1.4		2400	1.4
													0800	-2.0	26	0700	-.9		1500	1.3		2100	-3.2		1600	1.5		1500	1.5	28	0700	2.2	27	0400	1.7
													1600	1.0		1400	1.1		2100	-.3	28	0700	2.1		2300	-.4		2300	-.1		1200	.6		1200	-.6
													2100	.2		1800	.2	27	0400	1.9		1400	.6	29	0800	2.3	29	0600	1.6		1900	2.2		2100	1.9
												28	0300	1.4		2400	1.4		0800	1.2		1700	1.1		2400	.0		1300	.6	29	0100	1.7	28	0400	1.9
													0900	-.4	27	0700	-.4		1200	1.4		2300	-1.4	30	0800	2.0		1800	1.3		0700	2.0		1500	-.3
													1600	1.7		1300	1.2		2000	-.2	29	0600	1.9					2400	.2		1200	.3		2400	2.0
													2200	-1.8		2100	.3	28	0500	1.9		1400	1.4				30	0600	1.5		2200	2.5	29	1500	-.4
												29	0200	.2	28	0200	1.5		0900	1.2		2100	-1.0					1300	.3	30	0300	2.2		2400	1.8
													a	a		0800	.2		1200	1.5	30	0600	1.4					1900	1.4		0400	2.4	30	1600	-.8
													1700	-.6		1400	1.2		2200	-.3		2200	-.8					2400	.9		1400	.2		2400	1.8
													2100	-1.6		2100	.1	29	0400	1.9	31	0700	1.6				31	0700	1.5		2300	2.3			
												29	0200	1.4		1200	.7		2200	.2								1400	.0	31	1500	-.2			
													0900	.2		1500	1.2											2100	1.5		2400	2.2			
													1600	1.0		2300	-1.0																	
													2100	-.2	30	0600	1.4																	
												30	0400	1.5		1000	1.0																	
													1000	.4		1500	1.5																	
													1400	1.1		2200	-.4																	
													2100	-.3																			
												31	0400	1.5																			
													1000	.9																			
													1400	1.2																			
													2200	-.4																			

Table 8C.--S3, Sabine Pass at Texas Point, near Sabine Pass, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0700	1.2	1	0100	1.5	1	a	a	1	0300	0.0	1	0100	1.6	1	0700	-1.0	1	0200	1.6	1	a	a	1	0500	2.6	1	0700	2.4	1	0600	1.5	1	0100	1.3
	1200	1.7		0800	.3	2	a	a		0900	-1.2		0900	-.7		1500	1.8		0800	.2	2	a	a		1200	2.0		1000	2.0		1200	.5		0400	1.6
	1700	-.2		1300	1.5	3	a	a		1700	1.7		1600	1.9		1900	1.3		1500	1.6	3	a	a		2200	-1.0		1300	2.2		1800	1.5		1300	.1
2	0200	2.2		1900	.4	4	a	a		2200	.9		2100	1.4		2400	1.7		2100	.2	4	a	a	2	0600	2.5		1600	1.4		2300	-.9		2300	.2		1900	2.0
	0800	1.2	2	0200	1.4	5	a	a	2	0300	1.5	2	0200	1.8	2	0800	.0	2	0400	1.8	5	a	a		1200	1.3	2	0700	2.2	2	0500	1.5	2	0400	1.6
	1200	1.8		0800	.0	6	1700	1.4		0800	e-.6		1000	-.5		1700	2.3		1000	.2	6	a	a		1400	1.9		1300	1.7		1200	.5		1300	.0
	1800	-.3		1500	1.7	7	0200	1.0		1600	1.9		1700	1.9	3	0100	1.1		1500	1.4	7	a	a		2100	-1.9		1500	1.9		1900	1.6		2200	1.9
3	0300	2.0		2000	.9		1000	-1.6		1900	1.4	3	0800	-1.8		0300	2.1		2100	-.1	8	a	a	3	0500	2.3		2400	-.7	3	0100	.7	3	0800	1.6
	0900	1.1	3	0200	1.7		1900	.9	3	0100	2.0		1500	.6		1000	-.6	3	0500	1.8	9	a	a		1300	2.1	3	0700	1.9		0600	1.4		1500	.2
	1300	1.7		0900	-.1		2300	.4		1000	-.6	4	0500	1.0	4	a	a		1000	.7	10	a	a		1600	2.7		1200	1.2		1300	.0		2400	1.9
	2000	-.3		1400	1.4	8	0300	.8		1700	1.4		1000	-.2	5	a	a		1500	1.7	11	a	a		2300	-.2		1700	1.7		2000	1.6	4	0600	1.9
4	0200	1.5		2200	-.3		1200	-.8		2300	.3		1800	1.7	6	a	a		2200	.1	12	a	a	4	0800	2.9		2400	-.2	4	0100	1.0		1500	.2
	0800	.2	4	0100	.6		2000	1.5	4	0100	.5		2400	1.0	7	a	a	4	0500	2.2	13	a	a		1400	1.9	4	0800	1.7		0500	1.6	5	0100	2.2
	1300	1.6		0700	-1.1		2200	1.4		0900	-1.8	5	0600	1.4	8	a	a		1100	1.3	14	a	a		1600	2.3		1500	.8		1400	.2		1800	.0
	2000	.1		1600	1.6	19	0200	1.5		1900	1.2		1000	.1	9	a	a		1600	1.8	15	a	a		2400	-.4		2000	1.4		2300	1.7	6	0100	2.1
5	0300	2.0		2000	.7		1100	-.5		2300	.5		1900	1.7	10	a	a		2200	-.2	16	a	a	5	0900	2.2	5	0200	.3	5	0700	1.5		1100	1.7
	0800	1.3	5	0100	1.3		1900	1.7	5	0400	1.0		2400	1.0	11	a	a	5	0500	2.5	17	a	a		1400	1.3		0900	1.7		1600	-.1		1800	.3
	1600	2.5		0700	-.6	10	1300	-.4		1000	-1.3	6	0400	1.6	12	a	a	6	a	a	18	a	a		1900	1.8		1500	.3		2300	1.8	7	0100	2.1
	2100	1.3		1600	2.0		2100	1.3		1800	1.7		1200	-.2	13	a	a	7	a	a	19	a	a	6	0100	.2		2100	1.6		0300	1.4		2000	-.1
6	0200	2.2		2100	1.6	11	1300	.1		2200	1.2		1800	1.2	14	a	a	8	a	a	20	2400	e-.1		1000	2.1	6	0200	1.0	6	0700	1.6	8	0300	1.9
	0900	.1	6	0100	2.6		2100	1.8	6	0300	1.3		2400	-.4	15	a	a	9	a	a	21	0900	e1.9		1700	1.2		0800	1.6		1600	-.2		1000	1.1
	1800	1.8		0900	-1.2	12	0200	1.4		1100	-1.0	7	0700	1.2	16	a	a	10	a	a		2400	e.0		2000	1.7		1600	.3		2400	2.0		1300	1.3
	2200	.5		1600	1.8		0700	1.6		2000	1.4		1200	.5	17	a	a	11	a	a	22	1000	e1.8	7	0300	.5		2400	1.8	7	0900	1.5		1900	-.4
7	0400	1.8		2000	.7		1400	.8	7	1200	-1.2		2000	1.3	18	a	a	12	a	a	23	0100	e.0		1000	1.9	7	0300	1.4		1800	-.5	9	0200	1.8
	1000	-.2	7	0200	1.2		2200	2.3		2000	1.3	8	0200	.5	19	1600	1.2	13	a	a		1000	e1.7		1700	.9		1000	1.6	8	0100	1.8		0800	1.0
	1600	2.1		0800	-1.1	13	0400	-.1	8	0300	.7		0900	1.7		2200	-.4	14	a	a	24	0300	e.1		2300	1.9		1700	-.2		1200	1.4		1300	1.5
	2000	1.2		1900	1.3		1000	1.2		0600	1.0		1600	.3	20	0500	1.8	15	a	a		1100	e1.5	8	0600	1.0	8	0100	1.9		1800	-.5		2000	-.2
8	0200	1.9	8	1000	-.2		1500	.0		1300	-.2		2000	.8		1000	.2	16	a	a		1900	e.6		1100	1.9		0800	1.3	9	0300	1.8	10	0400	1.7
	1100	.3	9	0200	1.8		2000	.8		2000	1.5	9	0200	-1.9		1600	1.0	17	a	a		2400	e.8		1800	.3		1000	1.5		1000	1.5		0900	1.3
	1700	2.1		1100	-1.2	14	0500	-.7	9	0300	.5		1000	.9		2300	-.8	18	a	a	25	0500	e.2		2300	1.8		1800	-.5		1900	-.5		1400	1.6
	2100	1.5	10	0500	1.9		1300	.6		0700	.7		1400	.5	21	0600	1.4	19	a	a		1200	e1.5	9	0600	.9	9	0100	1.9	10	0300	1.8		2100	.2
9	0300	1.9		1200	.8		1800	-.2		1400	-.8		2000	1.3		1200	.5	20	a	a		1700	e.4		1100	1.4		1000	1.5		0700	1.1	11	0400	1.8
	1000	-.2		2000	2.4		2400	.7		2000	.5	10	0200	-.4		1700	1.1	21	a	a		2400	e1.1		1800	-.1		1300	1.1		0800	.7
	1800	2.1	11	0200	-1.1	15	0500	-1.3	10	0300	-.3		1400	1.5		2300	-.6	22	a	a	26	0500	e.5	10	0200	1.8	10	0300	1.8		2000	-.7		1400	1.6
	2400	1.2		0600	.0		1300	1.3		1000	.7		2000	1.4	22	0800	1.6	23	a	a		1200	e1.5		0900	1.0		0600	1.4	11	0300	1.4		2100	.1
10	0200	2.2		1300	-2.2		1700	.3		1600	.7	11	0400	-.8		1200	1.2	24	a	a		1800	e.2		1200	1.2		0900	1.7		0900	.6	12	0300	1.5
	1000	-.5		2000	-.1		2400	1.3		2000	1.5		1300	1.7		1800	1.5	25	a	a	27	0100	e1.5		1800	-.4		1900	-.6		1300	1.1		1000	.7
	2300	1.9		2300	-.6	16	0600	-.9	11	0400	.1		1800	1.3		2400	.5	26	a	a		0800	e.9	11	0200	2.2	11	0300	2.0		1400	.8		1500	1.6
11	1100	.1	12	0500	.4		1300	1.5		1100	1.3		2300	1.4	23	1200	3.4	27	a	a		1200	e1.5		1000	1.3		1100	1.6		1600	1.8		2200	.4
	2200	2.0		1200	-1.1		1800	1.2		1600	.7	12	0700	-1.2	24	0100	-.1	28	a	a		1900	e-.4		1200	1.4		1900	-.6		1700	-1.5	13	0400	1.5
	1300	.1	13	0100	1.0		2200	1.5		2200	1.3		1500	1.7		0800	2.0	29	a	a	28	0200	e1.6		1900	-.3	12	0400	1.9	12	0400	1.6		1000	.2
	2300	2.2		1600	-.3	17	0600	-1.2	12	0400	-.3		1900	1.3	25	0100	-1.9	30	a	a		0700	e.7	12	0300	2.4		2000	-1.0		0900	1.0		1500	1.6
13	1300	.4		2300	1.4		1500	1.9		1200	1.4		2300	1.4		0900	.7					1200	e1.4		1200	1.7	13	0400	1.8		1400	1.6		2200	1.0
	2400	2.4	14	0500	.7		1900	1.2		1600	1.0	13	0700	-.8		1800	.6					1900	e-.5		2000	-.3		1100	1.0		2000	-.4	14	0300	1.9
14	1500	.6		0800	1.1		2400	1.7		2200	1.5		1700	2.6	26	0200	e-1.3				29	0200	e2.0	13	0400	2.3		1300	1.3	13	0500	1.6		1000	.6
	2300	2.6		1500	-.2	18	0700	-1.4	13	0500	-.5		2000	2.1		1200	1.2					0800	e1.3		1300	1.8		2100	-1.1		0900	1.1		1900	2.0
15	1500	.6		2300	1.7		1600	2.2		1300	1.7	14	0400	3.3		1800	.5					1300	e1.7		2100	-.4	14	0600	1.5		1300	1.6		2200	1.6
	2300	2.6	15	0300	1.2		1900	1.6		1800	1.3		0900	1.8		2200	.7					1900	-.4	14	0500	2.3		1000	1.0		2200	-.3	15	0400	2.0
16	0400	2.2		1000	1.8		2200	1.8		2200	1.4		1500	5.0	27	0400	-1.1				30	0300	2.4		2100	-.4		1400	1.2	14	0500	1.8		1200	.1
	0900	2.4		1600	.5	19	0700	-1.6	14	0500	-1.0		2400	2.4		1200	1.1					1300	1.8	15	0500	2.0		2200	-1.1		1000	1.1		1800	2.0
	1700	.9		2300	1.6		1600	1.9		1400	1.8	15	0200	2.9		1800	.3					2000	-1.2		1300	1.4	15	0700	1.5		1500	1.6		2300	1.5
	2300	2.5	16	0700	.2		2400	1.7		1800	1.4		0900	-1.4		2100	.5				31	0400	2.5		2100	-.9		1000	.6		2200	.1	16	0500	1.9
17	1800	.4		1200	1.4	20	0900	-1.5		2300	1.6		1600	1.8	28	0500	-.8					1200	1.9	16	0600	2.3		1800	1.9	15	0600	1.6		1100	-.1
18	0200	1.9		1700	.7		1800	2.3	15	0700	-.9		2200	.0		1400	1.3					2100	-1.0		1600	1.7		2200	-1.3		1000	1.1		2000	2.0
	0800	1.0		2300	1.7		2300	2.0		1500	2.2	16	0200	1.2		2100	.6								2200	-.5	16	0400	1.7		1500	1.5		2300	1.6
	1300	1.8	17	0600	.1	21	0200	2.3		2000	1.6		0800	-1.7		2400	1.9																		
	2000	.5		1400	1.8		1000	-.9	16	0100	1.8		1700	1.5	29	0600	-.4																		
19	0100	2.1	18	0600	-1.4		1800	2.5		0700	-1.1		2200	.8		1400	1.5																		
	0700	.6		1400	.9		2200	1.9		1500	2.2	17	0300	1.7		1900	.5																		
	1200	2.1	19	0800	-2.2	22	0200	2.2		2000	1.6		1000	-.5		2400	1.2																		
	2000	.7		1500	1.3		1000	-2.2	17	0100	2.0		1800	1.6	30	0600	-.6																		
20	0100	2.1		2000	.4		1800	1.4		0900	-1.2		2400	.2		1400	1.3																		
	0700	.4	20	0100	1.0		2400	-.8		1700	2.3	18	0400	1.2		2000	.5																		
	1400	2.0		0800	-2.0	23	0300	-.3		2100	1.8		1700	-1.1	31	0100	1.1																		
	2000	.7		1600	1.5		1100	-2.4		2400	2.2		1800	1.0		0700	-.3																		
21	0100	1.8		2100	.8		2000	.4	18	0900	-1.0		2400	-.3		1500	1.4																		
	0800	-.4	21	0100	.9	24	0100	.0		1800	2.3	19	0500	1.3		2000	.4																		
	1500	1.8		1000	-2.4		0600	.3		2200	1.6		1100	-.1																				
	2100	.8		1800	1.5		1200	-1.0	19	0200	2.1		1800	1.4																				
22	0200	1.6		2200	.9		2000	1.0		1000	-1.3		2400	.3																				
	0800	-.5	22	0200	1.0	25	0400	.3		1800	1.8	20	0700	1.8																				
	1700	2.2		0900	-2.1		0800	.7		2400	.9		1200	1.4																				
	2200	1.1		1800	1.7		1400	.1	20	0400	1.6		2000	2.0																				
23	0200	1.8		2300	1.1		2100	1.6		1100	-1.0	21	0100	1.1																				
	0900	-.8	23	0300	1.5	26	0400	.6		1900	1.8		0900	2.1																				
	1700	2.2		1000	-1.6		1000	1.3		2400	.9		1600	1.8																				
	2200	1.6		1900	1.7		1400	.8	21	0500	1.7		2000	2.2																				
24	0200	1.9		2400	1.3		2300	1.5		1200	-.4	22	0300	-.3																				
	1000	-1.2	24	0300	1.4	27	0400	.5		2000	1.7		0900	1.4																				
	1700	1.7		1400	-1.6		1200	2.0	22	0300	.9		1500	.5																				
25	0100	.6		2100	1.3	28	0400	-1.7		0700	1.4		2000	1.0																				
	0400	1.0		2400	.7		1200	1.1		1300	-.1	23	0200	-.7																				
	1200	-1.8	25	0600	1.1		1900	-.4		2100	1.6		1000	1.7																				
	1900	1.5		1200	-.9		2300	.6	23	0300	.7		1900	1.8																				
	2400	.9		2100	1.9	29	0500	-1.2		0900	1.4	24	0400	.1																				
26	0300	1.2	26	0700	1.8		1300	1.5		1400	.3		1200	1.6																				
	1200	-1.2		1400	.5		1700	1.2		2200	1.2	25	0500	-.2																				
	2300	1.5	27	a	a		2400	1.5	24	0400	-.1		1300	1.7																				
27	1400	-1.1	28	a	a	30	0600	-.2		0800	.9	26	0600	-.3																				
	2200	1.3	29	a	a		1500	1.8		1400	-.2		1400	1.9																				
28	0800	-.2	30	a	a	31	0800	-1.6		2000	1.2		1700	1.5																				
	1200	.0					1500	.9	25	0100	-.2	27	0100	1.6																				
	1600	-1.0					2300	-.2		0800	1.0		0700	.0																				
	2400	1.2								1000	.7		1400	2.0																				
29	0500	.4								1700	1.4	28	0100	1.4																				
	1000	.8							26	0600	.2		0800	-1.3																				
	1600	-.8								1400	2.0		1400	2.1																				
	2400	1.4								1700	1.5		2100	1.0																				
30	0700	.6								2300	1.8		2400	1.5																				
	1100	.9							27	0600	.0																							
	1800	-.5								1400	1.8																							
31	0100	1.3								2400	1.5																							
	0700	.6							28	0700	-.2																							
	1200	1.2								1400	1.9																							
	1800	.0								2000	1.5																							
										2400	1.6																							
									29	0800	-.6																							
										1600	1.9																							
										1800	1.5																							
										2400	1.8																							
									30	0800	-.4																							
										1500	1.9																							
										2000	1.1																							
									31	0100	1.4																							
										0800	-.6																							
										1700	1.8																							
										2100	1.2																							

Table 9.--B2, Freeport Harbor Entrance near Freeport, Tex.

LOCATION.-- Lat 28°56'05" long 95°17'44", on concrete pile near landward end of northeast jetty, 3.3 miles east southeast of Freeport, Brazoria Co.

RECORDS AVAILABLE.-- June 1965 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1968 water year: maximum elevation 3.1 feet (estimated),June 24; minimum -2.3 feet (estimated), Mar. 13.
1969 water year: maximum elevation 3.6 feet, Feb. 14; minimum -2.4 feet, Nov. 11.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records since August 1967 computed by U. S. Geological Survey.

Water stage, in feet above or below (-) mean sea level; Time is Central Standard; Water Year October 1966 to September 1967.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																														1	0200	1.3	1	0300	1.6
																															1800	-.6		1800	-.5
																														2	0300	1.7	2	0300	1.8
																															1800	-.8		1900	-.5
																														3	0400	1.6	3	0400	1.9
																															1900	-.8		0900	1.3
																														4	0400	1.7		1400	1.4
																															1900	-.9		1900	-.2
																														5	0400	1.7	4	0400	1.9
																															2200	-.8		0900	1.0
																														6	0400	1.7		1400	1.7
																															1500	1.0		1900	.2
																															2200	-.7	5	0500	2.2
																														7	0500	1.5		1200	e1.2
																															1000	1.0		1500	e2.1
																															1300	1.1		2300	.6
																															2300	-.4	6	0400	e1.9
																														8	0600	1.4		1000	e.9
																															1400	.6		1600	e1.8
																															1600	1.0		2300	.4
																															2300	-.3	7	0400	1.1
																														9	0600	1.0		1000	-.1
																															1200	.4		1800	1.2
																															1800	.9		2300	.6
																															2400	.1	8	0500	.8
																														10	0500	1.0		1200	-.4
																															1200	.2		1900	1.4
																															1900	1.2	9	0400	.9
																														11	0200	.6		1200	-.6
																															0600	1.2		2100	1.6
																															1500	.1	10	1300	-.6
																															2200	1.6		2400	1.7
																														12	0200	1.1	11	1400	-.6
																															0700	1.4		2400	1.6
																															1400	.0	12	1600	-.6
																															2400	1.7	13	0200	1.9
																														13	1500	-.3		1700	-.3
																															2400	2.0	14	0200	2.1
																														14	1600	.1		1800	.1
																														15	0100	2.3	15	0200	2.3
																															1700	-.1		1200	1.8
																														16	0300	2.0		1800	.6
																															1800	-.5	16	0200	2.2
																														17	0400	2.0		0800	1.7
																															1900	-.6		1800	1.8
																														18	0500	1.7		2000	.5
																															2000	-.5	17	0300	2.1
																														19	0300	2.0		1100	1.6
																															1500	1.3		1300	1.9
																															2000	-.1		2100	.9
																														20	0700	1.8	18	0400	2.0
																															1200	1.3		0800	1.6
																															1500	1.6		1500	2.3
																															2200	.2		2300	1.3
																														21	0700	1.5	19	0600	2.6
																															1000	1.0		0900	1.7
																															1600	1.5		1700	3.3
																															2200	.2		2200	2.4
																														22	0400	1.5	20	1100	5.1
																															1000	.8	21	0100	2.4
																															1400	1.3		0300	3.0
																															2300	.4		1000	1.7
																														23	0400	1.3		1500	2.5
																															1000	.9	22	0200	1.7
																															1700	1.5		0400	1.9
																															2400	.6		1100	.5
																														24	0600	1.2		1800	1.9
																															1100	e.5	23	0200	1.6
																															1800	1.4		1100	.3
																															2300	1.0		2100	1.8
																														25	0600	1.4	24	1200	.0
																															1200	.6		2300	1.8
																															1900	1.8	25	1400	.2
																														26	0700	1.4		2300	2.1
																															1500	.2	26	1300	.2
																															2100	1.6		2300	2.2
																														27	0700	1.4	27	1500	-.4
																															1300	-.2	28	0300	1.6
																														28	0300	1.6		1600	.3
																															1400	-.2	29	0300	1.8
																														29	0200	e1.4		1700	.1
																															1600	e-.6	30	0200	1.8
																														30	0100	1.4		1800	-.1
																															1700	-.5			
																														31	0300	1.5			
																															1900	-.8			

Table 9.--B2, Freeport Harbor Entrance near Freeport, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0300	1.8	1	0200	0.6	1	0900	-0.8	1	0900	-1.1	1	0300	1.3	1	0500	-1.6	1	0700	1.3	1	0700	1.8	1	0800	e1.5	1	0700	e1.4	1	0400	0.6	1	0100	2.2
	0800	1.1		0800	-.6		1700	2.5		1900	1.9		1000	.0		1600	.0		2400	-.3		2200	-.6		2400	e-.2		1500	.8		0600	.9		1600	-.3
	1200	1.2		1600	1.6	2	1000	-.9	2	1000	-.5		1700	1.3		2300	-.5	2	0900	1.6	2	0900	1.6	2	1000	1.7		1900	.9		1500	-.3	2	0200	2.3
	2000	.2	2	0900	-.5		1600	1.7		2000	1.8	2	0200	.2	2	0400	.6		2300	.2		2300	-.7	3	0100	e-.1	2	0100	.2	2	0100	1.4		1700	-.3
2	0300	2.0		1700	2.3	3	1000	-1.8	3	1100	-.2		0400	.6		1200	.0	3	0900	2.0	3	1100	1.4		0900	1.7		0900	1.4		1700	-.6	3	0300	2.5
	0900	1.4	3	0200	1.5		2000	1.6		2000	1.7		1100	-.2		1600	.4	4	0100	.3		2400	-.7	4	0200	.2		1500	.6	3	0200	1.6		1900	-.3
	1300	1.9		1000	-1.5	4	1100	-.7	4	1200	-.4		1700	.8		2300	-.6		1000	1.8	4	0800	1.7		1000	e1.2		2000	1.0		1700	-.7	4	0300	2.5
	2000	.7		1800	1.6		2100	2.0		2200	1.6		2400	.3	3	0400	.2	5	0100	-.4		2400	-.8		1800	e.3	3	a	a	4	0100	1.9		1800	-.2
3	0200	1.9		2400	.6	5	1100	-.4	5	0100	1.3	3	0600	1.1		1100	-.4		1200	1.4	5	1000	1.8		2200	.8		0700	1.4		1700	-.7	5	0600	2.4
	0800	1.0	4	0100	.8		2000	2.1		0600	1.6		1100	.8		1500	.4	6	0200	-.5	6	0200	.0	5	0400	e.3		1500	.4	5	0200	2.2		2100	.1
	1500	2.0		1000	-1.0	6	1300	-.4		1300	.8		1700	1.4		2400	-.8		1200	1.6		1000	1.8		1100	1.1	4	0100	1.6		1800	-.8	6	0400	2.2
	2200	1.0		1900	2.0		2100	1.6		2100	1.8	4	0100	.6	4	0800	.9	7	0400	-.1		2300	1.2		1700	.1		0900	1.8	6	0400	2.3		1100	1.7
4	0200	1.8	5	1100	-.6	7	1400	-.1	6	0500	.9		1000	1.2		1300	.2		1200	1.5	7	0400	.8	6	0100	e1.0		1700	.6		1900	-.9		1500	2.0
	1100	.6		2200	2.1		2200	1.6		0800	1.3		1300	1.0		1800	.4	8	0400	.0		1200	1.6		0700	e.6	5	0300	1.9	7	0500	2.1		2000	.5
	1600	2.1	6	1200	-.6	8	1300	.5		1700	.6		1800	1.3	5	0100	-.6		1200	1.5		2000	.8		0900	e.9		1800	.2		2000	-.7	7	0400	1.9
	2300	1.2		2300	2.0		2200	1.7		2100	.7	5	0100	.4		1000	1.0		1900	.6		2300	1.3		1700	e-.2	6	0200	2.1	8	0500	1.9		0900	1.4
5	0300	1.6	7	1200	-.4	9	0600	1.0	7	0200	-.1		1200	1.2		1900	.9	9	0100	.8	8	0400	.4	7	0200	e1.3		1800	-.6		2100	-.7		1500	2.0
	1000	.0		2400	1.8		1100	1.7		2100	1.1		1800	1.1		2400	e-.6		0800	.3		1100	1.6		1100	e.8	7	0200	2.0	9	0500	1.7		2200	.9
	1800	1.9	8	1500	-.2		1600	1.0	8	0500	.2	6	0300	-.4	6	1100	1.3		1300	1.7		1700	.6		1900	-.7		1800	-.9		1600	1.2	8	0400	1.8
	2300	1.3		2300	1.8		2300	2.0		1300	1.5		1100	.6	7	0100	-.8		2100	.5		2400	1.3	8	0300	1.6	8	0300	2.1		2100	-.4		1000	1.0
6	0300	1.4	9	1600	.4	10	0900	.5		1500	1.2		1600	.5		1200	.9		2400	.9	9	0600	.7		1800	-.9		1900	-1.1	10	0600	1.4		1700	1.7
	1100	-.2		2400	1.7		1200	1.5		2200	2.1	7	0400	-1.3	8	0300	-.7	10	0600	-.4		1200	1.3	9	0400	e1.9	9	0400	2.2		1100	.9		2200	.6
	2000	2.1	10	0800	.9		1600	.5	9	0400	.3		1300	1.5		1400	1.2		1400	1.0		1900	.4		2000	e-1.2		2000	-1.4		1600	1.2	9	0400	1.3
7	0400	1.5		1100	1.0	11	0100	.3		1400	1.7	8	0400	-1.2	9	0300	-.5		2100	.2	10	0100	1.9	10	0500	2.4	10	0500	2.1		2200	.0		1200	.6
	1100	-.3		1800	.5		0500	-.9	10	0800	-.8		1200	.9		1300	1.5	11	0100	.8		0700	1.4		2100	-1.5		2100	-1.3	11	0600	1.2		1700	1.8
	1900	2.0		2400	1.6		1500	-.1		1400	.6	9	0500	-1.2	10	0500	-.5		0700	-.1		0900	1.8	11	0600	e1.9	11	0600	1.8		1300	.6		2400	.9
8	1300	-.7	11	0700	.9		2000	-.5		2400	.4		1400	.9		1500	1.7		1400	.9		1900	.1		2100	e-1.7		2100	-1.4		1800	1.0	10	0700	1.1
	2200	1.7		1200	1.2		2200	-.3	11	0700	-.7	10	0500	-1.4		2200	1.2		1900	.2	11	a	a	12	0700	e1.6	12	0700	1.7	12	0100	.1		1000	.2
9	1400	-.4		2000	.3	12	0500	-1.1		1500	1.3		1500	.8	11	0500	-.1	12	0100	1.6	12	a	a		2200	e-2.0		1600	.9		0700	1.0		1700	1.7
	2300	1.8	12	0100	1.2		1400	.8	12	0700	-.8	11	0600	-1.4		1400	1.9		0800	.6	13	a	a	13	0800	1.4		2300	-.9		1400	.3		2400	1.2
10	1500	-.6		0800	.4		2000	.6		1600	.9		1700	1.2	12	0800	e-2.0		1500	1.3	14	a	a		2300	e-1.3	13	0800	1.6		1700	e.7	11	0300	1.6
	2400	1.7		1400	1.0		2400	1.0	13	0800	e-2.1		2100	.7		1400	-1.1		1900	.2	15	a	a	14	0800	1.5		1800	1.0	13	0200	.5		1100	.5
11	1600	.3		2000	.5	13	0700	.0		1600	.0		2300	.8		2200	e-1.9	13	0300	1.8	16	a	a	15	0100	-.7		2400	-.3		0700	.9		2200	1.8
12	0100	1.6	13	0100	.9		1500	1.8	14	0800	e-2.2	12	0700	-.6	13	0200	1.3		1000	.9	17	a	a		0800	1.4	14	0800	1.5		1200	.0	12	1200	.6
	1700	.1		0700	.1		2300	1.4		1700	.5		1700	1.8		0700	e-2.3		1400	1.0	18	a	a	16	0200	-.5		1300	.9		1900	e1.0		2200	2.3
13	0200	1.8		1500	1.1	14	0700	-.1	15	0800	-1.7		2400	1.5		1600	1.3		2200	-.5	19	a	a		1000	1.1		1700	1.3	14	0100	e.9	13	1300	.4
	0900	1.2		2100	.6		1600	1.6		1700	1.1	13	0700	-.5		2000	.0	14	0500	1.6	20	a	a		1800	e.4	15	0100	.4		0600	e1.0	14	0100	2.1
	1100	1.4	14	0200	1.0	15	0700	-.6	16	0900	-1.7		1700	1.9	14	0200	1.1		1400	.6	21	a	a		1900	.6		0800	1.4		1300	.0		1400	.6
	1800	.2		0900	.0		1800	1.6		1700	1.0		2200	1.6		0900	-.5		1500	.8	22	1800	e.0	17	0300	-.1		1600	.9		2400	e1.1		2400	2.6
14	0300	1.7		1500	1.3	16	0800	-.6	17	0900	-1.3		2400	1.8		1500	.9		2200	-1.1	23	0200	e1.6		1000	e1.1		2000	1.5	15	0200	e.9	15	1600	.0
	0900	1.2		2300	.6		1800	2.1		2100	1.2	14	0800	.0		2200	-.2	15	0600	1.5		1000	e.8		1700	e.2	16	0400	.9		0600	e1.4	16	0100	2.2
	1200	1.6	15	0200	.7	17	0900	-.4	18	0300	1.1		1600	1.7	15	0200	1.2		1500	.9		1200	e.8		2100	.6		0700	1.4		1600	.0		1600	.2
	2100	.3		0700	-.4		1800	2.2		1100	-.6		2300	1.0		1000	.1		2300	-1.1		1800	-.1	18	0600	e.4		1600	.5		2400	1.5	17	0300	2.0
15	0200	1.6		1700	1.6	18	0800	-.8		1900	1.5	15	0300	1.2		1500	1.0	16	0800	1.8	24	0400	e1.7		0800	1.0		2100	1.3	16	0800	e1.1		1600	-.5
	0800	1.2		2100	1.2		1900	2.0	19	0300	.9		1000	-.4		2300	.0		1400	1.3		0900	e1.1		1600	.2	17	1000	1.1		1100	e1.2	18	0200	2.0
	1300	1.8	16	0200	1.2	19	1000	-.7		0400	1.2		1600	1.0	16	0300	1.0		2300	-.8		1200	e1.2		2400	1.1		1500	.2		2200	e.0		1700	-.3
	2200	.6		0800	.0		1800	1.6		1000	-.4		2400	.1		1000	-.1	17	0900	1.9		1800	e-.2	19	0600	.7		2400	1.4	17	0100	1.6	19	0500	1.9
	2400	1.5		1700	1.9	20	0500	1.1		1900	1.4	16	0400	.7		1500	.4	18	0100	-.9	25	0500	2.0		0900	1.1	18	1800	-.2		1800	-.3		1900	-.2
16	0700	-.1	17	0900	-.3		1200	-.5	20	0200	.7		1000	-.4		2100	-.8		1000	1.8		2000	e-.2		1700	.0	19	0300	1.5	18	0100	1.6	20	0400	1.8
	1400	.9		1800	1.8		2100	2.0		0500	1.4		1700	1.2	17	0500	1.2	19	0300	-.5	26	0400	e1.9	20	0300	1.5		1700	-.1		1800	-.4		1900	.0
	2100	-.4	18	1000	-.7	21	1300	.0		1200	.5		2400	.2		1200	.5		1100	2.0		2000	-.9		1800	e.1	20	0300	1.8	19	0200	1.8	21	0400	1.5
17	0200	.3		1800	1.8		2200	1.6		1800	1.6	17	0500	.9		1500	.9	20	0400	-.4	27	0400	1.8	21	0200	2.0		1800	-.4		1800	-.5		0800	1.1
	0800	-.5	19	1000	-.6	22	1300	-1.1	21	0200	.8		1200	.1		2200	-.4		1300	1.6		2100	-1.3		1700	-.2	21	0400	1.8	20	0300	1.8		1300	1.6
	1600	.6		2000	1.9		2100	.6		0700	1.5		1700	1.1	18	0700	1.7	21	0500	-.2	28	0600	1.8	22	0300	2.2		1800	-.6		1900	-.5		2000	.5
	2300	-.2	20	1000	.5	23	0400	-.4		1300	1.0		2400	.2		1500	1.1		1300	1.6		2200	-.9		1900	-.4	22	0400	1.7	21	0500	1.5	22	0300	2.1
18	0300	-.1		2100	1.8		0700	.0		2000	1.6	18	0700	1.7		2300	-.4		1900	.8	29	0600	1.7	23	0500	2.4		1900	-.8		2000	-.7		0800	1.6
	0900	-.6	21	1100	-.5		1300	-.4	22	0400	.6		1300	1.1	19	0900	1.7	22	0100	1.0		2200	-.9		1500	e2.0	23	0500	1.6	22	0500	1.6		1500	2.3
	1600	1.0		2100	1.7		2300	1.0		1000	1.6		1700	1.6		2400	-.5		0600	.2	30	0700	e1.2		2000	e.4		2100	-.8		2000	-.5		2200	1.2
19	0100	.2	22	1200	-.6	24	0600	.4		1500	1.0	19	0100	.6	20	1000	2.0		1300	1.3		2200	e-.9	24	0200	e3.1	24	0500	1.9	23	0500	1.8	23	0200	2.0
	0400	.6		2300	1.8		0900	.8		1900	1.2		0900	1.7	21	0100	-1.1		2000	.6	31	0900	e1.5		2000	e.1		2000	-.6		1300	1.3		0900	1.2
	1000	-.3	23	1300	-.2		1300	.3	23	0500	-.3		1800	1.5		1200	1.2		2400	1.1		2300	e-.4	25	0500	2.3	25	0600	1.9		2100	-.4		1500	2.3
	1700	1.5		2300	1.8		2200	1.0		1000	.6	20	0100	-.1	22	0200	-1.6	23	0800	.3					2000	-.4		2000	-.5	24	0500	1.6		2300	1.5
	2400	.7	24	1400	-.1	25	0500	.0		2000	-.1		0900	1.4		1600	.8		1300	1.0				26	0500	2.0	26	0600	1.7		1200	1.1	24	0300	1.8
20	0200	.9		2300	1.4		1000	.7	24	0500	-1.3	21	0200	-.7	23	0400	e-2.2		2000	.1					2100	-.7		2100	-.3		1600	1.4		1000	.6
	1000	-.5	25	0900	.8		1700	.4		1300	.9		1200	1.4		1500	.3	24	0100	.8				27	0600	1.9	27	0600	1.9		2100	.0		1700	2.1
	1800	1.2		1500	.1		2100	.6	25	0500	-1.4		1700	-.2		2000	-.4		0900	.2					2100	-.3		2300	-.2	25	0500	1.6		2300	1.4
21	0300	.8		2200	1.2	26	0500	-.5		1400	1.5		1900	.4		2200	-.2		1400	1.0				28	0700	2.1	28	0700	1.4		1100	.9	25	0400	1.5
	1000	-.5	26	0700	.4		1300	1.2	26	0500	-1.1	22	0400	-1.2	24	0600	-1.7		1900	.0					2200	-.4		1700	1.0		1700	1.5		1000	-.1
	1900	1.4		1200	.8		1900	.9		1500	1.3		1300	1.6		1400	.8	25	0400	1.0				29	0800	e1.9		2400	.0		2300	.4		1800	2.0
22	1100	-.4		1700	.3		2200	1.2		2300	.8	23	0400	-1.3		2300	.3		0900	.4					2300	e-.2	29	0700	1.2	26	0400	1.4	26	1100	-.3
	2200	1.6		2300	1.2	27	0600	.0	27	0700	-1.3		1300	e1.2	25	0700	-.8		1300	e.9				30	0700	1.7		1500	.5		1000	.8		2000	1.9
23	1100	.0	27	0700	.0		1400	1.9		1600	1.4	24	0500	e-1.2		1600	.7		1800	e.3					2400	-.2		1900	.8		1700	1.6	27	1200	-.4
	2300	2.0		1300	1.1	28	0600	-1.2	28	0100	.9		1500	e1.2		2000	.2	26	0200	e1.5								2000	.1		2400	.7		2300	2.1
24	1300	-.2		1500	.7		1600	1.6		0700	-1.1	25	0500	e-.9	26	0100	.5		0900	.7								0700	1.1	27	0300	1.6	28	1300	-.1
	2300	1.8	28	0100	1.6	29	0700	-1.5		1700	1.9		1500	e1.1		0700	-.7		1200	1.9								1400	.2		1100	.7		2400	2.2
25	1400	.0		0600	.7		1600	2.0	29	0700	-1.1	26	a	a		1500	.7		1900	-.2								2000	.8		1700	1.8	29	1500	-.2
	2400	2.0		1500	2.0	30	0700	-1.0		1700	1.4		1600	.7		1900	.3	27	0400	1.5				31	0300	.5	28	0100	1.4	30	0100	1.9			
26	2100	.2		2100	1.6		1900	2.8	30	0100	1.1		2100	.1	27	0200	.9		1100	.8								0600	1.0		0600	1.8		1600	-.6
	2300	1.8	29	0100	1.7	31	0900	e-1.0		0900	-.8	27	0100	.2		0800	-.3		1300	.9								1400	-.1		1300	.7			
27	1600	-.1		0700	.4		2000	1.9		1700	1.4		0800	-1.7		1600	.9		1900	-.3								2200	1.0		2000	2.0			
	2400	1.7		1500	2.3					2200	.9		1700	.6		2100	.3	28	0400	1.6										29	0500	1.8			
28	1100	1.3	30	0900	-1.2				31	0200	1.0		2000	.3	28	0200	1.1		2100	-.6											1300	.2			
	1600	.6		1800	1.6					0900	-.5	28	0300	.8		0900	.2	29	0400	1.6											2200	2.3			
29	0200	2.4								1800	1.6		0900	-.4		1500	.8		2100	-.9										30	1300	.4			
	0800	1.6								2400	1.1		1500	.7		2100	.2	30	0500	1.4											2300	2.3			
	1100	2.0											2200	-.6	29	0400	1.1		1600	.8										31	1500	-.1			
	1800	1.2										29	0300	-.1		1100	.2		2100	-.4															
30	0100	2.8											1100	-2.1		1500	.6																		
	0700	-.2											2200	-.6		2100	-.2																		
	0900	2.3													30	0400	1.2																		
	2200	-.6														1100	.4																		
31	0100	.4														1500	.8																		
	1000	-1.2														2200	-.5																		
	1400	.8													31	0500	1.4																		
	2100	-.2														1200	.8																		
																1400	1.0																		
																2200	-.3																		

Table 9.--B2, Freeport Harbor Entrance near Freeport, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

Day	October Time	Stage	Day	November Time	Stage	Day	December Time	Stage	Day	January Time	Stage	Day	February Time	Stage	Day	March Time	Stage	Day	April Time	Stage	Day	May Time	Stage	Day	June Time	Stage	Day	July Time	Stage	Day	August Time	Stage	Day	September Time	Stage
1	0200	1.6	1	0100	1.1	1	0600	-1.5	1	0700	-1.2	1	0800	-0.6	1	0600	-0.6	1	0300	0.9	1	0400	2.1	1	0600	2.0	1	0500	2.3	1	0600	0.9	1	1300	-0.1
	1700	-.1		0600	.3		1500	1.5		1600	1.5		1800	1.6		1600	1.5		0900	-.1		2200	-.2		2200	-1.5		2200	-.8		1300	.3		2300	1.5
2	0200	1.9		1300	1.1	2	0800	-.9	2	0800	-.7	2	0900	-.7	2	0300	.9		1500	.7	2	0300	2.1	2	0800	2.1	2	0700	1.9		1900	.9	2	1400	-.4
	1800	-.1		2000	.3		1600	1.7		1600	1.8		1700	1.4		0800	-.1		2300	.0		2000	-.5		2400	-1.6		2400	-.6		2300	.0		2400	1.6
3	0300	1.7	2	0100	.9	3	0700	-1.7	3	0800	-.7	3	0900	-1.2		1700	2.0	2	0300	1.0	3	0500	2.2	3	0800	2.1	3	0700	1.5	2	0600	1.0	3	1400	-.2
	0800	1.1		0600	.1		1900	.2		1700	1.3		1800	.8		2100	1.3		1000	.0		2000	-.3		2400	-.2		1300	.9		1300	.2	4	0300	1.6
	1200	1.2		1400	1.4	4	0800	-1.6	4	0800	-1.3		2200	.5	3	0200	1.9		1600	.6	4	0600	2.8	4	0900	2.4		1700	1.1		1900	1.0		1600	-.1
	2000	-.1		2000	.7		1800	.9		1900	1.1	4	0500	.7		1200	-.2		2000	-.2		2100	-.3	5	0200	-.3	4	0200	-.1	3	0200	.4	5	0200	2.0
4	0500	1.2		2400	1.0	5	0800	-1.4	5	1100	-.9		1100	-.3		1600	.8	3	0400	1.1	5	0700	2.7		1000	1.8		0900	1.2		0600	.8		1800	-.1
	0700	.5	3	0700	-.4		1800	1.3		1900	1.3		1900	1.4		2200	.2		1000	.4		2200	.1	6	0100	.1		1600	.5		1300	-.1	6	0200	1.8
	1400	1.5		1400	.9	6	0900	-1.3	6	1100	-1.1	5	0200	.8	4	0400	.5		1500	.7	6	0900	2.8		1000	1.7		2000	.8		2200	1.2		1800	.1
	2000	.5		2100	-.1		1900	1.2		2100	1.1		0400	1.2		0900	-.7		2100	-.3		2400	.0	7	0300	.3	5	0300	.1	4	0200	.6	7	0500	1.9
5	0300	1.9		2300	.2	7	1000	-1.5	7	1100	-1.3		1100	.1		1700	1.0	4	0500	1.5	7	1000	2.2		1000	1.3		0900	1.0		0700	1.0		1900	-.2
	1000	1.2	4	0600	-1.0		2200	.9		2000	.8		2000	1.3		2200	.6		1600	1.1		1400	1.6		1600	.7		1600	.2		1500	-.2	8	0300	1.6
	1400	2.2		1600	1.2	8	1100	-.7	8	1200	-.6	6	0100	.5	5	0400	1.7		2200	-.4		1800	1.8		2300	1.2		2200	1.0		2200	1.5		1900	-.4
	2200	1.2	5	0700	-.5		2000	1.3		2100	.8		0600	1.0		1000	.8	5	0600	1.8	8	0100	.2	8	0600	.8	6	0400	.6	5	1500	-.4	9	0300	1.4
6	0300	1.9		1700	1.9	9	1100	-.6	9	1100	-.9		1300	-.1		1600	2.0		2300	-1.0		1200	2.0		1000	1.3		0900	1.0	6	0300	1.4		0800	.8
	1000	.4	6	0800	-.8		2200	1.6		2000	.3		1800	.6		2400	.9	6	0700	1.5	9	0400	-.5		1800	.2		1600	.0		1700	-.5		1200	1.1
	1600	1.8		1700	1.7	10	1200	-.6	10	0200	-.1		2400	-.4	6	0500	1.6		2300	-1.1		1200	1.4	9	0100	1.3	7	0300	1.2	7	0300	1.6		1900	-.2
	2300	.9	7	0900	-.8		2100	1.1		2100	1.1	7	0800	.5		1200	.4	7	0800	1.6	10	0400	-.3		0700	.7		0600	.8		1700	-.7	10	0400	1.4
7	0300	1.5		1800	1.5	11	1200	-.2	11	0200	.0		1300	.0		1700	1.3		2400	-.5		1200	1.1		1100	.9		0800	1.1	8	0400	1.4		0900	1.1
	1000	.4	8	0800	-.1		2200	1.6		1000	.9		1900	.6		2200	-.1	8	1100	1.8		1800	.5		1700	-.1		1600	-.2		1800	-.7		1300	1.3
	1700	2.1		2000	2.2	12	1400	.4		1300	.6	8	0100	.0	7	0700	1.4	9	0200	-.5		2300	1.1	10	0200	1.3	8	0300	1.5	9	0300	1.4		2000	.2
8	0100	1.3	9	0900	-.4		2000	1.4		1900	.8		0700	.9		1100	.9		1100	1.8	11	0700	-.1		2000	-.5		1700	-.5		1900	-.7	11	0300	1.4
	0400	1.8		2400	2.0	13	0600	.2	12	0400	-.4		1500	.1		1700	1.7	10	0200	-.6		1000	.9	11	0400	1.5	9	0200	1.5	10	0300	1.3		1000	.7
	0900	.4	10	1000	.2		1000	.9		1000	1.0		1800	.3		2400	.8		1100	1.7		1100	.4		1900	-.4		1800	-.8		1900	-1.0		1500	1.2
	1800	1.9		1800	1.6		1500	e.1		2100	1.1	9	0200	-1.3	8	0800	2.0	11	0400	-.6		1400	.9	12	0400	1.9	10	0600	1.4	11	0500	1.0		2000	.2
9	0400	1.5	11	1300	-2.4		1800	e.5	13	0500	-.5		1300	.8	9	0100	-1.1		1200	1.5		1600	-.2		1900	-.5		1700	-.6		2100	-2.0	12	0400	1.2
	1000	.2		2100	-.2	14	0500	-.7		1300	1.4		1700	.5		1100	1.0		1400	.7		2400	1.0	13	0600	1.9	11	0300	1.6	12	0700	1.3		0900	.6
	2100	2.2	12	0600	-.3		1300	.3	14	0600	-.9		1900	.8		1500	.3		1600	1.7	12	0800	.1		2000	-.5		1800	-1.0		1000	.5		1500	1.3
	2300	1.3		1200	-1.1		2300	.1		1500	1.5	10	0300	-.6		1700	.6		2300	1.7		1400	.9	14	0600	1.9	12	0500	1.5		1500	.7		2100	.4
10	0200	1.7		2400	1.0	15	0500	-.9	15	0600	-.9		1400	1.3	10	0200	-1.2	12	0700	.3		1700	-.4		2100	-.7		2100	-1.1		2000	-.9	13	0300	1.0
	0900	-.2	13	1400	-.3		1300	.7		1600	1.9	11	0400	-.9		1200	1.4		1400	2.3	13	0200	1.6	15	0700	1.6	13	0600	1.3	13	0500	1.2		0900	.2
	2100	1.8		2300	1.4		1900	.4	16	0700	-1.1		1400	1.4	11	0300	-1.1		1900	1.2		0700	.6		2100	-.5		2200	-1.3		1200	.7		1600	1.5
11	1100	.1	14	1600	.0		2200	.8		1600	2.0	12	0500	-1.2		1400	1.3		2300	1.8		0900	1.2	16	0700	2.2	14	0500	1.2		1400	1.0		2100	.9
	2100	2.1		2400	1.4	16	0600	-.7	17	0800	-1.4		1500	1.5	12	0400	-.7	13	0800	.2		1100	.3		2200	-.4		2100	-1.2		2100	-.4	14	0400	1.5
12	1200	.1	15	0400	.7		1500	1.5		1700	2.1	13	0700	-.9		1400	1.7		1200	1.0		1200	1.5	17	0900	2.0	15	0700	1.0	14	0600	1.2		0900	.4
	2300	2.1		1000	1.3	17	0700	-1.1	18	0900	-1.1		1400	2.6	13	0600	-1.1		2000	.0		2000	-.3		2300	-.3		2200	-1.7		1200	.7		1700	1.6
13	1200	.3		1600	.4		1700	1.6		1800	2.0		1800	2.1		1500	1.2	14	0300	.6	14	0300	1.8	18	0800	1.9	16	0600	1.4		1600	.9		2300	1.2
	2400	2.3		2300	1.1	18	0800	-1.2	19	1000	-1.2		2000	2.8		2200	1.0		0800	-.2		0800	.7		2400	-.4		1200	.4		2100	-.2	15	0400	1.5
14	1400	.5	16	0400	.3		1700	1.8		1800	1.3		2400	1.2	14	0700	-.7		1400	.9		1400	.9	19	1000	1.5		1500	1.1	15	0600	1.3		1100	.0
	2400	2.3		1200	1.1	19	0800	-1.6	20	0400	.9	14	0900	3.6		1600	2.0		2000	-.1		1900	-.5		2400	-.2		2200	-.9		1000	.7		1900	1.5
15	1500	.5		1600	.5		1700	1.9		1100	-.9		1600	.9		2200	2.3	15	0300	1.3	15	0500	1.8	20	0900	1.4	17	0700	1.1		1800	1.0	16	0500	1.3
16	0100	2.4		2300	1.2	20	0900	-1.5		1800	1.3		2100	2.6	15	0600	.3		1000	.5		2000	-.5	21	0100	-.2		2100	-.7		2300	.0		1200	-.1
	1600	.9	17	0500	.2		1800	2.4		2400	.7	15	0800	-.8		1500	2.6		1500	1.2	16	0600	2.0		0900	.9	18	0800	.7	16	0700	1.1		2100	1.6
17	0100	2.1		1300	1.6	21	1100	-.6	21	0400	.9		1500	1.2		1800	1.8		2000	.2		1200	1.0	22	0100	.2	19	0100	-.4		1200	.3	17	1300	-.4
	0700	1.0		2000	.2		2000	2.1		1100	-.5		2100	.3		2400	2.4	16	0300	1.9		1500	1.4		0900	1.1		0600	.6		1800	1.1		2200	1.7
	1200	1.3		2400	.5	22	1200	-1.5		1900	1.2	16	0300	.4	16	0900	.4		1100	1.0		1600	-.4		1500	.2		1500	-.3		2300	.4	18	1400	.0
	1700	.5	18	0500	-.9		2000	.8	22	0200	.6		0800	-1.4		1600	1.9		1600	2.0	17	0600	2.4		2200	.6		2000	.5	17	0400	1.2	19	0100	2.4
18	0100	1.9		1400	1.0	23	1300	-2.1		0600	.8		1700	1.1		2100	1.1		1900	.6		2200	-.5	23	0400	.5	20	0100	-.1		1200	.5		1500	-.1
	0700	1.3	19	0700	-1.5		2200	.2		1300	-.1		2000	.7	17	0300	1.9	17	0400	2.8	18	0600	1.7		1000	.8		0800	1.0		1800	1.3	20	0300	2.2
	1200	1.8		1600	1.2	24	1300	-1.1		1900	.9	17	0300	1.3		0900	.5		2200	-.2		2200	-.6		1700	.0		1500	-.4		2400	.9		1600	-.1
	1900	1.0	20	0700	-1.7		2200	.6	23	0300	.0		0900	-.4		1500	1.8	18	0600	1.3	19	0700	1.7		2200	.9		1900	.9	18	0400	1.3	21	0300	2.1
19	0200	1.8		1600	1.4	25	1400	-.2		0800	.6		1600	1.2		2200	.8		2200	-1.8		2300	-.5	24	0400	.7	21	0100	.3		1300	-.1		1700	.2
	0800	1.0	21	0800	-2.0		2200	1.0		1500	.0		2400	.4	18	0200	1.2	19	0800	1.0	20	0800	1.6		1000	.9		0700	1.1		2100	1.2	22	0400	2.3
	1300	1.7		1800	1.5	26	0400	.5		1800	.5	18	0300	.6		1100	-1.0		2200	-.9		2400	-.5		1800	-.2		1400	-.3		2300	1.0		1900	.1
	1900	1.0	22	0900	-1.8		1000	.8	24	0300	-.4		1100	-.9		1600	-.3	20	0900	1.4	21	1000	1.5	25	0200	1.6	22	0100	.7	19	0500	1.4	23	0300	2.0
20	0200	1.7		1800	1.6		1600	.4		2000	.8		1700	.4		2100	-1.2		2200	-1.0	22	0100	-.2		1800	-.3		0900	.7		1200	.4		0900	1.3
	0700	.7	23	1000	-1.4		2200	e.9	25	0200	-.3		2200	-.1	19	0500	.2	21	0800	1.1		1000	1.4	26	0300	2.0		1500	-.7		2100	1.9		1200	1.4
	1400	1.8		1900	1.5	27	0400	.3		1700	1.1	19	0500	.8		1100	-.5		2400	-1.0	23	0100	-.2		1800	-.4		2200	.8	20	0300	1.9		2000	-.2
	2000	1.0	24	1100	-1.5		1400	e1.4	26	0300	-.1		1200	.0		1700	.4	22	1000	1.1		1000	1.2	27	0300	2.1	23	1600	-1.1		1500	-.2	24	0300	1.2
21	0200	1.5		2100	1.2	28	0600	-1.2		1400	1.6		1800	1.0		2100	-.4		2400	-.8	24	0100	-.1		1900	-.9	24	0200	.8		2400	1.8		0900	.7
	0900	.1	25	1200	-.6		1500	.4	27	0500	-.1		2100	.4	20	0400	1.1	23	1200	1.0		1000	1.1	28	0400	2.1		1700	-1.3	21	1400	-.6		1400	1.3
	1500	1.5		2200	1.9		1800	-.4		1500	1.5	20	0700	1.8		1100	.0	24	0200	-.8	25	0300	-.2		1900	-1.0	25	0300	1.2	22	0100	1.8		2000	.0
	2000	.8	26	1500	.3		2100	-.1	28	0700	-.3		1400	1.2		1700	.1		1100	1.2		1100	.9	29	0500	2.2		1800	-1.6		1600	-.8	25	0400	1.2
22	0100	1.0		2300	2.0	29	0600	-1.2		1500	1.6		1700	1.6		2200	-1.2	25	0400	.2		1700	.1		2000	-1.2	26	0400	1.3	23	0200	1.8		0900	.5
	0700	-.3	27	0600	e1.1		1600	1.1	29	0600	-.5		2400	.9	21	0700	.7		1200	1.6		2300	.6	30	0600	2.1		2000	-1.7		1800	-1.1		1500	1.5
	1600	2.1		1000	1.3		2300	.9		1600	1.8	21	1000	1.9		1600	.3	26	0500	.5	26	0300	.3		2100	-1.3	27	0600	1.4	24	0300	1.8		2200	.4
23	0100	1.2		1800	.0	30	0700	-.4	30	0800	-.5		1200	1.4		2300	-.8		1200	1.9		1100	.8					2000	-1.8		1900	-1.0	26	0300	1.1
	0800	-.5		2200	1.1		1600	1.4		1600	1.5		1700	1.6	22	0900	1.1		1900	1.1		1900	.0				28	0500	1.2	25	0300	1.8		0900	.2
	1700	2.2	28	0500	-.6	31	0900	-1.4	31	0700	-.5		2400	-.3		2300	.1		2300	1.3	27	0200	1.0					2100	-1.6		1900	-.6		1700	1.8
24	0900	-1.1		1300	-.1		1700	.8		1600	1.5	22	1000	.9	23	0800	2.4	27	0500	.9		0500	.4				29	0700	1.0	26	0500	2.0		2400	1.0
	2000	1.8		1600	-.5							23	0200	-.9	24	0300	-.1		1200	1.8		1000	.7					2200	-1.6		1400	1.6	27	0400	1.4
25	1000	-1.1		2200	.3								1200	1.5		0900	.9		2100	.7		1900	-.4				30	0700	1.1		2000	-.3		0900	.2
	1900	1.5	29	0500	-.2							24	0300	-.2	25	0100	-1.8		2300	1.1	28	0300	.9					1300	.4	27	0400	2.1		1800	2.1
26	1000	-1.1		1300	1.2								1300	1.2		1000	.4	28	0800	.0		0900	.4					1700	.5		1100	1.4	28	1000	-.4
	2100	1.6		1900	.6							25	0400	-.5	26	0200	-1.4		1300	.9		1200	.7					2200	-1.1		1400	2.0		2000	1.8
27	1300	-1.0		2300	1.2								1300	1.4		1300	.8		2000	-.1		1900	-.7				31	0600	.9		2100	.2	29	1200	-.2
	2200	1.3	30	0800	.2							26	0400	-.5	27	0400	-1.1	29	0100	1.1	29	0500	1.3					1100	.4	28	0500	2.2		2200	1.9
28	1300	-.7		1600	2.6								1500	1.5		1300	.4		0700	.4		2000	-.6					1600	.8		1100	1.4	30	1300	-.1
	2300	1.1		2000	-.7							27	0600	-.2	28	0500	-1.2		1300	1.2	30	0500	2.0					2300	-.6		1700	2.1		2200	2.2
29	1600	-.8		2300	2.2								1500	1.7		1400	.7		2100	.2		2000	-1.0								2300	.7			
	2400	1.1										28	0700	-.9		2300	.1	30	0300	1.4	31	0500	2.0							29	0400	1.9			
30	1700	-.4											1700	1.5	29	0700	-.7		0800	.7		2100	-1.2								0900	.9			
31	0100	.9														1500	.7		1400	1.4											1800	2.3			
	0700	.3														2000	.1		2000	.1											2300	1.2			
	1100	.7														2400	.3													30	0500	2.0			
	1900	.0													30	0700	-.9														1000	.9			
																1500	.6														1900	2.2			
																2000	-.1													31	0200	1.5			
															31	0100	.4														0700	1.6			
																0800	-.5														1200	.5			
																1500	.6														1800	1.8			
																2200	.2																		

Table 10A.--L1, Tres Palacios Bay at Palacios, Tex.

