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Report 191

*CHEMICAL AND PHYSICAL  
CHARACTERISTICS OF WATER  
IN ESTUARIES OF TEXAS  
OCTOBER 1970-SEPTEMBER 1971*

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TEXAS WATER DEVELOPMENT BOARD

REPORT 191

CHEMICAL AND PHYSICAL CHARACTERISTICS  
OF WATER IN ESTUARIES OF TEXAS  
OCTOBER 1970-SEPTEMBER 1971

By

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

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May 1975

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CHEMICAL AND PHYSICAL CHARACTERISTICS  
OF WATER IN ESTUARIES OF TEXAS  
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United States Geological Survey

**INTRODUCTION**

**Purpose and Scope of the Investigation**

Plans for development and utilization of water resources in Texas include provisions for the use and preservation of water in the estuaries of the State. These provisions require knowledge of the hydrodynamics and of the continuing changes in chemical and physical characteristics of water in the estuaries.

In September 1967, the U.S. Geological Survey and the Texas Water Development Board began a cooperative 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, United States and Mexico.

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

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). The term estuary, as used in this report, refers to concomitant water bodies in which streamflow mixes with seawater.

**Status of the Project**

The first three objectives of the project are being met by a three phased water-quality data-collection program of: (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 or at a reduced frequency to maintain definition of the chemical and physical characteristics of each estuarine system and of the relationship between systems. The following tabulation shows the progress made through September 1971:

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



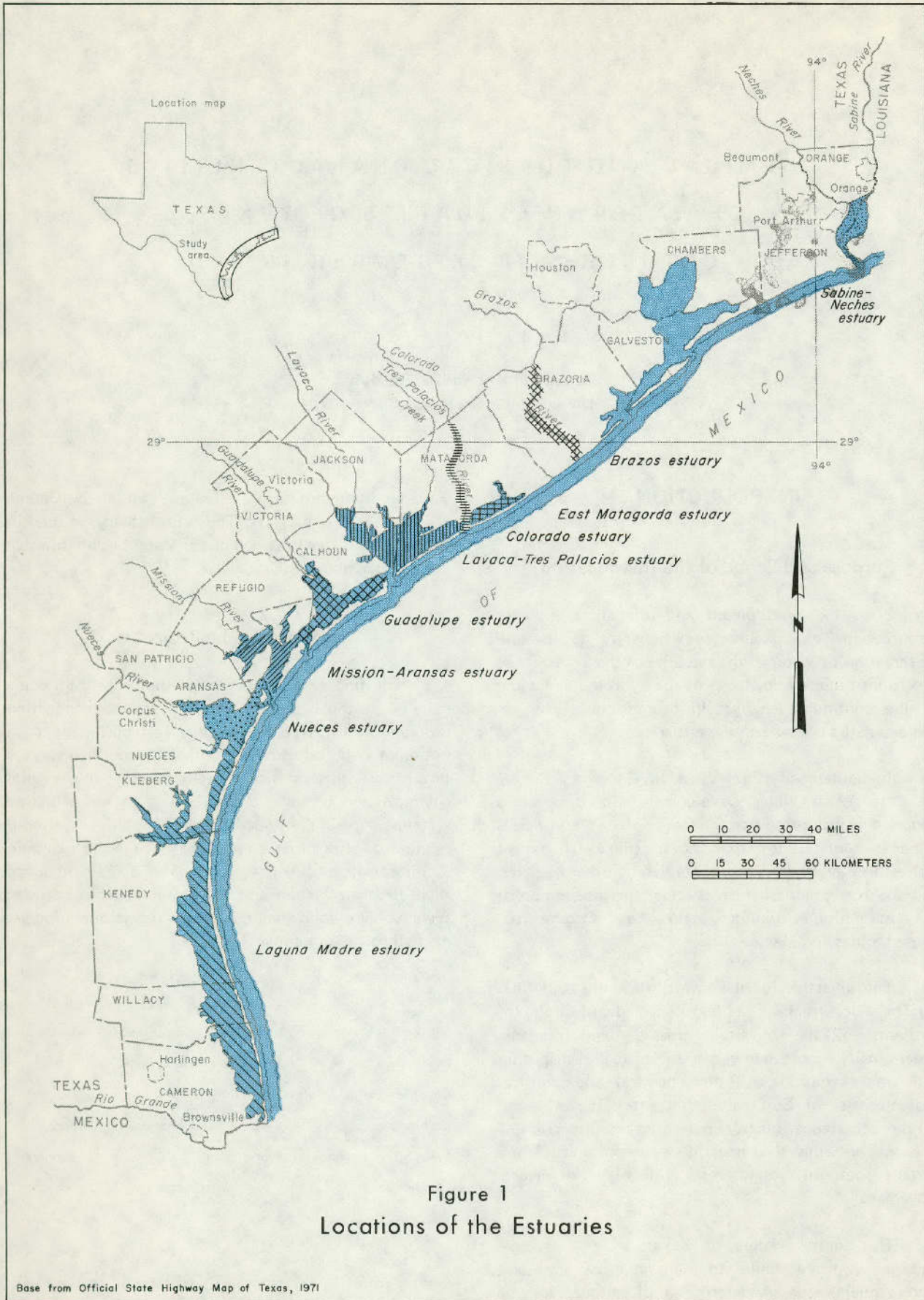


Figure 1  
Locations of the Estuaries

Base from Official State Highway Map of Texas, 1971

The fourth objective of the project is being met by data collection at six continuous streamflow-measuring stations and 11 stations at which monthly data on streamflow and water quality are obtained. Changes in locations and numbers of these stations will be based upon the results of a current study of coastal rainfall-runoff relationships. The dispersion of water entering an estuary is being documented under data-collection activities to meet the first three objectives.

The fifth objective of the project is being met by short-duration, intensive studies of inflow. Two such studies will be completed for each estuary. One study was completed on the Guadalupe estuary in November 1970; another study was completed on the Lavaca-Tres Palacios estuary in March 1971. These studies are providing data on inflow and exchange of water through the passes.

### Previous and Related Reports

This report presents data collected during the 1971 water year and is the fourth in an annual series of basic-data reports (Hahl and Ratzlaff, 1970, 1972, 1973). A report by Grozier and others (1968, p. 47-61) includes data collected during flooding caused by Hurricane Beulah. Plans include preparation of interpretive reports after sufficient data become available to establish the characteristics of an estuary.

### Change in the Numbering System

Chemical and physical data for estuarine waters of Texas collected by the U.S. Geological Survey and by other agencies are being stored in the Texas Water Oriented Data Bank<sup>1</sup> by estuarine name, sample line and site number, and depths at which data were collected. To make the Geological Survey data compatible to storage in the data bank, the original data-collection line numbering system needed adjustment. Lists of old and

<sup>1</sup> Recognizing a need for interagency coordination and cooperation in water data activities, the 60th Texas Legislature in May of 1967 charged the Texas Water Development Board with creating a "centralized data bank incorporating all hydrologic data collected by the several agencies of the State of Texas." In response, representatives of eight State agencies, working as the Water Oriented Data Programs Section of the Texas Interagency Council on Natural Resources and the Environment, have established the Texas Water Oriented Data Bank (TWODB). The TWODB, with central staff attached to the Texas Water Development Board, has as one of its major components the Coastal Data System (CDS) encompassing chemical, physical, biological, and meteorological data on the Texas Bays and estuaries.

new line numbers appear under the appropriate estuary in the section "Quality of Water in the Estuaries." Most site numbers were not changed; the few that were are listed distinctly on the list of new numbers.

The original data-collection line numbering system was not suitable for use in marsh lands and offshore. Therefore, under the new system data-collection lines numbered 600 to 699 are reserved for marsh lands and lines numbered 900 to 999 are reserved for offshore lines.

Each opening along the coast was assigned a "site" number. These site numbers are listed below.

LOCATION	SITE NO.	LOCATION	SITE NO.
Sabine Pass	1	Cedar Bayou	65
Freeport harbor entrance	30	North Pass	69
Brazos River	31	Aranas Pass	70
Brown Cedar Cut	40	Fish Pass	74
Colorado River	45	Corpus Christi Pass	80
Greens Bayou	47	Yarborough Pass	85
Matagorda Bay entrance channel	49	Port Mansfield entrance channel	90
Pass Cavallo	50	Brazos Santiago Pass	95

### International System of Units

Metric equivalents of English units of measurement are given in parentheses in the text. The English units used in this report may be converted to metric units by the following conversion factors:

FROM		MULTIPLY BY	TO OBTAIN	
UNIT	ABBREVIATION		UNIT	ABBREVIATION
inch	in	2.54	centimeter	cm
foot	ft	0.3048	meter	m
mile	mi	1.609	kilometer	km
square mile	mi <sup>2</sup>	2.590	square kilometer	km <sup>2</sup>
cubic foot per second	ft <sup>3</sup> /s	28.32	cubic decimeter per second	dm <sup>3</sup> /s
			0.02831	cubic meter per second

## Acknowledgments

The U.S. Army Corps of Engineers at Galveston, the Texas Parks and Wildlife Department, 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

Approximately 370 data-collection sites were visited during the 1971 water year. About 55 percent of these sites are located adjacent to or between navigation aids, bridge piers, power poles, survey platforms, well structures, or landmarks and can be reoccupied exactly. About 17 percent of the sites are close to shore features or reefs and are located by compass heading and distance from that feature and water depth at the site; these sites can be reoccupied within 100 feet (30 meters). About 28 percent of the sites are remote to any reference. They are reached by traveling from a known landmark at a known speed on a predetermined compass course. Verification of site location is made by checking the alignment of one or more sets of distant landmarks. These sites can be reoccupied within a quarter mile (0.4 kilometer).

At each data-collection site, field data are collected from several points along a vertical. Samples for laboratory analyses are collected from a predetermined number of data-collection sites and at other sites in the network when significant changes in field data indicate a need for additional samples. Properties or constituents measured in the field are dissolved oxygen, specific conductance, temperature, pH, and transparency by Secchi disk. Laboratory analyses include the principal inorganic ions, biochemical oxygen demand (BOD), chemical oxygen demand (COD), insecticides and herbicides, ammonium, nitrite, nitrate, ortho and total phosphate, and several other selected ions such as bromide, iodide, strontium, lithium, boron, and iron.

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

TO CONVERT	TO	MULTIPLY BY
Ammonium (NH <sub>4</sub> )	Nitrogen (N)	0.777
Nitrite (NO <sub>2</sub> )	Nitrogen (N)	.305
Nitrate (NO <sub>3</sub> )	Nitrogen (N)	.226
Phosphate (PO <sub>4</sub> )	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.

PARAMETER MEASURED	INSTRUMENT	MODEL	MANUFACTURER
pH	Specific ion meter	401	Orion Research
pH	pH meter	175	Instrumentation Laboratory
Dissolved oxygen	Oxygen meter	54	Yellow Springs Instruments
Specific conductance	Solubridge	RB-3	Industrial Instruments
Temperature	Research thermometer	ET-100 Marine	Allied Research

The instruments used for pH measurements were 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 compiled by the 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.

Probes of the instruments are set in a manifold through which water to be sampled is drawn. Several tests were conducted to determine the effect of streaming potential on electrodes by monitoring instrument output. Dissolved-oxygen readings of water passing through the manifold deviated from the 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 water 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.

Since October 1969, each sample collected for nutrient analysis was preserved by adding mercuric chloride (40 milligrams of mercury per liter of sample). Water samples for heavy metals and selected trace constituents (except boron, bromide, fluoride, and iodide) were filtered through 0.45-micrometer membrane filters and collected in bottles prewashed with 10 percent nitric acid. Two milliliters of

concentrated nitric acid were added to each liter of filtrate.

Water and bottom-sediment samples to be analyzed for herbicides and insecticides were collected in specially treated glass bottles and shipped to the laboratory as soon as possible. Most herbicide and some insecticide samples were depth-integrated water samples; however, most insecticide and some herbicide samples were taken from bottom sediments. Most sediment samples were collected by coring with a 2-inch (5-centimeter) inside diameter lucite tube and selectively removing 100 grams of material from the center of the core.



# QUALITY OF WATER IN THE ESTUARIES

## Sabine-Neches Estuary

The Sabine-Neches estuary covers an area of about 100 square miles (260 square kilometers) 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 (12 meters) in dredged parts of the rivers, canals, and pass; about 15 feet (5 meters) in the Intracoastal Waterway; and generally 10 feet (3 meters) in Sabine Lake.

Water-quality data (Table 1) were collected during May at most sites shown on Figure 2.

The changes in line numbers to facilitate storage in the Texas Water Oriented Data Bank and to provide opportunity to coordinate data-collection sites among all agencies are shown below. New line numbers are used in Table 1 and on Figure 2.

All data collected prior to the changes in line numbers are stored in the data bank under the new line numbers.

### Sabine-Neches Estuary Change in Line Numbers

OLD	NEW	OLD	NEW
1	15	19	190
1a	17	19a	201
2	24	19b	203
3	33	20	205
3a	35	21	214
4	40	22	221
5	55	23	234
6	65	24	244
6a	69	25	254
7	70	26	264
7a	75	27	274
8a	82	28	284
8b	83	29	293
8c	84	30	300
8	87	31	308
9	97	Johnson Bayou	313
10	107	32	323
11	115	33	331
12	125	34	339
13	134	35	353
14	147	35a	361
15	155	36	369
16	161	37	377
17	170	38	382
18	180	Gulf of Mexico 39-site 2	903-site 1

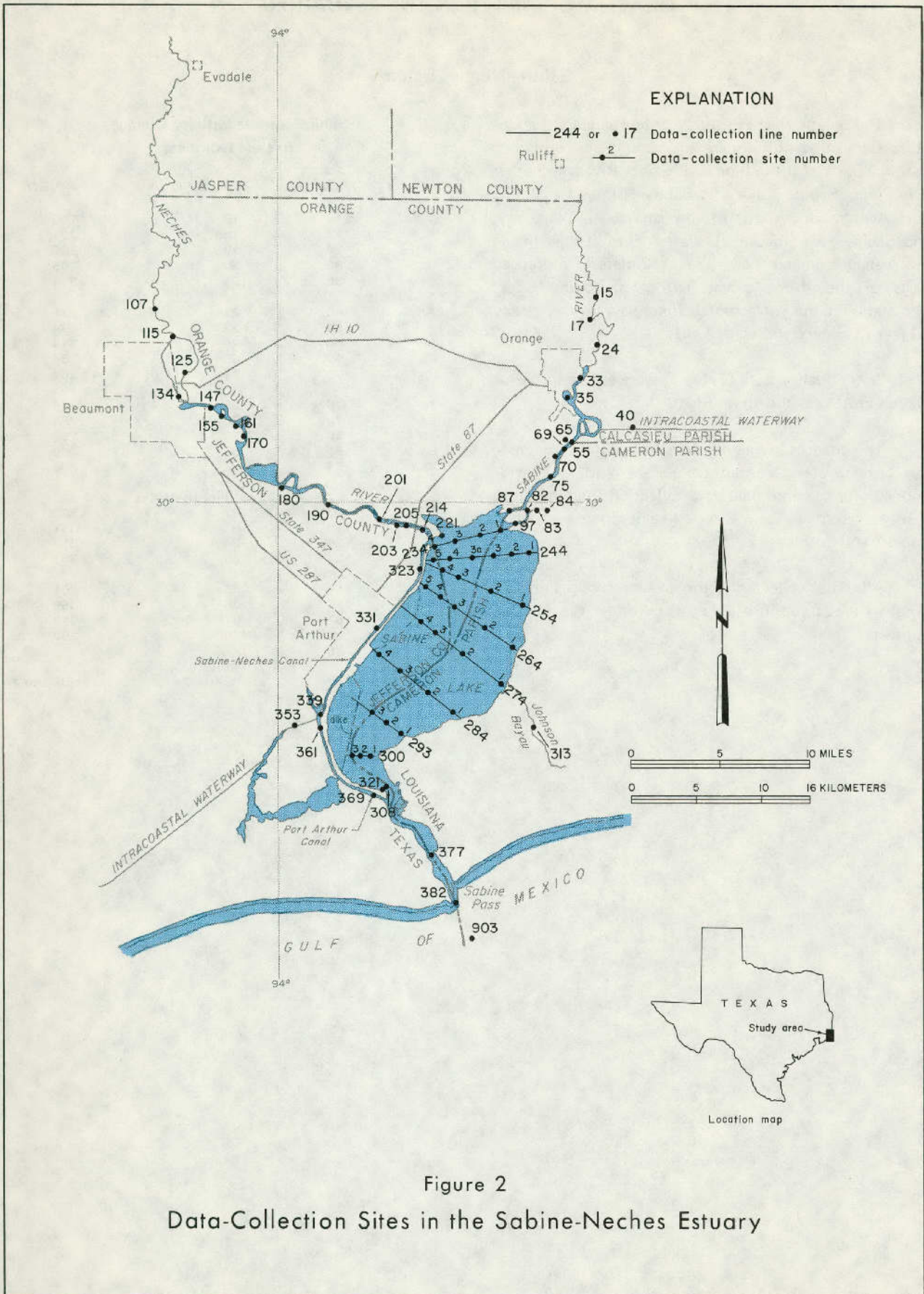


Figure 2  
Data-Collection Sites in the Sabine-Neches Estuary



TABLE 1A--QUALITY OF WATER IN THE SABINE-NECHES ESTUARY,

1971 WATER YEAR

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
LINE 15										
MAY 20, 71	1030	2	.3	200	25.0	6.8	5.8	69	--	50
			1.5	215	24.9	6.8	5.8	69	--	--
			3.0	215	24.7	6.8	5.7	68	--	--
			4.6	215	24.8	6.8	5.6	67	--	--
			6.1	210	24.8	6.8	5.7	68	--	--
			8.5	260	24.4	6.8	5.7	67	--	--
LINE 17										
MAY 20, 71	1050	2	.3	205	24.8	6.8	5.5	65	--	51
			3.0	205	24.7	6.8	5.8	69	--	--
			6.1	210	24.7	6.8	5.4	64	--	--
			9.1	215	24.6	6.8	5.7	68	--	--
			14.3	230	24.6	6.7	5.6	67	--	--
LINE 24										
MAY 20, 71	1120	2	.3	550	25.0	6.9	5.6	67	--	61
			1.5	650	24.8	6.8	5.4	64	--	--
			3.0	640	24.7	6.8	5.3	63	--	--
			4.6	1300	24.4	6.8	4.9	58	--	--
			5.2	3200	24.2	6.7	4.1	49	--	--
			5.5	3300	24.2	6.7	4.0	48	--	--
			5.8	10000	24.1	6.6	1.9	23	--	--
			6.1	8400	24.1	6.7	2.5	30	--	--
			7.0	11000	24.1	6.6	1.4	17	--	--
			7.9	11000	24.1	6.6	1.4	17	--	--
LINE 33										
MAY 20, 71	1140	2	.3	1500	24.4	6.9	5.9	69	--	61
			1.5	1500	24.4	6.9	5.7	67	--	--
			3.0	1600	24.3	6.9	5.5	65	--	--
			4.6	6300	24.1	6.8	4.7	57	--	--
			6.1	7500	24.2	7.0	4.4	53	--	--
			7.6	13000	23.8	6.8	.7	8	--	--
			9.1	13000	24.1	6.8	.7	8	--	--
			14.3	14000	24.2	6.8	1.2	15	--	--
LINE 40										
MAY 20, 71	1215	2	.3	10000	25.3	7.0	6.4	79	--	41
			1.5	10000	25.2	7.0	6.4	78	--	--
			3.0	10000	25.3	7.0	6.4	79	--	--
			4.6	11000	25.3	7.0	6.2	76	--	--
			7.0	11000	25.3	7.0	6.2	76	--	--
LINE 55										
MAY 20, 71	1235	2	.3	6100	24.7	7.0	5.9	72	--	53
			1.5	7500	24.7	7.0	5.8	71	--	--
			3.0	8500	24.9	7.0	5.8	71	--	--
			4.6	10000	24.9	7.0	5.4	66	--	--
			6.1	11000	24.7	7.0	5.1	62	--	--
			8.5	15000	24.5	7.1	4.9	61	--	--
LINE 69										
MAY 20, 71	1245	2	.3	6500	25.1	7.0	6.3	77	--	44
			1.5	7000	24.8	7.0	6.0	73	--	--

TABLE 1A--QUALITY OF WATER IN THE SABINE-NECHES ESTUARY.

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK) (CM)
--------------------	------	------	----------------	---	----------------------	----	-------------------------	--------------------	-----------------	---------------------------------

LINE 69 CONTINUED

MAY 20, 71 1245 2 4.0 7000 24.6 7.0 6.0 73 -- --

LINE 70

MAY 20, 71 1305 2  
 .3 6900 26.0 7.1 5.8 72 -- 46  
 1.5 7000 25.5 7.0 5.7 70 -- --  
 3.0 7300 25.3 7.0 5.6 69 -- --  
 4.6 8500 25.2 7.1 5.4 66 -- --  
 6.1 11000 25.2 7.1 4.9 60 -- --  
 10.7 16000 25.2 7.1 5.4 68 -- --

LINE 87

MAY 20, 71 1335 2  
 .3 8500 25.5 7.0 5.8 72 -- 46  
 1.5 9300 25.4 7.0 5.6 69 -- --  
 3.0 12000 25.4 7.0 5.2 65 -- --  
 4.6 14000 25.6 7.0 4.9 61 -- --  
 6.1 17000 25.5 7.0 4.5 58 -- --  
 7.6 21000 25.5 7.0 4.1 53 -- --  
 10.4 24000 25.3 7.0 4.2 54 -- --

MAY 21, 71 0940 2  
 .3 12000 25.6 7.3 6.3 79 -- 56  
 1.5 14000 25.6 7.2 6.2 78 -- --  
 3.0 15000 25.6 7.3 5.3 67 -- --  
 4.6 18000 25.8 7.3 5.2 68 -- --  
 6.1 22000 25.8 7.5 4.2 55 -- --  
 10.1 27000 25.5 7.5 3.8 51 -- --

LINE 97

MAY 20, 71 1320 2  
 .3 9000 25.3 7.1 5.9 73 -- 41  
 1.5 9000 25.3 7.1 5.9 73 -- --  
 3.0 9100 25.3 7.1 5.9 73 -- --  
 4.6 10000 25.3 7.1 6.0 74 -- --  
 7.6 10000 25.3 7.0 6.1 75 -- --

LINE 107

MAY 19, 71 1135 2  
 .3 220 25.5 6.8 6.8 82 -- 38  
 1.5 220 24.8 6.7 6.4 76 -- --  
 3.0 200 24.7 6.7 6.6 78 -- --  
 4.6 220 24.7 6.7 6.8 81 -- --  
 7.6 230 24.8 6.7 6.8 81 -- --

LINE 115

MAY 19, 71 1155 2  
 .3 220 26.0 6.7 7.2 88 -- 36  
 1.5 230 25.0 6.7 6.2 74 -- --  
 3.0 285 24.7 6.7 6.1 73 -- --  
 4.6 720 24.6 6.7 5.2 62 -- --  
 6.1 3500 24.7 6.6 1.0 12 -- --

LINE 125

MAY 19, 71 1210 2  
 .3 900 26.4 6.8 5.9 72 -- 36  
 1.5 1100 25.1 6.8 5.4 64 -- --  
 3.0 1500 24.9 6.7 4.5 54 -- --  
 4.6 3100 24.9 6.7 3.0 36 -- --  
 6.1 6600 25.2 6.8 1.6 20 -- --  
 9.1 11000 25.4 6.8 .6 7 -- --  
 14.3 14000 25.3 6.9 .6 8 -- --

LINE 134

MAY 19, 71 1230 2 .3 4000 27.5 6.7 3.7 47 -- 43

TABLE 1A--QUALITY OF WATER IN THE SABINE-NECHES ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS										
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
LINE 134 CONTINUED										
MAY 19, 71	1230	2	1.5	4300	25.8	6.7	3.0	37	--	--
			3.0	5100	25.7	6.8	2.5	31	--	--
			4.6	7500	25.7	6.8	1.7	21	--	--
			7.6	12000	25.7	6.8	.4	5	--	--
			11.0	12000	25.6	6.8	.6	8	--	--
LINE 147										
MAY 19, 71	1245	2	.3	5500	26.5	6.8	3.3	41	--	41
			1.5	6500	25.7	6.8	2.8	34	--	--
			3.0	7000	25.6	6.8	2.7	33	--	--
			4.6	8000	25.7	6.8	2.4	30	--	--
			6.1	10000	25.7	6.8	1.5	18	--	--
			11.3	13000	25.6	6.8	.4	5	--	--
LINE 155										
MAY 19, 71	1255	2	.3	6900	26.4	6.9	4.5	56	--	43
			1.5	7500	25.3	6.8	3.1	38	--	--
			3.0	8000	25.2	6.8	2.7	33	--	--
			4.6	9100	25.2	6.8	1.9	23	--	--
			6.1	12000	25.2	6.8	.5	6	--	--
			7.6	12000	25.2	6.8	.3	4	--	--
			12.2	14000	25.0	6.8	.4	5	--	--
LINE 161										
MAY 19, 71	1305	2	.3	8200	27.0	6.9	3.7	47	--	41
			1.5	8200	25.7	6.9	3.1	38	--	--
			3.0	8500	25.1	6.8	2.6	32	--	--
			4.6	9400	25.1	6.8	1.8	22	--	--
			6.1	11000	25.3	6.8	.7	9	--	--
			7.6	13000	25.2	6.8	.4	5	--	--
			12.5	14000	25.1	6.8	.8	10	--	--
LINE 170										
MAY 19, 71	1320	2	.3	8500	27.4	6.9	4.0	51	--	46
			.9	8500	26.2	6.8	3.1	39	--	--
			1.5	8900	25.7	6.8	1.8	22	--	--
			3.0	9100	25.3	6.8	1.4	17	--	--
			4.6	11000	25.1	6.8	1.3	16	--	--
			6.1	12000	24.9	6.8	.6	7	--	--
			13.1	14000	24.8	6.8	.2	2	--	--
LINE 180										
MAY 19, 71	1340	2	.3	12000	25.9	6.9	4.0	51	--	53
			1.5	12000	25.2	6.9	3.0	37	--	--
			3.0	12000	25.2	6.9	3.1	38	--	--
			4.6	13000	25.0	6.9	2.2	27	--	--
			6.1	14000	24.9	6.9	1.7	21	--	--
			7.6	14000	24.8	6.9	1.3	16	--	--
			13.1	15000	24.7	6.8	.2	2	--	--
LINE 190										
MAY 19, 71	1400	2	.3	14000	26.1	7.0	3.5	44	--	41
			1.5	14000	26.0	7.0	3.3	42	--	--
			3.0	13000	26.0	7.0	3.3	42	--	--
			4.6	14000	25.8	7.0	2.9	37	--	--
			6.1	14000	25.9	7.1	3.0	38	--	--
			9.1	16000	26.0	7.2	2.0	26	--	--

TABLE 1A--QUALITY OF WATER IN THE SABINE-NECHES ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS/CM)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (DISK)
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LINE 190 CONTINUED

MAY 19, 71	1400	2	12.5	17000	26.0	7.2	1.4	18	--	--
LINE 205										
MAY 19, 71	1415	2	.3	15000	32.4	8.4	4.3	60	--	58
			1.5	16000	29.7	7.8	3.8	52	--	--
			3.0	16000	28.2	7.4	3.4	45	--	--
			4.6	16000	27.0	7.3	2.6	34	--	--
			6.1	16000	26.6	7.3	2.1	27	--	--
			9.1	18000	26.3	7.4	3.1	40	--	--
			14.0	23500	25.8	7.4	3.7	49	--	--
LINE 214										
MAY 19, 71	1430	2	.3	16000	29.0	7.5	4.8	65	--	69
			1.5	15000	29.0	7.5	5.4	73	--	--
			3.0	16000	28.0	7.3	4.1	55	--	--
			6.1	17000	27.0	7.3	3.7	49	--	--
			9.1	19000	26.5	7.4	5.0	66	--	--
			13.1	27000	26.2	7.5	3.2	43	--	--
MAY 19, 71	1440	2	.3	16000	28.7	7.5	4.8	65	--	69
			6.1	17000	27.2	7.3	3.2	42	--	--
			13.1	27000	26.3	7.5	3.4	46	--	--
MAY 21, 71	0840	2	.3	15000	25.9	7.3	4.2	54	--	61
			1.5	16000	25.8	7.3	3.9	50	--	--
			3.0	18000	25.7	7.3	3.7	47	--	--
			6.1	22000	25.4	7.6	4.0	52	--	--
			9.1	30000	24.8	7.6	4.2	56	--	--
			13.1	31000	24.7	7.6	3.9	52	--	--
LINE 221										
MAY 21, 71	0855	2	.3	18000	25.9	7.4	4.3	56	--	--
			1.5	18000	25.8	7.4	4.3	56	--	--
			3.0	20000	25.6	7.5	4.3	56	--	--
			6.1	22000	25.5	7.6	4.6	60	--	--
			10.4	29000	25.0	7.6	4.9	64	--	--
LINE 234										
MAY 21, 71	0930	1	.3	12000	25.4	7.2	6.7	84	--	56
			1.4	14000	25.4	7.2	6.7	84	--	--
MAY 21, 71	0915	2	.3	11000	24.8	7.1	6.6	80	--	91
			.9	14000	25.1	7.3	6.0	74	--	--
			1.5	16000	25.5	7.3	5.5	70	--	--
MAY 21, 71	0905	3	.3	14000	25.1	7.4	6.8	84	--	51
			1.2	14000	25.1	7.3	7.1	88	--	--
MAY 21, 71	0835	4	.3	14000	25.7	7.4	4.5	57	--	61
			1.1	18000	25.6	7.4	4.8	62	--	--
LINE 244										
MAY 21, 71	1000	1	.3	17000	25.7	8.1	7.7	99	--	99
			.9	17000	25.6	8.1	7.1	91	--	--
			1.5	18000	25.4	8.0	6.3	81	--	--
MAY 21, 71	1005	2	.3	17000	25.8	7.4	6.8	88	--	124
			.9	17000	25.8	7.4	6.8	88	--	--
			1.8	17000	25.7	7.4	7.0	90	--	--