LOCATION.-- Lat 28°41'51" long 96°13'37", in turning basin at southwest edge of Palacios, Matagorda Co.

RECORDS AVAILABLE.-- April 1967 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1968 water year: maximum and minimum elevations not determined.
1969 water year: maximum elevation 3.5 feet, Feb. 14; minimum -2.3 feet, Dec. 31.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records since August 1967 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1966 to September 1967.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																														1	0700	1.4	1	0800	0.8
																															2100	.3		2200	-.1
																														2	0800	1.4	2	1100	1.3
																															2200	.3		2300	.1
																														3	0900	1.3	3	1100	1.4
																															2300	.2	4	0100	.5
																														4	1000	1.2		1100	1.4
																															2400	.1	5	0200	.6
																														5	1300	1.2		0800	1.5
																														6	0100	.2		1400	1.0
																															1400	1.2		1800	1.3
																														7	0200	.3	6	0100	.8
																															1400	1.2		0700	1.2
																														8	0200	.4		1300	1.0
																															1300	1.1		1900	1.3
																															1500	.9	7	1400	.3
																															1700	1.1		2300	1.0
																														9	0200	.6	8	1500	-.2
																															0900	.9	9	0300	.9
																															1600	.6		1600	-.1
																															2000	.8	10	0700	.9
																														10	0400	.5		1700	.0
																															0700	.8	11	0700	1.1
																															1600	.5		2000	.0
																															2300	1.0	12	0700	1.0
																														11	0600	.6		2000	.0
																															0900	1.0	13	0900	1.3
																															1700	.1		2100	.3
																															2300	.7	14	1000	1.5
																														12	0600	.4		2200	.5
																															1000	.8	15	1100	1.7
																															1700	.1		2300	.9
																														13	0400	1.1	16	1100	1.7
																															1900	.1		2300	.9
																														14	0700	1.2	17	0900	1.5
																															1800	.1		1600	1.6
																														15	0900	1.5	18	0100	1.1
																															2200	.5		1800	1.9
																														16	0700	1.4	19	0200	1.6
																															2200	.2		0800	2.1
																														17	1000	1.6		1300	1.7
																															2300	.2		1900	2.9
																														18	1000	1.5		2300	2.4
																															2300	.2	20	1600	4.2
																														19	0900	1.5		1900	5.6
																															2400	.2		2200	4.8
																														20	1600	1.4	21	1400	3.7
																														21	0200	.5	22	1800	1.6
																															1800	1.2	23	0100	2.1
																														22	0300	.5		1700	1.2
																															1300	1.3	24	0100	1.9
																														23	0200	.5		1500	.9
																															1000	.8	25	0400	1.9
																															1100	1.7		1800	.9
																															1600	.8	26	0300	1.9
																															2300	1.2		1700	.8
																														24	0200	.8	27	0400	2.0
																															1400	.5		1800	-.3
																														25	0800	1.1	28	0900	.8
																															1600	.3		2000	.1
																														26	0400	1.2	29	a	a
																															1800	.5	30	a	a
																														27	0400	1.2			
																															1900	.4			
																														28	0600	1.2			
																															2000	.2			
																														29	0400	1.0			
																															2000	.0			
																														30	0800	.9			
																															2200	.0			
																														31	0800	1.0			
																															2200	-.1			

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	a	a	1	a	a	1	1300	0.1	1	a	a	1	0500	1.4	1		c	1	0300	0.1	1	0300	0.1	1	0100	0.6	1	0400	0.5	1	0200	0.9	1	0700	1.6
2	a	a	2	a	a		2400	1.8	2	a	a		1300	.7	2	0900	0.3		1200	.9		1400	1.2		1800	1.3		1200	1.2		1700	.1		2100	.4
3	e1900	1.6	3	a	a	2	1600	-.5	3	a	a		2000	1.0		2000	.3	2	0200	.1	2	0300	.2	2	0400	.2	2	0500	.5	2	0700	1.1	2	0600	1.5
e4	e0300	1.3	4	a	a	3	0100	.9	4	a	a		2400	.1	3	1000	-1.3		1400	1.4		1500	1.3		1500	1.2		1400	.9		2000	.0		2100	.4
	e0600	1.6	5	a	a		1200	-.6	5	a	a	2	0100	.4		2000	-.4	3	0100	.8	3	0300	.2	3	0200	.3		2200	.4	3	0800	1.2	3	1400	2.1
	e1300	1.1	6	a	a	4	0200	.9	6	a	a		0400	-.3	4	0300	-1.0		0200	1.7		1400	1.1		1300	1.2	3	1100	.9		2000	-.1		2200	.9
	e2100	1.7	7	a	a		1100	-.1	7	a	a	3	a	a		2000	.2		0500	.9	4	0500	-.5	4	0100	.7		1700	.3	4	0900	1.2	4	1200	2.1
e5	e1500	.7	8	a	a	5	0100	1.3	8	a	a	4	a	a	5	0500	-.4		1700	2.0		1700	.8		0200	1.5	4	0300	.9		2100	-.1		2400	.7
e6	e0100	1.5	9	a	a		1200	.2	9	a	a	5	a	a		2000	.7	4	0600	.8	5	0500	-.2		0400	.5		0500	.7	5	1100	1.4	5	0600	1.6
	e0600	1.5	10	a	a	6	a	a	10	a	a	6	a	a	6	0600	-.1		0900	1.0		1700	.9		0600	1.0		1200	1.1		2400	.1		2300	.2
	e1600	.5	11	a	a	7	a	a	11	a	a	7	a	a		1700	1.0		1000	-.1	6	0400	.5		1000	.7		2000	.6	6	1200	1.5	6	1600	1.6
e7	e0400	1.9	12	a	a	8	a	a	12	a	a	8	a	a	7	0700	-.2		1900	.2		1500	1.5		1200	1.2	5	0500	1.4		2300	.1	7	0100	.8
	e1700	.6	13	a	a	9	a	a	13	a	a	9	a	a		1800	.7	5	0400	-.6	7	0600	.9		2000	.5		2100	.4	7	1300	1.5		1700	1.6
e8	e0200	1.7	14	a	a	10	a	a	14	a	a	10	a	a	8	0800	-.3		1800	.8		1400	1.5	5	0200	.7	6	0700	1.5	8	0200	.2	8	0200	1.1
	e1700	-.3	15	a	a	11	a	a	15	a	a	11	a	a		2000	6.8	6	0700	-.2		2100	.9		0800	.5		2100	.2		1500	1.5		0600	1.4
e9	e0600	1.2	16	a	a	12	a	a	16	a	a	12	a	a	9	0900	-.1		2000	1.0	8	0100	1.3		1300	1.0	7	0900	1.3	9	0200	.4		1300	1.1
	e1900	.1	17	a	a	13	a	a	17	0400	0.7	13	a	a		2000	1.1	7	0900	.4		0900	.7		2100	.5		2300	.1		1400	1.4		1900	1.5
e10	e0600	1.3	18	a	a	14	a	a		1500	-.5	14	a	a	10	1100	.0		1600	1.2		1500	1.2	6	0400	1.1	8	1000	1.4	10	0300	.4	9	0300	1.0
	e2000	.0	19	a	a	15	a	a	18	0600	1.1	16	a	a	11	0100	1.2	8	0800	.3		2100	.7		2100	.3		2300	.1		1700	1.2		0700	1.1
e11	e0700	1.1	20	a	a	16	a	a		1500	.1	16	a	a		1000	.0		1800	1.1	9	0300	1.1	7	0700	1.2	9	1000	1.5	11	0300	.6		1400	.5
	e2100	-.1	21	1500	0.5	17	a	a		2200	1.3	17	a	a		1700	.9	9	0200	.8		0900	.8		2200	.1		2400	-.1		1200	1.1		2100	1.4
e12	e1000	1.1	22	0300	1.6	18	a	a	19	1500	-.1	18	a	a	12	1500	-2.2		0900	-.8		1600	1.4	8	0900	1.3	10	1300	1.3		1500	.9	10	1200	.2
	e2200	.3		1700	.1	19	a	a	20	0100	.8	19	a	a		2200	-1.6		2000	1.0		2000	.7		2200	.0	11	0100	.0		1900	1.0	11	0100	1.1
e13	e1000	1.3	23	0600	1.6	20	a	a		0400	.4	20	a	a	13	0400	-1.6	10	0200	.5	10	0800	2.0	9	0900	1.4		1100	1.3	12	0200	.7		1500	.5
	e2300	.5		1700	.4	21	a	a		0700	1.0	21	a	a		1100	-2.0		0500	.7		2400	.4		2300	.0	12	0300	.0		0800	1.0	12	0400	1.4
e14	e1400	1.8	24	0400	1.5	22	a	a		1200	.3	22	0600	-1.1	14	0500	.3		1300	-.3	11	0800	1.9	10	1000	1.6		1300	1.6		1500	.7		1400	.6
	e2200	1.1		1700	.4	23	a	a		2300	.9		2000	.8		1200	-.1		2100	.5		1400	1.6	11	0100	.0	13	0100	.4	13	0800	1.3	13	0500	1.7
e15	e1300	1.8	25	0600	1.2	24	a	a	21	0600	.7	23	1000	-1.0		1800	.4		2400	.3		1700	.0		1000	1.3		1400	1.5		1800	.6		1700	.7
e16	e1100	-.4		1900	.6	25	a	a		1100	1.2		1900	.3	15	0100	.4	11	0300	.5		2000	.8	12	0200	-.1	14	0300	.7	14	0400	1.4	14	0500	1.7
	e2000	.3	26	0400	1.2	26	a	a		1700	.9	24	1000	-.8		0700	.8		1100	-.1		2300	.4		1300	1.1		1200	1.4		1700	.6		1900	.9
e17	e0200	-.3		2000	.4	27	a	a		2200	1.2		2400	.6		1500	.4		1600	.3	12	0700	2.0	13	0200	-.5	15	0400	.9	15	0600	1.6	15	0700	2.7
	e0700	.2	27	0200	.7	28	a	a	22	0800	.7	25	1100	-.5		1900	.6		2300	.2		2400	.7		1300	.8		1100	1.2		1700	.7		2000	.9
	e1100	-.1		1000	-.2	29	a	a		1400	1.1		2400	.6	16	0200	.2	12	0700	1.2	13	0900	2.0	14	0200	-.4		1800	.9	16	0700	1.6	16	0600	1.8
	e1900	.4		1700	.6	30	a	a		2200	1.0	26	1200	-.6		0800	.5		1100	.9	14	0200	.6		1400	1.0	16	0200	1.3		1900	.4		2400	.5
e18	e1000	-.6		2100	.0	31	a	a	23	1200	-.4		2300	.4	17	0200	-.4		1700	1.2		1200	1.9	15	0300	-.1		1200	1.4	17	0500	1.5	17	0800	1.9
	e2200	.4	28	0500	.8					1600	.0	27	1200	-.7		1700	.7	13	0100	.6	15	0100	.4		1500	.9		1800	.8		1900	.1		2100	-.1
e19	a	a		1000	.4					2200	.0	28	0400	.8	18	0300	.0		0900	1.3		1300	2.1	16	0400	.0	17	0500	1.4	18	0900	1.5	18	1000	1.3
e20	a	a		2000	1.1				24	0900	-.9		1600	-.5		1300	1.3	14	0200	.2	16	0300	.4		1400	.7		2000	.6		2200	.3		2200	.3
e21	a	a		2200	.9					1900	.7	29	0300	-.7	19	0400	.3		1100	1.0		1400	1.6	17	0600	.1	18	0400	1.4	19	0900	1.6	19	1100	1.5
e22	a	a	29	0400	1.2				25	1000	-.4		0600	-.2		1400	1.3	15	0200	-.3	17	0400	.5		1200	.8		2100	.3		2100	.2		2300	.5
e23	a	a		1000	.7					2300	1.0		1500	-1.7	20	0400	.3		1500	.8		1400	1.6		1600	.2	19	0600	1.2	20	0900	1.4	20	1100	1.5
e24	a	a		2100	2.2				26	1000	-.1					1600	1.5	16	0400	-.1	18	0500	-.4		2300	.4		2200	.2		2200	.3		2300	.6
e25	a	a	30	1200	.3					2100	1.0				21	0800	-1.3		1500	1.4		1800	1.1	18	0400	.2	20	0600	1.4	21	0800	1.2	21	0900	1.3
e26	a	a		2200	1.4				27	1100	-.1					1600	-.2	17	0500	.3	19	0700	-.1		1200	.6		2100	.1		2300	.1		1700	1.4
e27	e1800	.2								2400	1.2				22	0800	-1.1		1400	1.4		1600	.7		2000	.2	21	0900	1.5	22	1000	1.1		2400	.9
e28	e1100	1.2							28	1200	.0					2100	.6	18	0500	.0	20	0700	-.5	19	0400	.7		2300	.2		2300	.1	22	1700	2.0
	e1900	.7								2400	1.3				23	0900	-1.2		1600	1.2		1600	.8		1100	.7	22	0800	1.3	23	1500	1.2	23	0200	1.6
e29	e0600	2.0							29	1200	.0					2300	.0	19	0600	.2		2000	.7		2100	.1		2100	.1		2400	.3		0600	1.8
	e1300	2.0							30	0300	1.1				24	0900	-.9		1700	1.5		2400	.9	20	0400	1.1	23	1000	1.3	24	0900	1.3		1300	1.3
	e1900	1.6								1400	.1					2400	.4	20	0900	.2	21	0700	.5		2000	.1		2300	.2	25	0200	.3		2000	1.9
e30	e0200	2.3							31	0200	1.1				25	1100	-.3		1800	1.2		1400	.8	21	0600	1.3	24	1100	1.3		1100	1.1	24	0600	1.8
	e0400	.8								1400	.2					1900	.4	21	0700	.2		2000	.5		2100	.0		2400	.2		1500	.7		1400	1.1
	e0800	1.4													26	0200	.5		1800	1.2	22	0400	1.3	22	0900	1.8	25	1100	1.5		1700	1.1		2200	1.8
	e2200	.3														1200	-.2	22	1000	.5		2000	.6		2300	.0	26	0100	.2	26	0200	.5	25	1500	.4
e31	a	a														1600	.2		1400	1.1	23	0600	1.5	23	2100	3.0		1200	1.3		2200	1.2	26	0100	1.3
															27	0400	.7		2300	.9		2100	.3	24	0900	3.1	27	0100	.3	27	0500	.7		1400	.1
																1200	.1	23	0400	1.2	24	0800	1.3		2300	1.3		1000	1.4		0700	.9	27	0500	1.3
																1900	.5		1300	-.5		2300	.4	25	0900	2.3	28	0200	.4		1500	.4		1600	.3
																2300	.3		1600	-.3	25	0800	1.3	26	0100	.8		1200	1.1	28	0100	1.3	28	0500	1.6
															28	0600	.7		2300	-.5		2300	.5		0800	1.7	29	0300	.4		1600	.6		1800	.4
																1300	.3	24	0300	.0	26	1100	1.6	27	0200	.0		1100	1.0	29	0200	1.6	29	0500	1.6
																1700	.5		1300	-.1		2400	.2		1300	1.5	30	0300	.5		1700	.6		1900	.4
																2400	.2		1800	.4	27	0900	1.4	28	0100	.5		0800	1.0	30	0600	1.7	30	0500	1.4
															29	0800	.7		2300	.3	28	0100	-.4		1300	1.8		1700	.6		1800	.6		2100	.2
																1400	.4	25	0800	.7		1400	1.0	29	0100	.7	31	0700	1.2	31	0600	1.9			
																1700	.5		1200	.5	29	0100	-.2		1200	1.9		1800	.4		2100	.5			
															30	0100	.1		1600	.8		1400	1.1	30	0300	1.0									
																1000	.9		2200	.5	30	0300	.2		1000	1.7									
															31	0200	.2	26	0800	1.2		1300	1.2												
																1500	1.2		2400	.3	31	0300	.2												
																		27	1000	1.2		1300	1.3												
																			2400	.1															
																		28	1100	1.1															
																			2200	-.4															
																		29	0600	.5															
																		30	0200	-.6															
																			1600	.9															

Table 10A.--L1, Tres Palacios Bay at Palacios, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0800	1.2	1	0400	0.9	1	0100	1.4	1	0200	-0.4	1	1100	0.2	1	1100	-0.4	1	0500	0.9	1	0500	1.6	1	0100	0.4	1	0200	0.0	1	0400	-0.1	1	1700	0.5
	2100	.3		1000	.6		1100	.4		1200	-1.3	2	0100	1.4	2	0200	1.0		1300	.5		0800	1.4		1300	1.9		1500	1.4		1900	.8	2	0300	1.4
2	1100	1.5		1600	.9		2000	1.2		2400	.5		1400	.2		1000	.0		1700	.8		1000	1.6	2	0200	.1	2	0300	.2	2	0500	.4		1800	.3
	2200	.5		2200	.7	2	1200	-.1	2	1200	-.3		2200	1.0		1800	1.3		2400	.5	2	0100	.0		1400	1.2		1500	1.4		1000	.6	3	0600	1.3
3	0600	1.3	2	0300	.9		2300	1.2	3	0200	1.3	3	1100	-1.0		2000	.7	2	0600	.9		1000	1.6	3	0400	-.3	3	0400	.3		1700	.4		1800	.3
	1400	1.2	3	a	a	3	1400	-1.7		1300	-.1	4	0300	.5	3	0200	1.5		2400	.1		2400	.2		1500	1.4		1800	1.3		2400	.9	4	0600	1.3
4	0100	.2	4	a	a		2400	.1		1800	.4		1300	-.1		1600	-.1	3	0800	.8	3	1000	1.5	4	0300	.3	4	0400	.5	3	1500	.3		1900	.3
	0800	.6	5	a	a	4	1200	-.8	4	1200	-1.3	5	0600	1.1		1900	.3	4	0100	.1		2400	.3		1400	1.5		1100	1.1	4	0400	.9	5	0800	1.5
	1100	.3	6	a	a	5	0200	.4	5	0300	.5		1400	.5	4	0400	.3		1400	1.3	4	1300	2.0	5	0500	.1	5	0400	.6		1800	.2		2100	.4
	1800	.9	7	a	a		1300	-.6		1300	-.3		2200	1.2		1300	-.3	5	0300	.2	5	0200	.6		1600	1.1		1200	1.0	5	0700	e1.1	6	0800	1.4
	2200	.6	8	a	a	6	0300	.7	6	0200	.9	6	1500	.3	5	0700	1.4		1200	1.2		1300	2.2	6	0600	.3		1800	.7		2000	.1		2100	.5
5	0700	2.2	9	a	a		1400	-.4		1500	-.3		2000	.6		1400	1.1	6	0300	-.6	6	0300	.8		1700	1.2	6	0200	1.2	6	0900	1.3	7	0800	1.4
	0900	1.3	10	a	a	7	0100	.6	7	0300	.7	7	0500	.1		2000	1.5		1600	.9		1700	2.2	7	0700	.6		1100	1.2		2100	.0		2200	.4
	1900	1.9	11	a	a		1200	-1.5		1600	-.4		1000	.5	6	0500	.6	7	0300	-.2	7	0400	.9		1400	1.1		1900	.5	7	0800	1.3	8	0800	1.2
	2300	1.7	12	a	a		2300	.0	8	0200	.6		1600	.2		0900	1.2		1800	1.1		1400	2.0		2100	.8	7	0500	1.4		2200	.0		2400	.2
6	0400	1.9	13	a	a	8	1000	-.5		1500	-.1		2300	.5		1300	.9	8	0600	.2	8	0600	.7	8	0400	1.1		0700	1.2	8	0900	1.1	9	1300	1.1
	1200	.9	14	a	a	9	0600	.9		2300	.7	8	0500	.0		2000	1.1		1700	1.4		1300	1.5		0900	.9		0900	1.4		2300	.1		2400	.3
	1900	1.4	15	a	a		1600	.0	9	1600	-1.6		0700	.4	7	0200	.5	9	0700	.3		2300	.9		1400	1.1		2000	.3	9	1000	1.0	10	1600	1.0
7	1100	.6	16	a	a	10	0300	1.0		2300	-.6		1700	-.2		1800	1.4		1800	1.4	9	0800	-.5		2100	.7	8	0700	1.3		2400	.1		2300	.5
	2300	1.6	17	a	a		1700	.0	10	0400	-.7		2000	.0	8	0300	.9	10	0800	.2		2100	.9	9	0600	1.2		2200	.2	10	1300	1.0	11	0900	1.0
8	0900	1.2	18	a	a	11	0200	.9		2300	.8	9	0700	-1.0		0700	1.5		1700	1.3	10	0900	.2		2200	.3	9	0800	1.3		2300	.1	12	0100	.3
	1200	.9	19	2400	.6		1600	.4	11	0600	.0		2100	.6	9	0600	-1.2	11	1200	-.7		1700	.9	10	0800	1.2		2100	.1	11	1000	.9		2000	1.0
	2400	1.9	20	1300	-.5	12	0200	1.4		2000	.8	10	0700	-.1		1700	.4		1700	.8		2000	.8		2300	.2	10	0700	1.2	12	0200	.0	13	1300	e.5
9	1400	.8		2400	.7		1800	.8	12	0800	.0		2000	1.0	10	0500	-1.1	12	0100	1.5	11	0300	1.1	11	0800	1.5		2200	.2		0900	.9	14	0800	1.4
	1700	1.3	21	1300	-.6		2300	1.1		2300	1.0	11	0900	-.1		2000	e.6		0900	.8		0900	.5		2300	.4	11	1200	1.6		1500	.9		1500	.8
	2000	.4	22	0200	.8	13	0700	.4	13	0800	.1		2100	1.1	11	0700	e-.3		1300	2.4		1500	1.0	12	1100	1.6		2200	.0		2300	.1	15	0600	1.5
	2100	1.7		1500	-.5		1400	.6		1800	1.0	12	1000	-.3		2200	e.7		2200	1.6		2300	.4		2400	.2	12	1100	1.3	13	1500	.9		1800	.8
10	1400	.4	23	0400	1.1	14	1100	-.5	14	1000	-.1		2300	.9	12	a	a	13	0100	1.9	12	0400	.9	13	1000	1.5		2400	.1	14	0200	.2	16	0600	1.5
11	0400	1.5		1600	-.2		2300	.1		2200	1.1	13	0800	-.4		2300	e1.2		1100	.6		1900	.2	14	0100	.3	13	1000	1.1		1100	.8		1700	.6
	1400	.5	24	0400	1.0	15	1000	-.8	15	1000	.0	14	0700	3.2	13	1000	e-.2		1400	.8	13	1400	1.6		1200	1.4	14	0100	-.2		1800	.8	17	0500	1.5
12	0400	1.7		1600	-.6	16	0100	.6		2200	1.4		0900	1.8		2400	e.9		2400	.3		2100	.2	15	0100	.1		1400	1.0	15	0200	.2		1800	e.2
	1700	.7	25	0700	.6		1000	.0	16	1000	.0		1900	3.5	14	a	a	14	0400	.5	14	0700	1.3		1100	1.1	15	0100	-.1		0800	.8	18	0600	1.2
13	0400	1.8		1700	-.1		2300	1.3		2400	1.4	15	1200	1.0	15	0200	e1.6		1200	.1	15	0100	.1	16	0200	-.4		1300	.9		1800	1.0		2000	.4
	1700	.7	26	1200	1.7	17	1200	.2	17	1300	.0		1900	1.1		1300	e.8		1800	.5		1100	1.4		1400	1.4		1700	.8	16	0200	.6	19	0600	1.6
14	0600	1.9		1900	1.2		2300	1.4	18	0300	1.5	16	1300	-.5		1700	1.3		2300	.4		2400	.1	17	0300	.3		2200	-.5		0800	.9		2100	.6
	1900	.9	27	0200	1.9	18	1300	.1		1300	.2	17	0300	.7		2000	1.0	15	0700	1.0	16	1100	1.4		1500	1.6	16	0100	.0		1500	.6	20	0700	1.6
15	0500	2.0		1900	.3		2100	1.3	19	0200	1.3		1400	-.2	16	0300	1.6		1200	.7		2300	.2	18	0200	.5		0200	-.5		2100	1.0		2200	.5
	1900	1.0		2200	.6	19	1200	-.5		1600	-.1		2000	.6		1200	.5		1800	.8	17	1300	1.7		1400	1.5		1000	.8	17	0300	.8	21	1100	1.5
16	0900	2.4	28	0500	-.3	20	0100	1.2	20	0400	1.0	18	0600	.3		2000	1.2		2300	.4	18	0100	.1		2400	.6		1500	.7		0700	1.0		2200	.6
	2100	1.4		0800	.3		1400	-.3		1500	.0		1500	-.4	17	0500	1.1	16	1000	1.4		1400	1.3	19	1300	1.4		1600	.9		1400	.7	22	1200	1.8
17	0400	2.0		2000	-.4	21	0500	1.6	21	0600	1.0		1800	.1		1300	.6		2300	.6	19	0300	.1	20	0300	.5	17	0300	-.1		2200	1.3		2400	.8
	2100	.5		2400	-.3		1500	.4		1600	.3	19	0600	.4		1900	1.3	17	0900	1.9		1500	1.2		1300	1.4		1500	.9	18	0700	1.5	23	1000	1.8
18	0300	.9	29	1000	-.7	22	0200	1.6	22	0600	1.1		1600	-.1	18	0200	1.1	18	0300	.3	20	0400	.2	21	0500	.6	18	0400	.0		1600	.5	24	0200	.6
	1000	.9	30	0300	.7		1500	-.5		1600	.3	20	0900	1.8		0500	1.4		1000	1.0		1300	1.1		1400	1.1		1100	.6	19	0500	1.3		1800	1.1
	1600	1.6		1000	.2		2300	.3	23	0200	1.2	21	0200	1.0	19	0300	-.4	19	0300	-.5	21	0400	.0	22	0100	.7	19	0300	.1		1600	.5	25	0300	.6
	2300	1.2		1800	1.2	23	1600	-1.3		0500	.5		1400	2.1		0900	-.1		1200	.7		1600	1.2		1300	1.6		1200	.5	20	0700	1.8		2000	1.1
19	0300	1.5		2100	.5	24	0700	.0		1900	.2	22	0400	.3		1400	-.2	20	0200	-.3	22	0500	.2		2000	.9		2000	.2		1800	.6	26	1400	.5
	1200	1.2					1700	-.7		2100	.5		1300	.9		2200	.1		1600	.8		1600	1.1	23	0200	1.4	20	1000	.7	21	0500	1.5	27	0200	e1.1
	1600	1.5				25	0600	.4	24	1000	-1.6	23	0700	-.3	20	0100	.0	21	0400	-.2	23	0600	.1		0400	1.1		1800	.3		1900	.2		1300	.4
	2200	1.2					1700	.0	25	0100	.1		1800	1.1		1000	.8		1600	.9		1700	.9		1100	1.3	21	0800	.8	22	0700	1.4	28	0300	e1.5
20	0500	1.6				26	0100	.7		0500	-.5	24	0700	.3	21	0300	-.5	22	0400	-.3	24	0600	.1		1900	.7		1600	.0		2100	.0		1600	.5
	1100	1.1					0700	.6		2000	.7		1700	1.0		1500	.4		1700	.8		1500	.9	24	0300	1.2	22	0400	.9	23	0900	1.2	29	0300	1.4
	1800	1.6					1300	.9	26	0700	.0	25	0800	-.1	22	0400	-.4	23	0600	-.1	25	0700	.1		1200	1.3		1800	.2		2100	-.2		1600	.3
	2200	1.3					2400	1.0		2300	1.3		1900	1.0		1800	.7		1800	.8		1500	.7		2000	.7	23	0400	1.0	24	1100	1.1	30	0500	1.4
21	0300	1.5				27	0700	.7	27	0900	.5	26	0900	.0	23	0300	.2	24	0700	-.4		2200	.4	25	0700	1.7		2000	-.3		2300	-.2		1700	.5
	1200	.7					1500	1.4		1900	1.3		2100	1.1		1500	2.3		1700	.6	26	1400	.7		2100	.7	24	0700	.9	25	1300	1.4			
	2000	1.4				28	1000	-.5	28	1000	.2	27	0900	.3	24	0400	.8	25	0700	.4		2200	.2	26	0700	1.8		2100	-.4	26	0100	.1			
22	1200	.3					1800	.3		2200	1.2		1800	1.4		0600	1.0		1700	1.4	27	0400	.7		2100	.6	25	0900	.8		1400	1.5			
	2300	1.4				29	1000	-.7	29	1000	.2	28	1000	-.8	25	0500	-1.1	26	0700	1.0		0900	.5	27	0900	1.8		2200	-.5		2300	.2			
23	1300	.2				30	0200	.8		2200	1.4		2200	.7		1700	-.2		1600	1.8		1300	.6		2300	.2	26	1000	.9	27	0600	1.3			
24	0100	1.6					1000	.1	30	1400	-.3				26	0500	-1.2	27	0700	1.2		2200	.0	28	1100	1.6		2400	-.4		1700	1.6			
	1600	-.5					2100	1.0		2400	1.0					2200	.5		1700	1.7	28	0800	.7		2400	.0	27	1000	1.0	28	0200	.7			
25	0200	1.0				31	1200	-2.3	31	1200	.2				27	0900	-.4	28	1000	.0		2300	-.2	29	1200	1.7		2400	-.4		1000	1.7			
	1600	-.1								2300	1.2					1900	.5		1500	.5	29	1000	.8	30	0100	.1	28	1400	.9		1400	1.5			
26	0400	1.2													28	0800	-.4		2400	.2		2300	-.1		1300	1.6		2400	-.2		1900	2.1			
	1700	-.1														1800	.5	29	1500	.7	30	1200	1.3				29	1000	.7	29	0200	1.1			
27	0500	1.2													29	0900	-.3		2300	.3	31	0100	.1					1600	.8		0800	1.4			
	1800	-.1														1900	.5	30	1500	1.2		1300	1.6				30	0200	-.3		1300	.9			
28	0200	.8													30	1000	-.5		2100	.2								1500	.8		1800	1.8			
	1900	-.1														1800	.2										31	0300	-.2	30	0400	1.3			
29	0500	.9													31	0400	.4											1800	.7		0600	1.6			
	2000	-.2														1100	-.3													31	1500	1.1			
30	0600	.7																													0100	1.7			
	1800	.2																													1600	.9			
31	0500	.9																													2400	1.6			
	1300	.9																																	
	2000	.5																																	

Table 10B.--L2, Matagorda Bay near Palacios, Tex.

LOCATION.-- Lat 28°38'32" long 96°19'24", in harbor near Well Point at Texas Parks and Wildlife office, 7.6 miles southwest of Palacios, Calhoun Co.

RECORDS AVAILABLE.-- August 1968 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1969 water year: maximum elevation 3.7 feet, Feb. 14; minimum -1.3 feet, Dec. 31.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																														1	0200	1.2	1	0800	1.8
																															1800	.4		2200	.6
																														2	0700	1.3	2	0900	1.8
																															1900	.3		2200	.7
																														3	0600	1.4	3	1200	2.2
																															2000	.2		2300	1.1
																														4	0800	1.4	4	1100	2.1
																															2100	.2		2400	1.0
																														5	1000	1.7	5	0800	1.6
																															2200	.4		2400	.5
																														6	1100	1.7	6	1700	1.8
																															2400	.4	7	0200	1.1
																														7	1200	1.6		1800	1.8
																														8	0100	.4	8	0200	1.4
																															e1000	e1.6		0700	1.6
																														9	e0100	e.6		1200	1.4
																															e1100	e1.5		1800	1.6
																														10	e0100	e.7	9	0200	1.2
																															e1600	e1.4		1400	.8
																														11	e0200	e.8		2100	1.6
																															e1000	e1.2	10	1400	.5
																															e1400	e1.0	11	0300	1.3
																															e2000	e1.2		1400	.7
																														12	e0200	e.8	12	0400	1.6
																															e0800	e1.0		1500	.8
																															e1600	e.8	13	0600	2.0
																															e2200	e1.2		1700	1.0
																														13	e0500	e1.3	14	0500	1.9
																															e1400	e.9		1800	1.2
																														14	e0600	e1.6	15	0600	e2.6
																															e1800	e.9		2000	1.1
																														15	e0400	e1.6	16	0600	2.0
																															e1800	e.9		2300	1.0
																														16	e0600	e1.8	17	0800	2.0
																															e1600	e.8		2400	.3
																														17	0500	e1.5	18	1000	1.5
																															e1800	e.8		2300	.5
																														18	a	a	19	1200	1.6
																														19	a	a		2200	.8
																														20	a	a	20	1000	1.6
																														21	a	a		2300	.8
																														22	a	a	21	0800	1.6
																														23	a	a		1600	1.7
																														24	a	a		2200	1.2
																														25	a	a	22	0600	1.8
																														26	a	a		1800	2.3
																														27	1300	.7	23	0100	1.8
																														28	0300	1.5		0500	2.0
																															1600	.9		1300	1.6
																														29	0600	1.8		2000	2.2
																															1700	.9	24	0600	2.0
																														30	0700	1.9		1400	1.4
																															1900	.9		2100	2.0
																														31	0700	2.1	25	1500	.7
																															2100	.7		2400	1.5
																																	26	1500	.4
																																	27	0500	1.6
																																		1600	.5
																																	28	0400	1.9
																																		1800	.7
																																	29	0400	1.9
																																		1900	.7
																																	30	0500	1.6
																																		2100	.4

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0800	1.4	1	a	a	1	1000	0.6	1	1000	-1.0	1	1200	0.3	1	0900	-0.1	1	a	a	1	1000	1.8	1	1100	2.0	1	0200	0.3	1	a	a	1	1700	0.7
	2000	.5	2	a	a		1900	1.4		2400	.8	2	0100	1.5	2	0100	1.2	2	a	a		2300	.3	2	0200	.2		1600	.8	2	a	a	2	0400	1.5
2	1000	1.6	3	a	a	2	1200	.0	2	1100	.0		1200	.4		1200	.6	3	a	a	2	0800	1.8		1400	1.4	2	0300	.5	3	a	a		1800	.4
	2200	.8	4	a	a		2200	1.4	3	0100	1.5		2300	1.2	3	0300	1.7	4	a	a	3	0100	.5	3	0400	.0		1800	1.7	4	a	a	3	0800	1.5
3	0700	1.5	5	a	a	3	1300	-1.1		1200	.2	3	1100	.4		1500	.2	5	a	a		1000	1.8		1800	1.8	3	0400	.5	5	2000	0.3		1900	.6
	1500	1.4	6	a	a		2400	.2		2100	.7	4	0400	.8	4	0400	.5	6	a	a	4	0100	.6	4	0500	.6		1800	1.5	6	0800	1.6	4	0600	1.5
	2400	.5	7	a	a	4	1200	-.7	4	1200	-.8		1300	.2		1100	.0	7	a	a		1300	2.3		1600	1.7	4	0400	.7		2000	.3		2000	.5
4	1700	1.3	8	a	a	5	0200	.6	5	0300	.7	5	0600	1.3	5	0600	1.6	8	a	a	5	0300	.9	5	e0200	e.3		1300	1.2	7	0700	1.5	5	0800	1.7
	2300	1.0	9	a	a		1200	-.5		1400	-.2		1500	.7		1400	1.2	9	a	a		1300	2.4		1700	1.4	5	0500	.8		2200	.3		2100	.6
5	1800	2.1	10	a	a	6	0200	.9	6	0100	1.1		2100	1.3		1900	1.6	10	a	a	6	0300	1.1	6	e0600	e.5		1100	1.1	8	0800	1.2	6	0800	1.6
	2200	1.9	11	a	a		1400	-.2		1400	-.1	6	1500	.6	6	0400	.9	11	a	a		1200	2.6		1800	1.4		1800	.8		2200	.3		2200	.7
6	0500	2.0	12	a	a	7	0100	.8	7	0300	.9		1900	.7		0800	1.5	12	a	a	7	a	a	7	a	a	6	0500	1.4	9	1000	1.2	7	0900	1.6
	1200	1.4	13	a	a		1400	-.8		1500	-.2	7	0400	.3		1200	1.1	13	a	a	8	a	a	8	a	a		1800	.7		2300	.3		2300	.6
	1800	1.7	14	a	a	8	0300	.3	8	0100	.8		1100	.6		1800	1.3	14	a	a	9	a	a	9	a	a	7	0400	1.4	10	1100	1.1	8	0800	1.4
7	1200	.9	15	a	a		1400	-.3		1400	.1		1600	.4	7	0300	.7	15	a	a	10	a	a	10	e0300	e1.6		2000	.5		2400	.2		2400	.4
	2400	1.8	16	a	a	9	0500	1.1		2400	.8		2200	.5		1800	1.6	16	a	a	11	a	a		e2000	e.6	8	0500	1.4	11	1200	.9	9	1500	1.2
8	0900	1.6	17	a	a		1500	.2	9	1500	-1.1	8	0400	.2	8	0200	1.0	17	1100	2.1	12	2200	.5	11	e0900	e1.6		2000	.3		2400	.0		2300	.4
9	a	a	18	a	a	10	0300	1.2		2400	-.4		0800	.6		0700	1.6	18	0200	.5	13	1300	1.6		e2100	e.8	9	0800	1.4	12	1400	1.0	10	1500	1.3
10	a	a	19	2200	0.8		1600	.2	10	0500	-.5	9	0700	-.6	9	0500	-.7		1000	1.2		2300	.6	12	1100	1.8	10	a	a		2400	.2		2200	.7
11	a	a	20	1200	-.4	11	0300	1.1		2200	1.0		2000	.8		1700	.7	19	0200	-.4	14	0800	1.5		e2400	e.0	11	a	a	13	1500	1.1	11	0700	1.3
12	a	a		2400	.9		1400	.6	11	0800	.3	10	0700	.1	10	0500	-.6		1200	.9		2400	.4	13	1200	1.6	12	a	a	14	0200	.4		1200	1.2
13	a	a	21	1300	-.4	12	0300	1.6		2000	1.0		1900	1.3		1800	.8	20	0300	.0	15	1100	1.6		e2400	e.5	13	a	a		1600	1.1		1500	1.3
14	a	a	22	0200	1.0		1700	.9	12	0700	.2	11	0800	.1	11	0600	-.4		1600	1.2	16	0100	.4	14	1200	1.6	14	a	a	15	0200	.4		2400	.6
15	a	a		1400	-.3		2200	1.2		2200	1.2		2000	1.3	12	a	a	21	0400	.0		1000	1.5	15	a	a	15	a	a		1800	1.2	12	1800	1.3
16	a	a	23	0400	1.2	13	0800	.6	13	0800	.3	12	1000	-.1	13	a	a		1500	1.2		2300	.4	16	a	a	16	a	a	16	0100	.7	13	0100	.8
17	a	a		1500	-.1		2400	.4		2000	1.2		2300	1.2	14	a	a	22	0400	.0	17	1200	1.8	17	1600	1.6	17	a	a		0800	1.0		0700	.9
18	a	a	24	0300	1.2	14	0800	-.2	14	0900	.1	13	0900	.1	15	a	a		1600	1.0	18	0100	.4	18	0200	.7	18	a	a		1500	.7		1400	.7
19	a	a		1600	-.3		2400	.3		2200	1.4		2000	2.8	16	a	a	23	0600	.0		1200	1.4		1300	1.5	19	a	a		2100	1.2	14	0700	1.6
20	a	a	25	0600	.9	15	0900	-.4	15	1000	.2		2300	2.4	17	a	a		1700	1.0	19	0200	.3	19	0300	.6	20	a	a	17	0300	.9		1400	1.0
21	a	a		1600	.1		2400	.9		2300	1.6	14	0400	3.6	18	a	a	24	0700	-.1		1400	1.4		1400	1.4	21	a	a		0800	1.1	15	0300	1.6
22	a	a	26	0800	1.9	16	0900	.2	16	1100	.3		0800	3.3	19	a	a		1800	.9	20	0300	.5	20	0300	.6	22	a	a		1400	.8		1600	.8
23	a	a		1700	1.4		2200	1.5		2200	1.6		1900	3.7	20	a	a	25	0600	.7		1300	1.4		1400	1.4	23	a	a	18	0700	1.5	16	0400	1.7
24	a	a	27	0100	2.0	17	1000	.4	17	1200	.1	15	1200	1.1	21	a	a		1600	1.7	21	0300	.2	21	0500	.6	24	a	a		1600	.7		1600	.8
25	a	a		1800	.4		2100	1.6	18	0200	1.7		1800	1.3	22	a	a	26	0600	1.3		1500	1.4		1300	1.2	25	a	a	19	0500	1.4	17	0200	1.7
26	a	a		2400	.5	18	1100	.3		1300	.4	16	1200	-.3	23	a	a		1500	2.0	22	0500	.4	22	0500	.8	26	a	a		1600	.8		1700	.4
27	a	a	28	0500	-.3		2100	1.5		2400	1.5	17	0200	1.0	24	a	a	27	0800	1.5		1500	1.2		1300	1.4	27	a	a	20	0600	2.0	18	0600	1.4
28	a	a		0700	.4	19	1200	-.3	19	1400	.1		1300	.2	25	a	a		1500	2.0	23	0500	.3		2000	1.0	28	a	a		1900	.9		1800	.6
29	a	a		1900	-.2		2400	1.3	20	0300	1.2		2100	.8	26	a	a	28	1000	.4		1600	1.1	23	1300	1.2	29	a	a	21	0500	1.7	19	0600	1.8
30	a	a	29	0300	.0	20	1300	.0		1500	.2	18	1400	-.2	27	a	a		1700	.8	24	0500	.3		1800	.8	30	a	a		2000	.4		1900	.8
31	a	a		0900	-.3	21	0300	1.8	21	0500	1.2	19	0700	.7	28	a	a		2300	.4		1400	1.2	24	1200	1.3	31	a	a	22	0800	1.6	20	0600	1.8
			30	0300	.9		1400	.6		1500	.4		1300	.2	29	a	a	29	0400	.8	25	0500	.4		2100	.8										
				1000	.6	22	0100	1.9	22	0400	1.2	20	0800	2.0	30	a	a		0700	.6		1500	.8	25	0900	1.7				23	0800	1.4	21	1100	1.8
				1700	1.5		1500	-.1		1500	.4	21	0100	1.3	31	a	a		1400	1.0	26	0600	.6		2100	.8					2000	.0		2200	.9
				1900	.9		2200	.5		2100	1.2		1200	2.2					2300	.6		1300	.9	26	1100	2.0				24	1100	1.2	22	1100	2.0
				2400	1.4	23	1500	-1.0	23	1600	.4	22	0500	.5				30	1000	1.4		2100	.5		2200	.8					2300	.1		2300	1.0
						24	0600	.2		2000	.5		1300	1.0					2000	.9	27	0500	.9	27	0900	1.9				25	1200	1.4	23	0900	2.2
							1500	-.5	24	0900	-.9	23	0600	-.1								2100	.2		2300	.4				26	0100	.4		2400	.7
						25	0600	.5		2300	.2		1900	1.3							28	0700	.9	28	1100	1.8					1400	1.6	24	0800	1.2
							1600	.2	25	0600	-.2	24	0700	.5								2200	.0		2400	.5				27	0100	.5		1700	1.4
						26	0100	.8		1800	1.0		1800	1.2							29	1000	1.0	29	1200	1.9					1700	1.8	25	0100	.7
							2200	1.2	26	0600	.2	25	0600	.2								2100	.1	30	0100	.5				28	0200	.9		0700	1.0
						27	0600	.9		2100	1.4		1900	1.2							30	1100	1.5		1300	1.8					1900	2.4		1200	.9
							1300	1.5	27	0800	.6	26	0700	.2								2400	.3							29	0100	1.4		1800	1.3
						28	0800	-.3		1800	1.5		2100	1.4							31	1200	1.7								0800	1.7	26	0200	.9
							1800	.4	28	0900	.4	27	0900	.5								2400	.6								1200	1.3		0600	1.0
						29	0900	-.6		2100	1.4		1900	1.5																	1700	2.1		1200	.7
							2400	.9	29	1100	.4	28	0900	-.3																30	0400	1.4		1800	1.3
						30	0900	.2		2000	1.6		2300	.9																	0700	1.8		2300	1.4
							2000	1.2	30	1200	.4																				1900	1.3	27	0500	1.3
						31	1100	-1.3		2300	1.2																				2400	2.0		1200	.6
							2200	-.2	31	1100	.4																				31	1600	1.1		2400	1.7
										2300	1.4																				2400	1.8	28	1500	.6
																																	29	0200	1.6
																																		1500	.5
																																	30	0500	1.6
																																		1600	.7

Table 10C.--L5, Carancahua Bay near Point Comfort, Tex.

LOCATION.-- Lat 28°43'56" long 96°25'44", on north side of bridge on State Highway 35, about 8.5 miles northeast of Point Comfort, Jackson Co.

RECORDS AVAILABLE.-- August 1968 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1969 water year: maximum elevation 4.4 feet, Feb. 14; minimum -0.6 feet, Feb. 9 and Mar. 24.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																														1	2100	1.0	1	0900	1.8
																														2	0900	1.8		2300	.6
																															2300	1.0	2	1100	1.8
																														3	0900	1.8		2300	.9
																															2400	.9	3	1300	2.4
																														4	1000	2.0	4	0100	1.4
																															2400	.9		1300	2.4
																														5	1200	2.2	5	0500	1.0
																														6	0100	1.2		1000	1.5
																															1300	2.3	6	0300	.5
																														7	0300	1.1		1800	2.0
																															1400	2.2	7	0400	1.0
																														8	0300	1.1		1900	2.0
																															1600	2.3	8	0500	1.3
																														9	0500	1.3		0900	1.6
																															1500	2.1		1300	1.4
																														10	0600	1.3		2000	1.6
																															1800	2.0	9	1400	.8
																														11	0600	1.3		2300	1.5
																															1300	1.7	10	1700	.3
																															2200	1.8	11	0500	1.1
																														12	0600	1.3		1700	.6
																															1200	1.6	12	0500	1.6
																															1700	1.5		1700	.8
																														13	0100	1.9	13	0700	2.0
																															1100	2.0		2000	1.1
																															1900	1.5	14	0800	2.0
																														14	0500	2.2		2000	1.4
																															1400	2.0	15	0500	2.5
																															1900	1.6		2200	1.3
																														15	0900	2.6	16	1000	2.1
																															2000	1.7		2400	.9
																														16	0800	2.5	17	1200	2.2
																															2200	1.5	18	0200	.3
																														17	0800	2.3		1200	1.4
																															1300	2.0	19	0100	.6
																															1700	2.1		1900	1.8
																															2300	1.2	20	0200	1.0
																														18	1000	2.3		1200	1.8
																															2300	1.3	21	0100	1.1
																														19	1100	2.4		1700	1.9
																															2400	1.3	22	0200	1.2
																														20	1200	2.2		1900	2.5
																														21	0100	1.3	23	1400	1.8
																															1300	2.0		2200	2.3
																														22	0200	1.0	24	1500	1.4
																															1600	2.0		2400	2.0
																														23	0300	1.1	25	1700	.5
																															1700	2.0	26	0400	1.4
																														24	0300	1.1		1800	.3
																															1400	2.0	27	0600	1.5
																														25	0400	1.1		1800	.6
																															1300	1.9	28	0700	1.8
																															1600	1.6		2000	.8
																															1900	1.8	29	0700	1.8
																														26	0400	1.2		2200	.7
																															1100	1.6	30	0800	1.6
																															1500	1.4		2400	.4
																															2200	1.9			
																														27	0600	1.4			
																															0800	1.6			
																															1700	1.2			
																														28	0600	2.0			
																															1600	1.6			
																														29	0700	1.8			
																															2000	1.0			
																														30	0800	1.9			
																															2000	1.1			
																														31	0700	2.1			
																															2200	.8			

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	1100	1.4	1	0600	1.1	1	0200	1.1	1	a	a	1	0100	1.4	1	0100	0.8	1	0800	1.2	1	0300	1.1	1	0400	1.2	1	0600	0.3	1	0700	0.3	1	0200	1.8
	2300	.6		1100	.9		1200	.6	2	0600	0.6		1200	.5		1400	.2		1300	.9		1200	2.0		1400	2.2		1800	1.9		2300	1.1		2100	.8
2	1300	1.8		1800	1.3		2100	1.4		1400	.1	2	0400	1.5	2	0300	1.3		1900	1.4		2400	1.1	2	0800	.2	2	0700	.6	2	0700	.5	2	0600	1.5
3	0100	.8	2	0900	.9	2	1300	.1	3	0300	1.4		1500	.4		0900	.9		2400	1.2	2	0100	1.4		1700	1.3		1900	1.8		1400	.9		2100	.6
	1300	1.6		2100	1.5		2300	1.3	4	a	a		2300	1.1		1100	1.2	2	0500	1.3		0400	1.1	3	0600	.2	3	0800	.5		2400	1.0	3	0900	1.4
4	0400	.4	3	1600	-.4	3	a	a	5	0700	.5	3	1700	-.4		1500	.9		1600	.8		1300	2.0		1800	1.8		1900	1.6	3	1000	.6		2300	.6
	1900	1.3		2400	.3	4	0500	.1		1600	.0	4	0700	.7	3	0200	1.6		2000	1.0	3	0500	.9	4	0700	.5	4	0800	.8		2000	.6	4	0900	1.4
5	0100	1.0	4	1300	-.2		1500	-.4	6	0400	1.0		1500	.3		1700	-.2	3	0400	.6		1200	1.8		1800	1.6		1600	1.4	4	0600	1.0		2200	.7
	2000	2.3	5	0400	1.0	5	0400	.5		1800	.1	5	0600	1.3	4	0200	.4		1200	1.2	4	0400	1.0	5	0800	.4		2400	1.3		2100	.6	5	1000	1.7
6	1200	1.4		1400	.4		1400	-.2	7	0500	.9		1700	.8		1400	.1		1900	1.3		1700	2.6		1900	1.3	5	0800	.9	5	0900	1.8		2300	.8
	2100	1.7	6	0100	1.8	6	0400	.8		1900	.0	6	0100	1.4	5	0900	1.7	4	0400	.7	5	0500	1.4	6	0800	.4		1400	1.3		2300	.5	6	1100	1.6
7	1400	1.0		1600	.3		1600	-.1	8	0700	.8		1700	.5		1600	1.4		1600	1.7		1700	2.6		1900	1.5		2200	1.1	6	0900	1.4	7	0200	.9
	2400	2.0	7	0100	.8	7	0100	.6		1800	.5		2200	.8		1900	1.7	5	0600	.5	6	0600	1.5	7	0900	.8	6	0700	1.6		2400	.6		1200	1.6
8	0800	1.8		1600	-.2		a	a	9	0100	.9	7	0600	.3	6	0600	.6		1500	1.3		1700	3.0		1700	1.4		1400	1.5	7	1100	1.4	8	0300	.6
	1000	2.2	8	0400	1.0	8	0800	.0	10	a	a		1300	.8		1100	1.4	6	0700	-.1	7	0700	1.4		2200	1.1		2200	1.1	8	0100	.6		1000	1.3
	1500	1.4		a	a		1500	-.2	11	0100	1.0		1700	.5		1600	1.0		1900	1.2		1600	2.3	8	0400	1.4	7	0600	1.6		1200	1.4	9	0300	.4
9	0300	2.1	9	0900	.6	9	0600	1.1		1000	.3		2200	.7		2100	1.4	7	0700	.2	8	0700	.9		0900	1.1		0900	1.5	9	0200	.5		1600	1.3
	1600	1.2		1600	.3		1800	.3		2200	1.0	8	1800	-.5	7	0600	.8		2000	1.6		1200	1.4		1500	1.4		1200	1.6		1400	1.4	10	0400	.5
	2300	1.7	10	0600	2.0	10	0500	1.2	12	1000	.3		2100	-.2		1900	1.8	8	0800	.6		1400	1.1		2400	.9		2300	.8	10	0300	.4		1800	1.5
10	1600	.7		2300	.1		1900	.3		2200	1.2	9	0900	-.6	8	0400	1.1		1900	1.7		1800	1.4	9	0700	1.3	8	1000	1.5		1600	1.3	11	0200	.8
11	0500	1.7	11	0500	.6	11	0600	1.1	13	1000	.5		2400	.8		0900	1.4	9	0900	.6	9	1000	-.1		2300	.5		2300	.6	11	0400	.3		1200	1.4
	1600	1.0		a	a		1800	.7		2200	1.3	10	0900	.2	9	1000	-.5		2000	1.8		2300	1.1	10	1100	1.3	9	1200	1.5		1700	1.3		2000	1.2
12	0500	1.9	12	1100	-.1	12	0600	1.6	14	1100	.4		2100	1.4		2100	.6	10	1100	.5	10	0900	.4		2300	.7	10	0100	.6	12	0400	.3	12	0500	.6
	1900	1.0		2000	-.4		2200	.9		2400	1.5	11	1100	.2	10	1000	-.3		2100	1.5		1900	1.2	11	1200	1.8		1200	1.4		1700	1.3		2100	1.3
13	0700	2.0	13	1200	1.1	13	0100	1.1	15	1300	.4		2200	1.3		2200	.6	11	1300	.5	11	0300	1.4	12	0200	1.0	11	0200	.8	13	0500	.4	13	0500	.8
	2000	1.1		2100	.5	14	1200	-.4	16	0100	1.8	12	1200	.1	11	0900	-.2	12	0700	2.9		1100	.9		1200	1.8		1400	1.1		1800	1.3		1300	.9
14	0700	2.1	14	1100	1.6	15	0200	.2		1400	.4		2400	1.2		2200	.9		0900	2.5		1700	1.4	13	0300	.8		2400	.5	14	0600	.4	14	1000	1.6
	2000	1.3		2100	.9		1200	-.2	17	0200	1.6	13	0900	.7	12	0900	.0		1200	2.8		2300	1.0		1400	1.8	12	1400	1.5		2000	1.2		1700	1.4
15	0800	2.3	15	0600	1.6	16	0300	.9		1500	.3	14	0400	4.4		2200	1.4	13		b	12	0500	1.2	14	0400	.8		2400	.7	15	0500	.4	15	0300	1.8
	2100	1.4		2300	.8		1200	.3	18	0400	1.7		1100	2.8	13	1200	.1	14	1500	.6		1600	1.0		1400	1.7	13	1400	1.8		1900	1.4		1800	1.0
16	0900	2.6	16	0500	1.2	17	0200	1.7		1700	.4		2000	3.7		2400	1.1		2000	1.0		1800	1.4	15	0500	.3	14	0400	.4	16	0900	.9	16	0600	1.8
	2200	1.6		1300	.7		1300	.7	19	0200	1.3	15	1800	.9	14	1000	.6	15	0200	.7		2400	.8		1400	.9		1500	1.8		2300	1.3		1900	1.0
17	0400	2.1		1900	1.1		2200	1.7		1700	.2		2000	1.2	15	0200	2.2		1000	1.5	13	1000	1.8	16	0400	.1	15	0500	.2	17	0600	.9	17	0500	1.6
	2400	.4		2400	.9	18	1400	.5	20	0600	1.2	16	1600	-.1		1500	1.3		1500	1.2		1300	1.4		1800	1.7		1800	1.2		1100	1.1		2100	.5
18	1700	1.8	17	0500	1.1		2300	1.2		1800	.4	17	0500	1.0	16	0100	1.6		1800	1.3		1500	1.8	17	0500	.6	16	0400	.1		1400	.9	18	0800	1.4
	2400	1.4		1300	.5	19	1500	.0	21	0700	1.2		1600	.1		1400	.6	16	0200	.9	14	0200	.8		1600	1.8		1700	1.1	18	0200	1.5		2200	.6
19	0500	1.8		1800	1.0	20	0300	1.3		1600	.6		2300	.5		2200	1.3		1100	1.7		1000	1.5	18	0500	.9	17	0500	.2		0500	1.4	19	1000	1.7
	1200	1.4	18	a	a		1600	.3	22	0500	1.3	18	1700	-.1	17	0200	1.0		1600	1.4		1200	1.4		1500	1.7		1900	1.1		0900	1.5		2300	.8
	1800	1.7	19	0200	.4	21	0600	1.8		1800	.9	19	0900	.7		0500	1.2		2200	1.5		1500	1.6	19	0600	.8	18	0600	.2		1900	.9	20	0900	1.7
	2400	1.4		a	a		1700	.7	23	0200	1.3		1400	.5		1400	.6	17	0100	1.2	15	0200	6		1500	1.7		1800	.9	19	0200	1.6		2400	.6
20	0600	1.8	20	0300	.8	22	0100	1.8		1400	.5	20	1100	2.3		2200	1.3		0900	2.0		1300	1.5	20	0700	.8	19	0600	.2		1800	1.0	21	1300	1.8
	1300	1.4		1500	-.1		2100	-.2		2400	.6		1700	1.9	18	0300	1.0	18	0500	.6	16	0200	.5		1600	1.7		1400	.7	20	0900	2.0	22	0100	1.0
	1900	1.8	21	0300	.9	23	0100	.0	24	a	a		1900	2.0		0600	1.2		0900	.8		1200	1.7	21	0900	.9		2400	.7		2000	1.0		1300	2.1
21	0100	1.6		1600	-.1		a	a	25	0200	-.2	21	0300	1.3	19	0500	-.1	19	0500	-.2	17	0300	.7		1500	1.5	20	0800	.4	21	0600	1.7	23	0200	1.0
	0500	1.7	22	0500	1.0	24	1000	.1		0900	-.4		1000	2.5		2200	.6		1800	1.1		1400	1.8	22	0700	1.2		1700	.8		2300	.6		1100	1.8
	1400	1.0		1800	.0		1900	-.3		2300	1.0	22	1200	1.0	20	0300	.3	20	0600	.2	18	0500	.5		1500	1.9		2300	.7	22	0800	1.5	24	0400	.6
	2200	1.6	23	0600	1.2	25	0900	.5	26	1000	.4		1400	1.2		1200	1.0		1700	1.2		1500	1.4		2200	1.4	21	0200	.8		2200	.5		1900	1.3
22	1400	.5		1900	.2		1900	.2		2400	1.5	23	0800	.5	21	0600	-.2	21	0700	.2	19	0500	.4	23	1400	1.7		0800	.6	23	0900	1.3	25	0300	.6
23	0100	1.6	24	0600	1.2	26	1500	1.2	27	1100	.7		2000	1.4		1800	.8		1800	1.2		1600	1.6		2300	1.4		1100	.8	24	0100	.1		0900	.9
	1500	.6		1800	-.2		2400	1.3		2200	1.6	24	1000	.5	22	0600	.0	22	0800	.1	20	0600	.6	24	0600	1.7		2000	.6		1400	1.2		1300	.8
24	0300	1.9	25	0800	.9	27	0800	.9	28	1100	.7		1900	1.3		2000	1.4		1900	1.1		1600	1.6		1100	1.4	22	1100	1.0	25	0200	.3		2100	1.3
	1800	-.2		1900	.3		1400	1.5		2300	1.6	25	1000	.3	23	0200	1.2	23	0900	.1	21	0700	.3		1600	1.9		2300	.7		1400	1.5	26	1600	.8
25	0600	1.1	26	1200	2.2	28	1300	-.2	29	1200	.7		2100	1.4		0800	1.6		2000	1.1		1800	1.5		2200	1.3	23	0400	1.0	26	0300	.4		2400	1.3
	1900	.2		1800	1.7		2000	.3		2400	1.8	26	0900	.5		1000	1.1	24	1000	.1	22	0700	.5	25	1300	2.3		1200	1.0		1500	1.6	27	1600	.8
26	0600	1.4	27	0100	2.0	29	1100	-.3	30	1400	.3		2400	1.5		2000	1.9	25	0100	1.3		1700	1.4		2300	1.5		2300	1.4	27	0400	.5	28	0200	1.6
	2000	.3		1900	.2	30	0300	1.0	31	0200	1.2	27	1300	.7	24	1800	-.6		0700	1.1	23	0800	.3	26	1200	2.5	24	1100	1.1		1900	1.9		1800	.8
27	0700	1.4		2400	.5		1200	.3		1400	.4		2200	1.6	25	a	a		2000	2.2		1800	1.3	27	0200	1.3		2300	.3	28	0400	1.0	29	0300	1.5
	2100	.2	28	0500	-.3		2200	1.1				28	1500	-.3	26	2400	.6	26	0700	2.0	24	0800	.3		1000	2.1	25	1300	1.1		2000	2.5		1800	.6
28	0700	.8		1000	.1	31	a	a							27	1000	-.1		1800	2.6		1800	1.2	28	0300	.7	26	0100	.2	29	0300	1.5	30	0500	1.6
	2100	.1		2200	-.2											2000	.7	27	0400	2.0	25	0800	.4		1400	1.9		1300	1.2		0400	2.0		1900	.8
29	0800	1.0	29	0400	.0										28	0900	.1		0900	2.1		1800	1.0	29	0300	.6	27	0300	.2		0800	1.5			
	2300	.1		1200	-.3											2300	.9		1200	1.7	26	0900	.7		1500	2.0		1400	1.3		1300	1.4			
30	1400	1.0	30	0500	.8										29	1200	.2		1700	1.9		1600	1.1	30	0500	.6	28	0400	.0		1900	2.0			
	2300	.6		1200	.4											2200	.9	28	1300	.3		2300	.7		1600	1.8		1600	1.2	30	0500	1.4			
31	1200	1.3		1700	1.0										30	1200	-.1		2000	.6	27	0700	1.0				29	0500	.0		1000	1.8			
	2200	.9		2000	.2											2400	.8	29	0200	.3		1100	.8					1700	1.1		1700	1.5			
															31	1300	.2		1700	1.1		1500	1.0				30	0500	.1		2200	1.9			
																		30	0100	.6		2400	.5					1800	1.1	31	1700	1.4			
																			1200	1.7	28	0900	1.0				31	0700	.1						
																			1700	1.3	29	0200	.2					1900	1.0						
																			1900	1.8		1500	1.1												
																					30	0100	.3												
																						1400	1.6											
																					31	0300	.7											
																						1600	2.0											

Table 10D.--L6, Lavaca Bay at Six Mile Co. Park near Port Lavaca, Tex.

LOCATION.-- Lat. 28°41'38" long 96°39'45", on bulkhead at Six Mile County Park, about 5.5 miles north northwest of Port Lavaca, Calhoun Co.

RECORDS AVAILABLE.-- August 1968 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1969 water year: maximum elevation 4.9 feet, Feb. 13; minimum not determined.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																														1	0300	1.5	1	0800	2.0
																															2100	.6		2300	.7
																														2	0800	1.5	2	1000	2.2
																															2200	.6		2400	.9
																														3	0800	1.6	3	1300	e2.4
																															2300	.6	4	0100	1.4
																														4	1000	1.7		1100	e2.4
																															2400	.6	5	0300	.9
																														5	1300	2.1		1000	1.7
																														6	0100	.8	6	0200	.6
																															1300	2.1		1800	e2.2
																														7	0300	.6	7	0300	1.2
																															1300	1.9		1000	1.9
																														8	0300	.6		1400	1.8
																															1600	2.0		1900	2.2
																														9	0400	.7	8	0500	1.4
																															1700	1.9		0900	1.8
																														10	0500	.8		1500	1.6
																															1900	1.8		1900	1.9
																														11	0500	.8	9	0500	1.2
																															1200	1.3		0900	1.4
																															1400	e1.1		1400	1.0
																															2100	1.5		2400	1.6
																														12	0500	.8	10	1600	.6
																															1200	e1.2	11	0800	1.5
																															1700	e1.1		1600	.7
																															2400	1.4	12	0100	1.8
																														13	0500	e1.2		0700	1.8
																															1100	e1.5		1700	1.0
																															1700	e1.2	13	0800	2.3
																														14	0400	e1.7		2000	1.4
																															1100	e1.7	14	0800	2.4
																															1800	1.3		2000	1.6
																														15	1100	e2.1	15	0600	2.6
																															2100	1.4		2300	1.3
																														16	0900	2.1	16	0900	2.2
																															2000	1.2		2300	1.0
																														17	0800	1.9	17	0400	2.0
																															2200	.8		1100	2.1
																														18	1000	1.9	18	0200	.5
																															2300	.8		1200	1.7
																														19	1100	2.1		2400	.8
																															2400	1.0	19	1400	2.0
																														20	1200	2.0	20	0100	1.2
																														21	0200	.8		1200	2.1
																															1300	1.7	21	0200	1.4
																														22	0200	.5		1800	2.3
																															1500	1.8	22	0200	1.6
																														23	0300	.6		2000	2.9
																															1200	1.7	23	0400	2.3
																															1800	1.8		1400	2.2
																														24	0400	.8		2100	2.6
																															1700	1.7	24	1400	1.8
																														25	0300	.7		2300	2.4
																															1800	1.7	25	a	a
																														26	0400	.8	26	0300	e1.8
																															1000	1.4		a	a
																															1400	1.2	27	0400	e1.9
																															2000	1.7		a	a
																														27	0500	1.0	28	0700	e2.1
																															0900	1.4		a	a
																															1600	e.9	29	0800	e2.1
																															2300	1.8		2300	e1.7
																														28	0300	1.6	30	0800	2.0
																															0700	2.0			
																															1300	1.3			
																														29	0300	2.1			
																															1800	1.2			
																														30	0900	2.2			
																															1900	1.4			
																														31	0600	2.3			
																															2200	.9			

Table 10D.--L6, Lavaca Bay at Six Mile Co. Park near Port Lavaca, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0900	1.8	1	0600	1.2	1	0200	1.0	1	a	a	1	0100	1.4	1	0100	1.1	1	1200	1.0	1	0400	1.2	1	0400	0.8	1	0500	0.4	1	0400	0.4	1	0300	e2.0
	a	a		1100	.9		1300	.6	2	0500	1.1		1300	.4		1300	.4		1900	1.6		1200	2.1		1600	2.2		1800	2.4		1900	1.3		2000	.9
2	1100	2.0		1700	1.5		2100	1.5		1400	.3	2	0300	1.5	2	0300	1.5	2	0100	1.2	2	0400	1.1	2	0500	.1	2	0600	.6	2	0600	.6	2	0400	e1.6
3	0100	1.7	2	1000	.9	2	1300	e.1	3	0300	1.6		1600	.4		0800	1.3		0700	1.3		1300	2.2		1600	1.8		1900	2.1		1200	1.1		1900	.6
	1600	1.9		2000	1.6		2300	1.4	4	a	a		2300	1.2		1100	1.7		1500	1.0	3	0400	1.1	3	0600	.3	3	0600	.5		2200	1.2	3	0900	e1.6
4	0600	e1.3	3	a	a	3	a	a	5	0700	.7	3	a	a		1600	1.2		2000	1.3		1400	2.3		1800	2.4		1600	1.8	3	1400	.6		2100	.8
	1800	1.8		2300	.5	4	0300	.2		1600	e-.1	4	0700	.9		2400	1.9	3	0200	.6	4	0400	1.2	4	0600	.6	4	0700	.7	4	0500	1.2	4	0800	1.6
5	0200	1.4	4	1300	e-.1		a	a	6	0400	1.1		1500	.4	3	a	a		1200	1.5		1600	2.8		1700	1.9		1500	1.8		1900	.8		2200	.8
	1200	2.0		2400	1.1	5	0400	.6		1700	e.0		2400	1.5	4	0200	.5		1500	1.3	5	0600	1.5	5	0700	.5	5	0800	.8	5	0800	1.5	5	1000	1.9
	2000	2.2	5	1200	.5		a	a	7	0400	1.0	5	0700	1.5		1200	.3		1900	1.6		1600	2.9		1800	1.5		1400	1.6		2200	.7		2300	1.0
6	0300	2.0	6	0100	1.6	6	0400	1.0		1800	e.0		1700	1.0	5	0800	2.0	4	0400	.7	6	0700	1.8	6	0700	.6		2200	1.2	6	0900	1.6	6	1100	1.8
	0700	2.1		1600	.4		1600	e-.1	8	0500	.9	6	0100	1.4		1500	1.6		1300	1.8		1500	3.5		1900	1.8	6	0300	1.6		2400	.6	7	0100	1.0
	1200	1.4		2400	1.2	7	0200	.9		1200	.6		1800	.5		1900	1.7	5	0600	.5	7	0800	1.6	7	0900	.9		0800	1.4	7	0800	1.5		1000	1.8
	1900	2.1	7	1600	.0		a	a	9	0200	.9		2300	.8	6	0700	1.0		1400	1.5		1700	2.4		1700	1.7		1300	1.7		1700	1.4	8	0100	.7
7	1500	1.4	8	0300	1.7	8	0900	.4		a	a	7	0600	.3		1100	1.5	6	0300	.1	8	0900	1.1		2200	1.3		2200	1.2		2400	.6		0900	1.5
	2100	2.1		1800	e-.1		1600	.0	10	a	a		1400	.9		1600	1.1		1900	1.5		1800	1.8	8	0400	1.6	7	1200	1.8	8	1200	1.7	9	0200	.3
8	1000	2.2	9	1000	.8	9	0500	1.2	11	0100	1.2		1900	.6		2200	1.8	7	0600	.2	9	1000	.1		0900	1.2		2100	1.1	9	0100	.4		1500	1.5
	1600	1.5		1600	.5		1700	.4		1100	.4		2300	.8	7	0500	.9		2100	2.0		2100	1.3		1500	1.7	8	0900	1.7		1300	1.5		2400	.7
	2200	2.1	10	0500	2.0	10	0500	1.3		2400	1.2	8	a	a		1500	1.9	8	0700	.6	10	0900	.5		2400	1.1		2300	.8	10	0200	.3	10	1600	1.9
9	0600	2.1		2100	.0		1800	.2	12	1000	.4	9	2300	1.0		2000	2.0		1800	2.0		1800	1.5	9	0600	1.4	9	1000	1.6		1500	1.4		2400	1.2
	1400	1.3	11	0500	.5	11	0400	1.3		2000	1.5	10	0900	.2	8	0600	1.1	9	0900	.5		2300	1.1		2300	.5		2400	.6	11	0300	.1	11	1100	1.7
	2200	2.2		a	a		1200	.8	13	1000	.6		2100	1.6		0900	1.5		1900	2.1	11	0400	1.5	10	1000	1.4	10	1200	1.5		1500	1.2		1900	1.6
10	1600	.8	12	0700	.3	12	0500	1.7		2300	1.5	11	1100	.2	9	a	a	10	1000	.4		1000	1.0	11	0100	.7	11	0200	.6	12	0300	.1	12	0400	.8
11	0600	1.9		a	a		2100	.9	14	1200	.4		2200	1.4		2000	.9		2100	1.7		1600	1.7		1300	2.0		1400	1.7		1700	1.3		2000	1.7
	1600	1.3	13	1200	1.2	13	0200	1.2		2300	1.7	12	1200	.0	10	a	a	11	1200	.5		2300	1.0	12	0100	.8	12	0300	.4	13	0400	.2	13	0400	1.0
12	0600	2.1		2100	.5	14	1200	e-.1	15	1300	.3	13	0100	1.5		2100	1.0		1800	2.2	12	1500	1.3		1200	2.0		1400	1.6		1600	1.5		0900	1.2
	2000	1.1	14	1200	1.8		2400	e.4		2400	1.8		0600	1.0	11	0800	.0	12	0300	2.0		1600	2.1	13	0300	1.0	13	0300	.5	14	0400	.4		1400	1.0
13	0700	2.1		2100	1.0	15	1300	.0	16	1300	.4		2200	4.9		2200	1.2		0600	3.2		2400	1.0		1400	2.1		1400	1.5		1900	1.6		2200	1.7
	1900	1.4	15	0500	1.7	16	0200	1.1	17	0100	1.7	14	1300	3.1	12	1000	.0	13	1400	.9	13	1000	2.0	14	0300	.8	14	0400	.2	15	0400	.4	14	0900	1.8
14	0800	2.2		2300	1.0		1100	.3		1500	.2		2200	3.9		2200	1.6	14	0600	1.0		1400	1.3		1400	1.9		1500	1.5		1800	1.6		1200	1.4
	2100	1.7	16	0500	1.3		2400	1.8	18	0400	1.8	15	1700	.9	13	1200	.0		1500	.6		1800	1.7	15	0400	.3	15	0500	.1	16	0500	.7	15	0100	2.0
15	0900	2.4		1300	.8	17	1300	.6		1600	.4		2400	1.3		2100	1.5		2000	1.2	14	0200	1.0		1200	1.4		1800	1.4		2200	1.4		1700	1.1
	2100	1.8		1800	1.2		2400	1.8	19	0200	1.6	16	1600	.0	14	0900	.7	15	0200	.9		1500	1.8	16	0200	.3		2100	1.0	17	0600	.9	16	0300	1.8
16	0700	2.8		2400	.9	18	1400	.5		1700	.2	17	0500	1.5	15	0300	2.5		0900	1.8	15	0100	.7		1700	2.0		2200	1.5		2400	1.5		1600	1.0
	2300	1.7	17	0500	1.2		2300	1.4	20	0600	1.3		1600	.3		1100	1.6		1400	1.5		1400	1.8	17	0500	.7		2300	.7	18	2000	1.2	17	0300	1.7
17	0500	2.2		1200	.6	19	1400	.0		1800	.4		2100	.8		2300	1.8		1800	1.7	16	0200	.6		1500	2.1	16	0400	.1	19	0200	1.6		2000	.5
	2400	.6		1800	1.2	20	0300	1.5	21	0300	1.1	18	1700	.0	16	1500	.7	16	0200	1.3		1100	1.9	18	0600	.9		1700	1.5		1400	1.6	18	0800	e1.6
18	1800	1.8	18	a	a		1600	.4		0800	1.1	19	1000	1.1		2200	1.4		0900	1.9		1400	1.2		1400	2.0	17	0500	.2		1900	1.3		1800	.7
	2400	1.5		2400	.7	21	0500	1.8		1700	.3		1500	.7	17	0200	1.1		2100	1.9		1800	1.8	19	0600	.7		1400	1.4	20	0900	e2.1	19	1100	2.0
19	0600	2.1	19	1400	e-.1		1700	.8	22	0300	1.2	20	0100	2.0		0600	1.3	17	0100	1.6	17	0200	.6		1500	1.8	18	0600	.2		2200	1.3		2000	1.0
	1400	1.4	20	0100	1.0	22	0100	1.9		0900	1.2		0800	1.8		1400	.6		0900	2.1		1400	1.9	20	0600	.8		1500	1.1	21	0600	1.9	20	0800	2.1
	1900	1.9		1500	.0		a	a		1800	.9		1300	2.4		2100	1.5	18	a	a	18	0400	.5		1700	1.8	19	0600	.2		2300	.7		2300	.8
20	0100	1.5	21	0200	1.0	23	0100	.2		2400	1.1		1600	2.0	18	0400	.9		1000	.7		1400	1.5	21	0800	.8		1500	1.0	22	0900	1.7	21	1200	2.0
	0700	2.0		a	a		a	a	23	2000	.4		2100	2.3		0900	1.2	19	a	a	19	0400	.4		1600	1.6		1800	.8		2300	.5		2300	1.3
	1300	1.5	22	0400	1.2	24	0900	.5		2400	.6	21	0400	1.4	19	0600	e.0		1800	1.4		1500	1.8	22	0700	1.1		2000	.9	23	1000	1.5	22	1200	2.3
	2100	2.2		1800	.1		1900	e-.1	24	a	a		1100	2.5		1000	.3	20	0700	.3	20	0500	.6		1600	2.0	20	0500	.3	24	0100	.2	23	0100	1.2
21	1500	1.1	23	0600	1.3	25	0700	.6	25	0100	.1	22	0900	.7		1400	.2		1700	1.7		1600	1.8	23	0100	1.4		1800	1.1		1100	1.4		0900	2.3
	2200	1.8		1900	.2		1500	.6		a	a		1500	1.1		2100	.7	21	0600	.2	21	0600	.3		1400	1.8		2100	.8		2300	.4	24	0200	e.7
22	1500	.6	24	0500	1.3		2000	.3		2200	1.4	23	0800	.3	20	0400	.3		1600	1.3		1700	1.7		2400	1.5	21	0300	.9	25	1100	1.6		1000	1.3
23	0100	1.7		a	a	26	0300	1.0	26	0800	.5		2100	1.6		1200	1.1	22	0700	e.1	22	0700	.6	24	1600	2.0		0800	.6	26	0200	.4		1400	1.2
	1500	.6	25	0800	1.2		0900	.9		2300	1.5	24	1100	.6	21	a	a		1700	1.3		1700	1.6		2400	1.4		1500	1.0		1200	e1.8		1800	1.4
24	0300	2.0		1900	.4		1600	1.5	27	1000	.6		1900	1.4		1800	1.0	23	0800	.0	23	0700	.3	25	1200	2.5		2200	.5	27	0300	.6	25	0200	e.7
	1800	e-.1	26	1300	2.7		2100	1.2		2200	1.7	25	1100	.4	22	0600	.1		1900	1.4		1700	1.5		2300	1.5	22	1100	1.1		1900	2.2		0800	1.1
25	0600	1.3		2300	1.8	27	0100	1.4	28	1200	.5		2200	1.7		2000	1.9	24	0700	.1	24	0700	.4	26	1300	2.7		2300	.5	28	0400	1.2		1400	1.0
	1900	.1	27	0100	2.0		0900	1.1		2300	1.7	26	1000	.6	23	1600	.6		2100	1.8		1700	1.5	27	0100	1.2	23	0900	1.1		1900	3.0		2000	1.6
26	0600	1.5		2000	e.0		1300	1.5	29	1100	.7		2200	1.8		2200	1.8	25	0800	1.4	25	0800	.4		1100	2.3		2200	.3	29	0700	1.6	26	0400	.8
	2000	.2	28	0200	e.4		1700	.9		2400	1.9	27	1100	.6	24	1000	.2		2000	2.6		1800	1.2	28	0200	.9	24	0900	1.1		1700	2.5		0800	1.1
27	0700	1.5		a	a		2000	1.1	30	1400	.3		2100	1.7		1200	.5	26	0400	1.9	26	a	a		1300	2.1		2300	.2	30	0500	1.7		1400	.7
	2100	.2		1300	.2	28	1300	e.0	31	0200	1.5	28	1300	.0	25	a	a		1700	3.0		1600	1.3	29	0300	.6	25	1100	1.2		1200	e2.0		2200	1.8
28	0700	1.1		2300	e-.1		2000	.5		1500	.3				26	2200	.8	27	1300	1.9	27	0100	e.8		1400	2.3		2400	e.0		1700	e1.8	27	1400	.8
	2200	.1	29	0500	.3	29	a	a							27	a	a		1700	2.1		0800	1.1	30	0500	.7	26	1300	1.4		2200	2.3		2400	1.9
29	0800	1.1		1100	.2	30	0200	1.1								2000	.8	28	1300	.6		1200	.9		1400	2.1	27	0100	e.0	31	1700	1.6	28	1600	.7
	2300	.1	30	0500	1.1		1200	.2							28	1000	e.0		2100	.8		1500	1.1					1400	1.5				29	0200	1.6
30	1500	1.1		1100	.6		2300	1.3								2000	1.1	29	0200	.5		2400	e.5				28	0200	e.0					1600	.5
	2300	.6		1600	1.4	31	a	a							29	1000	.1		0800	1.1	28	0900	1.0					1500	1.4				30	0400	1.7
31	1500	1.4		2000	.4											2100	1.1		1000	.9		1500	1.0				29	0400	e-.1					1700	.7
	2200	.9													30	1200	.0		1700	1.5	29	0100	e.1					1500	1.2						
																2300	1.2	30	0100	.8		1700	1.2				30	0400	e-.1						
															31	1000	.4		1200	2.0	30	0100	e.2					1700	1.2						
																2300	1.3		1700	1.6		1300	1.8				31	0500	e.0						
																			2000	2.4	31	0300	.5					1600	1.2						
																						1500	2.1											

Table 10E.--L7, Lavaca Bay near Point Comfort, Tex.

LOCATION.-- Lat 28°39'12" long 96°35'40", on north side of bridge on State Highway 35, about 2.8 miles southwest of Point Comfort, Calhoun Co.

RECORDS AVAILABLE.-- October 1963 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1968 water year: maximum elevation 2.6 feet, Oct. 30, Apr. 3, and Sept 22; minimum -1.1 feet, Feb. 29.
1969 water year: maximum elevation 3.1 feet, May 6; minimum -1.2 feet, Mar. 25.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records since August 1967 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1966 to September 1967.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																														1	1000	1.6	1	1200	1.4
																															2400	.8	2	0100	.5
																														2	1200	1.7		1200	1.6
																														3	0300	.7	3	0300	.6
																															1400	1.6		1700	2.1
																														4	0200	.6	4	0300	.9
																															1400	1.6		1500	2.0
																														5	0300	.4	5	0200	1.1
																															1600	1.7		1200	2.0
																														6	0400	.5	6	0400	1.1
																															1600	1.7		1000	1.5
																														7	0500	.6		1700	1.2
																															1800	1.6		2300	1.7
																														8	0500	.6	7	0500	1.0
																															1500	1.4		0900	1.0
																															2000	1.4		1600	.6
																														9	0600	.7	8	0100	1.2
																															1400	1.1		1800	.1
																															1900	1.0	9	0500	1.2
																															2300	1.1		1900	.1
																														10	0700	.7	10	0600	1.3
																															1200	.9		2000	.3
																															1800	.8	11	0800	1.5
																														11	0200	1.2		2200	.4
																															0600	.8	12	0800	1.4
																															0900	1.1		2200	.5
																															1900	.6	13	1200	1.8
																														12	0700	1.5		2300	.8
																															2000	.6	14	1300	2.0
																														13	0800	1.6		2400	1.2
																															2000	.9	15	1400	2.3
																														14	0900	1.6	16	0200	1.5
																															2300	.8		1200	2.2
																														15	1200	1.9		1600	2.2
																															2400	1.0	17	0100	1.5
																														16	1000	1.8		1000	2.0
																														17	0200	.5		1400	2.0
																															1400	1.8		1900	2.4
																														18	0200	.6	18	0300	1.5
																															1000	1.4		1900	2.7
																															1500	1.4	19	0200	2.0
																														19	0200	.6		0700	2.6
																															1400	1.6		2000	3.5
																														20	0300	.6	20	0300	3.4
																															1800	1.8		2100	6.8
																														21	0400	.9	21	0600	5.1
																															1800	1.6		0800	5.4
																														22	0400	.8		1900	4.3
																															1400	1.6	22	2100	2.4
																															2100	1.7	23	0500	2.5
																														23	0400	.9		1900	1.8
																															1100	1.6	24	0400	2.3
																															1500	1.4		1900	1.5
																															1900	1.6	25	0500	2.2
																														24	1700	.8		1900	1.5
																														25	0100	1.4	26	0300	2.4
																															0600	1.2		2000	1.3
																															0900	1.5	27	0500	2.3
																															1700	1.0		2400	.1
																														26	0600	1.6	28	1100	1.1
																															1700	.9		2200	.3
																														27	0600	1.6	29	0900	1.5
																															2000	.8		2300	.7
																														28	0700	1.6	30	0900	1.8
																															2100	.5		1500	1.6
																														29	0700	1.3		2300	.7
																															2200	.2			
																														30	0800	1.2			
																															2300	.1			
																														31	1100	1.2			
																															2400	.3			

Table 10E.--L7, Lavaca Bay near Point Comfort, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October				November				December				January				February				March				April				May				June				July				August				September			
Day	Time	Stage		Day	Time	Stage		Day	Time	Stage		Day	Time	Stage		Day	Time	Stage		Day	Time	Stage		Day	Time	Stage		Day	Time	Stage		Day	Time	Stage		Day	Time	Stage		Day	Time	Stage		Day	Time	Stage	
1	0900	1.7		1	1400	-0.2		1	1400	0.4		1	a	a		1	0100	1.6		1	1000	-.2		1	0500	.6		1	0300	.5		1	0300	1.0						1	a	a		1	a	a	
	1500	1.6		2	0400	1.2		2	0300	2.1		2	a	a			0600	1.6			1600	-.5			1500	1.4			1500	1.8			1400	2.2						2	a	a		2	a	a	
	2400	.9			1300	.4			1800	-.1		3	a	a			1700	.8			2400	.0		2	0400	.4		2	0500	.6		2	0200	.6						3	a	a		3	a	a	
2	1800	2.3		3	0200	1.9		3	0300	.9		4	a	a			2100	1.2		2	a	a			1800	2.1			1900	1.3		3	a	a						4	a	a		4	a	a	
3	0200	1.5			1700	-.4			1700	-.3		5	a	a		2	1500	-.2		3	1500	-.5			2400	1.7		3	0800	.8		4	a	a						5	a	a		5	a	a	
	0700	1.9		4	0400	.8		4	0800	1.4		6	a	a		3	0100	.7			2100	-.2		3	0400	2.1			1800	1.5		5	a	a						6	a	a					
	1300	1.6			1500	.0			1800	.4		7	a	a			0400	.6		4	0600	-.5			0600	1.6		4	0700	.5		6	a	a						7	a	a					
	1900	2.2		5	0600	1.8		5	0600	1.6		8	a	a			2200	1.6			a	a			1800	2.6			1800	1.2		7	a	a						8	a	a					
4	0200	1.8			1600	.8			1800	.4		9	a	a		4	0600	1.0		5	0500	-.1		4	0600	1.1		5	0700	.4		8	a	a						9	1700	1.8		9	a	a	
	0600	2.0		6	0500	1.8		6	0600	1.8		10	a	a			1500	1.5		6	a	a		5	0700	-.1			1500	1.3		9	a	a						10	0500	.8		10	a	a	
	1300	1.5			1900	.6			2000	.6		11	a	a			2100	1.5		7	a	a			1900	1.2		6	0100	1.6		10	a	a							1300	1.5		11	a	a	
	2100	2.3		7	0500	1.6		7	0600	1.5		12	a	a		5	0700	.7		8	a	a		6	0700	.1			0600	1.5		11	a	a							1900	1.6		12	a	a	
5	1500	1.0			2000	.6			2000	.5		13	a	a			1600	1.4		9	a	a			2000	1.6			2000	2.4		12	a	a						11	0500	.8		13	a	a	
6	0100	2.0		8	0800	1.7		8	0800	1.4		14	a	a		6	a	a		10	a	a		7	0900	.7		7	0700	1.6		13	a	a							1200	1.3		14	a	a	
	1500	.9			2000	.7			2100	.9		15	a	a		7	a	a		11	a	a			2000	1.7			1800	2.0		14	a	a							1600	1.1		15	a	a	
7	0400	2.2		9	0900	1.7		9	0600	1.6		16	1600	-.3		8	a	a		12	a	a		8	0900	.6		8	0100	1.8		15	a	a							2000	1.4		16	a	a	
	1700	.9			2200	1.0			1200	1.4		17	0600	.8		9	a	a		13	a	a			2000	1.6			0600	1.6		16	a	a						12	0600	.8		17	1200	2.2	
8	0300	1.8		10	0600	1.8			1500	1.7			1600	-.1		10	a	a		14	a	a		9	1100	.7			1700	1.7		17	a	a							1200	1.2			1400	1.8	
	1800	.1			1400	1.5		10	1200	-.1		18	0700	1.4		11	a	a		15	a	a			1700	1.3		9	1100	1.7		18	a	a							1700	1.0			2400	.4	
9	0600	1.4			2200	.9			1800	-.3			1700	.6		12	a	a		16	a	a		10	0300	1.2			2200	2.3		19	a	a						13	0100	1.3		18	1100	1.6	
	1900	.3		11	0700	1.6			2100	-.1		19	0400	1.3		13	a	a		17	a	a			1300	.3		10	a	a		20	a	a							0600	1.2			2300	.6	
10	0600	1.5			1400	1.2		11	0200	-.3			1600	.5		14	a	a		18	a	a			2200	.9		11	a	a		21	a	a							1200	1.4		19	1300	1.7	
	2100	.3			1700	1.3			0600	.0		20	0300	1.4		15	a	a		19	a	a			2200	.7		12	a	a		22	a	a							1800	1.0		20	0100	1.0	
11	0800	1.5		12	0100	.7			1300	-.3			1700	.8		16	a	a		20	1700	1.9			1100	.6		13	a	a		23	a	a						14	0500	1.6			1100	1.8	
	2100	.5			0700	1.0			2400	.2		21	0100	1.4		17	a	a		21	0900	-.6			2000	1.1		14	a	a		24	a	a							1100	1.6		21	0100	1.1	
12	1000	1.5			1400	.7		12	1200	-.4			0600	1.1		18	a	a			2000	.1		12	0100	.9		15	a	a		25	a	a							1900	1.1			1800	2.0	
	2200	.7			2100	1.0		13	0500	.9			1100	1.4		19	a	a		22	0900	-1.0			0900	1.7		16	a	a		26	a	a						15	1200	1.9		22	0200	1.4	
13	0900	1.6		13	0300	.8			1200	.6			1900	1.2		20	a	a			2100	.7			1600	1.7		17	a	a		27	a	a							2100	1.2			1900	2.6	
	2300	1.0			0700	.8		14	0200	1.8			2400	1.5		21	a	a		23	1100	-.7			0300	1.1		18	a	a		28	a	a						16	0800	1.9		23	0300	2.1	
14	1200	2.1			1400	.5			1600	.4		22	0900	.8		22	a	a		24	0100	.4		13	1000	1.7		19	a	a		29	a	a							2000	1.0			0700	2.2	
15	0200	1.6			2100	1.2			2400	.9			1500	1.3		23	a	a			1100	-.4		14	0300	.6		20	a	a		30	a	a						17	0800	1.8			1300	1.9	
	1200	2.3		14	0500	1.1		15	1600	-.4			2200	1.2		24	a	a		25	0200	.7			1100	1.4		21	a	a											2200	.7			2200	2.5	
	1500	1.9			1400	.6		16	0500	.9		23	1400	-.1		25	a	a			1300	.1		15	0400	.1		22	2300	1.3										18	1200	1.8		24	1400	1.4	
	1800	2.1			2200	1.3			1600	.1			2200	.1		26	a	a			2300	.8			1700	1.5		23	1100	1.9											2300	.7			2300	2.2	
16	1800	.0		15	1300	.3		17	0200	1.5		24	1000	-.4		27	1600	e-.3		26	0400	.8		16	0400	.3			2400	1.1										19	1200	2.0		25	1600	.6	
	2200	.3			2300	1.5			0500	1.1			2100	.9		28	0700	1.0			1300	.3			1800	2.0		24	1300	1.7											2300	.8		26	0200	1.6	
17	0300	.2		16	1400	.5			0800	1.2		25	1100	-.2			1800	-.2			2200	1.2		17	0600	.8		25	0200	.9										20	1100	1.8			1000	1.3	
	0700	.3		17	0100	1.6			1600	.5			2200	1.3		29	0400	-.6		27	0300	1.0			1700	2.0			1400	1.5										21	0200	.8			1700	.4	
	1400	.0			1500	.6		18	0400	1.9		26	1100	.3			0900	-.3			0600	1.		18	0700	.7			2400	.7											1100	1.6		27	0400	1.7	
	2100	.8		18	0100	1.7			1500	.7			2300	1.4			1900	-1.1			1300	.5			2000	1.8		26	1200	1.9										22	0200	.5			1700	.5	
18	1400	-.1			1600	.4		19	0600	1.5		27	1200	.1							2100	1.0		19	0700	.9		27	0200	.5											1500	1.6		28	0600	1.9	
	2200	.7		19	0300	1.5			1900	.3		28	0100	1.6						28	0300	.9			1800	2.0			1300	1.8										23	0300	.6			2000	.8	
19	0200	.6			1700	.5		20	0700	1.5			1200	.4							0800	1.2		20	0800	.5		28	0100	.4											1500	1.6		29	0700	2.1	
	0600	.7		20	0500	1.7			2000	.6		29	0100	1.7							1400	.8			1900	1.8			1200	1.4										24	0400	.8			2200	.8	
	1400	.3			1800	.6		21	0800	1.8			1400	.3							2000	1.1		21	1000	.7		29	0100	.2											1100	1.5		30	0700	1.8	
	2400	1.2		21	0600	1.7			1800	.8		30	0100	1.4						29	0200	.7			2200	1.7			1300	1.6											1800	1.6			2200	.4	
20	1500	.3			1700	.6		22	0100	.7			1500	.4							0900	1.2		22	1100	1.0		30	0200	.3										25	0300	.7					
21	0100	1.3		22	0400	1.6		23	a	a		31	0200	1.4							1600	.9			1900	1.6			1300	1.6											1200	1.5					
	1500	.3			1800	.4		24	a	a			1500	.5							1900	.9			2300	1.4		31	0200	.6											1600	1.4					
22	0300	1.4		23	0600	1.6		25	a	a										30	0300	.6		23	0300	1.5			1600	2.0											2000	1.6					
	1600	.4			1900	.6		26	a	a											1300	1.4			2000	.0														26	0400	.9					
23	0400	1.5		24	0700	1.5		27	a	a										31	0400	.6		24	2000	.8															1100	1.4					
	1600	.7			2000	.6		28	a	a											1500	1.7		25	0100	.6															1500	1.2					
24	0500	1.9		25	0400	1.6		29	a	a															0800	1.1															2100	1.7					
	1900	.6			2000	.8		30	a	a															1100	e1.0														27	0400	1.0					
25	0400	1.4		26	0400	1.3		31	a	a															1800	1.3															0800	1.4					
	1800	.5			2200	.7																		26	0100	.8														28	a	a					
26	0800	1.9		27	0400	1.0																			1100	1.7														29	a	a					
	2100	1.0			1300	.5																		27	0200	.6														30	a	a					
27	0600	1.8			2000	1.0																			1300	1.6														31	a	a					
	2100	.5			2200	.8																		28	0200	.6																			
28	0800	1.6		28	0500	1.4																			1300	1.6																			
	1500	1.6			1200	.9																		29	0300	.2																			
	2200	1.0			2000	1.6																			1100	.8																			
29	1500	2.5		29	0300	1.6																		30	0300	-.1																			
	2100	1.9			1200	.9																			1700	1.4																			
30	0400	2.6			2100	2.3																																								
	0800	1.3		30	1400	.6																																							
	1800	.2			2400	1.8																																							
	2100	.3																																											
31	0200	.1																																											
	0600	.3																																											
	1700	-.4																																											
	2200	.4																																											

Note: No usable record for July.

Table 10E.--L7, Lavaca Bay near Point Comfort, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0800	1.6	1	0600	1.2	1	1200	.7	1	0300	-0.2				1	a	a	1	0900	0.9	1	0200	1.0	1	0300	.5	1	0600	.4	1	0500	.2	1	0200	1.7
	2200	.6		1100	.9		2000	1.5		1200	-.8				2	a	a		1300	.7		1100	1.8		1400	1.9		1800	2.0		2200	1.0		1900	.6
2	1000	1.8		1800	1.4	2	1200	.0	2	0400	1.1				3	a	a		2000	1.2		2400	.9	2	0500	.0	2	0800	.8	2	0600	.4	2	0500	1.4
	2300	.8	2	1000	.8		2300	1.4		1300	.3				4	a	a	2	0200	.8	2	1200	1.9		1700	1.5		1900	1.7		1200	.8		1900	.4
3	0800	1.6		2100	1.6	3	1600	-.9	3	0300	1.6				5	a	a		0700	1.1	3	0200	.8	3	0300	.0	3	a	a		1800	.7	3	0800	1.4
	1600	1.6	3	1600	.0	4	0100	.3		1600	.2				6	a	a		1500	.7		1300	2.0		1700	2.1		2000	1.5		2400	.9		2100	.5
4	0100	.6		2300	.5		1400	-.7		2000	.5				7	a	a		2000	.9	4	0300	1.0	4	0500	.5	4	0900	e.9	3	1700	.4	4	0800	1.4
	1800	1.6	4	1300	-.1	5	0200	.6	4	0200	.3				8	a	a	3	0300	.4		1600	2.6		1700	1.7		1700	e1.4	4	0500	1.0		2200	.5
5	0100	1.2		2400	1.1		1400	-.4		1600	-.7				9	a	a		1200	1.2	5	0300	1.2	5	0700	.3	5	a	a		2000	.4	5	1000	1.7
	1000	1.9	5	1300	.4	6	0300	1.0	5	0500	.7				10	a	a		1600	1.0		1700	2.6		1700	1.3	6	a	a	5	0900	1.3		2300	.7
	1200	1.7	6	0200	1.6		1500	-.2		1600	-.1				11	2200	1.1		1900	1.2	6	0500	1.5	6	0700	.4	7	a	a		2200	.5	6	1100	1.6
	1900	2.2		1600	.4	7	0200	.9	6	0300	1.2				12	0900	-.1	4	0400	.5		1500	**3.1**		2000	1.5	8	2300	.5	6	0900	1.3	7	0100	.8
6	0200	1.8		2400	1.3		1800	-.6		1600	.0					2200	1.4		1600	1.5	7	0600	1.4	7	0800	.8	9	1100	1.4		2400	.4		1000	1.6
	0600	1.9	7	1500	.0	8	0700	.4	7	0300	1.0				13	1100	-.2	5	0500	.3		1500	2.3		1700	1.4		2400	.3	7	0900	1.3	8	0100	.5
	1200	1.3	8	0300	1.6		1600	-.1		1600	-.1					2100	1.2		1500	1.3	8	0700	.9		2200	1.0	10	1100	1.3		2300	.4		1000	1.3
	1900	1.9		1900	.0	9	0500	1.3	8	0400	.9				14	1100	.2	6	0500	-.1		1600	1.6	8	0400	1.4	11	0100	.4	8	1200	1.4	9	0200	.2
7	1400	1.1	9	0400	.9		1700	.4		1600	.6				15	0400	2.2		1900	1.2	9	0800	.0		1000	1.1		1300	1.3	9	0100	.2		1700	1.2
8	0100	2.1		1000	.9	10	0500	1.4	9	0200	.9					1200	1.3	7	0600	.0		1900	1.1		1500	1.4	12	0200	.2		1200	1.2		2400	.5
	0700	1.8		1600	.5		1800	.2		1900	-1.0					2200	1.7		2000	1.6	10	0800	.4		2400	.8		1300	1.3	10	0200	.1	10	1700	1.5
	0900	2.2	10	0600	2.1	11	0400	1.3	10		c				16	1500	.7	8	0700	.4		1700	1.2	9	0600	1.3	13	0200	.2		1300	1.1		2400	.9
	1500	1.3		2300	.3		1300	.8	11	0100	1.1					2300	1.3		1800	1.7		2200	1.0		2300	.3		1300	1.2	11	0300	-.1	11	1100	1.4
	2200	2.1	11	0500	.5		2000	.9		1200	.5				17	0300	1.0	9	0800	.3	11	0300	1.3	10	0900	1.2	14	0300	.0		1600	.9		1500	1.3
9	0400	2.1		1900	-1.1	12	0400	1.7		2400	1.1					0700	1.2		2000	1.8		0800	.8		2400	.4		1500	1.2	12	0200	-.2		1900	1.4
	1500	1.2	12	0800	.2		2200	1.0	12	0700	.6					1500	.5	10	0900	.3		1600	1.3	11	1300	1.6	15	0400	.0		1700	1.0	12	0300	.7
	2200	2.2		1900	-.5	13	0200	1.3		1300	.6					2100	1.3		2100	1.5		2200	.7	12	0100	.6		1500	1.0	13	0300	.0		2100	1.4
10	1500	.8	13	1000	1.1		1100	.7		2000	e1.4				18	0300	.9	11	1100	.4	12	0500	1.1		1100	1.7	16	0400	-.1		1700	1.1	13	0300	.8
11	0400	1.9		2100	.4	14	0200	.4	13	0400	e1.4					0800	1.1		1800	1.8		1000	.9	13	0300	.8		1700	1.2	14	0400	.2		0900	1.0
	1500	1.1	14	1300	1.7		1100	-.1	14	a	a				19	0400	-.3		2400	1.9		1800	1.5		1400	1.8	17	0500	.0		1900	1.2		1400	.8
12	0500	2.0		2100	.9		2400	.4	15	a	a					1000	.1	12	0400	1.7		2200	.9	14	0300	.6		1800	1.0	15	0400	.3		2200	1.4
	1700	1.0	15	0500	1.6	15	1300	.0	16	a	a					1400	-.1		0800	2.7	13	0900	1.7		1300	1.6	18	0500	.0		1900	1.2	14	0800	1.5
13	0600	2.1		2300	.9	16	0200	1.1	17	a	a					2100	.4		1400	1.9		1300	1.1	15	0300	.2		1600	.8	16	0400	.5		1300	1.2
	1800	1.3	16	0500	1.3		1100	.3	18	a	a				20	0300	.1		1700	2.1		1600	1.3		1300	1.2	19	0600	.0		2200	1.1	15	0100	1.7
14	0600	2.2		1300	.8	17	0100	1.7	19	a	a					1100	.9	13	1400	.7	14	0100	.8	16	0100	.1		1500	.6	17	0500	0.7		1700	.8
	1900	1.5		1900	1.2		1300	.6	20	a	a				21	0500	-.4	14	0600	.7		0900	1.5		1600	1.7		2300	.5		1100	1.0	16	0200	1.6
15	0600	2.4		2400	.9	18	0100	1.8	21	a	a					1800	.7		1400	.4		1500	1.4	17	0300	.5	20	0500	.2		1600	.8		1600	.7
	1900	1.6	17	0500	1.2		1400	.5	22	a	a				22	0500	-.1		2100	.9		2400	.5		1600	1.8		1300	.6		2400	1.3	17	0300	1.6
16	0500	2.6		1300	.6		2300	1.5	23	a	a					2100	1.4	15	0200	.6	15	0900	1.4	18	0400	.7	21	0200	.7	18	0600	1.1		1900	.3
	1300	2.4		1800	1.3	19	1500	.0	24	a	a				23	0400	.9		0900	1.5		1100	1.2		1500	1.7		0800	.5		0900	1.2	18	0700	1.4
	2100	1.6	18	1200	-.3	20	0100	1.5	25	a	a					0900	1.4		1400	1.2		1400	1.5	19	0500	.4		1200	.7		1700	.8		1700	.5
17	0400	2.2		1500	-.3		1500	.3	26	a	a					1100	1.0		1800	1.4	16	0100	.4		1500	1.5		2100	.3	19	0400	1.3	19	1000	1.8
	2200	.7		2400	.7	21	0400	1.9	27	a	a					1300	1.3	16	0200	1.0		1100	1.8	20	0500	.6	22	1100	.8		1800	.9		2000	.9
18	0700	1.6	19	1300	-.3		1500	.8	28	a	a					1700	1.0		0900	1.7		1400	1.2		1600	1.5		2300	.4	20	0900	2.0	20	0700	1.9
	1700	1.8	20	0200	1.0	22	0100	2.1	29	a	a					2200	1.6		1500	1.5		1800	1.5	21	0600	.5	23	0900	.8		2100	1.0		2300	.6
	2300	1.5		1400	-.3		1800	-.2	30	a	a				24	0900	.3		2200	1.6	17	0100	.5		1600	1.3		2300	.0	21	0600	1.7	21	1100	1.8
19	0500	2.0	21	0200	1.0	23	0100	.3	31	a	a					1200	.5	17	0100	1.3		1300	1.7	22	0600	.8	24	1100	.9		2200	.5		2300	1.1
	1300	1.4		1500	-.3		1800	-.9							25	1000	-1.2		1000	2.0	18	0200	.4		1600	1.6		2400	-.1	22	0900	1.5	22	1100	2.0
	1800	1.8	22	0400	1.2	24	0900	.4								2300	-.3	18	0300	.4		1300	1.4		2400	1.1	25	1200	.9		2300	.3	23	0100	.9
	2300	1.5		1700	.0		1800	.0							26	0800	-.9		1000	.7	19	0300	.2	23	1300	1.5	26	0100	-.3	23	1000	1.3		1000	1.8
20	0600	1.9	23	0600	1.4	25	0500	.6								2200	-.6	19	0400	-.4		1400	1.5		2300	1.1		1300	1.0	24	0100	.0	24	0100	.6
	1200	1.5		1800	.1		2300	.6							27	1100	-.4		1800	1.1	20	0400	.4	24	1600	1.6	27	0200	-.3		1200	1.2		0800	1.1
	2000	2.1	24	0600	1.3	26	0300	1.0								2000	.6	20	0600	.2		1500	1.5		2400	1.1		1500	1.2		2400	.2		1300	1.0
21	0100	1.7		1900	-.2		0900	.9							28	0900	-.4		1700	1.4	21	0300	.1	25	1200	2.1	28	0300	-.3	25	1200	1.4		1700	1.2
	0500	1.8	25	0800	1.1		1500	1.4								2000	.8	21	0600	.0		1500	1.5		2300	1.1		1600	1.1	26	0200	.3	25	0200	.5
	1300	1.0		1900	.3		2200	1.2							29	1100	-.1		1600	1.1	22	0400	.4	26	1300	2.3	29	0400	-.3		1300	1.6		0800	.9
	2100	1.7	26	1300	2.4	27	0100	1.4								2100	.8	22	0700	-.1		1400	1.3		2400	1.0		1800	.8	27	0200	.4		1300	.8
22	1300	.5		2000	1.7		0900	1.1							30	1200	-.3		1800	1.1	23	0400	.2	27	1100	2.0	30	0400	-.4		1800	1.9		1900	1.3
	2300	1.7	27	0100	2.1		1500	1.5								2400	.9	23	0600	-.1		1600	1.2	28	0200	.6		1900	.9	28	0300	1.0	26	0300	.6
23	1400	.5		2000	.0	28	1200	-.1							31	1200	.2		1900	1.1	24	0500	.2		1300	1.8	31	0500	-.2		1200	2.0		0800	.9
24	0200	2.0	28	0200	.4		2000	.5								2300	1.0	24	0700	-.1		1500	1.2	29	0300	.5		1900	.9		1400	1.8		1300	.5
	1700	.0		0800	-.5	29	1300	-.2											2100	1.4	25	0600	.2		1400	2.0					2000	2.6		2200	1.5
25	0500	1.3		1300	.1	30	0200	1.1										25	0600	1.0		1600	1.0	30	0400	.5				29	0700	1.4	27	1400	.6
	1700	.0		2300	-.1		1100	-.3											1900	2.1	26	0500	.6		1500	1.8					1800	2.1		2300	1.7
26	0500	1.5	29	0500	.3		2200	1.3										26	0500	1.5		1500	1.0							30	0400	1.5	28	1500	0.5
	1800	.2		0900	.1	31	1600	-1.0											1700	2.5		2200	.6								1000	1.8	29	0300	1.4
27	0600	1.5	30	0700	1.1													27	0400	1.8	27	0700	.9								1600	1.5		2000	.8
	2000	.1		1100	.7																										2200	2.1	30	0600	1.4
28	0600	1.1		1700	1.6														0900	1.9		1100	.7							31	1700	1.3		2000	1.0
	2000	.0		2000	.7														1100	1.7		1600	.8											
29	0600	1.1		2400	1.2														1600	2.0		2300	.3											
	2100	.0																28	1100	.5	28	0900	.9											
30	0800	.9																	2000	.7		2400	-.1											
	1500	1.0																			29	2400	.9											
	2300	.5																				0600	.9'											
31	0700	1.2																				0900	.7	30	1200	1.5								
	1600	1.3																				1600	1.2	31	0200	.3								
	2300	.8																				2300	.7		1400	1.8								

Note: No usable record for February.

Table 10F.--L8, Lavaca Bay at Magnolia Beach near Port Lavaca, Tex.

LOCATION.-- Lat 28°33'52" long 96°32'50", on bulkhead at Humble Oil Co. Plant at Magnolia Beach, about 6 miles southeast of Port Lavaca, Calhoun Co.

RECORDS AVAILABLE.-- August 1968 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1969 water year: maximum elevation 4.6 feet, Feb. 14; minimum -0.8 feet, Nov. 11 and Dec. 23.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																														1	0300	1.2	1	0800	1.9
																															1900	.5		2200	.6
																														2	0700	1.3	2	1000	1.9
																															2000	.4		2200	.7
																														3	0800	1.4	3	1000	2.0
																															2100	.4		2400	1.0
																														4	0900	1.5	4	1100	2.1
																															2200	.4	5	0100	1.0
																														5	1100	1.8		0300	e1.6
																															2300	.6		0500	1.0
																														6	1200	1.8		1200	1.6
																														7	0100	.5	6	0200	.6
																															1300	1.7		1900	2.0
																														8	0200	.5	7	0300	1.2
																															1400	1.7		1100	1.7
																														9	0200	.6		1400	1.6
																															1600	1.6		2000	1.9
																														10	0300	.7	8	0400	1.3
																															1200	1.3		0900	1.6
																															1700	1.4		1500	1.3
																														11	0400	.7		1900	1.6
																															1100	1.2	9	0500	1.1
																															1700	1.0		0900	1.3
																															2100	1.1		1500	.9
																														12	0400	.7		2400	1.5
																															1000	1.0	10	1500	.6
																															1600	.8	11	0400	1.5
																															2300	1.1		1600	.7
																														13	1000	1.2	12	0600	1.8
																															1700	.7		1700	1.0
																														14	0600	1.4	13	0700	2.2
																															1800	.8		2000	1.3
																														15	0700	1.7	14	0800	2.2
																															1900	.7		1900	1.4
																														16	0700	1.8	15	0700	2.4
																															1900	.8		2200	1.1
																														17	0800	1.6	16	0800	1.9
																															2100	.6		2200	1.1
																														18	0900	1.6	17	1000	1.8
																															2200	.7	18	0100	.6
																														19	1000	1.7		1200	1.5
																															2200	.6		2400	.6
																														20	1100	1.7	19	1300	1.7
																															2300	.6	20	0100	.9
																														21	1000	1.4		1300	1.7
																															2400	.4	21	0100	1.0
																														22	1200	1.4		1800	1.8
																														23	0100	.5	22	0100	1.3
																															1400	1.4		2000	2.4
																														24	0200	.7	23	0300	2.0
																															1500	1.5		0900	2.1
																														25	0300	.7		1300	1.8
																															1600	1.4		2200	2.3
																														26	0300	.8	24	1500	1.4
																															0900	1.3	25	0100	2.0
																															1400	1.1		1600	.8
																															2100	1.5	26	0200	1.7
																														27	0300	1.0		1700	.6
																															0800	1.3	27	0600	1.7
																															1500	1.0		1700	.6
																														28	0700	1.9	28	0700	2.0
																															1500	1.0		1900	.8
																														29	0400	1.8	29	0800	2.1
																															1800	.9		2100	.9
																														30	0800	1.9	30	0800	1.8
																															1800	1.1		2300	.6
																														31	0700	2.0			
																															2100	.8			

Table 10F.--L8, Lavaca Bay at Magnolia Beach near Port Lavaca, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	1000	1.5	1	0500	1.1	1	1100	0 8	1	1100	-0.7	1	1200	0.3	1	0100	1.2												1	0500	.1	1	0300	1.6
	2300	.6		1100	.9		2100	1 4	2	0300	1.1	2	0100	1.5	2	a	a											1	a	a		0900	.5		1900	.5
2	1200	1.7		1700	1.3	2	1200	1		1200	.4		a	a	3	a	a											2	a	a		2200	.7	2	0500	1.2
	2400	.9		2300	1.0		2400	1 4	3	0200	1.6		a	a	4	a	a											3	a	a		0600	.4		1900	.2
3	0800	1.6	2	0500	1.1	3	1600	- 4		1400	.4	3	1400	.0	5	a	a											4	a	a		1200	.6	3	0800	1.2
	1800	1.5		1000	.7	4	0200	3		2000	1.1	4	0500	.9	6	a	a											5	a	a						
	2400	.8		2000	1.4		1300	- 7	4	1400	-.5		1300	e.3	7	a	a											6	a	a		1700	.5		2000	.4
4	1800	1.6	3	1300	.4	5	0200	6	5	0300	.8	5	0500	1.4	8	a	a											7	2200	.5	3	0100	.7	4	0800	1.3
5	0100	1.3		2100	.6		1400	- 3		1400	-.1		1300	e.8	9	a	a											8	0900	e1.5		1100	.6		1400	.4
	2100	2.1	4	1200	.0	6	0300	9	6	0300	1.1		2200	1.2	10	a	a												2200	.3		1800	.2	5	0900	1.4
6	0200	1.8		2400	1.0		1500	- 1		1500	-.1	6	0800	1.0	11	a	a											9	1000	1.2	4	0700	.8		2200	.6
	0800	1.9	5	1100	.3	7	0300	1.1	7	0400	.9		1600	.6	12	a	a												2300	.2		1900	.3	6	1000	1.4
	1200	1.5		2000	1.8		1800	- 3		1600	-.1		2100	.7	13	a	a											10	1100	1.1	5	0800	1.2		2300	.7
	2200	1.9	6	1400	.5	8	0500	.7	8	0400	.8	7	0500	.3	14	a	a												2400	.3		2100	.3	7	1000	1.5
7	1500	1.2		2400	1.5		1600	-.1		1400	.0		1200	.6	15	a	a											11	1100	1.2	6	0800	1.2		2300	.4
																												12	0100	.1		2200	.3	8	1000	1.2
8	0200	2.0	7	1300	.2	9	0500	1.3	9	0300	1.1		2200	.7	16	a	a												1300	1.1	7	0900	1.2	9	0100	.1
	1600	1.4	8	0300	1.7		1600	.4		1900	-.6	8	0400	.4	17	a	a											13	0100	.0		2200	.2		1800	1.1
9	0200	2.1		1800	.6	10	0500	1.4	10	2300	1.1		0900	.8	18	a	a												1300	1.0	8	1100	1.1		2400	.4
	1500	1.2	9	0400	1.3		1700	.3	11	1000	.6	9	0600	-.3	19	a	a											14	0300	.0		2400	.1	10	1600	1.3
	2000	2.2		1500	.6	11	0500	1.2		2300	1.1		2100	.9	20	a	a												1400	1.0	9	1100	1.0	11	0100	.8
10	1400	.9	10	0400	2.0		1400	.6	12	0900	.5	10	0700	.3	21	a	a											15	0400	-.1	10	0100	.0		0900	1.3
11	0300	1.9		1400	.9	12	0500	1.6		2100	1.4		2000	1.4	22	a	a												1500	.8		1300	.9		1500	1.2
	1500	1.1		1800	1.3		1800	.9	13	1000	.6	11	0900	.2	23	a	a											16	0300	-.1	11	0200	-.1		1700	1.3
12	0500	2.0		2200	.6	13	0200	1.3		2200	1.4		2100	1.3	24	a	a												1600	.9		1300	.7	12	0300	.7
	1700	1.0	11	0500	.8		2300	.6	14	1000	.4	12	1000	.1	25	a	a											17	0400	.0	12	0200	-.3		2000	1.2
13	0500	2.0		1800	-.8	14	0100	.7		2300	1.5		2300	1.3	26	a	a												1200	.9		1500	.7	13	0300	.8
	1700	1.2	12	0600	.1		1100	.1	15	1100	.3	13	1000	.6	27	a	a											18	0400	.0	13	0300	-.1		0800	.9
14	0600	2.2		1700	-.4		2300	.4		2300	1.7	14	0400	4.6	28	a	a												1200	.6		1700	.9		1400	.7
	1800	1.4	13	0900	1.0	15	1100	.0	16	1200	.4		1000	3.1	29	a	a											19	0400	e.0	14	0400	.1	14	0700	1.4
15	0600	2.3		2000	.4	16	0100	1.0		2400	1.6		1900	3.8	30	a	a												1300	.4		1800	.9		1400	1.0
	1900	1.5	14	0900	1.4		1000	.3	17	1400	.3	15	1500	1.3	31	a	a											20	0400	.2	15	0300	.3	15	0100	e1.4
16	0600	2.5		2100	.9		2400	1.6	18	0300	1.7		2200	1.4																1600	.6		2000	1.0		1700	.7
	2100	1.7	15	0500	1.5	17	1200	.5		1400	.5	16	1300	.0																1800	.4	16	0300	.4	16	0400	e1.4
17	0400	2.5		2300	1.0		2400	1.7	19	0200	1.7	17	0500	1.4																2000	.5		1100	.7		1700	.6
	2000	1.0	16	0500	1.3	18	1200	.4		1500	.3		1400	.6															21	0600	.4		1600	.6	17	0400	1.4
18	0500	1.7		1200	.8		2200	1.4	20	0500	1.3		2200	.9																1000	.6		2200	e.9		1800	.3
	1500	1.8		1900	1.1	19	1300	.0		1600	.4	18	1400	.1																1900	.1	17	0400	e.7	18	0600	1.3
	2200	1.6		2400	1.0	20	0200	1.4	21	0500	1.1	19	0800	1.0															22	0900	.6		1000	e.8		1800	.5
19	0400	2.0	17	0500	1.1		1400	.3		1500	.4		1300	.6																2000	.1		1600	e.6	19	0900	1.8
	1200	1.5		1100	.7	21	0400	1.8	22	0100	1.0		1900	1.5															23	0600	.7	18	0600	1.4		2000	.9
	1800	1.7		2000	1.6		1400	.7		1500	.5	20	0300	1.5																2100	-.2		2100	e.9	20	0700	1.8
	2300	1.6	18	1400	.0	22	0200	2.1		2100	.9		1000	2.1															24	0800	.6	19	0600	e1.2		2200	.6
20	0500	1.9		2200	.8		1800	.1	23	1800	.4		1600	1.9																2200	-.3		1700	.7	21	1000	1.7
	1200	1.5	19	1300	-.2		2400	.6		2200	.5		2000	2.1															25	1000	.6	20	0800	1.8		2200	1.0
	1900	2.0	20	0100	.9	23	1700	-.8	24	0400	.3	21	0300	1.4																2300	-.4		2100	.9	22	1100	e1.9
21	0400	1.8		1400	-.2	24	0800	.3		0700	.6		1100	2.2															26	1200	.7	21	0700	1.6		2300	.9
	1200	1.1	21	0200	1.0		1700	-.3		1400	-.1	22	0700	.7																2400	.4		2200	.4	23	1000	1.8
	2100	1.7		1400	-.3	25	0800	.6		2200	.5		1600	1.1															27	1300	.9	22	0900	1.4	24	0100	.6
22	1200	.6	22	0400	1.1		1700	.3	25	0700	.1	23	0700	.1															28	0200	.4		2300	.2		1700	1.1
	2300	1.7		1500	-.2	26	0200	.9		2100	1.2		2100	1.5																1500	.8	23	1000	1.2	25	0200	.5
23	1300	.6	23	0500	1.3		1600	1.2	26	0700	.4	24	0900	.6															29	0300	.4		2400	.0		2000	1.1
24	0100	2.2		1600	.0		2000	1.1		2300	1.5		1800	1.4																1500	.6	24	1200	1.0	26	0300	.7
	1600	.4	24	0500	1.3	27	0100	1.2	27	1000	.6	25	0900	.4															30	0300	-.4		2400	.0		0800	.8
25	0300	1.4		1800	.0		1100	.8		2000	1.6		2100	1.4																1700	.6	25	1400	1.2		1300	.5
	1500	.2	25	0700	1.1		1500	1.6	28	1000	.5	26	1000	.5															31	0400	-.3	26	0200	.2		2200	1.4
26	0400	1.4		1800	.3	28	1200	-.1		2100	1.5		2200	1.6																							
	1700	.2	26	0900	1.9		2000	.4	29	1100	.4	27	1100	.6																1900	.7		1400	1.4	27	1400	.6
27	0600	1.4		1900	1.5	29	0900	-.4		2300	1.7		2300	1.7																		27	0200	.4	28	0100	1.5
	1800	.2	27	0100	2.1	30	0100	1.0	30	1100	.5	28	1300	.2																			1900	1.6		1500	.5
28	0400	1.3		1900	.3		1100	.3	31	0200	1.4																					28	0300	.9	29	0300	1.3
	1800	.1	28	0100	.5		2400	1.4		1300	.5																						2000	2.3		1600	.4
29	0600	1.0		0700	-.2	31	1400	-.5		2400	1.4																								29	0400	1.3	30	0500	1.4
	2000	.1		1200	.1		2400	.2																											2000	1.8		1700	.5
30	0700	.9		2100	.0																														30	1600	1.3			
	2100	.4	29	0400	.4																															2200	1.9			
31	0600	1.1		0800	.2																														31	1600	1.1			
	1400	1.1	30	0400	1.2																																			
	2200	.8		0900	1.0																																			
				1700	1.9																																			
				2100	1.2																																			

Note: No usable record for April through June.