TABLE 1A--QUALITY OF WATER IN THE SABINE-NECHES ESTUARY,  
1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS										
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICROMHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK) (CM)
LINE 244 CONTINUED										
MAY 21, 71	1015	3	.3	18000	26.1	7.5	8.3	108	--	173
			.9	18000	26.1	7.5	8.0	104	--	--
			2.1	18000	26.0	7.4	8.1	105	--	--
MAY 21, 71	1025	4	.3	13000	25.8	7.2	6.6	84	--	97
			1.5	14000	25.7	7.1	6.3	79	--	--
			2.3	17000	26.1	6.7	1.7	22	--	--
MAY 21, 71	1040	5	.3	12000	26.0	7.3	7.1	90	--	104
			1.7	12000	25.9	7.3	7.5	95	--	--
LINE 254										
MAY 21, 71	1135	1	.3	18000	26.8	7.4	8.1	106	--	104
			.9	18000	26.8	7.4	8.3	109	--	--
			1.5	18000	26.7	7.3	8.4	110	--	--
			2.1	19000	26.6	7.2	8.1	106	--	--
MAY 21, 71	1120	2	.3	19000	26.8	7.6	9.1	120	--	163
			1.5	19000	26.7	7.6	9.2	121	--	--
			2.4	20000	26.6	7.3	8.6	115	--	--
MAY 21, 71	1100	3	.3	12000	26.0	7.5	8.7	118	--	76
			1.8	13000	26.0	7.4	8.4	106	--	--
MAY 21, 71	1110	3	.3	17000	26.4	7.6	9.7	126	--	130
			.9	17000	26.4	7.6	9.0	117	--	--
			1.5	17000	26.3	7.6	8.8	114	--	--
			2.1	18000	26.2	7.4	8.4	109	--	--
MAY 21, 71	1050	4	.3	15000	26.1	7.8	8.9	114	--	64
			1.1	14000	26.0	7.7	8.9	113	--	--
LINE 274										
MAY 21, 71	1150	1	.3	17000	25.9	7.4	9.1	118	--	81
			1.7	17000	26.1	7.3	9.1	118	--	--
MAY 21, 71	1200	2	.3	19000	25.8	7.6	8.5	110	--	127
			1.5	19000	25.9	7.6	9.0	117	--	--
			2.4	19000	25.8	7.2	8.3	108	--	--
MAY 21, 71	1210	4	.3	18000	25.9	7.9	9.3	121	--	99
			.9	18000	25.9	7.9	9.0	117	--	--
			1.5	19000	25.8	7.9	8.3	108	--	--
			2.0	22000	25.4	7.7	7.8	104	--	--
LINE 293										
MAY 20, 71	1715	1	.3	22000	26.2	7.7	7.8	103	--	46
			1.7	22000	26.3	7.7	8.2	108	--	--
MAY 20, 71	1710	2	.3	24000	26.6	7.9	8.3	111	--	48
			1.7	24000	26.7	7.9	8.9	119	--	--
MAY 20, 71	1700	3	.3	26000	26.9	8.0	8.2	111	--	46
			1.7	26000	26.8	7.9	8.5	115	--	--
LINE 300										
MAY 20, 71	1720	1	.3	22000	26.2	7.6	7.3	96	--	33
			1.7	22000	26.2	7.6	7.8	103	--	--
MAY 20, 71	1730	2	.3	24000	26.0	7.8	7.9	104	--	69
			2.4	24000	25.8	7.7	7.7	101	--	--

TABLE 1A--QUALITY OF WATER IN THE SABINE-NECHES ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS/CM)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK (CM))
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LINE 300 CONTINUED

MAY 20, 71	1745	3	.3	27000	26.5	7.9	7.9	107	--	48
			1.7	27000	26.4	7.9	8.0	108	--	--

LINE 308

MAY 20, 71	1750	2	.3	23000	25.8	7.6	7.6	100	--	69
			3.0	24000	25.7	7.7	7.9	102	--	--
			6.7	26000	25.8	7.7	8.3	111	--	--

LINE 323

MAY 20, 71	1450	2	.3	17000	27.4	7.6	4.6	61	--	61
			1.6	17000	27.2	7.6	4.6	60	--	--
			3.0	18000	27.0	7.6	4.5	59	--	--
			4.6	23000	26.4	7.6	4.4	58	--	--
			6.1	24000	26.2	7.7	4.4	58	--	--
			7.6	31000	25.5	7.8	4.0	54	--	--
			10.4	32000	25.6	7.8	3.8	51	--	--

LINE 331

MAY 20, 71	1520	2	.3	20000	26.6	7.8	6.2	83	--	74
			3.0	21000	26.3	7.7	5.7	75	--	--
			6.1	31000	25.6	7.8	5.1	69	--	--
			10.7	33000	25.5	7.8	4.9	67	--	--

LINE 339

MAY 20, 71	1535	2	.3	23000	26.2	7.9	6.6	87	--	81
			3.0	27000	26.0	7.8	5.6	76	--	--
			6.1	28000	26.0	7.8	5.3	72	--	--
			10.7	36000	26.0	7.9	5.4	75	--	--

LINE 353

MAY 20, 71	1545	2	.3	19000	27.5	7.2	6.0	0	--	48
			1.5	21000	26.6	7.3	2.5	33	--	--
			3.0	23000	26.4	7.7	5.6	74	--	--
			4.9	24000	26.1	7.7	6.6	87	--	--

LINE 369

MAY 20, 71	1615	2	.3	27000	26.7	8.2	9.7	133	--	79
			1.5	27000	26.4	8.0	8.4	114	--	--
			3.0	28000	26.3	7.9	7.9	107	--	--
			6.1	30000	25.8	7.8	6.8	93	--	--
			12.5	36000	25.6	7.9	5.5	75	--	--

LINE 377

MAY 20, 71	1810	2	.3	29000	25.7	7.9	7.9	105	--	99
			1.5	29000	25.7	7.9	7.8	104	--	--
			3.0	29000	25.7	7.9	7.8	104	--	--
			6.1	31000	25.4	7.8	6.8	92	--	--
			14.3	36000	25.2	7.9	5.6	76	--	--

TABLE 1B--QUALITY OF WATER IN THE SABINE-NECHES ESTUARY,

1971 WATER YEAR

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS-SOLVED SILICA (SI02) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS-SOLVED PHOS- PHOS- ORTHO (P) (MG/L)	TOTAL PHOS- PHOS- (P) (MG/L)	BIO-CHEMICAL OXYGEN DEMAND (BOD) (MG/L)	CHEMICAL OXYGEN DEMAND (COD) (MG/L)	TOTAL ORGANIC CARBON (MG/L)
LINE 15												
MAY 20, 71	1030	2	.3 8.5	9.8 8.2	.1 .1	.63 .15	.02 .02	.05 .05	.05 .05	.4 .6	-- --	-- --
LINE 87												
MAY 20, 71	1335	2	.3 10.4	5.0 2.7	.3 .2	.43 .77	.10 .09	.05 .04	.05 .04	1.1 1.5	-- --	-- --
LINE 107												
MAY 19, 71	1135	2	.3 7.6	8.0 8.0	.1 .1	.67 .18	.01 .01	.03 .05	.03 .05	1.0 1.0	-- --	-- --
LINE 214												
MAY 19, 71	1430	2	.3 13.1	3.8 3.2	.5 .5	1.30 .85	.17 .10	.03 .05	.03 .10	2.0 7.6	-- --	-- --
LINE 244												
MAY 21, 71	1005	2	.3 1.8	5.1 5.2	.5 .4	.25 .24	.13 .14	.02 .02	.02 .02	.9 1.2	-- --	-- --
MAY 21, 71	1025	4	.3 2.3	5.5 5.7	.4 .3	.55 .72	.13 .11	.04 .04	.04 .04	.9 2.1	-- --	-- --
LINE 254												
MAY 21, 71	1050	4	1.1	4.6	.3	.54	.14	.05	.05	2.5	--	--
LINE 300												
MAY 20, 71	1730	2	.3 2.4	3.8 3.7	.0 .1	.12 .04	.04 .04	.02 .05	.02 .05	.6 .3	-- --	-- --
LINE 323												
MAY 20, 71	1450	2	.3 10.4	4.2 2.3	.3 .2	1.10 .40	.18 .06	.06 .08	.06 .06	.6 .4	-- --	-- --
LINE 339												
MAY 20, 71	1535	2	.3 10.7	3.8 2.8	.4 .2	.62 .36	.12 .04	.06 .04	.06 .04	1.1 .1	-- --	-- --
LINE 369												
MAY 20, 71	1615	2	.3 12.5	3.5 2.6	.2 .1	.49 .47	.12 .04	.01 .07	.01 .07	3.1 .2	-- --	-- --
LINE 377												
MAY 20, 71	1810	2	.3 14.3	3.0 2.7	.2 .1	.13 .34	.04 .05	.01 .06	.01 .06	.6 .6	-- --	-- --

TABLE IC--QUALITY OF WATER IN THE SABINE-NECHES ESTUARY,

1971 WATER YEAR

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (LAB)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM + POTASSIUM (NA+K) (MG/L)	DISSOLVED POTASSIUM (MG/L)	DISSOLVED BICARBONATE (HCO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED SOLIDS (SUM OF IONS) (MG/L)
LINE 15												
MAY 20, 71	1030	2	.3 8.5	202 239	-- 6.0	-- 7.3	-- 20	--	35	20	31	-- 112
LINE 87												
MAY 20, 71	1335	2	.3 10.4	7150 23000	-- 190.0	-- 600.0	-- 4000	--	80	1100	7400	-- 13400
LINE 107												
MAY 19, 71	1135	2	.3 7.6	216 180	-- 6.0	-- 4.4	-- 18	--	21	12	30	-- 89
LINE 214												
MAY 19, 71	1430	2	.3 13.1	14600 25300	140.0 220.0	360.0 650.0	2500 5200	--	62 94	660 1400	4700 9200	8940 16700
LINE 244												
MAY 21, 71	1005	2	.3 1.8	15500 15700	--	--	--	--	--	--	--	--
MAY 21, 71	1025	4	.3 2.3	11300 15600	--	--	--	--	--	--	--	--
LINE 254												
MAY 21, 71	1050	4	1.1	12600	--	--	--	--	--	--	--	--
LINE 300												
MAY 20, 71	1730	2	.3 2.4	23200 23900	290.0 180.0	460.0 570.0	4900 4500	--	116 68	1800 1200	8000 8100	15400 14600
LINE 323												
MAY 20, 71	1450	2	.3 10.4	16300 34800	--	--	--	--	--	--	--	--
LINE 339												
MAY 20, 71	1535	2	.3 10.7	22400 35100	--	--	--	--	--	--	--	--
LINE 369												
MAY 20, 71	1615	2	.3 12.5	25200 36600	-- 280.0	-- 970.0	-- 6900	--	110	1700	13000	-- 22500
LINE 377												
MAY 20, 71	1810	2	.3 14.3	27600 37300	--	--	--	--	--	--	--	--

## Brazos Estuary

The Brazos estuary covers an area of about 3 square miles (8 square kilometers) 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.

Water-quality data were not collected during the 1971 water year.

The changes in line numbers to facilitate storage in the Texas Water Oriented Data Bank and to provide opportunity to coordinate data-collection sites among all agencies are shown below. New line numbers are used on Figure 3.

All data collected prior to the changes in line numbers are stored in the data bank under the new line numbers.

### Brazos Estuary Change in Line Numbers

OLD	NEW	OLD	NEW
1	10	11	110
2	20	12	120
3	30	13	138
4	40	14	145
5	50	15	155
6	60	16	165
7	70		
8	80		
9	90		
10	100		

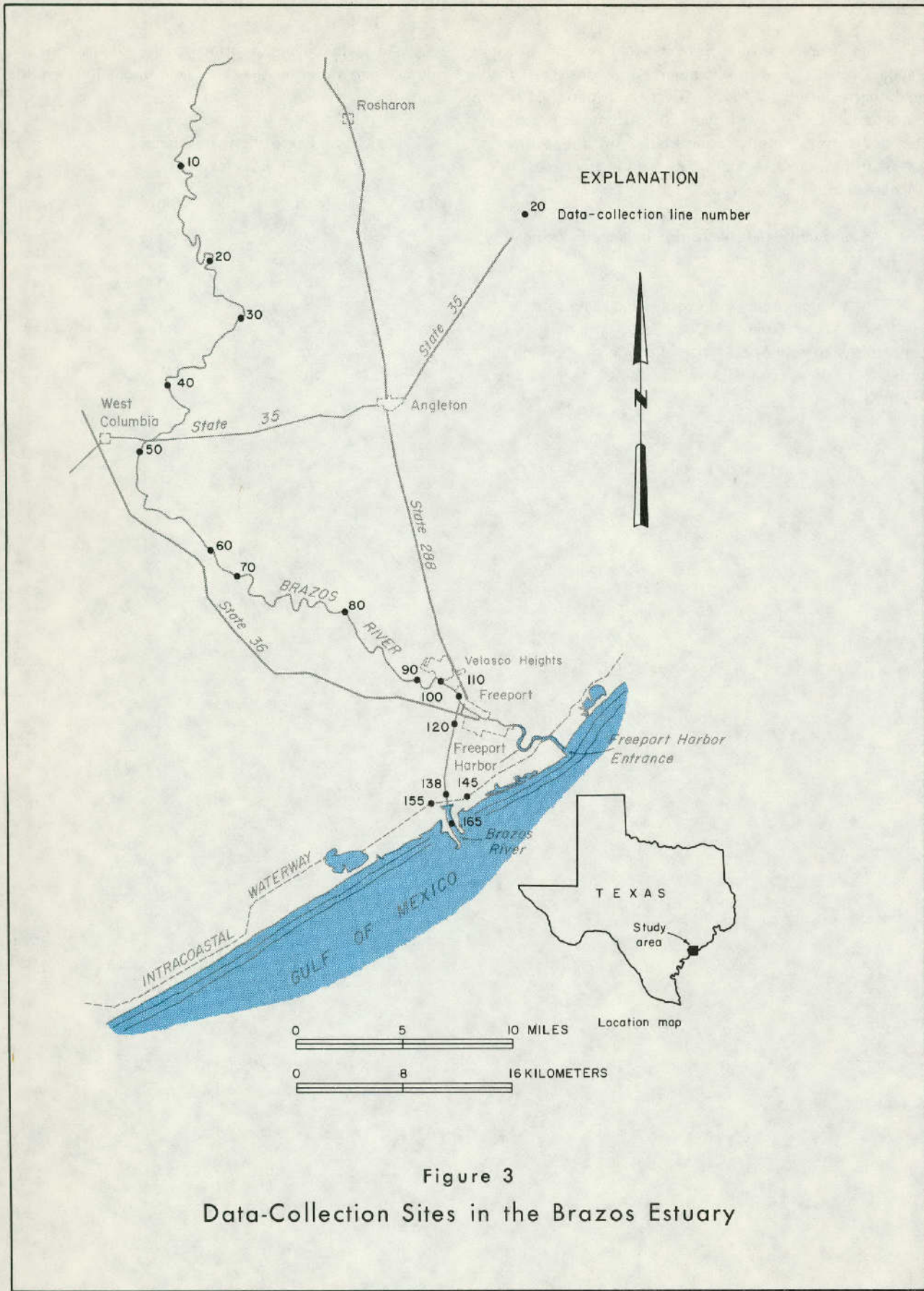


Figure 3  
Data-Collection Sites in the Brazos Estuary

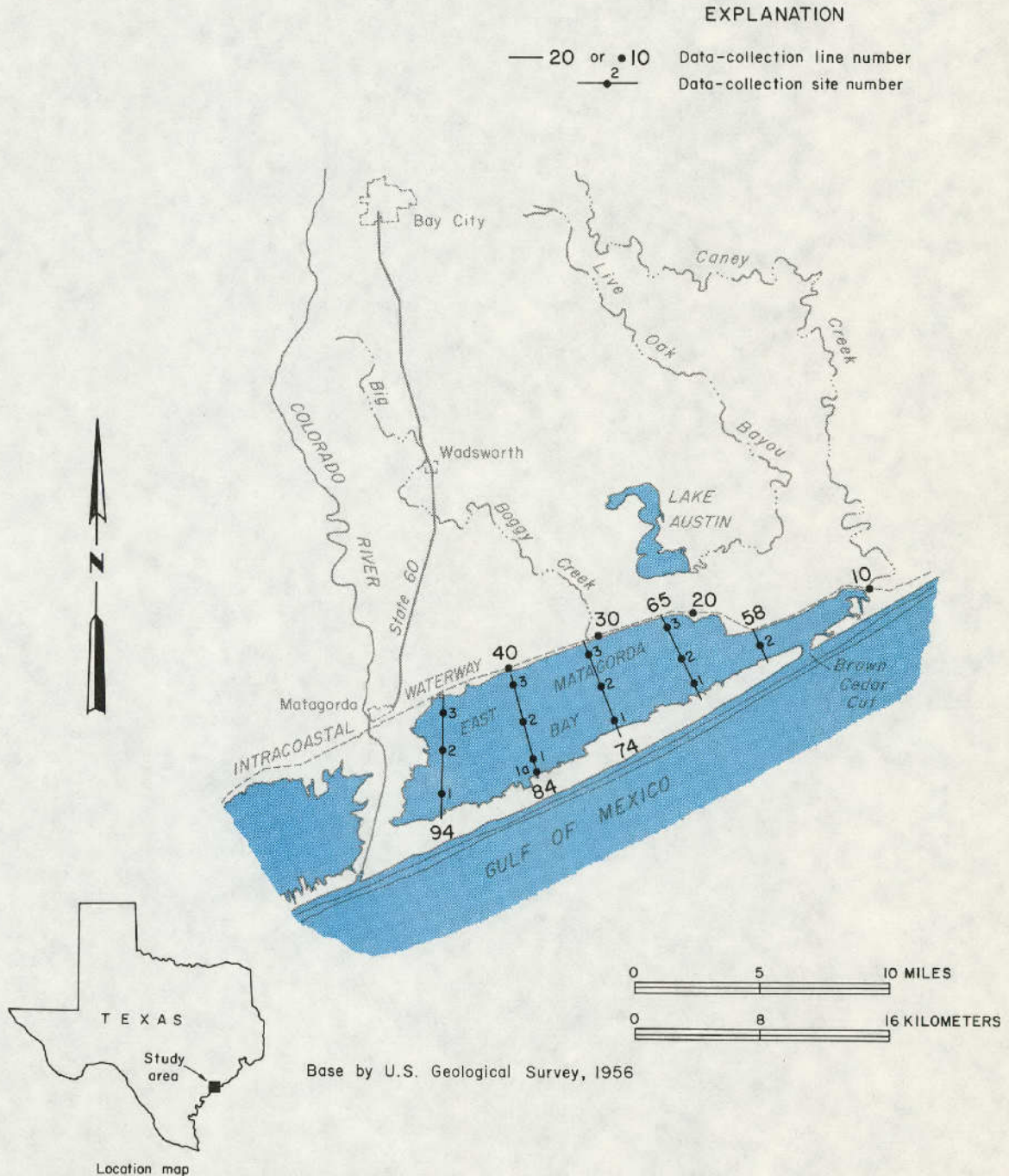


## East Matagorda Estuary

The East Matagorda estuary covers an area of about 56 square miles (145 square kilometers) 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 (1.5 meters) in East Matagorda Bay and about 15 feet (5 meters) in the Intracoastal Waterway.

Water-quality data were not collected during the 1971 water year.

The changes in line numbers to facilitate storage in the Texas Water Oriented Data Bank and to provide opportunity to coordinate data-collection sites among all agencies are shown below. New line numbers are used on Figure 4.



**Figure 4.—Data-Collection Sites in the East Matagorda Estuary**

All data collected prior to the changes in line numbers are stored in the data bank under the new line numbers.

**East Matagorda Estuary  
Change in Line Numbers**

OLD	NEW
1	10
2	20
3	30
4	40
5	58
6	65
7	74
8	84
9	94



## Colorado Estuary

The Colorado estuary covers an area of about 2 square miles (5 square kilometers) 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 (2 meters) in the river channel and about 15 feet (5 meters) in the Intracoastal Waterway.

Water-quality data (Table 2) were collected in November, December, and April at most sites shown on Figure 5.

The changes in line numbers to facilitate storage in the Texas Water Oriented Data Bank and to provide opportunity to coordinate data-collection sites among all agencies are shown below. New line numbers are used in Table 2 and on Figure 5.

All data collected prior to the changes in line numbers are stored in the data bank under the new line numbers.

### Colorado Estuary Change in Line Numbers

OLD	NEW	OLD	NEW
1	18	9	95
2	22	10	105
2b	25	11	115
3	33	12	125
4	44	13	135
5	55	13a	137
New line	59	14	147
6	66	Parkers Cut	152
7	73	8a	164
8	81	Lavaca-Tres Palacios	
		31	175

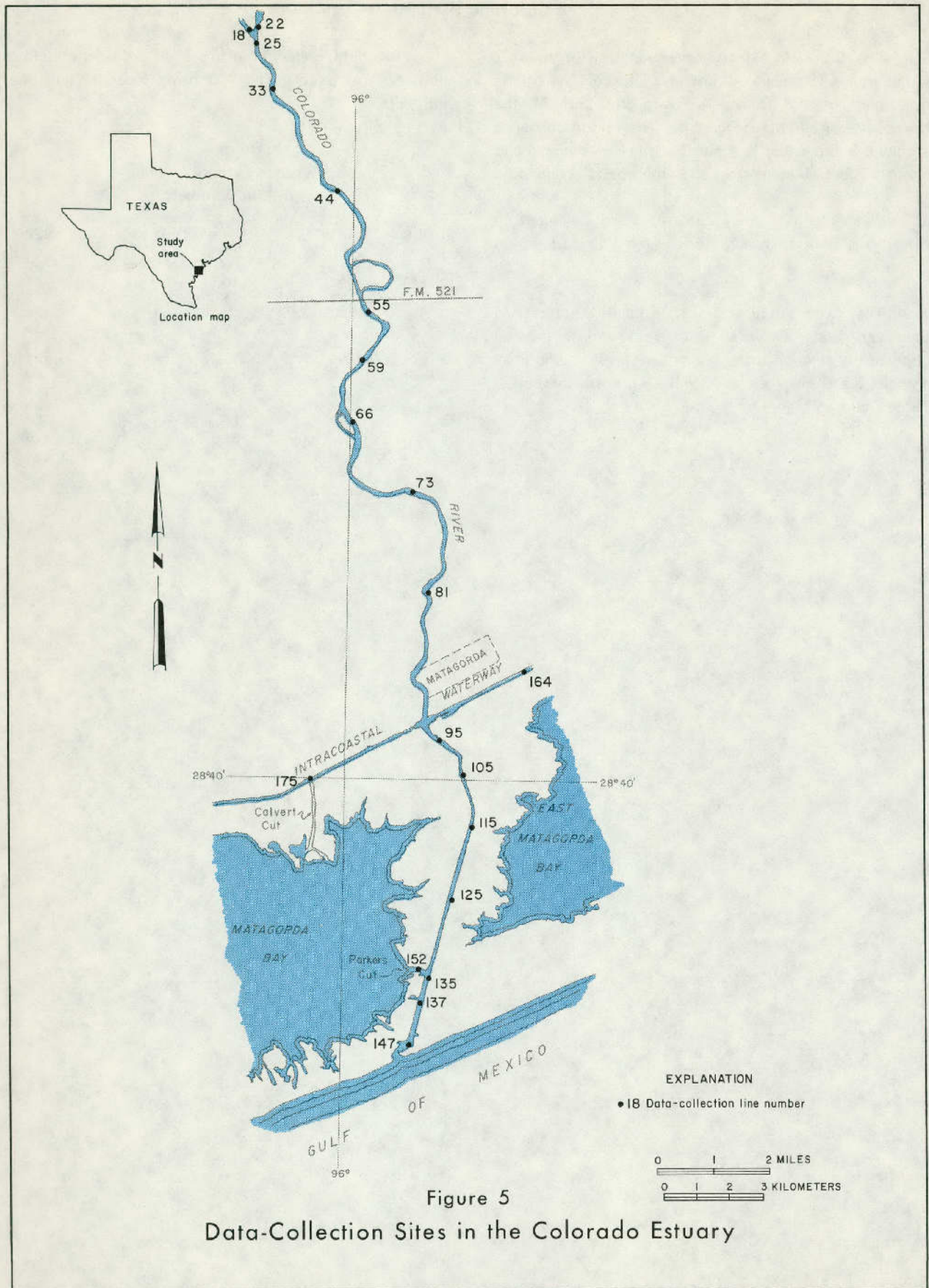




TABLE 2A--QUALITY OF WATER IN THE COLORADO ESTUARY,

1971 WATER YEAR

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
LINE 18										
NOV 06, 70	1525	2	.3	570	18.8	7.9	14.2	151	--	33
			2.1	570	18.5	7.9	14.2	151	--	--
DEC 04, 70	1540	2	.3	700	22.8	--	11.6	133	--	--
			2.4	730	22.8	--	12.0	138	--	--
APR 08, 71	0905	2	.3	740	18.0	8.6	8.8	93	--	28
			1.5	760	18.4	8.6	8.4	88	--	--
LINE 22										
NOV 06, 70	1510	2	.3	540	18.4	7.8	13.0	137	--	38
			1.5	540	18.1	7.7	12.6	133	--	--
			4.0	550	18.6	7.8	12.0	128	--	--
DEC 04, 70	1530	2	.3	730	22.8	--	10.0	115	--	76
			1.5	730	22.6	--	8.8	101	--	--
			4.0	770	22.3	--	5.6	64	--	--
APR 08, 71	0915	2	.3	1200	19.0	8.4	8.7	93	--	30
			1.5	3100	19.0	8.3	8.7	94	--	--
			2.4	26000	19.6	7.6	5.0	59	--	--
LINE 33										
NOV 06, 70	1500	2	.3	570	17.3	7.9	13.6	142	--	43
			1.5	570	17.2	7.8	13.4	138	--	--
			4.7	550	16.9	7.9	13.4	138	--	--
DEC 04, 70	1515	2	.3	730	22.5	--	11.1	126	--	61
			1.5	750	22.3	--	10.4	118	--	--
			4.6	770	22.0	--	9.4	107	--	--
APR 08, 71	0930	2	.3	1200	19.6	8.6	9.0	97	--	--
			1.5	15000	19.4	8.6	8.0	91	--	--
			2.1	20000	19.9	7.6	3.2	37	--	--
			2.4	26000	20.0	7.1	.0	0	--	--
			2.7	26000	20.0	7.1	.0	0	--	--
LINE 44										
NOV 06, 70	1440	2	.3	560	18.3	8.0	14.0	147	--	38
			1.5	560	18.0	7.9	13.2	139	--	--
			3.0	560	18.2	8.0	12.8	135	--	--
DEC 04, 70	1500	2	.3	910	22.8	--	11.4	131	--	58
			1.5	1000	22.2	--	10.6	120	--	--
			2.1	1000	22.5	--	11.0	125	--	--
			2.6	15000	20.8	--	1.0	12	--	--
			3.2	29000	20.3	--	.1	1	--	--
APR 08, 71	0950	2	.3	1900	20.0	8.3	8.7	96	--	25
			1.5	3000	20.0	8.1	7.7	85	--	--
			3.0	39000	20.4	7.3	.0	0	--	--
			4.3	37000	20.2	7.3	.0	0	--	--
LINE 55										
NOV 06, 70	1430	2	.3	540	18.2	8.0	14.6	154	--	53
			1.5	540	18.1	8.0	13.4	141	--	--
			3.0	550	17.2	8.0	13.2	136	--	--
DEC 04, 70	1440	2	.3	1100	22.6	--	11.3	140	--	58

TABLE 2A--QUALITY OF WATER IN THE COLORADO ESTUARY.