Table 10G.--L10, Matagorda Bay at range tower near Port O'Connor, Tex.

LOCATION.-- Lat 28°26'26" long 96°20'15", on dredging range tower north of entrance channel in Matagorda Bay, about 4 miles east of Port O'Connor, Matagorda Co.

RECORDS AVAILABLE.-- September 1963 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1968 water year: maximum elevation 2.6 feet, June 24; minimum -2.0 feet, Mar. 13.
1969 water year: maximum elevation 3.4 feet, Feb. 14; minimum -1.3 feet, Dec. 23.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records since Aug. 1967 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1966 to September 1967.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																														1	0800	0.9	1	a	a
																															1800	-.1	2	a	a
																														2	0800	e1.0	3	a	a
																														3	a	a	4	a	a
																														4	a	a	5	a	a
																														5	a	a	6	a	a
																														6	a	a	7	a	a
																														7	a	a	8	a	a
																														8	1700	.8	9	a	a
																															2400	.0	10	a	a
																														9	0800	.6	11	a	a
																														10	0200	.3	12	a	a
																															0900	e.5	13	a	a
																															1500	.2	14	a	a
																														11	0700	e.9	15	1100	e1.7
																															1500	.2		2100	.9
																														12	0600	1.2	16	1200	1.7
																															1600	.4		2100	.9
																														13	0600	1.3	17	1300	1.7
																															1700	.2		2100	1.1
																														14	0800	1.3	18	1700	2.0
																															1800	.2		2200	1.8
																														15	0900	1.6	19		c
																															2000	.4	20	1500	5.0
																														16	0600	1.4	21		b
																															2000	.0	22	1200	1.7
																														17	1100	1.4		2300	2.1
																															2100	.0	23	1200	1.2
																														18	1100	1.2		2300	1.9
																															2200	.0	24	a	a
																														19	1100	1.4	25	0200	1.8
																															2300	.3		a	a
																														20	1400	1.4	26	0200	1.8
																															2300	.5		a	a
																														21	a	a	27	0200	1.9
																														22	a	a		1700	.4
																														23	a	a	28	0800	1.2
																														24	a	a		1600	.2
																														25	a	a	29	0700	1.2
																														26	a	a		1700	.4
																														27	a	a	30	0600	1.5
																														28	a	a		1800	.3
																														29	a	a			
																														30	a	a			
																														31	a	a			

Table 10G.--L10, Matagorda Bay at range tower near Port O'Connor, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0800	1.3	1	a	a	1	1000	-0.2	1	1200	-0.4	1	0400	1.2	1	1400	-1.0	1	1200	0.7	1	1400	1.1	1	1200	1.1	1	0200	0.2	1	0500	0.7	1	0700	1.6
	1900	.5	2	a	a	2	0200	1.4	2	0400	1.2		1400	.3	2	1400	.1		2300	-.2	2	0200	.0	2	0300	.2		1300	1.0		1500	-.1		1800	.2
2	1200	1.8	3	a	a		1200	.0		1300	.1		2400	1.0	3	0100	-.6	2	1600	1.0		1500	1.1		1300	1.1	2	0200	.4	2	0600	.9	2	0900	1.6
	2000	1.2	4	a	a		2300	.9	3	0400	1.2	2	1300	-.1		0900	.0	3	0200	.0	3	0300	.0	3	0400	.1		1200	.8		1800	-.2		1800	.1
3	0400	1.5	5	a	a	3	1200	-.8		1400	.2	3	2100	.9	4	0100	-.6		1500	1.6		1500	.9		1200	1.0	3	0300	.6	3	0800	1.0	3	1000	1.6
	0900	1.3	6	a	a	4	0500	.9		2400	1.2	4	0200	.7		1800	.0	4	0300	.6	4	0200	-.2	4	0200	.1		0900	.9		1700	-.2		2100	.4
	1700	1.6	7	a	a		1300	-.1	4	1300	.0		2100	.9		2300	-.4		1000	1.7		1600	.9		1300	.9		1700	.5	4	0800	1.1	4	0800	1.6
	2200	1.3	8	a	a	5	0500	1.1	5	0600	1.1	5	0400	.5	5	1800	.8	5	0500	-.1	5	0400	-.3	5	0300	.4	4	0900	1.2		1900	-.3		2100	.3
4	0300	1.5	9	1900	.7		1400	.0		1300	.7		1800	1.2	6	0200	.0		1800	.7		2100	.8		1200	.7		1800	.7	5	0900	1.4	5	0700	1.5
	1000	1.1	10	0400	1.4	6	0500	1.3		2300	1.2	6	0600	.0		1700	.8	6	0500	-.2	6	0400	.3		1800	.4	5	0700	1.6		2000	-.1		2100	.2
	2000	1.6		1800	.7		1700	.1	6	2000	.9		1800	.3	7	0400	-.4		1900	.8		1800	1.3	6	1000	.8		1900	.4	6	0900	1.4	6	1300	1.5
5	0200	1.5	11	0400	1.2	7	0500	1.0	7	1400	-.1	7	0700	-.7		1900	.4	7	0600	.1	7	0400	.8		2000	.1	6	0800	1.5		2100	-.1		2300	.8
	1100	.6		1900	e.5		1700	.0	8	2300	1.2		2000	.0	8	0400	-.4		1900	1.0		1600	1.3	7	0800	.9		1900	.0	7	1100	1.2	7	1400	1.4
	2300	1.4	12	a	a	8	0700	.9	9	0700	.6	8	0600	-.9		2000	.5	8	0600	.1	8	0500	.7		2000	-.2	7	1000	1.3		2200	-.1		2400	1.0
6	1200	.5	13	1000	.3		1600	.5		1800	1.3		2100	.2	9	1800	-.2		1900	.9		1300	1.1	8	1100	.9		2000	-.2	8	1400	1.3	8	1700	1.2
7	0200	1.6	14	0200	.8	9	2200	1.5	10	0700	-.3	9	0700	-.7		2000	.8	9	1300	.0		1900	.8		2200	-.2	8	1000	1.2		2200	.0	9	0100	.8
	1200	.4		1000	.4	10		b		2100	.3		2200	.3	10	0800	-.1		2300	.9	9	0100	1.0	9	1000	1.0		2200	-.3	9	1500	1.1		0500	1.0
	2400	1.6		2100	e.9	11	0800	-.6	11	0800	-.6	10	0700	-.9		2400	1.1	10	0900	.0		0600	.7		2200	-.3	9	1300	1.7		2400	.0		1300	.6
8	1300	.0	15	1100	.1		1600	-.1		2300	.6		2300	.2	11	0900	.1	11	0200	.4		1500	1.4	10	1200	1.3		2200	-.3	10	1500	1.0		2200	1.1
9	0400	1.2	16	0200	.9	12	0800	-.9	12	0900	-.5	11	0800	-.7		1600	1.0		1000	.0		1900	.7		2300	-.3	10	1000	1.2		2400	.2	10	1300	.3
	1500	.1		1100	.3	13	0200	.3		1800	.3	12	0100	.4	12	0900	-1.7	12	1500	1.0	10	0900	1.6	11	1300	1.1		2300	-.4	11	0800	.7	11	0400	1.2
10	0400	1.2	17	0200	1.2		0800	-.1	13	0900	-1.2		0800	-.5		1800	-1.2		2200	.4		1900	.6		2400	-.5	11	1000	1.0	12	0100	.3		1300	.4
	1600	.0		1200	.3		2400	1.2		2000	-.3	13	0200	1.2	13	1000	-2.0	13	0900	1.1	11	0800	1.7	12	1300	.9		2300	-.4		0800	.6	12	0400	1.5
11	0700	1.1	18	0200	1.2	14	0900	.2	14	0900	-1.7		1000	.1	14	0700	-.1		2400	-.1		1900	.3	13	0100	-.7	12	1400	1.0		1200	.4		1400	.6
	1600	.0		1200	.1		2300	1.1	15	0100	-.3	14	0200	1.4		1000	-.4	14	1000	.9	12	0900	2.0		1600	.6		2300	-.3	13	0600	.6	13	0500	1.8
12	0700	1.1	19	0200	1.0	15	0900	- 3		0900	-1.2		1100	.5	15	0600	.6		2300	-.4		2200	.3	14	0100	-.5	13	1600	1.0		1500	.2		1500	.8
	1900	.3		1200	.0		2400	8		2400	.2		2200	1.2		1200	.2	15	1400	.7	13	1000	1.8		1700	.7	14	0100	.2	14	0400	.8	14	0600	1.8
13	0900	1.3	20	0500	1.1	16	1100	- 2	16	1000	-.9	15	1200	.1		1600	e.5		2400	-.4		2200	.2	15	0300	-.3		1200	1.0		1300	.1		1600	.8
	1900	.5		1500	.3	17	0200	1 4	17	0300	.3		1900	.6	16	0100	.1	16	1600	1.0	14	1100	1.7		1600	.7	15	0100	.5	15	0600	1.0	15	0600	1.9
14	0900	1.3	21	0400	1.3		1100	0		1200	-.7	16	1100	-.2		1700	.4	17	0200	-.2		2300	.1	16	0300	-.2		1000	.9		1600	.2		1700	.6
	1900	.8		1500	.2		2400	1 4	18	0400	.8	17	0500	.5	17	0100	-.5		1500	1.3	15	1100	1.5		1500	.6		1800	.7	16	0600	1.1	16	0500	1.5
15	1300	1.9	22	0300	1.2	18	1300	0		1200	-.1		1400	.2		1700	.5	18	0200	-.2	16	0200	.0	17	0400	.1	16	0600	1.1		1600	.1		1600	.5
16	a	a		1900	.2	19	0100	1 2		2400	1.2		1700	.5		2400	-.2		1400	1.1		1400	1.2		1400	.8		1600	.6	17	0600	1.1	17	0700	1.4
17	a	a	23	0600	1.2		1200	- 2	19	1300	.0		2400	.2	18	1700	1.1	19	0300	-.1	17	0200	-.1		2400	.3	17	0700	1.1		1700	-.2		1700	.3
18	a	a		1900	.4	20	0400	1.0	20	0600	.9	18	1800	1.1	19	0200	.0		1800	1.3		1500	1.2	18	1300	.6		1700	.3	18	0700	1.1	18	0900	1.3
19	a	a	24	0500	1.2		1400	-.1		1100	.3	19	0300	.6		1600	1.2	20	0500	.1		2200	-.1		1900	.3	18	0600	1.1		1700	.0		1900	.1
20	a	a		1700	.4	21	0500	1.3		2200	.9		1800	1.3	20	0300	.0		1900	1.0	18	1600	1.1	19	0400	.8		1800	.0	19	0600	1.2	19	1000	1.3
21	a	a	25	0600	.9		1500	.3	21	0200	.7	20	0300	.4		1800	1.3	21	0600	.0	19	0500	.1		1800	.1	19	0900	1.0		1900	-.1		2000	.3
22	a	a		1800	.3		1600	.9		2000	1.0		1500	1.0	21	0600	-.4		2000	1.0		1600	.7	20	0500	1.0		1900	.0	20	0800	1.1	20	1200	1.2
23	a	a	26	0400	.8		2300	.6	22	0400	.6	21	0400	-.2		1800	.7	22	0900	.4	20	0500	.1		1900	.1	20	0800	1.1		1900	-.1		2100	.4
24	a	a		a	a	22	0400	1.0		1700	1.0		1400	1.1	22	0500	-.8		2400	.9		2300	.9	21	0600	1.2		1900	.0	21	0800	.9	21	1400	1.3
25	a	a	27	0300	.6		1600	-.3	23	0500	.0	22	0500	-1.0		1900	.1	23	0900	.6		0600	.5		2000	.0	21	0900	1.1		1900	-.3		2100	.8
26	a	a		1300	.3	23	0200	.1		1300	.4		2100	.4	23	0800	-1.2		1300	.8	21	1300	.7	22	1000	1.3		1900	-.2	22	0900	.9	22	1600	1.8
27	a	a	28	0300	1.0		1400	-.5	24	0600	-.8	23	0700	-.6		2200	-.2		2100	.2		1900	.4		1900	.2	22	1000	1.0		2100	-.1		2300	1.5
28	a	a		0700	.8	24	1000	.5		2000	.3		2100	.5	24	0700	-1.0	24	0600	.5	22	0900	.9	23	1600	2.2		1900	-.2	23	1200	1.0	23	0300	1.7
29	a	a		2300	1.4		1500	.2	25	0600	-.8	24	0700	-.1	25	0100	.1		0800	.2		2100	.3		2100	1.3	23	0900	.9		2100	.1		1100	1.3
30	a	a	29	1200	.5	25	0100	.6		2200	.7		2400	.4		1000	-.5		1600	.5	23	0700	1.1	24	0800	2.6		2200	-.3	24	1400	1.1		2100	1.7
31	a	a		2100	1.7		0700	.1	26	0800	-.4	25	0800	-.6	26	0200	.3		2100	.2		1900	.3		2200	.8	24	1000	1.0		2100	.2	24	0300	1.7
			30	0800	.1		2100	.6		2100	.8		2300	e.4		1000	-.4	25	0600	.6	24	0900	1.2	25	0900	1.8		2200	-.1	25	1400	1.2		1200	1.0
				2100	1.2	26	0700	-.4	27	0800	-.5	26	1000	-.8	27	0300	.4		2200	.3		2000	.3		2000	.4	25	1300	1.2		2200	.4		2300	1.6
							2400	.8		2300	.8		2400	e.1		1100	-.1	26	0800	1.1	25	1000	1.2	26	1000	1.5		2100	.0	26	0600	.9	25	1100	.5
						27	0800	.1	28	0900	-.3	27	1000	-1.1	28	0600	.5		2200	.1		2200	.1	26	1400	1.1		1200	.7		2400	1.4
							2100	1.2		2300	1.1		2100	-1.3		2300	.2	27	0900	1.0	26	1000	1.3	27	1200	1.4		2300	.1		1800	1.0	26	1300	.3
						28	1000	-.4	29	1000	-.3	28	0600	e.3	29	0800	.6		2200	.1		2300	.0		2300	.2	27	1100	1.2	27	1100	.5	27	0400	1.4
							2300	.7	30	0100	.9		1100	-.2		2300	-.1	28	1300	1.0	27	1100	1.1	28	1200	1.4		2400	.1	28	0400	1.4		1400	.2
						29	0900	-.7		1100	-.1		1700	.3	30	1000	.5		2300	.0		2200	-.2		2400	.1	28	1200	.9		1200	.6	28	0400	1.6
						30	0100	1.1	31	0200	.9	29	1200	-1.0		2400	-.1	29	1100	1.0	28	1200	.9	29	1300	1.3	29	0200	.1	29	0500	1.6		1400	.3
							1000	-.1		1200	.0				31	1600	.8		2300	-.4	30	0100	.2		1100	.7		1400	.5	29	0500	1.6
						31	0100	1.6								2400	.0	30	0400	.7	29	1300	.9		1200	1.2	30	0200	.2	30	0600	1.7		1600	.4
							1100	.0											2400	.0		2300	-.3					0900	.6		1500	.6	30	0500	1.4
							2400	1.2													30	1300	.8					1900	.2	31	0600	1.8		1700	.0
																						2400	-.4				31	0500	.7		1600	.3			
																					31	1500	1.0					1600	.1					
																						2300	.0												

Table 10G.--L10, Matagorda Bay at range tower near Port O'Connor, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0700	1.2	1	0400	0.6	1	0900	0.3	1	1000	-1.0	1	1000	0.0	1	0800	-0.1	1	0300	0.5	1	0800	1.5	1	1200	1.2	1	1500	1.4	1	0200	-0.4	1	1500	0.2
	1800	.1		0800	.5		1900	1.0	2	0200	.6		2400	1.2		2400	.9		0800	.2		2200	.2		2300	-.4	2	0100	.0		2100	.4	2	0400	1.1
2	1000	1.3		1700	.6	2	0900	-.3		0900	-.2	2	1200	.1	2	0800	.2		1500	.3	2	0900	1.4	2	1200	1.2		1600	1.2	2	0200	.1		1600	.0
	2000	.4		2100	.4	3	0100	1.0		2300	1.2		2400	1.2		1800	1.6		1900	.1		2200	.1		2400	-.5	3	0200	.1		0800	.4	3	0700	1.1
3	1000	1.2	2	0200	.6		0800	-.3	3	1100	.0	3	1100	-.3	3	a	a	2	0400	.5	3	1300	1.5	3	1600	1.3		1500	1.0		1500	.1		1700	.1
	2000	.3		0800	.3		1500	.2		2000	1.1	4	0300	.6	4	a	a		2000	-.1		2200	.2	4	0100	.2	4	0200	.1		2300	.4	4	0700	1.1
4	1600	1.1		1900	.9		1900	-.3	4	1100	-.6		1100	.0	5	a	a	3	0500	.6	4	1500	1.8		1400	1.5		1400	.9	3	0800	.4		1800	.0
	2200	.8	3	0900	.1	4	0200	.0	5	0200	.4	5	0500	1.1	6	0400	1.4		2000	-.2	5	0100	.4	5	0200	.1	5	0200	.2		1600	-.2	5	0700	1.2
5	1800	1.6		1900	.7		1000	-1.0		1100	-.5		1300	.4		1100	.9	4	0900	.9		1500	1.9		1600	1.2		0900	.7	4	0700	.7		1800	.1
	2200	1.4	4	0900	-.5	5	0100	.3		2400	.7		2100	.9		1800	1.0		2000	.0	6	0200	.7	6	0200	.2		1600	.4		1600	-.1	6	0800	1.2
6	0400	1.5	5	0200	.6		1000	-.8	6	1300	-.4	6	0100	.6		2300	.4	5	0800	1.0		1400	2.1		1700	1.0	6	0800	.8	5	0700	.8		1800	.3
	1000	1.1		1000	-.1	6	0100	.6	7	0100	.5		0500	.8	7	1700	1.1		2000	-.3	7	0300	.8	7	0500	.5		1700	.2		1800	-.2	7	0800	1.3
	1600	1.4	6	0100	1.4		1000	-.6		1300	-.6	7	0100	.0	8	0100	.9	6	1200	.7		1500	1.8		1400	.8	7	0600	1.0	6	0700	.9		1900	.2
7	0300	1.2		1200	.1	7	0300	.6	8	0400	.3		0900	.3		1000	1.7		2200	-.5	8	0300	.5		1800	.7		1700	.1		1800	-.2	8	0600	1.1
	0900	.7		2400	1.1		1000	-.6		1400	-.4		1200	.1	9	0300	-.3	7	1300	.9		1400	1.7	8	1100	.9	8	0700	1.0	7	0700	.9		2100	-.1
8	0200	1.5	7	1200	-.2	8	0100	.5	9	0200	.4		2000	.3		1500	.5		2300	-.2	9	0400	.0		1800	.5		1800	-.1		1900	-.2	9	1000	.9
	1100	.6	8	0200	1.1		1300	-.5		1500	-.5	8	0100	.0	10	0100	-.6	8	1300	1.1		1800	.8	9	0400	.9	9	0800	1.0	8	0900	.9		2100	.1
9	0100	1.6		1000	.3	9	0500	.9	10	1200	.0		0900	.8		1700	.7		2400	-.2	10	0600	.1		1900	.0		1900	-.2		2000	-.3	10	a	a
	1200	.6		1800	1.1		1300	-.1		2300	.7	9	0200	-.6	11	0200	-.4	9	1400	1.1	11	0100	.9	10	0700	.9	10	0900	.9	9	0900	.8	11	a	a
10	0100	1.7		2100	.6	10	0300	.9	11	0700	.3		1900	.5		1800	.7		2400	.0		2100	.2		2000	-.2		1900	-.2		1900	-.4	12	a	a
	1100	.4	9	0200	1.4		1400	-.1		2100	.7	10	0300	-.1	12	0300	-.2	10	1500	1.0	12	0600	.8	11	1000	1.0	11	0900	1.0	10	1000	.7	13	1100	.4
11	0200	1.5		1300	.3	11	0200	.7	12	0400	.0		1800	.9		1700	1.0	11	0200	-.2		1900	-.1		2100	.0		2000	-.3		2000	-.5	14	0500	1.2
	1200	.5	10	0300	1.6		1300	.0		2000	.9	11	0400	-.2	13	0400	-.4		0800	1.1	13	0800	1.2	12	0900	1.2	12	0900	.8	11	1000	.5		1300	.6
12	0300	1.6		1400	.5	12	0300	1.2	13	0600	.0		1900	.9		1800	.7		1400	.6		2000	.2		2000	.0		2300	-.5		2300	-.7	15	0300	1.2
	1400	.5		2000	1.4		1400	.5		2000	1.0	12	0600	-.4	14	0400	-.2		2000	1.4	14	0800	1.2	13	1000	1.2	13	1000	.7	12	1300	.5		1300	1.2
13	0500	1.6	11	1400	-1.1		2200	1.0	14	0600	-.2		2100	.8		2100	1.6	12	0400	.6		2000	.0		2100	.0		2300	-.5		2200	-.4	16	a	a
	1500	.6	12	0200	-.4	13	0800	.5		2100	1.0	13	0700	-.2	15	0500	.9		1200	1.6	15	0200	.5	14	1000	1.2	14	1200	.6	13	1100	.7		1400	.2
14	0500	1.8		1300	-.9		0300	.3	15	0700	-.2		2100	2.3		1700	1.9	13	0400	.6		0300	.0		2300	-.1		2300	-.5		2300	-.2	17	0300	1.2
	1600	.8	13	0800	.5	14	0700	-.2		2300	1.2	14	0500	3.3	16	0800	.9		0900	.7		1100	1.2	15	0900	1.1	15	1100	.6	14	1000	.6		1400	e-.1
15	0500	1.8		1600	-.1		2400	.1	16	0800	-.3		0600	2.3		1600	1.3		1600	.3		2100	.0		2300	-.2		2100	-.4		1500	.6	18	0500	1.1
	1700	.8	14	0900	1.0	15	0800	-.5		2400	1.2		1800	3.4		2400	1.3		2200	.5	16	1300	1.4	16	1300	1.2		2200	-.1		2300	.0		1500	.2
16	0800	2.1		1800	.4		2300	.6	17	1000	-.4	15	1100	.9	17	0800	.6	14	0500	.0		1900	-.2		2300	.1		2400	-1.0	15	1600	.7	19	0700	1.7
	1800	1.3	15	0400	1.0	16	0700	-.1	18	0100	1.3		1600	1.1		2400	1.1		1100	.3	17	1000	1.6	17	1400	1.2	16	0200	.1	16	0200	.1		1700	.5
17	0600	2.1		1900	.6		2300	1.0		1100	-.1	16	1000	-.7	18	2200	-.6		1700	.2		2300	.2		2400	.2		0300	-.3		0800	.5	20	0600	1.6
	2000	.8	16	0400	.9	17	0900	.0	19	0200	1.3	17	0300	.8	19	0300	-.3	15	0300	.8	18	1200	1.1	18	1200	1.2		1400	.6		1400	.3		1800	.3
18	0700	1.5		1000	.5		2300	1.2		1200	-.2		1000	.1		2000	-.3		0900	.8		2400	.0	19	0100	.0	17	0100	-.5	17	0700	.7	21	0900	1.5
	2000	1.2	17	0100	.8	18	1000	-.2	20	0400	.9		2200	.7	20	0700	.6		1700	.4	19	1400	1.0		1200	1.0		1400	.6		1300	.4		1900	.5
19	0400	1.5		0800	.4		2100	1.1		1300	-.2	18	1200	-.4		2100	-.5	16	0400	1.2	20	0100	.0	20	0100	.0	18	0100	-.4		2200	1.0	22	1000	1.7
	1000	1.1		2100	1.1	19	1000	-.6	21	0300	.8	19	0700	.4	21	1200	.2		2100	.5		1100	1.0		1400	.9		1100	.2	18	0600	1.1		2100	.5
20	0400	1.4	18	0900	-.2		2400	1.1		1400	-.1		1200	.0		2100	-.4	17	1000	2.0	21	0100	-.1	21	0300	.0		2400	-.4		1400	.3	23	1200	1.6
	0900	1.1		2300	.5	20	1100	-.4		2400	.7	20	1600	1.4	22	1400	.6		2400	.4		1600	.9		1200	.7	19	1100	.2	19	0700	1.1		2100	.4
21	0100	1.4	19	1000	-.7	21	0400	1.4	22	1400	.0	21	0100	.9		2200	.0	18	0800	.9	22	0200	.1		2400	.3	20	0100	-.2		1500	.3	24	0600	.9
	1100	.7	20	0100	.5		1200	.1		2300	.5		1700	1.6	23	1200	1.7	19	a	a		1500	.9	22	1300	.7		0900	.3	20	0600	1.5		1300	1.0
	2100	1.2		1000	-.8	22	0300	1.8	23		b	22	0400	.4	24	0200	.2	20	a	a	23	0200	.1	23	0200	.5		1400	.1		1600	.4		2200	.4
22	0900	.2		2200	.6		1200	-.3	24	0200	-.2		1200	.6		0600	.8	21	0200	-.3		1500	.7		1000	.8		1500	.5	21	0500	1.4	25	1400	.8
	2300	1.2	21	1000	-.9		2300	.5		0600	.4	23	0300	-.5		2400	-.9		1400	.6	24	0300	.0		1900	.3		1600	-.5		1700	-.1		2400	.5
23	1000	.1	22	0100	.7	23	1400	-1.3		1300	-.2		1900	.9	25	1200	.1	22	0100	-.4		1500	.6	24	0900	1.0		1700	.3	22	0600	1.2	26	0500	.6
24	0100	1.4		1100	-.8	24	0500	.0		2200	.4	24	0500	.2		2400	-1.1		1600	.5	25	0400	.0		1800	.3		2000	.0		1800	-.3		1000	.4
	1300	.1	23	0300	.8		1300	-.9	25	0600	-.2		1700	.8	26	1700	.1	23	0200	-.4		1500	.5	25	0900	1.2		2300	.4	23	0700	1.1		2100	1.0
	2300	1.2		1200	-.5	25	0600	.2		1900	.6	25	0600	-.2	27	0300	-.6		1500	.5	26	0200	.2		1900	.3	21	0100	.2		1900	-.4	27	0400	1.0
25	1200	-.3	24	0400	.8		1400	-.2	26	0500	.0		2000	.7		1300	.0	24	0300	-.4		1400	.5	26	0800	1.4		0700	.5	24	0900	.9		1100	.4
26	0300	.9		1300	-.5	26	0400	.5		2100	1.1	26	0700	-.1	28	0300	-.7		2000	.5		2400	.0		1900	.2		1800	-.3		2000	-.3	28	0100	1.3
	1300	-.4	25	0500	.6		2200	.8	27	0700	.3		2100	1.0		1500	.2	25	0400	.2	27	1000	.5	27	0800	1.5	22	0700	.5	25	1100	1.1		1100	.3
27	0500	1.0		1400	-.4	27	0500	.3		2000	1.1	27	0800	.1	29	0500	-.5		1700	1.1		2000	-.1		2100	-.1		1700	-.4		2100	-.1	29	0200	1.2
	1500	-.3	26	0700	1.4		1700	1.2	28	0800	.0		2100	1.1		1700	.2	26	0400	.5	28	0800	.6	28	1000	1.3	23	0700	.4	26	1300	1.2		1200	.2
28	0400	.9		1600	.7	28	0800	-.5		2100	1.1	28	a	a	30	0600	-.5		1600	1.4		2100	-.3		2100	-.2		1700	-.7		2100	.1	30	0200	1.3
	1600	-.4	27	0300	1.7		1700	-.1	29	0800	.0					2300	.2	27	0500	.9	29	1000	.7	29	1200	1.4	24	0700	.4	27	1500	1.4		1200	.3
29	0500	.6		1900	.2	29	0700	-.9		2300	1.1				31	0700	-.2		1500	1.6		2100	-.3		2300	-.2		1900	-.9		2300	.4			
	1700	-.5	28	0200	.7		2400	.5	30	1000	.1							28	0800	.4	30	1000	1.1	30	1100	1.3	25	0900	.4	28	1500	1.7			
30	0900	.4		1800	-.5	30	0700	-.1		2300	1.1								1200	.7		2000	-.3		2400	-.2		1900	-1.0		2400	.9			
	1900	-.2	29		c		2000	.9	31	1000	.2								2200	.3	31	1100	1.1				26	0800	.4	29	0600	1.4			
31	1200	.6	30	0200	.9	31	0800	-.4		2200	1.1							29	1200	.6		2200	-.4					2000	-.9		1100	1.0			
	1900	.2		0600	.6		2000	.2											2200	.3							27	1200	.6		1800	1.6			
				1800	1.9													30	1300	1.1								2100	-.9	30	0200	1.1			
																			1900	.3							28	1300	.5		0400	1.5			
																												2100	-.8		1400	1.0			
																											29	1100	.3		2200	1.6			
																												2300	-.9	31	1300	.8			
																											30	1500	.3		2400	1.4			
																												2400	-.7						
																											31	1700	.3						

Table 10H.--L11, Matagorda Bay Entrance Channel near Port O'Connor, Tex.

LOCATION.-- Lat 28°25'31" long 96°19'25", on concrete pile near landward end of southwest jetty, about 5 miles east southeast of Port O'Connor, Matagorda Co.

RECORDS AVAILABLE.-- September 1963 through May 1967; March 1968 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1968 water year: maximum and minimum elevations not determined.
1969 water year: maximum elevation 3.9 feet (estimated), Feb. 14; minimum -2.0 feet, July 27 and 28.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records since March 1968 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
															1	a	a	1	0800	0.7	1	0800	1.2	1	1200	1.1	1	0100	-0.1	1	0500	0.7	1	0300	2.0
															2	a	a		2300	-.5		2300	-.8		2300	-.5		1000	1.0		1500	-.5		1600	-.2
															3	a	a	2	1100	1.0	2	1000	1.1	2	1100	1.2		2400	.1	2	0500	.9	2	0300	2.0
															4	a	a		2300	-.1		2300	-.9		2400	-.4	2	0800	.9		1600	-.7		1800	-.2
															5	a	a	3	1200	1.7	3	1200	1.0	3	1300	1.1		1600	.4	3	0400	e1.1	3	0400	2.2
															6	a	a	4	0100	-.2	4	0100	-1.2	4	0300	.0		2100	.7		1700	e-.8		1900	-.2
															7	a	a		0900	1.4		0900	1.0		1200	.8	3	0400	.5	4	0600	e1.3	4	0500	2.0
															8	a	a		2400	-.5		2400	-1.0		2000	.2		0900	.9		2200	e.3		1900	-.2
															9	a	a	5	1300	1.0	5	1300	1.0		2200	.6		1600	.4	5	0500	e1.6	5	0400	1.9
															10	a	a	6	0300	-.8	6	0200	.1	5	0400	.2	4	0800	1.2		2200	e-.6		2000	.0
															11	a	a		1400	1.0		1300	e1.2		1200	.7		1800	.6	6	0700	e1.5	6	0600	1.8
															12	a	a	7	0300	-.3	7	0400	e.5		1900	.1	5	0400	1.6		2100	e-.7		0700	1.5
															13	a	a		1400	1.1		1200	e1.2	6	0200	.8		2000	e.5	7	a	a		1400	1.9
															14	a	a	8	0500	-.3		2100	e.6		0900	.8	6	a	a	8	a	a		2100	.7
															15	a	a		1500	1.0	8	0100	e.9		1800	-.3	7	a	a	9	0200	e.3	7	0400	1.8
															16	a	a	9	0800	-.4		0400	e.2	7	0200	1.0	8	a	a		0500	1.1		0900	1.5
															17	a	a		1600	1.0		1200	e.9		1900	-.9	9	a	a		1600	1.0		1500	1.8
															18	a	a	10	0100	.7		1900	e.4	8	0600	1.1	10	a	a		2400	-.4		2300	1.0
															19	a	a		0600	-.6	9	0100	e.9		2000	-1.0	11	0900	1.1	10	0900	.9	8	0400	1.6
															20	a	a		1500	.5		0700	e.4	9	0300	1.2	12	0200	.0		1500	1.0		1100	1.2
															21	a	a		2100	.0		1500	e1.0		1900	-1.4		0800	1.1		2300	-.1		1600	1.6
															22	a	a	11	0100	.4		1900	e.0	10	0400	1.7		2300	-.9	11	0600	.8		2300	.8
															23	a	a		0900	-.4	10	0900	1.6		2000	-1.5	13	1200	1.0		1300	.5	9	0500	1.3
															24	a	a		1300	.4		1900	-.2	11	0800	1.3		2200	-.3		1700	.7		1100	.7
															25	a	a		2000	.1	11	0400	1.8		2100	-1.7	14	1000	1.0	12	0100	.1		1900	1.7
															26	a	a	12	0400	1.0		1700	-.8	12	0900	e1.2		1700	.9		0600	.6	10	0700	1.1
															27	0200	0.4		0900	.5	12	0300	1.8		2200	-1.8		2300	.3		1300	.1		1000	.4
																0800	-.4		1400	1.0		2000	-.7	13	1100	.9	15	0800	1.0		2100	.5		1900	1.4
																1500	.3		2000	-.1	13	0500	1.8		2400	-1.4		1400	.7		2400	.3	11	0400	1.4
																2000	.1	13	0300	1.3		2000	-1.2	14	2000	-.4		1900	1.0	13	0700	.6		1200	.6
															28	0200	.6		1200	.7	14	0800	1.8	15	0100	-1.0	16	0300	.8		1500	.0	12	0100	1.7
																1100	.0		2200	-.8		2100	-1.3		1000	.8		0600	1.1	14	0500	.8		1200	.6
																1500	.4	14	0500	.9	15	1000	1.6	16	0100	-.6		1600	.4		1500	-.2	13	0100	2.1
																2200	.0		1400	.5		2200	-1.3		1000	.6	17	0600	1.0	15	0400	1.0		1300	.7
															29	0400	.6		2200	-1.4	16	1100	1.2	17	0200	-.1		1500	.1		1500	-.2		2400	2.1
																1200	.1	15	0600	.9	17	0100	-1.1		1000	.6	18	0200	1.0	16	0300	1.2	14	1300	.7
																1500	.3		1500	.6		1000	1.2		1600	.1		1600	-.2		1400	-.4	15	0100	2.4
																2200	-.3		2200	-1.2	18	0100	-1.2	18	1100	.6	19	0500	1.0	17	0200	1.1		1400	.2
															30	0600	.6	16	0900	1.2		1200	1.2		1700	.0		a	a		1700	-.8	16	0200	1.9
																1500	.3		2200	-1.2	19	0400	-.5	19	0400	.7	20	0600	e1.1	18	0300	1.2		1600	.2
																2200	-.4	17	1100	1.5		1300	.7		1800	-.2		a	a		1700	-.7	17	0300	1.9
															31	0800	.8		2400	-1.1	20	0300	-.2	20	0400	.9	21	0400	1.1	19	0500	1.4		1700	-.6
																1600	.7	18	1000	1.1		1200	.8		1900	-.3		2000	-.7		1900	-.8	18	0100	1.7
																2200	-.6	19	0100	-.7		2300	.8	21	0500	1.2	22	0600	1.0	20	0700	1.2		0800	1.7
																			1300	1.4	21	0600	.2		2000	-.5		2000	-.9		1800	-.8		1600	.0
																		20	0200	-.8		1300	.7	22	0500	1.4	23	0700	1.0	21	0600	1.0	19	0300	2.0
																			1200	1.0		1900	.1		1900	-.7		2000	-1.0		2000	-.9		1600	.1
																		21	0500	-.5	22	0300	.8	23	0400	1.9	24	0800	1.1	22	0600	1.0	20	0100	1.8
																			1100	1.0		1200	.7		1600	2.2		2100	-.7		2000	-.8		1000	1.7
																			2200	.8		1900	-.1		2000	.8	25	0900	1.2	23	0600	1.0		1800	.3
																		22	0500	.0	23	0200	1.1	24	0900	2.4		2400	.0		1300	1.0	21	0500	1.7
																			1400	.8		1800	-.3		2300	.6	26	1100	1.1		2000	-.5		0700	1.6
																			2000	.5	24	0600	1.2	25	0900	2.2		2100	-.4	24	0700	1.0		1200	1.8
																			2300	.8		2000	-.4		2200	-.3	27	0800	1.3		1500	1.0		1800	.9
																		23	0700	.0	25	0600	1.2	26	0800	1.6		2300	-.4		2200	-.3	22	0200	2.0
																			1100	.7		2000	-.4		2400	-.3	28	0800	1.0	25	0300	1.0		0600	e1.8
																			1900	.0	26	0500	1.4	27	0900	1.4		2200	-.1		1200	.6		1300	e2.4
																		24	0200	.4		1900	-1.0	28	0300	e.7	29	0800	.8		1500	1.0		1900	e1.7
																			0700	.0	27	0800	1.3		0800	e1.4		2400	.1		2300	.1	23	0100	e2.2
																			1400	.6		2200	-1.2	29	0400	e.9	30	0700	.7	26	0600	1.0		0800	1.5
																			2000	-.1	28	0800	1.3		1100	1.9		1500	.1		1200	.6		1500	2.4
																		25	0300	.6		2200	-1.1	30	0100	.2	31	0600	.8		1700	1.1		2000	e2.0
																			1000	.1	29	1000	1.0		0900	1.4		1300	.1		2200	.5	24	0200	e2.2
																			1300	.4		2300	-1.1							27	0500	1.0		0800	.9
																			2000	-.1	30	1000	.8								1200	.4		1600	2.3
																		26	0500	1.1		2400	-1.3								1800	1.2	25	1000	.3
																			2000	-.4	31	1000	1.1							28	0500	1.4		2200	2.0
																		27	0500	1.0		2200	-.6								1300	.7	26	1000	.3
																			2000	-.5											2300	1.8		2200	2.0
																		28	0600	1.1										29	1400	.3	27	1000	.1
																			2100	-.7										30	0400	1.9		2200	2.3
																		29	0600	1.0											1400	.5	28	1200	.1
																			2000	-.7										31	0200	2.2	29	0100	2.4
																		30	0800	.9											1600	-.1		1400	e.2
																			2100	-.6														2400	2.0
																																	30	1400	-.3

Table 10H.--L11, Matagorda Bay Entrance Channel near Port O'Connor, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0200	1.8							1	a	a	1	0800	-0.6	1	0600	-0.7	1	0200	0.7	1	0800	1.8	1	0800	1.5	1	1000	1.7	1	0600	0.6	1	1100	-0.2
	1600	.2							2	a	a		1800	1.6		1900	1.1		0900	-.1		1900	-.3		2000	-1.8		2200	-.9		1400	.3		2400	1.3
2	0100	1.9							3	a	a	2	0800	-.4	2	0800	-.3		1500	.6	2	0700	1.7	2	1000	1.7	2	1000	1.5		1700	.7	2	1400	-.5
	0900	1.8							4	a	a		1900	1.4		2400	1.8		2200	.0		2000	-.8		2300	-1.5		2300	-.7		2300	.0		2400	1.3
	1800	.4							5	a	a	3	0900	-.6	3	1000	-.4	2	0400	.8	3	0600	1.7	3	1100	1.6	3	1200	1.2	2	0600	.7	3	1400	-.4
3	0200	1.8							6	a	a		1800	1.1		1600	.9		1000	-.1		2100	-.5		2200	-.5		2300	-.2		1200	.2	4	0400	1.3
	1000	1.7							7	a	a	4	0200	1.1		2400	.2		1600	.5	4	0700	2.3	4	0700	1.9	4	0900	1.0		2000	.7		1400	-.3
	1800	.2							8	a	a		0900	.0	4	0200	.5		2100	-.2		2200	-.5		2400	-.6	5	0200	.1	3	0200	.4	5	0200	1.5
4	0200	1.3							9	a	a		1700	1.4		1000	-.6	3	0500	.9	5	1000	2.3	5	0900	1.4		0800	.8		0700	.6		1600	-.3
	0700	1.2							10	a	a	5	0300	1.5	5	0500	1.5		1500	.6		2400	-.1	6	0200	.0		1400	.3		1300	-.2	6	0500	1.4
	1300	1.7							11	a	a		1100	.5		1100	e.6		1900	-.4	6	1100	2.4		1100	1.3		2300	.8	4	0100	.8		1600	.0
	1900	1.2							12	a	a		1700	1.4		1600	e1.3	4	0600	1.1	7	0200	-.2	7	0400	.3	6	0900	.8		1300	-.3	7	0400	1.6
5	0500	1.9							13	a	a		2400	.8		2300	e.6		1400	1.0		1100	2.0		1100	1.0		1400	.0	5	0200	1.1		1800	-.3
	0800	1.6							14	1600	1.2	6	0500	1.2	6	0500	e1.5		2100	-.7		2400	-.3		1700	.6	7	0300	1.0		1500	-.4	8	0400	1.4
	1400	2.3							15	0600	-1.2		1000	.4		1200	.7	5	0600	1.2	8	1200	1.7		2300	1.0		0700	1.0	6	0200	1.1		2000	-.6
	2000	1.6								1700	1.4		1700	1.0		1500	e1.2		2200	-1.4	9	0300	-.7	8	0500	.8		1700	-.3		1700	-.6	9	0600	1.0
6	0200	2.0							16	0800	-1.5	7	0100	.1		2300	.2	6	1000	1.1		1500	1.1		1100	1.1	8	0400	1.1	7	0300	1.2		2000	-.3
	0900	1.1								1800	1.4		0800	.8	7	0600	e.9		2100	-1.2	10	0500	-.2		1700	.3		1700	-.5		1600	-.8	10	0300	.9
	1500	2.0							17	0800	-1.6		1200	.4		0800	e.7	7	1000	1.2		1100	.9	9	0100	1.1	9	0500	1.2	8	0400	1.0		1400	1.1
	2100	1.4								2000	1.5		1800	.8		1700	e1.3		2300	-.7		1700	.7		1000	.8		1800	-.9		1700	-1.0		2100	.2
7	0200	1.8							18	1000	-1.3	8	0100	.4		2200	e.6	8	1300	1.4	11	0100	1.0		1700	-.1	10	0500	1.2	9	0500	1.0	11	0500	1.2
	0800	.8								2000	1.5		1000	1.2	8	0800	1.8	9	0100	-.8		0600	.1	10	0500	1.0		1600	-.8		1800	-1.0		1200	.9
	1600	2.2							19	1000	-1.4		1300	.8		2300	-1.0		1400	1.4		0900	1.1		1900	-.5	11	0500	1.3	10	0600	.9		1400	1.1
	2300	1.9								1700	1.1	9	1100	.9	10	0100	-.6		1300	.9	11	0600	1.2		1800	-1.1		1900	-1.3		2000	.3
8	0300	2.1							20	1100	-.9	9	0200	-.6	10	0100	-1.5		1400	1.3		1700	.1		2000	-.5	12	0600	1.1	11	0400	.6	12	0500	1.0
	0800	.7								1200	.9		1200	1.2		1200	.9	11	0300	-.8	12	0200	1.0	12	0600	1.5		1900	-1.2		1100	.5		0900	.7
	1600	2.2							21	0400	1.0		1400	1.0	11	0200	-1.1		1200	1.2		0800	.3		1900	-.7	13	0800	1.0		1900	-1.1		1600	1.1
9	0300	2.0								1100	-.5		1800	1.2		1300	1.0		2300	1.5		1300	.8	13	0600	1.5		1900	-1.4	12	0200	.4		2300	.4
10	a	a								2000	.9	10	0200	-.2	12	0500	-.8	12	0300	.4		1700	-.4		1900	-.6	14	0900	.9		0400	.1	13	0300	.8
11	a	a							22	0500	.8		1500	1.6		1300	1.3		1400	1.7	13	0700	1.2	14	0600	1.6		1900	-1.2		0600	.7		1000	.3
12	a	a								1400	-.2	11	0300	-.6	13	0500	-1.5		1900	.9		2000	-.5		1900	-.9	15	0800	.8		1100	.4		1700	1.1
13	a	a								1900	.7		1600	1.5		1600	1.0	13	0100	1.2	14	0500	1.5	15	0900	1.5		2000	-.8		1300	.6	14	0400	1.3
14	a	a							23	0200	.0	12	0600	-0.6	14	0800	-1.0		0800	-.2		2000	-.7		2200	-.6		2200	-.3		2000	-1.1		1200	.4
15	a	a								0800	.6		1600	1.6		2100	1.9		1300	.8	15	0500	1.3	16	0800	1.6		2300	-1.9	13	0500	.7		1800	1.3
16	a	a								1500	.1	13	0400	-.6	15	0600	e.1		2000	.1		2100	-.5		2200	-.6	16	0200	.7		1500	.7	15	0300	1.3
17	a	a								1900	.5		1900	e2.9		1400	e2.0	14	0100	.7	16	0600	1.6	17	0800	1.6		0900	1.0		2000	-.6		1100	-.1
18	a	a							24	0200	-.3	14	0600	e3.0		1700	e1.7		0900	-.2		2100	-.7		2200	-.4		2100	-1.1	14	0600	.8		2300	1.3
19	a	a								1200	.6		0700	e1.4		2200	e1.9		1400	.5	17	0600	1.9	18	0900	1.5	17	0900	.7		1600	.7	16	1200	-.2
20	a	a								2300	.7		1600	e3.9	16	1000	e.1		2000	.1		1900	-.7		2200	-.4		2200	-.7		2300	-.3		2300	1.4
21	a	a							25	0400	-.1	15	0700	e-.5		1500	e1.5	15	0400	1.0	18	1000	1.4	19	1000	1.2	18	0800	.5	15	0500	.9	17	1300	-.6
22	a	a								1800	1.0		1600	1.8		2000	e1.1		1000	.4		2200	-.7		2400	-.3		2300	-.5		1700	.8	18	0300	1.3
23	a	a							26	0300	-.2	16	1000	-1.2	17	0100	e1.5		2000	.2	19	0900	1.3	20	0800	1.2	19	0800	.4		2100	-.1		1300	-.3
24	a	a								1700	1.4		1700	1.0		0800	e.2	16	0400	1.4		2300	-.5	21	0100	-.4		1300	.0	16	0600	.8	19	0300	2.0
25	a	a							27	0500	.0	17	0200	1.4		1600	1.3		1200	1.0	20	1000	1.2		0900	.9		1700	.3		1300	.3		1500	.0
26	a	a								1700	1.6		1000	.0		2300	.9		1500	1.2		2300	-.6		2300	.1		1800	-.3		1600	.8		2400	1.9
27	a	a							28	0600	-.3		1500	1.4	18	0200	1.3		2000	.1	21	1200	1.2	22	1100	e.8		2000	.2	17	0200	.4	20	0500	1.9
28	a	a								1600	1.4		2300	.9		1000	-.5	17	0600	2.2		2300	-.4		1700	e.2		2400	-.1		0500	e.8		1500	-.3
29	a	a							29	0600	-.4	18	0300	1.1		1500	.0		2100	-.4	22	0900	1.1		2400	e.6	20	0700	.5		1200	e.1	21	0400	1.8
30	a	a								1900	e1.5		1100	-.4		2100	-1.0	18	0700	1.1		2400	-.3	23	0300	e.4		1300	.1		2000	e1.0		1600	.0
31	a	a							30	0600	e-.5		1900	.7	19	0400	-.1		2100	-1.4	23	1200	.9		0900	e.8		1400	1.2		2400	e.7	22	0300	1.9
										1800	1.5		2100	.5		1000	-.5	19	1000	.6	24	0100	-.2		1700	e.0		1500	-.8	18	0600	e1.1		1900	.0
									31	0600	-.3	19	0600	-.3		1600	-.1		2200	-.9		1100	.8		2400	e.7		1800	.6		1300	e-.3	23	0500	1.7
										1900	1.5		1300	.4		2200	-.4	20	0900	1.1	25	0200	-.1	24	0800	e.9		2400	.3		2000	e.8		2000	-.3
													1800	1.2	20	0700	.8		2200	-1.0		1000	.6		1700	e-.3	21	0600	.7	19	0600	1.1	24	0400	1.1
													2300	e.9		2300	-1.0	21	1100	.9		1900	.1	25	0500	e1.3		1300	-.3		1200	.1		0800	.9
												20	0700	1.8	21	0800	.4		2400	-1.2		2300	.5		1600	e-.5	22	0600	.6	20	0500	1.7		1300	1.1
													1500	1.5		2400	-.8	22	1100	.8	26	0500	.2	26	0500	e1.5		1500	-.6		1500	-.3		2200	.0
													1700	e1.8	22	1100	.8	23	0100	-.8		1000	.8		1800	e-.8	23	0300	.5	21	0300	1.5	25	0400	.9
												21	0200	e.9		2400	-.3		1300	.7		1800	.0	27	0500	e1.7		1400	-1.0		1400	-.9		1100	.6
													0900	e1.9	23	1400	1.8	24	0200	-.8	27	0100	.6		1900	-1.0	24	0400	.6	22	0300	1.5		1500	1.1
												22	0200	.0		2300	-.1		1500	.7		0600	.4	28	0600	1.7		1600	-1.4		1700	-1.3		2200	.3
													1100	1.2	24	1300	.8	25	0300	.3		0900	.6		1900	-1.3	25	0300	.6	23	0400	1.3	26	0400	.8
												23	0100	-.6	25	0200	-1.6		1200	1.3		1800	-.4	29	0700	1.8		1700	-1.6		1700	-1.4		1000	.2
													1700	1.4		1400	.3	26	0300	.4	28	0500	.7		1900	-1.4	26	0400	.8	24	0400	1.2		1700	1.4
												24	0400	.1	26	0300	-1.4		1300	1.5		1900	-.7	30	0800	1.8		1700	-1.8		1900	-1.2		2300	.9
													1300	1.4		1500	.4	27	0300	e.6	29	0700	.8		2000	-1.6	27	0600	1.0	25	0700	1.3	27	0400	1.1
												25	0300	-.3	27	0400	-1.0		1400	e1.6		1900	-.8					1800	-2.0		1900	-.9		1000	.1
													1700	1.4		1400	.2		2000	.6	30	0500	1.5				28	0800	.9	26	0700	1.4		1800	1.6
												26	0500	-.3	28	0400	-1.0		2300	1.0		2000	-1.3					2000	-2.0		2100	-.6	28	1100	-.4
													1700	1.6		1500	.4	28	0800	.0	31	0500	1.6				29	0800	.6	27	0400	1.5		2200	e1.3
												27	0600	.0	29	0600	-.8		1100	.9		2000	-1.2					1900	-1.6		0700	1.1	29	1000	-.5
													1700	1.3		1700	.4		2000	.1							30	1000	.5		1500	1.5		2200	1.6
												28	0500	-.9	30	0700	-.9	29	0300	.8								2300	-1.1		2200	-.1	30	1100	-.3
													1400	1.1		1600	.2		0600	.4							31	0600	.5	28	0700	1.5		2400	1.7
																2100	.1		1300	.8								1500	.5		0900	1.2			
															31	0200	.3		2000	.1								2200	-.5		1500	1.8			
																0600	-.5	30	0400	1.2											2300	e.4			
																			1200	1.3										29	0600	1.4			
																			2300	.1											1000	.8			
																															1700	1.7			
																														30	0100	e.8			
																															0400	e1.5			
																															1100	e.9			
																															1800	e1.7			
																															2400	e1.3			
																														31	0400	1.5			
																															1000	.5			
																															2100	1.6			

Note: No usable record for November through December.

Table 101.--L12, Saluria Bayou at Pass Cavallo, near Port O'Connor, Tex.

LOCATION.-- Lat 28°23'58" long 96°24'26", at old U. S. Coast Guard Station 3.3 miles south of Port O'Connor, Calhoun Co.

RECORDS AVAILABLE.-- November 1963 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1968 water year: maximum elevation 2.6 feet, June 24; minimum -1.9 feet, Mar. 13.
1969 water year: maximum and minimum elevations not determined.

REMARKS.-- Gage maintained and operated by U. S. Army Corps of Engineers; records since August 1967 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1966 to September 1967.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																														1	0700	0.9	1	0700	0.8
																															1900	.0		2100	-.1
																														2	0700	1.0	2	1200	.9
																															2100	.0		2200	.0
																														3	0800	1.0	3	1400	1.1
																															2400	.3		2300	.4
																														4	0800	1.0	4	1400	1.4
																															2100	-.1		2300	.7
																														5	0900	1.0	5	0700	1.5
																															2300	.0		1700	1.5
																														6	1200	1.0		2400	1.0
																															2200	.0	6	0600	1.3
																														7	0800	1.0		1300	1.1
																															1600	1.0		1800	1.4
																															2300	.1	7	1400	.4
																														8	1000	.9		2100	e.7
																															1400	.7	8	0600	e.7
																															1600	.9		1400	.0
																														9	0100	.1	9	0600	.8
																															0800	.8		1700	.2
																															1300	.5	10	0500	.8
																															1800	.8		1700	.0
																														10	0200	.3	11	0900	.8
																															0700	.7		1900	.1
																															1500	.3	12	0700	e.8
																														11	0800	1.0		1800	.0
																															1600	.3	13	0300	1.1
																														12	0700	1.2		1000	1.1
																															1700	.4		1900	.2
																														13	0700	1.2	14	0900	1.3
																															1800	.2		1800	.5
																														14	0800	1.2	15	1100	1.6
																															1800	.2		2000	.9
																														15	0700	1.4	16	1200	1.6
																															1900	.4		2000	1.0
																														16	0600	1.4	17	1400	1.6
																															2100	.1		2200	1.2
																														17	1100	1.3	18	1500	2.0
																															2200	.1		2200	1.8
																														18	1100	1.2	19		c
																															2200	.1	20	1600	5.2
																														19	0800	1.4	21		b
																															2300	.3	22	1200	1.8
																														20	0900	1.2		2200	2.4
																															1200	1.0	23	1300	1.4
																															1400	1.3		2300	2.0
																															2300	.5	24	1300	1.0
																														21	0600	1.1	25	0200	1.9
																															1700	1.1		1400	1.0
																														22	0100	.5	26	0100	2.1
																															0400	1.0		1600	1.0
																															1600	1.1	27	0200	2.0
																															2400	.5		1700	.6
																														23	1700	1.3	28	0600	1.5
																														24	1200	.6		1800	.4
																														25	0600	1.1	29	0600	1.5
																															1500	.6		1800	.5
																														26	0400	1.2	30	0700	1.6
																															1500	.5		2000	.5
																														27	0400	1.2			
																															1300	.4			
																														28	0400	1.2			
																															1800	.3			
																														29	0300	1.0			
																															1900	.0			
																														30	0500	.9			
																															1900	-.1			
																														31	0700	.8			
																															2000	-.2			

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0300	1.4	1	1000	-0.3	1	0800	-0.1	1	1200	-0.3	1	1800	e0.9	1	0300	-0.6	1	1200	0.8	1	a	a	1	1200	1.0	1	0100	0.3	1	0700	0.8	1	0400	1.5
	1200	1.4		2400	.8		2200	1.5		2300	1.1	2	1300	e.0		1200	-1.1		2400	-.1	2	a	a	2	0300	.2		1100	1.1		1500	-.1		1800	.3
	2000	.6	2	0900	.0	2	1100	.0	2	1200	.1	3	2100	e.9	2	0600	.1	2	1100	1.0	3	a	a		1200	1.0	2	0100	.4	2	0600	.9	2	0800	1.5
2	1300	1.9	3	0200	1.3		1900	1.2		2300	1.2	4	2000	e.9		1800	.2	3	0200	.2	4	a	a	3	0300	.1		0800	1.0		1900	-.1		1800	.3
	2100	1.2		1100	-.1	3	1100	-.7	3	1400	.2		0300	e.6	3	0100	-.4		1300	1.5	5	a	a		1200	1.1	3	0300	.6	3	0900	1.0	3	0700	1.6
3	0200	1.6		2200	1.0	4	0300	.9	4	0100	1.1	5	1800	e1.1		0900	.0	4	0200	.6	6	a	a	4	0300	.1		0600	1.0		1800	-.1		2000	.4
	1000	1.3	4	1100	-.3		1200	-.1		1400	.1		0600	e.1		1700	.0		1100	1.5	7	a	a		1200	1.0		1600	.5	4	0600	1.1	4	0900	1.6
	1500	1.7		2300	1.2		2400	1.2	5	0600	1.0	6	1600	.4		2400	-.5	5	0100	.1	8	a	a	5	0500	.4	4	0800	1.3		2000	-.1		2100	.4
	2000	1.3	5	1100	.1	5	1300	.1		1300	.8	7	0700	-.6	4	1400	.1		1400	.9	9	a	a		1200	.8		1900	.8	5	0900	1.3	5	0800	1.6
4	0100	1.6		2400	1.4		2400	1.3		2100	1.2		1700	.1	5	0100	-.3	6	0500	-.1	10	a	a		1800	.4	5	0700	1.6		1900	.0		2200	.3
	1000	1.1	6	1200	.2	6	1400	.2	6	0900	1.1	8	0500	-.7		1800	.7		1700	.8	11	a	a	6	0900	.9		1800	.6	6	0700	1.3	6	1400	1.5
	1700	1.7	7	0300	1.4	7	0300	1.0	7	0700	.2		2000	.3	6	0100	.0	7	0600	.2	12	a	a		1900	.2	6	0600	1.5		2100	.0		2200	.9
5	0300	1.6		1300	.2		1500	.2		2200	.6	9	0600	-.6		1500	.9		1500	1.0	13	a	a	7	0600	1.0		1800	.1	7	1000	1.3	7	0500	1.4
	1100	.6	8	0200	1.3	8	0500	1.0	8	0500	.3		2000	.3	7	0500	-.2	8	0600	.2	14	a	a		1900	-.1	7	0600	1.3		2300	.0		1600	1.4
	1800	1.4		1500	.4		1500	.6		2100	1.3	10	0700	-.7		1600	.5		1700	.9	15	a	a	8	0700	1.0		2000	-.1	8	1400	1.3		2400	1.1
6	0200	1.4	9	0500	1.4		2300	1.1	9	a	a		1900	.2	8	0400	-.3	9	a	a	16	a	a		2100	-.2	8	0800	1.3		2200	.0	8	0400	el.4
	1100	.4		1700	.8	9	2100	1.4	10	a	a	11	0800	-.6		1800	.6		e1700	.9	17	a	a	9	0700	1.1		2100	-.2	9	1200	1.1		1200	e1.1
	2300	1.5	10	0200	1.4	10			11	a	a		1800	.5	9	0500	-.1	e10	e0100	.9	18	a	a		2000	-.2	9	1200	1.6		2400	.1		1500	e1.4
7	1200	.4		1800	.7	11	0700	-.6	12	a	a	12	0800	-.3		1700	.9		e0600	.0	19	a	a	10	0700	1.4		2200	-.3	10	1500	1.0	9	1200	e.8
	2300	1.7	11	0100	1.2		1300	.0	13	a	a		2200	1.1	10	0500	.0		e1600	.6	20	a	a		2100	-.3	10	0800	1.3	11	0100	.2		1900	e1.3
8	1300	.0		1800	.6	12	0700	-.8	14	a	a	13	0900	.1		2300	1.0		e2200	.3	21	a	a	11	0900	1.2		2300	-.4		0500	.8	10	0700	e.9
9	0300	1.3		2400	.9		2400	.4	15	a	a	14	0200	1.4	11	0900	.1	e11	e0200	.5	22	a	a		2300	-.5	11	1100	1.1		1700	.8		1200	e.5
	1400	.1	12	0800	.6	13	0700	.1	16	a	a		1000	.6		1600	1.0		e0900	.0	23	a	a	12	1000	1.0		2300	-.3	12	0100	.3		1500	e.9
10	0400	1.2		2400	.7		1900	1.2	17	a	a		1800	1.3	12	0900	-1.6		e1400	.3	24	a	a		2400	-.6	12	0900	1.1		0500	.7	11	0400	el.2
	1600	.0	13	0800	.4	14	0800	.3	18	a	a	15	0300	1.2		1800	-1.0		e2200	.3	25	a	a	13	1100	.9		2400	-.2		1200	.4		1300	e.6
11	0300	1.1	14	0100	.9		1900	1.0	19	a	a		0900	.2	13	1000	-1.9	e12	e0600	.9	26	a	a		2400	-.6	13	1000	1.1	13	0700	.8	12	0400	el.4
	1700	.1		0900	.3	15	0800	-.2	20	a	a		1600	.9	14	0400	.0	13	a	a	27	a	a	14	1200	.8	14	0200	.2		1500	.2		1400	e.7
12	0800	1.1		1600	.9		2200	.9	21	a	a	16	1100	-.1		0900	-.4	14	a	a	28	a	a	15	0100	-.4		1000	1.1	14	0500	.9	13	0500	el.6
	1900	.3	15	0800	.0	16	0900	-.1	22	a	a		1800	.5	15	0300	.5	15	a	a	29	a	a		1100	.7	15	0200	.6		1400	.2		1500	el.0
13	0900	1.3		2400	.9		2100	1.2	23	a	a	17	0400	.6		1100	.2	16	a	a	30	1100	0.8	16	0200	-.2		1000	1.0	15	0400	1.1	14	0400	el.7
	1900	.6	16	0900	.3	17	1000	.1	24	a	a		1300	.3		1700	.5	17	a	a		2400	-.4		1300	.6		1700	.8		1700	.3		1400	el.0
14	1200	1.4	17	0100	1.1		2200	1.4	25	a	a		1800	.7		2300	.2	18	a	a	31	1300	.9	17	0300	.0	16	0600	1.3	16	0600	1.2	15	0500	el.9
	2000	.9		1000	.3	18	1200	.0	26	a	a		2300	.3	16	0400	.5	19	a	a		2400	.1		1200	.6		1700	.7		1700	.2		1800	e.8
15	1400	1.8	18	0100	1.1		2000	1.2	27	a	a	18	0700	1.0		2400	-.4	20	a	a				18	0600	.3	17	0900	1.2	17	0400	1.2	16	0600	el.6
	2300	1.0		1100	.1	19	1100	-.2	28	a	a		1700	1.1	17	0800	.4	21	a	a					0900	.6		1800	.4		1700	-.2		1700	.6
16	0200	1.5		2100	1.1		2400	1.1	29	a	a	19	0200	.7		1600	.5	22	a	a															
	0900	.6	19	1000	.0	20	1200	.0	30	a	a		1200	1.4		2400	-.1	23	a	a					1900	.3	18	0700	1.1	18	0500	1.2	17	0600	1.5
	1400	.9	20	0200	1.1	21	0300	1.3	31	a	a	20	0200	.5	18	1100	1.0	24	a	a				19	1000	.8		1800	.1	19	0500	1.1	18	0100	1.3
17	0800	-.1		1200	.2		1400	.4					1200	1.1	19	0200	.0	25	a	a					1800	.1	19	0500	1.1	19	0500	1.2	18	0100	1.3
	1500	.4		2300	1.3		2400	1.1				21	0300	.0		1100	1.1	26	a	a				20	0500	1.0		1900	.1	20	0600	1.2	20	0700	1.2		2000	.3
18	1100	-.2	21	1200	.0	22	1500	-.2					1400	1.0	20	0200	.1	27	a	a					1900	.0		2000	.0	19	0500	1.2			
	2400	.6		2400	1.2		2200	.3				22	0400	-.8		1500	1.3	28	a	a				21	0400	1.2		2000	.1	21	0600	1.0		1000	1.2
19	1100	.1	22	1200	.0	23	1400	-.3					1700	.9	21	0600	-.4	29	a	a					2000	-.1		2000	-.1		2000	.4			
20	0200	.9	23	0100	1.3		2200	.4				23	0600	-.6		1400	.8	30	a	a				22	0800	1.3		2000	-.1		2000	-.1		2000	.4
	1100	.1		1400	.1	24	1000	.5					1600	.6	22	0300	-.8								1900	.2	22	0700	1.0	22	0800	1.0	20	0300	1.1
	2100	.9	24	0300	1.2		1400	.3				24	0700	-.8		1700	.3							23	1600	2.2		2000	-.2		2000	.0		1200	1.2
21	1100	.0		1400	.3		2100	.6					2000	.4	23	0900	-1.2																	
22	0100	1.0	25	0100	1.0	25	0600	.2				25	0700	-.5		1700	-.2								1800	1.3	23	1000	1.0	23	1100	1.1		2000	.5
	1200	.1		1500	.2		1100	.5					1800	.5	24	0800	-1.1							24	0900	2.6		2100	-.2		2200	.3	21	1400	1.3
	2300	1.2		2300	.8		2000	.6				26	0800	-.6		1400	-.1								2300	.7	24	0800	1.1	24	1500	1.1		2000	.9
																								25	0800	1.9		2200	-.1		2200	.3	22	1500	1.8
23	1200	.4	26	1800	.3	26	0600	-.2					2100	.3	25	0100	.1								2100	.4	25	0900	1.2	25	1500	1.1		2300	1.5
	2400	1.5	27	0100	.7		2400	.8				27	1000	-.9		0800	-.5							26	1000	1.6		2200	.1		2300	.6	23	0300	1.7
24	1300	.3		0700	.4	27	0600	.1				28	0300	.4		1400	.1								2200	.2	26	1000	1.1	26	0600	1.0		1200	1.4
	2400	1.3		2300	1.1		1600	1.1					1000	-.1	26	0100	.2							27	1200	1.4		2300	.2		1200	.8		1600	1.8
25	1500	.3	28	0700	.8	28	0800	-.2					1400	.4		0900	-.4								2300	.4	27	1100	1.3		1700	1.0	24	0400	1.7
																								28	1100	1.5		2300	.3	27	1100	.6		1300	el.2
26	0100	1.4		2300	1.4		1900	.8				29	1200	-.9		1400	.1								2400	.2	28	1100	1.0	28	0500	1.4		1700	el.6
	1400	.6	29	0800	.8	29	0900	-.6					1800	-.6	27	0200	.4							29	1000	1.4	29	0100	.3		1400	.7	25	0300	el.6
27	0100	1.5		2000	1.7		2200	1.1					2100	-1.1		1100	.0								2300	.3		1100	.8	29	0400	1.4		1300	e.6
	1600	.4	30	0800	.2	30	0900	-.1							28	0200	.6							30	0900	1.4		2400	.3		1400	.6		2300	el.5
28	0500	1.2		1800	1.4		2100	1.2								1100	.3										30	0700	.7	30	0600	1.6	26	1300	e.4
	1700	.7				31	1100	.0								1600	.5											1400	.3		1600	.7	27	0200	el.4
29	1100	1.7					2200	1.3								2200	.3										31	0600	.8	31	0400	1.7		1900	el.0
30	0200	2.0													29	0400	.6											1600	.2		1600	.4	28	0800	el.4
31	0800	-.4														2400	.0																	1800	el.1
	1400	-.4													30	0700	.6																29	0700	el.5
	2400	.2														1400	.5																30	0700	el.3
																2300	.0																	1900	.2
															31	0900	.8																		
																1600	.8																		
																2300	.0																		

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0500	e1.1										1	a	a	1	0700	0.0	1	0400	0.5	1	0300	e1.4	1	1000	1.2	1	1100	1.3	1	a	a	1	1500	0.3
	a	a										2	a	a		2400	1.0		0800	.2		1400	e1.3	2	0200	e.1		2400	.0	2	a	a	2	0100	1.1
2	1100	e1.3										3	a	a	2	0700	.2		1400	.4		2300	e.6		a	a	2	1000	1.2	3	a	a		1500	.1
	2100	e.5										4	a	a		2400	1.6		2200	.2	2	0800	e1.4	3	1800	e1.1		2400	.1	4	a	a	3	0500	1.0
3	1200	e1.2										5	a	a	3	1100	.3	2	0400	.5		2200	e.2	4	0200	e.3	3	1200	1.0	5	a	a		1500	.2
	2300	e.5										6	a	a		1600	.9		1200	.3	3	1100	e1.4		1800	e1.2	4	0200	.2	6	1800	-.1	4	0500	1.0
4	a	a										7	a	a	4	1000	-.2		1600	.4		2200	e.3	5	0300	e.2		0900	.9	7	0600	1.0		1800	.1
5	1600	e1.6										8	a	a	5	0500	1.2		2400	.0	4	0900	e1.8	6	a	a	5	0200	.2		1800	-.2	5	0500	1.1
6	1000	e1.1										9	a	a	6	0400	1.4	3	0600	.6	5	0200	e.6	7	a	a		0800	.8	8	0600	.8		1800	.2
	1600	1.5										10	a	a		2300	.4		1500	.5		1200	e1.8	8	a	a		1600	.3		2000	-.2	6	0600	1.1
7	0400	1.3										11	a	a	7		c		2300	-.1	6	0100	e.7	9	a	a	6	0900	.8	9	0600	.8		1900	.4
	0900	.9										12	a	a	8	0700	1.6	4	0700	.8		1300	e2.0	10	a	a		1600	.2		2000	-.3	7	0500	1.2
	1800	1.5										13	a	a	9	0100	-.2		1500	.8	7	0300	e.8	11	a	a	7	0700	.9	10	0900	.8		1900	.3
8	0400	1.5										14	a	a		1100	.7		2400	.1		1400	e1.7	12	a	a		1700	.1		1900	-.5	8	0500	1.1
	1000	.9										15	a	a	10	0100	-.5	5	1100	1.0	8	0600	e.8	13	a	a	8	0400	1.0	11	0800	.6		2000	-.1
	1800	1.6										16	a	a		1600	.7		2300	-.3		1300	1.6	14	1300	e1.0	9	a	a		2200	-.7	9	0700	.8
9	0300	1.6										17	a	a	11	0300	-.4	6	1300	.7	9	0500	.2		2300	.0	10	a	a	12	1200	.6		2000	.2
	1200	.7										18	a	a		1700	.7	7	0100	-.5		1500	.9	15	1000	1.1	11	a	a		2100	-.5	10	1300	.9
	1900	1.7										19	a	a	12	0300	-.1		1700	.8	10	0500	.2		2300	-.1	12	a	a	13	1100	.6		2100	.4
10	0200	1.7										20	a	a		1700	1.0	8	0300	-.1		2400	.8	16	1100	1.2	13	a	a		2300	-.2	11	0700	1.0
	1300	.6										21	a	a	13	0500	-.4		1400	1.1	11	0700	.5		2200	.2	14	a	a	14	1000	.6		1300	1.0
	2100	1.4										22	a	a		1900	.7	9	0400	-.1		0900	.8	17	1100	1.2	15	a	a		2300	.0		2000	.6
11	0300	1.5										23	a	a	14	0600	-.2		1700	1.1		1900	.3		2300	.3	16	a	a	15	0500	.6	12	0500	.9
	1300	.6										24	a	a		2100	1.6	10	0400	.1	12	0200	.7	18	1100	1.2	17	a	a		1600	.7		2400	.6
12	0100	1.5										25	a	a	15	0700	.8		1600	1.0		1200	.7	19	0100	.1	18	a	a		2300	.2	13	0300	.8
	1500	.7										26	a	a		2100	1.8	11	0700	-.1		1900	.1		1100	1.1	19	a	a	16	0600	.6		1000	.5
13	0300	1.6										27	1700	1.2	16	0800	.8		2400	1.3	13	0800	1.2		2400	.1	20	a	a	17	0100	.5	14	0400	1.1
	1400	.8										28	0800	-.2		1400	1.4	12	0700	.8		1900	.2	20	0900	1.0	21	a	a		0600	.8		1200	.7
14	0300	e1.7											1800	.8	17	0100	1.4		1600	1.6	14	0500	1.2	21	0100	.1	22	a	a		1200	.5	15	0300	1.2
	a	a														0900	.6	13	0900	.5		2000	.1		1000	.8	23	a	a	18	0500	1.1		1300	.4
15	0400	e1.7														1400	1.1		1300	.8	15	0900	1.1		2300	.2	24	a	a		1400	.3	16	0300	1.2
	a	a													18	0200	1.2		2100	.4		2100	.0	22	1100	.8	25	a	a	19	0500	1.0		1300	.3
16	a	a														2300	-.5	14	0200	.6	16	0700	1.2	23	0300	.4	26	a	a		1400	.4	17	0100	1.1
17	a	a													19	0400	-.1		0900	.2		2200	.1		1000	.8	27	a	a	20	0500	1.4		1500	.1
18	a	a														1100	-.4		1500	.4	17	1000	1.5		1800	.3	28	a	a		1600	.5	18	0500	1.1
19	a	a														1500	-.1		2100	.2		2200	.2	24	0800	.8	29	a	a	21	0300	1.3		1500	.2
20	a	a														2000	-.3	15	0400	.8	18	1000	1.2		1800	.2	30	a	a		1700	.1	19	0400	1.5
21	a	a													20	0600	.7		1000	.6		2300	.0	25	0900	1.1	31	a	a	22	0500	1.2		1700	.6
22	a	a														2200	-.5		1300	.8	19	1200	1.0		1900	.3					1800	-.2	20	0500	1.6
23	a	a													21	0600	.2		2200	.5		2400	e.0	26	0500	1.3				23	0400	1.0		1700	.4
24	a	a														1500	.2	16	0600	1.2	20	1100	.9		1800	.2					1800	-.3	21	0500	1.4
25	a	a														2300	-.4		2100	.5		2400	-.1	27	0500	1.4				24	0900	.9		1800	.6
26	a	a													22	1500	.5	17	0700	1.8	21	1200	.9		1900	.0					1900	-.3	22	0500	1.6
27	a	a														2300	.1	18	0100	.5		2400	.1	28	0600	1.3				25	1000	1.1		1900	.6
28	a	a														1400	.2	20	0900	.7		1200	.6		2200	-.2					2000	-.1	23	0800	1.6
29	a	a													24	0200	.3	19	0100	e-.5	23	0100	.1	29	0900	1.4				26	1100	1.1		1900	.4
30	a	a														0800	.9		1000	e.4		1200	.7		2200	-.2					2100	.1	24	0400	1.0
31	a	a													25	0100	-.9		2400	-.3	24	0200	.1	30	0800	1.4				27	1500	1.3		1300	1.0
																1400	.2	20	0900	.7		1200	.6		2200	-.2					2200	.5		2100	.4
															26	0200	-1.0		2400	e-.2	25	0300	.1							28	1500	1.6	25	0300	.8
																1700	.2	21	1300	e.7		1100	.5								2300	1.0		1000	.7
															27	0500	-.6	22	0200	e-.3		1900	.3							29	0600	1.4		1500	.9
																1300	.1		1500	e.6	26	1000	.5								1000	1.0		2300	.5
															28	0500	-.7	23	0300	e-.3		2000	.2								1700	1.6	26	0400	.7
																1500	.2		1400	e.5		2300	.4							30	1200	1.1		1000	.5
															29	0600	-.5	24	0400	e-.3	27	0900	.5								1800	1.5		1600	.9
																1600	.2		1800	e.5		1900	-.1							31	0400	1.5	27	0300	1.0
															30	0700	-.5	25	0400	e.4	28	0800	.5								1300	.8		1000	.4
															31	0200	.2		1500	e1.0		1900	-.3								2400	1.4		1700	1.2
																1000	-.2	26	0500	e.6	29	1000	.6										28	0300	1.2
																			1600	e1.3		1900	-.3											1000	.3
																		27	0700	e1.1	30	0800	1.0											2300	1.1
																			1500	e1.5		2100	-.3										29	1100	.2
																		28	0800	e.6	31	0800	1.1										30	0100	1.2
																			1100	e.8		2100	-.4											1300	.4
																		29	a	a																
																		30	0600	e.9																
																			1300	e1.0																
																			1900	e.6																

Note: No usable record for November through January.

Table 11.--E2, Espiritu Santo Bay near Port O'Connor, Tex.

LOCATION.-- Lat 28°23'36" long 96°28'59", on ferry channel marker 11 in Espiritu Santo Bay, about 6 miles southwest of Port O'Connor, Calhoun Co.

RECORDS AVAILABLE.-- August 1966 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1968 water year: maximum elevation 2.3 feet, June 24; minimum -1.1 feet, Mar. 13.
1969 water year: maximum elevation 2.5 feet, Feb. 15; minimum -0.5 feet, Dec. 7.

REMARKS.-- Gage operated by U. S. Corps of Engineers; records since August 1967 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1966 to September 1967.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																														1	0700	0.6	1	0900	0.3
																															2200	.2		2200	.1
																														2	1200	.6	2	1400	.5
																															2300	.3		2200	.1
																														3	1000	e.7	3	1800	.7
																															2400	.3	4	0100	.6
																														4	1300	e.6		1300	1.0
																														5	0300	e.3		2300	.8
																															1500	.6	5	0800	1.1
																															2400	.3	6	a	a
																														6	1500	e.6	7	a	a
																														7	0100	.3	8	1500	.2
																															1300	e.6	9	0600	.5
																															2400	e.4		1700	.3
																														8	1100	.6	10	0600	.4
																														9	0200	.3		2000	.2
																															1100	.5	11	0900	.5
																														10	1700	.2		2100	.2
																														11	0900	.5	12	1000	.5
																															1600	.2		2100	.2
																														12	0100	.4	13	1100	.6
																															0300	.2		2100	.3
																														13	0700	.7	14	1400	.7
																															2000	.3		2200	.5
																														14	0900	.7	15	1100	1.0
																															2100	.4		2300	.8
																														15	1000	.9	16	1500	1.1
																															2000	.6		2400	1.0
																														16	0800	e.9	17	1100	1.1
																															2300	e.6		2200	1.0
																														17	1000	e1.0	18	0800	1.2
																															2400	e.6	19	0100	1.3
																														18	1000	e1.0	20	0200	2.0
																														19	0200	.4		1500	3.8
																															0900	1.0		2400	3.6
																														20	a	a	21	0300	4.4
																														21	a	a	22	1700	3.3
																														22	a	a	23	0600	3.6
																														23	a	a	24	0200	3.3
																														24	a	a		1600	2.8
																														25	1900	e.6	25	1700	2.4
																														26	0800	e.8	26	1000	2.3
																															2000	e.7	27	0700	2.1
																														27	1100	e.8		2300	1.4
																															2000	e.6	28	0700	1.6
																														28	0900	e.8		1000	1.4
																															2200	e.5	29	1100	1.4
																														29	a	a		2300	1.3
																														30	a	a	30	0900	1.4
																														31	1100	.5		1700	1.2
																															2300	.2			

Table 11.--E2, Espiritu Santo Bay near Port O'Connor, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0900	1.3	1	0100	0.6	1	0100	1.0	1	0300	0.8	1	0600	1.0	1	0200	-0.8	1	0200	0.2	1	a	a	1	0200	0.3	1		b	1	0800	0.5	1	0700	el.3
	2200	1.0		0300	.4		1200	.7		1500	.5		2100	.9		2200	-.7		1100	.5	2	a	a		2000	.7	2		b		1800	.2		2100	1.0
2	1700	1.4		1100	.1	2	0200	1.1	2	0500	.8	2	1200	.4	2	1700	-.2		2000	.4	3	a	a	2	0700	.5	3	0100	0.6	2	1000	.5	2	0800	1.2
	2200	1.3	2	0400	.4		1300	.6		1500	.5		a	a	3	1000	-.7		2300	.2	4	a	a		1800	.7		1400	.7		2100	.2		2100	.9
3	0600	1.4		1200	.2	3	0200	.8	3	0600	.9	3	1400	.5		1900	-.4	2	1700	.6	5	a	a	3	0100	.5		1800	.5	3	1100	.6	3	1100	1.4
	1800	1.3	3	0300	.8		1200	.2		1500	.7	4	0100	.7	4	0300	-.5	3	0300	.4	6	1600	0.7		1300	.8		2100	.7		2000	.3		2200	1.1
4	0300	1.4		1100	.4	4	0500	.5	4	0400	.7	5	2000	.9		1900	-.2		1600	1.2	7	1300	1.0		2400	.6	4	1400	.8	4	1100	.7	4	1200	1.5
	1200	1.3		2400	.6		1400	.2		1300	.2	6	1800	.5	5	0500	-.3	4	1000	.7		1900	.8	4	0600	.9		2000	.7		2200	.4		2400	1.1
5	0500	1.4	4	1300	.1	5	0500	.7	5		c	7	0700	-.1		2200	.1		1400	.8	8	0500	.9		1000	.7	5	0600	1.1	5	1000	.9	5	1000	1.3
	1100	1.2	5	0200	.6		1500	.5	6	0300	e.9		2200	.1	6	0200	.0	5	0600	.4		0800	.8		1400	.8		2000	.8		2400	.5		2300	.8
6	0500	1.3		1200	.2	6	0600	.8	7	0300	.1	8	0800	-.5		1900	.4		1600	.6		1700	.9		2200	.6	6	0800	1.2	6	1300	.9	6	1700	1.1
	1600	1.1	6	0300	.7		1800	.6		2300	.4		2300	e.0	7	0900	.1	6	1400	e.3	9	0700	.9	5	0900	.6		2300	.8	7	0100	.6		2200	1.0
7	0300	1.3		1500	.3	7	0700	.8	8	0600	.2	9	1000	-.2	8	0400	.1	7	a	a		1000	.7		1900	.5	7	1000	1.0		1400	.9	7	1900	1.3
	1600	1.1	7	0400	1.0		1500	.5	9	0100	.9		2400	.0		1000	.0	8	a	a		1500	1.4	6	1000	.6	8	0100	.7	8	0200	.6	8		b
8	0100	1.2		1400	.4	8	1100	.8		0600	.7	10	1200	-.2		2400	.2	9	a	a		1700	.9		2100	.4		1100	.9		1500	.9	9	0700	1.1
	1400	.7	8	0600	.9	9	1200	1.0		1900	.9	11	0100	-.1	9	0900	.1	10	a	a		2300	.9	7	1100	.7	9	0100	.6	9	0300	.6		1400	.9
9	0600	1.0		1500	.5		1400	1.2	10	1300	.4		0900	-.2		2400	.4	11	a	a	10	1100	1.4		2200	.4		1300	1.0		1400	.8		2000	1.1
	1900	.7	9	0900	1.1		2200	.8		1600	.5	12	0100	.1	10	1000	.2	12	a	a		2400	.9	8	1100	.6		2400	.4	10	0300	.6	10	0400	1.0
10	0700	.9		1900	1.0	10	1800	.9	11	1300	.0		1100	.0	11	0500	.5	13	0100	.5	11	0600	1.3		2200	.3	10	0800	.9		1200	.7		1100	.6
	2100	.6	10	0600	1.2	11		b	12	0100	.2	13	0400	.5		1600	.8		1500	.8		0900	1.2	9	1000	.7	11	0500	.5		1800	.7	11	0500	.9
11	0700	.7		2000	1.0	12	1400	-.1		1100	-.1		1600	.1	12		b	14	0300	.6		1200	1.5		2300	.3		1000	.7		2200	.6		1200	.7
	1900	.4	11	0800	1.0	13	0900	.1		2000	.2	14	0200	.7	13	1000	-1.1		1200	.7		1900	.8	10	1300	.8	12	0400	.3	11	1800	.6	12	0700	1.0
12	1100	.8		2000	e.8	14	0200	.6	13	2400	-.2		1100	.5	14		c	15	0900	.3		2000	1.2	11	0100	.5		1000	.8		2300	.5		1300	.8
	2200	.6	12	0400	e.8		1200	.3	14	0200	-.5	15	0300	.9	15	0700	.0		1700	.4	12	0200	1.2		1200	e.7		1400	.6	12	1300	.6	13	0600	1.2
13	1300	.9		0800	e.6		2300	.6		1300	-.6	16	1000	.3	16	0700	.2	16	0400	.3		0700	1.5	12	0300	.4		1700	.7		2300	.4		1700	1.0
	2200	.7		a	a	15	1300	.3	15	0200	-.4	17	1500	.2	17	0100	-.1		1600	.7		2000	1.0		1100	.6		2000	.5	13	1000	.6	14	0700	1.4
14	1000	1.1	13	1300	.5	16	0200	.5		1300	-.6	18	2100	.7		1900	.2	17	0100	.4	13	0800	1.6	13	0300	.3	13	1300	.8		2000	.4		1900	1.2
	2200	.9	14	0300	.7		1200	.2	16	0400	-.3	19	0300	.6	18	0200	.0		1600	.8	14	0100	1.2		1300	.4	14	0300	.6	14	0900	.7	15	0900	1.7
15	1200	1.3		1300	.6	17	0200	.8		1300	-.6		1000	.6		1500	.4	18	0600	.5		1200	1.6	14	0500	.1		1400	.8		2200	.4		2100	1.3
	2200	1.3		1700	.7		1100	.4	17	0500	-.1		2000	1.1		2400	.3		1600	.7		2400	1.2		1400	.4	15	1000	.8	15	0600	.7	16	0600	1.5
	2300	.9	15	0300	e.7	18	0200	.9		1400	-.4	20	0500	.9	19	1300	.7	19	0600	.4	15	1300	1.6	15	0400	.1		1700	.7		2000	.6		1800	1.1
	2400	1.3		1200	.4		1200	.5	18	0600	.2		1900	.9	20	0300	.4		1900	.9		2200	1.3		1600	.3	16	1000	1.0	16	0800	.9	17	0200	1.1
16	0800	.9	16	0600	e.7	19	0200	.8		1400	.1	21	0800	.6		1600	.9	20	1100	.6	16	1300	1.3	16	0500	.2		1900	.8		2100	.5		0700	1.4
17		b		1200	e.5		1400	.5	19	0200	.6		1100	.7	21	0900	.2		2400	.7	17	0500	1.0		1300	.3	17	0700	.9	17	0600	.8		2000	.8
18	0400	.3	17	0400	.9	20	0500	.8		1500	.4		2300	.4		1500	.4	21	0700	.5		1300	1.2	17	0500	.2		2200	.7		2100	.5	18	0300	1.0
	1100	.0		1500	.6		1500	.7	20	0600	.7	22	0400	.0	22	1100	.0		1700	e.7	18	0200	.6		1400	.4	18	0700	.8	18	1000	.9		1000	1.1
19	0200	.3	18	0400	.9	21	0700	.9		1100	.4		1000	.0		2000	.1	22	a	a		1800	e.9		1800	.2		2200	.6		2000	.4		2400	.8
	1100	.1		1300	.5		1600	.5	21	1000	.9		2100	.3	23	0400	-.4	23	a	a	19	1000	.6	18	1000	.3	19	0900	.8	19	1000	.9	19	1200	1.1
20	0200	.5	19	0300	.8	22	0100	.7	22	0600	.7	23	1000	.1		2400	-.4	24	a	a	20	0200	.6		2100	.2		2300	.5		2400	.5		2200	.7
	1400	.4		1400	.6		0800	.7		2400	.8		2000	.3	24	1000	-.6	25	a	a		0800	.3	19	1100	.4	20	1100	.7	20	1100	.8	20	1500	1.1
21	0300	.6	20	0400	el.0		1700	.3	23		b	24	1200	-.2	25	0100	-.2	26	a	a		1400	.6		2100	.3		2000	.5		2300	.5		2400	.8
	1400	.3		1600	e.7		2200	.4	24	0700	.0	25	0100	.1		0900	-.3	27	a	a	21	2100	.6	20	0900	.6	21	1000	.7	21	1000	.8	21	1400	1.0
22	0500	.6	21	0300	1.0	23	1800	.0		1700	.2		1300	-.1	26	0400	-.1	28	a	a	22	1000	.8		2000	.4		2400	.4		2400	.4		2100	.9
	1600	.4		1800	.8	24		c	25	0800	.0	26	0200	.1		1900	-.2	29	a	a		2100	.6	21	0400	.8	22	1000	.7	22	1300	.6	22	1800	1.4
23	0600	.8	22	0200	1.0	25	1800	.4		2200	.3		1400	-.1	27	0500	.1	30	a	a	23	0700	.9		0500	.7		2400	.3	23	0100	.4	23	0400	1.5
	1600	.6		1700	.7	26	0800	.0	26	0900	.2	27	0200	.0		1600	.0					2200	.5		1400	.7	23	1000	.6		0800	e.6		1000	1.5
24	0400	1.0	23	0500	1.0	27	0200	.4		2300	.6		1400	-.3	28	0600	.3				24	1000	.9		2000	.4	24	0100	.2		1700	e.6		1200	1.4
	1900	.8		2000	.6		0700	.3	27	1000	.5	28	0600	.1		2400	.2				25	0100	.6	22	0700	.8		1300	.6		2100	.5	24	0600	1.6
	2300	.8	24	0500	.9		2200	.6		2300	.9		1500	-.3	29	1200	.3					1200	.8		0900	1.0		2400	.3	24	0800	e.8	25	0500	1.5
25	1200	.6		2000	.6	28	0800	.2	28	1200	.8	29	0500	-.1	30	0100	.1					2300	.6		2300	.4	25	1200	.7	25	a	a		1600	1.1
26	0800	1.1	25	1100	.8		2400	.4		2400	1.0		1300	-.6		1200	.4				26	1100	.9	23	1500	1.2	26	0100	.4	26	a	a	26	0700	1.2
	2000	.9		2000	.6	29	1000	-.3	29	1300	.9				31	0300	.2				27	0100	.5	24	0200	2.2		1400	.6	27	a	a		1300	.8
27	0500	1.1	26	0300	.7	30	0200	.6	30	0400	.9					1500	.6					0800	.8		0700	2.3	27	0100	.5	28	1400	.9	27	0500	el.1
	2000	.8		2000	.4		1100	.2		1400	.7										28	0300	.3		2400	1.6		1000	.9	29	0600	1.2		1700	.8
28	1200	1.0	27	0800	.2	31	0100	1.1	31	0400	.8											1300	.6	25	0900	1.7		1200	.8		1700	1.0	28	0700	1.2
	1900	.9		1400	.4		1400	.5		1500	.7										29	0200	.3	26	0600	1.2		1800	.7	30	0700	1.3		1600	.8
29	1200	1.4		1800	.2																	1300	.5		1000	e1.5	28	0400	.6		1800	1.1	29	0700	1.2
	2300	1.4	28	0100	.5																	2400	.3	27	0400	.9		1800	.7	31	0700	1.4		2000	.8
30	0200	1.7		0900	.6																30	1200	.5		1600	1.1		2200	.6		1700	.9	30	0700	1.1
	0300	1.2	29	0100	.9																31	0300	.2	28	0300	1.0	29	1200	.6					2000	.7
	0600	1.5		0800	.8																	1600	.6		1200	1.2	30	0200	.4						
	1800	1.4		2000	1.3																			29	0400	.9		0900	.5						
	2100	1.0	30	1200	.8																				1300	1.2		2000	.3						
31	1500	.8																						30	0400	.9	31	0800	.5						
	2200	.4																							1100	1.3		2000	.3						
																									2100	.9									

Table 11.--E2, Espiritu Santo Bay near Port O'Connor, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	1000	e0.9	1	0200	0.6	1	0100	1.1	1	1100	-0.2	1	0300	0.8	1	0800	0.1	1	0700	e0.3	1	0100	1.0	1	1100	0.9	1	0300	0.6	1	0400	-0.1	1	0200	1.3
	2200	.7	2	0100	.6		1100	.7	2	0500	.2		1400	.5	2	0100	.6		2100	.2		1400	1.0		2400	.4		1500	.8	2		c	2	2100	.7
2	1200	1.1		0400	.7		1900	.8		1300	.0	2	0300	.9		1000	.3	2	0800	.4		2300	.7	2	1200	.7	2	0200	.6	3	1500	.3	3	0800	.9
	2400	.8		1200	.6	2	1300	.4	3	0800	.6		1400	.6		1500	.8		2300	.2	2	1200	1.1	3	0500	.3		1800	.9	4	1300	.4		2300	.6
3	1400	1.0	3	0200	.8	3	0100	.7		1400	e.4		2300	.6	3	0300	1.1	3	0600	.4		2200	.6		1800	.7	3	0500	.7		2200	.3	4	1000	e.8
	2200	.8		1200	.5		0600	.7	4	0100	e.6	3	1200	.0	4	1400	.0		1800	.3	3	1100	1.0	4	0200	.5		1500	.8	5	1200	.5		2100	.6
4	1300	.6		1500	.7		1300	.1		1600	e.2		2200	.5	5	0200	.6		2300	.0		2300	.6		1700	.9	4	0500	.6		2200	.2	5	1100	.9
5	1700	1.4	4	1200	.1		1900	.3	5	a	a	4	0600	.5		1900	e1.1	4	1500	.6	4	1500	1.3	5	0500	.6		1200	.7	6	1300	.6		2000	.6
6	0600	1.5	5	0200	.4	4	1800	e-.1	6	a	a		1200	.2	6	0300	.8		2300	.4		2100	.9		1800	.8	5	0200	.5		2000	.3	6	0900	e.9
7	0500	1.2		1200	.3		2400	e.1	7	a	a	5	0600	.7		0600	e1.1	5	1400	.7	5	1500	1.4	6	0600	.6	6	0900	.7	7	1100	.6		2000	.6
	1000	1.0	6	0400	.8	5	1300	e-.2	8	a	a		1500	.6		1100	.9	6	0500	.1		2400	1.0		2300	.8		2000	.4		2400	.2	7	1000	1.0
	1600	1.2		1100	.3	6	0400	.1	9	a	a	6	0200	.8		1500	.9		1600	e.5	6	1500	1.5	7	1800	.7	7	1000	.7	8	1300	.6		2100	.7
8	0800	1.3		2200	.7		1400	e-.1	10	a	a	7			b	7	0100	.6	7	0400	.2	7	0400	1.3	8	1200	.9		2100	.4		2400	.2	8	0900	e.9
	1200	.9	7	1200	.1	7	0200	.2	11	a	a	8	1000	.2		1400	.7		1700	.5		1600	1.5		2100	.7	8	0800	.7	9	1100	.6		2300	.6
	1700	1.2		2200	.7		1200	-.5	12	a	a		1400	.4	8	1200	1.1	8	0200	.2		a	a	9	0900	.8		2200	.4	10	0100	.2	9	1200	.8
9	0500	1.4	8	1700	-.1		2300	.1	13	a	a		2000	.3	9	0400	.1		1900	.7	8	1200	1.4		2400	.6	9	0900	.7		1200	.5	10	0100	.4
	2100	1.0	9	0300	1.2	8	0700	.1	14	a	a	9	0600	-.2		1000	.5	9	0700	.4	9	0700	.6	10	1000	.7		2400	.4	11	0100	.2		1300	.6
10	0300	1.3		1400	.6		1400	-.2	15	2400	.8		2300	.2		1700	.5		1900	.7		1800	.8		2300	.3	10	1000	.7		1100	.4		2200	.5
	1300	e.8	10	0500	1.2	9	0600	.4	16	1200	.6	10	0700	.1	10	0600	-.2	10	0600	e.5	10	1200	.6	11	1100	.7		2300	.3	12	0100	.0	11	0800	.8
11	0600	1.1	11	0200	e.9		1500	e.2	17	0100	e.9		2300	.5		1800	.3		2000	e.7		2200	.7		2000	.4	11	1100	.8		1200	e.3		2100	.6
	1400	.7		0900	.4	10	0600	.6		1200	.5	11	0900	.3	11	0500	-.1	11	0700	.3	11	1500	.6	12	1200	.9		2400	.2	13	0100	-.1	12	1800	.8
12	0600	1.3		1200	.5		1800	.3	18	0400	.8		2300	.6		2000	.3		1100	.4		1900	.5		2400	.5	12	1100	.6		1500	.3	13	0500	.7
	1700	.9	12	0600	-.1	11	0500	.5		1300	.6	12	1100	.3	12	0300	.1		1200	.1	12	0500	.6	13	1100	.9		2400	.2	14	0300	.1		1200	.5
13	0800	e1.3		1900	-.2		1700	.4	19	0300	.9	13	0100	.5		1900	e.6		1600	.6		1900	.2		2400	.5	13	1100	.5		1500	.4	14	0700	1.0
	1800	.9	13	0300	.1	12	0700	.9		1000	.5		0900	.1	13	0800	e.2		1700	.4	13	0400	.8	14	1200	.9		2400	.1	15	0300	.2		1800	.8
14	0900	e1.3		1000	.2		2400	.8	20	0500	.6	14	0700	1.8		1900	.3		2400	.9		1300	.9	15	0500	.6	14	1200	.4		1600	.4	15	0500	1.1
	1900	1.0		1500	.1	13	0500	.6		1200	.3		1000	1.8		2400	.5	12	0700	.9		2100	.4		1600	.7	15	0300	.1	16	0200	.4		1700	.9
15	0900	1.4	14	1400	.6		2200	.5	21	0500	.6	15	0100	2.5	14	1100	.2		1500	1.6	14	0900	.9	16	0500	.3		1300	.3		1000	.5	16	0500	1.1
	2000	1.1		1800	.5	14	1000	.2		1500	.5		1100	2.3	15	0400	.9		2100	1.5		2100	.5		1700	.7		2300	-.1		1700	.4		1700	.8
16	1100	e1.7	15	1200	.9		2300	e.2		2400	.7		2000	2.2		0900	.8	13	0100	1.6	15	1100	1.0	17	0400	.6	16	1600	.3	17	1000	.6	17	0700	1.0
17		b	16	1200	e.6	15	0800	-.2	22	0500	.5	16	1200	1.4	16	0300	1.3	14	0100	.7		2300	.6		1600	.9	17	0300	.1		1500	.5		2000	.6
18	0500	1.0	17	1800	.7	16	0100	.3		1600	.5	17	1400	.7		1000	1.0		2100	.4	16	1400	1.0	18	0400	.7		1700	.3	18	0800	.9	18	0600	.8
	1700	e1.3	18	0100	.5		0900	.2		2200	.6	18	0700	.7	17	0400	1.1	15	0300	.6		2000	.7		1300	.9	18	1200	.2		2000	.5		1900	.5
19		b		1000	-.1		2400	e.7	23	0400	.4		2100	.4		1400	.9		1700	.6	17	1500	1.1	19	0200	.7	19	0500	.0	19	0900	.7	19	0800	1.0
20	1200	e1.1		1900	.5	17	1000	.4	24	0200	.2	19	1800	.3		1800	1.0		2100	.5	18	0300	.8		1400	.8		1200	.1		2000	.6		1800	.6
21	0400	1.3	19	1300	.0		2400	e.9		0900	-.3	20	0900	.9	18	0700	1.0	16	1400	1.0		1500	1.0	20	0300	.6		1900	.0	20	1100	1.0	20	0700	1.2
	1200	e1.0	20	0100	.3	18	1200	.6		2300	.1		2000	1.2	19	0200	.3		2200	.8	19	0300	.7		1300	.8	20	1000	.2		1900	.7		1900	.7
22	0300	1.1		1300	.0		2000	.8	25	0700	.0	21	0700	1.2		1800	.1	17	1300	1.4		1500	.8	21	0500	.5		1700	.0	21	0900	1.0	21	1000	1.1
	1400	e.9	21	0300	.3	19	1000	.1	26	0100	.3		1400	1.5		2400	.0	18	0100	1.0	20	0200	.6		1300	.6	21	0800	.3		2000	.6		2100	.9
23	0200	e1.1		1400	e-.1	20	0200	e.7		0800	.1	22	0300	1.1	20	1200	.2		1200	1.0		1200	.7	22	0100	.4		2000	.0	22	1000	.9	22	1100	1.3
	1200	e.8	22	0400	.3		1100	.1		2400	.6		1200	1.0	21	0400	e.0	19	0200	.5	21	0300	.5		1200	.7	22	0900	.3		2300	.6		2300	1.0
24	0600	1.1		1500	.0	21	0400	e.9	27	0900	.6	23	0900	.5		1700	e.1		1000	.6		1700	.7		2100	.5		2100	-.1	23	1100	.8	23	0700	1.4
	1200	.6	23	0600	e.4		1500	.7		1800	.8		2100	.7	22	0300	e-.1	20	0200	.1	22	0500	.5	23	1100	.7	23	1100	.2	24	0100	.4	24	0100	1.0
	2200	.9		1700	.2	22	0100	1.2	28	1000	.6	24	1200	.7		2000	e.2		2100	.4		1200	.7		2000	.4		2100	-.2		1200	.6	25	1200	.7
25	0200	.9	24	0600	.5		1300	.5	29	0200	.7		1900	.8	23	0300	.1	21	0700	.4	23	0800	.5	24	1200	.7	24	1100	.2	25	0200	.4	26	0600	.7
	1300	e.5		1600	.0		1500	.6		1200	.5	25	1300	.5		1600	1.3		1600	.5		1400	.6		2100	.4		2200	-.2		1200	.8		1200	.6
26	0600	.8	25	0800	e.3	23	1400	e.0	30	0500	.8		2400	.6		2300	.7	22	0600	.2	24	0600	.4	25	1200	.9	25	1100	.1	26	0100	.5	27	0600	.8
	1900	e.5		1700	.1	24	0700	e.0		1700	.6	26	1200	.5	24	1300	.6		1600	.4		1400	.5		2200	.6		2400	-.3		1700	.8		1300	.5
27	0600	.7	26	1200	.9		1600	e-.3	31	0300	.7	27	0200	.8		2400	.0	23	0700	.2	25	2200	.3	26	1200	1.0	26	1300	.1	27	0100	.6	28	0500	1.0
	2000	.5		1700	.8	25		c		1000	.4		1000	.7	25	0500	.1		1800	.3	26	1300	.3		2400	.7	27	0200	-.2		1600	.9		1700	.7
28	0400	.6	27	0200	1.2	26	1500	e.3		1700	.7		2000	e.8		1000	-.1	24	0700	.1		2000	.2	27	1100	1.0		1600	.1	28	0100	.7	29	0600	1.0
	1400	.2		1200	1.0	27	1400	.9				28	0900	.1		1700	.1	25	0500	.2	27	1100	.4	28	0200	.7	28	0300	-.1		1700	1.1		1600	.7
29	0700	.5		1700	1.2	28	1100	e.3					1500	.5	26	0800	e-.4		1400	.6		2200	.2		1400	.9	29	1700	.1	29	0800	1.3	30	0600	1.0
	2000	e.2	28	0400	.7	29	1100	e-.1					2400	.6		2000	e-.1		2300	.7	28	0900	.4		2300	.6	29	0400	-.1		1800	1.1		1700	.7
30	1200	.4		0700	.8	30	0400	e.2							27	0900	-.3	26	0500	.6		2200	.1	29	1300	1.0		1500	.1	30	0400	e1.3			
	2100	.2	29	1000	-.2		1100	e.2								1700	e-.1		1000	.9	29	1200	.4	30	0200	.5	30	0400	-.2		1800	1.1			
31	0300	.4		1900	.2		2400	.4							28	0900	e-.3	27	0100	1.1		2200	.1		1400	.9		1700	.0	31	0600	1.4			
	1300	.5	30	1400	.4	31	1100	-.3								2400	e-.1		0500	1.0	30	1200	.6				31	0400	e-.2		1700	1.1			
	2000	.4		2000	1.1		2000	.1							29	1000	e-.2		1300	1.3		2300	.3					1700	e.0						
				2100	.9										30	0100	e.0		2200	1.1	31	1200	.8												
																1300	e-.2	28	0100	1.1		2300	.4												
															31	0700	e.0		1000	.7															
																1200	-.2		1600	.8															
																			1900	.7															
																		29	2300	.6															
																		30	1700	.7															
																			1800	.4															

Table 12A.--G1, San Antonio Bay near Seadrift, Tex.

LOCATION.-- Lat 28°24'05" long 96°44'17", on survey platform near Victoria Channel marker number 28 in San Antonio Bay, about 2 miles southwest of Seadrift, Calhoun Co.

RECORDS AVAILABLE.-- August 1966 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1968 water year: maximum elevation 3.5 feet, June 23; minimum -1.1 feet, Mar. 3.
1969 water year: maximum and minimum elevations not determined.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records since September 1967 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1966 to September 1967

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																																	1	a	a
																																	2	a	a
																																	3	a	a
																																	4	a	a
																																	5	a	a
																																	6	a	a
																																	7	a	a
																																	8	a	a
																																	9	a	a
																																	10	a	a
																																	11	a	a
																																	12	a	a
																																	13	a	a
																																	14	a	a
																																	15	a	a
																																	16	a	a
																																	17	a	a
																																	18	1400	1.6
																																	19	1100	1.7
																																		2400	2.3
																																	20	0200	2.0
																																		2200	5.7
																																	21	0200	4.9
																																		0500	5.8
																																		1200	4.9
																																	22	0900	4.2
																																	23	1200	4.2
																																	24	2200	3.3
																																	25		b
																																	26		b
																																	27	0900	2.6
																																		1700	2.0
																																	28		b
																																	29		b
																																	30	0500	1.7
																																		1600	1.8

Table 12A.--Gl, San Antonio Bay near Seadrift, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August		September	
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0600	1.5	1	1200	0.2	1	0400	1.3	1	0100	1.9	1	1600	1.5	1	1100	-0.1	1	0800	0.6	1	0700	0.6	1	0900	0.8	1	0900	1.4	1	0100	1.1			
	1600	1.7	2		c		1400	1.1		1800	1.7		2400	.3	2	0300	-.4		1600	1.0		2300	1.1		1600	1.8		1700	1.5		2400	.8			
2	0600	1.4	3	0500	.9	2	0700	1.5	2	1200	1.9	2	0200	.9		1600	.0		1800	.8	2	1000	.8		1900	1.0	2	0900	1.1	2	0900	.9			
	1700	1.8		0900	-.4		1800	.4		1900	1.8		0400	.6	3	0400	.0		2100	1.1		2200	1.2		2300	1.1		1900	1.3		1600	1.1			
3	0900	1.7		2000	.5	3	0200	1.1	3	0900	2.1		0900	.8		1100	-1.1	2	0700	.9	3	0900	.8	2	0700	.7	3	0700	1.0		2300	.9			
	2400	1.9	4	1100	.7		1100	.7		2200	1.8		1100	.6		1800	-.2		2000	1.2		2000	1.2		1400	1.1		1700	1.2	3	1100	.9			
4	1300	1.7	5	0500	.6	4	c		4	0100	1.5		1500	.9		2400	-.4	3	0100	2.2	4	0100	.6		2400	1.0	4	0900	1.1		1700	1.0			
	2000	1.9	6	1100	1.1	5	1100	1.2		0700	1.9	3	0400	.8	4	2100	.1		0400	1.3		0300	1.0	3	0100	1.5		2000	1.5	4	0700	.8			
5	1900	1.5	7	0600	.9		2000	.9		1000	1.5	4	2300	1.3	5	1100	.0		0700	1.5		0600	.6		0200	1.0	5	0800	1.3		1900	1.1			
6	0200	1.7	8	1700	1.2	6	1100	1.3	5		c	5	0800	.9	6		c		0900	1.2		0700	1.1		0800	1.4		1600	1.7	5	0900	.9			
	1800	1.4		2000	1.0		2300	1.0	6	1400	2.1		1500	1.1	7	0100	.6		1900	1.9		1300	.6		1200	1.0		2400	1.5		2000	1.2			
7	0300	1.8	9	1300	1.5	7	1100	1.2	7	0300	.7	6		b		1400	.5	4	0800	1.3		2200	.9		2100	1.4	6	0900	1.5	6	0900	1.0			
8	0400	1.1		2300	1.2		2200	1.0		1500	1.6	7	0200	.6		2400	.6		1000	.2	5	0800	.6		2400	1.1		1500	1.7		1900	1.3			
	0800	1.4	10	1100	1.4	8	1400	1.2	8	0300	1.5		0800	-.3	8	1300	.5		2000	1.1	6		c	4	0200	1.6	7	0700	1.3	7	1000	1.0			
	1200	1.1	11	0200	1.1		2100	1.1		0800	1.2		1200	.3	9	0400	.7	5	0900	.7	7	0300	1.6		0400	1.3		1500	1.5		2400	1.2			
9	2100	1.0		1700	1.2	9	0900	1.3		1100	1.6		1600	.1		1200	.5		2300	1.1		0600	1.3		0500	1.8	8	0800	1.1	8	0800	1.0			
10	0800	1.1	12	0400	.9		1400	1.6		1800	1.2	8		c	10	0200	.7	6	0800	.7		1800	1.6		0700	1.3		1600	1.4		2300	e1.3			
11	0900	.9		1700	.9	10	0900	.4		2400	1.9	9	0300	.3		1500	.6	7	0300	1.1		1900	1.3		1000	1.6	9	1200	1.1	9	1100	e1.1			
	1300	1.0	13	1300	.6		1200	.9	9	2300	2.0		0900	.2		2300	.9		1100	.8		2400	1.7		1200	1.3		1300	.8		2400	e1.3			
12	0200	.9		2400	.8		1400	.6	10	1400	1.6	10	0300	.3	11	0600	.9	8	0300	1.1	8	0300	1.3		2200	1.3		1800	1.3	10	1000	e1.1			
	1500	1.1	14		b		2200	.9	11	a	a		1700	.1		0800	.2		1300	.9		1000	1.6	5	0800	1.0	10	0900	.9	11	0200	e1.3			
	2400	.9	15	1500	.7	11		b	12	a	a	11	0500	.3		1000	.7	9	0300	1.1		1600	1.3		1800	1.2		1800	1.3		1200	e1.0			
13	1800	1.2	16	0500	.9	12	1700	.3	13	a	a		1700	.0		2100	-.8		0500	.5		2000	1.5		2100	1.0	11	0400	1.0		2400	e1.1			
14	1000	1.1		1400	.7	13		c	14	a	a	12	0600	.4	12	0100	-.3		1500	1.3		2200	1.4	6	0100	1.3		0600	1.3	12	1200	e.9			
	1500	1.8	17	0800	1.0	14	0600	1.1	15	2000	-.3		1100	.3		0400	-.5		2100	.7	9	0800	1.7		0700	1.1		0800	.8	13	0500	e1.1			
15	0200	1.4		1800	.9		0900	.6	16		c	13	0900	.7		0600	-.2	10	0300	1.2		1000	1.4		2000	1.3		1900	1.3		1600	e1.0			
	1000	1.8	18	0500	1.0	15	2300	.7	17	1300	.3		1100	.3		1100	-.8		0700	.6		1400	2.7	7	0500	1.1	12	0500	1.0	14	a	a			
	1300	1.2		1900	.9	16	0200	1.0		1800	.2	14	0200	.8		1800	-.9		1900	.9		1700	1.2		1300	1.3		0600	1.6	15	a	a			
	1700	1.7	19	0900	1.0		2400	1.1	18	1800	.7		0600	.7		2400	-.4	11	0700	.6		2300	1.6	8	0100	1.1		0900	.9	16	a	a			
	1900	1.5		1900	.9	17	0300	.7	19	0100	.2		1200	.9	13		c		2400	.7	10	0100	1.5		1200	1.3		1400	1.6	17	a	a			
	2200	2.1	20	0300	1.1		1100	1.3		1100	.6		1500	.7	14	0900	-.3	12	1600	1.2		0600	2.1	9	0100	1.3		1700	1.1	18	a	a			
16	0300	.7	21	0900	1.2		1900	1.2		1900	.5		1700	1.0	15	1800	.3	13	0400	1.0		0800	1.4		0600	1.1		2000	1.4	19	a	a			
	0600	.9	22	1200	1.0	18	0300	1.5	20		c		2400	.7	16	1700	.6		1800	1.3		1100	1.8		1300	1.4	13	0900	1.2	20	a	a			
	1000	.6		1400	.9		0600	1.2	21		c	15	0500	1.2	17	1200	.5	14	0700	.9		2400	2.0	10	0800	1.1	14	0100	1.6	21	a	a			
	1700	.6		1700	1.0		0800	1.6	22	0100	1.1		2100	.7	18	0300	.8		1700	1.1	11	0200	1.3		1800	1.4		1400	1.4	22	a	a			
	1900	1.0	23		b		1200	1.4		0800	.8	16	0200	.8		1000	.7	15	0500	.6		0600	2.1	11	0700	1.1		2300	1.5	23	a	a			
17		b	24	2400	.7	19	1100	1.5		2300	1.0	17	1600	.6	19	0300	1.2		1600	1.0		1000	1.8		1900	1.3	15	0900	1.3	24	a	a			
18	0700	.3	25	0500	1.0		2000	1.3	23	1200	.1		1900	.4		0800	.9	16	0100	1.0		1300	2.0	12	1100	.9	16	0200	1.5	25	a	a			
19		c	26	2000	.8	20	1100	1.6		2000	.5	18	0200	.7	20	a	a		0600	.8		1600	.7		1500	1.1		0700	1.4	26	a	a			
20	0700	.8	27	1000	.4		2000	1.4		2200	.2		2400	1.1	21	a	a		1800	1.6		1800	2.2	13	1000	.7	17	0500	1.4	27	a	a			
	2000	.7		1700	.8	21	1100	1.8		2400	.5	19	0800	.9	22	a	a		2100	1.3	12	0500	1.5		1900	.9		1000	1.2	28	a	a			
21	1200	.9		2000	.3		1700	.7	24	0500	.3		1100	1.3	23	a	a	17	0300	1.5		1800	2.3	14	1200	.7		2400	1.4	29	a	a			
	2300	.8	28	0300	.8	22	0100	1.4		1700	.5		2400	1.3	24	a	a		1100	.9	13	0600	1.8		2400	1.0	18	0800	1.2	30	a	a			
22	0800	1.0		1200	.6		0500	.9	25	1800	.4	20	1100	1.1	25	a	a		2300	1.3		1500	2.3	15	0900	.7		2000	1.3	31	a	a			
	2100	.8	29	0600	1.2		2200	1.3	26	0300	.8	21	0900	1.1	26	a	a	18	1500	1.1	14	0600	1.9		2400	1.1	19	0200	1.1						
23		c		1200	1.1	23	0500	1.0	27	2400	1.6		1900	-1.0	27	a	a		2200	1.6		2100	2.2	16	0900	.7		2000	1.2						
24	1300	1.3		2000	1.7		1400	1.1	28	2000	1.4	22	0600	.6	28	a	a	19	0600	1.2	15	0100	2.0		2400	.8	20	0400	.9						
	2400	.8		2400	1.2		2400	1.0	29	0300	1.6		1200	.3	29	a	a		0900	1.4		1400	2.3	17	0900	.6		1400	1.2						
25	1200	1.2	30	0600	1.4	24		c	30	2100	1.2		1800	.4	30	a	a		1400	1.2		1800	2.1		1000	.8	21	0100	1.1						
	2100	1.0		1200	1.2	25	0300	1.3	31	0200	1.3		2200	.1	31	0100	1.0		1900	1.4		2100	2.3		1300	.5		0700	.9						
26	1300	1.4					1700	1.2		2000	1.2		2400	.3		0400	.7	20	0900	1.0	16	1000	1.8		2400	.7		1900	1.3						
	2400	1.1					2400	.9				23	0400	-.1		1200	.8		1700	1.4		1900	2.2	18	0400	.5	22	1200	1.0						
27	0600	1.3				26	1300	1.3					0700	.0		1500	1.2		2100	1.1		2200	1.7		0500	.6		1500	1.1						
	0900	.8				27	1000	1.3					1300	-.1		1800	.8	21	1100	1.1	17	0300	2.1		2400	.6	23	0200	1.1						
	1300	1.2					2400	1.0				24	0100	.4					1400	1.0		1000	1.6	19	1500	.9		0900	.9						
28	0400	.8				28	1000	1.6					1000	.3					2400	1.3		1400	1.9	20	0500	.7		2300	1.2						
	1400	1.3				29	1000	1.4					1400	.4				22	1000	1.1	18	0800	1.1		1600	1.1	24	0800	.9						
	2300	1.2				30		c					2100	.2					1300	1.3		2200	1.4	21	0400	.7		2300	1.2						
29		c				31	0600	2.1				25	0600	.4					2100	1.1	19	1100	1.1		2000	1.1	25	0700	.9						
30	0100	1.9					1800	1.5					1500	.3				23	0100	1.4		2000	1.3	22	0800	.8		2400	1.3						
	0500	.2										26	0600	.4					0800	.3	20	0800	.8		1200	1.4	26	0800	.9						
	0800	1.3										27		b					1700	.2		1100	1.2		1500	1.2		2200	1.3						
	1700	.7										28	0200	.2				24	0100	.7	21	0700	1.2		1700	1.4	27	0800	.9						
	2000	1.0											1000	.4					0500	.4	22	0200	1.5	23	0600	1.1		2200	1.3						
31	1100	1.0											2000	-.7					2200	.8		0700	1.3		0700	1.5	28	1000	1.0						
	1700	.6										29	0700	.1				25	0600	.6		2400	1.6		1000	1.2		2300	1.2						
	2400	.8											1200	-.6					1700	1.0	23	0400	1.3		1300	1.8	29	1100	1.0						
													2300	-.2				26	0700	.8		1000	1.4		1400	1.6		2100	1.1						
																			1800	1.1	24	0700	1.1		1800	3.5	30	1500	1.0						
																		27	0600	.8		1500	1.4		2000	2.4	31	0200	1.2						
																			1200	1.1	25	0700	1.1		2200	2.9		1200	1.0						
																			2100	1.1		2300	1.4	24	0300	2.2									
																		28	0600	.8	26	0600	1.1		0600	2.7									
																			1700	1.1		1800	1.3		0800	2.3									
																			2200	.5	27	0500	1.1		1000	2.5									
																			2400	1.0		0800	1.2		1600	2.3									
																		29	1000	.1		1300	.7		2200	2.5									
																			1500	.7		1800	1.3	25	0700	2.2									
																			2100	.8	28	0300	.7		1600	2.4									
																		30	0500	.5		0700	.9		2400	2.2									
																			1800	.9		0900	.2	26	0600	1.4									
																						1300	1.0		0700	1.9									
																						2000	1.1		1400	1.6									
																					29	0900	.8		1800	1.8									
																						2100	1.1	27	0400	1.4									
																					30	0600	.8		1900	1.8									
																					31	0200	1.2	28	0900	1.5									
																						0400	1.1		2400	1.9									
																						0700	1.2	29	0700	1.8									
																						1000	.9	30	0100	2.1									
																						2400	1.5		0800	1.8									
																									2200	1.8									

Note: No usable record for September.