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME (EST)	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS/CM)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
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## LINE 55 CONTINUED

DEC 04, 70	1440	2	.9	2700	22.2	--	10.9	125	--	--
			1.5	29000	21.8	--	8.7	109	--	--
			3.0	37000	19.3	--	2.7	33	--	--
			5.2	37000	19.6	--	1.4	17	--	--
APR 08, 71	1005	2	.3	3700	19.6	8.0	7.9	86	--	33
			1.5	17000	20.0	7.6	2.5	29	--	--
			3.7	38000	20.0	7.4	.6	8	--	--

## LINE 59

NOV 06, 70	1555	2	.3	520	16.9	8.0	14.0	144	--	91
			6.1	540	16.9	7.8	13.2	136	--	--

## LINE 66

NOV 06, 70	1400	2	.3	850	19.6	8.2	13.4	144	--	38
			1.5	1650	20.2	8.2	12.2	133	--	--
			2.4	640	20.0	8.0	12.0	130	--	--
			3.0	24000	20.7	7.7	7.3	87	--	--
			5.0	26000	21.8	7.7	6.3	78	--	--

DEC 04, 70	1430	2	.3	2000	22.5	--	10.9	127	--	61
			.9	2700	22.4	--	10.4	120	--	--
			1.5	39000	21.3	--	4.2	55	--	--
			3.0	39000	19.9	--	3.1	39	--	--
			4.9	39000	20.6	--	3.2	41	--	--

APR 08, 71	1015	2	.3	5000	19.4	8.0	8.4	91	--	30
			1.5	10000	19.2	7.6	4.2	46	--	--
			3.0	33000	19.0	7.4	2.1	25	--	--
			4.6	38000	19.0	7.5	2.3	28	--	--

## LINE 73

NOV 06, 70	1345	2	.3	960	19.6	8.2	13.3	143	--	58
			.9	2500	20.1	8.1	11.5	126	--	--
			1.5	32000	21.5	7.8	6.3	79	--	--
			3.0	32000	21.5	7.8	6.1	76	--	--
			5.3	30000	21.1	7.8	6.5	81	--	--

DEC 04, 70	1325	2	.3	1900	22.3	8.7	10.5	121	--	71
			1.5	3400	21.8	8.5	9.1	105	--	--
			2.1	33000	21.5	8.3	7.6	97	--	--
			3.0	39000	20.0	7.9	4.1	52	--	--
			5.0	42000	20.0	8.0	3.3	42	--	--

APR 08, 71	1040	2	.3	6600	19.8	8.0	8.4	93	--	38
			1.5	41000	19.3	7.6	3.5	44	--	--
			3.0	41000	19.3	7.6	3.5	44	--	--
			4.6	39000	19.5	7.6	3.6	45	--	--

## LINE 81

NOV 06, 70	1310	2	.3	2300	22.9	8.2	13.3	155	--	64
			.9	1300	22.5	8.2	8.8	100	--	--
			1.5	36000	23.3	7.9	7.7	101	--	--
			3.0	40000	23.3	8.0	7.9	107	--	--
			6.1	40000	22.1	8.1	9.8	129	--	--
			11.1	39000	21.6	8.1	10.4	135	--	--

DEC 04, 70	1250	2	.3	2900	22.7	8.5	11.1	129	--	69
			1.5	5000	22.3	8.1	10.4	120	--	--
			2.1	27000	22.1	8.1	7.8	98	--	--
			3.0	42000	21.0	7.9	6.1	80	--	--

TABLE 2A--QUALITY OF WATER IN THE COLORADO ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS											
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRAN- SPARENCY SECCHI DISK (CM)	
LINE 81 CONTINUED											
DEC 04, 70	1250	2	6.1 9.4	45000 47000	20.3 19.5	7.7 8.0	3.7 3.3	49 43	-- --	-- --	
DEC 04, 70	1625	2	.3 1.5 4.6 9.1	4400 17000 42000 45000	21.8 20.9 19.8 18.8	-- -- -- --	11.3 8.6 5.5 3.9	130 101 71 49	-- -- -- --	-- -- -- --	
APR 08, 71	1050	2	.3 1.5 3.0 6.1 7.9	16000 41000 41000 41000 41000	18.9 18.7 18.4 18.2 18.7	7.9 7.8 7.7 7.6 7.6	9.7 7.4 5.6 5.0 4.9	109 91 69 61 60	-- -- -- -- --	-- -- -- -- --	119
LINE 95											
NOV 06, 70	1145	2	.3 1.5 3.7	7000 26000 46000	20.9 22.4 23.9	8.0 8.0 8.1	13.4 11.7 11.4	152 144 161	-- -- --	-- -- --	79
DEC 04, 70	1130	2	.3 1.5 3.0 4.3	12000 31000 39000 45000	22.2 21.9 21.9 22.1	6.9 6.8 6.8 8.3	10.0 8.3 7.9 7.8	118 105 103 105	-- -- -- --	-- -- -- --	91
APR 08, 71	1240	2	.3 1.5 3.7	28000 37000 39000	21.0 18.9 19.3	7.7 7.8 7.7	8.6 7.8 7.2	106 95 90	-- -- --	-- -- --	71
LINE 105											
NOV 06, 70	1115	2	.3 1.5 3.0 5.2	9000 22000 47000 45000	20.6 20.7 21.1 22.5	8.0 8.0 8.1 8.1	13.0 11.9 11.4 11.8	148 142 154 159	-- -- -- --	-- -- -- --	91
DEC 04, 70	1115	2	.3 1.5 3.0 4.7	38000 45000 45000 45000	22.4 22.2 21.9 21.9	7.6 7.6 7.7 8.3	9.2 7.4 8.4 8.6	121 100 114 116	-- -- -- --	-- -- -- --	91
APR 08, 71	1320	2	.3 1.5 4.3	30000 30000 34000	20.4 19.3 20.4	7.7 7.6 7.6	8.5 8.2 6.9	105 99 86	-- -- --	-- -- --	79
LINE 115											
NOV 06, 70	1100	2	.3 1.5 3.0 5.5	10000 19000 46000 46000	21.3 21.5 21.9 21.5	8.0 8.0 8.1 8.1	12.6 12.1 11.4 11.5	145 144 154 155	-- -- -- --	-- -- -- --	97
DEC 04, 70	1105	2	.3 1.5 3.0 5.0	34000 46000 46000 45000	21.9 21.3 21.2 21.3	7.4 7.9 7.8 8.0	9.4 7.6 8.8 9.2	121 101 117 123	-- -- -- --	-- -- -- --	91
APR 08, 71	1330	2	.3 1.5 3.0 5.2	34000 39000 34000 43000	20.0 19.8 19.8 18.9	7.7 7.6 7.6 7.6	8.8 8.1 7.6 7.0	109 103 94 88	-- -- -- --	-- -- -- --	86
LINE 125											
NOV 06, 70	1040	2	.3	10000	19.5	8.0	12.3	137	--	--	94

TABLE 2A--QUALITY OF WATER IN THE COLORADO ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY DISK (CM)
LINE 125 CONTINUED										
NOV 06, 70	1040	2	.9	14000	19.8	8.0	12.8	145	--	--
			1.5	46000	19.9	8.1	10.9	142	--	--
			3.0	46000	21.1	8.1	11.3	151	--	--
			6.7	46000	20.7	8.1	11.5	151	--	--
DEC 04, 70	1100	2	.3	24000	21.5	7.3	9.0	110	--	89
			1.5	46000	21.0	7.5	8.7	116	--	--
			4.0	46000	21.1	7.8	8.8	117	--	--
APR 08, 71	1335	2	.3	34000	19.3	7.7	8.9	109	--	76
			1.5	34000	19.1	7.6	8.2	99	--	--
			3.0	35000	18.9	7.6	7.4	90	--	--
			5.2	34000	18.4	7.6	6.9	82	--	--
LINE 135										
NOV 06, 70	0950	2	.3	25000	15.9	8.1	12.6	138	--	74
			1.8	32000	16.5	8.1	11.8	134	--	--
			3.7	46000	18.5	8.1	11.3	141	--	--
DEC 04, 70	1025	2	.3	38000	20.9	7.3	9.0	117	--	81
			1.5	39000	20.8	7.3	8.4	109	--	--
			4.0	46000	20.6	7.8	9.5	125	--	--
APR 08, 71	1450	2	.3	41000	20.6	7.6	8.2	105	--	93
			1.5	42000	20.0	7.6	7.5	96	--	--
			3.0	42000	19.1	7.6	6.3	79	--	--
			4.6	40000	18.9	7.6	6.0	75	--	--
LINE 147										
NOV 06, 70	0930	2	1.8	36000	16.9	7.9	11.8	139	--	--
DEC 04, 70	1010	2	.3	35000	20.7	7.2	9.0	114	--	84
			2.0	35000	20.7	7.3	9.1	115	--	--
APR 08, 71	1515	2	.3	41000	20.4	7.8	7.6	97	--	--
			1.5	41000	21.3	7.8	7.8	101	--	--
			3.4	41000	21.3	7.7	7.8	101	--	--
LINE 152										
NOV 06, 70	1025	2	.3	23000	18.7	8.1	13.1	151	--	66
			3.2	25000	20.3	8.2	13.0	157	--	--
APR 08, 71	1435	2	.3	37000	20.6	7.7	8.4	106	--	51
			1.5	39000	20.4	7.6	7.9	101	--	--
			2.1	37000	20.2	7.6	7.0	88	--	--
LINE 164										
NOV 06, 70	1250	2	.3	30000	20.8	8.1	11.6	145	--	66
			1.5	31000	20.8	8.1	11.5	144	--	--
			3.0	31000	20.9	8.1	11.3	141	--	--
			5.6	32000	21.8	8.1	11.3	143	--	--
DEC 04, 70	1155	2	.3	33000	23.3	7.8	8.9	117	--	64
			1.5	33000	22.9	7.9	8.8	114	--	--
			3.0	33000	22.4	7.7	8.7	112	--	--
			5.6	39000	22.2	7.9	7.1	92	--	--
APR 08, 71	1135	2	.3	43000	18.2	7.8	7.9	98	--	--
			1.5	42000	18.2	7.8	7.8	96	--	--
			3.0	40000	18.6	7.7	7.9	98	--	--
			5.5	18000	20.0	7.8	8.3	95	--	--



TABLE 2A--QUALITY OF WATER IN THE COLORADO ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS											
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)	
LINE 175											
NOV 06, 70	1225	2	.3	21000	19.5	8.0	12.2	140	--	61	
			1.5	21000	19.2	8.0	12.0	136	--	--	
			3.0	21000	19.2	8.0	12.0	136	--	--	
			5.3	21000	19.4	8.0	12.0	138	--	--	
DEC 04, 70	1215	2	.3	33000	22.3	7.9	8.7	112	--	72	
			1.5	33000	22.1	7.9	8.0	103	--	--	
			3.0	33000	22.1	7.9	7.7	99	--	--	
			5.3	34000	22.2	8.0	7.7	99	--	--	
APR 08, 71	1200	2	.3	39000	18.2	7.6	7.3	89	--	30	
			1.5	39000	18.4	7.6	7.1	87	--	--	
			3.0	39000	18.7	7.7	7.1	88	--	--	
			5.2	40000	18.9	7.6	6.9	86	--	--	

TABLE 28--QUALITY OF WATER IN THE COLORADO ESTUARY,  
1971 WATER YEAR

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS-SOLVED SILICA (SI02) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS-SOLVED PHOS-PHORUS (P) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	BIO-CHEMICAL OXYGEN DEMAND (BOD) (MG/L)	CHEMICAL OXYGEN DEMAND (COD) (MG/L)	TOTAL ORGANIC CARBON (MG/L)
LINE 18												
NOV 06, 70	1525	2	.3 2.1	12.0 12.0	.7 .7	.02 .04	.02 .03	.03 .00	.04 .00	.8 1.0	-- --	-- --
DEC 04, 70	1540	2	.3 2.4	5.7 6.1	.0 .0	.07 .05	.00 .01	.01 .01	.03 .03	3.3 3.8	-- --	-- --
APR 08, 71	0905	2	.3 1.5	2.4 1.6	.1 .2	.13 .08	.03 .04	.20 .22	.24 .27	6.1 6.5	-- --	-- --
LINE 22												
NOV 06, 70	1510	2	.3 4.0	12.0 12.0	.6 .7	.05 .04	.03 .03	.03 .03	.04 .10	.1 1.0	-- --	-- --
DEC 04, 70	1530	2	.3 4.0	7.5 9.5	.0 .0	.12 .02	.01 .01	.01 .02	.02 .04	2.3 4.3	-- --	-- --
APR 08, 71	0915	2	.3 2.4	1.6 3.8	.1 .0	.00 .00	.02 .03	.11 .13	.14 .13	2.8 3.0	-- --	-- --
LINE 44												
NOV 06, 70	1440	2	.3 3.0	12.0 12.0	.7 .8	.04 .02	.02 .02	.03 .03	.04 .05	2.2 1.3	-- --	-- --
DEC 04, 70	1500	2	.3 3.2	5.6 5.8	.0 .0	.06 .55	.01 .02	.01 .03	.02 .04	3.7 2.3	-- --	-- --
APR 08, 71	0950	2	.3 4.3	2.0 1.8	.1 .0	.11 .98	.03 .02	.14 .19	.15 .20	2.7 1.4	-- --	-- --
LINE 66												
NOV 06, 70	1400	2	.3 5.0	12.0 4.1	.8 .2	.02 .30	.03 .03	.02 .02	.04 .04	.7 .0	-- --	-- --
DEC 04, 70	1430	2	.3 4.9	6.2 2.5	.0 .0	.00 .34	.01 .02	.01 .02	.02 .05	2.8 4.4	-- --	-- --
APR 08, 71	1015	2	.3 4.6	2.0 .0	.0 .1	.00 .02	.03 .02	.14 .13	.14 .13	2.1 1.6	-- --	-- --
LINE 81												
NOV 06, 70	1310	2	.3 11.1	12.0 .2	.8 .0	.02 .09	.03 .02	.02 .02	.03 .05	.9 .7	-- --	-- --
DEC 04, 70	1250	2	.3 9.4	7.3 .4	.0 .0	.01 .36	.01 .02	.01 .01	.02 .02	2.8 1.8	-- --	-- --
APR 08, 71	1050	2	.3 7.9	2.6 .8	.0 .2	.01 .11	.01 .04	.08 .12	.10 .12	2.6 1.0	-- --	-- --
LINE 95												
NOV 06, 70	1145	2	.3 3.7	9.7 .0	.7 .0	.05 .01	.04 .00	.02 .01	.03 .02	.0 .6	-- --	-- --
DEC 04, 70	1130	2	.3 4.3	6.2 .0	.0 .0	.02 .07	.01 .01	.01 .01	.02 .02	2.3 1.9	-- --	-- --
APR 08, 71	1240	2	.3	1.7	.2	.06	.02	.06	.06	1.3	--	--

TABLE 28--QUALITY OF WATER IN THE COLORADO ESTUARY.

1971 WATER YEAR--CONTINUED

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS- SOLVED SILICA (SiO <sub>2</sub> ) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED PHOS- PHORUS ORTHO, (P) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	BIO- CHEMICAL OXYGEN DEMAND (BOD) (MG/L)	CHEMICAL OXYGEN DEMAND (COD) (MG/L)	TOTAL ORGANIC CARBON (MG/L)
--------------------------	------	------	-------------------	---	-----------------------------------	--------------------------------------	-----------------------------------	--	---	---	---	--------------------------------------

LINE 95 CONTINUED

APR 08, 71	1240	2	3.7	.3	.2	.01	.01	.08	.10	1.7	--	--
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LINE 135

NOV 06, 70	0950	2	.3 3.7	1.9 .0	.0 .0	.03 .02	.02 .01	.01 .01	.02 .02	.2 .0	-- --	-- --
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DEC 04, 70	1025	2	.3 4.0	5.7 .0	.0 .0	.01 .02	.01 .01	.01 .00	.02 .02	1.9 1.6	-- --	-- --
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APR 08, 71	1450	2	.3 4.6	.4 .9	.1 .2	.28 .05	.04 .04	.07 .11	.07 .14	2.5 1.8	-- --	-- --
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TABLE 2C--QUALITY OF WATER IN THE COLORADO ESTUARY,

1971 WATER YEAR

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (LAB)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MAGNE-SIUM) (MG/L)	DISSOLVED SODIUM + POTASSIUM (NA+K) (MG/L)	DISSOLVED BICARBONATE (HCO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED SOLIDS (SUM OF IONS) (MG/L)	
LINE 18												
NOV 06, 70	1525	2	.3 2.1	639 646	-- 74.0	-- 15.0	-- 33	-- 236	-- 30	-- 63	-- 347	
DEC 04, 70	1540	2	.3 2.4	800 806	82.0 80.0	25.0 22.0	49 53	296 293	40 40	91 86	439 433	
APR 08, 71	0905	2	.3 1.5	657 760	-- 56.0	-- 26.0	-- 55	-- 210	-- 46	-- 100	-- 393	
LINE 22												
NOV 06, 70	1510	2	.3 4.0	574 605	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
DEC 04, 70	1530	2	.3 4.0	812 847	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
APR 08, 71	0915	2	.3 2.4	1130 8540	59.0 120.0	43.0 380.0	110 1200	212 223	48 410	240 2800	607 5090	
LINE 44												
NOV 06, 70	1440	2	.3 3.0	630 637	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
DEC 04, 70	1500	2	.3 3.2	858 27900	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
APR 08, 71	0950	2	.3 4.3	2420 37800	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
LINE 66												
NOV 06, 70	1400	2	.3 5.0	621 26200	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
DEC 04, 70	1430	2	.3 4.9	1770 41100	84.0 340.0	39.0 1100.0	200 7800	288 180	85 2000	330 14000	887 25500	
APR 08, 71	1015	2	.3 4.6	6580 40600	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
LINE 81												
NOV 06, 70	1310	2	.3 11.1	1220 41600	70.0 360.0	27.0 950.0	140 8100	217 148	59 2000	250 14000	672 25800	
DEC 04, 70	1250	2	.3 9.4	2780 47900	90.0 360.0	60.0 1200.0	420 9500	296 160	190 2400	660 17000	1570 30500	
APR 08, 71	1050	2	.3 7.9	14800 43500	160.0 360.0	340.0 1200.0	2700 8400	210 150	700 2200	4800 15000	8900 27300	
LINE 95												
NOV 06, 70	1145	2	.3 3.7	6630 46800	100.0 390.0	130.0 1300.0	1200 9300	240 144	300 2300	2000 17000	3800 30400	
DEC 04, 70	1130	2	.3 4.3	11800 47700	150.0 390.0	330.0 1200.0	2200 9600	272 153	560 2400	4000 17000	7350 30600	
APR 08, 71	1240	2	.3	26400	240.0	670.0	5800	194	2200	9600	18600	

TABLE 2C--QUALITY OF WATER IN THE COLORADO ESTUARY.

1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (LAB)	DISTOLVED CALCIUM (CA) (MG/L)	DISTOLVED MAGNESIUM (MG) (MG/L)	DISTOLVED POTASSIUM (NA+K) (MG/L)	DISTOLVED BICARBONATE (HCO3) (MG/L)	DISTOLVED SULFATE (SO4) (MG/L)	DISTOLVED CHLORIDE (CL) (MG/L)	DISTOLVED SOLIDS (SUM OF TUENTS) (MG/L)
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LINE 95 CONTINUED

APR 08, 71	1240	2	3.7	43500	360.0	1100.0	8500	154	2300	15000	27600
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LINE 135

NOV 06, 70	0950	2	.3 3.7	23200 45200	-- 360.0	-- 1100.0	-- 9300	-- 146	-- 2200	-- 17000	-- 29700
DEC 04, 70	1025	2	.3 4.0	16100 47600	-- 360.0	-- 1200.0	-- 9400	-- 150	-- 2600	-- 17000	-- 30300
APR 08, 71	1450	2	.3 4.6	42300 43800	-- 340.0	-- 1100.0	-- 8600	-- 152	-- 2400	-- 15000	-- 27900





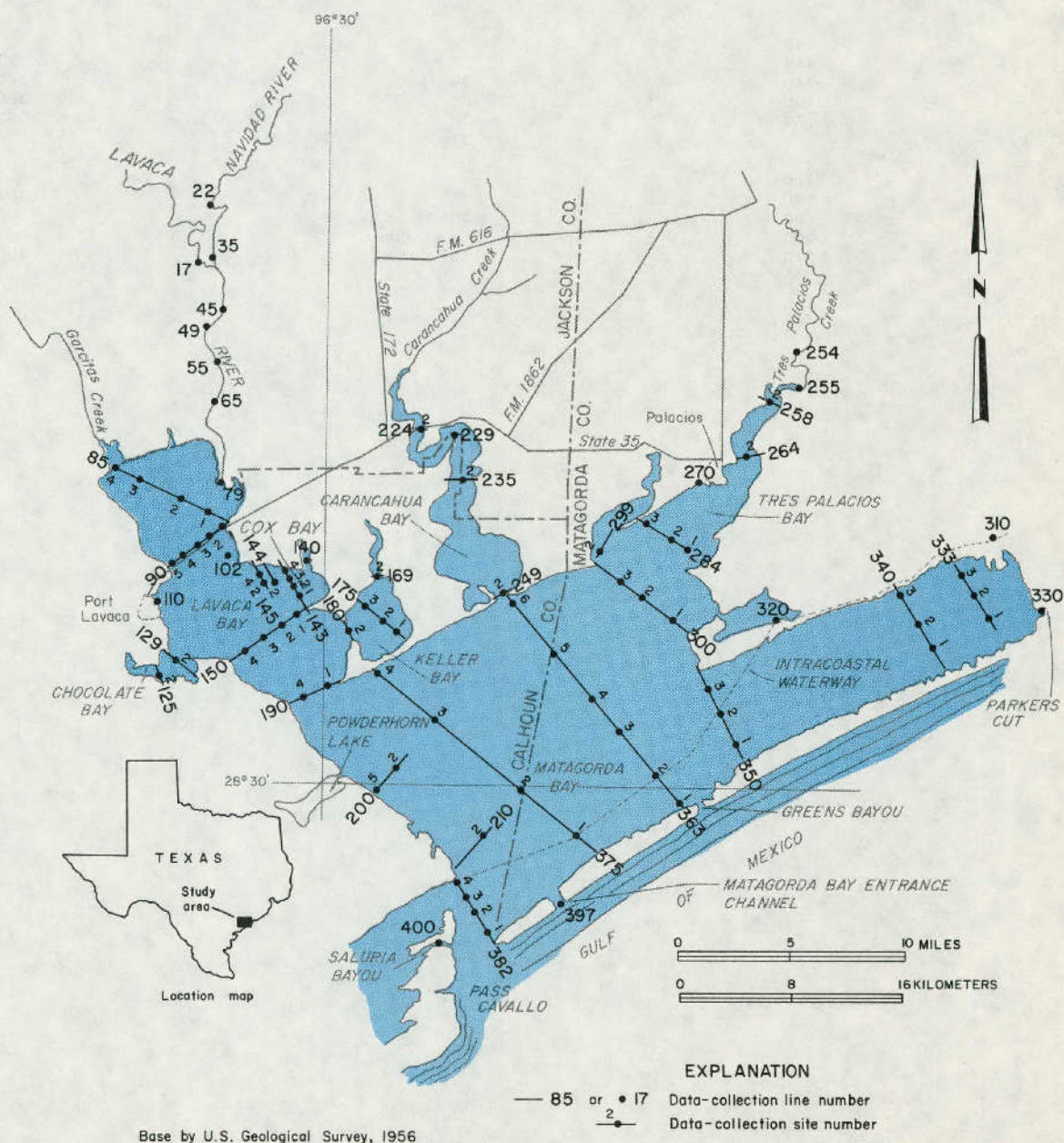
## Lavaca-Tres Palacios Estuary

The Lavaca-Tres Palacios estuary covers about 350 square miles (900 square kilometers) 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 Bay Entrance Channel, Pass Cavallo, and parts of the Intracoastal Waterway (Figure 6). Water depth at mlw is 13 feet (4 meters) or less in Matagorda Bay, except in the Matagorda Ship Channel, which is more than 40 feet (12 meters) deep. The rivers generally are less than 15 feet (5 meters) deep.

Water-quality data (Table 3) were collected during April and June at most sites shown on Figure 6.

The change in line numbers to facilitate storage in the Texas Water Oriented Data Bank and to provide opportunity to coordinate data-collection sites among all agencies are shown below. New line numbers are used in Table 3 and on Figure 6.

All data collected prior to the changes in line numbers are stored in the data bank under the new line numbers.



**Figure 6.—Data-Collection Sites in the Lavaca-Tres Palacios Estuary**



Lavaca-Tres Palacios Estuary Change in Line Numbers

OLD	NEW	OLD	NEW
1	17	22	224
2	22	22a	229
3	35	23	235
4	45	24	249
4a	49	24a	254
5	55	24b	255
6	65	25	258
7	79	26	264
8	85	27	270
9	90	28	284
10	102	29	299
11	110	30	300
12	125	31	310
13	129	32	320
14	140	Colorado-Parkers Cut	330
14a	143		
14b	144	33	333
14c	145	34	340
15	150	35	350
16	169	36	363
		37	375
17	175		
18	180	38	382
19	190	39	397
20	200	Guadalupe	
21	210	40	400

TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR

FIELD DETERMINATIONS										
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
LINE 17										
APR 13, 71	0905	2	.3	6700	21.7	8.7	12.7	196	--	62
			.9	6600	21.9	8.7	12.1	191	--	--
			1.5	9700	22.1	8.5	9.6	112	--	--
			1.8	11000	21.9	8.5	8.4	98	--	--
			2.1	16000	21.5	8.0	2.1	25	--	--
			2.4	25000	20.6	7.6	.0	0	--	--
			3.0	27000	20.3	7.5	.0	0	--	--
			3.7	29000	20.3	7.5	.0	0	--	--
JUN 01, 71	1655	2	.3	1500	30.6	8.4	9.4	125	--	46
			1.5	1600	29.1	8.3	7.7	99	--	--
			2.1	2600	29.0	8.4	7.4	96	--	--
			2.7	4700	28.8	8.2	4.7	61	--	--
			3.0	21000	27.6	7.6	.0	0	--	--
			3.7	23000	26.5	7.3	.0	0	--	--
LINE 22										
APR 13, 71	0940	2	.3	1900	21.2	8.4	9.7	109	--	51
			.9	1900	21.2	8.4	9.4	106	--	--
			1.5	2100	21.1	8.3	8.7	98	--	--
			1.8	2100	21.1	8.3	8.7	98	--	--
			2.1	9900	21.0	7.8	2.3	26	--	--
			2.4	18000	20.7	7.6	.0	0	--	--
			3.4	23000	20.5	7.5	.0	0	--	--
JUN 01, 71	1620	2	.3	610	31.0	8.4	10.2	136	--	33
			.9	600	30.5	8.2	8.4	110	--	--
			1.5	620	29.4	8.0	6.9	90	--	--
			2.4	620	29.2	7.8	5.8	74	--	--
			3.5	730	29.1	7.8	4.9	63	--	--
LINE 35										
APR 13, 71	1005	2	.3	9800	22.9	8.7	11.5	135	--	46
			.9	10000	22.9	8.7	11.3	133	--	--
			1.5	11000	22.6	8.6	10.3	121	--	--
			1.8	12000	22.9	8.5	8.3	99	--	--
			2.1	14000	22.6	8.4	6.1	73	--	--
			2.4	19000	22.2	7.9	.9	11	--	--
			2.7	21000	21.7	7.7	.6	0	--	--
JUN 01, 71	1645	2	.3	1700	29.1	8.3	8.0	103	--	38
			1.5	1900	29.1	8.3	7.9	103	--	--
			2.1	2000	29.0	8.2	7.7	100	--	--
			2.6	3300	28.7	7.9	3.9	51	--	--
LINE 45										
APR 13, 71	1030	2	.3	16000	22.4	8.6	10.2	121	--	58
			.9	16000	22.2	8.6	10.2	121	--	--
			1.5	16000	22.5	8.6	10.1	120	--	--
			2.4	20000	22.6	8.4	7.4	91	--	--
			2.7	22000	22.4	8.2	3.9	48	--	--
			3.0	23000	22.2	8.0	1.8	22	--	--
JUN 01, 71	1550	2	.3	4800	29.5	8.6	10.7	141	--	60
			1.2	4800	29.3	8.5	10.5	138	--	--
			1.5	5300	29.3	8.5	10.0	133	--	--
			1.8	5300	29.3	8.5	9.9	132	--	--
			2.1	8700	28.8	7.9	4.8	63	--	--
			2.4	16000	28.5	7.6	.7	9	--	--
			2.7	19000	28.1	7.5	.0	0	--	--

TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
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## LINE 45 CONTINUED

JUN 01, 71	1550	2	3.0	23000	27.6	7.2	.0	0	--	--
			3.5	28000	27.2	7.3	.0	0	--	--
JUN 01, 71	1715	2	.3	5100	28.8	8.6	11.0	145	--	56
			1.5	5800	28.7	8.5	10.3	136	--	--
			1.8	6000	28.6	8.5	10.0	132	--	--
			2.1	7100	28.4	8.4	8.8	114	--	--
			2.4	16000	27.7	7.7	1.1	14	--	--
			2.7	19000	27.2	7.5	.0	0	--	--
			3.0	28000	26.4	7.4	.0	0	--	--
JUN 01, 71	1950	2	.3	4900	28.1	8.7	10.3	132	--	56
			1.5	5400	28.1	8.7	10.4	135	--	--
			1.8	5400	28.1	8.7	10.4	135	--	--
			2.1	5600	28.0	8.7	10.3	134	--	--
			2.4	16000	27.1	7.7	1.1	14	--	--
			2.7	19000	26.8	7.6	.0	0	--	--
			3.0	23000	26.3	7.6	.0	0	--	--
JUN 01, 71	1840	2	.3	5000	28.5	8.6	10.5	135	--	55
			1.5	5600	28.6	8.7	10.5	138	--	--
			1.8	5600	28.6	8.6	10.4	137	--	--
			2.1	6200	28.5	8.6	10.0	132	--	--
			2.4	16000	27.6	7.6	.9	12	--	--
			2.7	20000	27.1	7.5	.0	0	--	--
			3.0	26000	26.5	7.5	.0	0	--	--
JUN 02, 71	1400	2	.3	4600	29.5	8.3	10.8	142	--	60
			1.5	5100	29.3	8.3	10.4	139	--	--
			1.8	5400	29.4	8.3	10.2	136	--	--
			2.1	6000	29.2	8.2	9.3	122	--	--
			2.4	17000	28.5	7.2	.2	3	--	--
			2.7	20000	28.1	7.2	.0	0	--	--
			3.4	28000	27.2	7.1	.0	0	--	--
JUN 02, 71	0610	2	.3	3200	26.6	8.2	7.3	91	--	48
			1.5	3200	26.6	8.3	7.7	96	--	--
			1.8	4700	26.8	8.4	8.0	100	--	--
			2.1	8400	26.9	8.2	6.6	84	--	--
			2.4	15000	26.4	7.6	.6	8	--	--
			2.7	23000	25.5	7.5	.0	0	--	--
			3.0	27000	24.8	7.3	.0	0	--	--
JUN 02, 71	0710	2	.3	3400	26.7	8.3	7.7	96	--	--
			1.5	3400	26.8	8.3	7.8	98	--	--
			1.8	3900	26.9	8.4	7.9	99	--	--
			2.1	6500	26.9	8.3	7.2	91	--	--
			2.4	13000	26.5	7.7	.9	12	--	--
			2.7	24000	25.4	7.5	.0	0	--	--
			3.2	28000	24.9	7.4	.0	0	--	--
JUN 02, 71	1235	2	.3	4500	29.6	8.4	10.7	141	--	62
			1.5	5400	29.4	8.3	9.4	125	--	--
			1.8	5800	29.2	8.2	8.9	117	--	--
			2.1	10000	28.6	7.7	4.5	59	--	--
			2.4	17000	28.4	7.3	.3	4	--	--
			2.7	20000	28.3	7.3	.0	0	--	--
			3.2	28000	27.6	7.2	.0	0	--	--