Table 12A.--G1, San Antonio Bay near Seadrift, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																		15	1200	1.1	1	0200	1.1	1	0600	1.1	1	0700	0.8	1	1100	0.3	1			b
																		16		e		2000	1.6		1100	1.3		2300	1.3	2	0100	.6	2			b
																		17	0300	1.6	2	0500	1.3		1500	1.1	2	0600	.9		1100	.6	3	0600	1.1
																			1100	1.3		1700	1.5		1800	1.3		2000	1.3		2000	.8		1500	1.2
																			1500	1.6	3	0700	1.3	2	0900	.5	3	0900	.9	3	1100	.7		2400	1.0
																		18	1600	1.1		2300	1.6		1600	1.2	4	0100	1.3		1800	.9	4	0400	1.2
																		19	2100	1.1	4	0600	1.3	3	0500	.9		1000	1.0	4	0700	.6		1000	1.1
																		20	0900	.4		2300	2.0		2200	1.3	5	0300	1.3		1600	.8		1600	1.2
																			1200	.8	5	0700	1.5	4	1100	.8		0800	1.0	5	0100	.7		2400	1.1
																			1400	.6	6	0300	2.0		1200	1.2		2200	1.0		1700	1.0	5	1400	1.5
																			1700	1.3		0900	1.8		1600	.9	6	0200	1.3	6	0400	.9	6	0600	1.1
																			2000	.9		2400	2.3		1900	1.2		1000	1.1		1900	1.2		1700	1.3
																		21	0800	.8	7	0400	1.8		2200	1.1		1300	1.2	7	0300	.8	7	0500	1.1
																			2000	1.0		2300	1.9	5	0200	1.2		1900	1.1		1800	1.1		1600	1.4
																		22	1300	.6	8	1100	1.6		1100	.9	7	0200	1.2	8	0700	.8	8	0600	1.0
																			2300	.8		1400	.8		2400	1.2		0800	1.1		1200	1.3		1700	1.3
																		23	1100	.5		1700	1.5	6	1300	1.1		1200	1.2		1500	.9	9	0600	.8
																			2200	.8		2200	1.5	7	0100	1.3		2000	1.0		2000	1.1		1500	1.0
																		24	0900	.5	9	0700	.9		0800	1.1	8	0300	1.2	9	0700	.8		2100	.8
																		25	1800	1.1		1100	1.2	8	1700	1.3		0600	1.0		1400	1.0	10		c
																		26	0100	1.7		2100	1.3	9		b		1500	1.2		2200	1.0	11	0400	1.1
																			0600	1.6	10	1900	1.0	10	0800	1.0	10	1900	1.0	10	0800	.6	12	a	a
																			0800	1.9		2100	1.3	11	0700	1.3	9	0500	.9		1800	1.0	13	a	a
																			1600	1.7	11	0500	1.0		1600	1.2		1800	1.2	11	1100	.5	14	a	a
																		27	0900	2.0		1700	1.2		1800	1.4	10	0800	.9		1700	.9	15	a	a
																			1100	1.5	12	0900	1.0	12	0300	1.1		1900	1.1	12	0800	.4	16	a	a
																			1400	1.7		1300	1.1		2200	1.3	11	0700	.8		1900	.7	17	a	a
																			1800	1.5		1700	.6	13	0600	1.0		1500	1.0	13	0900	.4	18	a	a
																			2100	1.7		1900	1.8		1900	1.4	12	0200	1.0		2100	.8	18	a	a
																		28	0300	1.2		2200	1.0	14	0700	1.1		0800	.8	14	0900	.5	20	a	a
																			2000	1.2	13	0400	1.1		1600	1.4		1800	1.1		2100	.9	21	a	a
																		29	0900	1.0		0600	1.4	15	0800	.6		2300	1.1	15	0400	.6	22	a	a
																			1800	1.2		0800	1.0		1600	1.0	13	0100	1.2	16	0400	1.1	23	a	a
																		30	0100	1.0		1000	1.3	16	0200	.7		1100	.8		0900	.7	24	a	a
																			1100	1.3	14	0700	1.0		2100	1.2		1400	.9	17		c	25	a	a
																			1500	1.0		1700	1.4	17	0800	1.0	14	0200	.9	18		c	26	a	a
																			1900	1.8	15	0600	1.0		1600	1.3		0800	.6	19		c	27	a	a
																						0700	1.3	18	0300	1.3		1700	.9	20	1300	1.5	28	a	a
																						1100	.6		0800	1.1		2400	.9	21	0100	1.2	29	a	a
																						1200	1.3		2200	1.4	15	1100	.5		1400	1.4	30	a	a
																						2100	1.3		2400	1.3		1900	.8	22	0500	1.1			
																					16	0500	1.0	19	0300	1.4		2200	.4		1400	1.4			
																						1200	1.2		1000	1.1		2400	.7	23	0800	1.0			
																						1400	.7	20	0100	1.4	16	0800	.4		1400	1.2			
																						2000	2.2		0700	1.1		1600	.8	24	0700	.7			
																						2100	1.2	21	0300	1.3	17	0100	.8		1400	1.1			
																					17	0800	1.0		1100	1.0		0900	.6	25	1000	.8			
																						2000	1.4		2100	1.3		1700	.9		1900	1.1			
																					18	0200	1.0	22	0900	1.2	18	0200	.8	26	0700	.8			
																						0800	1.0		1700	1.3		0600	.5		1200	1.0			
																						1900	1.3		2100	1.1		2400	.8	27	0500	.9			
																					19	0900	1.0	23	0200	1.3	19	1000	.4		2300	1.4			
																						2300	1.3		0700	1.1		2400	.7	28	0900	1.2			
																					20	1000	1.0		2000	1.3	20	1000	.3		1200	1.7			
																						1800	1.2	24	1000	1.0		1500	.6		1400	1.3			
																					21	1000	.8		1400	1.5		1800	.4	29	0100	2.0			
																						2000	1.2	25	0100	1.2	21	0200	.6		1000	1.4			
																					22	1000	.9		1400	1.6		0900	.4		1700	2.0			
																						2100	1.1		1900	1.4		1900	.8		2000	1.6			
																					23	0900	.8	26	0100	1.6		2300	.6	30		c			
																						1800	1.0		0600	1.3	22	0200	.7	31	1100	1.9			
																					24	1500	.8		1400	1.7		0700	.5						
																						2100	1.0	27	0500	1.3		1200	.8						
																					25	1200	.7		1600	1.5		1400	.6						
																						2300	.9	28	0600	1.1		1800	.9						
																					26	0900	.7		1800	1.4		2400	.5						
																						1500	.8	29	0500	1.1	23	0300	.8						
																					27		b		1600	1.4		0500	.6						
																					28	0500	.6	30	0800	1.1		1600	.8						
																						1700	.8		1800	1.3	24	0600	.4						
																					29	0500	.5					1900	.7						
																						1700	.8				25	0800	.4						
																					30	0400	.5					1600	.6						
																						1700	1.0				26	0100	.4						
																					31	0300	1.0					1300	.5						
																						0700	.8					1500	.8						
																						2400	1.4				27	0900	.4						
																												1700	.7						
																											28	0800	.3						
																												1600	.6						
																											29	0300	.6						
																												0800	.3						
																												2000	.7						
																											30	1000	.3						
																												2200	.6						
																											31	1300	.3						
																												2400	.5						

Note: No usable record for October through March.

Table 12B.--G2, San Antonio Bay near Austwell, Tex.

LOCATION.-- Lat 28°20'45" long 96°47'40", on bulkhead in harbor at Hoppers Landing, about 4 miles southeast of Austwell, Calhoun Co.

RECORDS AVAILABLE.-- May 1969 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1969 water year: maximum and minimum elevations not determined.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																					13	2300	1.2	1	a	a	1	0900	0.8	1	0700	e0.3	1	2400	e1.2
																					14	a	a	2	a	a		1800	1.3	2	a	a	2	2400	e1.0
																					15	a	a	3	a	a	2	0700	.9	3	a	a	3	1400	e1.1
																					16	a	a	4	2300	1.2		1900	1.2	4	a	a		2400	.9
																					17	a	a	5	1000	.9	3	1000	.9	5	1400	.9	4	1400	1.1
																					18	a	a		2200	1.2		2300	1.2	6	0600	.8		2400	e1.0
																					19	a	a	6	0900	.9	4	0900	.9		1900	1.0	5	1700	1.3
																					20	a	a	7	0100	1.2		2200	1.1	7	0500	.8	6	0500	1.0
																					21	a	a		0900	1.0	5	1100	.9		1700	1.0		1900	1.3
																					22	a	a		1500	1.1	6	0300	1.0	8	0600	.7	7	0400	e1.1
																					23	a	a	8	0900	1.1	7	0700	1.0		2000	.9		1600	1.3
																					24	a	a		1600	1.2		1100	1.1	9	0700	.6	8	0700	1.0
																					25	a	a	9	1500	1.0	8	0700	1.0		1800	.8		1700	1.1
																					26	a	a	10	0700	.8		1700	1.0	10	0800	.5	9	0900	.7
																					27	a	a		2000	1.0	9	0600	.9		1700	.7		1800	1.0
																					28	a	a	11	0900	.9		1600	1.0	11	0900	.4	10	0700	e.9
																					29	a	a		1800	1.3	10	0800	.7		1500	.6	11	0100	1.2
																					30	a	a	12	0300	1.0		2000	1.0	12	1000	.3		0800	1.1
																					31	a	a		2200	1.3	11	0800	.6		1900	.5		1900	1.3
																								13	0600	1.0		1700	.9	13	0900	.2	12	0600	1.1
																									2000	1.4	12	0900	.7		2000	.6		2000	1.2
																								14	0800	1.0		1700	.9	14	0900	.4	13	0800	1.1
																									1500	1.3	13	1000	.6		2100	.7	14		c
																								15	0500	.8		2200	.7	15	0900	.5	15	1000	1.4
																									1900	1.0	14	0800	.5		2300	.8		2100	1.3
																								16	0200	.8		1800	.7	16	0900	.6	16		b
																									2000	1.1	15	1000	.4		2400	.7	17	1100	1.2
																								17	0800	1.0		2100	.6	17	0800	.6		1700	1.0
																									2200	1.2	16	0900	.4		1700	.8	18	1300	1.1
																								18	0900	1.0		1800	.7	18	0800	.8	19	0200	e1.0
																									2200	1.3	17	1000	.5		1600	1.0		1600	1.5
																								19	1000	1.0		1800	.6	19	0700	.9	20	0200	1.2
																									2200	1.2	18	1100	.4		1200	1.1		1400	1.6
																								20	1100	1.0		1900	.6		1700	1.0	21	0200	1.3
																									2200	1.2	19	0900	.2	20	1200	e1.4		1600	1.6
																								21	1100	.9		2400	.4	21	0300	e1.2	22	0400	1.4
																									2100	1.1	20	1000	.2		1300	e1.3		1600	1.7
																								22	0800	.9		2100	.4	22	0600	1.1	23	0800	1.4
																									1800	1.0	21	0800	.3		1400	e1.2		1300	1.6
																								23	0800	.9		1600	.5	23	0800	.9	24	1000	e1.2
																									2000	1.1	22	0800	.3		1700	1.1	25	1200	e.9
																								24	1000	1.0		1800	.5	24	0600	.6		2100	e1.1
																									1500	1.3	23	0100	.3		1400	e1.0	26	1300	e.8
																									2400	1.0		1700	.5	25	0800	.7		1800	e1.0
																								25	1600	1.4	24	0700	.3		1900	1.0	27	0900	e1.0
																								26	0700	1.2		1700	.5	26	0600	.8	28	0700	e1.2
																									1500	1.5	25	0900	.2		1900	1.0		2200	e1.1
																								27	0500	1.2		1600	.4	27	0800	.8	29	1000	e1.2
																									1600	1.5	26	0700	.2		2100	1.4		1700	e1.1
																								28	0700	1.1		1700	.5	28	0500	1.1	30	0800	e1.2
																									1800	1.4	27	0600	e.2		1000	1.7		1800	e1.1
																								29	0500	1.0		1600	.5		1300	1.3			
																									2000	1.3	28	0800	.2	29	0100	e1.7			
																								30	0800	1.0		2000	.5		0700	e1.5			
																									1900	1.3	29	0900	.2		1700	e1.9			
																												1900	.4		2000	1.6			
																											30	0800	.1	30	0700	e1.7			
																												2100	.4		1700	1.8			
																											31	1100	.2	31	0900	e1.6			
																												2400	.4		1400	e1.8			

Table 13A.--M1, Copano Bay near Bayside, Tex.

LOCATION.-- Lat 28°04'20" long 97°12'30", on bulkhead at Cities Service pump station, about 1.7 miles south southeast of Bayside, Aransas Co.

RECORDS AVAILABLE.-- October 1966 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1968 water year: maximum elevation 3.1 feet, May 11; minimum -0.8 feet, Mar. 12 and 13.
1969 water year: maximum elevation 2.9 feet (estimated), Feb. 15; minimum -0.1 feet, Jan. 2.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records since August 1967 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1966 to September 1967.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																														1	0900	e0.3	1	0100	0.5
																															2000	.9		1600	1.1
																														2	1100	1.3	2	0200	.7
																															2000	.8		1700	1.2
																														3	0900	1.2	3	0100	.9
																															2100	.8		1800	1.8
																														4	1000	1.2	4	0400	1.3
																															2200	.7		1700	1.9
																														5	1100	1.2	5	0800	2.0
																															2100	.8		2000	1.8
																														6	1100	1.3	6	1600	1.4
																															2200	.8		2200	1.6
																														7	1300	1.3	7	1800	1.1
																															2400	.8		2400	1.2
																														8	1300	1.3	8	2000	.7
																														9	0100	.8	9	0800	1.1
																															0900	1.0		2000	.7
																															2400	.7	10	1000	1.1
																														10		c		2200	.7
																														11	0200	1.0	11	1100	1.1
																															1100	.8		2300	.7
																															2100	1.3	12	1300	1.0
																														12	0900	.9		2300	.7
																														13	0200	1.2	13	1400	1.3
																															1200	1.0		2400	.9
																														14	0700	1.3	14	1500	1.4
																															1500	.9	15	0300	1.2
																														15	0600	1.4		1900	1.6
																															1500	1.1	16	0300	1.4
																														16	0400	1.4		1900	1.8
																															1700	1.0	17	0200	1.6
																														17	0600	1.5		1900	1.9
																															1800	.9	18	0400	1.6
																														18	0600	1.4		2100	2.1
																															1800	.9	19	0200	1.9
																														19	0200	1.4	20	2300	6.8
																															0400	1.3	21	1600	5.8
																															0700	1.4		2000	6.0
																															1800	1.0	22	1700	5.1
																														20	0800	1.4	23	0900	e5.1
																															1800	1.1	24		b
																														21	0800	1.4	25	1800	3.1
																															1900	1.1	26		b
																														22	0800	1.5	27	1200	2.7
																															2000	1.1	28	0300	2.0
																														23	0500	1.6		1000	2.1
																														24	1200	1.4		2300	1.8
																														25	0800	1.2	29	a	a
																															0900	1.3	30	a	a
																															1500	1.1			
																														26	1000	1.5			
																															2200	1.1			
																														27	1200	1.4			
																															2400	1.0			
																														28	1000	1.4			
																															2300	.9			
																														29	0900	1.1			
																															2400	.6			
																														30	1200	.9			
																														31	0100	.5			
																															1500	.9			

Table 13A.--M1, Copano Bay near Bayside, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0100	e1.7	1	0500	0.7				1	a	a	1	0700	1.3	1	1600	-0.3	1	0600	0.8	1	0600	0.6	1	0800	1.0	1	0800	1.3	1	1100	1.0	1	1200	1.7
	1600	1.9		1300	.3				2	a	a		1500	1.0	2	2100	.3		1300	1.1		1800	1.2		1800	1.5		1500	1.5		2100	.7		2200	1.2
2	0200	1.6	2	0700	.9				3	a	a		2300	1.3	3	0600	.2		2000	1.0	2	0600	.7	2	0600	.8	2	0600	1.1	2	1300	1.1	2	1100	1.7
	0800	1.9		1300	.6				4	a	a	2	0800	.7		1000	.5	2	0500	.6		1700	1.3		1900	1.4		1600	1.3		2300	.8		2200	1.2
	1300	1.8	3	0700	1.6				5	a	a		1100	.9		1400	-.1		2200	1.4	3	0800	.8	3	0200	.9	3	0800	1.1	3	1300	1.1	3	1400	1.8
	1800	2.2		1800	.6				6	a	a		1500	.6		2200	.1	3	0800	1.3		1800	1.2		1900	1.4		1600	1.2		2400	.8	4	0100	1.4
3	0100	1.9	4	0400	.9				7	a	a	3	1700	.9	4	0500	-.2		1000	1.0	4	1000	.7	4	0800	1.1		2100	.9	4	1200	1.2		1500	1.8
	1500	2.0		1500	.6				8	a	a		2400	1.1		2200	.2		2200	1.8		1800	1.1		1500	1.4	4	1700	1.6	5	0100	.7	5	0500	1.1
	1800	2.2	5	0700	1.6				9	a	a	4	2000	1.3	5	0500	-.1	4	1300	1.2	5	0500	.6	5	0800	1.0		2300	1.4		1600	1.3		1600	1.4
4	1300	2.0		1500	1.1				10	a	a	5	0900	.8		1500	.5		1800	1.2		2300	1.2		1600	1.4	5	1400	2.0	6	0300	.9	6	0300	1.0
	2100	2.1	6	0500	1.6				11	a	a		2300	1.3		2200	.5	5	0700	.7	6	0800	1.0		2200	1.1		2300	1.5		1600	1.4		2000	1.5
5	1400	1.7		1800	1.1				12	a	a	6	1100	.7	6	0600	.2		2200	1.0	7	0100	1.7	6	1600	1.4	6	1400	1.9	7	0300	.9	7	0300	1.3
	2200	1.9	7	0700	1.6				13	a	a	7	0700	.5		2100	.8	6	0900	.7		0900	1.4		2400	1.1	7	0200	1.3		1700	1.3		1900	1.7
6	1500	1.5		1700	1.1				14	a	a		1200	.2	7	0900	.4		2200	1.1		2100	2.3	7	1400	1.4		1300	1.6	8	0500	.9	8	1400	1.4
7	0700	2.0	8	0900	1.8				15	a	a		2400	.6		1800	.8	7	1100	.7	8	0100	1.5	8	0200	1.0	8	0200	1.1		1800	1.4		2000	1.6
	1900	1.4		2100	1.3				16	1500	-0.1	8	1300	.1	8	1000	.4		2300	1.3		1300	1.5		1500	1.4		1400	1.5	9	0500	1.0	9	1500	1.1
8	0200	1.9	9	1000	1.7				17	0900	.4	9	0300	.4		2300	.8	8	1300	.9		1600	1.8	9	0200	1.0	9	0300	.9		1900	1.4	10	0700	1.4
	1900	1.2		2100	1.4					1700	.2		1200	.1	9	1100	.4		2000	1.2	9	0900	1.5		0300	1.1		1600	1.6	10	0600	1.0		1900	1.0
9	0800	1.5	10	0600	1.6				18	0700	.8	10	0200	.5		2300	.9	9	0400	1.0		1100	2.7	10	0300	1.0	10	0600	.8		2000	1.3	11	0600	1.3
	2000	1.0		2100	1.3					1600	.5		1300	.1	10	1100	.6		0900	1.5		1400	1.9		1700	1.4		1600	1.4	11	0600	1.0		1800	1.0
10	0900	1.4	11	0500	1.5					2400	.8	11	0500	.6		2300	1.2		1800	.9		1800	2.3	11	0400	.9	11	0400	.8		2200	1.2	12	0900	1.4
	2200	1.0		1800	1.4				19	1800	.3		1400	.2	11	1800	-.1		2300	1.3	10	0700	2.0		1600	1.3		1700	1.5	12	1000	.9		1600	1.2
11	1000	1.4	12		b				20	0900	1.0	12	0100	.6		2400	.1	10	1400	.7		2400	2.3	12	0500	.7	12	0400	.8	13	0200	1.2	13	1000	1.7
	2300	1.0	13	1200	.8					1600	.5		1200	.2	12	1500	-.8	11	1000	.6	11	0400	2.2		1700	1.1		1900	1.5		1800	1.1		1700	1.5
12	1400	1.3	14	0500	1.1				21	0100	.8	13	0700	1.1	13	0700	-.5		1900	.8		1000	2.5	13	0500	.5	13	0700	1.1	14	0600	1.2	14	1000	2.0
	2300	1.0		1100	.8					0600	.7		1400	.9		1400	-.8	12	0100	.6		1400	2.4		1900	.9		1900	1.6		2200	1.1		2200	1.7
13	1500	1.4		2300	e1.1				22	0100	1.1	14	0700	1.3	14	0800	-.1		2000	1.3		1800	3.1	14	0600	.5	14	0400	1.3	15	1200	1.4	15	0900	1.9
14	0100	1.2	15	1300	.7					0900	.8		1700	.8		1400	-.2	13	0200	1.0	12	0200	2.0		1800	1.0		1800	1.6		2300	1.1		2300	1.4
	1700	1.8	16	0400	1.1					2300	1.0	15	0900	1.1	15	2100	.6		1900	1.3		1700	2.6	15	0700	.6	15	0800	1.2	16	1100	1.4	16	1200	1.7
	2400	1.5		1300	.8				23	1300	.4		1500	.9	16	0400	.5	14	0300	.9	13	0500	2.1		2100	1.0		1400	1.4		2300	1.1		2100	1.3
15	2000	e2.5	17	0500	e1.2					2100	.6		2100	1.1		1100	.7		1600	1.2		1300	2.4	16	0800	.6	16	0300	1.4	17	1400	1.4	17	1600	2.0
16	0200	2.0		1300	.9				24	1200	.1	16	1500	.6		2000	.5	15	0500	.7	14	0400	1.9		1700	.9		0800	1.3		2300	1.0	18	0300	1.2
17	1500	.7	18	0600	1.3					2300	.5	17	0900	.9	17	0400	.2		1800	1.0		1800	2.2	17	1000	.5		1500	1.5	18	1400	1.3		1400	1.5
	2000	.9		1400	1.0				25	1100	.0	18	0300	.5		2100	.8	16	0700	.6	15	0700	1.7		1600	.8		2300	1.3		2400	1.0	19	0200	1.1
18	1500	.6	19	0400	1.4				26	0400	.7		2200	1.2	18	0500	.6		2100	1.4		1600	2.1		2400	.6	17	1200	1.4	19	1400	1.4		1800	1.5
19	0800	.9		1500	.9					1300	.4	19	0300	.9		2000	1.4	17	0400	.9	16	0800	1.5	18	1600	.8		2200	1.2	20	0200	1.0	20	0300	1.2
	1500	.7	20	0700	1.3				27	0400	.9		2200	1.3	19	0700	.9		2000	1.4		1900	2.0		2200	.6	18	1200	1.3		1400	1.4		1900	1.6
20	0600	1.1		1600	1.0					1300	.5	20	0700	1.0		2000	1.4	18	0900	.9	17	0800	1.3	19	0900	1.0		2300	1.0	21	0300	1.0	21	0300	1.2
	1400	.8	21	0600	1.4				28	0100	1.1		2000	1.3	20	0900	.9		2000	1.4		2100	2.0		1100	.8	19	1200	1.2		1500	1.2		1900	1.7
21	0500	1.1		1700	1.0					1300	.7	21	1000	.8		1900	1.5	19	0900	1.0	18	0900	1.1		1500	1.0		2400	.9	22	0300	.8	22	0300	1.4
	1600	.9	22	0600	1.3				29	0400	1.3		1300	1.1	21	1300	.4		2200	1.4		2100	1.3		2300	.6	20	1400	1.2		1700	1.2		2200	2.0
22	0600	1.2	23	a	a					1500	.8	22	0900	.3		2000	.5	20	0900	.9	19	0900	1.1	20	1200	1.1		2400	.8	23	0400	.8	23	1300	1.8
	1800	.9	24	a	a				30	0600	1.2		2100	.9	22	0800	-.1		1800	1.3		1800	1.2	21	0100	.7	21	1400	1.3		1800	1.4		2100	2.1
23	0800	1.3	25	a	a					1600	.8	23	1300	.1	23	0200	.7	21	1000	.7	20	0200	1.0		0700	1.1	22	0200	.9	24	0500	.9	24	1600	1.7
	1500	1.1	26	a	a				31	0700	1.1		2300	.6		1200	.0	22	0100	1.3		0800	1.1		1600	1.2		1500	1.2		1800	1.3		2300	1.9
24	0800	1.5	27	a	a					1300	.8	24	1100	.0	24	0200	.2		1100	1.0		1300	.9	22	0200	.8	23	0300	.8	25	0300	.9	25	1700	1.4
	2000	1.1	28	a	a							25	0400	.5		1000	-.2		2100	1.3		1800	1.1		1200	1.5		1600	1.2		1800	1.3	26	0900	1.6
	2400	1.4	29	a	a								1200	.0	25	0400	.3	23	0700	1.2	21	1200	1.2	23	0200	1.1	24	0300	.8	26	0400	1.0		1900	1.2
25	0900	1.4	30	a	a							26	0500	.6		1000	.1		0800	1.4		1800	1.4		1600	2.5		1800	1.3		2100	1.3	27	0600	1.6
	1900	1.0											1400	.2	26	0600	.5	24	0100	.5		2400	1.2	24	0300	1.5	25	0400	.9	27	0500	1.1		1900	1.2
26	1100	1.5											1500	.5		1100	.3		1900	.8	22	1700	1.4		1600	2.3		1900	1.4		1000	1.2	28	1000	1.7
	2000	1.3											1600	.1		1900	.7	25	0100	.7		2300	1.3	25	0300	1.9	26	0500	.9		1400	1.0		2100	1.2
27	0800	1.9										28	0700	.6	27	0700	.7		1300	1.0	23	1000	1.5		1500	2.2		1800	1.4		2000	1.3	29	1000	1.8
	2300	1.2										29	0300	-.1		1200	.6	26	0100	.8	24	0300	1.2	26	0400	1.6	27	0700	.8	28	0300	1.3		2300	1.3
28	0400	1.4											1100	.3		1900	.8		1800	1.2		1600	1.5		1200	1.8		1900	1.4		1000	1.6	30	0800	1.6
	1500	1.4											1900	-.2	28	0200	.6	27	0400	.8	25	0100	1.1	27	0800	1.4	28	0700	1.0		1500	1.3		2400	1.1
	2100	1.3											2300	.0		0800	.8		1700	1.2		1600	1.4		1500	1.8		2100	1.3	29	0800	1.6			
29	1900	1.9														1500	.6	28	0500	.8	26	0100	1.0	28	0500	1.3	29	0600	.9		2100	1.4			
30	1600	.8														1900	.7		1300	1.3		1500	1.4		1800	1.8		1700	1.1	30	1100	1.7			
	2000	1.1													29	0200	.5	29	0300	.7	27	0300	.9	29	0300	1.4	30	0700	.8		1900	1.3			
31	1400	.3														2000	.9		1300	.9		1600	1.7		1800	1.9	31	1400	1.2	31	1100	1.7			
	2100	.7													30	0400	.6	30	0600	.5	28	0500	.9	30	0600	1.5					2300	1.3			
	2400	.5														1900	1.0		1900	1.0		1800	1.3		1700	1.8									
															31	0400	.7				29	0400	.8												
																1600	1.2					1700	1.2												
																					30	0600	.7												
																						1900	1.2												
																					31	0600	.8												
																						1800	1.5												

Note: No usable record for December.

Table 13A.--M1, Copano Bay near Bayside, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	1300	1.4				1	a	a	1	0700	0.2	1	0500	1.2	1	a	a	1	a	a	1	1700	1.8	1	0200	0.9	1	0500	1.0	1	0600	0.4	1	0600	1.8
2	0100	1.0				2	a	a		1600	.4		1300	.7	2	a	a	2	a	a	2	0300	1.3		1700	1.5		1700	1.7		2300	.8		2000	1.3
	1600	1.5				3	a	a	2	0200	-.1	2	0600	1.3	3	a	a	3	a	a		1800	1.8	2	0400	.8	2	0600	1.0	2	0600	.6	2	0600	1.4
3	0100	1.2				4	a	a		2400	.6		1800	.8	4	a	a	4	a	a	3	0500	1.4		1900	1.2		1900	1.6		1300	.8		2100	1.0
	1600	1.5				5	a	a	3	0500	.3	3	0500	1.8	5	a	a	5	a	a		1700	1.9	3	0600	.8	3	0600	1.0		a	a	3	1000	1.3
4	1200	1.1				6	1600	.2		2200	e.9		1900	.6	6	a	a	6	a	a	4	0500	1.4		2000	1.6		2100	1.4	3	2100	.7		2100	1.0
	1700	1.4				7	0600	.8	4	0800	.5		2200	e.8	7	e1600	1.6	7	2200	1.3		2000	2.1	4	0800	1.0	4	0700	1.0	4	1200	1.0	4	1200	1.3
5	0400	1.2					1200	.8		1300	.9	4	0400	.8	8	e0400	1.3	8	0700	.8	5	0600	1.6		1600	1.5		2200	1.4		1900	.8		2100	1.0
	2200	1.7					2000	.1		2000	.7		0800	e.9		e0700	1.5		2200	1.4		1700	2.3	5	0100	1.4	5	0800	1.0	5	1400	1.2	5	1400	1.4
6	1300	1.4				8	0500	.5	5	1000	.2		1500	.7		e1300	1.3	9	1000	.9		2200	2.3		0800	1.0		1400	1.2		2300	.9	6	0100	1.2
	2200	1.8					1700	.2		2400	e.7		2100	1.0		e2100	1.4		2000	1.4	6	0600	1.8		2200	1.4		2000	1.1	6	1300	1.2		1300	1.5
7	1600	1.4				9	0900	e.8	6	1000	.3	5	0200	.9	9	e0600	.8	10	1100	.9		1700	2.4	6	0800	1.0	6	1600	1.3		2400	.8	7	0100	1.1
8	0100	1.8					2000	.5	7	0100	e.8		1000	1.1		e1900	1.1		2400	1.3	7	1100	1.9		1500	1.3		2200	1.1	7	1600	1.2		1500	1.6
	0700	1.8				10	0800	1.0		1200	.4		1600	.9	10	e0200	0.8	11	1200	.9		a	a	7	0100	1.4	7	1200	1.4	8	0100	.8	8	0200	1.2
	1600	1.5					2000	.7	8	0100	e.8	6	0100	1.2	11	e0800	.6		1600	1.8	8	1100	1.6		0800	1.2		2300	1.0		1300	1.3		1600	1.3
9	0600	1.9				11	0800	e.9		1300	.4		1000	1.1		e2200	.9		2400	1.4		1500	1.9		1700	1.4	8	1300	1.3	9	0200	.7	9	0400	.9
	1600	1.5					1700	.7		2400	.6		2300	.9	12	e0700	.3	12	1000	2.1	9	1200	1.1		2100	1.3		2400	1.0		1500	1.1		1800	1.3
10	0200	1.9				12	1000	1.2	9	0400	.5	7	0800	.6		e2300	1.1		a	a		2200	1.3	8	1000	1.3	9	1500	1.3	10	0300	.6		2400	.9
	1000	1.8					2300	1.0		1400	.6		2400	.8	13	e0900	.6	13	a	a	10	1000	1.0		1500	1.4	10	0200	.9		1600	1.0	10	1800	1.5
	1800	1.4				13	0400	1.3		1800	1.1	8	0600	.6		e1600	1.0	14	1800	1.0		1700	1.3	9	0100	1.2		1400	1.2	11	0400	.5	11	0400	1.2
11	0800	1.8				14	1900	.5	10	0100	.4		1000	.7		e2400	1.1		2400	.8	11	0300	1.3		0700	1.3	11	0200	.8		1600	1.0		1900	1.7
	1700	1.4				15	0500	.6		1200	.1		1300	.6	14	e0800	.8	15	0800	1.1		1000	1.1		1600	1.2		1600	1.4	12	0300	.4	12	0600	1.3
12	0800	1.8					1600	.4		1800	.2		2400	.5	15	e0200	1.4		2000	1.2		1800	1.4	10	0200	1.0	12	0300	.8		1700	.9		0900	1.3
	2000	1.4					2100	.6		2300	.0	9	0700	.3		e1000	1.2	16	0400	1.0	12	0200	1.1		1500	1.3		1700	1.3	13	0400	.4		1400	1.2
13	0800	1.7				16	0900	.7	11	1600	e.7		1100	.4		e1600	1.8		1900	1.6		1200	1.2		2400	1.0	13	0500	.9		1800	1.0		2100	1.3
	2100	1.5					1500	.5		2100	.5		1300	.3		e2100	1.4	17	0200	1.3		2000	1.6	11	1600	1.5		1500	1.2	14	0500	.5	13	0200	1.2
14	1100	1.8				17	0800	1.1	12	1700	e.8	10	0100	.7	16	e0300	1.4		1000	1.8	13	0200	1.1	12	0200	1.1	14	0500	.7		1900	1.0		1800	1.2
	2100	1.6					1700	.7	13	0300	.6		1000	.5		e1200	1.1	18	0500	1.1		0700	1.4		1600	1.5		1700	1.2	15	0500	.6		2000	e1.3
15	1100	2.0				18	0900	1.3		1000	e.9	11	0100	1.0		e2000	1.3		1200	1.3	14	0400	1.0	13	0200	1.1	15	0500	.6		2100	1.1	14	1000	1.5
	2200	1.8					1900	.7		1700	e1.0		1200	.6	17	e0600	1.2		2100	1.1		1700	1.5		1700	1.6		1900	1.0	16	0400	.8		1500	1.4
16	1400	2.1				19	0700	1.2	14	0400	.7	12	0200	1.1		e1400	.9	19	0700	.8	15	0400	1.1	14	0400	1.1	16	0400	.5		2300	1.0	15	0300	e1.6
17	0100	1.8					2200	.6		a	a		1300	.6		e1700	1.1		2000	1.2		1500	1.6		1700	1.5		1600	1.0	17	0600	0.9	16	a	a
	0600	2.3				20	1000	1.2	15	1300	.7	13	0300	1.1		e2400	1.0	20	0400	.8	16	0400	1.1	15	0300	0.9	17	0600	.6	18	1100	1.2	17	a	a
	2400	1.5					2400	.6	16	0300	e1.3		0900	1.0	18	e0500	1.1		1400	1.3		1200	1.9		1600	1.3		1600	1.0		1600	1.1	18	a	a
18	0200	1.8				21	1400	1.3		1400	.8		1400	1.2	19	e1000	.4	21	0600	.6		1700	1.4	16	0300	.9	18	0600	.6	19	0500	1.2	19	a	a
	0600	1.6					2400	.9	17	0400	1.3	14	0400	2.5		e1700	.6		1800	1.0		1900	1.9		1800	1.4		1800	.9		1200	1.3	20	a	a
	1000	1.8				22	1000	1.8		1500	.7		1400	2.0	20	e0100	.3	22	1000	.6		2100	1.3	17	0500	1.1	19	0800	.4		1700	1.1	21	a	a
	1300	1.7				23	0200	.7	18	0500	e1.3	15	0400	e2.9		e1300	.8		1900	1.0	17	0600	1.2		1700	1.6		1200	.7	20	1200	1.6	22	a	a
	1800	1.8					0800	.9		1500	.9		1700	2.2	21	e0100	.3	23	0900	.5		1700	1.6	18	0600	1.2		2200	.7		2000	1.2	23	a	a
	2400	1.6				24	0500	.2	19	0600	1.4	16	0100	2.4		e1600	.7		1900	1.0	18	0600	1.1		1800	1.5	20	0600	.4	21	1100	1.6	24	a	a
19	0600	1.8					1000	e.4		1600	.8		1600	1.6	22	e0400	.4	24	1100	.5		1800	1.5	19	0700	1.1		1700	.7		2200	1.2	25	a	a
	1100	1.6					1800	e.4	20	0800	1.3	17	0900	1.6		e1800	1.1		2200	1.1	19	0600	1.0		1900	1.5	21	0800	.7	22	1200	1.5	26	a	a
20	1500	1.7				25	0700	.1		1700	.8		1900	1.1	23	e0400	.7	25	0600	.8		1800	1.4	20	0800	1.1		1200	.8		2400	1.0	27	a	a
	2100	1.9					2100	.4	21	0800	1.1	18	1900	.7		e0700	1.0		1700	1.4	20	0600	1.0		1800	1.5		2200	.6	23	1200	1.3	28	a	a
21	0700	1.8				26	0600	.4		1800	.8	19	0300	.8		e1200	.3	26	2200	2.0		1800	1.4	21	0800	1.0	22	1400	.9	24	0100	.8	29	a	a
	1400	1.5				27	1400	1.1	22	0900	1.1		1000	1.3	24	a	a	27	1200	1.7	21	0700	.9		2100	1.4	23	0100	.6		1200	1.2	30	a	a
	2300	1.6					2200	.8		1800	.9		1300	1.0	25	a	a		1600	1.8		1800	1.4	22	0700	1.0		0400	.7	25	0200	.7			
22	1600	1.2				28	0400	1.3	23	0100	1.1		2200	1.3	26	a	a	28	2300	1.0	22	0800	1.0		1800	1.4		1600	.7		1600	1.3			
	2200	1.5					2400	e.5	24	0600	.5	20	0100	1.1	27	a	a	29	1600	1.2		1900	1.3	23	0100	1.1		2300	.5	26	0300	.9			
23	0400	1.5				29	1100	e.5		1000	.9		1300	1.7	28	a	a	30	0200	1.0	23	0700	.9		0900	1.1	24	0600	.7		1600	1.4			
	1500	1.0				30	0100	.1		1400	.3	21	0400	1.5	29	a	a		1100	1.5		1700	1.2		1600	1.4		1000	.6	27	0400	.9			
24	0800	1.6					1800	e.6	25	0900	.3		1900	e1.8	30	a	a		1300	1.4	24	0900	.8		2400	1.1		1500	.8		1100	1.5			
	1800	0.9				31	0200	.3		2400	.9	22	1000	1.2	31	a	a		1700	2.4		1900	1.1	24	1700	1.4	25	0100	.4		1500	1.5			
25	0300	1.3					1500	1.1	26	1100	.5		1900	1.3					2400	1.2	25	1000	.7		2400	1.1		1600	.8		1800	1.8			
	1800	.8					2400	.9	27	0300	1.0	23	1000	.9								1700	1.0	25	1600	1.6	26	0300	.3	28	0400	1.2			
26	0800	1.1								1200	.8		2300	1.2							26	0900	.8	26	0200	1.1		1600	.8		2000	2.1			
	2000	.7								2400	1.3	24	a	a								1500	1.0		1200	1.6	27	0200	.3	29	0800	1.7			
27	0800	1.1							28	1100	.9	25	a	a								2400	.8	27	0100	1.2		1800	.9		1700	2.1			
	2200	.6							29	0200	1.4	26	a	a							27	1600	.9		1500	1.6	28	0500	.3	30	0600	1.7			
28	0500	1.0								1300	1.0	27	a	a							28	0100	.7	28	0400	1.1		1800	.8		2100	1.9			
	2300	.5							30	0100	1.4	28	a	a								1500	.9		1500	1.6	29	0400	.3	31	2000	1.6			
29	1100	.8								1300	1.0										29	0200	.5	29	0200	1.0		1800	.8						
	2300	.5								1400	1.5											1600	.9		1600	1.6	30	0400	.2						
30	a	a								2200	1.1										30	0200	.5	30	0400	1.1		1800	.8						
31	a	a							31	0300	1.2											1700	1.1		1700	1.6	31	0500	.3						
										1600	.8										31	0200	.7					2200	.8						
																						1600	1.4											

Note: No usable record for November.

Table 13B.--M3, Copano Bay near Fulton, Tex.

LOCATION.-- Lat 28°06'58" long 97°01'23", on north side of bridge on State Highway 35, about 6.5 miles north northeast of Rockport, Aransas Co.

RECORDS AVAILABLE.-- September 1968 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1969 water year: maximum elevation 3.0 feet, Feb. 15; minimum not determined.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records since October 1968 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	1000	1.6	1	0400	1.3	1	0600	1.3	1	0100	0.3	1	a	a	1	0100	1.2	1	0900	0.9	1	1200	1.7	1	0100	1.1	1	0400	1.1	1	0600	0.5	1	0300	1.8
	2200	1.2		1100	1.2		2100	1.4		1400	.0	2	a	a		1300	.8		1800	1.1	2	0100	1.4		1600	1.5		1600	1.5		2300	.9		2000	1.4
2	1400	1.6		1900	1.3	2	1300	1.0	2	0500	.5	3	a	a	2	0300	1.2	2	0100	1.0		1300	1.8	2	0600	.9	2	0500	1.2	2	1700	.8	2	0500	1.5
	2200	1.4		2300	1.2	3	0200	1.2		1300	.4	4	a	a		1100	1.0		0700	1.1		2400	1.4		1800	1.2		1800	1.6	3	0200	1.0		2000	1.1
3	1500	1.6	2	0400	e1.4		1400	0.4	3	0600	1.0	5	a	a	3	0300	1.5	8	0100	.9	3	1400	1.8	3	0400	.7	3	0500	1.1		1900	.8	3	0800	1.4
4	1100	1.1		1100	1.2	4	0100	0.8	4	1500	.3	6	a	a		0900	1.0		1500	1.1	4	0200	1.4		1800	1.4		2000	1.5	4	1000	1.0		2200	1.1
5	2200	1.9	3	0500	1.5		1500	0.4	5	0700	.8	7	a	a	4	1400	.6	4	0100	.9		1500	2.0	4	0500	.9	4	0600	1.2		2100	.8	4	1100	1.4
6		b	4	a	a	5	0200	0.6		1600	.5	8	a	a	5	0600	1.4		1600	1.4	5	0400	1.6		1900	1.4		2200	1.4	5	1100	1.2		2000	1.1
7	0400	1.5	5	a	a		1400	0.2	6	0600	.9	9	a	a		1700	1.5	5	0400	1.0		1900	2.1	5	0700	1.0	5	1800	1.2		2100	.9	5	1200	1.5
	2200	2.0	6	a	a	6	0500	0.6		1600	.5	10	a	a	6	0300	1.2		1500	1.3	6	0500	1.8		2100	1.4	6	1100	1.4	6	1200	1.2		2200	1.2
8	a	a	7	a	a		1500	0.3	7	0500	.9	11	a	a		2000	1.6	6	0500	e.8		1900	2.3	6	0800	1.1		1900	1.2		2200	.9	6	1200	1.5
9	a	a	8	a	a	7	0200	0.6		1700	.5	12	a	a	7	0500	1.4		1900	1.2	7	0700	1.9		2400	1.4	7	1000	1.4	7	0900	1.3		2400	1.2
10	a	a	9	a	a		1600	0.1	8	0600	1.0	13	e1000	0.8		2200	1.6	7	0600	.8		1800	2.1	7	0800	1.2		2100	1.0		2300	.9	7	1200	1.5
11	a	a	10	a	a		2400	0.4		1600	.8	14	e0300	2.2	8	1500	1.4		2000	1.2	8	1000	1.7		1500	1.4	8	1000	1.4	8	1100	1.3	8	0100	1.2
12	a	a	11	a	a	8	1500	0.2		2400	.9		e0600	1.8	9	0300	.7	8	0600	.9		1300	1.9	8	1400	1.4		2100	1.0		2400	.9		1300	1.4
13	a	a	12	a	a	9	0900	0.8	9	0900	.2	15	e0300	3.0		1700	1.0		2000	1.4	9	0900	1.1		2200	1.2	9	1200	1.3	9	1400	1.1	9	0300	1.0
14	a	a	13	a	a		1700	0.6		2300	.2		e1200	2.4	10	0800	.4	9	0800	1.0		2200	1.4	9	0600	1.4		2300	1.0	10	0200	.8		1400	1.2
15	a	a	14	a	a	10	0500	1.0	10	0600	.0	16	e0400	2.0		1900	.7		2100	1.4	10	1000	1.1		2300	1.1	10	1200	1.3		1500	1.1	10	0200	1.0
16	a	a	15	a	a		1800	0.7		2400	.6		e1600	1.6	11	0800	.3	10	1000	1.0	11	0500	1.4	10	1100	1.4		2400	.9	11	0300	.7		1600	1.3
17	a	a	16	a	a	11	0600	1.0	11	0900	.4	17	e0400	1.4		2100	e.7		2200	1.4		2200	1.2		2200	1.1	11	1400	1.3		1500	1.0	11	0100	1.1
18	a	a	17	a	a		1600	0.8		2400	.8		e1500	1.0	12	0700	.4	11	1300	e.8	12	0600	1.4	11	1000	1.5		2400	1.0	12	0300	.6		1800	1.4
19	a	a	18	1000	0.5	12	1000	1.4	12	0900	.6		e2000	1.2	13	0100	1.1	12	1100	2.2		1700	1.1	12	0100	1.1	12	1500	1.3		1700	.9	12	1300	1.2
20	a	a		2400	1.1	13		b	13	0100	1.0	18	e0600	1.0		1100	.7	13	1100	1.4	13	0900	1.5		1300	1.5		2400	1.0	13	0300	.6		2100	1.3
21	a	a	19	1200	0.7	14	1000	.5		1100	.8		e1300	.8	14	0100	1.1	14	2300	e.9		2200	1.0		4000	1.1	13	1300	1.2		1700	.9	13	1400	1.1
22	a	a	20	0300	1.1	15	1000	.2		2400	1.2	19	e1600	.7		1200	.8	15	0800	1.1	14	1600	1.5	13	1400	1.5		2400	.8	14	0300	.6	14	0800	1.6
23	a	a		1400	0.7	16	0300	.8	14	1100	.8	20	e2000	1.8	15	0500	1.5		1700	1.1	15	0100	1.2	14	0100	1.2	14	1500	1.1		1900	1.0		1600	1.4
24	a	a	21	0300	1.1		1100	.6	15	0100	1.3	21	e0500	1.6		1200	1.3		2300	1.0		1200	1.6		1500	1.5	15	0300	.7	15	0300	.7	15	0600	1.7
25	a	a		1500	0.6	17	0200	1.2		1200	.9	22	a	a	16	0200	1.6	16	1600	1.5		2400	1.2	15	0400	1.1		1700	1.0		1900	1.1		1700	1.4
26	a	a	22	0500	1.1		1200	.8	16	a	a	23	a	a		1200	1.3		2400	1.3	16	1800	1.9		1400	1.3	16	0400	.6	16	0700	..9	16	0500	1.6
27	a	a		1600	0.7	18	0200	1.4	17	a	a	24	2100	1.3	17	0400	1.5	17	1200	1.8	17	0100	1.4	16	0400	.8		1700	1.0		2300	1.1		1600	1.3
28	a	a	23	0600	1.2		1200	1.0	18	a	a	25	1000	.8		1400	1.3	18	0300	1.3		1700	1.7		1800	1.4	17	0500	.7	17	0900	1.1	17	0500	1.6
29	a	a		1800	0.8		1900	1.2	19	a	a		2200	1.2	18	0600	1.5		1100	1.4	18	0500	1.2	17	0400	1.1		1800	1.0		1300	1.0		1900	1.1
30	2100	1.0	24	0700	1.2	19	1300	.6	20	a	a	26	1000	.8	19	1400	.6	19	0500	.9		1600	1.6		1800	1.6	18	0500	.7	18	0900	1.3	18	a	a
31	1300	1.4		1900	0.7	20	0300	1.1	21	a	a		2400	1.3	20	0200	.6		1500	1.7	19	0400	1.2	18	0400	1.3		1900	.9	19	0900	1.1	19	a	a
	2300	1.2	25	0900	1.1		1300	.7	22	a	a	27	1100	1.0		1300	.8	20	0600	.8		1800	1.5		1700	1.6	19	0600	.6	19	0900	1.3	20	e1000	1.7
				1800	0.8	21	0600	1.4	23	a	a		2300	1.4	21	0400	.5		1700	1.0	20	0600	1.1	19	0500	1.2		0900	.7		2000	1.1		2100	1.4
			26	1500	1.7		1400	1.1	24	a	a	28	0900	.7		1900	e.8	21	0600	.7		1700	1.4		1900	1.5		2300	.7	20	1000	1.6	21	1100	1.8
			27	0200	1.8		2400	1.7	25	a	a				22	0500	e.5		1900	1.1	21	0600	1.1	20	0500	1.2	20	0500	.6		1800	1.3		2000	1.5
			28	0300	1.2	22	1400	.9	26	a	a					2000	1.0	22	0600	.7		1900	1.4		1700	1.5	21	0900	.9	21	1000	1.6	22	1300	1.9
				0500	1.4	23	1900	.4	27	a	a				23	0300	.8		1900	1.0	22	0700	1.1	21	0700	1.1		1800	.7		2200	1.2		2400	1.7
				1200	0.4	24	0600	.5	28	a	a					1500	1.4	23	0700	.6		1800	1.4		1900	1.4	22	1000	1.0	22	1100	1.5	23	0900	1.8
			30	1800	0.7		1900	.2	29	a	a				24		b		2000	1.0	23	1100	1.0	22	0600	1.2		2100	.7		2300	1.1	24	0800	1.5
						25	1300	.6	30	a	a				25	1000	.1	24	0900	.6		1800	1.2		1500	1.4	23	1000	.9	23	1100	1.4		1700	1.5
							1900	.5	31	a	a					1900	e.4		2200	.9	24	0800	.9		2100	1.2		2200	.5		2400	.9	25	1300	1.2
						26		c							26	0800	.1	25	0600	.9		1700	1.1	23	1200	1.4	24	1100	.9	24	1100	1.3		1900	1.4
																2400	.6	26		c	25	0800	.8		2300	1.1		2300	.5	25	0100	.8	26	1400	1.1
						27	0100	1.3							27	1000	e.4	27	0100	1.9		1600	1.0	24	1300	1.4	25	1200	.9		1400	1.3	27	0500	1.4
							0600	1.2								2200	.6		1500	1.9	26	0800	.9		2100	1.2		2300	.3	26	0100	1.0		1400	1.1
							1200	1.4							28	0900	.4	28	1100	1.2		1600	1.0	25	1300	1.6	26	1300	.8		1500	1.4	28	0500	1.6
						28	1100	.6							29	0100	.8	29	0200	1.1		2100	.9		2200	1.3		2300	.4	27	0300	1.1		1500	1.2
						29	1100	.3																											
																1200	.5		2300	1.0	27	0600	1.0	26	1300	1.7	27	1400	.9		1700	1.6	29	0400	1.6
						30	0400	.7							30	0100	.7	30	1300	1.4		1300	1.0		2300	1.2	28	0200	.4	28	0400	1.4		1800	1.2
							1100	.5								1200	.4		1800	1.2		2300	1.7	27	1300	1.6		1500	.8		2200	2.0	30	0600	1.5
							2400	.9							31	0400	.7				28	1200	.9	28	0100	1.1	29	0200	.4	29	1100	1.6		e1700	1.2
						31	1300	.0								1400	.4					2400	.6		1400	1.5		1800	.8		2200	1.9			
																					29	1300	.9	29	0200	1.1	30	0300	.4	30	1500	1.6			
																						2400	.6		1500	1.6		1800	.8		2400	1.9			
																					30	1500	1.1	30	0300	1.1	31	0400	.4	31	1700	1.6			
																						2400	.8		1600	1.6		2000	.8						
																					31	1500	1.4												

Table 14A.--N2, Corpus Christi Ship Channel at Corpus Christi, Tex.

LOCATION.-- 27°48'53" long 97°23'47", on pier 9 at turning basin in mouth of Tule Lake Channel, at Corpus Christi, Nueces Co.

RECORDS AVAILABLE.-- September 1949 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers). Gage moved to Pier 9 in turning basin at mouth of Tule Lake channel July 24, 1968.

EXTREMES.-- 1968 water year: maximum and minimum elevations not determined.
1969 water year: maximum and minimum elevations not determined.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records since July 1968 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																											25	0300	0.4	1	0900	0.8	1	1100	1.5
																												1700	1.1		2000	.4		2300	1.0
																											26	0300	.4	2	1100	.8	2	1200	1.5
																												1800	1.1		2100	.4		2400	1.0
																											27	0400	.5	3	1100	.9	3	1400	1.6
																												1700	1.2		2200	.3	4	0200	1.0
																											28	0400	.6	4	1100	1.0		1400	1.4
																												1600	1.1		2300	.4	5	0200	.8
																											29	0400	.6	5	1300	1.1		1500	1.3
																												1400	.9		2400	.5	6	0200	.9
																											30	0500	.5	6	1400	1.1		1800	1.5
																												1100	.7	7	0100	.5	7	0300	1.1
																											31	1100	.7		1500	1.1		2000	1.6
																												2100	.5	8	0200	.5	8	0400	1.3
																															1700	1.1		1400	1.3
																														9	0300	.5		2000	1.4
																															1600	1.1	9	1400	1.0
																														10	0400	.6		2400	1.2
																															1900	1.0	10	1700	.9
																														11	0500	.6	11	0800	1.3
																															2100	.9		1700	1.0
																														12	0500	.5	12	0900	1.4
																															2400	.8		1800	1.0
																														13	1800	.5	13	0900	1.7
																														14	0300	.8		1800	1.3
																															2100	.6	14	0500	1.9
																														15	1100	1.0		2000	1.4
																															2100	.6	15	0600	1.7
																														16	1000	1.0		2300	1.1
																															2200	.6	16	0900	1.4
																														17	1500	1.1		2200	.8
																															2100	.5	17	1000	1.4
																														18	1100	1.0		2400	.9
																															2400	.5	18	1400	1.4
																														19	1100	1.1		2400	.9
																															2300	.5	19	1400	1.4
																														20	1300	1.1	20	0100	.9
																														21	0100	.5		1600	1.3
																															1300	.9	21	0100	.9
																														22	0100	.4		1800	1.4
																															1600	1.0	22	0100	1.1
																														23	0200	.5		2200	1.8
																															1800	1.1	23	1500	1.5
																														24	0200	.6		2000	1.8
																															1800	1.2	24	0700	1.7
																														25	0300	.7		1400	1.3
																															1900	1.1	25	0100	1.6
																														26	0400	.8		1600	1.1
																															2200	1.1	26	0600	1.5
																														27	0600	1.0		1700	1.0
																															1700	1.0	27	0700	1.4
																														28	1100	1.4		1900	.9
																															1900	1.2	28	0900	1.5
																														29	0800	1.5		2000	1.0
																															1900	1.1	29	1100	1.6
																														30	0800	1.6		2100	1.1
																															2000	1.1	30	1100	1.5
																														31	1000	1.6		2300	.9
																															2200	1.0			

Table 14A.--N2, Corpus Christi Ship Channel at Corpus Christi, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	1200	1.3																									1	a	a	1	0400	0.1	1	0100	1.5
	2300	.8																									2	a	a		2200	.6		2000	.9
2	1400	1.3																									3	a	a	2	0500	.4	2	0600	1.2
	2400	.9																									4	a	a		1100	.6		2000	.7
3	1500	1.3																									5	a	a	3	1000	.6	3	0900	1.1
4	0200	.9																									6	a	a		1900	.3		2100	.6
	1200	1.0																									7	a	a	4	0900	.7	4	0900	1.1
	1900	1.3																									8	a	a		2000	.4		2100	.6
5	0100	1.1																									9	2400	0.4	5	1100	.9	5	1000	1.2
	2100	1.5																									10	1100	.9		2100			2400	.7
6	1300	1.1																										2400	.3	6	1100	.9	6	1300	1.2
	1700	1.5																									11	1300	1.0		2100	.4		2300	.7
7	0600	1.5																									12	0100	.3	7	1000	1.0	7	1300	1.3
	1300	1.2																										1500	1.0		2400	.4		2400	.8
8	0300	1.6																									13	0100	.2	8	1200	.9	8	1300	1.1
	1600	1.3																										1300	.8		2400	.2	9	0200	.5
9	0400	1.7																									14	0300	.1	9	1300	.8		1500	1.0
	1600	1.2																										1500	.8	10	0100	.2		2400	.6
10	0500	1.6																									15	0300	.1		1400	.8	10	1800	1.1
	1700	1.2																										1600	.7	11	0200	.1	11	0200	.9
11	0700	1.7																									16	0300	.0		1400	.7		2000	1.4
	1600	1.3																										1500	.8	12	0200	.0	12	0200	1.1
12	0600	1.6																									17	0400	.1		1500	.6		0900	1.2
	1900	1.1																										1500	.8	13	0400	.0		1200	1.1
13	0700	1.6																									18	0500	.1		1700	.7		1800	1.2
	2000	1.2																										1800	.6	14	0200	.2	13	0300	.9
14	0800	1.6																									19	0400	.0		1800	.8		0700	1.0
	2000	1.3																										1700	.4	15	0400	.3		1400	.7
15	1000	1.7																									20	0400	.1		1900	.8		2100	1.1
	2200	1.4																										1700	.4	16	0600	.4	14	0700	1.2
16	1300	1.9																									21	1200	.5		2100	.8		1500	.9
	2400	1.5																										2000	.1	17	0500	.6	15	0100	1.3
17	1000	1.8																									22	1200	.5		0900	.7		1500	.8
	2300	1.3																										2200	.0		1400	.6	16	0400	1.2
18	1600	1.8																									23	1000	.5	18	0800	.9		1800	.7
19	0100	1.5																										2200	-.2		1900	.6	17	0500	1.2
	0700	1.6																									24	1300	.5	19	0800	1.0		1700	.6
20	0100	1.4																										2200	-.2		1800	.7	18	1000	1.1
	0700	1.5																									25	1200	.5	20	1000	1.3		1900	.6
	1400	1.4																										2300	-.3		1800	.8	19	1100	1.5
	2100	1.6																									26	1400	.6	21	0800	1.4		2000	1.1
21	0500	1.6																										2400	-.3		2100	.7	20	1100	1.7
	1400	1.2																									27	1500	.7	22	1100	1.3		2200	1.0
	2200	1.5																									28	0200	-.2		2300	.6	21	1100	1.6
22	1500	.9																										1500	.6	23	1100	1.0		2300	1.0
23	0200	1.4																									29	0300	-.2		2300	.4	22	1300	1.7
	1600	.8																										1500	.5	24	1200	.9	23	0100	1.1
24	0500	1.4																									30	0400	-.3		2400	.3		1300	1.5
	1700	.7																										1700	.5	25	1500	1.0		1400	1.9
25	0500	1.4																									31	0600	-.2	26	0100	.5	24	0300	1.0
	1800	.7																										1900	.6		1700	1.2		0800	1.2
26	0700	1.1																												27	0200	.6		1700	1.3
	1900	.5																													1800	1.5	25	0300	.8
27	0800	1.0																												28	0500	.9		1300	.9
	2100	.4																													1100	1.5		1900	1.1
28	1000	.9																													1300	1.2	26	0300	.8
	2200	.4																													1900	2.1		0900	.8
29	0900	.8																												29	0200	1.3		1300	.7
	2300	.2																													1500	1.4		2400	1.2
30	a	a																													1700	1.9	27	1200	.9
31	a	a																												30	1400	1.2	28	0200	1.3
																															2400	1.6		1500	.9
																														31	1800	1.2	29	0100	1.3
																																		1600	.7
																																	30	0600	1.3
																																		1700	.8

Note: No usable record for November through June.

Table 14B.--N6, Aransas Pass at Port Aransas, Tex.

LOCATION.-- Lat 27°50'15" long 97°03'00", on concrete pile near landward end of south jetty, at Port Aransas, Nueces Co.

RECORDS AVAILABLE.-- August 1950 through November 1967; December 1968 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1969 water year: maximum elevation 2.7 feet, Feb. 14; minimum not determined.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records since Oct. 1967 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0100	1.7	1	0500	-0.8																													
	1000	1.3		1100	.6																													
	1200	1.5		2400	.7																													
	1900	.3	2	0500	-.5																													
2	0100	1.6		1500	1.4																													
	0900	1.5	3	0100	1.0																													
	1300	1.9		a	a																													
	2000	.9		1400	1.4																													
3	0200	1.8	4	0100	.8																													
	0800	1.1		0700	-.8																													
	1300	1.9		2000	1.4																													
	2000	1.1	5	0800	-.4																													
4	0200	1.8		2000	1.6																													
	0900	1.0	6	0900	-.4																													
	1500	1.9		2000	1.6																													
	2300	1.3	7	1000	-.1																													
5	0200	1.6		2100	1.6																													
	1000	.4	8	a	a																													
	1600	1.6	9	a	a																													
6	0400	1.4	10	a	a																													
	1000	.2	11	a	a																													
	1700	1.7	12	a	a																													
7	0400	1.3	13	a	a																													
	1000	-.3	14	a	a																													
	2300	1.8	15	a	a																													
8	1200	-.3	16	a	a																													
	2400	1.5	17	a	a																													
9	1200	-.2	18	a	a																													
	2400	1.4	19	a	a																													
10	1400	-.5	20	a	a																													
11	0200	1.2	21	a	a																													
	1500	-.1	22	a	a																													
	2400	1.1	23	a	a																													
12	1000	.8	24	a	a																													
	1500	.0	25	a	a																													
	2400	1.2	26	a	a																													
13	1100	1.2	27	a	a																													
	1800	.2	28	a	a																													
	2400	1.2	29	a	a																													
14	1200	1.2	30	a	a																													
	1700	.6																																
	2200	1.2																																
15	0700	1.0																																
	1200	1.4																																
	1900	.6																																
	2400	1.4																																
16	0400	.5																																
	1300	1.2																																
	2000	.3																																
17	0100	.8																																
	0600	-.1																																
	1400	.8																																
	1700	.3																																
18	0100	.3																																
	0700	-.3																																
	1300	.6																																
19	0100	.6																																
	0700	-.1																																
	1400	.9																																
20	0100	.6																																
	0700	-.2																																
	1500	1.0																																
21	0200	.7																																
	0700	-.3																																
	1900	1.0																																
22	0800	-.4																																
	2100	1.2																																
23	1000	-.1																																
	2200	1.4																																
24	1000	-.2																																
	2300	1.4																																
25	1100	.0																																
	2200	1.5																																
26	1200	.2																																
27	0100	1.5																																
	1300	.0																																
	2100	1.3																																
28	0900	1.2																																
	1400	.4																																
	2000	1.4																																
29	1100	1.4																																
	1700	.8																																
	2200	1.6																																
30	0300	.2																																
	1200	1.8																																
	1400	.4																																
	1600	1.0																																
	1700	.5																																
	2000	1.1																																
	2100	.3																																
	2300	1.0																																
31	0700	-.2																																
	1100	.6																																
	1800	.0																																
31	2100	.3																																

Note: No usable record for December through September.

Table 14B.--N6, Aransas Pass at Port Aransas, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
						1	0600	0.2	1	a	a	1	0800	-0.7	1	0700	-0.3	1	0200	0.5	1	0300	1.6	1	0700	1.2	1	1000	1.4	1	a	a	1	0600	1.1
							1600	1.5		2000	0.9		1900	1.1		1300	1.0		1000	.0		1400	1.3		2100e	-1.2		2100	-.6	2	a	a		1300	-.1
						2	0800	-.6	2	0800	-.5	2	0800	-.6	2	0100	.8		1400	.5		2000	-.1	2	0800	1.2	2	0800	1.3	3	a	a		2400	1.2
							1800	1.3		1900	1.3		1600	1.1		0600	-.1		2100	.0	2	0700	1.6		2200	-1.2		2100	-.7	4	a	a	2	1300	-.4
						3	a	a	3	0800	-.5		2300	.7		1400	1.3	2	0200	.7		2100	-.4	3	0800	1.3	3	0600	1.1	5	a	a		2400	1.1
							1700	e.9		1800	1.3	3	0100	1.0		2300	1.5		1100	.1	3	0600	1.6		2400	-.6		1800	.9	6	a	a	3	1300	-.3
			4	a	a	4	1000	-.8		0800	-.7	3	0800	-.1		1400	.4		2100	-.4	4	0700	1.5	4	0100	-.3	7	a	a	4	0200	1.1
				1800	e.6		1900	1.0		1700	.9		1600	1.1		2000	-.2	4	0900	1.9		1500	1.3		0800	.9	8	a	a		1600	-.3
			5	a	a	5	0900	e-.8		2400	.4		2400	.5	3	0400	.7		2400	-.2	5	0100	-.5		1500	.4	9	a	a	5	0200	1.3
				2000	.8		2000	1.0	4	0300	.7	4	0200	.7		1000	e.4	5	1200	1.9		0800	1.3		1800	.8	10	a	a		1600	-.3
			6	a	a	6	a	a		1000	-.4		0900	e-.4		1500	.5	6	0100	.0	6	0100	-.1	5	0200	-.1	11	a	a	6	0400	1.2
				2000	.8		1900	.8		1600	.9		1700	.6		2100	-.5		1000	2.1		0900	1.1		0700	.7	12	a	a		1600	-.1
			7	a	a	7	a	a		2400	.7		2100	.5	4	0600	e.9		2400	.1		1600	.9		1500	.1	13	1400	0.5	7	0300	1.4
				2200	.9		2000	.6	5	0300	1.0	5	0300	1.2		1500	.8	7	1200	1.9		2000	.9		2000	.7		2200	-.7		1700	-.2
			8	1000	-.7	8	1300	-.6		1200	.2		1100	.7		2100	e-.4	8	0200	.0	7	0300	.4	6	0100	.3	14	0600	.6	8	0500	1.3
				2100	1.0		2200	.4		1600	1.0		1500	1.2	5	0400	1.1		1200	1.5		0900	1.0		0700	.6		1000	.4		1800	-.4
			9	1100	-.5	9	1300	-.6		2400	.5		2200	.6		2200	-.9	9	0300	-.3		1700	.6		1500	-.3		1500	.5	9	0400	1.0
				2100	1.1		1900	.4	6	0400	.9	6	0300	1.4	6	1000	1.0		1100	1.4		2300	.9		2100	.6		2300	-.4		1400	.6
			10	1100	-.4	10	0300	-.1		1000	.2		1100	.9		2300	-1.0	10	0600	.0	8	0400	.7	7	0900	.7	15	0500	.7		1900	-.3
				2200	1.0		0600	.4		1700	.7		1400	1.4	7	1200	1.1		1200	.9		0900	1.0		1400	-.4		0900	.4	10	0100	.9
			11	1200	-.1		0700	.2	7	0100	-.1		2100	.4		2400	-.5		1900	.6		1600	.4		2400	.9		1600	.7		1300	.9
				2100	1.2		1100	.4		0700	.4	7	0600	1.0	8	1100	1.2	11	0300	1.0		2400	1.0	8	1000	.6		2200	-.2		2100	.1
			12	1200	.1		1300	.2		1200	.0		0900	.6	9	0100	-.7		0600	.0	9	1000	.8		a	a	16	0500	.7	11	0200	1.0
				2100	1.0		1500	.7		1700	.4		1500	1.1		1200	1.1		0900	.9		1800	-.1	9	0300	1.0		0700	.3		1000	.9
			13	0200	.4		2100	.8		2400	-.2		2200	.5	10	0300	-.4		1100	.5	10	0400	1.0		1600	-.7		1600	.8		1400	1.1
				1000	.9	11	0500	.2	8	0800	.6	8	0500	1.5		1300	1.1		1300	1.0		1700	-.4	10	a	a		2300	.2		2300	.4
				1300	.5		0900	.7		1300	.4		1700	1.2	11	0300	-.6		2100	.2	11	0400	1.1	11	a	a	17	0500	.8	12	0500	1.2
				2000	.8		1300	.5		1700	.7	9	0100	-.5		1300	1.3	12	0100	.9		1800	-.4	12	a	a		1100	e.2		0800	.7
			14	0300	.0		1900	.7		2400	-.7		0700	1.0		1400	.9		0800	.3	12	0500	1.3	13	a	a		1800	e.7		1500	1.2
				1000	.6	12	0400	-.3	9	1000	.6		1600	.7		2300	1.1		1300	.8		1900	-.6	14	a	a		2200	e.5		2200	.4
				1700	.2		1000	.8		1900	.6		2400	-1.1	12	0100	.5		1700	.0	13	0500	1.4	15	a	a	18	0400	e.8	13	0300	.9
				2000	.4		2000	1.0	10	0300	-.6	10	1200	.8		1400	1.5	13	0700	1.3		1900	-.5	16	a	a		1100	e-.2		1000	.3
			15	0600	-.6	13	0500	-.3		1500	.9	11	0100	e-.7		1800	1.0		1000	.2	14	0500	1.4	17	a	a		1900	.7		1600	1.1
				1100	.5		1400	1.1	11	0300	-.8		1400	e.9		2400	1.0		1200	1.0		2000	-.6	18	a	a	19	0400	.9		2100	.8
				2200	.7	14	0600	-.6		1500	e1.0	12	0400	-.5	13	0600	.0		2000	-.3	15	0800	1.3	19	a	a		1100	-.1	14	0400	1.2
			16	0600	-.4		1600	1.2	12	0400	-1.0		1300	e1.2		1200	.8	14	0700	1.3		2000	-.5	20	a	a	20	0100	1.3		1100	.3
				1500	1.1	15	0600	-.8		1600	1.0	13	0400	-1.1		1900	.3		1900	-.4	16	0700	1.4	21	a	a		1400	-.1		1900	1.2
			17	0600	-.8		1700	1.3	13	0500	-.8		1700	e.9	14	0200	.7	15	0500	1.3		2100	-.3	22	a	a		2400	1.4	15	0400	1.0
				1600	1.4	16	0600	e-1.2		1500	1.7	14	0500	-.7		0800	.0		2000	-.5	17	0800	1.4	23	a	a	21	1500	-.5		1100	-.2
			18	0800	e-.9		1900	1.4	14	0100	2.0		2100	e1.3		1400	.5	16	0600	1.5		2200	-.2	24	a	a	22	0200	1.3		1700	1.1
				1500	1.3	17	0800	e-1.2		0700	1.1	15	0600	.2		1900	.0		2100	-.7	18	0700	1.4	25	a	a		1500	-.9	16	0400	1.1
			19	a	a		2100	1.4		1700	2.7		1300	e1.6	15	0200	.8	17	1000	1.7		2200	-.3	26	a	a	23	0300	1.2		1100	-.2
				1800	1.3	18	a	a	15	0200	2.3		2400	1.7		1000	.4		2300	-.5	19	0900	1.2	27	a	a		1700	-1.2		2100	1.2
			20	a	a		2000	1.4		0800	-.2	16	0800	.3		1300	.7	18	0900	1.4		2300	-.3	28	a	a	24	0200	1.1	17	1100	-.5
				2200	1.5	19	1000	e-1.0		1600	1.7		1400	e1.5		2100	.1		2300	-.6	20	0800	1.1	29	a	a		1800	-1.1		2300	1.1
			21	1000	-.6		2300	1.0	16	0100	1.1		2200	1.1	16	0400	1.1	19	0900	1.2		2400	-.2	30	a	a	25	0600	1.0	18	1200	-.3
				2200	1.7	20	1100	-.6		0900e	-1.2		2400	1.3		1100	.8		2300	-.4	21	1000	.8	31	a	a		1800	-.8	19	0100	1.0
			22	a	a		1700	.8		1700	.8	17	0700	e.2		1400	1.0	20	0900	1.2	22	0100	.1				26	0200	1.2		1500	.1
				2000	1.2		2400	.6		2200	.6		1500	1.2		2100	.1		2300	-.4		0800	.7					1200	1.1		2400	1.9
			23	a	a	21	0400	.8	17	0200	1.0		2200	.7	17	0500	1.7	21	1000	1.2		1500	.1					1900	-.7	20	1500	-.1
				1900	.4		1200	-.5		1000	-.3	18	0200	e1.2		2200	.0		2400	-.2		2300	.5				27	0200	1.2	21	0100	1.7
			24	0400	.1		1800	.8		1700	1.2		1000	-.2	18	0400	1.3	22	0900	1.1	23	0200	.2					0800	1.0		1800	.0
				a	a	22	0100	.5	18	0100	.7		1500	e.3		2200	-.9		2400	-.2		0900	.6					1400	1.4	22	0400	1.8
				2100	.3		0600	.7		0300	.9		2100	e-.6	19	0800	e.7	23	0900	.9		1600	-.1					2100	.0		1900	.0
			25	0200	.2		1200	-.2		1100	-.6	19	0400	e.1		2200	-.8		2400	.0		2200	.6				28	0300	1.2	23	0300	1.6
				0700	.3		1800	.6		1700	.5		1000	e-.5	20	0900	e.8	24	0900	.8	24	0100	.4					0800	1.0		0900	1.4
				1200	-.2	23	0300	.0		2200	.2		1500	.0		2300	-.7		a	a		0800	.8					1400	1.7		1200	1.6
				2100	.6		0700	.5	19	0400	.8		2100	-.6	21	1100	.9	25	1700	.1		1600	-.2					2200	.4		2000	.0
				2400	.3		1400	.0		1100	.1	20	0500	.7		2400	-.7		2100	.5	25	0200	1.0				29	0400	1.4	24	0300	1.3
			26	0800	.8		1700	.3		1600	.8		1200	.1	22	1200	e.7	26	0400	.2		1600	-.5					0800	.7		0800	.9
				1700	.6	24	0200	-.4		2300	.4		1500	.3	23	0100	-.7		0900	.6	26	0200	1.2					1600	1.8		1300	1.3
				2100	.9		0700	.4	20	0400	1.3		2200	-.9		1300	e.7		1900	-.1		1700	-.7					2300	e.9		2000	.0
			27	0500	.2		0900	.1		1200	1.0	21	0400	.4	24	0200	-.7	27	0100	.5	27	0200	1.3				30	0400	1.5	25	0200	1.0
				1100	.9		1100	.7		1800	1.3		1600	.2		0900	.6		0500	.3		1700	-1.0					0800	.6		0900	.6
				1900	.4		1400	.4		2300	.5		2100	-.8	25	0300	.0		1000	.5	28	0400	1.4					1800	1.7		1500	1.1
				2200	.6		1800	.7	21	0800	1.5	22	0700	.6		1300	1.0		1700	-.4		2000	-1.1					2300	1.1		2200	.3
			28	0600	-.6	25	0300	-.3		1700	1.3		1600	.6	26	0400	.3		2400	.5	29	0600	1.5				31	0500	1.4	26	0200	.8
				1200	.4		1200	.7	22	0100	-.1		2300	-.3		1200	1.2	28	1200	.3		2000	-1.1					1100	.4		0900	.2
				2200	.0		1500	.5		0800	1.1	23	1300	e1.3	27	0500	.8		1700	-.7	30	0700	1.5					1700	1.4		1400	1.2
			29	a	a		1900	.7		1900	.5	24	0100	.0		1300	1.5	29	0400	.6		2100	-1.1								2300	.8
				1800	.6	26	0300	-.3	23	0100	-.8		1100	e.8		2100	.8		1100	.5											27	0200	1.1
			30	0500	-.5		1600	1.0		1500	.8	25	0100	-1.0		2400	1.0		1800	-.9												0900	.1
				1600	1.0	27	0400	-.1	24	0300	-.3		1000	.6	28	0800	.3	30	0300	1.2												1600	1.4
			31	0500	-.8		1600	1.2		1400	.9	26	0300	-1.1		1200	1.0		2000	-1.0											28	0300	1.2
				1600	1.0	28	0500	-.4	25	0200	-.5		1500	e.3		2100	.4	31	a	a												0900	-.1
							1700	1.1		1600	1.0	27	0400	-.9	29	0100	1.0		2000	-1.2												1800	1.3
						29	0800	-.5	26	0400	-.5		1300	e.3		0500	.5															29	0400	1.0
							1700	1.1		1600	1.1	28	0400	-.9		1200	1.0															0900	-.2
						30	0700	-.7	27	0500	-.3		1400	e.3		1900	.1																2100	1.4
							1500	1.3		1500	1.2	29	0600	e-.7	30	0100	1.0															30	1100	-.1
						31	0700	-.4	28	0500	-.5		1600	e.3		0600	.8																		
							1600	1.1		1800	1.1	30	0600	-.9		1200	1.1																2300	1.5
													1400	.2		1800	.5																
													2000	.0																				
												31	0100	.2																				
																0700	-.5																	
																1400	.3																	
																2000	e.1																	

Note: No usable record for October through November.

Table 15A.--P8, Port Mansfield Entrance Channel near Port Mansfield, Tex.

LOCATION.-- Lat 26°33'52" long 97°16'26", on concrete pile near landward end of north jetty, about 9.3 miles east of Port Mansfield, Willacy Co.

RECORDS AVAILABLE.-- February 1965 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers). Gage moved about 100 feet off north jetty to present location Sept. 17, 1968.

EXTREMES.-- 1969 water year: maximum elevation 3.1 feet (estimated) Feb. 14; minimum not determined.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records since July 1968 computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																											3	1500	e0.3	1	0200	0.3	1	0100	1.9
																												2200	1.0		0400	.5		1600	-.3
																											4	0100	.8		1400	-.7	2	0100	2.0
																												0800	1.4		2300	1.0		1600	-.8
																												1500	e.3	2	0200	.7	3	0300	1.8
																											5	0100	e1.8		0300	1.0		1800	-.7
																												1700	.0		1500	-.9	4	0300	1.5
																											6	0100	1.8	3	0200	1.2		1800	-.8
																												1700	-.8		1600	-1.0	5	0200	1.3
																											7	0200	1.7	4	0200	1.4		0700	.8
																												1800	-1.0		1400	-1.1		1100	1.2
																											8	0400	1.9	5	0400	1.7		1800	-.2
																												1900	-1.5		1600	-1.1	6	0200	1.5
																											9	0500	1.7	6	0400	1.7		0800	1.2
																												2000	-1.5		1700	-1.1		1300	1.5
																											10	0600	1.7	7	0500	1.7		1900	.2
																												2100	-1.5		1800	-1.1	7	0300	1.5
																											11	0600	1.4	8	0500	1.5		0800	1.0
																												2100	-1.4		1400	1.1		1300	1.6
																											12	0600	1.1		2200	-.9		2100	.6
																												2200	-1.2	9	0600	1.4	8	0200	1.4
																											13	0600	.9		1200	1.1		0700	.8
																												2300	-.7		2100	-.6		1400	1.5
																											14	0700	.8	10	0400	.9		2000	.6
																												1300	.3		0900	.6	9	0200	1.0
																												1800	.4		1400	1.0		0900	.4
																												2400	-.3		2100	-.2		1500	1.5
																											15	0600	.7	11	0500	.9		2200	.7
																												1300	.2		1100	.4		2400	1.3
																												2000	.7		1400	.8	10	0900	.1
																											16	0200	.3		2200	.0		1600	1.4
																												0700	.8	12	0400	.7	11	0300	1.1
																												1400	.1		1000	.2		1000	.1
																												2000	.8		1900	.6		2100	1.5
																											17	0800	.8		2300	.2	12	1200	.2
																												1400	-.2	13	0600	.5		2200	1.9
																											18	0100	.9		1200	-.2	13	1100	.2
																												1500	-.7		1900	.7		2300	2.1
																											19	0300	1.0	14	0400	.4	14	1300	.3
																												1700	-.6		1300	-.6		2400	1.9
																											20	0300	1.2	15	0300	.8	15	1400	.0
																												1800	-.7		1400	e-.6		2400	1.7
																											21	0300	1.3		2300	.9	16	1400	-.3
																												1800	-1.0	16	1500	-.8	17	0100	1.7
																											22	0500	1.1		2400	1.0		1300	.0
																												1900	-1.1	17	1600	-1.0		1700	-1.4
																											23	0500	1.1		2400	1.2	18	0200	2.1
																												2000	-1.2	18	1600	-.7		1700	-.3
																											24	0700	1.2	19	0300	1.4	19	0400	1.9
																												2000	-1.2		1600	-1.0		1800	-.2
																											25	0600	1.4	20	0400	1.3	20	0200	1.6
																												2100	-1.1		1700	-.9		1200	1.3
																											26	0800	1.2	21	0300	1.1		1900	.0
																												2100	-.9		1800	-1.0	21	0300	1.3
																											27	0800	1.3	22	0300	1.1		0800	1.0
																												2200	-.6		1900	-.8		1300	1.4
																											28	0800	1.1	23	0400	1.1		2000	.5
																												2300	-.3		1300	.9	22	0300	1.6
																											29	0600	.9		1900	-.6		0800	1.2
																												1300	.5	24	0300	1.3		1500	2.0
																												1600	.7		1000	.9		2100	1.0
																												2400	-.1		1300	1.1	23	0300	1.8
																											30	0600	.7		2000	-.3		0900	1.1
																												1400	.0	25	0300	1.1		1600	2.2
																												1800	.5		1000	.7		2200	1.5
																											31	0200	.0		1500	1.1	24	0300	1.7
																												0700	.5		2100	-.1		0900	.6
																												1300	-.4	26	0300	1.0		1800	2.2
																												2200	.6		1000	.4	25	1000	.1
																															1500	1.2		1900	2.1
																															2300	.4	26	1100	-.1
																														27	0300	1.1		2200	2.1
																															1000	.2	27	1200	-.1
																															1700	1.4		2300	2.3
																															2200	1.1	28	1400	-.1
																														28	0400	1.3	29	0100	2.3
																															1100	.3		1500	.2
																															2100	1.6	30	0100	2.2
																														29	0400	1.5		1700	-.2
																															1200	.0			
																															2100	1.8			
																														30	1200	-.2			
																															2300	2.0			
																														31	1400	-.3			

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0200	2.0	1	0100	0.6	1	0800	0.0	1	a	a	1	0900	-0.9	1	0700	-0.7	1	0100	0.3	1	a	a	1	0700	1.2	1	a	a	1	0600	0.3	1	1200	-0.5
	1800	-.1		0600	.1		1700	1.8		1800	e1.0		1800	1.4		1600	e1.1		0700	-.4	2	a	a		a	a	2	0800	1.4		1000	-.2		2100	1.0
2	0300	1.8		1300	.8	2	0800	-.8	2	0800	e-.9	2	0900	-.6	2	0800	e-.5		1300	.3	3	a	a	2	0700	1.3		2400	-1.0		1600	.4	2	1300	-.9
	1900	.1		1900	.2		1800	1.4		1700	1.6		1900	1.3		1600	e1.3		1900	-.4	4	a	a	3	a	a	3	1100	1.0		2400	-.4		2200	1.1
3	0300	1.7		2400	.6	3	0800	-1.0	3	0800	-.8	3	1000	e-.7		2100	e1.1	2	0100	.3	5	a	a	4	a	a	4	0100	-.6	2	0600	.4	3	1400	-.8
	1300	1.4	2	0500	.0		1800	1.2		1900	1.6		1600	.9	3	0100	e1.3		0800	-.4	6	a	a	5	a	a		0700	.8		1300	-.3		2400	.9
	2000	.0		1400	1.2	4	a	a	4	0800	e-.8		2400	.4		0800	e-.3		1300	.1	7	a	a	6	0100	-.4		1900	.5		1900	.4	4	1600	-.8
4	0300	1.2		2100	.6		1700	.8		1900	1.1	4	0300	.7		1700	e.9		1900	-.7	8	1500	1.3		0900	1.1	5	0200	-.5	3	0100	-.1	5	0200	1.2
	0700	.8		2400	.9	5	a	a	5	0900	-1.0		0900	-.5	4	0400	.5	3	0300	.6	9	0400	-.6	7	0300	-.1		0700	.4		0500	.3		1600	-.9
	1400	1.6	3	0500	-.2		1900	.9		1900	1.1		1700	1.0		1000	-.8		1000	-.1		1400	1.3		0900	.8		1500	-.2		1400	-.7	6	0300	1.0
	2000	.5		1600	1.5	6	a	a	6	1000	-1.0		2300	.6		1700	.5		1300	.1	10	0400	-.4		1600	.1		2000	.3		2000	.5		1700	-.7
5	0300	1.5	4	0600	-.2		1800	1.0		1900	.9	5	0400	.9		2100	.2		2000	-1.1		1200	.7		2100	.6	6	0200	.0	4	0600	.4	7	0300	1.3
	0800	1.0		1500	1.5	7	a	a	7	a	a		1000	.0	5	0500	.9	4	0500	.7		2000	.2	8	0400	.2		0900	.2		1400	-.9		1800	-.7
	1400	1.9	5	0800	-.5		2200	e.9		2000	.7		1700	1.1		1100	.1		1500	.3	11	0400	.9		0900	.8		1700	-.6	5	0100	.8	8	0400	1.1
	2200	1.0		1700	1.6	8	a	a	8	1100	-.9		2400	.4		1500	.9		2000	-1.2		0600	-.3		1700	-.1	7	0100	.4		1400	-.7		1800	-.8
6	0300	1.4	6	0800	-.6	9	a	a		2000	.3	6	0500	.8		2100	.2	5	0400	.9		1300	.9	9	0100	.8		1700	-.8	6	0100	.9	9	0400	.9
	0900	.6		1700	1.8	10	a	a	9	1400	-.7		1000	.1	6	0400	1.3		2200	-1.4		1900	-.2		1000	.5	8	0200	.6		1700	-1.0		1900	-.6
	1500	1.8	7	0900	e-.4	11	a	a		1900	.4		1700	.8		1000	.5	6	0700	1.0	12	0100	.8		1800	-.5		1700	-1.0	7	0300	.9	10	0300	.8
	2100	.7		1900	-1.8	12	a	a	10	0300	-.2		2300	.0		1600	1.2		2300	-1.4		0600	-.1	10	0100	1.0	9	0300	1.0		1700	-1.2		1100	.5
7	0300	1.5	8	1000	e.1	13	a	a		2000	.8	7	0500	.6		2200	.1	7	1000	1.1		1400	.5		1800	-.8		1800	-1.1	8	0400	.9		1300	.7
	1100	.4		1800	e2.3	14	a	a	11	0200	-.1		1200	.0	7	0500	.7	8	0100	-1.1		1900	-.5	11	0200	.9	10	0500	.9		1800	-1.3		1900	-.4
	1700	1.9	9	1000	e.3	15	a	a		1000	.5		1700	.4		1100	.1		1000	1.3	13	0700	1.0		1900	-.9		1800	-1.1	9	0300	.8	11	0400	.8
8	1100	.2		2200	e2.4	16	a	a		1400	.4	8	0100	-.3		1600	.5	9	0100	-1.2		2000	-.8	12	0500	1.2	11	0500	1.1		1800	-1.4		0900	.3
	1900	1.8	10	1100	.2	17	1700	1.5		1900	.7		1600	.9		2300	-.4		1300	1.1	14	0400	1.2		1900	-1.0		1900	-1.1	10	0500	.9		1600	.9
9	1100	.0		2200	2.1	18	a	a	12	0300	-.7	9	0100	-.8	8	0800	1.4	10	a	a		2000	-.8	13	0600	1.3	12	0500	.9		1900	-1.4		2000	.1
	2000	2.0		2400	1.2		1800	1.4		1600	.8		1400	.8		2300	-.6	11	a	a	15	0300	1.2		2000	-1.1		2200	-1.2	11	0400	.7	12	0400	1.1
10	1100	.0	11	0100	2.1	19	a	a	13	0500	-.6	10	0200	-.6	9	1000	e.9	12	a	a		1900	-.9	14	0600	1.3	13	0800	.8		1900	-1.4		0900	.4
	2200	2.1		1200	-.7		1700	1.6		1400	1.1		1200	1.3	10	0100	-1.2	13	a	a	16	0700	1.4		2000	-1.1	14	a	a	12	0700	.7		1500	1.0
11	1200	.2		2200	.7	20	a	a	14	0600	e-1.1	11	0300	-.8		1200	.9	14	a	a		2100	-1.1	15	0700	1.2	15	0800	.7		2100	-1.4		2200	.2
	2300	2.1	12	1200	-.8		1800	1.8		1500	1.4		1400	1.4		2400	-1.0	15	a	a	17	0700	1.9		2100	-.9		2100	-1.4	13	0600	.6	13	0400	.7
12	1200	.1		2300	.9	21	a	a	15	0700	e-1.1	12	0400	-1.0	11	1200	1.2	16	a	a		2100	-.9	16	0700	1.4	16	0800	1.2		2200	-1.0		1100	.0
	2400	2.1	13	1400	-.5	22	a	a		1700	1.5		1500	1.3	12	0300	-.9	17	a	a	18	0700	1.5		2100	-.8		2100	-1.5	14	0700	.5		1600	1.0
13	1300	.3		2400	.9	23	a	a	16	a	a	13	0400	-1.1		1200	1.4	18	a	a		2300	-1.0	17	0700	1.4	17	0800	0.5		1700	.1		2100	.6
14	0100	2.3	14	1500	e-.2	24	a	a	17	1800	1.7		1700	1.8	13	0400	-1.2	19	a	a	19	0700	1.2		2200	-.6		2200	-1.1		2200	-.8	14	0400	1.0
	1400	.5		2400	e.8	25	a	a	18	0800	e-1.2	14	0500	e.0		1400	1.0	20	a	a		2300	-1.0	18	0800	1.2	18	0600	.2	15	0500	.5		0900	.0
15	0100	2.2	15	1000	e-.6	26	a	a		1800	1.7		1700	e3.1	14	0600	-1.2	21	a	a	20	0900	1.1		2200	-.8		2400	-1.0		1100	.2		1800	1.1
	1500	.4	16	0100	e1.0	27	a	a	19	0900	-1.1	15	0700	e-.3		1800	1.1	22	a	a		2400	-1.0	19	0900	1.0	19	0800	.2		1600	.5	15	0300	.7
16	0200	2.3		0600	e.3	28	a	a		1800	1.2		1600	1.9	15	0700	e-.6	23	a	a	21	1200	1.1		2400	-.7		1300	-.3		2300	-.7		1000	-.6
	1700	.9		1300	e1.0	29	1600	.6	20	0400	1.0	16	0900	e-1.2		2000	e1.5	24	a	a	22	0200	-.5	20	0800	1.0		1700	-.1	16	0500	.4		1800	.9
17	0200	2.1		1800	.6	30	0700	-.9		1000	-.8		1600	.7	16	0700	e-.1	25	a	a		1100	1.0	21	0200	-.6		2400	-1.1		0900	-.1	16	0400	.7
	1700	.9		2300	.9		1500	1.0		1800	1.0		2200	.5		1600	e1.1	26	a	a	23	0100	-.6		0900	.6	20	0600	.2		1700	.6		1200	-.6
18	0100	2.3	17	0700	.2	31	0600	-1.0		2400	.4	17	0200	.9		2000	e.9	27	a	a		1100	.8		2400	-.4		1300	-.4		2300	-.1		2000	1.1
	0800	1.8		1400	1.3		1700	e1.1	21	0400	.7		1000	-.6	17	0100	e1.1	28	a	a	24	0200	-.5	22	0800	.4		2000	.7	17	0500	.5	17	1200	-1.0
	1100	2.0		1900	1.0					1200	-.6		1700	1.1		0900	-.3	29	a	a		1000	.8		1700	-.2		2200	-.4		1200	-.2		2200	1.1
	1800	1.2		2200	1.7					1900	.9		2300	.7		1500	.9	30	a	a	25	0300	-.4		2200	.1	21	0500	.2		1800	e.5	18	1200	-.8
19	0200	2.1	18	0800	.2				22	0100	.4	18	0300	.9		2200	.4								1200	.6	23	0300	-.3		1400	-.9		2400	e.2		2300	1.7
	0800	1.3		1600	1.6					0600	.6		1000	-.7	18	0200	1.0								1900	-.1		0900	.3	22	0500	.1	18	0400	e.5	19	1400	-.2
	1300	1.8	19	0700	-.8					1300	-.3		1600	.5		1000	-.3								2200	.3		1700	-.5		1500	-1.2		1400	-.5		2400	2.2
	1900	1.2		1600	1.6					1800	.6		2000	.0		1400	.2				26	0400	-.1		2300	.2		2200	.1		2100	.5	20	1600	-.4
20	0200	1.9	20	0800	-1.2				23	0100	-.1	19	0500	.8		2000	-.8								1000	.4	24	0900	.4	23	1500	-1.6	19	0600	.6	21	0200	1.7
	0700	1.1		1800	1.3					0700	.5		1100	-.1	19	0200	.0								1800	-.4		1700	-.7	24	0200	.4		1200	-.6		1700	-.4
	1400	2.1	21	a	a					1400	-.1		1700	.6		1000	-.9				27	0200	.4	25	0200	.6		1700	-1.7	20	0100	1.0	22	0100	1.8
	2000	1.5		1800	1.5					2000	.4		2200	.0		1500	-.4					0600	-.1		1800	-1.0	25	0200	.5		1600	-.6		1800	-.4
21	0200	1.9	22	a	a				24	0300	-.4	20	0600	e1.1		2100	-1.1					1000	.2	26	0400	1.0		a	a	21	0200	1.3	23	0200	1.5
	0900	.6		2100	1.2					0900	.8		1100	e.6	20	0400	.5					1800	-1.0		1800	-1.1	26	0300	.7		1600	-1.1		0800	1.2
	1700	2.1	23	a	a					1500	.2		1600	e1.1		2100	-1.2				28	0300	.3	27	0300	1.2		a	a	22	0300	1.4		1000	1.4
22	0900	.1		2200	1.3					2000	.7		2400	.1	21	0500	.2					1200	.1		a	a	27	0600	.9		1700	-1.3		1900	-.2
	1700	2.2	24	a	a				25	0300	-.5	21	0900	1.2		1600	-.3					1900	-1.3	28	0400	1.4		a	a	23	0300	1.2	24	0200	1.3
23	1000	-.4	25	2400	1.2					1300	.8	22	0200	-.2		2000	-1.2				29	0400	.5		a	a	28	0600	.8		1700	-1.4		0700	.9
	1800	2.3	26	1500	-.4				26	0300	-.5		0800	1.1	22	0800	.7					a	a	29	0600	1.5		a	a	24	0400	1.3		1300	1.2
24	1100	-.8		2300	1.0					1800	1.2	23	0200	-1.0		2200	-.9				30	0500	1.2	30	a	a	29	0400	.6		1900	-1.7		2000	.0
	1900	2.4	27	1700	-.2				27	0400	-.2		1300	.7	23	0700	1.3					a	a					a	a	25	0500	1.0	25	0200	1.0
25	1100	-.7		2400	1.1					1400	1.6	24	0100	-.8	24	0100	-.7				31	0600	1.3				30	0600	.5		2000	-1.2		0800	.4
	2100	2.0	28	1800	-.3				28	0600	-.5		1400	.9		1000	.8					a	a					1500	.1	26	0500	1.3		1400	1.2
26	1200	-.8		2200	.1					1500	1.4	25	0200	-1.0	25	0300	-1.1											2200	-1.6		2000	-1.1		2100	.1
	2200	1.8	29	0500	-.5				29	0700	-.8		1500	.9		1000	.5										31	0600	.3	27	0500	1.0	26	0300	.6
27	1300	-.8		2300	e.9					1700	1.2	26	0500	-.9	26	0200	-1.3											1000	.0		0900	.7		0800	.0
	2300	1.5	30	0700	e.2				30	0700	-1.0		1600	e1.3		1200	.4											1500	.3		1500	1.2		1500	1.4
28	1400	-.5		1600	e1.8					1700	1.4	27	0400	e-.8	27	0200	-1.2											2300	-1.1		2300	-.5		2200	.6
29	0100	1.5		1900	e.9				31	0800	-.8		1600	e1.2		1200	.3													28	0600	1.1	27	0200	.8
	1600	-.5		2300	e1.5					1700	1.4	28	0500	e-.7	28	0400	-1.2														0900	.6		0800	-.3
30	0100	.9											1700	e1.2		1300	.5														1400	1.4		1700	1.6
	1700	-.3													29	0500	-1.1														2200	-.3	28	1000	-.3
31	0100	.8														1300	.2													29	0400	.9		1700	1.5
	0700	.2													30	0600	-1.2														1000	.3	29	1000	-.5
	1200	.5														1400	.1														1700	1.3		2100	1.5
	1800	-.2														2100	-.3														2400	.3	30	1100	-.6
															31	0100	-.1														0500	1.0		2300	1.5
																0700	-1.0														1000	.2			
																1400	.2														1900	1.4			
																2000	-.3													31	0100	.7			
																															0200	1.0			
																															1100	-.2			
																															1900	1.2			

Table 15B.--P9, Brazos Santiago Pass near Port Isabel, Tex.

LOCATION.-- Lat 26°04'00" long 97°09'11", on concrete pile near landward end of north jetty, 3.4 miles east of Port Isabel, Cameron Co.

RECORDS AVAILABLE.-- September 1968 through September 1969.

GAGE.-- Water-stage recorder. Datum of gage is mean sea level (levels by U. S. Army Corps of Engineers).

EXTREMES.-- 1969 water year: maximum elevation 2.8 feet, Feb. 14; minimum -2.4 feet, June 1.

REMARKS.-- Gage operated by U. S. Army Corps of Engineers; records computed by U. S. Geological Survey.

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1967 to September 1968.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
																																	17	0300	1.5
																																		1700	-1.8
																																	18	0200	1.9
																																		1900	-.2
																																	19	0400	1.7
																																		1800	-.2
																																	20	0500	1.4
																																		1300	1.2
																																		2000	.0
																																	21	0500	1.2
																																		0800	1.0
																																		1400	1.4
																																		2100	.5
																																	22	0400	1.5
																																		0900	1.2
																																		1600	1.8
																																		2100	e1.0
																																	23	0300	e1.6
																																		0900	e.9
																																		1600	2.0
																																		2300	1.5
																																	24	0300	1.6
																																		0900	.5
																																		1800	2.0
																																	25	0400	1.6
																																		1000	.2
																																		2100	2.0
																																	26	1100	-.1
																																		2300	2.0
																																	27	1200	-.1
																																	28	0100	2.2
																																		1400	-.1
																																	29	0200	2.1
																																		1500	.1
																																	30	0200	2.1
																																		1700	-.2

Table 15B.--P9, Brazos Santiago Pass near Port Isabel, Tex.-Continued

Water stage, in feet, above or below (-) mean sea level; Time is Central Standard; Water Year October 1968 to September 1969.

October			November			December			January			February			March			April			May			June			July			August			September		
Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage	Day	Time	Stage
1	0300	1.8	1	0300	0.4	1	0700	0.4	1	0800	-1.1	1	0800	-0.5	1	0800	-0.8	1	0200	0.1	1	0400	1.1	1	0600	0.7	1	0800	1.1	1	0600	0.2	1	1200	-0.6
	1700	-.1		0700	.0		1700	1.8		2000	e.9		1900	1.4		1600	.9		0800	-.5		1300	.6		2100	-2.4		2100	-1.6		1100	-.1		2400	.9
2	0400	1.6		1400	.6	2	0700	-.6	2	0700	-.9	2	0100	1.4		2400	.8		1400	.1		1900	-.9	2	0800	.9	2	0900	1.1		1900	.3	2	1300	-1.0
	1200	1.4		2100	.1		1800	1.3		1900	1.4		0800	-.3	2	0700	-.7		2000	-.5	2	0600	1.3		2100	-2.2		2400	-1.1		2400	-.4	3	0100	.8
	1800	.2	2	0200	.5	3	0600	-1.0	3	0800	-.7		1800	1.5		1800	1.2	2	0300	.1		2000	-1.2	3	0900	1.0	3	0900	.8	2	0600	.3		1400	-.9
3	0300	1.6		0800	-.1		2000	1.4		2000	1.6	3	0400	1.2		2200	.9		0900	-.5	3	0600	1.2		2300	-1.6		2400	-.7		1200	-.3	4	0200	.7
	1300	1.4		1600	.9	4	0900	-1.3	4	0800	-.8		0900	-.2	3	0200	1.2		1500	-.1		2100	-1.3	4	1000	1.0	4	0900	.6		1900	.3		1600	-1.0
	2100	.1		2400	.6		1900	.8		2000	e1.2		1700	e.9		0900	-.4		2000	-.9	4	0800	1.5		2400	-1.2		1900	.3		2400	-.1	5	0300	.9
4	0400	1.1	3	0200	.8	5	0900	-1.5	5	0900	-.9	4	0300	e1.0		1600	.9	3	0500	.4		2200	-1.1	5	0900	1.0	5	0100	-.6	3	0600	.2		1600	-1.1
	0800	.8		0800	-.3		2000	1.0		2200	1.2		0900	-.1	4	0200	.6		1000	-.1	5	0800	1.5	6	0200	-.6		0900	.2		1300	-.6	6	0400	.7
	1300	1.6		1800	1.2	6	0900	-1.1	6	1000	-.9		1800	1.1		1000	-.9		1500	.0		2300	-1.0		1100	.7		1400	-.2	4	0100	.4		1700	-.8
	2100	.4	4	0200	1.0		2000	1.1		2200	1.0		2300	.8		1800	.4		2100	-1.2	6	1000	1.6	7	0200	-.2		2000	.2		1400	-.8	7	0400	1.0
5	0500	1.3		0900	-.2	7	1000	-1.0	7	1000	-1.0	5	0400	1.1		2200	.2	4	0700	.4		2300	-.9		0900	.6	6	0200	-.2	5	0100	.6		1800	-.9
	0900	.9		1800	1.3		2400	e1.0		2000	.7		1000	.2	5	0400	.8		1100	.1	7	1200	1.4		1600	.0		0800	.1		1500	-.8	8	0600	.9
	1600	1.6	5	0900	-.5	8	1100	-.9	8	1200	-.7		1800	1.2		0900	-.1		1500	.2		2400	-.8		2300	.4		1500	-.7	6	0400	.7		1900	-1.0
	2200	1.0		2000	1.3		2300	1.2		2300	.4	6	0100	.8		1600	.7		2200	-1.3	8	1200	1.0	8	0300	.0	7	0400	.2		1700	-1.0	9	0600	.6
6	0300	1.2	6	0900	-.5	9	1200	-.7	9	0600	.3		0500	1.1		2200	.1	5	0700	.6	9	a	a		1000	.5		1600	-1.0	7	0200	.7		1900	-.8
	0900	.5		1900	1.6		2300	1.2		1200	-.7		1100	.5	6	0700	1.2		2100	-1.5		1200	1.0		1700	-.3	8	0100	.5		1600	-1.3	10	0400	.5
	1700	1.5	7	1000	.1	10	1300	-.6		2200	.6		1800	1.1		1100	.5	6	1000	.6	10	a	a		2400	.6		a	a	8	0500	.8		1400	.4
	2400	1.0		2100	1.7		2300	1.2	10	0300	.1		2400	.3		1600	1.1		2300	-1.6	11	a	a	9	1100	.3	9	a	a		1600	-1.4		2100	-.6
7	0200	1.4	8	1100	-.1	11	1300	-.4		0800	.5	7	0600	.9		2400	-.1	7	1000	.7	12	1900	-.8		1700	-.6	10	a	a	9	0400	.6	11	0400	.5
	1100	.3		2300	2.3		2300	.8		1400	.1		1200	.4	7	0400	.6	8	0200	-1.6	13	0600	.8	10	0200	.7	11	a	a		1800	-1.4		0900	.2
	1900	1.7	9	1000	.4	12	1500	e-.2		2000	.8		1800	.7		1100	-.1		1300	.9		1700	-.9		1800	-1.0	12	a	a	10	0500	.6		1500	.6
8	0300	1.5	10	0100	2.2		2400	.8	11	0400	.2	8	0100	.0		1600	.3	9	0200	-1.4		a	a	11	0400	.5	13	a	a		1900	-1.5		2000	-.1
	1100	.1		1300	.2	13	0600	.4		1000	.8		1000	1.3		2300	-.7		1400	.7	14	1100	.6		1800	-1.1	14	a	a	11	0400	.5	12	0500	.7
	2000	1.6		2300	2.2		1200	.9		1900	.9		1300	1.0	8	0900	1.2	10	0300	-1.2		2000	-1.0	12	0500	.8	15	a	a		1900	-1.5		0900	.3
9	0500	1.3	11	1300	-.3		1700	.5	12	0400	-.4		1800	1.2		1200	.7		1400	.8	15	0600	1.0		1900	-1.2	16	0800	.8	12	0800	.4		1600	.7
	1100	-.2		2300	1.0		2200	1.1		1900	1.0	9	0300	-.2		1400	1.1	11	0400	-1.2		1900	-1.3	13	0700	.8		2100	-1.5		2100	-1.5		2200	-.1
	2300	1.8	12	1300	-.8	14	0500	.3	13	0500	-.5		1400	1.1		2400	-.6		1900	.6	16	0600	1.0		2000	-1.3	17	0800	.3	13	0600	.4	13	0500	.5
10	1100	.0		2400	.7		1200	.7		1600	1.2	10	0200	-.3	9	1100	.9	12	0500	-.5		2000	-1.2	14	0600	.8		2200	-1.2		1300	.3		1000	-.2
11	0100	2.0	13	1500	-.5		2300	.5	14	0500	-.9		1500	1.4		2400	-1.4		1300	.7	17	0900	1.4		2000	-1.3	18	0700	.2		2100	-1.1		1800	.7
	1200	.3		2400	.7	15	0700	-.7		1700	1.4	11	0200	-.4	10	1200	.7		1900	.4		2200	-1.0	15	0800	.9		2300	-1.0	14	0700	.4		2400	.4
	2400	1.9	14	1400	-.3		1500	.5	15	0600	-1.0		1500	1.7		2400	-1.0	13	0100	.6	18	0900	1.2		2000	-1.1	19	0700	.0		1400	.3	14	0400	.7
12	1200	.0		2400	.6		2400	.7		1700	1.4	12	0400	-.6	11	1300	1.0		0600	-.4		2300	-1.2	16	0800	1.0		1800	-.2		2100	-.9		1200	-.2
13	0100	1.8	15	0500	-.1	16	0700	-.6	16	0700	-1.2		1600	1.6	12	0300	-1.0		1300	.6	19	0800	.9		2100	-1.1		2400	-1.0	15	0600	.5		1800	.7
	1400	.2		1200	e.5		1600	1.0		1800	1.7	13	0600	-.6		1400	1.2		1900	.0		2200	-1.2	17	0800	1.0	20	0600	.1		1100	.2	15	0400	.5
14	0300	2.0		1700	.2	17	0600	-1.2	17	0700	-1.4		1600	1.7	13	0400	-1.5	14	0200	.4	20	0900	.7		2100	-.9		1500	-.4		1500	.4		1100	-.9
	1500	.4	16	0200	1.0		1700	1.3		2000	1.7	14	0600	-.1		1500	.7		0700	-.4		2400	-1.2	18	0800	.9		2100	.2		2200	-.6		2400	.6
15	0200	1.9		0700	.5	18	0700	e-1.5	18	0800	-1.0		2000	2.8	14	0500	-1.4		1400	.1	21	1100	.8		2200	-1.0		2200	-.8	16	0600	.2	16	1200	-.8
	1500	.3		1400	.9		1900	1.1		2100	1.7	15	0700	-.1		1500	.8		1900	-.6		2400	-.7	19	0800	.8		2400	.0		1000	-.1		2300	.8
16	0400	2.0		1900	.7	19	0800	-1.4	19	0900	-1.0		1600	2.1		2200	.8	15	0400	.4	22	1100	.8		2300	-.8	21	0600	.1		1800	.5	17	1200	-1.1
	1800	.8		2400	1.0		1900	1.6		1900	1.2	16	0900	-1.2	15	0400	-.8		1000	-.1		2400	-.7	20	0900	.6		1300	-.9		2400	-.1		2400	.8
17	0300	1.9	17	0700	.2	20	0900	-1.7	20	0200	1.3		1800	1.0		1500	1.2		1500	.2	23	1100	.6		2300	-.7	22	0600	.0	17	0500	.5	18	1200	-.9
	1900	.9		1500	1.2		2100	1.7		1000	-.6		2100	.8	16	0100	1.5		2000	-.6	24	0200	-.5	21	1000	.3		1400	-1.1		1200	-.2	19	0200	1.3
18	0200	2.1		2000	1.0	21	1000	-1.0		1900	1.0	17	0200	1.0		0700	.0	16	0500	.7		1100	.5		2400	-.5	23	0100	.0		1700	e.4		1400	-.5
	0900	1.8	18	0100	1.3		2200	1.8	21	0400	.9		1000	-.5		1500	1.0		1000	.3	25	0200	-.4	22	0800	.2		1500	-1.6		2300	e.1	20	0200	1.8
	1400	1.9		0700	.3	22	1100	-.7		1200	-.4		1800	1.4		2000	.8		1400	.5		1100	.3		1600	-.4	24	0200	.2	18	0400	e.4		1600	-0.6
	1900	1.1		1700	e1.5		2200	1.5		2000	1.0		2200	1.1	17	0200	1.0		2000	-.6		1600	-.1		2100	-.1		1600	-1.8		1200	-.6	21	0200	1.4
19	0200	1.9	19	0800	-.7	23	1300	-1.1		2400	.7	18	0300	1.3		0800	-.3	17	0500	1.3		2200	.1	23	0300	-.4	25	0300	.3		2000	.4		1600	-.6
	0800	1.3		1800	1.4		2300	.7	22	0500	.8		1000	-.5		1600	.7		2100	-.5	26	0300	-.1		0800	.1		1700	-2.0	19	0600	.5	22	0300	1.4
	1500	1.6	20	0900	-1.3	24	1300	-1.2		1200	-.1		1700	.6		2100	.2	18	0400	1.1		1000	.2		1600	-.7	26	0400	.5		1200	-.6		1800	-.6
	2100	1.1		1800	1.4		2300	.4		1900	.6		2200	.3	18	0200	.7		2200	-1.4		1700	-.5		2300	.0		1700	-2.2	20	0300	.8	23	0400	1.2
20	0300	1.8	21	0800	-1.6	25	0700	.3		2400	.1	19	0400	1.0		0900	-.4	19	0800	.4	27	0200	.2	24	0900	.1	27	0600	.7		1400	-.7		1300	1.2
	0900	1.0		2000	1.4		1500	-.2	23	0600	.6		1200	.1		1500	.2		2100	-1.5		0600	-.1		1600	-.8		1900	-2.2	21	0200	1.1		1800	-.3
	1500	1.9	22	1000	-1.7		2200	.6		1300	.1		1800	.7		2100	-.7	20	0800	.5		1000	.1	25	0100	.3	28	0700	.6		1400	-1.2	24	0300	1.2
	2000	1.5		2200	1.2	26	0300	.2		1800	.6		2200	.1	19	0400	-.1		2300	-1.5		1800	-1.0		1700	-1.2		2000	-2.1	22	0300	1.0		0800	.8
21	0200	1.8	23	1000	-1.5		0900	.6		2400	-.2	20	0600	1.0		1000	-.9	21	1200	.5	28	0300	.2	26	0500	.6	29	0500	.4		1600	-1.4		1400	1.1
	0800	.4		2200	1.3		1500	.2	24	1300	1.0		1100	.7		1600	-.6		2300	-1.3		1100	.0		1800	-1.5		2100	-2.0	23	0400	.9		2000	-.1
	1600	1.9	24	1200	-1.2		2200	.7		1400	.6		1400	1.1		2200	-1.2	22	1200	.5		1700	-1.3	27	0500	.8	30	0600	.3		1700	-1.6	25	0300	.8
22	0300	1.6		2300	1.3	27	0600	-.1		2000	1.0		2300	.3	20	0600	.2		2300	-1.1	29	0400	.2		1800	-1.7		2200	-1.7	24	0400	.9		0800	.4
	0800	.1	25	1300	-.9		1800	.7	25	0200	-.1	21	0800	1.1		1400	.0	23	1300	.5		1900	-1.6	28	0600	1.0	31	0700	.2		1700	-1.7		1500	1.0
	1900	2.0	26	0100	1.1	28	0600	-.3		0700	.6		1300	.6		2200	-1.3	24	0100	-1.1	30	0500	.8		1900	-2.0		1100	.0	25	0400	.7		2100	.0
23	0900	-.3		1500	-.5		1300	.7		1900	.8		1500	1.0	21	0800	.1		1300	.3		1900	-1.8	29	0600	1.1		1400	.2		2000	-1.3	26	0300	.5
	2000	2.0		2300	.0	29	0500	-.9	26	0200	-.2		2400	-.1		2300	-1.3	25	0100	-.9	31	0600	.9		1900	-1.8		2300	-1.1	26	0600	1.0		0800	-.1
24	1200	-.6	27	0400	.5		1600	.7		1700	1.2	22	1100	1.2	22	1000	.4		1300	.5		2000	-2.0	30	0800	1.2					2000	-1.3		1600	1.1
	2300	2.2		0900	.8	30	0700	-.7	27	0400	.0	23	0100	-1.0	23	0100	-1.0	26	0400	-.5					2100	-1.7					27	0400	.7	27	0200	.7
25	1100	-.8		1600	.2		1700	1.1		1600	1.5		1400	.8		1400	1.0		1100	-.1											0900	.5		0800	-.4
	2300	1.8		2400	1.4	31	0600	-.8	28	0500	-.4	24	0300	-1.0		2400	-.7	27	0200	-.3											1400	.8		1800	1.2
26	1300	-.8	28	1900	.0		1700	1.4		1700	1.4		1400	.8	24	1200	.8		1200	.7											2200	-.6	28	0200	1.0
	2400	1.5		2200	.4				29	0600	-.5	25	0300	-1.1	25	0300	-1.0	28	0500	-.3											2400	.8		1000	-.4
27	1400	-.8	29	0500	-.2					1800	1.2		1400	.7		1200	e.4		1200	.5											0800	.5		1800	1.3
	2400	1.4	30	0100	1.1				30	0600	-.7	26	0400	-1.0	26	0100	-1.4		1900	-.4											1600	1.1	29	1000	-.6
28	1500	-.5		0700	.4					1800	1.4		1600	1.0		1300	.2	29	0100	.4											2200	-.6		2200	1.3
29	0200	1.3		1400	1.7				31	0700	-.6	27	0500	-.9	27	0300	-1.3		0600	-.1											0400	.7	30	1100	-.6
	1600	-.4		1800	1.2					1900	1.5		1600	1.0		1200	.2		1300	.3											0800	.1		2400	1.3
30	0200	.8		2000	1.6							28	0500	-.9	28	0400	-1.3		1900	-.7											1700	1.1			
	1800	-.4											1700	1.0		1400	.2	30	0200	.6											0100	.2	30		
31	0200	.6													29	0400	-1.1		0700	.2											0500	.8			
	0700	.2														1400	.0		1200	.5											1100	.0			
	1200	.4													30	0600	-1.3		1900	-.7											1900	1.2			
	1900	-.2														1500	.0														2400	.6			
																2000	-.3														31	0300	.9			
																2400	-.2															1100	-.2			
															31	0600	-1.0															2100	1.0			
																1500	.0																		
																2000	-.4																		

a No usable record.
b Water stage continuously falling.
c Water stage continuously rising.
e Estimated

Climatological Records

The climate of a region plays a great role in estuarine water quality. The types of climatological data available for a 60-mile-wide band along the Texas coast are shown on Figure 23.