## LINE 49

JUN 02, 71	0635	2	.3	4800	26.6	8.5	8.5	106	--	--
			1.5	14000	26.9	8.3	7.2	92	--	--
			1.8	15000	26.6	7.7	1.8	23	--	--
			2.1	24000	26.3	7.4	.0	0	--	--
			2.4	29000	26.1	7.4	.0	0	--	--



TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS										
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRAN- SPARENCY SECCHI DISK (CM)
LINE 55										
APR 13, 71	1050	2	.3	23000	22.7	8.4	8.4	104	--	56
			.9	23000	22.8	8.4	8.4	104	--	--
			1.5	23000	22.8	8.4	8.4	104	--	--
			2.4	24000	22.7	8.3	7.7	95	--	--
			4.0	25000	22.7	8.0	5.2	65	--	--
JUN 01, 71	1530	2	.3	11000	29.3	8.5	9.3	124	--	61
			1.5	12000	29.3	8.5	10.0	135	--	--
			2.1	14000	29.2	8.3	8.1	108	--	--
			2.4	17000	29.1	8.0	4.8	66	--	--
			2.7	22000	28.9	7.9	2.2	31	--	--
			3.0	32000	28.7	7.5	.0	0	--	--
			3.8	34000	28.6	7.4	.0	0	--	--
LINE 65										
APR 13, 71	1105	2	.3	29000	22.4	8.2	7.9	99	--	47
			1.5	30000	22.4	8.2	7.8	99	--	--
			2.4	30000	22.2	8.1	7.3	92	--	--
			4.0	36000	22.4	7.9	5.2	68	--	--
JUN 01, 71	1515	2	.3	21000	29.2	8.1	7.8	108	--	48
			1.5	22000	28.8	8.0	6.4	89	--	--
			2.1	23000	28.7	7.9	4.0	56	--	--
			2.4	29000	28.8	7.8	3.0	43	--	--
			3.0	34000	28.8	7.6	1.4	21	--	--
			4.0	36000	28.6	7.6	.4	6	--	--
LINE 79										
APR 13, 71	1135	2	.3	43000	22.5	8.2	7.8	105	--	30
			1.5	43000	22.5	8.2	7.7	104	--	--
			2.4	42000	22.5	8.2	7.6	103	--	--
			3.4	41000	22.5	8.2	7.6	101	--	--
JUN 01, 71	1500	2	.3	43000	28.6	8.0	7.0	106	--	43
			1.5	43000	28.5	8.0	6.8	103	--	--
			2.4	41000	28.5	8.0	6.3	94	--	--
			3.7	40000	28.6	7.9	5.9	80	--	--
LINE 85										
APR 14, 71	1317	1	.3	41000	22.8	8.0	7.0	95	--	66
			2.1	40000	22.9	8.3	7.1	96	--	--
JUN 02, 71	1253	1	.5	42000	27.5	8.0	8.6	126	--	41
			1.5	42000	27.4	8.0	8.1	119	--	--
			2.4	41000	27.4	8.0	7.9	114	--	--
APR 14, 71	1333	3	.3	40000	23.3	8.1	7.5	101	--	56
			1.5	40000	22.9	8.4	7.7	104	--	--
JUN 02, 71	1308	3	.5	43000	27.6	8.0	8.7	130	--	38
			1.5	43000	27.7	8.0	8.7	130	--	--
LINE 90										
MAR 01, 71	1400	3	.3	40000	18.8	--	7.4	92	--	--
			1.5	40000	18.8	--	7.4	92	--	--
			3.0	40000	18.8	--	7.5	92	--	--
LINE 102										
APR 14, 71	1120	1	.3	44000	23.0	7.9	6.3	86	--	117

TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICROHMS/CM)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK)
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## LINE 102 CONTINUED

APR 14, 71	1120	1	1.5	44000	22.6	7.9	6.2	85	--	--
			3.0	44000	22.1	8.0	6.4	86	--	--
			6.1	42000	21.8	8.0	6.2	83	--	--
			9.8	42000	21.4	8.4	6.5	86	--	--
JUN 02, 71	1033	1	.3	44000	26.9	8.1	7.2	107	--	96
			1.5	44000	26.9	8.1	7.6	116	--	--
			3.0	44000	26.8	8.1	8.4	125	--	--
			6.1	43000	26.7	8.1	7.9	116	--	--
			9.8	43000	26.8	8.1	7.5	110	--	--
MAR 01, 71	1130	2	.3	42000	18.6	--	8.0	100	--	--
			3.0	42000	18.2	--	8.0	99	--	--
			6.1	43000	18.0	--	7.9	98	--	--
			9.1	42000	17.9	--	7.4	91	--	--
			10.4	46000	17.8	--	6.7	84	--	--
			11.0	45000	18.0	--	5.3	66	--	--

## LINE 110

MAR 01, 71	1320	2	.3	35000	19.0	--	--	--	--	--
			1.5	38000	19.0	--	--	--	--	--
			4.0	39000	19.0	--	--	--	--	--
APR 14, 71	1240	2	.3	41000	24.4	7.4	3.7	50	--	63
			1.5	42000	23.0	7.5	3.5	48	--	--
			3.4	42000	22.8	7.5	4.2	58	--	--
JUN 02, 71	1138	2	.3	42000	27.3	7.6	1.3	19	--	69
			.9	42000	27.2	7.6	1.3	19	--	--
			1.5	43000	27.1	7.6	2.9	43	--	--
			2.4	43000	27.1	7.6	2.8	41	--	--
			3.7	42000	27.3	7.6	3.0	44	--	--

## LINE 125

MAR 01, 71	1205	2	.3	40000	19.5	--	7.8	99	--	--
			.9	38000	20.0	--	8.1	103	--	--
JUN 02, 71	1103	2	.5	43000	26.7	7.9	7.1	104	--	25
			1.5	43000	26.7	8.0	6.9	101	--	--

## LINE 129

MAR 01, 71	1230	2	.3	41000	19.2	--	8.0	100	--	--
			1.5	40000	19.1	--	7.8	98	--	--
			3.4	40000	19.2	--	7.2	90	--	--
MAR 06, 71	1000	2	.3	40000	17.0	8.1	7.5	90	--	--
			1.5	40000	17.0	8.2	7.4	89	--	--
			3.0	40000	16.5	8.2	7.6	90	--	--
APR 14, 71	1150	2	3.4	42000	22.8	8.4	6.2	85	--	--
			.3	43000	22.7	8.0	6.3	85	--	63
			1.5	43000	22.8	8.0	6.0	82	--	--
JUN 02, 71	1114	2	.3	43000	26.8	8.0	7.5	110	--	43
			1.5	43000	26.6	8.0	7.4	109	--	--
			3.4	43000	26.8	8.0	7.5	110	--	--

## LINE 140

MAR 01, 71	1000	2	.3	40000	16.7	8.3	6.6	79	--	97
			1.2	42000	16.9	8.3	6.7	82	--	--
APR 14, 71	0855	2	.3	43000	21.7	8.0	7.1	95	--	90

TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME (SITE)	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	DISSOLVED OXYGEN (MG/L)	PH	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)	
LINE 140 CONTINUED										
APR 14, 71	0855	2	1.1 43000	21.6	8.0	7.1	95	--	--	
LINE 143										
MAR 01, 71	0930	1	.3 41000	16.6	8.1	7.0	83	--	130	
			1.7 41000	16.9	8.2	7.1	86	--	--	
APR 14, 71	1000	1	.3 44000	23.5	8.2	7.0	97	--	76	
			1.7 44000	23.0	8.1	6.8	93	--	--	
JUN 02, 71	0945	1	.3 45000	26.4	8.1	6.6	97	--	38	
			.9 45000	26.4	8.1	6.5	96	--	--	
			1.8 45000	26.4	8.1	6.5	96	--	--	
MAR 01, 71	1010	2	.3 41000	16.6	8.3	6.8	81	--	104	
			1.6 41000	16.8	8.2	6.8	82	--	--	
APR 14, 71	0950	2	.3 44000	24.2	8.1	7.3	103	--	47	
			1.6 44000	23.5	8.1	7.0	97	--	--	
JUN 02, 71	0950	2	.3 44000	26.8	8.0	6.4	96	--	33	
			.9 44000	26.7	8.0	6.4	96	--	--	
			2.0 44000	26.7	8.0	6.3	94	--	--	
APR 14, 71	0945	3	.3 44000	23.6	8.1	7.4	103	--	42	
			1.8 44000	22.9	8.1	7.0	96	--	--	
JUN 02, 71	1000	3	.3 45000	27.0	8.1	6.4	96	--	28	
			.9 45000	27.0	8.1	6.5	97	--	--	
			2.0 45000	27.0	8.1	6.5	97	--	--	
MAR 01, 71	0945	4	.3 38000	16.6	8.2	7.1	84	--	--	
			1.8 42000	16.7	8.2	6.6	82	--	--	
APR 14, 71	0940	4	.3 44000	23.5	8.1	7.3	101	--	42	
			1.5 44000	23.0	8.1	6.9	94	--	--	
JUN 02, 71	1010	4	.3 45000	27.0	8.0	6.4	96	--	23	
			.9 45000	27.0	8.0	6.5	97	--	--	
			1.4 45000	27.0	8.0	6.5	97	--	--	
LINE 144										
APR 14, 71	0920	2	.3 44000	22.7	8.1	7.2	99	--	--	
			1.2 44000	22.5	8.1	7.0	95	--	--	
JUN 02, 71	1020	2	.3 44000	27.0	8.0	6.4	96	--	23	
			.9 44000	26.9	8.0	6.4	96	--	--	
			1.4 45000	27.1	8.0	6.3	94	--	--	
LINE 145										
APR 14, 71	0925	2	.3 44000	23.1	8.2	7.0	96	--	37	
			1.5 44000	22.8	8.2	7.0	96	--	--	
APR 14, 71	0930	4	.3 45000	23.1	8.1	7.3	100	--	38	
			1.7 45000	22.6	8.1	7.2	99	--	--	
LINE 150										
MAR 01, 71	1025	1	.3 41000	16.7	8.3	6.7	80	--	104	
			1.6 41000	16.8	8.3	6.8	82	--	--	
APR 14, 71	1005	1	.3 44000	23.1	8.2	6.9	94	--	61	
			1.5 44000	22.7	8.1	6.8	93	--	--	

TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
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## LINE 150 CONTINUED

MAR 01, 71	1030	2	.3 2.1	42000 42000	16.5 16.6	8.4 8.3	6.5 6.5	78 78	-- --	84 --
APR 14, 71	1010	2	.3 2.0	44000 44000	23.1 22.5	8.1 8.1	7.1 7.0	97 95	-- --	51 --
MAR 01, 71	1040	3	.3 1.1	42000 42000	16.7 16.7	8.4 8.4	6.7 6.9	81 83	-- --	-- --
APR 14, 71	1015	3	.3 1.5 2.1	44000 44000 44000	23.6 23.3 22.9	8.1 8.1 8.1	7.1 6.9 6.8	99 96 93	-- -- --	58 -- --
OCT 12, 70	0900	4	.3 1.5 3.0 6.1 9.1 11.6	31000 32000 33000 37000 37000 39000	22.6 22.7 22.8 22.9 23.0 22.8	8.3 8.3 8.3 8.2 8.2 8.2	7.1 6.5 6.4 5.0 4.9 6.9	91 83 83 66 64 92	20 30 40 50 30 45	89 -- -- -- -- --
MAR 01, 71	1100	4	.3 3.0 6.1 9.1 11.6	42000 42000 43000 44000 43000	18.0 18.1 18.0 18.0 18.0	-- -- -- -- --	7.8 7.7 7.4 7.2 7.4	96 95 91 90 91	-- -- -- -- --	-- -- -- -- --
MAR 06, 71	0940	4	.3 1.5 6.1 11.9	41000 41000 42000 42000	15.2 15.2 15.0 15.0	8.1 8.2 8.3 8.4	7.6 7.6 7.5 7.6	88 88 88 89	-- -- -- --	-- -- -- --
APR 14, 71	1100	4	.3 3.0 6.1 11.3	44000 44000 44000 42000	22.9 22.2 22.0 22.2	8.0 8.0 8.1 8.3	6.3 6.0 6.0 6.7	86 81 81 89	-- -- -- --	76 -- -- --
JUN 02, 71	1015	4	.5 1.5 3.0 6.1 10.7	43000 43000 43000 43000 43000	26.6 26.5 26.5 26.5 26.7	8.1 8.1 8.1 8.1 8.1	7.3 7.2 7.1 7.2 7.7	107 106 104 106 113	-- -- -- -- --	74 -- -- -- --

## LINE 169

MAR 01, 71	0820	2	.3 1.2	40000 40000	17.4 17.5	8.4 8.3	7.2 7.2	87 88	-- --	163 --
MAR 06, 71	0915	2	.3 .8	38000 38000	16.2 16.4	-- --	8.2 8.0	95 94	-- --	46 --
APR 14, 71	1140	2	.3 .9	44000 44000	24.7 24.5	-- --	7.5 7.5	107 107	-- --	99 --
JUN 02, 71	1110	2	.3 1.1	45000 45000	27.2 27.4	8.6 8.6	6.4 6.4	96 96	-- --	33 --

## LINE 175

MAR 01, 71	0855	1	.3 1.5	41000 41000	17.3 17.3	8.5 8.4	7.6 7.6	92 92	-- --	163 --
MAR 06, 71	1000	1	.3 1.2	38000 38000	15.5 15.7	-- --	8.9 8.4	103 98	-- --	107 --
APR 14, 71	1110	1	.3 1.5	44000 44000	23.8 23.6	8.2 8.2	7.2 7.4	101 103	-- --	133 --
JUN 02, 71	0920	1	.3	45000	26.4	8.1	6.3	93	--	69

TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,  
1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS										
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
LINE 175 CONTINUED										
JUN 02, 71	0920	1	1.7	45000	26.4	8.1	6.3	93	--	--
MAR 01, 71	0845	2	.3 1.8	41000 41000	17.3 17.5	8.5 8.4	7.5 7.4	90 90	--	152
MAR 06, 71	0950	2	.3 1.4	37000 38000	15.5 15.7	--	9.2 9.1	106 106	--	135
APR 14, 71	1125	2	.3 1.7	44000 44000	24.5 24.2	--	7.3 7.2	104 101	--	119
MAR 01, 71	0840	3	.3 1.4	40000 40000	17.7 17.7	8.6 8.5	7.2 7.1	88 87	--	152
MAR 06, 71	0945	3	.3 1.4	37000 37000	15.7 16.0	--	8.8 8.9	101 102	--	--
APR 14, 71	1130	3	.3 1.7	44000 44000	24.6 24.2	--	7.4 7.4	106 104	--	112
JUN 02, 71	1100	3	.3 1.7	45000 43000	27.5 27.3	8.0 8.0	5.9 6.8	89 100	--	28
LINE 180										
MAR 01, 71	0905	2	.3 2.0	41000 41000	16.7 17.6	8.5 8.4	7.1 7.3	85 89	--	107
MAR 06, 71	1010	2	.3 1.8	39000 39000	15.7 15.9	--	9.7 10.1	113 117	--	130
APR 14, 71	1100	2	.3 2.0	44000 44000	24.7 23.9	8.2 8.2	7.2 7.2	103 101	--	123
JUN 02, 71	0930	2	.3 2.0	44000 45000	26.5 26.5	8.1 8.1	6.4 6.2	94 91	--	51
LINE 190										
MAR 01, 71	1110	2	.3 1.5	42000 42000	16.7 16.7	8.5 8.4	7.0 7.1	84 86	--	79
APR 14, 71	1040	2	.3 1.5	44000 44000	23.4 23.3	8.2 8.2	7.2 7.1	100 99	--	61
APR 14, 71	1305	3	.3 1.5 3.0	41000 39000 40000	22.9 22.8 22.6	7.8 7.9 8.3	6.9 7.0 6.8	93 93 91	--	36
APR 14, 71	1033	3	.5 3.0 6.1 7.9	44000 44000 44000 44000	22.0 21.9 21.9 21.8	7.9 7.9 8.0 8.2	5.6 5.6 5.6 5.7	76 76 78 77	--	66
JUN 02, 71	0952	3	.5 1.5 3.0 6.1 9.1	43000 43000 43000 43000 43000	26.0 26.0 26.0 26.0 26.0	8.0 8.0 8.0 8.0 8.0	7.0 8.0 8.0 8.0 8.0	104 112 113 112 112	--	81
MAR 01, 71	1155	4	.3 1.5 6.1 11.6	43000 43000 43000 42000	18.6 18.5 18.5 18.1	7.7 7.7 7.8 8.2	7.7 7.8 7.6 7.4	96 96 94 91	--	86
MAR 01, 71	1015	4	.3 3.0	41000 42000	18.2 18.1	--	7.9 7.8	96 96	--	--



TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
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## LINE 190 CONTINUED

MAR 01, 71	1015	4	6.1	42000	18.1	--	7.8	96	--	--
			9.1	44000	18.0	--	7.5	94	--	--
			12.2	46000	17.8	--	7.3	91	--	--
MAR 06, 71	0915	4	.3	42000	15.0	8.1	7.7	91	--	--
			1.5	42000	15.0	8.1	7.7	91	--	--
			6.1	42000	15.0	8.2	7.9	93	--	--
			12.2	42000	14.5	8.4	7.6	88	--	--

## LINE 200

MAR 01, 71	1135	2	.3	43000	18.5	7.8	7.9	98	--	117
			1.5	44000	18.5	7.8	7.9	99	--	--
			6.1	47000	18.4	8.0	7.7	97	--	--
			12.5	46000	18.3	8.4	7.4	92	--	--
APR 14, 71	1010	2	.5	44000	21.7	8.1	6.7	91	--	127
			3.0	44000	21.6	8.2	6.7	91	--	--
			6.1	44000	21.6	8.2	6.4	87	--	--
			11.6	44000	21.6	8.3	6.3	85	--	--
JUN 02, 71	1525	2	.6	43000	26.8	8.1	9.7	143	--	71
			3.0	43000	26.8	8.1	9.9	146	--	--
			6.1	43000	26.8	8.1	10.5	154	--	--
			11.0	43000	26.9	8.1	10.2	150	--	--

## LINE 210

MAR 01, 71	1105	2	.3	47000	18.0	7.7	7.0	89	--	102
			1.5	47000	18.0	7.8	7.0	89	--	--
			6.1	47000	18.1	7.9	7.0	89	--	--
			12.3	45000	18.1	8.3	6.9	86	--	--
APR 14, 71	0950	2	.3	42000	21.4	8.2	6.5	86	--	119
			3.0	42000	21.4	8.3	7.1	93	--	--
			6.1	42000	21.3	8.3	7.2	95	--	--
			11.3	42000	21.5	8.5	7.6	100	--	--
JUN 02, 71	1545	2	.6	46000	26.9	8.2	9.0	134	--	114
			3.0	46000	26.9	8.2	10.2	152	--	--
			6.1	46000	26.9	8.2	10.0	149	--	--
			10.7	46000	26.9	8.2	10.1	151	--	--

## LINE 224

MAR 01, 71	1305	2	.3	29000	17.3	8.1	7.7	89	--	86
			.8	29000	17.4	8.1	7.8	90	--	--
APR 12, 71	1640	2	.3	34000	22.9	8.1	7.5	97	--	--
			1.1	34000	22.9	8.1	7.6	99	--	--

## LINE 235

MAR 01, 71	1325	2	.3	36000	17.2	7.9	7.6	89	--	91
			1.7	36000	17.3	8.0	7.4	88	--	--
APR 12, 71	1605	2	.3	44000	22.7	8.3	7.1	97	--	28
			1.5	44000	22.8	8.3	7.1	97	--	--

## LINE 249

MAR 01, 71	1410	2	.3	39000	17.4	8.2	8.1	98	--	91
			1.5	39000	17.4	8.2	7.9	95	--	--
			3.0	39000	17.5	8.1	7.9	95	--	--

TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,  
1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS										
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
LINE 249 CONTINUED										
APR 12, 71	1535	2	.3 1.5	44000 43000	23.2 23.6	8.2 8.2	7.4 7.2	101 100	-- --	43 --
LINE 254										
APR 13, 71	1845	2	.3 1.5 2.4 2.7 3.0 3.4	9700 10000 11000 11000 16000 18000	21.7 21.7 21.7 21.6 20.9 20.7	8.2 8.2 8.1 8.0 7.8 7.6	11.6 11.3 10.1 8.8 2.1 .3	135 131 117 102 24 3	-- -- -- -- -- --	-- -- -- -- -- --
JUN 01, 71	1245	2	.3 1.5 2.1 3.0 3.7	3000 3900 3800 3900 4000	28.4 28.4 28.2 28.1 28.1	8.4 8.4 8.2 8.2 8.1	7.7 7.6 5.9 4.9 4.6	99 97 76 63 59	-- -- -- -- --	46 -- -- -- --
LINE 255										
JUN 02, 71	0952	2	.3 1.5 2.7	11000 11000 12000	28.0 28.0 28.0	8.0 8.0 8.0	7.0 7.0 6.0	96 92 83	-- -- --	30 -- --
LINE 258										
MAR 01, 71	1605	2	.3 .6	36000 36000	17.2 17.3	7.9 7.7	7.4 7.4	87 88	-- --	58 --
APR 13, 71	1825	2	.8	34000	22.6	8.7	8.4	109	--	--
JUN 01, 71	1215	2	.3 .9	27000 27000	27.7 27.7	8.2 8.2	6.2 6.2	86 66	-- --	28 --
LINE 264										
MAR 01, 71	1530	2	.3 1.2	36000 38000	17.2 17.3	9.1 8.5	7.8 7.9	92 95	-- --	-- --
APR 13, 71	1815	2	.3 1.2	43000 43000	23.0 23.0	8.1 8.0	7.7 7.8	105 107	-- --	-- --
JUN 01, 71	1200	2	.3 1.4	36000 36000	27.6 27.6	8.3 8.3	6.5 6.4	93 91	-- --	44 --
LINE 270										
MAR 01, 71	1635	2	.3 2.4 3.8	39000 39000 38000	17.0 16.7 16.9	7.7 7.8 7.7	7.4 6.7 6.2	88 79 74	-- -- --	122 -- --
JUN 01, 71	1135	2	.3 1.5 3.0 4.0 4.9	40000 40000 41000 42000 42000	28.0 27.8 27.5 27.5 27.5	8.0 8.1 8.1 8.0 7.9	3.7 4.7 4.7 4.2 2.4	54 69 68 62 35	-- -- -- -- --	81 -- -- -- --
LINE 284										
MAR 01, 71	1650	1	.3 1.2	39000 40000	16.9 17.1	8.4 8.3	7.6 7.1	90 86	-- --	74 --
APR 13, 71	1725	1	.3	45000	23.8	8.1	7.5	106	--	37

TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
LINE 284 CONTINUED										
APR 13, 71	1725	1	1.5	45000	23.7	8.1	7.7	107	--	--
JUN 01, 71	1015	1	.3 1.2	40000 40000	27.0 27.0	8.2 8.2	6.0 5.8	87 84	-- --	46 --
MAR 01, 71	1700	2	.3 1.5 3.0 5.0	40000 40000 39000 41000	16.7 16.7 16.6 16.6	8.6 8.6 8.3 8.4	7.5 7.1 7.2 7.1	89 85 85 85	-- -- -- --	99 -- -- --
APR 13, 71	1735	2	.3 1.8	44000 44000	23.0 22.9	8.1 8.1	7.6 7.6	104 104	-- --	-- --
JUN 01, 71	1020	2	.3 1.5 3.0 4.6	42000 42000 43000 43000	27.4 27.4 27.2 27.2	8.2 8.2 8.2 8.2	6.2 6.2 5.9 5.3	91 91 87 78	-- -- -- --	46 -- -- --
MAR 01, 71	1715	3	.3 1.8	40000 40000	16.7 16.8	8.4 8.4	7.8 6.7	93 81	-- --	102 --
APR 13, 71	1750	3	.3 2.0	45000 44000	23.1 23.1	9.2 9.4	7.5 7.5	103 103	-- --	-- --
JUN 01, 71	1035	3	.3 2.3	43000 43000	27.5 27.4	8.3 8.2	6.1 6.0	90 88	-- --	47 --
LINE 300										
MAR 06, 71	1020	1	.3 1.2 2.4	43000 43000 42000	16.0 15.9 16.1	7.5 7.5 7.5	7.8 7.8 7.4	93 93 88	-- -- --	76 -- --
APR 15, 71	1127	1	.5 2.0	46000 46000	22.9 22.9	8.8 8.9	4.8 4.9	66 67	-- --	51 --
JUN 01, 71	1405	1	.5 1.2 1.5 1.8 2.4	44000 44000 44000 44000 46000	27.4 27.4 27.4 27.4 27.6	8.2 8.2 8.2 8.2 8.2	7.1 7.3 7.9 7.6 6.9	106 109 118 113 104	-- -- -- -- --	61 -- -- -- --
APR 15, 71	1106	2	.5 1.5 4.3	46000 46000 46000	22.1 22.1 22.2	8.7 8.7 8.9	5.0 5.0 5.8	68 68 78	-- -- --	74 -- --
JUN 01, 71	1420	2	.5 1.5 3.0 4.6	43000 43000 43000 43000	27.6 27.6 27.4 27.6	8.2 8.2 8.2 8.2	6.8 7.1 7.2 6.7	101 106 106 100	-- -- -- --	71 -- -- --
MAR 06, 71	1005	3	.3 .9 2.3	42000 42000 42000	15.8 15.8 16.0	7.6 7.6 7.6	7.8 8.0 8.4	93 95 100	-- -- --	81 -- --
APR 15, 71	1055	3	.5 1.8	45000 45000	22.9 22.9	8.8 8.9	5.6 6.0	77 82	-- --	53 --
JUN 01, 71	1430	3	.5 .9 1.8	43000 43000 43000	27.6 27.6 27.7	8.3 8.3 8.2	7.4 7.2 7.2	110 107 107	-- -- --	58 -- --
LINE 310										
APR 01, 71	1005	2	.3 1.5 3.0	26000 29000 31000	26.8 26.8 26.3	8.2 8.2 8.2	6.9 6.2 6.2	93 85 85	-- -- --	71 -- --

TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,  
1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS										
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANSP- ARENCY SECCHI DISK (CM)
LINE 310 CONTINUED										
APR 01, 71	1005	2	9.6	31000	26.2	8.1	6.1	84	--	--
APR 13, 71	1320	2	.3	31000	23.4	7.5	7.3	95	--	76
			1.5	31000	23.0	7.4	7.9	101	--	--
			3.8	33000	23.1	7.2	7.8	101	--	--
			5.2	33000	23.4	6.8	9.8	129	--	--
LINE 320										
APR 13, 71	1400	2	.3	22000	23.6	8.1	6.8	85	--	28
			1.5	22000	23.5	8.1	6.8	85	--	--
			3.7	22000	23.7	8.3	7.2	90	--	--
JUN 01, 71	1050	2	.3	36000	27.3	8.2	6.8	97	--	48
			1.5	36000	27.3	8.2	6.6	94	--	--
			3.8	34000	27.4	8.2	6.2	87	--	--
LINE 330										
MAR 04, 71	0910	2	.3	36000	14.1	--	7.8	87	--	--
			1.5	36000	13.8	--	8.8	98	--	--
			3.0	36000	13.8	--	8.8	98	--	--
MAR 04, 71	1110	2	.3	46000	15.1	--	8.4	100	--	--
			1.5	46000	15.0	--	8.4	100	--	--
			3.0	48000	14.9	--	8.3	100	--	--
MAR 04, 71	1315	2	.3	45000	15.0	--	8.6	102	--	--
			1.8	45000	15.2	--	8.6	102	--	--
			3.4	42000	15.7	--	8.7	104	--	--
MAR 04, 71	1410	2	.3	45000	14.9	--	8.7	104	--	--
			1.8	45000	14.9	--	8.8	105	--	--
			3.4	45000	15.0	--	8.8	105	--	--
MAR 04, 71	1740	2	.3	45000	14.4	--	6.6	101	--	--
			1.8	45000	14.5	--	8.6	101	--	--
			3.4	45000	14.4	--	6.8	104	--	--
MAR 05, 71	0720	2	.3	45000	14.5	--	7.4	87	--	--
			1.8	45000	14.5	--	7.4	87	--	--
			3.2	45000	14.5	--	7.4	87	--	--
MAR 05, 71	0910	2	.3	45000	14.9	--	7.3	87	--	--
			1.8	45000	14.9	--	7.4	88	--	--
			3.4	45000	14.9	--	7.4	88	--	--
MAR 05, 71	1110	2	.3	48000	15.9	--	7.6	93	--	--
			1.8	48000	16.0	--	7.6	93	--	--
			3.5	48000	16.4	--	7.6	94	--	--
MAR 05, 71	1325	2	.3	48000	16.3	--	7.7	95	--	--
			1.8	48000	16.8	--	7.8	99	--	--
			3.5	46000	16.9	--	7.8	96	--	--
MAR 05, 71	1510	2	.3	47000	16.0	--	7.6	93	--	--
			1.8	47000	16.0	--	7.4	90	--	--
			3.5	48000	16.0	--	7.4	90	--	--
MAR 05, 71	1710	2	.6	47000	15.8	--	8.4	102	--	--
			2.1	47000	15.8	--	8.4	102	--	--
			3.7	47000	15.8	--	8.4	102	--	--
MAR 04, 71	2000	3	.5	45000	14.0	--	8.4	98	--	--
			.9	45000	14.0	--	8.4	98	--	--
			1.7	45000	14.0	--	8.6	100	--	--
MAR 04, 71	2200	3	.5	45000	14.2	--	8.2	95	--	--

TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,  
1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS										
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO- MHOS/CM)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
LINE 330 CONTINUED										
MAR 04, 71	2200	3	.9 1.7	45000 49000	14.2 14.2	-- --	8.0 8.2	93 95	-- --	-- --
MAR 04, 71	2400	3	.5 .9 1.7	44000 48000 48000	14.4 14.4 14.6	-- -- --	8.0 7.9 8.0	94 94 95	-- -- --	-- -- --
MAR 05, 71	0200	3	.5 .9 1.7	46000 46000 47000	14.1 14.0 14.4	-- -- --	7.4 7.6 7.7	86 88 92	-- -- --	-- -- --
MAR 05, 71	0400	3	.5 .9 1.7	42000 42000 40000	13.7 13.7 13.8	-- -- --	7.7 7.7 8.0	88 88 91	-- -- --	-- -- --
LINE 333										
MAR 01, 71	1540	1	.3 1.7	42000 42000	19.3 18.9	-- --	8.0 7.7	101 96	-- --	102 --
MAR 06, 71	0850	1	.3 .9 1.8	41000 35000 41000	15.7 15.7 15.5	7.9 8.1 8.6	8.5 9.5 8.7	100 109 101	-- -- --	76 -- --
APR 13, 71	1605	1	.3 1.7	45000 46000	23.5 23.5	8.6 8.7	7.0 7.6	97 106	-- --	56 --
APR 13, 71	1615	2	.3 1.5	45000 46000	23.2 23.4	8.6 8.7	6.6 8.0	90 111	-- --	43 --
JUN 01, 71	1136	2	.3 1.5	44000 40000	27.5 27.6	8.3 8.3	7.0 7.3	106 107	-- --	61 --
APR 13, 71	1623	3	.3 1.2	45000 45000	23.7 23.8	8.4 8.6	6.6 8.3	92 117	-- --	30 --
LINE 340										
APR 13, 71	1520	1	.3 1.5 2.3	48000 48000 48000	23.3 23.2 23.4	8.6 8.6 8.7	7.4 6.9 7.6	103 96 106	-- -- --	76 -- --
JUN 01, 71	1152	1	.3 1.8	46000 46000	27.4 27.6	8.3 8.3	7.5 7.6	112 115	-- --	86 --
APR 13, 71	1530	2	.3 2.3	45000 46000	22.9 23.1	8.5 8.7	5.9 7.0	81 96	-- --	58 --
JUN 01, 71	1159	2	.3 2.1	46000 46000	27.6 27.6	8.3 8.3	7.7 7.1	117 108	-- --	61 --
APR 13, 71	1545	3	.3 1.5	45000 48000	23.3 23.5	8.5 8.6	6.2 8.0	86 111	-- --	56 --
JUN 01, 71	1208	3	.5 1.2 1.8	46000 46000 46000	27.6 27.6 27.7	8.2 8.2 8.2	6.4 7.2 7.4	97 109 112	-- -- --	38 -- --
LINE 350										
MAR 06, 71	0805	1	.3 1.2 2.4	43000 43000 41000	15.9 15.7 15.7	7.7 7.9 8.4	8.0 7.9 8.4	95 94 99	-- -- --	-- -- --
APR 13, 71	1450	1	.3 1.2	48000 48000	23.4 23.5	8.5 8.7	6.3 8.0	88 111	-- --	74 --

TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANSP- ARENCY SECCHI DISK (CM)
LINE 350 CONTINUED										
JUN 01, 71	1317	1	.3 .9	43000 43000	28.0 28.1	8.4 8.4	8.2 8.4	122 125	-- --	89 --
APR 13, 71	1435	2	.3 1.5 4.0	45000 44000 48000	22.4 22.3 23.0	8.3 8.4 8.5	6.0 6.4 7.6	81 66 104	-- -- --	114 -- --
JUN 01, 71	1335	2	.5 1.5 3.0 4.6	43000 43000 43000 42000	27.5 27.5 27.5 27.5	8.3 8.3 8.3 8.2	7.6 7.6 7.6 7.3	115 112 112 107	-- -- -- --	91 -- -- --
MAR 06, 71	0930	3	.3 .9 2.1	41000 41000 39000	15.7 15.7 15.9	8.0 8.3 8.6	8.4 8.6 8.6	99 94 100	-- -- --	66 -- --
APR 13, 71	1422	3	.3 1.5 2.7	44000 44000 44000	22.7 22.6 23.6	8.3 8.3 8.5	6.3 6.4 6.2	87 68 66	-- -- --	61 -- --
JUN 01, 71	1345	3	.5 1.2 2.1	43000 43000 43000	27.5 27.5 27.8	8.2 8.3 8.3	7.0 7.4 7.6	103 109 113	-- -- --	61 -- --
LINE 363										
MAR 01, 71	1445	1	.3 1.3	47000 46000	19.0 18.9	-- --	8.0 8.2	103 104	-- --	122 --
MAR 06, 71	0755	1	.3 .9 1.8	37000 37000 51000	16.5 16.5 16.6	7.5 7.5 7.5	6.4 6.4 8.1	98 98 101	-- -- --	-- -- --
APR 15, 71	0910	1	.3 1.5 2.9	45000 45000 44000	21.5 21.5 21.6	8.7 8.8 9.1	6.1 6.2 6.6	82 84 89	-- -- --	122 -- --
JUN 01, 71	1614	1	.3 1.4	43000 43000	27.8 27.7	8.3 8.3	7.7 7.7	115 115	-- --	69 --
MAR 01, 71	1435	2	.3 1.5 3.0 4.0	46000 46000 46000 46000	18.7 18.7 18.6 18.7	-- -- -- --	6.1 6.2 7.8 7.6	103 104 99 96	-- -- -- --	152 -- -- --
APR 15, 71	0920	2	.5 1.5 4.1	45000 45000 48000	21.8 21.8 21.8	8.6 8.7 8.8	6.0 6.0 6.1	81 81 84	-- -- --	173 -- --
JUN 01, 71	1600	2	.5 1.5 3.7	44000 44000 43000	27.8 27.7 27.6	8.3 8.3 8.3	7.3 7.2 7.3	110 109 109	-- -- --	107 -- --
MAR 01, 71	1700	3	.3 1.5 2.4 3.5	42000 42000 43000 42000	18.8 18.7 18.4 18.6	-- -- -- --	8.8 8.8 7.0 7.2	110 110 86 90	-- -- -- --	135 -- -- --
APR 15, 71	0937	3	.5 1.5 3.0	48000 46000 44000	21.9 21.9 22.0	8.6 8.7 8.8	5.7 5.9 6.2	78 80 84	-- -- --	117 -- --
JUN 01, 71	1545	3	.5 1.5 2.7	44000 44000 43000	27.6 27.6 27.7	8.2 8.2 8.3	6.8 7.2 7.7	103 109 115	-- -- --	61 -- --
APR 15, 71	0950	4	.5 1.5	48000 46000	21.8 21.7	8.4 8.5	5.3 5.3	73 72	-- --	86 --



TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK CM)
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## LINE 363 CONTINUED

APR 15, 71	0950	4	3.0 4.9	46000 48000	21.7 21.8	8.6 8.6	5.4 5.6	73 77	-- --	-- --
JUN 01, 71	1528	4	.5 1.5 3.4	43000 43000 43000	27.3 27.8 27.5	8.3 8.3 8.2	6.8 7.0 7.4	100 104 109	-- -- --	56 -- --
APR 15, 71	1006	5	.5 1.5 3.4	48000 48000 48000	22.1 22.2 22.2	8.5 8.6 8.7	4.7 5.3 5.3	64 73 73	-- -- --	56 -- --
JUN 01, 71	1504	5	.5 1.5 3.0	43000 43000 43000	27.5 27.5 27.5	8.2 8.2 8.2	7.4 7.6 7.8	109 112 115	-- -- --	-- -- --
APR 15, 71	1025	6	.5 1.5 2.9	45000 45000 48000	22.4 22.4 22.7	8.6 8.8 8.8	5.0 5.2 5.7	68 70 79	-- -- --	46 -- --
JUN 01, 71	1453	6	.5 .9	43000 43000	28.1 28.2	8.3 8.2	7.4 7.4	110 110	-- --	91 --

## LINE 375

MAR 01, 71	1920	1	.3 1.5 3.0 4.3	47000 47000 47000 47000	18.8 18.5 18.0 18.0	8.4 8.5 8.6 8.7	8.2 8.2 7.8 7.6	105 104 99 96	-- -- -- --	103 -- -- --
APR 13, 71	1717	1	.3 1.5 3.0 4.3	43000 44000 42000 44000	21.7 21.7 21.7 21.9	8.6 8.7 8.8 8.9	6.5 6.2 6.6 7.6	86 84 88 103	-- -- -- --	132 -- -- --
APR 14, 71	0800	1	.3 1.5 4.1	42000 42000 42000	21.0 21.0 21.0	8.0 8.1 8.2	7.8 7.8 7.8	103 103 103	-- -- --	130 -- --
APR 15, 71	0848	1	.5 1.5 4.3	44000 44000 44000	21.8 21.7 21.6	8.6 8.7 8.8	6.5 6.5 6.9	88 88 93	-- -- --	109 -- --
JUN 01, 71	1632	1	.5 1.5 4.0	44000 44000 44000	27.7 27.2 27.4	8.3 8.3 8.2	7.2 7.7 7.7	109 115 115	-- -- --	61 -- --
JUN 02, 71	0834	1	.5 1.5 3.7	44000 44000 44000	26.1 26.1 25.9	8.1 8.1 8.1	7.0 7.6 7.6	103 112 112	-- -- --	84 -- --
JUN 02, 71	1607	1	.5 1.5 3.7	44000 43000 46000	27.3 27.2 27.2	8.2 8.1 8.2	10.3 11.1 10.1	154 163 151	-- -- --	107 -- --
MAR 01, 71	1400	2	.3 1.5 3.0 4.0	46000 47000 47000 46000	18.9 18.6 18.6 18.7	8.4 8.4 -- --	8.3 7.9 7.6 7.7	105 101 97 97	-- -- -- --	163 -- -- --
APR 15, 71	0830	2	.5 1.5 3.4	46000 46000 46000	21.6 21.6 21.6	8.5 8.6 8.9	6.5 6.7 7.3	88 91 99	-- -- --	61 -- --
JUN 02, 71	0853	2	.5 1.5 3.4	44000 44000 44000	26.4 26.4 26.5	8.1 8.1 8.1	7.0 7.3 7.6	103 107 112	-- -- --	48 -- --
MAR 01, 71	1335	3	.3	43000	18.9	8.4	8.4	105	--	107

TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,  
1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS											
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANSP- ARENCY SECCHI DISK (CM)	
LINE 375 CONTINUED											
MAR 01, 71	1335	3	1.5	43000	18.6	8.5	8.2	102	--	--	
			3.0	43000	18.6	8.3	7.6	95	--	--	
			4.0	43000	18.7	8.4	7.8	98	--	--	
APR 15, 71	0810	3	.5	45000	21.6	8.1	6.7	91	--	61	
			1.5	45000	21.6	8.1	6.8	92	--	--	
			3.7	45000	21.5	8.1	7.4	100	--	--	
JUN 02, 71	0913	3	.5	43000	26.4	8.1	7.4	107	--	33	
			1.5	44000	26.4	8.1	7.2	106	--	--	
			3.4	43000	26.7	8.1	8.0	118	--	--	
MAR 01, 71	1315	4	.3	42000	19.3	8.1	8.0	101	--	81	
			1.5	42000	19.2	8.3	8.0	100	--	--	
			2.6	41000	19.2	8.6	7.8	98	--	--	
APR 15, 71	0752	4	.5	44000	21.6	7.7	6.9	93	--	51	
			1.5	44000	21.6	7.5	7.1	96	--	--	
			2.7	44000	21.5	7.3	7.4	100	--	--	
JUN 02, 71	0932	4	.5	43000	26.7	8.1	7.3	107	--	23	
			1.5	43000	26.7	8.1	7.5	110	--	--	
			2.4	43000	26.7	8.1	7.6	112	--	--	
LINE 382											
MAR 01, 71	1000	1	.3	45000	17.5	8.6	8.0	100	--	--	
			2.7	45000	17.5	8.5	7.9	99	--	--	
APR 14, 71	1505	1	.3	43000	22.4	8.3	7.7	104	--	157	
			1.5	42000	22.5	8.7	8.1	109	--	--	
JUN 01, 71	1705	1	.3	44000	27.6	8.3	7.6	115	--	122	
			1.4	44000	27.7	8.3	8.5	129	--	--	
MAR 01, 71	0930	2	.3	47000	17.6	8.3	7.9	100	--	46	
			1.5	47000	17.6	8.3	7.9	100	--	--	
			3.4	46000	17.6	8.5	7.9	99	--	--	
APR 14, 71	1523	2	.5	42000	22.0	8.5	7.6	101	--	152	
			2.4	42000	22.0	8.8	7.9	105	--	--	
MAR 01, 71	0920	3	.3	46000	17.6	8.2	8.0	100	--	--	
			1.5	46000	17.6	8.2	7.9	99	--	--	
			4.0	46000	17.6	8.2	7.8	98	--	--	
APR 14, 71	1530	3	.5	43000	22.0	8.3	7.3	97	--	152	
			1.5	43000	22.0	8.3	7.3	97	--	--	
			3.7	42000	22.1	8.7	7.8	104	--	--	
JUN 01, 71	1725	3	.5	46000	27.5	8.3	7.4	112	--	178	
			1.5	46000	27.5	8.3	7.8	118	--	--	
			3.4	46000	27.5	8.3	8.2	124	--	--	
MAR 01, 71	0908	4	.3	47000	18.0	7.7	7.7	97	--	91	
			1.5	47000	17.9	7.7	7.7	97	--	--	
			4.1	46000	18.0	7.8	7.7	96	--	--	
MAR 04, 71	1240	4	.3	--	.8	--	--	--	--	--	
MAR 04, 71	1400	4	.3	--	12.0	--	--	--	--	--	
MAR 06, 71	1200	4	.3	39000	16.1	8.1	8.0	93	--	91	
			1.8	39000	16.1	8.2	7.9	92	--	--	
			4.0	42000	15.8	9.1	7.4	88	--	--	
APR 14, 71	1541	4	.3	43000	22.2	8.2	6.5	97	--	152	
			1.5	43000	22.2	8.3	7.1	95	--	--	

TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHDS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK) (CM)
LINE 382 CONTINUED										
APR 14, 71	1541	4	3.7	43000	22.2	8.3	7.7	103	--	--
JUN 01, 71	1730	4	.3	46000	27.6	8.3	7.2	109	--	74
			1.5	46000	27.5	8.3	7.5	114	--	--
			3.4	46000	27.6	8.3	7.8	118	--	--
LINE 397										
MAR 04, 71	1150	2	.3	47000	14.7	7.7	7.8	93	--	--
			3.0	47000	14.7	7.7	7.9	94	--	--
			9.1	47000	14.8	7.7	7.9	95	--	--
			15.2	47000	14.8	7.7	7.9	95	--	--
MAR 04, 71	1400	2	.3	49000	15.2	8.0	7.5	91	--	117
			3.0	49000	15.1	8.1	7.8	95	--	--
			9.1	49000	15.2	8.1	7.8	95	--	--
			15.2	47000	15.2	8.5	8.0	96	--	--
MAR 04, 71	1940	2	.3	39000	15.3	8.5	8.2	94	--	--
			3.0	39000	15.3	8.5	8.5	98	--	--
			9.1	38000	15.3	8.7	8.8	101	--	--
			15.2	36000	15.4	9.2	9.1	103	--	--
MAR 05, 71	0008	2	.3	42000	15.3	8.5	8.0	94	--	--
			3.0	42000	15.3	8.6	8.2	96	--	--
			9.1	41000	15.3	8.7	8.4	98	--	--
			15.2	41000	15.3	9.2	8.5	99	--	--
MAR 05, 71	0825	2	.3	47000	15.4	--	8.0	96	--	--
			1.5	46000	15.4	--	8.2	98	--	--
			6.1	46000	15.4	--	8.2	98	--	--
			13.7	46000	15.4	--	8.4	100	--	--
MAR 05, 71	1220	2	.3	47000	16.1	--	8.2	100	--	--
			1.5	47000	16.1	--	8.2	100	--	--
			6.1	47000	16.1	--	8.3	101	--	--
			15.2	47000	16.2	--	8.4	102	--	--
MAR 05, 71	1545	2	.3	47000	16.9	--	8.0	100	--	--
			1.5	47000	16.8	--	8.1	101	--	--
			6.1	47000	16.5	--	8.4	104	--	--
			15.2	47000	16.5	--	8.4	104	--	--
APR 14, 71	0740	2	.3	43000	21.0	7.8	7.6	100	--	122
			3.0	43000	20.9	7.7	7.8	103	--	--
			6.1	43000	20.9	7.7	7.8	103	--	--
			9.1	43000	20.9	7.7	7.8	103	--	--
			12.8	42000	20.8	7.6	7.6	103	--	--
JUN 02, 71	0800	2	.6	44000	26.2	8.2	7.0	103	--	150
			1.5	46000	26.2	8.1	7.0	103	--	--
			3.0	46000	26.2	8.2	6.9	101	--	--
			6.1	46000	26.2	8.1	7.2	106	--	--
			9.1	46000	26.2	8.1	7.2	104	--	--
			13.7	46000	25.9	8.1	7.4	109	--	--
LINE 400										
MAR 04, 71	2107	3	.3	50000	15.0	--	--	--	--	--
			1.5	50000	15.0	--	--	--	--	--
			5.5	50000	15.0	--	--	--	--	--
MAR 04, 71	2310	3	.3	50000	14.4	--	--	--	--	--
			1.5	50000	14.4	--	--	--	--	--
			5.5	50000	14.4	--	--	--	--	--
MAR 04, 71	1110	3	.3	50000	12.3	--	--	--	--	

TABLE 3A--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS										
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO- MHOS) (FIELD)	TEMPER- TURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
LINE 400 CONTINUED										
MAR 04, 71	1110	3	1.5 5.5	50000 50000	12.3 12.2	-- --	-- --	-- --	-- --	-- --
MAR 04, 71	1302	3	.3 1.5 5.6	48000 49000 48000	13.9 14.4 14.4	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
MAR 04, 71	1500	3	.3 1.5 5.8	40000 41000 49000	14.4 14.4 14.4	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
MAR 04, 71	1601	3	.3 1.5 5.8	48000 48000 48000	14.4 15.0 15.0	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
MAR 04, 71	1904	3	.3 1.5 5.5	49000 49000 49000	15.0 15.0 15.0	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
MAR 05, 71	0148	3	.3 1.5 5.8	50000 50000 50000	14.4 14.4 14.4	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
MAR 05, 71	0308	3	.3 1.5 5.3	50000 50000 50000	14.4 14.4 14.4	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
MAR 05, 71	0507	3	.3 1.5 5.8	50000 50000 50000	14.4 14.4 14.4	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
APR 03, 71	2107	3	.3 1.5 5.5	50000 50000 50000	15.0 15.0 15.0	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
MAR 04, 71	1330	4	.3	--	13.0	--	--	--	--	--
LINE 902										
MAR 04, 71	1430	49	3.0 6.1 12.8	49000 49000 49000	15.5 15.4 15.7	7.9 7.8 7.8	7.6 7.9 6.6	94 96 81	-- -- --	152 -- --
LINE 905										
MAR 04, 71	1220	49	3.0 9.1 18.8	49000 49000 47000	15.5 15.5 16.0	8.2 8.4 8.6	7.5 7.5 7.6	93 93 93	-- -- --	305 -- --
LINE 910										
MAR 04, 71	1255	49	3.0 9.1 18.3	49000 49000 49000	15.5 15.6 16.0	8.0 8.1 8.4	7.6 7.5 7.6	94 93 94	-- -- --	366 -- --

TABLE 3B--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,  
1971 WATER YEAR

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	(TIME)	(SITE)	DEPTH (METERS)	DIS- SOLVED SILICA {SiO2} (MG/L)	TOTAL NITRATE {N} (MG/L)	TOTAL AMMONIA NITROGEN {N} (MG/L)	TOTAL NITRITE {N} (MG/L)	DIS- SOLVED PHOS- PHORUS ORTHO {P} (MG/L)	TOTAL PHOS- PHORUS {P} (MG/L)	BIO- CHEMICAL OXYGEN DEMAND {BOD} (MG/L)	CHEMICAL OXYGEN DEMAND {COD} (MG/L)	TOTAL ORGANIC CARBON (MG/L)
LINE 17												
APR 13, 71	0905	2	.3 3.7	16.0 11.0	.4 .0	.06 .97	.04 .00	.05 .43	.14 .43	5.5 2.3	-- --	-- --
JUN 01, 71	1655	2	.3 3.7	14.0 14.0	.4 .0	.07 1.60	.16 .01	.08 .42	.13 .44	4.3 3.3	-- --	-- --
LINE 22												
APR 13, 71	0940	2	.3 3.4	15.0 13.0	.6 .0	.13 1.10	.05 .00	.12 .58	.15 .58	4.3 2.4	-- --	-- --
JUN 01, 71	1620	2	.3 3.5	15.0 16.0	.2 .6	.04 .24	.12 .13	.15 .19	.20 .21	4.8 2.8	-- --	-- --
LINE 65												
APR 13, 71	1105	2	.3 4.0	7.9 7.5	.1 .2	.16 .24	.00 .00	.06 .06	.07 .06	2.1 1.4	-- --	-- --
JUN 01, 71	1515	2	.3 4.0	12.0 7.0	.0 .0	.02 .42	.01 .01	.05 .07	.05 .07	2.1 1.7	-- --	-- --
LINE 85												
APR 14, 71	1333	3	.3 1.5	4.3 4.4	.1 .1	.14 .12	.00 .00	.05 .05	.05 .05	1.1 1.2	-- --	-- --
JUN 02, 71	1308	3	.5 1.5	4.1 4.7	.0 .0	.05 .01	.02 .02	.06 .10	.06 .10	2.9 2.3	-- --	-- --
LINE 90												
MAR 01, 71	1400	3	.3 3.0	3.3 3.4	.0 .0	.10 .09	.02 .01	.08 .02	.08 .16	1.9 1.9	-- --	-- --
LINE 110												
MAR 01, 71	1320	2	.3 4.0	4.2 3.2	.2 .0	2.20 .18	.07 .02	1.20 .09	1.20 .10	7.8 3.5	-- --	-- --
LINE 125												
MAR 01, 71	1205	2	.3 .9	3.2 3.2	.0 .0	.06 .08	.01 .01	.04 .05	.04 .05	2.2 3.0	-- --	-- --
LINE 129												
MAR 06, 71	1000	2	.3 3.0	4.0 3.7	.1 .0	.00 .00	.01 .00	.08 .04	.08 .07	3.2 3.0	-- --	-- --
APR 19, 71	1150	2	3.4 .3	3.0 2.9	.0 .0	.09 .09	.00 .00	.03 .02	.03 .02	.8 .9	-- --	-- --
JUN 02, 71	1114	2	.3 3.4	3.4 3.2	.2 .0	.01 .05	.02 .02	.03 .03	.04 .09	2.7 2.1	-- --	-- --
LINE 140												
MAR 01, 71	1000	2	.3	2.5	.0	.04	.00	.02	.02	2.9	--	--

TABLE 3B--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS-	TOTAL	AMMONIA	TOTAL	DIS-	TOTAL	BIO-	CHEMICAL	CHEMICAL	TOTAL
				SOLVED SILICA (SiO2) (MG/L)	NITRATE (N) (MG/L)	NITROGEN (N) (MG/L)	NITRITE (N) (MG/L)	PHOS- PHORUS (P) (MG/L)	PHOS- PHORUS (P) (MG/L)	DEMAND (BOD) (MG/L)	DEMAND (COD) (MG/L)	ORGANIC CARBON (MG/L)	

LINE 140 CONTINUED

MAR 01, 71 1000 2 1.2 2.5 .0 .12 .00 .02 .05 4.9 -- --

LINE 143

JUN 02, 71 0945 1 1.8 1.4 .0 .00 .01 .02 .02 .7 -- --

MAR 01, 71 1010 2 .3 2.0 .0 .05 .00 .01 .02 3.8 -- --  
1.8 2.4 .0 .04 .00 .02 .03 1.4 -- --

APR 14, 71 0950 2 .3 1.8 .1 .10 .00 .04 .04 1.4 -- --  
1.8 2.1 .1 .10 .00 .05 .05 2.1 -- --

JUN 02, 71 1000 3 .3 2.0 .0 .00 .02 .04 .08 1.2 -- --  
2.0 1.9 .0 .00 .02 .04 .04 1.7 -- --

LINE 150

MAR 01, 71 1030 2 .3 2.6 .0 .19 .00 .02 .03 .5 -- --  
2.1 2.8 .0 .07 .00 .02 .03 .7 -- --

OCT 12, 70 0900 4 .3 4.9 .0 .00 .00 .00 .00 2.5 -- --  
11.6 .4 .0 .00 .01 .00 .00 1.8 -- --

MAR 01, 71 1100 4 .3 2.1 .0 .08 .01 .02 .02 3.4 -- --  
11.6 2.4 .0 .10 .00 .02 .13 3.3 -- --

MAR 06, 71 0940 4 .3 3.0 .0 .00 .01 .05 .05 1.9 -- --  
11.9 2.1 .0 .00 .00 .03 .35 1.4 -- --

LINE 169

MAR 01, 71 0820 2 .3 .5 .0 .05 .00 .01 .03 2.0 -- --  
1.2 .2 .0 .14 .00 .02 .03 .9 -- --

MAR 06, 71 0915 2 .8 .8 .1 .01 .02 .03 .03 1.5 -- --

LINE 180

MAR 01, 71 0905 2 .3 1.5 .0 .15 .00 .02 .02 2.1 -- --  
2.0 1.1 .0 .09 .00 .02 .02 .6 -- --

MAR 06, 71 1010 2 .3 .6 .0 .00 .00 .01 .01 2.2 -- --  
1.8 .0 .0 .01 .00 .01 .02 2.2 -- --

APR 14, 71 1100 2 .3 1.4 .0 .11 .00 .00 .06 1.4 -- --  
2.0 1.1 .0 .05 .00 .00 .08 1.9 -- --

JUN 02, 71 0930 2 .3 1.6 .0 .00 .01 .02 .03 .6 -- --  
2.0 1.7 .0 .00 .01 .02 .02 1.2 -- --

LINE 190

APR 14, 71 1305 3 .3 3.9 .2 .12 .00 .05 .05 1.4 -- --  
3.0 3.6 .1 .18 .00 .06 .06 1.5 -- --

APR 14, 71 1033 3 .5 2.4 .0 .07 .00 .05 .05 .9 -- --  
7.9 2.7 .0 .11 .00 .03 .03 .9 -- --

JUN 02, 71 0952 3 .5 18.0 .0 .00 .02 .03 .03 2.4 -- --  
9.1 1.7 .0 .00 .02 .02 .02 1.9 -- --

MAR 01, 71 1155 4 .3 2.1 .0 .06 .01 .04 .04 1.6 -- --  
11.6 2.3 .0 .12 .00 .01 .05 1.5 -- --

MAR 01, 71 1015 4 .3 1.8 .0 .07 .01 .03 .03 4.3 -- --



TABLE 3B--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS-SOLVED SILICA (SiO <sub>2</sub> ) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS-SOLVED PHOS- PHORUS (P) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	BIO-CHEMICAL OXYGEN DEMAND (BOD) (MG/L)	CHEMICAL OXYGEN DEMAND (COD) (MG/L)	TOTAL ORGANIC CARBON (MG/L)
LINE 190 CONTINUED												
MAR 01, 71	1015	4	12.2	3.1	.0	.09	.00	.02	.55	5.6	--	--
MAR 06, 71	0915	4	.3 12.2	1.7 2.0	.1 .0	.01 .01	.01 .00	.08 .03	.08 .67	1.9 2.8	--	--
LINE 210												
MAR 01, 71	1105	2	.3 12.3	1.3 2.0	.0 .0	.10 .10	.01 .00	.03 .03	.03 .08	1.0 .7	--	--
LINE 224												
MAR 01, 71	1305	2	.3 .8	4.8 5.2	.0 .0	.06 .05	.00 .00	.02 .02	.03 .03	2.5 2.8	--	--
APR 12, 71	1640	2	1.1	2.4	.0	.08	.00	.07	.07	1.6	--	--
LINE 235												
MAR 01, 71	1325	2	.3 1.7	3.5 3.2	.0 .0	.06 .06	.00 .00	.01 .02	.03 .03	1.3 1.6	--	--
LINE 249												
MAR 01, 71	1410	2	.3 3.0	1.8 1.7	.0 .0	.14 .05	.00 .00	.01 .02	.02 .02	2.0 1.5	--	--
APR 12, 71	1535	2	.3 1.5	3.0 3.3	.0 .0	.04 .33	.00 .00	.04 .00	.04 .04	1.2 1.1	--	--
LINE 254												
APR 13, 71	1845	2	.3 3.4	7.0 7.3	.0 .1	.13 .22	.00 .00	.07 .05	.11 .15	6.3 7.2	--	--
JUN 01, 71	1245	2	.3 3.7	9.3 11.0	.0 .0	.04 .27	.02 .02	.05 .34	.07 .40	3.0 2.8	--	--
LINE 258												
MAR 01, 71	1605	2	.6	4.1	.1	.18	.00	.05	.05	1.1	--	--
APR 13, 71	1825	2	.8	5.8	.1	.09	.00	.06	.06	3.8	--	--
LINE 264												
MAR 01, 71	1530	2	.3 1.2	2.3 2.3	.0 .0	.10 .10	.00 .00	.03 .03	.03 .04	1.5 1.3	--	--
JUN 01, 71	1200	2	.3 1.4	3.6 4.6	.0 .1	.03 .01	.01 .01	.03 .07	.03 .07	2.6 3.1	--	--
LINE 270												
MAR 01, 71	1635	2	.3 3.8	2.4 1.7	.0 .0	.33 .15	.02 .00	.08 .04	.09 .04	3.6 1.4	--	--
LINE 284												
MAR 01, 71	1650	1	.3	2.0	.0	.06	.00	.05	.05	1.2	--	--