Tabulations of daily precipitation, temperature, and other data are published monthly by the Environmental Science Services Administration (1969). Monthly summaries are published annually (Environmental Science Services Administration, 1970). For the period 1931-60, monthly and annual data are summarized in two U.S. Weather Bureau publications (1958, 1965).

Continuous Streamflow Records and Daily Water-Quality Records

Streams along the Texas coast lie in the flat coastal plain and are incised below sea level. Thus, changes in water stage within bays due to tides often extend many miles upstream. The most downstream sites at which continuous streamflow data are collected are several miles upstream from the estuaries. The locations of these sites are shown on Figure 22. The site numbers shown on the map correspond to station numbers used in the annual publication of water-resources data by the U.S. Geological Survey (1969a).

The streamflow data represent runoff reaching the coastal area but do not describe all of the flow from streams that enter an estuary. Intervening drainage, diversions for irrigation, return flows, and evapotranspiration may all influence streamflow between the measuring site and the estuary.

Analyses of water collected daily from continuous streamflow measuring sites (Figure 22) are given in the annual publication of water-resources data by the U.S. Geological Survey (1969b). These data show the effect of geology and cultural development on runoff from the drainage basins. At times, however, intervening drainage, return flows, and evapotranspiration may alter the water quality between the data-collection site and the estuary.

Miscellaneous Water-Quality and Streamflow Records

The ungaged drainage areas to each estuary range from less than 100 square miles to more than 10,000 square miles. To completely describe the quality and quantity of runoff from the entire area between continuous streamflow stations and the estuary is not feasible. Some representative data (Table 16) are available from a study of the coastal basins (Blakey and Kunze, 1971) and from other data-collection sites (Figure 24).

Most sites (Figure 24) have been assigned a station number in the annual publication of water-resources data by the U.S. Geological Survey (1969a). Other sites have been numbered consecutively for this report.

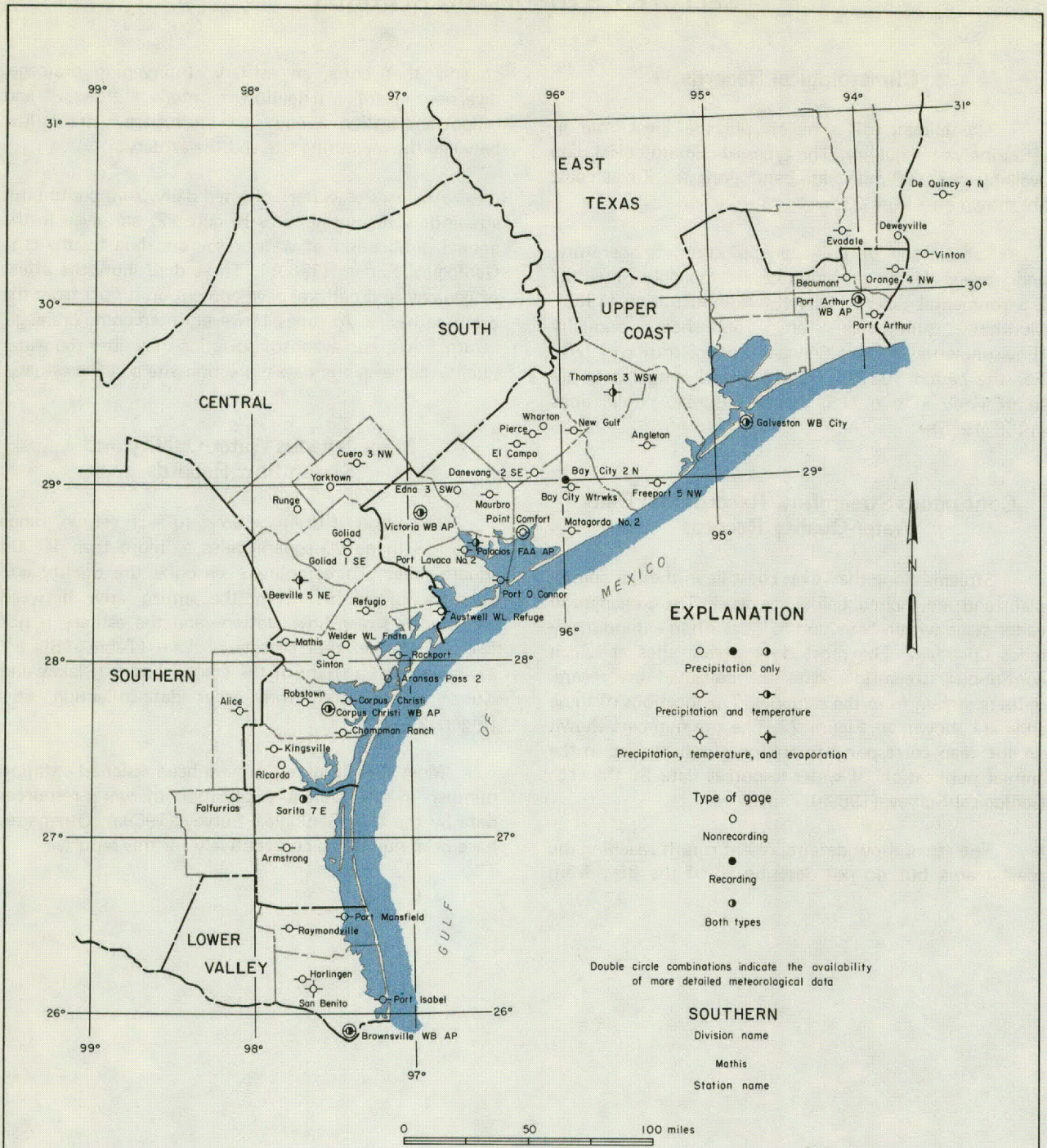


Figure 23

Locations of Selected Climatological Stations

Base From USCOMM- Weather Bureau. Revised July, 1965

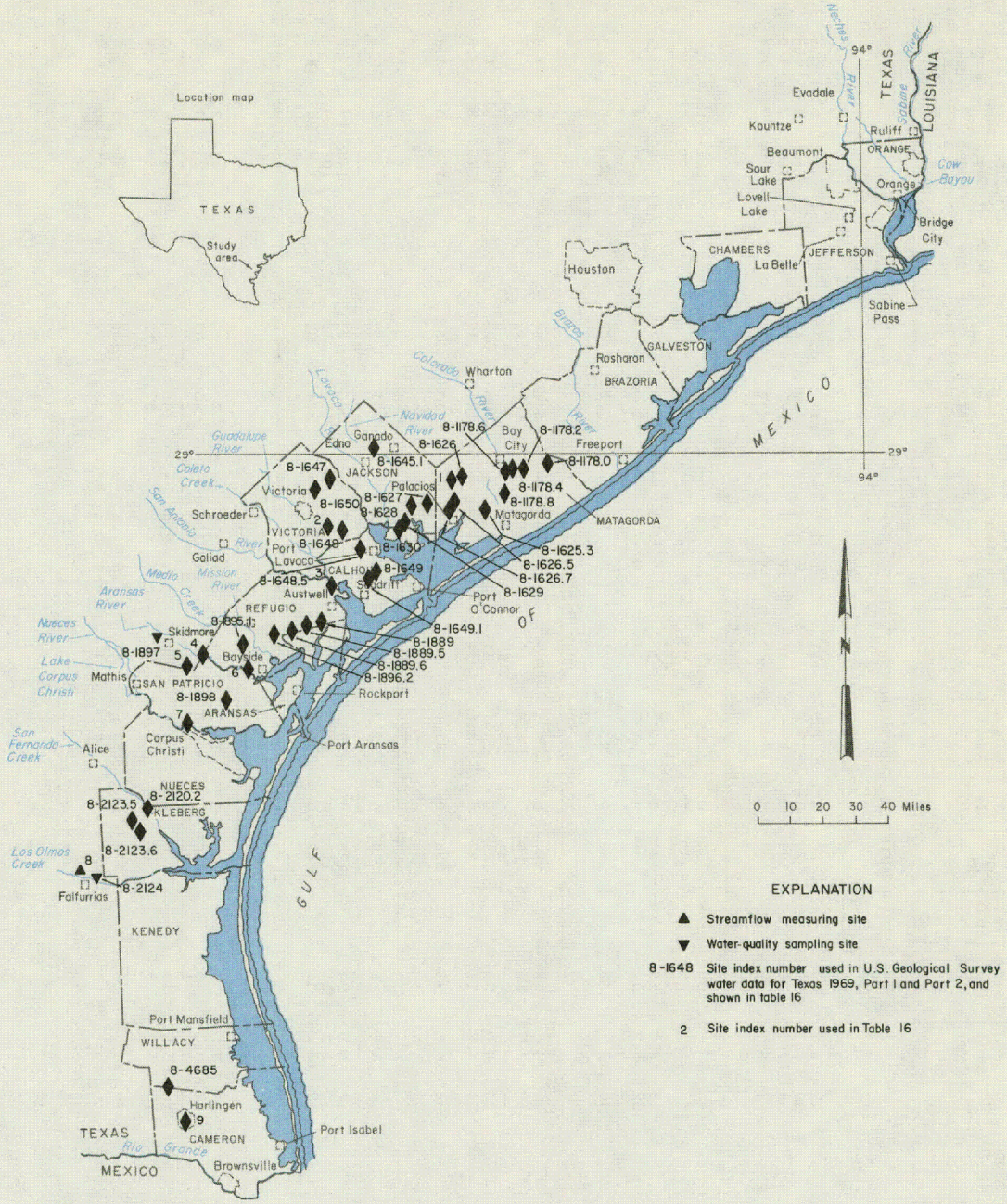


Figure 24

Locations of Miscellaneous Water-Quality and Streamflow Data-Collection Sites

Base from Official State Highway Map of Texas, 1971

TABLE 16. -MISCELLANEOUS WATER-QUALITY AND STREAMFLOW RECORDS, WATER YEARS 1959-69

(Results in milligrams per liter except as indicated)

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Dissolved solids (Calculated)			Hardness as $CaCO_3$		Sodium adsorption ratio	Specific conductance (micromhos at 25°C)	pH
															Milligrams per liter	Tons per acre-foot	Tons per day	Calcium, Magnesium	Noncarbonate			
TRIBUTARIES TO EAST MATAGORDA ESTUARY																						
8-1178.0 Live Oak Bayou near Cedar Lane																						
May 17, 1968	15.5	13		22	4.7	9.0		80	0	7.6	11	1.1	2.5	--	110	0.15		74	9	0.5	189	7.1
June 26	124	13		20	4.1	6.3		76	0	3.6	8.1	.9	.8	--	94	.13		67	4	.3	161	7.2
Aug. 7	9.46	11		50	14	32		196	0	22	46	.9	.4	--	272	.37		182	22	1.0	494	7.9
Sept. 4	22.4	40		50	13	38		193	0	20	56	1.1	.7	--	314	.43		178	20	1.2	527	7.3
8-1178.2 Bucks Bayou near Bay City																						
Nov. 29, 1967	2.60	22		64	26	166	--	334	0	96	178	.7	.0	--	717	.98		266	0	4.4	1,230	7.6
Jan. 22, 1968	164	--		--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
Apr. 16,	1.01	--		--	--	--	--	--	--	153	222	--	--	--	--	--		--	--	--	1,480	--
May 16	24.0	17		26	6.0	15	--	84	0	20	17	1.0	7.5	--	150	.20		90	21	.7	248	7.4
June 27	138	18		22	5.2	14		88	0	11	14	1.0	2.0	--	130	.18		76	4	.7	216	7.0
Aug. 7	15.4	17		60	17	52		232	0	35	74	1.0	.2	--	370	.50		220	30	1.5	649	7.5
8-1178.4 Cottonwood Creek near Bay City																						
Nov. 29, 1967	2.29	22		63	15	152		284	0	20	161	5.8	66	--	645	.88		218	0	4.5	1,110	6.7
Jan. 22, 1968	81.2	13		19	3.9	12		70	0	8.4	14	.1	5.0	--	109	.15		63	6	.7	185	7.3
Apr. 16	4.01	--		--	--	--	--	--	--	28	146	--	--	--	--	--		--	--	--	1,110	--
May 16	21.5	18		28	6.0	35		121	0	13	31	1.9	12	--	205	.28		95	0	1.6	355	7.5
June 27	62.7	20		24	4.7	11		87	0	8.8	14	.9	1.8	--	128	.17		79	8	.5	209	7.5
Aug. 7	8.63	16		54	14	78		234	0	23	86	2.2	22	--	410	.56		192	0	2.4	713	7.6
8-1178.6 Liveoak Slough near Bay City																						
Jan. 22, 1968	78.3	12		19	3.6	6.5		69	0	5.2	9.4	.1	1.2	--	91	.12		62	6	.4	157	7.3
Apr. 16	1.73	--		--	--	--	--	--	--	26	46	--	--	--	--	--		--	--	--	482	--
May 16	8.24	2.4		44	8.0	20		126	9	26	26	.9	2.2	--	200	.27		143	24	.7	358	8.5
June 26	124	14		32	5.2	11		113	0	11	12	.9	1.2	--	143	.19		101	9	.5	245	7.3
Aug. 7	8.29	10		48	14	34		187	0	25	50	.4	.2	--	274	.37		178	24	1.1	485	7.9
Sept. 4	38.7	--		--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
8-1178.8 Big Boggy Creek near Wadsworth																						
Jan. 16, 1968	1.52	7.0		11	3.8	9.1		38	0	10	14	.1	1.6	--	76	.10		43	12	.6	142	7.0
Jan. 22	211	7.3		6.5	2.1	6.9		30	0	5.0	5.5	.4	1.4	--	50	.07		25	0	.6	87	6.9
Apr. 17	.37	--		--	--	--	--	--	--	15	20	--	--	--	--	--		--	--	--	240	--
May 17	10.8	16		18	4.6	10		70	0	7.0	12	1.1	2.0	--	105	.14		64	6	.5	179	6.9
June 26	135	16		16	3.9	6.2		58	0	4.6	10	.9	.8	--	87	.12		56	8	.4	145	7.3
Aug. 7	20.6	10		46	14	28		170	0	22	49	.9	.2	--	254	.35		172	33	.9	465	7.3
Mar. 13, 1969	.58	--		--	--	--	--	--	--	--	31	--	2.4	--	--	--		--	--	--	286	--

See footnotes at end of table.

TABLE 16.-MISCELLANEOUS WATER-QUALITY AND STREAMFLOW RECORDS, WATER YEARS 1959-69--Continued

(Results in milligrams per liter except as indicated)

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Dissolved solids (Calculated)			Hardness as $CaCO_3$		Sodium adsorption ratio	Specific conductance (micromhos at 25°C)	pH
															Milligrams per liter	Tons per acre-foot	Tons per day	Calcium, Magnesium	Noncarbonate			
TRIBUTARIES TO LAVACA-TRES PALACIOS ESTUARY																						
8-1625.3 Little Robbins Slough near Matagorda																						
Mar. 13, 1969	0.69	--	--	--	--	--	--	--	--	--	202	--	1.8	--	--	--		--	--	--	1,040	--
July 22	b20	--	--	--	--	--	--	--	--	--	70	--	.4	--	--	--		--	--	--	512	--
Aug. 19	21.2	--	--	--	--	--	--	--	--	--	111	--	.2	--	--	--		--	--	--	773	--
8-1626 Tres Palacios Creek near Midfield																						
Sept. 12, 1967	38.1	40		48	15	60	5.0	247	0	12	72	0.6	.8	--	347	0.47		182	0	1.9	615	7.7
Feb. 6, 1968	28.3	12		47	12	80		185	0	16	119	.6	3.0	--	381	.52		167	16	2.7	701	7.8
May 2	50.9	16		42	11	35		167	0	15	50	.5	1.4	--	253	.34		150	13	1.2	453	7.4
July 24	101	19		44	12	40		182	0	15	56	.4	.4	--	276	.38		159	10	1.4	493	7.3
Mar. 13, 1969	24.2	--		--	--	--	--	--	--	--	96	--	4.6	--	--	--		--	--	--	644	--
July 22	b60	--		--	--	--	--	--	--	--	89	--	.3	--	--	--		--	--	--	683	--
Aug. 19	8.57	--		--	--	--	--	--	--	--	128	--	.1	--	--	--		--	--	--	904	--
1 Juanita Creek near Midfield																						
Feb. 21, 1968	b20	9.6		36	10	129	4.4	153	0	11	195	.5	2.5	0.15	473	.64		132	6	4.9	905	7.5
8-1626.5 Cashes Creek near Blessing																						
Mar. 13, 1969	1.21	--		--	--	--	--	--	--	--	144	--	1.8	--	--	--		--	--	--	897	--
July 22	4.68	--		--	--	--	--	--	--	--	104	--	.4	--	--	--		--	--	--	745	--
Aug. 19	.09	--		--	--	--	--	--	--	--	170	--	.5	--	--	--		--	--	--	1,100	--
8-1626.7 Turtle Creek near Palacios																						
Mar. 12, 1969	.57	--		--	--	--	--	--	--	--	81	--	.0	--	--	--		--	--	--	506	--
July 22	b15	--		--	--	--	--	--	--	--	99	--	.3	--	--	--		--	--	--	659	--
Aug 19	1.18	--		--	--	--	--	--	--	--	146	--	.3	--	--	--		--	--	--	996	--
8-1627 East Carancahua Creek near Blessing																						
Sept. 12, 1967	12.0	46		43	19	101	5.0	285	0	12	115	.8	.5	--	482	.66		186	0	3.2	800	7.6
Feb. 6, 1968	11.7	10		32	12	39		143	0	17	54	.4	1.3	--	236	.32		129	12	1.5	425	7.7
May 21	36.2	20		28	8.6	38		133	0	11	46	.4	.8	--	218	.30		105	0	1.6	380	7.5
July 24	73.8	20		30	10	36		145	0	9.6	45	.4	.4	--	222	.30		116	0	1.5	387	7.9
8-1628 West Carancahua Creek near LaWard																						
Sept. 12, 1967	11.0	50		70	19	67	7.4	284	0	13	113	.5	.8	--	481	.65		252	20	1.8	798	7.6
Feb. 6, 1968	1.87	9.6		31	6.8	38	--	121	0	11	53	.4	1.2	--	211	.29		105	6	1.6	388	7.4
Feb. 21	8.8	9.0		24	5.2	25	6.2	94	0	12	36	.6	2.4	.04	167	.23		81	4	1.2	289	7.0
May 21	7.97	23		32	6.8	20	--	137	0	6.6	21	.6	1.0	--	178	.24		108	0	.8	296	7.6
July 24	61.1	20		30	7.0	21	--	115	0	6.2	34	.3	.3	--	176	.24		104	9	.9	306	7.3

See footnotes at end of table.

TABLE 16.-MISCELLANEOUS WATER-QUALITY AND STREAMFLOW RECORDS, WATER YEARS 1959-69--Continued

(Results in milligrams per liter except as indicated)

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Dissolved solids (Calculated)			Hardness as $CaCO_3$		Sodium adsorption ratio	Specific conductance (micromhos at 25°C)	pH
															Milligrams per liter	Tons per acre-foot	Tons per day	Calcium, Magnesium	Noncarbonate			
TRIBUTARIES TO LAVACA-TRES PALACIOS ESTUARY--continued																						
8-1629 Kellers Creek near LaWard																						
Sept. 13, 1967	0.32	67		40	13	43	6.4	223	0	5.2	43	0.5	0.5	--	329	0.45		154	0	1.5	480	7.7
Feb. 6, 1968	.17	.6		18	4.0	9.5	--	70	3	4.4	10	.3	.2	--	84	.11		61	0	.5	165	8.4
May 21	.25	12		27	6.2	18	--	125	0	4.0	16	.4	1.8	--	146	.20		93	0	.8	266	7.1
July 24	.60	13		21	4.6	21	--	98	0	2.4	24	.4	.4	--	135	.18		71	0	1.1	244	7.5
8-1630 Huisache Creek near Lolita																						
Sept. 13, 1967	.05	15		34	7.6	124	6.5	211	0	21	135	1.3	6.2	--	455	.62		116	0	5.0	835	7.6
Feb. 6, 1968	.21	--		--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
May 21	.86	16		16	3.8	13	--	80	0	1.0	9.7	.6	1.4	--	100	.14		56	0	.8	172	7.5
July 24	1.33	15		16	4.2	12	--	78	0	2.6	10	.9	.8	--	100	.14		57	0	.7	170	7.0
8-1645.1 West Mustang Creek near Ganado																						
Aug. 24, 1967	1160	30		32	6.1	25	7.3	108	0	9.6	48	.3	1.0	--	212	.29		105	16	1.1	351	6.9
Sept. 12	61.8	46		60	12	46	5.5	200	0	16	88	.4	.5	--	372	.51		199	35	1.4	609	7.8
Sept. 24	3940	15		13	2.7	7.1	3.5	51	0	4.0	11	.2	.2	--	82	.11		44	2	.5	125	7.0
Oct. 25	34.4	19		25	4.2	14	4.8	93	0	7.6	22	.2	--	--	143	.19		80	3	.7	234	7.2
Nov. 21	4.53	--		--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
Dec. 29	.38	15		41	6.6	30	--	116	0	24	49	--	7.2	--	230	.31		129	34	1.1	416	7.4
8-1647 Arenosa Creek near Inez																						
Oct. 27, 1960	--	5.3		3.2	1.3	2.3	1.7	16	0	.2	4.0	.1	.2	--	26	.04		13	0	.3	40	6.2
Sept. 13, 1961	--	7.9		6.1	1.4	6.7	3.4	30	0	2.4	8.2	.1	.0	--	51	.07		21	0	.6	78	6.1
Apr. 21, 1965	40.1	13		27	7.0	52	--	127	0	22	57	.5	1.8	--	242	.33		96	0	2.3	436	6.7
June 29	4.24	24		34	9.0	60	--	168	0	11	73	.4	.8	--	295	.40		122	0	2.4	524	6.6
Nov. 15	12.4	9.6		16	5.4	20	--	88	0	7.2	18	.3	.5	--	120	.16		62	0	1.1	220	6.3
Jan. 26, 1966	40.0	7.0		7.7	2.9	9.9	3.5	39	0	8.6	10	.2	.8	--	70	.10		31	0	.8	116	6.3
Mar. 9	.82	15		46	9.0	47	4.6	200	0	3.8	64	.3	.2	--	288	.39		152	0	1.7	523	7.2
May 11	91.7	16		13	2.5	10	3.5	58	0	3.6	11	.2	1.0	--	90	.12		43	0	.7	141	6.7
Dec. 7	.01	38		84	18	95	4.1	438	0	14	84	.4	.2	--	553	.75		284	0	2.5	925	7.5
Oct. 25, 1967	12.6	26		28	6.4	40	4.0	138	0	5.6	49	.2	1.8	--	229	.31		96	0	1.8	385	7.5
Nov. 21	.93	21		47	9.9	62	--	210	0	5.2	81	.4	.7	--	330	.45		158	0	2.1	588	7.5
Dec. 28	.13	29		72	15	96	--	322	0	4.0	128	.4	.7	--	503	.68		241	0	2.7	887	7.7
Jan. 1, 1968	--	--		22	4.7	--	--	98	0	--	29	--	--	--	--	--		74	0	--	305	7.6
Feb. 19	250	7.0		8.0	2.1	7.8	2.9	28	0	6.0	10	.3	2.6	0.04	61	.08		29	6	.6	92	7.1
Apr. 1	8.75	17		58	14	113	--	294	0	31	121	.4	3.5	--	503	.68		202	0	3.5	895	7.5
May 13	2860	4.6		5.0	1.5	3.5	--	24	0	.4	3.7	.1	1.0	--	32	.04		19	0	.3	60	6.4
June 21	306	12		13	3.8	23	--	68	0	7.0	23	.2	1.3	--	116	.16		48	0	1.4	203	6.7
July 24	18.2	25		39	9.8	67	--	196	0	11	78	.3	.7	--	327	.44		138	0	2.5	577	7.2
March 12, 1969	6.30	--		--	--	--	--	--	--	--	64	--	1.7	--	--	--		--	--	--	482	--
July 22	3.2	--		--	--	--	--	--	--	--	146	--	.6	--	--	--		--	--	--	932	--
Aug. 19	1.16	--		--	--	--	--	--	--	--	192	--	.0	--	--	--		--	--	--	1,220	--

See footnotes at end of table.

TABLE 16.-MISCELLANEOUS WATER-QUALITY AND STREAMFLOW RECORDS, WATER YEARS 1959-69--Continued

(Results in milligrams per liter except as indicated)

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Dissolved solids (Calculated)			Hardness as $CaCO_3$		Sodium adsorption ratio	Specific conductance (micromhos at 25°C)	pH
															Milligrams per liter	Tons per acre-foot	Tons per day	Calcium, Magnesium	Noncarbonate			
TRIBUTARIES TO LAVACA-TRES PALACIOS ESTUARY--continued																						
8-1650 Garcitas Creek near Inez																						
Apr. 20, 1965	1.10	5.2		32	7.8	72	--	154	0	23	83	0.5	0.2	--	300	0.41		112	0	3.0	549	7.3
May 21	43.3	14		15	2.3	15	--	66	0	4.2	14	.2	.5	--	97	.13		47	0	1.0	157	7.0
Nov. 15	7.65	17		21	3.8	15	--	87	0	5.6	15	.4	1.5	--	122	.17		68	0	.8	206	6.4
Jan 26, 1966	38.4	8.6		7.2	1.8	8.6	2.5	32	0	6.2	9.2	.2	.2	--	60	.08		25	0	.7	97	6.3
May 11	37.2	--		--	--	--	--	90	0	11	--	--	--	--	--	--		77	3	--	204	6.9
June 17	.25	23		64	8.3	36	2.1	220	0	32	44	.4	.2	--	318	.43		194	13	1.1	536	7.5
Oct. 25, 1967	6.79	23		54	5.5	24	2.4	164	0	32	29	.3	.8	--	252	.34		157	23	.8	410	7.5
Nov. 21	1.81	17		49	4.8	26	--	152	0	23	35	.3	.3	--	230	.31		142	17	.9	397	7.3
Dec. 28	.31	19		58	8.0	35	--	171	0	47	45	.3	.1	--	296	.40		178	38	1.1	501	7.9
Jan. 31, 1968	6.84	--		42	4.8	--	--	135	0	--	27	--	--	--	--	--		125	14	--	368	7.5
Apr. 9	3.83	16		66	8.2	47	--	206	0	43	60	.3	.4	--	342	.47		198	29	1.5	579	7.3
May 13	971	6.8		7.8	1.5	1.9	--	29	0	.6	2.9	.1	1.3	--	37	.05		26	2	.2	67	6.7
June 21	151	10		14	2.5	8.7	--	54	0	4.8	9.6	.2	1.0	--	78	.11		45	1	.6	134	6.6
July 24	5.70	26		64	6.6	25	--	206	0	30	29	.3	.4	--	282	.38		187	18	.8	465	7.3
2 Lone Tree Creek near Dacosta																						
Feb. 19, 1968	38.4	9.6		13	2.6	13	3.9	44	0	8.6	13	.6	9.0	0.07	95	.13		43	7	.9	138	7.0
8-1648 Placedo Creek near Placedo																						
Sept. 13, 1967	.56	27		71	11	226	6.8	198	0	12	385	.7	2.8	--	839	1.14		222	60	6.6	1,530	7.3
Feb. 6, 1968	1.11	18		150	22	271		229	0	36	585	.3	3.3	--	1,200	1.63		464	277	5.5	2,270	7.5
May 21	8.89	15		61	8.7	97		129	0	13	197	.2	2.0	--	457	.62		188	82	3.1	876	7.3
July 25	1.59	26		194	28	360		273	0	26	800	.4	2.2	--	1,570	2.14		599	376	6.4	2,900	7.5
8-168.5 Chocolate Bayou near Port Lavaca																						
Sept. 13, 1967	1.97	34		30	4.5	25	7.2	113	0	.4	41	.6	1.5	--	200	.27		94	1	1.1	321	7.3
Feb. 7, 1968	.75	--		--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
Feb. 19	45.6	15		18	3.2	12	4.3	42	0	13	12	.5	28	.05	127	.17		58	24	.7	190	7.0
May 22	8.04	24		20	3.3	12		72	0	1.2	19	.2	2.3	--	117	.16		63	4	.7	198	6.8
July 25	2.27	--		--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
8-1649 East Coloma Creek near Port Lavaca																						
March 12, 1969	.26	--		--	--	--	--	--	--	--	2,500	--	.2	--	c4,700	6.39		--	--	--	8,640	--
July 22	b20	--		--	--	--	--	--	--	--	92	--	.4	--	--	--		--	--	--	714	--
Aug 20	10.2	--		--	--	--	--	--	--	--	144	--	.4	--	--	--		--	--	--	1,050	--
8-1649.1 West Coloma Creek near Seadrift																						
March 12, 1969	.35	--		--	--	--	--	--	--	--	2,050	--	1.6	--	3,920	5.33		--	--	--	7,210	--
July 23	b20	--		--	--	--	--	--	--	--	102	--	.2	--	--	--		--	--	--	771	--
Aug. 20	21.1	--		--	--	--	--	--	--	--	130	--	.0	--	--	--		--	--	--	945	--

See footnotes at end of table.

TABLE 16.-MISCELLANEOUS WATER-QUALITY AND STREAMFLOW RECORDS, WATER YEARS 1959-69--Continued

(Results in milligrams per liter except as indicated)

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Dissolved solids (Calculated)			Hardness as $CaCO_3$		Sodium adsorption ratio	Specific conductance (micromhos at 25°C)	pH
															Milligrams per liter	Tons per acre-foot	Tons per day	Calcium, Magnesium	Noncarbonate			
TRIBUTARY TO GUADALUPE ESTUARY																						
3 Guadalupe River near Tivoli																						
Oct. 1, 1967	23,300	11	--	--	--	--	--	122	0	11	63	--	--	--	--	--		108	8	--	231	7.5
TRIBUTARIES TO MISSION-ARANSAS ESTUARY																						
8-1889 Artesian Creek near Tivoli																						
Sept. 14, 1967	12.0	46		39	3.9	18	7.4	148	0	19	9.8	0.5	3.0	--	220	0.30		113	0	0.7	305	7.3
Feb. 7, 1968	.80	12		36	4.5	53		148	0	37	43	.4	2.4	--	261	.35		108	0	2.2	449	7.8
May 22	34.7	30		30	2.6	6.6		108	0	.6	6.4	.1	1.8	--	131	.18		86	0	.3	204	7.2
July 25	.69	18		34	3.4	24		124	0	23	15	.3	3.7	--	182	.25		99	0	1.0	293	7.1
8-1889.5 Salt Creek near Refugio																						
Sept. 14, 1967	8.41	49		24	4.2	10	6.2	106	0	.4	8.2	.4	1.5	--	156	.21		77	0	.5	198	7.1
Feb. 7, 1968	.11	3.2		35	5.4	23		130	0	5.4	32	.1	2.8	--	171	.23		110	3	1.0	328	7.3
May 22	18.1	--		--	--	--	--	72	0	12	--	--	--	--	--	--		56	0	--	164	6.8
July 25	5.89	23		16	3.3	7.2		68	0	.8	7.9	.1	1.5	--	93	.13		53	0	.4	140	7.1
8-1889.6 Copano Creek near Refugio																						
Sept. 14, 1967	20.9	35		12	2.6	21	6.1	66	0	5.2	23	.5	1.8	--	139	.19		41	0	1.4	204	7.0
Feb. 7, 1968	3.28	8.2		16	3.8	43		73	0	24	43	.2	2.6	--	177	.24		56	0	2.5	314	6.7
May 22	132	--		--	--	--	--	40	0	--	41	--	--	--	--	--		34	1	--	215	6.5
July 26	15.0	17		12	2.7	18		51	0	6.6	21	.1	2.0	--	104	.14		41	0	1.2	172	6.7
8-1895.1 Sous Creek near Woodsboro																						
Sept. 15, 1967	1.26	2.1		25	3.8	14	6.8	89	0	5.8	25	.4	1.2	--	147	.20		78	5	.7	239	7.0
Feb. 7, 1968	.12	17		200	70	553		250	0	179	1,130	.2	4.3	--	2,280	3.10		787	582	8.6	3,440	7.2
May 22	16.4	17		28	4.7	24		95	0	10	36	.1	2.4	--	169	.23		89	11	1.1	292	7.1
July 26	2.73	17		48	7.9	46		150	0	18	77	.2	1.5	--	290	.39		152	30	1.6	518	7.2
8-1896.2 Melon Creek near Refugio																						
Sept. 24, 1967	10.2	22		22	3.3	21	4.6	98	0	.8	25	.4	1.5	--	149	.20		68	0	1.1	244	7.2
Feb. 7, 1968	4.94	10		25	4.2	33		107	0	9.6	36	.1	2.4	--	173	.24		80	0	1.6	311	6.9
May 22	96.8	14		10	2.3	12		42	0	.8	17	.1	2.2	--	79	.11		34	0	.9	144	6.7
July 26	34.8	--		--	--	--	--	60	0	--	17	--	--	--	--	--		46	0	--	163	6.7
8-1897 Aransas River near Skidmore																						
Nov. 28, 1961	.30	9.8		27	7.3	518	--	564	0	37	508	2.0	1.5	--	1,390	1.89		98	0	23	2,440	7.9
Jan. 3, 1962	.53	4.4		25	6.4	431	--	462	14	33	415	1.6	.2	--	1,160	1.58		89	0	20	2,090	8.3
Jan. 30	b.4	1.6		24	7.8	511	--	490	28	39	500	1.8	6.7	--	1,360	1.85		92	0	23	2,450	8.5
Sept. 26	1.56	16		49	6.6	191	--	344	0	15	188	.6	.5	--	c675	.92		150	0	6.8	1,110	7.2
Jan. 10, 1963	b.7	81		36	5.3	124	--	218	0	15	132	.5	1.2	--	429	.58		112	0	5.1	792	7.0
Mar. 21	.45	3.6		22	7.7	440	--	490	0	30	430	1.4	1.8	--	1,180	1.60		86	0	21	2,100	8.0
Oct.9	30	14		31	4.5	62	--	182	0	6.0	52	.3	1.8	--	261	.35		96	0	2.8	482	6.6
Dec. 18	2.17	8.8		25	.6	64	--	148	0	5.8	52	.3	2.2	--	232	.32		65	0	3.4	430	6.8

See footnotes at end of table.

TABLE 16.-MISCELLANEOUS WATER-QUALITY AND STREAMFLOW RECORDS, WATER YEARS 1959-69--Continued

(Results in milligrams per liter except as indicated)

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Dissolved solids (Calculated)			Hardness as $CaCO_3$		Sodium adsorption ratio	Specific conductance (micromhos at 25°C)	pH
															Milligrams per liter	Tons per acre-foot	Tons per day	Calcium, Magnesium	Noncarbonate			
TRIBUTARIES TO MISSION-ARANSAS ESTUARY--continued																						
8-1897 Aransas River near Skidmore--continued																						
Feb. 26, 1964	3.75	6.1		16	8.0	354	9.7	393	0	28	355	1.2	3.0	--	986	1.34		73	0	18	1,800	7.9
July 20	201	8.8		20	2.0	22	--	90	0	3.6	20	.2	.2	--	121	.16		58	0	1.3	221	6.6
July 20	130	9.4		21	2.8	57	--	131	0	7.6	51	.2	.2	--	213	.29		64	0	3.1	377	6.7
July 20	75.3	10		23	2.6	93	--	156	0	11	91	.3	1.5	--	309	.42		68	0	4.9	565	6.7
July 21	20.8	12		19	4.0	109	--	172	0	9.4	104	.4	2.8	--	346	.47		64	0	5.9	637	7.9
Nov. 24	b.08	.8		32	8.0	405	--	484	0	40	392	1.1	.5	--	1,120	1.52		113	0	17	1,950	7.7
Feb. 2, 1965	.3	11		13	7.7	245	--	301	0	22	230	.9	.5	--	678	.92		64	0	13	1,230	7.6
Apr. 13	5.11	16		30	5.3	115	--	236	0	7.8	102	.4	.2	--	393	.53		97	0	5.1	723	7.0
May 11	451	6.4		34	2.0	16	--	129	0	5.4	10	.2	2.2	--	139	.19		93	0	.7	255	7.0
May 13	15.8	2.6		23	3.0	102	--	170	0	13	96	.4	2.8	--	327	.44		70	0	5.3	614	7.0
May 21	51.8	13		27	2.1	13	--	111	0	3.6	5.0	.1	2.5	--	121	.16		76	0	.6	206	6.5
Jan. 11, 1966	.80	10		32	4.6	156	7.9	247	0	22	150	.4	12	--	516	.70		99	0	6.8	939	7.2
Feb. 15	3.37	2.2		23	5.4	290	8.5	336	0	26	290	.7	13	--	824	1.12		80	0	14	1,530	7.4
Apr. 21	3.03	6.2		30	7.7	567	13	604	0	34	558	1.4	1.8	--	1,520	2.07		100	0	24	2,700	7.4
Apr. 22	24.8	11		20	1.5	30	4.6	93	0	7.0	28	.3	1.5	--	150	.20		56	0	1.7	269	6.5
Apr. 25	5,430	19		22	1.5	14	4.4	89	0	4.0	12	.2	1.8	--	123	.17		61	0	.8	202	6.7
Apr. 26	397	9.1		29	1.8	7.2	5.8	107	0	.6	4.6	.2	.5	--	112	.15		80	0	.3	201	6.7
May 6	2,020	8.9		20	1.1	3.8	4.4	78	0	.0	2.3	.1	.2	--	79	.11		54	0	.2	135	7.0
May 7	259	11		24	1.7	8.0	5.2	96	0	2.8	5.3	.2	.2	--	105	.14		67	0	.4	177	7.3
Feb. 3, 1967	.93	2.7		18	5.9	470	13	508	0	30	460	1.6	6.6	--	1,260	1.71		70	0	24	2,250	8.1
Mar. 8	.67	5.2		18	7.5	562	16	604	0	38	543	2.1	4.0	--	1,490	2.03		76	0	28	2,670	7.7
Apr. 12	.25	18		25	7.4	677	18	698	0	40	670	--	5.8	--	1,800	2.45		93	0	31	3,140	7.7
May 17	3.64	21		20	7.1	556	17	614	0	40	550	3.5	2.2	--	1,520	2.07		79	0	27	2,670	7.8
July 26	1.65	11		22	2.4	15	6.4	98	0	3.2	14	.3	.2	--	122	.17		65	0	.8	207	7.4
Aug. 30	1.81	16		32	2.6	31	6.1	145	0	3.0	23	.4	1.8	--	187	.25		91	0	1.4	307	7.7
Sept. 25	59.8	18		38	3.2	45	6.0	178	0	5.2	41	.5	1.8	--	247	.34		108	0	1.9	420	7.4
Sept. 26	37.3	19		46	3.8	74	6.5	216	7	7.0	71	.7	1.5	--	342	.47		130	0	2.8	577	8.3
Oct. 5	14.2	29		66	6.5	175	7.6	370	0	17	182	1.2	2.0	--	668	.91		191	0	5.5	1,150	7.9
Oct. 19	17.6	20		47	4.4	70	5.8	208	0	11	77	.5	2.2	--	340	.46		136	0	2.6	588	8.0
Nov.8	6.06	28		73	8.2	189	--	382	0	23	204	1.1	.2	--	714	.97		216	0	5.6	1,230	7.6
Jan. 16, 1968	1.89	--		57	9.6	--	--	534	0	--	455	--	--	--	--	--		182	0	--	2.230	7.7
Jan. 25	3.21	--		--	--	--	--	264	0	--	215	--	--	--	--	--		128	0	--	1,160	7.4
Mar. 28	1.44	--		--	--	--	--	432	0	--	382	--	--	--	--	--		151	0	--	1,900	7.9
June 6	22.2	--		--	--	--	--	92	2	--	12	--	--	--	--	--		77	0	--	203	7.1
July 11	3.26	--		--	--	--	--	184	0	--	68	--	--	--	--	--		126	0	--	534	7.1
4 Aransas River near Papalote																						
Nov. 28, 1961	.07	32		131	46	229		225	0	74	532	.4	1.2	--	1,160	1.58		516	332	4.4	2,080	7.5
Jan. 3, 1962	.11	38		136	46	239		244	0	81	540	.5	.2	--	1,200	1.63		528	328	4.5	2,200	7.4

See footnotes at end of table.

TABLE 16.-MISCELLANEOUS WATER-QUALITY AND STREAMFLOW RECORDS, WATER YEARS 1959-69--Continued

(Results in milligrams per liter except as indicated)

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Dissolved solids (Calculated)			Hardness as $CaCO_3$		Sodium adsorption ratio	Specific conductance (micromhos at 25°C)	pH
															Milligrams per liter	Tons per acre-foot	Tons per day	Calcium, Magnesium	Noncarbonate			
TRIBUTARIES TO MISSION-ARANSAS ESTUARY--continued																						
5 Papalote Creek near Skidmore																						
May 3, 1959	--	30		80	9.5	25		313	0	6.4	20	0.3	0.2	--	325	0.44		238	0	0.7	553	7.1
6 Aransas River near Sinton																						
Mar. 14, 1959	--	11		40	8.2	89		125	0	16	146	.2	3.0	--	374	.51		134	31	3.4	720	6.9
Sept. 14, 1961	--	15		18	2.6	13		77	0	4.6	10	.4	2.0	--	104	.14		56	0	.8	173	6.4
8-1897.1 Chiltipin Creek above sewage outfall at Sinton																						
Sept. 18, 1967	2.81	18		2,160	346	21,400	92	104	0	264	38,500	--	--	--	62,800	87.29		6,810	6,730	--	88,600	6.6
Feb. 7, 1968	3.15	--		2,300	382	--	--	126	0	--	41,500	--	--	--	--	--		7,310	7,210	--	79,900	7.1
May 22	24.1	--		310	48	--	--	68	0	--	5,080	--	--	--	--	--		971	916	--	14,300	6.9
July 26	3.08	--		--	--	--	--	118	0	--	32,200	--	--	--	--	--		6,050	5,950	--	58,900	6.8
8-1897.2 Chiltipin Creek below sewage outfall at Sinton																						
Sept. 14, 1961	--	25		56	12	469		74	0	8.8	805	0.3	2.5	--	1,410	1.92		189	128	15	2,660	6.3
Sept. 18, 1967	3.67	19		1,530	238	15,000	71	169	0	168	26,400	--	--	--	43,500	60.03		4,780	4,590	--	65,100	6.6
Feb. 7, 1968	4.07	--		1,080	174	--	--	190	0	--	18,900	--	--	--	--	--		3,410	3,250	--	43,900	7.4
May 22	25.0	--		325	52	--	--	70	0	--	5,350	--	--	--	--	--		1,020	968	--	14,900	7.0
July 26	4.20	--		--	--	--	--	126	0	--	24,000	--	--	--	--	--		4,850	4,750	--	47,500	6.7
Oct. 1	4.61	--		1,440	236	--	--	174	0	140	25,200	--	--	--	--	--		4,560	4,420	--	65,000	6.6
Oct. 3	4.41	19		1,400	216	13,200		170	0	176	23,200	--	--	--	38,300	52.85		4,380	4,240	--	60,700	7.7
Nov. 26	4.24	22		1,950	308	19,500		188	0	185	34,200	--	--	--	56,300	77.69		6,130	5,980	--	84,300	7.1
Dec. 31	3.02	21		1,210	192	12,300		230	0	142	21,400	--	--	--	35,400	48.85		3,810	3,620	--	56,300	7.0
Feb. 7, 1969	3.43	--		1,520	234	--	--	296	0	128	26,400	--	--	--	--	--		4,760	4,510	--	67,600	6.9
TRIBUTARY TO NUECES ESTUARY																						
7 Nueces River near Calallen																						
Sept. 27, 1967	--	9.9		31	1.6	8.0	4.6	104	0	13	3.8	.3	.8	0.06	124	.17		84	0	.4	198	7.1
Sept. 28	100,000	11		29	1.4	8 5	4 9	95	0	13	5.2	.3	1.0	.08	122	.17		78	0	.4	195	7.2
Oct. 2	26,300	12		34	2.0	12	5.3	119	0	13	7.0	.3	1.0	.08	146	.20		93	0	.5	237	7.3
TRIBUTARIES TO LAGUNA MADRE ESTUARY																						
8-2120.2 San Fernando Creek at Kingsville																						
Sept. 14, 1961	--	18		36	7.6	399	--	256	0	274	348	.9	1.0	--	1,210	1.65		122	0	16	2,130	6.9
Nov. 1	4.23	17		80	34	748	--	362	0	596	740	1.1	.5	--	2,390	3.25		340	43	18	3,870	6.7
Nov. 7	b1	18		78	34	666	--	361	0	462	710	1.1	.2	--	2,150	2.92		334	38	16	3,520	6.8
Dec. 4	1.86	15		72	18	705	--	502	0	275	768	1.2	1.0	--	2,100	2.86		254	0	19	3,530	7.6
Jan. 10, 1962	.13	9.0		62	20	790	--	432	0	314	900	1.2	.5	--	2,310	3.14		237	0	22	3,850	7.4
Feb. 1	b.3	2.3		64	19	777	--	437	0	326	870	1.2	.0	--	2,270	3.09		238	0	22	3,900	7.6
Sept. 10	b.05	17		56	19	270	--	368	0	128	260	.1	2.0	--	934	1.27		218	0	7.9	1,630	6.9
Sept. 11	1,270	12		31	3.5	17	--	126	0	8.8	10	--	2.0	--	146	.20		92	0	.8	261	7.2
July 21, 1964	170	14		30	3.7	62	--	147	0	31	50	.4	.2	--	263	.36		90	0	2.8	461	6.6
July 21	170	14		31	4.5	52	--	146	0	28	42	.4	.2	--	244	.33		96	0	2.3	427	6.4
Nov. 24	1.89	16		196	23	746	--	430	0	844	690	--	.5	--	2,730	3.71		584	231	13	4,010	7.2
Apr. 1, 1965	110	15		48	5.8	76	--	152	0	56	86	.3	4.0	--	366	.50		144	20	2.8	650	7.1
Apr. 2	55.5	12		42	5.1	75	--	127	0	52	90	.3	2.2	--	341	.46		126	22	2.9	606	6.8
May 2, 1966	1,400	11		42	3.1	11	6.9	160	0	6.8	6.3	.1	3.0	--	169	.23		118	0	.4	302	6.9
Sept. 6, 1967	164	16		30	3.1	63	7.0	218	0	15	22	.8	3.0	--	267	.36		88	0	2.9	439	7.8

See footnotes at end of table.

TABLE 16.-MISCELLANEOUS WATER-QUALITY AND STREAMFLOW RECORDS, WATER YEARS 1959-69--Continued

(Results in milligrams per liter except as indicated)

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Dissolved solids (Calculated)			Hardness as $CaCO_3$		Sodium adsorption ratio	Specific conductance (micromhos at 25°C)	pH
															Milligrams per liter	Tons per acre-foot	Tons per day	Calcium, Magnesium	Noncarbonate			
TRIBUTARIES TO LAGUNA MADRE ESTUARY--continued																						
8-2120.2 San Fernando Creek at Kingsville--continued																						
Oct. 4, 1967	65	14		66	14	138	12	190	0	110	195	0.3	2.5	--	645	0.88		222	66	4.0	1,110	7.4
Oct. 10	16.8	19		72	10	188	14	306	0	122	195	1.0	4.8	--	776	1.06		220	0	5.5	1,290	8.2
Nov. 14	5.68	45		190	18	406	--	156	0	620	460	1.2	5.4	--	1,820	2.48		548	420	7.6	2,770	7.2
Dec. 20	3.13	39		143	17	679	--	266	0	576	770	--	.5	--	2,360	3.21		427	209	14	3,690	6.9
Feb. 1, 1968	3.73	--		66	6.2	--	--	652	0	--	482	--	--	--	--	--		190	0	--	2,900	7.2
May 10	733	14		40	6.4	56	--	192	0	28	40	1.7	2.0	--	282	.38		126	0	2.2	475	7.8
8-2123.5 Santa Gertrudis Creek near Kingsville																						
Nov. 1, 1961	.01	15		400	251	2,790	--	257	0	1,470	4,500	--	--	--	9,680	13.16		2,030	1,820	27	14,300	7.6
Nov. 6	b.05	16		440	263	2,900	--	314	0	1,540	4,700	--	--	--	10,000	13.60		2,180	1,920	27	14,700	7.0
Dec. 4	b.03	15		430	300	2,880	--	296	0	1,570	4,750	.6	--	--	10,100	13.74		2,310	2,060	26	15,200	6.8
Jan. 10, 1962	b.02	15		430	264	2,970	--	273	0	1,580	4,780	--	--	--	10,200	13.87		2,160	1,940	28	14,800	6.9
Feb. 1	b.01	--		--	--	--	--	149	0	--	5,620	--	--	--	--	--		2,640	2,520	--	17,400	7.6
Sept. 10	b.1	24		128	50	778	--	252	0	678	925	--	.2	--	2,710	3.69		525	318	15	3,740	7.0
July 21, 1964	b.05	15		640	424	3,880	--	228	0	1,850	6,850	--	--	--	13,800	18.77		3,340	3,150	--	19,700	6.7
Apr. 1, 1965	.01	24		1,300	925	7,960	--	400	0	3,840	14,200	--	--	--	28,400	38.62		6,920	6,720	--	39,600	7.0
May 2, 1966	2.94	--		--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	13,500	--
Sept. 5, 1967	6.14	11		131	79	732	16	124	0	408	1,250	--	3.0	--	2,690	3.66		652	550	12	4,590	7.1
Oct. 4	21.0	24		123	52	415	20	161	0	288	730	--	4.2	--	1,740	2.37		521	389	7.9	3,020	7.3
Oct. 10	1.95	17		345	216	1,760	27	242	0	960	3,150	--	--	--	6,590	8.96		1,750	1,550	--	10,800	7.7
Nov. 14	.70	3.8		348	240	1,990	--	274	0	1,120	3,400	--	--	--	7,240	9.85		1,860	1,630	--	11,700	7.6
Dec. 21	.47	3.5		462	344	3,010	--	312	0	1,670	5,050	--	--	--	10,700	14.55		2,570	2,310	--	16,500	7.6
Feb. 1, 1968	.43	--		468	368	--	--	280	0	--	5,400	--	--	--	--	--		2,680	2,450	--	16,900	7.8
May 10	66.0	--		--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
8-2123.6 Escondido Creek at Kingsville																						
Nov. 7, 1961	--	9.8		300	65	371	--	140	0	160	1,090	.4	4.5	--	2,070	2.82		1,020	902	5.0	3,790	6.5
Feb. 2, 1962	--	.8		148	49	556	--	216	0	522	750	.4	.0	--	2,130	2.90		571	394	10	3,490	7.2
May 2, 1966	0	--		--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
Oct. 4, 1967	83.5	15		26	5.5	33	12	102	0	31	41	.2	1.8	--	216	.29		87	4	1.5	373	7.3
Oct. 10	28.6	15		36	7.7	50	13	123	0	43	70	.3	2.2	--	297	.40		121	21	2.0	513	7.6
Nov. 14	.03	4.9		238	68	467	--	252	0	286	980	2.7	2.7	--	2,170	2.95		874	667	6.9	3,780	7.7
Dec. 12	.32	5.4		328	121	839	--	215	0	516	1,720	--	1.8	--	3,640	4.95		1,320	1,140	10	6,100	7.5
Feb. 1, 1968	.10	--		490	188	--	--	274	0	--	2,560	--	--	--	--	--		2,000	1,770	--	8,720	7.5
May 10	112	--		--	--	--	--	78	0	--	81	--	--	--	--	--		116	52	--	467	7.0

See footnotes at end of table.

TABLE 16.-MISCELLANEOUS WATER-QUALITY AND STREAMFLOW RECORDS, WATER YEARS 1959-69--Continued

(Results in milligrams per liter except as indicated)

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K) a/	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Dissolved solids (Calculated)			Hardness as $CaCO_3$		Sodium adsorption ratio	Specific conductance (micromhos at 25°C)	pH
															Milligrams per liter	Tons per acre-foot	Tons per day	Calcium, Magnesium	Noncarbonate			
TRIBUTARIES TO LAGUNA MADRE ESTUARY--continued																						
8-2124 Los Olmos Creek near Falfurrias																						
Sept. 24, 1967	6,030	6.0		11	1.4	2.0	5.3	46	0	0.8	2.3	0.1	1.0	--	53	0.07		33	0	0.2	87	6.9
Sept. 29	13.8	13		28	4.2	52	8.8	105	0	30	67	.2	1.9	--	256	.35		87	1	2.4	447	7.0
8 Palo Blanco Creek at State Highway 285, near Falfurrias																						
Sept. 23, 1967	16,600	--		--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
8-4685 North Floodway near Sebastian																						
Sept. 26, 1967	59,100	11		42	5.0	29	3.6	112	0	61	24	.3	2.8	--	234	.32		125	34	1.1	383	7.6
Arroyo Colorado at Highway 77 in Harlingen																						
Sept. 26, 1967	55,200	9.7		43	5.7	33	3.4	115	0	69	26	.3	2.8	--	250	.34		131	36	1.3	414	7.7
Sept. 27	54,800	9.4		46	6.0	31	3.4	120	0	68	25	.3	4.2	--	252	.34		139	41	1.1	417	7.7
Sept. 28	50,000	9.3		50	6.4	30	3.4	123	0	76	23	.3	6.8	--	265	.36		151	50	1.1	436	7.9
Sept. 29	31,000	10		52	6.7	30	3.6	129	0	78	25	.3	4.9	--	274	.37		157	52	1.0	448	7.9

a. Included in sodium-ion concentration where no leader shown.

b. Estimated.

c. Residue on evaporation at 180°C.

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