TABLE 3B--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,  
1971 WATER YEAR--CONTINUED

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS												
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS- SOLVED SILICA (SiO <sub>2</sub> ) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED PHOS- PHORUS ORTHO (P) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	BIO- CHEMICAL OXYGEN DEMAND (BOD) (MG/L)	CHEMICAL OXYGEN DEMAND (COD) (MG/L)	TOTAL ORGANIC CARBON (MG/L)
LINE 284 CONTINUED												
MAR 01, 71	1650	1	1.2	2.3	.0	.08	.00	.05	.05	1.8	--	--
APR 13, 71	1725	1	.3 1.5	2.5 2.0	.2 .0	.05 .10	.00 .00	.03 .01	.03 .35	1.1 1.8	--	--
JUN 01, 71	1015	1	.3 1.2	2.5 2.8	.0 .0	.00 .02	.01 .02	.05 .06	.05 .06	1.1 1.7	--	--
MAR 01, 71	1715	3	.3 1.8	1.7 2.6	.0 .0	.05 .12	.00 .00	.02 .06	.02 .06	2.2 1.3	--	--
APR 13, 71	1750	3	.3 2.0	3.2 2.7	.1 .0	.12 .12	.00 .01	.05 .01	.05 .16	1.2 1.0	--	--
JUN 01, 71	1035	3	.3 2.3	2.3 2.5	.0 .0	.00 .01	.02 .02	.03 .05	.03 .05	1.3 1.6	--	--
LINE 300												
MAR 06, 71	1020	1	.3 2.4	2.2 2.3	.0 .0	.00 .00	.01 .00	.05 .10	.05 .10	2.1 2.4	--	--
MAR 06, 71	1005	3	.3 2.3	1.6 1.5	.0 .1	.00 .00	.00 .00	.04 .08	.04 .08	2.0 1.7	--	--
LINE 310												
MAR 04, 71	1010	2	.3	3.8	.0	.02	.02	.05	.06	--	--	--
MAR 04, 71	1945	2	.3	3.2	.0	.24	.02	.05	.05	--	--	--
MAR 05, 71	0510	2	.3	2.8	.0	.27	.01	.04	.04	--	--	--
MAR 05, 71	1215	2	.3	2.7	.0	.22	.02	.04	.06	--	--	--
LINE 330												
MAR 02, 71	1445	2	.3	2.2	.3	--	--	--	--	--	--	--
LINE 333												
MAR 01, 71	1540	1	.3 1.7	1.6 1.9	.0 .1	.09 .16	.00 .03	.01 .07	.03 .07	1.8 1.1	--	--
MAR 06, 71	0850	1	.3 1.8	2.2 2.2	.0 .0	.00 .00	.01 .02	.05 .06	.05 .06	2.0 2.0	--	--
LINE 340												
APR 13, 71	1530	2	.3 2.3	1.5 1.7	.0 .0	.10 .09	.00 .00	.03 .03	.03 .03	1.3 1.3	--	--
JUN 01, 71	1159	2	.3 2.1	1.6 1.6	.0 .0	.00 .00	.03 .01	.02 .03	.02 .04	.2 1.5	--	--
LINE 350												
MAR 06, 71	0805	1	.3 2.4	1.9 2.2	.0 .0	.00 .00	.00 .01	.02 .06	.03 .06	-- 1.4	--	--
APR 13, 71	1450	1	.3 1.2	1.6 1.5	.0 .0	.16 .14	.00 .00	.03 .04	.04 .04	1.5 1.8	--	--
JUN 01, 71	1317	1	.3	1.1	.0	.00	.03	.02	.03	2.2	--	--

TABLE 3B--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS-SOLVED SILICA (SiO2) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (NH3) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS-SOLVED PHOSPHORUS (P) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	BIO-CHEMICAL OXYGEN DEMAND (BOD) (MG/L)	CHEMICAL OXYGEN DEMAND (COD) (MG/L)	TOTAL ORGANIC CARBON (MG/L)
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LINE 350 CONTINUED

JUN 01, 71	1317	1	.9	1.3	.0	.00	.01	.02	.02	2.4	--	--
MAR 06, 71	0930	3	.3 2.1	1.9 1.4	.0 .0	.00 .00	.01 .01	.05 .07	.06 .07	1.4 1.6	-- --	-- --
APR 13, 71	1422	3	.3 2.7	2.0 2.1	.0 .0	.37 .35	.00 .00	.02 .02	.02 .02	.9 1.3	-- --	-- --
JUN 01, 71	1345	3	.5 2.1	2.1 2.1	.0 .0	.02 .00	.01 .02	.02 .03	.02 .03	2.3 1.7	-- --	-- --

LINE 363

MAR 01, 71	1445	1	.3 1.3	1.0 1.0	.0 .0	.06 .03	.00 .01	.04 .02	.04 .02	1.3 1.4	-- --	-- --
MAR 06, 71	0755	1	.3 1.8	1.0 1.1	.0 .0	.00 .00	.00 .01	.02 .04	.02 .04	1.0 1.1	-- --	-- --
APR 15, 71	0920	2	.5 4.1	.0 .0	.0 .0	.08 .06	.00 .00	.00 .01	.04 .03	.9 .9	-- --	-- --
JUN 01, 71	1600	2	.5 3.7	1.6 1.8	.0 .0	.05 .00	.01 .02	.02 .02	.02 .02	2.7 2.0	-- --	-- --
MAR 01, 71	1700	3	.3 3.5	1.6 1.9	.0 .0	.06 .18	.00 .01	.04 .06	.04 .06	1.5 1.1	-- --	-- --
APR 15, 71	0950	4	.5 4.9	1.2 1.4	.0 .0	.13 .09	.00 .00	.03 .03	.05 .05	.5 .7	-- --	-- --
JUN 01, 71	1528	4	.5 3.4	2.0 2.3	.0 .0	.00 .00	.02 .02	.03 .03	.03 .04	1.7 2.1	-- --	-- --
APR 15, 71	1006	5	.5 3.4	1.7 1.8	.1 .1	.05 .08	.00 .00	.06 .06	.06 .06	1.7 .9	-- --	-- --
JUN 01, 71	1504	5	.5 3.0	2.4 2.6	.0 .0	.05 .00	.03 .01	.02 .02	.02 .02	1.7 1.9	-- --	-- --

LINE 375

MAR 01, 71	1420	1	.3 4.3	.8 .9	.0 .1	.07 .06	.00 .01	.01 .05	.01 .05	1.6 1.1	-- --	-- --
APR 15, 71	0848	1	.5 4.3	.0 .0	.0 .0	.09 .06	.00 .00	.02 .03	.05 .05	1.5 1.0	-- --	-- --
JUN 02, 71	0834	1	.5 3.7	1.1 .9	.0 .0	.00 .00	.01 .01	.02 .01	.02 .02	2.2 1.3	-- --	-- --
MAR 01, 71	1400	2	.3 4.0	1.6 1.2	.0 .0	.07 .06	.00 .00	.01 .02	.01 .02	1.6 .9	-- --	-- --
MAR 01, 71	1335	3	.3 4.0	1.7 2.5	.0 .0	.17 .10	.01 .01	.00 .01	.00 .04	1.2 1.4	-- --	-- --
APR 15, 71	0810	3	.5 3.7	1.1 1.0	.1 .1	.02 .07	.00 .00	.06 .05	.06 .05	2.7 1.7	-- --	-- --
JUN 02, 71	0913	3	.5 3.4	1.6 2.1	.0 .0	.03 .00	.03 .01	.02 .03	.04 .04	2.8 2.3	-- --	-- --
MAR 01, 71	1315	4	.3 2.6	1.4 2.2	.0 .0	.11 .10	.01 .01	.02 .03	.02 .03	.5 1.2	-- --	-- --

LINE 382

MAR 01, 71	1000	1	.3	1.2	.1	.10	.01	.05	.05	1.4	--	--
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TABLE 3B--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS												
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS- SOLVED SILICA (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED PHOS- PHORUS (P) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	BIO- CHEMICAL OXYGEN DEMAND (BOD) (MG/L)	CHEMICAL OXYGEN DEMAND (COD) (MG/L)	TOTAL ORGANIC CARBON (MG/L)
LINE 382 CONTINUED												
MAR 01, 71	1000	1	2.7	1.5	.0	.04	.01	.04	.04	1.3	--	--
APR 14, 71	1505	1	.3 1.5	1.3 1.0	.0 .0	.39 .11	.00 .00	.01 .00	.01 .01	.8 .9	--	--
JUN 01, 71	1705	1	.3 1.4	.7 .8	.0 .0	.01 .04	.01 .02	.01 .01	.01 .01	2.9 2.5	--	--
MAR 01, 71	0930	2	.3 3.4	1.4 1.4	.1 .1	.08 .10	.02 .02	.04 .06	.04 .06	1.7 .9	--	--
MAR 04, 71	1710	2	.3	1.6	.0	.00	.01	.10	.10	--	--	--
MAR 04, 71	0830	2	.3	2.3	.5	.08	.01	.17	.20	--	--	--
MAR 04, 71	0940	2	.3	1.8	.1	.00	.00	.13	.13	--	--	--
MAR 04, 71	1000	2	.3	1.8	.0	.00	.01	.05	.05	--	--	--
MAR 04, 71	1140	2	.3	1.5	.0	.00	.00	.04	.04	--	--	--
MAR 04, 71	1922	2	.3	1.4	.0	.00	.00	.03	.04	--	--	--
MAR 04, 71	2310	2	.3	1.4	.0	.00	.00	.03	.04	--	--	--
MAR 05, 71	0215	2	.3	1.7	.0	.00	.00	.04	.04	--	--	--
MAR 05, 71	0510	2	.3	1.2	.0	.00	.00	.05	.05	--	--	--
MAR 05, 71	0810	2	.3	1.3	.0	.00	.00	.05	.05	--	--	--
MAR 05, 71	1310	2	.3	2.0	.1	.00	.00	.11	.11	--	--	--
MAR 05, 71	0120	3	.3	1.2	.0	.00	.00	.12	.12	--	--	--
MAR 05, 71	0210	3	.3	1.3	.0	.00	.01	.07	.07	--	--	--
MAR 05, 71	0840	3	.3	1.2	.0	.00	.00	.06	.06	--	--	--
MAR 05, 71	1205	3	.3	.9	.0	.00	.00	.04	.05	--	--	--
MAR 05, 71	1600	3	.3	1.5	.0	.00	.01	.11	.11	--	--	--
APR 14, 71	1530	3	.5 3.7	1.3 1.3	.0 .0	.45 .41	.00 .00	.00 .00	.01 .02	.8 1.0	--	--
MAR 01, 71	0908	4	.3 4.1	1.2 1.6	.0 .0	.11 .07	.01 .01	.02 .04	.02 .04	1.3 1.7	--	--
MAR 04, 71	0955	4	.3	2.4	.0	.05	.00	.03	.05	--	--	--
MAR 04, 71	1240	4	.3	3.0	.0	--	--	--	--	--	--	--
MAR 04, 71	1400	4	.3	2.5	.0	.04	.00	.05	.07	--	--	--
MAR 05, 71	0055	4	.3	1.2	.0	.00	.01	.02	.03	--	--	--
MAR 05, 71	0830	4	.3	.9	.0	.00	.01	.02	.02	--	--	--
MAR 05, 71	1355	4	.3	.0	.0	.00	.00	.02	.02	--	--	--
MAR 05, 71	1600	4	.3	.7	.0	.00	.01	.03	.03	--	--	--
MAR 06, 71	1200	4	.3 4.0	1.4 1.4	.0 .0	.00 .00	.01 .01	.03 .04	.03 .04	.6 .5	--	--
APR 14, 71	1541	4	.3 3.7	1.3 1.4	.0 .0	.37 .41	.00 .00	.00 .00	.01 .00	.8 .6	--	--
JUN 01, 71	1730	4	.3	1.1	.0	.00	.01	.02	.02	1.4	--	--

TABLE 3B--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED TOTAL NITRATE (N) (MG/L)	DIS-SOLVED TOTAL AMMONIA (NH3) (MG/L)	DIS-SOLVED TOTAL NITRITE (N) (MG/L)	DIS-SOLVED PHOS- PHORUS (P) (MG/L)	DIS-SOLVED PHOS- PHORUS (P) (MG/L)	DIS-SOLVED PHOS- PHORUS (P) (MG/L)	BIO-CHEMICAL OXYGEN DEMAND (BOD) (MG/L)	CHEMICAL OXYGEN DEMAND (COD) (MG/L)	TOTAL ORGANIC CARBON (MG/L)
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LINE 382 CONTINUED

JUN 01, 71 1730 4 3.4 4.0 .0 .00 .01 .03 .03 2.8 -- --

LINE 397

MAR 04, 71 1150 2 .3 .5 .0 .07 .00 .01 .01 -- -- --  
 MAR 04, 71 1400 2 .3 1.0 .0 .06 .00 .03 .03 1.5 -- --  
 15.2 .4 .0 .07 .00 .03 .03 1.5 -- --  
 MAR 04, 71 1940 2 .3 .2 .0 .10 .00 .05 .05 -- -- --  
 MAR 05, 71 0825 2 .3 .6 .0 .00 .01 .02 .03 -- -- --  
 MAR 05, 71 1220 2 .3 .8 .0 .00 .01 .05 .05 -- -- --  
 MAR 05, 71 1545 2 .3 .7 .0 .00 .02 .02 .04 -- -- --  
 APR 14, 71 0740 2 .3 1.0 .0 .10 .00 .00 .01 .7 -- --  
 12.8 .1 .0 .09 .00 .00 .00 .3 -- --  
 JUN 02, 71 0800 2 .6 .9 .0 .00 .01 .01 .01 .5 -- --  
 13.7 .7 .0 .05 .01 .01 .01 2.4 -- --

LINE 400

MAR 04, 71 1110 3 .3 2.0 .0 .00 .00 .04 .04 -- -- --  
 MAR 04, 71 1904 3 .3 1.1 .0 .00 .01 .04 .04 -- -- --  
 MAR 05, 71 0507 3 .3 .6 .0 .00 .01 .03 .03 -- -- --  
 MAR 05, 71 0800 3 .3 .6 .0 .00 .01 .04 .04 -- -- --  
 MAR 05, 71 1205 3 .3 .7 .0 .00 .01 .02 .03 -- -- --  
 MAR 05, 71 1405 3 .3 .4 .0 .00 .01 .04 .05 -- -- --  
 MAR 05, 71 1550 3 .3 .8 .0 .00 .01 .02 .04 -- -- --  
 MAR 04, 71 0840 4 .3 1.0 .0 .03 .00 .03 .03 -- -- --  
 MAR 04, 71 1330 4 .3 .7 .0 .06 .00 .01 .02 -- -- --  
 MAR 04, 71 1530 4 .3 2.0 .0 -- -- -- -- -- -- --  
 MAR 04, 71 1700 4 .3 .6 .0 .04 .00 .04 .04 -- -- --  
 MAR 05, 71 0730 4 .3 .4 .0 .00 .01 .02 .02 -- -- --  
 MAR 05, 71 1540 4 .3 .6 .0 .00 .01 .02 .03 -- -- --

LINE 902

MAR 04, 71 1430 49 3.0 .0 .0 .05 .00 .02 .02 1.4 -- --  
 12.8 .0 .0 .01 .00 .02 .03 .8 -- --

LINE 910

MAR 04, 71 1255 49 3.0 .1 .0 .06 .00 .01 .01 1.2 -- --  
 18.3 .1 .0 .09 .00 .02 .02 .9 -- --

TABLE 3C--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,  
1971 WATER YEAR

CHEMICAL ANALYSES												
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CON- DUCTANCE (MICRO- MHOS) (LAB)	DIS- SOLVED CALCIUM (CA) (MG/L)	DIS- SOLVED MAGNE- SIUM (MG)	DIS- SOLVED SODIUM + POTAS- SIUM (NA+K) (MG/L)	DIS- SOLVED BICAR- BONATE (HCO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLORIDE (CL) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	
LINE 17												
APR 13, 71	0905	2	.3 3.7	6140 28400	120.0 300.0	140.0 720.0	1100 5800	263 215	600 1500	1800 10000	3930 18900	
JUN 01, 71	1656	2	.3 3.7	1540 23400	53.0 230.0	31.0 572.0	210 4400	164 182	68 1100	360 8000	817 14400	
LINE 22												
APR 13, 71	0940	2	.3 3.4	2060 23600	84.0 250.0	43.0 600.0	290 4800	258 234	81 1500	500 8300	1150 15500	
JUN 01, 71	1620	2	.3 3.5	622 637	48.0 --	15.0 --	51 --	164 --	33 --	86 --	331 --	
LINE 65												
APR 13, 71	1105	2	.3 4.0	28400 36600	-- 330.0	-- 860.0	-- 7200	-- 167	-- 1800	-- 13000	-- 23100	
JUN 01, 71	1515	2	.3 4.0	21500 36500	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
LINE 85												
APR 14, 71	1333	3	.3 1.5	41800 41800	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
JUN 02, 71	1308	3	.5 1.5	44200 44400	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
LINE 90												
MAR 01, 71	1400	3	.3 3.0	40100 42300	330.0 380.0	1000.0 1300.0	7700 7300	152 150	1920 2000	14000 14000	25100 25100	
LINE 110												
MAR 01, 71	1320	2	.3 4.0	36500 40200	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
LINE 125												
MAR 01, 71	1205	2	.3 .9	41000 41000	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
LINE 129												
MAR 06, 71	1000	2	.3 3.0	40700 41200	-- 340.0	-- 990.0	-- 8100	-- 152	-- 1900	-- 14000	-- 25800	
APR 14, 71	1150	2	3.4 .3	45300 45300	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
JUN 02, 71	1114	2	.3 3.4	44300 44400	-- --	-- --	-- --	-- --	-- --	-- --	44400 --	
LINE 140												
MAR 01, 71	1000	2	.3	41800	--	--	--	--	--	--	--	



TABLE 3C--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,  
1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	(SPECIFIC CONDUCTANCE) (MICROMHQS) (LAB)	(DIS-SOLVED) (CALCIUM) (CA) (MG/L)	(DIS-SOLVED) (MAGNESIUM) (MAG) (MG/L)	(DIS-SOLVED) (SODIUM + POTASSIUM) (NA+K) (MG/L)	(BICARBONATE) (HCO3) (MG/L)	(DIS-SOLVED) (SULFATE) (SO4) (MG/L)	(DIS-SOLVED) (CHLORIDE) (CL) (MG/L)	(DIS-SOLVED) (SUM OF SOLIDS) (CONSTITUENTS) (MG/L)
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LINE 140 CONTINUED

MAR 01, 71 1000 2 1.2 41900 320.0 1000.0 8200 154 2000 15000 26200

LINE 143

JUN 02, 71 0945 1 1.8 45900 -- -- -- -- -- -- --  
 MAR 01, 71 1010 2 .3 42400 330.0 1200.0 8300 152 2000 15200 27000  
 1.8 42600 340.0 1000.0 8300

APR 14, 71 0950 2 .3 46700 -- -- -- -- -- -- --  
 1.8 46800 380.0 1200.0 9200 149 2300 17000 29900

JUN 02, 71 1000 3 .3 45500 -- -- -- -- -- -- --  
 2.0 45500

LINE 150

MAR 01, 71 1030 2 .3 42900 -- -- -- -- -- -- --  
 2.1 42800

OCT 12, 70 0900 4 .3 34200 -- -- -- -- -- -- --  
 11.6 44300

MAR 01, 71 1100 4 .3 42900 350.0 1100.0 8100 145 2000 15000 26200  
 11.6 46200 370.0 1200.0 8600 152 2300 16000 28400

MAR 06, 71 0940 4 .3 42100 -- -- -- -- -- -- --  
 11.9 42800

LINE 169

MAR 01, 71 0820 2 .3 42200 -- -- -- -- -- -- --  
 1.2 41900 380.0 1000.0 8100 162 2000 15000 26200

MAR 06, 71 0915 2 .8 42500 340.0 960.0 8500 162 1900 15000 26800

LINE 180

MAR 01, 71 0905 2 .3 42700 -- -- -- -- -- -- --  
 2.0 42700 340.0 1100.0 8300 158 2000 15200 27000

MAR 06, 71 1010 2 .3 43100 -- -- -- -- -- -- --  
 1.8 43600 350.0 1100.0 8400 159 2000 15000 27200

APR 14, 71 1100 2 .3 47000 -- -- -- -- -- -- --  
 2.0 47100

JUN 02, 71 0930 2 .3 45300 -- -- -- -- -- -- --  
 2.0 45400

LINE 190

APR 14, 71 1305 3 .3 42100 -- -- -- -- -- -- --  
 3.0 42700 360.0 1200.0 8500 146 2100 16000 27700

APR 14, 71 1033 3 .5 46300 380.0 1100.0 10000 146 2300 18000 31400  
 7.9 46400

JUN 02, 71 0952 3 .5 45000 -- -- -- -- -- -- --  
 9.1 45200 360.0 1200.0 8800 140 2200 1600 28600

MAR 01, 71 1155 4 .3 43700 340.0 1100.0 7600 154 2200 14000 25100  
 11.6 48900 380.0 1200.0 9800 152 2400 18000 31500

MAR 01, 71 1015 4 .3 44800 300.0 1300.0 7800 152 2200 15000 26200

TABLE 3C--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES												
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CON- DUCTANCE (MICRO- MHOS) (LAB)	DIS- SOLVED CALCIUM (CA) (MG/L)	DIS- SOLVED MAGNE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM + POTAS- SIUM (NA+K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLORIDE (CL) (MG/L)	DIS- SOLVED SOLIDS (SUM OF TUENTS) (MG/L)	
LINE 190 CONTINUED												
MAR 01, 71	1015	4	12.2	48700	380.0	1300.0	9100	152	2400	17000	29800	
MAR 06, 71	0915	4	.3 12.2	42700 43900	-- 340.0	-- 1000.0	-- 8700	-- 150	-- 2100	-- 15000	-- 27700	
LINE 210												
MAR 01, 71	1105	2	.3 12.3	49800 49800	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
LINE 224												
MAR 01, 71	1305	2	.3 .8	32200 33200	-- 280.0	-- 830.0	-- 6000	-- 160	-- 1500	-- 11000	-- 20000	
APR 12, 71	1640	2	1.1	34900	320.0	1000.0	6400	170	1700	12000	21500	
LINE 235												
MAR 01, 71	1325	2	.3 1.7	40000 40200	-- 320.0	-- 1000.0	-- 8000	-- 154	-- 2400	-- 14000	-- 25800	
LINE 249												
MAR 01, 71	1410	2	.3 3.0	42900 42900	340.0 330.0	1000.0 1000.0	8300 8400	158 158	2200 2100	15000 15000	26600 27200	
APR 12, 71	1535	2	.3 1.6	46900 46900	-- 380.0	-- 1300.0	-- 9200	-- 154	-- 2380	-- 17000	-- 30100	
LINE 254												
APR 13, 71	1845	2	.3 3.4	9200 17000	130.0 190.0	210.0 440.0	1600 3200	243 224	420 870	2800 5800	5200 10600	
JUN 01, 71	1245	2	.3 3.7	3690 4710	70.0 --	91.0 --	580 --	212 --	160 --	1000 --	2060 --	
LINE 258												
MAR 01, 71	1605	2	.6	39000	320.0	950.0	7200	162	1900	13000	23500	
APR 13, 71	1825	2	.8	34100	--	--	--	--	--	--	--	
LINE 264												
MAR 01, 71	1530	2	.3 1.2	40700 41100	-- 320.0	-- 1000.0	-- 7700	-- 158	-- 2000	-- 14000	-- 24900	
JUN 01, 71	1200	2	.3 1.4	37500 37500	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
LINE 270												
MAR 01, 71	1635	2	.3 3.8	41500 42700	-- --	-- --	-- --	-- --	-- --	-- --	-- --	
LINE 284												
MAR 01, 71	1650	1	.3	42600	--	--	--	--	--	--	--	

TABLE 3C--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,  
1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CON- DUCTANCE (MICRO- MHOS) (LAB)	DIS- SOLVED CALCIUM (CA) (MG/L)	DIS- SOLVED MAGNE- SIUM (MG)	DIS- SOLVED SODIUM + POTAS- SIUM (NA+K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLORIDE (CL) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)
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LINE 284 CONTINUED

MAR 01, 71	1650	1	1.2	42500	340.0	1000.0	8200	160	2100	15000	26300
APR 13, 71	1725	1	.3 1.5	47000 46800	-- 380.0	-- 1200.0	-- 9600	-- 153	-- 2300	-- 17000	-- 30500
JUN 01, 71	1015	1	.3 1.2	40900 40900	-- --	-- --	-- --	-- --	-- --	-- --	-- --
MAR 01, 71	1715	3	.3 1.8	42600 43000	-- 340.0	-- 1100.0	-- 8000	-- 162	-- 2100	-- 14000	-- 26000
APR 13, 71	1750	3	.3 2.0	45600 45600	-- --	-- --	-- --	-- --	-- --	-- --	-- --
JUN 01, 71	1035	3	.3 2.3	43700 43600	-- --	-- --	-- --	-- --	-- --	-- --	-- --

LINE 300

MAR 06, 71	1020	1	.3 2.4	44200 45500	360.0 --	1100.0 --	8600 --	160 --	2000 --	16000 --	27800 --
MAR 06, 71	1005	3	.3 2.3	43800 44100	340.0 --	1100.0 --	8600 --	160 --	2100 --	15000 --	27600 --

LINE 310

MAR 04, 71	1010	2	.3	33100	280.0	1100.0	5700	194	1500	11000	20200
MAR 04, 71	1945	2	.3	32000	270.0	860.0	5900	198	1500	11000	19400
MAR 05, 71	0510	2	.3	33400	280.0	800.0	6400	192	1600	11000	20500
MAR 05, 71	1215	2	.3	36000	280.0	900.0	6900	180	1600	12000	22200

LINE 330

MAR 02, 71	1945	2	.3	44000	380.0	1200.0	8400	158	2200	16000	27900
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LINE 333

MAR 01, 71	1540	1	.3 1.7	42800 43700	-- 350.0	-- 1100.0	-- 8800	-- 160	-- 2200	-- 16000	-- 28100
MAR 06, 71	0850	1	.3 1.8	44600 44600	340.0 --	1000.0 --	9000 --	162 --	2200 --	16000 --	28400 --

LINE 340

APR 13, 71	1530	2	.3 2.3	47200 47100	-- --	-- --	-- --	-- --	-- --	-- --	-- --
JUN 01, 71	1159	2	.3 2.1	46000 45600	-- --	-- --	-- --	-- --	-- --	-- --	-- --

LINE 350

MAR 06, 71	0805	1	.3 2.4	45200 45600	350.0 --	1100.0 --	9200 --	160 --	2200 --	16000 --	29400 --
APR 13, 71	1450	1	.3 1.2	47300 47600	-- --	-- --	-- --	-- --	-- --	-- --	-- --
JUN 01, 71	1317	1	.3	46000	--	--	--	--	--	--	--

TABLE 3C--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CON- DUCTANCE (MICRO- MHOS) (LAB)	DIS- SOLVED CALCIUM (CA) (MG/L)	DIS- SOLVED MAGNE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM + POTAS- SIUM (NA+K) (MG/L)	DIS- SOLVED BICAR- BONATE (HCO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLORIDE (CL) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)

LINE 350 CONTINUED

JUN 01, 71	1317	1	.9	45900	--	--	--	--	--	--	--
MAR 06, 71	0930	3	.3 2.1	43900 43800	350.0	1000.0	8700	159	2200	15000	27700
APR 13, 71	1422	3	.3 2.7	46900 46900	--	--	--	--	--	--	--
JUN 01, 71	1345	3	.5 2.1	45700 45600	--	--	--	--	--	--	--

LINE 363

MAR 01, 71	1445	1	.3 1.3	47600 47600	380.0	1200.0	9600	156	2300	17000	30800
MAR 06, 71	0755	1	.3 1.8	49400 49800	380.0	1200.0	9900	150	2400	18000	31600
APR 15, 71	0920	2	.5 4.1	46900 47000	--	--	--	--	--	--	--
JUN 01, 71	1600	2	.5 3.7	45300 45200	--	--	--	--	--	--	--
MAR 01, 71	1700	3	.3 3.5	43500 45800	360.0	1200.0	9300	156	2300	17000	30100
APR 15, 71	0950	4	.5 4.9	47700 47400	--	--	--	--	--	--	--
JUN 01, 71	1528	4	.5 3.4	44700 44700	360.0	1200.0	8800	152	2200	16000	28600
APR 15, 71	1006	5	.5 3.4	47500 47700	--	--	--	--	--	--	--
JUN 01, 71	1504	5	.5 3.0	45000 45000	--	--	--	--	--	--	--

LINE 375

MAR 01, 71	1420	1	.3 4.3	47900 49000	390.0	1200.0	9800	150	2400	18000	31600
APR 15, 71	0848	1	.5 4.3	44700 47400	--	--	--	--	--	--	--
JUN 02, 71	0834	1	.5 3.7	45500 45500	--	--	--	--	--	--	--
MAR 01, 71	1400	2	.3 4.0	44700 47900	--	--	--	--	--	--	--
MAR 01, 71	1335	3	.3 4.0	44300 46400	--	--	--	--	--	--	--
APR 15, 71	0810	3	.5 3.7	46700 46700	--	--	--	--	--	--	--
JUN 02, 71	0913	3	.5 3.4	45500 45500	--	--	--	--	--	--	--
MAR 01, 71	1315	4	.3 2.6	43500 43700	350.0	1200.0	7700	154	2100	14200	25600

LINE 382

MAR 01, 71	1000	1	.3	49800	--	--	--	--	--	--	--
------------	------	---	----	-------	----	----	----	----	----	----	----

TABLE 3C--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,

1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES												
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-
				CON- DUCTANCE (MICRO- MHOS) (LAB)	SOLVED CALCIUM (CA) (MG/L)	SOLVED MAGNE- SIUM (MG) (MG/L)	SOLVED SODIUM POTAS- SIUM (NA+K) (MG/L)	BICAR- BONATE (MG/L)	SOLVED SULFATE (SO4) (MG/L)	SOLVED CHLORIDE (CL) (MG/L)	SOLVED SOLIDS (SUM OF SILIC- ONATE) CONSTIT- UENTS) (MG/L)	
LINE 382 CONTINUED												
MAR 01, 71	1000	1	2.7	49800	--	--	--	--	--	--	--	--
APR 14, 71	1505	1	.3 1.5	44700 44700	360.0	1100.0	8900	137	2200	16000	28700	
JUN 01, 71	1705	1	.3 1.4	46500 46400	350.0	1200.0	9400	140	2200	17000	30000	
MAR 01, 71	0930	2	.3 3.4	49800 49800	--	--	--	--	--	--	--	
MAR 04, 71	1710	2	.3	49800	380.0	1200.0	10000	154	2400	18000	32500	
MAR 04, 71	0830	2	.3	49400	400.0	1200.0	10000	152	2300	18000	31700	
MAR 04, 71	0940	2	.3	48100	400.0	1200.0	9800	154	2400	18000	31500	
MAR 04, 71	1000	2	.3	48500	380.0	1200.0	10600	151	2400	18000	31900	
MAR 04, 71	1140	2	.3	49300	380.0	1200.0	10000	149	2400	18000	31900	
MAR 04, 71	1922	2	.3	48900	400.0	1200.0	10000	150	2400	18000	32000	
MAR 04, 71	2310	2	.3	49300	380.0	1200.0	10000	150	2400	18000	32200	
MAR 05, 71	0215	2	.3	49400	380.0	1200.0	10000	150	2500	18000	32600	
MAR 05, 71	0510	2	.3	49300	400.0	1200.0	10000	150	2400	18000	32000	
MAR 05, 71	0810	2	.3	49300	400.0	1200.0	10000	150	2500	18000	32300	
MAR 05, 71	1310	2	.3	49600	400.0	1300.0	10000	150	2500	18000	32300	
MAR 05, 71	0120	3	.3	49500	400.0	1200.0	10000	152	2400	18000	32600	
MAR 05, 71	0210	3	.3	49500	390.0	1200.0	10000	150	2400	18000	32200	
MAR 05, 71	0840	3	.3	49800	400.0	1200.0	10000	152	2400	18000	32600	
MAR 05, 71	1205	3	.3	49800	430.0	1200.0	10000	151	2500	18000	33000	
MAR 05, 71	1600	3	.3	49500	400.0	1300.0	10000	150	2500	18000	32600	
APR 14, 71	1530	3	.5 3.7	44800 44900	--	--	--	--	--	--	--	
MAR 01, 71	0908	4	.3 4.1	49800 49800	--	--	--	--	--	--	--	
MAR 04, 71	0955	4	.3	44300	380.0	1200.0	8500	166	2200	15000	27700	
MAR 04, 71	1240	4	.3	43500	340.0	1200.0	8300	168	2100	15000	27500	
MAR 04, 71	1400	4	.3	43100	350.0	1100.0	8200	170	1900	15000	26700	
MAR 05, 71	0055	4	.3	47400	370.0	1100.0	9600	156	2300	17000	30500	
MAR 05, 71	0830	4	.3	48800	380.0	1200.0	9900	154	2400	18000	31600	
MAR 05, 71	1355	4	.3	49400	400.0	1200.0	10000	150	2400	18000	31900	
MAR 05, 71	1600	4	.3	49200	380.0	1200.0	9600	150	2200	18000	31200	
MAR 06, 71	1200	4	.3 4.0	50100 50100	380.0	1300.0	9900	150	2400	2400	31800	
APR 14, 71	1541	4	.3 3.7	44800 44700	--	--	--	--	--	--	--	
JUN 01, 71	1730	4	.3	46200	--	--	--	--	--	--	--	

TABLE 3C--QUALITY OF WATER IN THE LAVACA-TRES PALACIOS ESTUARY,  
1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES												
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CON- DUCTANCE (MICRO- MHOS) (LAB)	DIS- SOLVED CALCIUM (CA) (MG/L)	DIS- SOLVED MAGNE- SIUM (MG)	DIS- SOLVED SODIUM + POTAS- SIUM (NA+K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLORIDE (CL) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTIT- UENTS) (MG/L)	
LINE 382 CONTINUED												
JUN 01, 71	1730	4	3.4	46300	--	--	--	--	--	--	--	
LINE 397												
MAR 04, 71	1150	2	.3	48700	--	--	--	--	--	--	--	
MAR 04, 71	1400	2	.3 15.2	48800 47400	380.0 380.0	1200.0 1200.0	9800 9500	152 150	2600 2500	17000 17000	31500 30700	
MAR 04, 71	1940	2	.3	49100	390.0	1400.0	9400	150	2400	17400	31000	
MAR 05, 71	0825	2	.3	48900	380.0	1200.0	9800	150	2400	18000	31600	
MAR 05, 71	1220	2	.3	49000	380.0	1200.0	9800	150	2400	17000	31300	
MAR 05, 71	1545	2	.3	49000	380.0	1200.0	9900	150	2400	18000	31600	
APR 14, 71	0740	2	.3 12.8	44600 44500	-- 360.0	-- 1000.0	-- 9100	-- 137	-- 2200	-- 16000	-- 28600	
JUN 02, 71	0800	2	.6 13.7	46300 46200	-- 360.0	-- 1100.0	-- 9500	-- 140	-- 2400	-- 17000	-- 30100	
LINE 400												
MAR 04, 71	1110	3	.3	50100	400.0	1200.0	10000	154	2500	18000	32600	
MAR 04, 71	1904	3	.3	48900	380.0	1300.0	8700	152	2400	16000	28900	
MAR 05, 71	0507	3	.3	49300	380.0	1200.0	10000	152	2400	18000	31900	
MAR 05, 71	0800	3	.3	49200	380.0	1200.0	10000	150	2400	18000	31900	
MAR 05, 71	1205	3	.3	49100	380.0	1200.0	10000	150	2300	18000	31800	
MAR 05, 71	1405	3	.3	49200	380.0	1200.0	10000	150	2400	18000	31900	
MAR 05, 71	1550	3	.3	49200	380.0	1200.0	10000	150	2400	18000	31900	
MAR 04, 71	0840	4	.3	49500	380.0	1300.0	9700	152	2300	18000	31300	
MAR 04, 71	1330	4	.3	49900	400.0	1300.0	9700	152	2400	18000	31500	
MAR 04, 71	1530	4	.3	48500	400.0	1200.0	9500	152	2400	17000	30600	
MAR 04, 71	1700	4	.3	48700	380.0	1300.0	9500	152	2400	17000	30800	
MAR 05, 71	0730	4	.3	49300	400.0	1300.0	9800	150	2400	18000	31500	
MAR 05, 71	1540	4	.3	49300	380.0	1300.0	9800	150	2400	18000	31600	
LINE 902												
MAR 04, 71	1430	49	3.0 12.8	49000 50100	380.0 --	1200.0 --	9700 --	150 --	2500 --	17000 --	31300 --	
LINE 910												
MAR 04, 71	1255	49	3.0 18.3	50800 51700	-- 400.0	-- 1300.0	-- 10000	-- 151	-- 2300	-- 18000	-- 32100	

Table N-D--Quality of water in the Lavaca-Tres Palacios estuary, 1971 water year

Insecticide and herbicide analyses

(Whole water analyses in micrograms per liter; bottom deposits analyses in micrograms per kilogram, dry weight)

Date of Collection	Time	Type of Sample	Insecticides													Herbicides				
			Aldrin	DDE	DDT	DDT	Dieldrin	Endrin	Heptachlor	Heptachlor Epoxide	Lindane	Chlordane	Parathion	Methyl Parathion	Malsion	Diazinon	2,4-D	Silvex	2,4,5-T	
<u>Line 90, Site 3, Lavaca Bay</u>																				
1971	Mar. 1	1420	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	0.00	0.00	0.00	0.00	
			Bottom deposits	<.2	<1.0	3.7	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2	<.2	<.2	--	--	--
<u>Line 235, Site 2, Carrancabun Bay</u>																				
Mar. 1		1323	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
			Bottom deposits	.2	<1.0	5.3	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2	<.2	<.2	--	--	--
<u>Line 264, Site 2, Tres Palacios Bay</u>																				
Mar. 1		1530	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
			Bottom deposits	<.2	3.7	18	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2	<.2	<.2	--	--	--
<u>Line 323, Site 1, Matagorda Bay</u>																				
Mar. 1		1540	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
			Bottom deposits	<.2	1.5	1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2	<.2	<.2	--	--	--
<u>Line 363, Site 3, Matagorda Bay</u>																				
Mar. 1		1700	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
			Bottom deposits	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<1.0	<.2	<.2	<.2	--	--	--

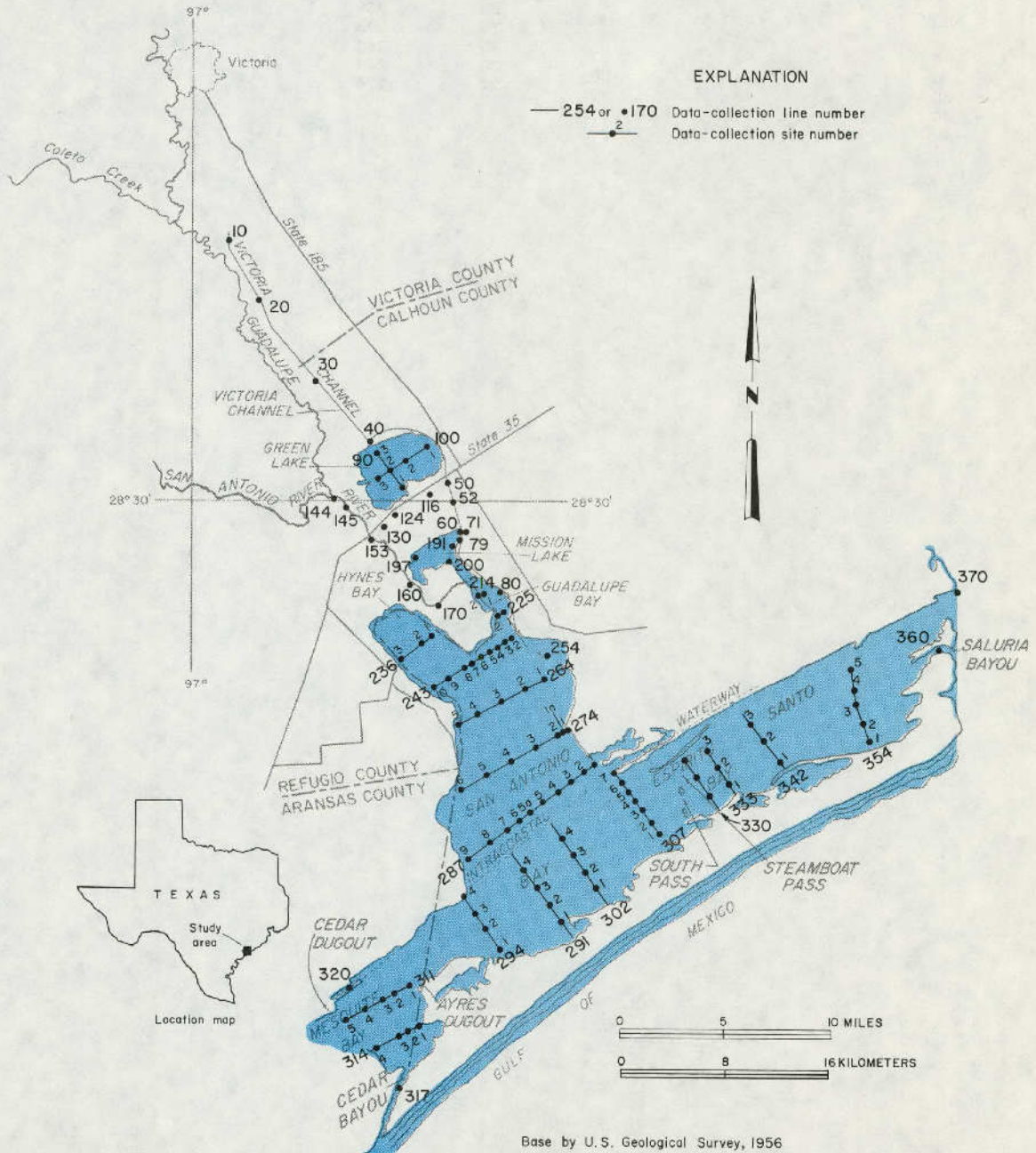


## Guadalupe Estuary

The Guadalupe estuary covers an area of almost 210 square miles (540 square kilometers) and consists of the tidal parts of the Guadalupe River, Mission Lake, Guadalupe Bay, Hynes Bay, San Antonio Bay, Espiritu Santo Bay, Mesquite Bay, Victoria Channel, and parts of the Intracoastal Waterway (Figure 7). At mhw the Guadalupe River is about 10 feet (3 meters) deep; Mission Lake, Guadalupe Bay, and Hynes Bay are less than 3 feet (1 meter) deep; San Antonio Bay is less than

6 feet (2 meters) deep; Espiritu Santo Bay is about 8 feet (2.4 meters) deep; Mesquite Bay is about 4 feet (1.2 meters) deep; Victoria Channel is more than 8 feet (2.4 meters) deep; and the Intracoastal Waterway is about 15 feet (5 meters) deep.

Water-quality data (Table 4) were collected in April, July, August, and September at most sites shown on Figure 7.



**Figure 7.—Data Collection Sites in the Guadalupe Estuary**

The changes in line numbers to facilitate storage in the Texas Water Oriented Data Bank and to provide opportunity to coordinate data-collection sites among all agencies are shown below. New line numbers are used in Table 4 and on Figure 7.

All data collected prior to the changes in line number are stored in the data bank under the new line numbers.

**Guadalupe Estuary Change  
in Line Numbers**

OLD	NEW	OLD	NEW
1	10	5a	52
2	20	6	60
3	30	6a	79
4	40	7	71
5	50	8	80

OLD	NEW	OLD	NEW
9	90	28	287
10	100	29	294
11	116	30	307
12	124	31	291
13	130	32	302
13a	144	33	311
14	145	34	314
15	153	35	317
16	160	36	320
17	170	37	330
18	191	37a	333
19	197	38	342
20	200	39	354
21	214	40	360
22	225	Lavaca-Tres Palacios 38-site 4	370
23	236		
24	243		
25	254		
26	264		
27	274		

TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICROMHQS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK) (CM)
LINE 10										
APR 29, 71	1137	2	.3	940	25.8	--	8.4	102	--	51
			1.5	940	25.8	--	8.4	102	--	--
			4.0	940	25.8	--	8.0	98	--	--
JUL 14, 71	1025	2	.3	880	33.6	7.4	6.1	85	--	48
			1.5	850	33.3	7.4	5.8	79	--	--
			3.0	900	33.0	7.4	5.0	68	--	--
			4.0	900	32.4	7.4	3.4	46	--	--
AUG 10, 71	1545	2	.3	970	31.1	7.8	9.1	121	--	81
			1.5	970	30.9	7.9	8.8	117	--	--
			3.0	970	30.1	7.8	9.2	121	--	--
			4.0	1200	29.2	7.4	2.0	26	--	--
SEP 27, 71	1545	2	.3	600	27.5	7.7	10.8	135	--	--
			1.5	600	27.2	7.6	9.6	119	--	--
			2.4	600	27.0	7.5	9.0	111	--	--
			3.0	610	26.8	7.3	7.4	91	--	--
			3.7	660	26.5	7.1	5.8	71	--	--
			4.3	700	26.3	7.0	3.7	45	--	--
LINE 20										
APR 29, 71	1120	2	.3	1200	25.4	--	8.4	101	--	30
			1.5	1200	25.4	--	8.4	101	--	--
			3.4	1200	25.6	--	8.4	101	--	--
JUL 14, 71	1010	2	.3	1100	31.4	7.7	7.3	97	--	28
			1.5	1000	30.9	7.6	6.8	91	--	--
			4.0	1100	30.8	7.6	6.6	88	--	--
AUG 10, 71	1615	2	.3	1200	30.2	7.8	8.7	114	--	28
			1.5	1300	30.1	7.8	8.1	107	--	--
			3.0	1200	30.3	7.7	7.8	103	--	--
			3.7	1200	29.4	7.6	7.7	100	--	--
SEP 27, 71	1525	2	.3	810	27.0	7.4	8.1	100	--	--
			1.5	810	26.9	7.4	8.1	100	--	--
			3.0	800	26.9	7.3	7.7	95	--	--
			4.6	800	26.9	7.3	8.0	99	--	--
LINE 30										
APR 29, 71	1100	2	.3	1500	25.4	--	8.4	101	--	36
			1.5	1500	25.4	--	8.5	102	--	--
			3.0	1500	25.6	--	8.5	102	--	--
JUL 14, 71	1055	2	.3	1300	32.6	8.0	7.2	99	--	--
			1.5	1300	32.0	7.9	6.8	92	--	--
			2.4	1300	31.8	7.9	6.7	91	--	--
			3.7	1200	31.8	7.9	6.7	91	--	--
AUG 10, 71	1630	2	.3	1400	30.6	8.2	8.2	109	--	33
			1.5	1400	30.5	8.2	8.3	109	--	--
			3.0	1400	30.4	8.1	9.0	118	--	--
SEP 27, 71	1510	2	.3	800	26.9	7.8	7.9	98	--	--
			1.5	800	26.9	7.8	7.9	98	--	--
			2.4	800	26.8	7.8	7.9	98	--	--
			4.3	800	26.7	7.7	8.0	99	--	--
LINE 40										
APR 29, 71	1044	2	.3	3900	25.8	--	8.1	100	--	43

TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,  
1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS										
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	(SPECIFIC CONDUCT- ANCE MICRO- MHOS)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
LINE 40 CONTINUED										
APR 29, 71	1044	2	1.5 3.4	4600 4600	25.9 25.9	-- --	8.1 7.5	100 92	-- --	-- --
JUL 14, 71	0945	2	.3 1.5 3.7	2200 2200 2300	32.0 31.6 31.4	8.1 8.1 8.1	6.7 6.4 6.3	92 88 85	-- -- --	13 -- --
AUG 10, 71	1650	2	.3 1.5 3.0	3300 3100 3100	31.1 31.0 30.8	8.3 8.3 8.2	8.8 7.8 6.9	119 105 93	-- -- --	22 -- --
SEP 27, 71	1450	2	.3 1.5 3.4	500 500 530	26.7 26.7 26.6	7.5 7.5 7.5	6.2 6.2 6.0	77 77 74	-- -- --	-- -- --
LINE 50										
APR 29, 71	1017	2	.3 1.5 3.4	14000 15000 16000	25.8 25.8 26.0	-- -- --	6.7 6.4 6.3	85 82 81	-- -- --	56 -- --
JUL 14, 71	0945	2	.3 1.5 2.4 3.7	9000 9000 10000 10000	31.1 31.1 31.1 31.1	8.2 8.2 8.2 8.2	7.2 6.1 5.9 5.9	99 84 81 81	-- -- -- --	38 -- -- --
AUG 10, 71	1705	2	.3 1.5 3.0 3.4	9600 9500 9400 9300	32.7 32.6 32.5 32.6	8.3 8.3 8.3 8.3	8.6 8.5 8.2 8.2	121 120 114 115	-- -- -- --	30 -- -- --
SEP 27, 71	1430	2	.3 1.5 3.4	710 710 810	26.5 26.5 26.5	7.5 7.5 7.5	5.0 5.0 5.2	61 61 63	-- -- --	-- -- --
LINE 52										
JUL 14, 71	0915	2	.5	11000	31.4	8.2	6.3	86	--	28
LINE 60										
APR 29, 71	1005	2	.3 1.5 3.0	19000 20000 22000	25.8 25.7 25.8	-- -- --	6.6 4.4 4.0	86 57 53	-- -- --	48 -- --
JUL 14, 71	0855	2	.3 1.5 3.4	15000 16000 17000	30.3 30.3 30.3	8.3 8.2 8.2	6.5 5.1 4.8	89 70 67	-- -- --	48 -- --
AUG 10, 71	1730	2	.3 1.5 3.0 3.5	16000 16000 16000 16000	31.1 31.2 31.2 31.3	8.2 8.2 8.2 8.2	7.6 7.4 7.6 7.4	106 103 106 103	-- -- -- --	36 -- -- --
SEP 27, 71	1420	2	.3 1.5 2.4 4.3	1300 1300 1300 1400	26.6 26.6 26.6 26.6	7.5 7.5 7.5 7.5	4.2 3.8 3.5 3.0	52 47 43 37	-- -- -- --	-- -- -- --
LINE 71										
APR 29, 71	0940	2	.3 .9 1.5 2.1	22000 22000 22000 22000	25.5 25.4 25.4 25.4	-- -- -- --	2.2 2.1 2.0 1.8	28 27 26 23	-- -- -- --	71 -- -- --



TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS/CM)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
LINE 71 CONTINUED										
APR 29, 71	0940	2	3.0	22000	25.8	--	1.2	16	--	--
			3.7	23000	25.8	--	1.2	16	--	--
JUL 19, 71	0845	2	.3	18000	30.4	8.4	7.2	100	--	63
			1.5	18000	30.4	8.2	6.0	83	--	--
			2.1	19000	30.5	8.2	6.0	69	--	--
			3.0	21000	30.1	8.0	1.2	17	--	--
			4.1	21000	29.8	7.9	.4	6	--	--
AUG 10, 71	1720	2	.3	15000	31.6	8.3	8.9	125	--	33
			1.5	15000	31.4	8.3	7.6	106	--	--
			3.0	15000	31.2	8.2	6.4	89	--	--
			3.7	15000	31.3	8.1	5.5	76	--	--
SEP 27, 71	1410	2	.3	1300	26.7	7.6	5.3	65	--	--
			1.5	1400	26.6	7.5	4.6	57	--	--
			2.4	1400	26.5	7.4	4.0	49	--	--
			4.3	1400	26.1	7.3	3.2	39	--	--
LINE 80										
APR 29, 71	0920	2	.3	24000	25.4	--	5.9	77	--	56
			1.5	24000	25.3	--	5.6	73	--	--
			3.0	26000	25.4	--	5.6	74	--	--
JUL 14, 71	0825	2	.3	23000	29.6	8.2	6.2	87	--	48
			1.5	24000	29.7	8.1	5.6	79	--	--
			3.0	26000	29.7	8.1	5.5	79	--	--
			4.0	26000	29.6	8.0	5.5	79	--	--
AUG 10, 71	1745	2	.3	17000	31.4	8.4	8.6	121	--	27
			1.5	17000	31.3	8.4	8.6	121	--	--
			3.4	17000	31.5	8.4	8.4	120	--	--
SEP 27, 71	1350	2	.3	3500	27.0	7.7	5.9	74	--	--
			1.5	3600	27.0	7.7	5.9	74	--	--
			2.4	3600	27.0	7.7	5.8	73	--	--
			4.3	3600	27.0	7.7	5.7	71	--	--
LINE 145										
APR 29, 71	1105	2	.3	820	26.6	7.8	5.8	72	--	20
			1.5	820	26.6	7.8	5.8	72	--	--
			3.2	820	26.6	7.8	5.4	67	--	--
JUL 13, 71	1435	2	.3	640	34.5	7.3	5.0	69	--	25
			1.5	640	33.9	7.3	5.0	69	--	--
			3.0	630	33.9	7.3	5.0	69	--	--
			4.0	640	34.0	7.3	5.0	69	--	--
AUG 10, 71	1000	2	.3	320	27.0	7.3	4.8	59	--	--
			3.0	320	26.9	7.3	5.1	63	--	--
SEP 29, 71	1005	2	.3	420	28.4	7.3	6.1	77	--	10
			1.5	420	28.3	7.3	6.0	76	--	--
			3.4	420	28.0	7.3	6.0	76	--	--
LINE 153										
APR 29, 71	1050	2	.3	820	27.3	7.6	5.7	71	--	30
			1.5	810	27.3	7.6	5.4	68	--	--
			3.0	820	27.3	7.6	5.4	68	--	--
			4.9	820	27.3	7.6	5.6	69	--	--
JUL 13, 71	1535	2	.3	660	34.7	7.4	5.7	80	--	36
			1.5	660	34.7	7.4	5.5	77	--	--

TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK)
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LINE 153 CONTINUED

JUL 13, 71	1535	2	3.0 4.6	650 660	34.6 35.8	7.3 7.3	5.1 4.9	72 70	-- --	-- --
AUG 10, 71	1030	2	.3 4.6	320 320	27.4 27.4	7.4 7.3	5.2 5.3	65 66	-- --	5 --
SEP 29, 71	0950	2	.3 1.5 3.0 6.1	420 420 420 420	27.7 27.7 27.7 27.7	7.3 7.3 7.3 7.3	6.3 6.3 6.4 6.6	79 79 80 82	-- -- -- --	10 -- -- --

LINE 160

APR 29, 71	1035	2	.3 1.5 3.0 4.4	810 810 810 810	27.2 27.1 27.1 27.1	7.7 7.7 7.7 7.7	4.8 4.5 4.4 4.4	59 56 54 54	-- -- -- --	30 -- -- --
JUL 13, 71	1555	2	.3 1.5 3.0 4.0	610 610 610 610	34.0 34.0 34.0 33.9	7.4 7.2 7.2 7.2	5.3 4.2 4.1 4.5	74 58 57 62	-- -- -- --	33 -- -- --
AUG 10, 71	1050	2	.3 4.3	320 320	27.6 27.8	7.3 7.8	4.6 3.9	58 49	-- --	5 --
SEP 29, 71	0930	2	.3 1.5 3.0 4.6	490 490 490 490	27.5 27.5 27.4 27.3	7.4 7.4 7.4 7.4	6.0 6.1 6.0 6.2	75 76 75 78	-- -- -- --	10 -- -- --

LINE 170

APR 29, 71	1020	2	.3 1.5 2.1	850 850 850	26.5 26.4 26.4	7.8 7.7 7.7	4.6 4.4 4.4	56 54 54	-- -- --	-- -- --
JUL 13, 71	1735	2	.3 1.5 2.7	600 600 600	32.7 32.3 32.6	7.4 7.3 7.3	5.5 4.3 4.3	75 58 59	-- -- --	28 -- --
AUG 09, 71	1535	2	.3 1.5 2.7	340 340 340	27.7 27.7 28.0	7.5 7.4 7.5	5.2 5.4 5.2	65 68 66	-- -- --	3 -- --
AUG 10, 71	1110	2	.3 3.4	320 320	27.2 27.3	7.4 7.3	5.1 4.9	63 61	-- --	3 --
AUG 13, 71	1200	2	.3 3.0	380 660	29.5 29.4	7.6 7.7	3.9 4.1	51 53	-- --	8 --
SEP 29, 71	0915	2	.3 1.5 3.0	520 520 520	27.1 27.8 26.9	7.5 7.5 7.5	6.3 6.4 6.6	78 79 81	-- -- --	10 -- --

LINE 191

APR 28, 71	1305	2	.3 .8	1100 1100	28.3 28.4	8.1 8.1	6.6 6.8	83 86	-- --	-- --
JUL 13, 71	1105	2	.3 .6	720 700	32.6 32.4	8.2 8.2	5.8 5.8	79 78	-- --	61 --
AUG 10, 71	1200	2	.8	440	30.6	7.4	4.1	55	--	14
SEP 29, 71	1110	2	.3	400	28.2	6.9	3.2	41	--	61

TABLE 9A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,  
1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS										
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) FIELD	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
LINE 191 CONTINUED										
SEP 29, 71	1110	2	.9	400	28.2	6.9	3.3	42	--	--
LINE 197										
APR 28, 71	1330	1	.3	880	27.4	8.0	6.5	81	--	--
			.8	870	27.3	8.0	6.5	81	--	--
JUL 13, 71	1120	1	.3	620	33.4	8.4	7.8	107	--	36
			.9	640	33.2	8.4	7.9	108	--	--
AUG 10, 71	1150	1	.6	330	29.0	7.5	5.7	73	--	5
SEP 29, 71	1100	1	.3	490	27.7	7.0	5.2	65	--	28
			.9	490	27.9	7.0	4.6	56	--	--
APR 28, 71	1315	2	.3	870	28.7	8.3	8.5	109	--	--
			.6	880	28.7	8.3	9.2	118	--	--
JUL 13, 71	1115	2	.3	640	31.8	8.4	6.8	92	--	36
			.6	640	31.8	8.4	6.8	92	--	--
AUG 10, 71	1145	2	.6	330	28.7	7.5	5.6	72	--	4
SEP 29, 71	1055	2	.3	500	28.0	7.4	7.1	90	--	28
			.9	500	28.1	7.4	7.4	94	--	--
LINE 200										
APR 28, 71	1255	2	.3	1200	28.0	9.0	10.0	132	--	--
			.9	1400	28.0	9.0	10.0	130	--	--
			.3	1200	28.1	8.7	10.4	132	--	--
			.9	1400	28.5	8.7	10.3	130	--	--
JUL 13, 71	1055	2	.3	700	32.3	8.3	6.6	89	--	41
			1.1	730	32.4	8.2	6.2	84	--	--
			.3	700	32.0	8.0	7.0	89	--	41
			1.1	730	32.0	8.0	6.0	84	--	--
AUG 10, 71	1205	2	.3	350	28.2	7.6	6.1	77	--	8
			.9	350	28.2	7.6	6.1	77	--	--
SEP 29, 71	1115	2	.3	460	27.4	7.4	6.4	80	--	41
			1.5	500	27.5	7.4	6.6	82	--	--
LINE 214										
APR 28, 71	1350	1	.3	1700	27.3	8.9	12.8	160	--	--
			1.1	1700	27.3	8.9	12.8	160	--	--
JUL 13, 71	1045	1	.3	1000	32.8	8.6	7.7	105	--	61
			1.2	1100	32.4	8.6	6.9	93	--	--
AUG 10, 71	1230	1	.3	350	29.5	7.7	6.3	82	--	15
			1.1	340	29.1	7.6	5.7	73	--	--
SEP 29, 71	1135	1	.3	420	28.7	7.3	7.3	94	--	46
			1.5	420	28.7	7.3	7.2	92	--	--
APR 28, 71	1345	2	.3	2000	27.8	8.5	10.5	135	--	--
			.9	1800	27.8	8.4	10.4	132	--	--
JUL 13, 71	1035	2	.3	950	33.0	8.6	7.7	105	--	41
			.9	990	32.5	8.6	6.4	86	--	--
AUG 10, 71	1225	2	.3	340	28.9	7.6	5.7	73	--	5
			.9	340	28.6	7.6	5.3	68	--	--



TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
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LINE 214 CONTINUED

SEP 29, 71	1130	2	.3 1.2	520 520	26.2 26.2	7.5 7.5	7.0 6.9	89 87	-- --	30 --
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LINE 225

APR 28, 71	1240	1	.3 .9	6400 6700	26.8 27.0	8.7 8.7	10.7 10.4	135 132	-- --	-- --
JUL 13, 71	1025	1	.3 .9	6000 17000	32.6 32.1	8.6 8.2	9.1 5.6	128 80	-- --	-- --
AUG 10, 71	1300	1	.3 .9	970 900	31.2 31.0	8.6 8.4	9.3 9.1	124 121	-- --	22 --
SEP 29, 71	1150	1	.3 1.2	350 380	28.6 28.8	7.3 7.3	6.2 6.3	79 81	-- --	28 --
APR 28, 71	1230	2	.3 .9	8500 8800	27.3 27.4	8.7 8.7	9.8 9.7	126 124	-- --	-- --
JUL 13, 71	1005	2	.3 .6 .9	12000 18000 21000	30.0 30.0 29.9	8.4 8.1 8.0	7.6 5.1 3.9	104 71 55	-- -- --	48 -- --
AUG 10, 71	1245	2	.3 1.1	380 390	30.5 30.5	7.8 7.8	6.7 6.7	88 88	-- --	9 --
SEP 29, 71	1145	2	.3 1.5	500 500	28.2 28.2	7.5 7.5	6.8 6.9	86 87	-- --	36 --

LINE 236

APR 28, 71	1205	1	.3 .8	30000 30000	26.3 26.3	8.2 8.2	6.6 6.5	90 89	-- --	-- --
JUL 13, 71	0940	1	.3 .8	22000 22000	30.3 30.3	7.9 7.9	5.8 5.3	63 76	-- --	48 --
SEP 29, 71	1320	1	.3 1.2	1000 1000	29.6 29.7	7.6 7.7	7.0 7.1	91 92	-- --	10 --
APR 28, 71	1200	2	.3 .9	30000 30000	26.5 26.5	8.3 8.3	6.4 6.4	88 88	-- --	-- --
JUL 13, 71	0930	2	.3 .9	18000 21000	30.5 30.2	8.1 8.0	6.0 5.2	83 73	-- --	46 --
AUG 10, 71	1435	2	.3 1.1	14000 14000	30.8 30.8	8.5 8.5	9.5 9.5	132 132	-- --	23 --
SEP 29, 71	1315	2	.3 1.5	2400 2400	29.8 29.7	8.0 8.0	8.0 8.0	107 105	-- --	10 --
SEP 29, 71	1530	2	.3 1.2	1300 1300	29.1 29.1	8.1 8.1	7.1 7.2	91 92	-- --	13 --
SEP 30, 71	0930	2	.3 1.2	2600 2600	27.0 27.0	8.2 8.2	11.1 11.2	139 140	-- --	15 --
SEP 30, 71	1530	2	.3 1.2	2000 2000	28.9 28.9	8.3 8.3	8.0 8.2	104 106	-- --	15 --
APR 28, 71	1155	3	.3 .9	30000 30000	26.5 26.5	.8 8.4	.6 6.4	88 88	-- --	-- --
JUL 13, 71	0925	3	.3 .9	21000 22000	30.2 29.9	8.1 8.0	6.3 5.8	89 83	-- --	53 --

TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
LINE 236 CONTINUED										
SEP 29, 71	1310	3	.3	2800	29.2	7.8	7.6	99	--	10
			.9	2800	29.0	7.8	7.9	103	--	--
LINE 293										
APR 28, 71	1050	1	.3	31000	25.9	8.1	7.0	96	--	--
			.6	31000	25.9	8.1	6.4	88	--	--
JUL 13, 71	0805	1	.3	36000	29.3	7.9	5.4	81	--	53
			.8	34000	29.2	7.9	5.3	78	--	--
SEP 29, 71	1205	1	.3	1300	29.2	7.7	6.8	87	--	10
			.9	1300	29.3	7.6	7.0	91	--	--
APR 28, 71	1035	2	.3	30000	25.7	8.1	6.1	82	--	--
			1.5	32000	25.5	8.1	5.6	76	--	--
			3.0	32000	25.4	8.1	5.6	76	--	--
APR 29, 71	0900	2	.3	31000	25.3	--	6.4	86	--	64
			1.5	33000	25.2	--	6.0	81	--	--
			4.3	36000	25.1	--	6.2	84	--	--
JUL 13, 71	0800	2	.3	38000	28.9	7.9	5.1	76	--	38
			1.5	38000	28.9	7.9	5.0	75	--	--
			2.4	37000	28.9	7.9	5.1	75	--	--
			3.8	37000	28.7	7.9	5.2	76	--	--
AUG 10, 71	1406	2	.3	11000	31.9	8.5	9.6	133	--	38
			.9	11000	31.8	8.5	9.6	133	--	--
			1.5	14000	31.6	8.5	8.9	125	--	--
			2.1	18000	31.2	8.2	6.4	90	--	--
			2.7	29000	30.8	8.0	5.9	87	--	--
SEP 29, 71	1210	2	.3	600	28.9	7.6	6.6	85	--	25
			1.5	1900	28.9	7.6	6.6	86	--	--
			3.0	2600	28.8	7.6	6.7	87	--	--
			4.6	4000	28.8	7.6	6.3	82	--	--
APR 28, 71	1100	3	.3	31000	26.4	8.1	5.0	68	--	--
			1.1	32000	26.6	8.1	5.1	71	--	--
JUL 13, 71	0810	3	.3	29000	28.9	8.1	5.7	81	--	51
			1.2	36000	28.9	8.0	5.3	78	--	--
AUG 10, 71	1350	3	.8	7000	32.5	8.6	10.2	142	--	23
SEP 29, 71	1220	3	.3	450	28.8	7.4	6.6	85	--	25
			1.2	450	28.8	7.4	6.5	83	--	--
APR 28, 71	1105	4	.3	28000	26.6	8.1	7.0	96	--	--
			1.1	30000	26.4	8.1	5.6	77	--	--
JUL 13, 71	0820	4	.3	26000	29.1	8.1	5.1	72	--	48
			1.2	36000	29.2	7.9	4.5	66	--	--
AUG 10, 71	1345	4	.3	3000	32.4	8.6	10.0	137	--	20
			1.1	3500	32.3	8.6	9.6	132	--	--
APR 28, 71	1110	5	.3	22000	26.7	8.4	7.7	103	--	--
			.9	29000	26.8	8.4	7.6	101	--	--
JUL 13, 71	0825	5	.3	27000	29.2	8.0	4.8	69	--	38
			1.2	33000	29.2	7.9	4.2	62	--	--
AUG 09, 71	1225	5	.3	1000	31.2	--	8.4	112	--	23
			.6	24000	30.8	--	8.2	90	--	--
			.9	29000	30.9	--	4.6	68	--	--
AUG 09, 71	1500	5	.3	9000	32.2	8.4	10.7	149	--	--

TABLE 9A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,  
1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS											
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICROMHOS/CM)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)	
LINE 243 CONTINUED											
AUG 09, 71	1500	5	.6 1.2	11000 29000	32.2 30.3	8.4 7.9	11.0 4.8	153 70	-- --	-- --	
AUG 09, 71	1615	5	.3 .6 1.1	11000 11000 27000	33.1 33.0 30.7	8.2 8.2 7.6	10.4 9.8 4.6	146 138 68	-- -- --	-- -- --	
AUG 09, 71	1715	5	.3 .6 1.1	10000 11000 28000	33.7 33.7 32.5	8.3 8.3 7.6	10.2 10.2 4.0	146 146 61	-- -- --	-- 41 --	
AUG 09, 71	1810	5	.3 .6 1.1	9700 5200 28000	33.2 33.3 31.7	8.4 8.4 7.4	11.4 10.4 3.0	158 146 45	-- -- --	-- 33 --	
AUG 09, 71	1900	5	.3 .6 1.1	3700 4000 20000	32.2 32.1 31.0	8.5 8.5 7.5	11.1 11.1 3.5	152 152 50	-- -- --	-- 33 --	
AUG 10, 71	0900	5	.3 .6 1.1	860 1100 1600	28.2 28.1 28.8	8.3 8.3 7.7	7.9 7.3 6.9	94 92 82	-- -- --	-- 15 --	
AUG 10, 71	1330	5	.3 1.1	1300 1800	31.6 31.7	8.3 8.3	8.1 7.4	109 100	-- --	-- 14	
AUG 10, 71	1515	5	.5 1.1	630 660	30.7 30.6	8.1 8.0	8.1 7.8	108 104	-- --	-- 15	
AUG 12, 71	1130	5	.3 1.2	360 400	30.4 30.4	7.9 7.9	7.2 7.2	95 95	-- --	-- 9	
AUG 13, 71	1240	5	.3 1.1	400 430	29.3 29.3	8.1 8.0	7.1 7.5	92 97	-- --	-- 5	
SEP 29, 71	1230	5	.3 1.2	490 520	28.5 28.5	7.6 7.5	7.3 7.2	94 92	-- --	-- --	
SEP 30, 71	1040	5	.3 1.1	550 550	27.5 27.4	8.0 8.0	6.9 7.1	86 89	-- --	-- --	
APR 28, 71	1115	6	.3 .9	26000 26000	27.0 27.0	8.3 8.3	7.8 7.7	105 104	-- --	-- --	
JUL 13, 71	0845	6	.3 1.2	30000 34000	29.1 29.0	8.1 7.9	5.3 4.7	77 69	-- --	-- 43	
AUG 10, 71	1505	6	.3 .9	730 1300	30.5 30.3	8.1 8.1	7.8 7.1	103 93	-- --	-- 15	
APR 28, 71	1120	7	.3 .9	25000 27000	26.4 26.2	8.4 8.3	7.8 7.6	104 103	-- --	-- --	
JUL 13, 71	0850	7	.3 1.1	29000 33000	29.3 29.4	8.0 8.0	5.7 4.9	81 72	-- --	-- 48	
AUG 10, 71	1450	7	.5 1.1	2100 19000	30.6 29.8	8.3 7.9	8.4 3.2	114 44	-- --	-- 30	
AUG 12, 71	1010	7	.3 1.2	690 1100	28.7 28.7	8.2 8.2	7.8 7.4	100 95	-- --	-- 8	
AUG 12, 71	1120	7	.3 1.2	840 810	30.8 30.9	7.8 7.7	7.1 6.7	95 89	-- --	-- 8	
AUG 13, 71	1250	7	.3 1.1	450 460	29.4 29.3	8.1 8.1	7.3 7.7	95 100	-- --	-- 8	
SEP 29, 71	1240	7	.3	570	28.6	7.6	7.7	99	--	--	25

TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,  
1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS										
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
LINE 243 CONTINUED										
SEP 29, 71	1240	7	1.2	540	28.5	7.1	7.5	96	--	--
SEP 30, 71	1030	7	.3 1.2	720 720	27.5 27.4	8.0 8.1	7.1 7.5	89 94	18 --	-- --
APR 28, 71	1125	8	.3 1.1	30000 30000	26.6 26.4	8.2 8.2	7.1 7.0	99 96	-- --	-- --
JUL 13, 71	0910	8	.3 1.2	26000 31000	30.1 30.2	8.0 8.0	6.0 5.2	86 76	-- --	61 --
AUG 10, 71	1445	8	.5 .9	19000 20000	31.4 31.3	8.4 8.3	9.3 9.3	131 133	-- --	61 --
APR 28, 71	1135	9	.3 1.1	32000 32000	26.6 26.3	8.2 8.2	7.1 7.0	99 96	-- --	-- --
AUG 09, 71	1505	9	.3 .9	26000 26000	31.8 31.9	8.3 8.3	7.8 7.9	115 116	-- --	53 --
AUG 10, 71	1415	9	.3 1.2	27000 27000	31.1 31.2	8.2 8.2	7.8 7.6	115 112	-- --	41 --
SEP 29, 71	1300	9	.3 1.2	2400 2400	29.1 29.0	7.8 7.8	7.6 7.6	99 99	-- --	23 --
APR 28, 71	1140	10	.3 1.1	34000 34000	26.6 26.0	8.1 8.1	6.5 6.7	91 93	-- --	-- --
JUL 13, 71	0915	10	.3 1.2	23000 26000	30.3 30.3	8.0 7.9	4.8 4.2	69 60	-- --	38 --
LINE 254										
APR 28, 71	0845	2	.3 1.5 2.4	36000 37000 36000	24.7 24.6 24.5	7.9 7.9 7.6	6.0 6.0 6.0	81 81 81	-- -- --	61 -- --
JUL 13, 71	0745	2	.3 1.4	39000 39000	27.9 27.6	7.9 7.9	5.7 6.5	84 94	-- --	38 --
JUL 13, 71	1605	2	.3 .9 1.5	42000 42000 42000	31.1 31.0 31.1	8.1 8.1 8.1	6.3 6.0 6.7	100 95 106	-- -- --	38 -- --
AUG 10, 71	0900	2	.3 1.2	28000 35000	29.2 28.9	8.1 8.1	6.2 6.0	89 88	-- --	-- --
AUG 12, 71	0900	2	.3 1.2	22000 25000	28.7 28.6	8.2 8.1	6.6 6.0	92 84	-- --	-- --
AUG 12, 71	1140	2	.3 1.5 2.4	22000 24000 27000	30.7 30.4 30.5	8.2 8.1 8.0	7.0 6.2 5.0	101 89 74	-- -- --	53 -- --
SEP 30, 71	1115	2	.3 2.1	2700 3700	27.6 27.5	8.1 8.1	7.0 6.4	89 81	-- --	20 --
LINE 264										
APR 28, 71	1742	1	.5 1.5 3.5	36000 36000 37000	26.0 25.9 25.7	-- -- --	5.0 5.4 3.8	69 75 52	-- -- --	51 -- --
JUL 13, 71	1557	1	.3 .9 1.5	40000 40000 40000	30.3 30.2 30.2	8.1 8.1 8.1	6.2 6.3 6.5	95 97 100	-- -- --	61 -- --

TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY.

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICROMHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
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LINE 264 CONTINUED

JUL 13, 71	1557	1	3.4	39000	30.2	8.1	6.0	91	--	--
AUG 10, 71	0915	1	.3	34000	28.9	8.1	6.5	96	--	51
			1.5	34000	28.8	8.1	6.5	96	--	--
			3.7	38000	28.7	8.1	6.4	96	--	--
SEP 30, 71	0830	1	.3	460	26.6	8.0	7.5	93	--	13
			1.5	520	26.7	8.1	7.2	89	--	--
			2.4	1200	26.7	7.9	7.0	86	--	--
			3.0	1600	26.9	7.9	6.9	85	--	--
			3.4	5400	27.1	7.8	5.8	73	--	--
APR 28, 71	1726	2	.5	38000	26.0	--	5.3	75	--	10
			1.5	37000	25.9	--	6.2	86	--	--
JUL 13, 71	1534	2	.3	39000	31.5	8.2	6.6	103	--	63
			1.2	39000	31.5	8.2	6.6	103	--	--
AUG 10, 71	0920	2	.3	33000	29.1	8.2	6.4	94	--	46
			1.2	33000	29.0	8.1	6.0	88	--	--
SEP 30, 71	0845	2	.3	5000	27.0	8.3	7.5	94	--	23
			1.5	5500	26.9	8.3	7.7	97	--	--
APR 28, 71	1705	3	.5	34000	25.8	--	6.2	86	--	46
			1.2	34000	25.8	--	6.6	92	--	--
JUL 13, 71	1520	3	.3	39000	30.9	8.2	5.7	88	--	66
			.9	39000	30.7	8.2	5.8	89	--	--
			1.5	42000	30.3	8.2	5.5	86	--	--
			2.1	42000	30.0	8.1	6.2	97	--	--
AUG 10, 71	0930	3	.3	33000	29.2	8.2	6.4	94	--	74
			1.5	33000	29.2	8.2	6.2	91	--	--
SEP 30, 71	0850	3	.3	2800	27.0	8.3	7.5	94	--	25
			1.5	6100	26.9	8.3	7.7	97	--	--
APR 28, 71	1650	4	.5	36000	25.7	--	5.5	75	--	43
			1.5	36000	25.7	--	5.9	81	--	--
			2.4	36000	25.4	--	5.5	75	--	--
JUL 13, 71	1505	4	.3	38000	31.5	8.2	6.4	100	--	53
			1.4	36000	31.2	8.2	6.2	95	--	--
AUG 09, 71	1250	4	.3	31000	31.2	--	6.8	101	--	84
			.9	33000	31.0	--	6.4	97	--	--
			1.5	34000	30.8	--	6.4	97	--	--
AUG 09, 71	1450	4	.3	35000	31.2	8.2	6.8	105	--	119
			1.5	35000	31.2	8.2	7.0	108	--	--
AUG 09, 71	1650	4	.3	35000	31.6	8.2	7.0	109	--	69
			1.7	35000	31.7	8.2	7.1	111	--	--
AUG 09, 71	1800	4	.3	35000	31.4	8.2	7.0	108	--	--
			1.2	35000	31.4	8.2	7.0	108	--	--
AUG 09, 71	1850	4	.3	34000	31.1	8.2	7.1	108	--	63
			1.4	35000	31.5	8.2	7.0	109	--	--
AUG 10, 71	0940	4	.3	33000	29.3	8.2	6.1	90	--	91
			1.5	33000	29.3	8.2	6.3	93	--	--
			2.6	35000	29.2	8.2	5.7	84	--	--
AUG 10, 71	1405	4	.5	33000	30.7	8.2	7.5	114	--	76
			.9	33000	30.7	8.2	7.5	114	--	--
AUG 12, 71	0925	4	.3	25000	29.6	8.1	6.8	97	--	69

TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS											
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC (CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRAN- SPARENCY SECCHI DISK (CM)	
LINE 264 CONTINUED											
AUG 12, 71	0925	4	1.2	30000	29.7	8.0	5.3	78	--	--	
SEP 30, 71	0900	4	.3 1.5	2100 2800	27.2 27.1	8.2 8.2	7.1 7.7	89 96	-- --	18 --	
APR 28, 71	1640	5	.5 1.2	36000 36000	26.0 26.1	-- --	6.2 6.6	86 92	-- --	30 --	
JUL 13, 71	1455	5	.3 .9	31000 34000	32.1 32.1	8.2 8.2	6.4 6.3	97 97	-- --	61 --	
AUG 10, 71	1000	5	.3 .9	42000 43000	29.3 29.4	8.1 8.1	5.8 5.6	89 86	-- --	61 --	
AUG 13, 71	1320	5	.3 .9 1.4	23000 23000 33000	30.2 30.2 29.9	8.4 8.4 8.1	8.4 8.4 5.6	120 120 84	-- -- --	71 -- --	
SEP 30, 71	0910	5	.3 1.2	3800 3800	26.8 26.9	8.2 8.2	7.4 7.9	93 99	-- --	15 --	
LINE 274											
APR 28, 71	1539	1	.3 1.5 4.1	40000 40000 43000	26.0 26.0 26.1	-- -- --	5.1 5.3 5.7	73 76 83	-- -- --	58 -- --	
JUL 13, 71	1317	1	.3 .9 1.5 2.7	44000 44000 44000 42000	30.9 30.5 30.1 30.1	8.1 8.1 8.1 8.1	5.8 5.6 5.4 5.2	94 90 86 81	-- -- -- --	53 -- -- --	
AUG 10, 71	1100	1	.3 1.5 3.0	44000 44000 44000	29.4 29.3 29.3	8.2 8.1 8.1	6.7 6.7 6.7	105 105 105	-- -- --	61 -- --	
SEP 29, 71	1035	1	.3 1.5 2.4 3.0	11000 12000 12000 13000	27.6 27.7 27.7 27.8	8.1 8.1 8.1 8.0	6.0 5.8 5.8 5.6	77 75 75 74	-- -- -- --	-- -- -- --	
APR 28, 71	1600	2	.5 1.2	42000 41000	26.4 26.4	-- --	6.4 6.2	93 88	-- --	38 --	
JUL 13, 71	1348	2	.3 .9	44000 47000	31.6 31.9	8.2 8.2	7.4 7.6	121 127	-- --	51 --	
AUG 10, 71	1045	2	.3 .9	44000 43000	29.4 29.4	8.0 8.0	5.9 6.0	92 92	-- --	46 --	
SEP 29, 71	1320	2	.3 1.5	10000 10000	28.3 28.2	8.3 8.3	7.0 7.3	91 95	-- --	65 --	
JUL 13, 71	1405	3	.3 1.2	42000 42000	31.5 31.3	8.2 8.2	6.6 6.7	106 106	-- --	91 --	
AUG 10, 71	1038	3	.5 1.5	39000 39000	29.6 29.7	8.2 8.2	6.1 6.1	92 92	-- --	86 --	
SEP 29, 71	1310	3	.3 1.5	12000 12000	28.2 28.1	8.4 8.3	7.5 7.5	99 99	-- --	65 --	
APR 28, 71	1615	4	.5 1.5 2.7	38000 40000 40000	25.9 25.7 25.3	-- -- --	6.5 6.6 5.0	92 93 70	-- -- --	69 -- --	
JUL 13, 71	1417	4	.3 .9	40000 42000	31.2 30.8	8.2 8.2	6.2 6.0	97 95	-- --	74 --	

TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS											
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANSP- ARENCY SECCH- DISK (CM)	
LINE 274 CONTINUED											
JUL 13, 71	1417	4	1.5	43000	30.3	8.1	5.8	91	--	--	
AUG 10, 71	1030	4	.3 1.8	39000 39000	29.3 29.2	8.2 8.2	6.2 6.1	93 91	-- --	91 --	
SEP 29, 71	1300	4	.3 1.5	7100 7200	27.9 27.8	8.3 8.2	7.2 7.3	94 95	-- --	61 --	
APR 28, 71	1630	5	.5 1.5	37000 37000	26.0 26.1	-- --	6.6 6.8	92 94	-- --	43 --	
JUL 13, 71	1430	5	.3 .9 1.5	42000 42000 42000	31.2 31.0 30.9	8.2 8.2 8.2	5.8 6.0 6.0	92 95 94	-- -- --	36 -- --	
AUG 10, 71	1010	5	.3 1.5	43000 43000	29.9 29.9	8.2 8.2	6.2 6.2	95 95	-- --	89 --	
SEP 29, 71	1250	5	.3 1.5	4500 4800	28.0 28.0	8.2 8.2	7.4 7.6	95 97	-- --	61 --	
SEP 29, 71	1600	5	.3 1.8	3400 3400	28.6 28.6	8.2 8.2	7.5 7.6	97 99	-- --	30 --	
SEP 30, 71	0930	5	.3 1.5	5100 5400	27.1 27.1	8.3 8.3	7.4 7.6	94 96	-- --	23 --	
SEP 30, 71	1615	5	.3 1.8	5800 5700	28.7 28.2	8.4 8.3	8.8 7.8	116 101	-- --	23 --	
JUL 13, 71	1447	6	.3 1.4	44000 42000	31.4 31.1	8.2 8.2	6.9 6.0	111 95	-- --	38 --	
LINE 287											
APR 28, 71	1528	1	.3 1.5 3.4	43000 43000 44000	26.2 26.2 26.3	-- -- --	5.7 6.3 6.8	83 91 100	-- -- --	53 -- --	
JUL 13, 71	1111	1	.3 .9 1.5 3.0	44000 44000 44000 44000	30.7 30.5 30.1 30.1	8.2 8.1 8.1 8.1	5.7 5.6 4.3 4.3	92 90 68 68	-- -- -- --	86 -- -- --	
AUG 10, 71	1110	1	.5 1.5 3.4	44000 44000 44000	29.6 29.6 29.6	8.2 8.2 8.1	7.2 7.2 6.7	114 114 106	-- -- --	56 -- --	
SEP 29, 71	1050	1	.3 1.5 2.4 4.0	17000 17000 17000 17000	27.5 27.4 27.4 27.3	8.2 8.2 8.1 8.0	6.2 6.4 6.4 5.9	83 85 85 79	-- -- -- --	66 -- -- --	
APR 28, 71	1444	2	.5 1.2	41000 40000	26.2 26.3	-- --	6.0 6.6	86 94	-- --	53 --	
JUL 13, 71	1043	2	.3 .9	44000 44000	30.2 30.1	8.1 8.1	5.6 4.7	89 75	-- --	66 --	
AUG 10, 71	1125	2	.5 1.2	43000 43000	29.7 29.8	8.2 8.2	6.9 7.1	108 111	-- --	66 --	
SEP 29, 71	1105	2	.3 1.5	15000 15000	27.6 27.7	8.3 8.3	7.5 7.5	99 99	-- --	53 --	
APR 28, 71	1501	3	.5 1.4	41000 41000	26.3 26.4	-- --	6.2 6.8	88 97	-- --	64 --	
JUL 13, 71	1053	3	.3	44000	30.4	8.1	5.6	89	--	61	



TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS										
DATE OF COLLECTION	(TIME)	(SITE)	DEPTH (METERS)	(SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD))	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
LINE 287 CONTINUED										
JUL 13, 71	1053	3	1.4	44000	30.2	8.1	5.7	90	--	--
AUG 10, 71	1130	3	.3 1.2	43000 43000	29.7 29.7	8.1 8.2	6.9 6.9	108 108	-- --	61 --
SEP 29, 71	1110	3	.3 1.5	15000 15000	27.6 27.5	8.3 8.3	6.8 7.4	89 97	-- --	64 --
APR 28, 71	0925	4	.5 .9 1.7	40000 40000 40000	24.3 24.4 24.3	-- -- --	6.5 6.5 4.7	90 90 65	-- -- --	89 -- --
JUL 13, 71	0829	4	.3 .9 1.8	42000 42000 42000	29.1 29.0 29.0	8.1 8.1 8.1	6.7 6.7 6.9	103 103 106	-- -- --	61 -- --
AUG 10, 71	1155	4	.3 1.7	43000 43000	30.0 30.1	8.1 8.1	6.7 6.9	105 108	-- --	61 --
SEP 29, 71	1125	4	.5 2.1	13000 13000	27.6 27.7	8.3 8.3	7.2 6.9	94 90	-- --	74 --
APR 28, 71	1222	5	.5 1.4	41000 40000	25.7 25.7	-- --	6.6 6.5	93 92	-- --	61 --
JUL 13, 71	1020	5	.3 .9 1.5 2.9	43000 43000 42000 42000	30.3 30.1 29.7 29.7	8.2 8.2 8.2 8.1	6.2 6.0 5.9 5.6	97 94 92 88	-- -- -- --	76 -- -- --
AUG 10, 71	1245	5	.5 1.4	44000 43000	30.2 30.1	8.2 8.1	6.4 6.0	102 94	-- --	51 --
SEP 29, 71	1130	5	.3 1.5 2.4	10000 10000 10000	27.5 27.5 27.6	8.3 8.3 8.3	6.6 6.8 6.8	85 87 87	-- -- --	66 -- --
JUL 13, 71	1000	6	.3 .9 1.7	43000 44000 44000	29.5 29.4 29.4	8.1 8.1 8.1	5.9 5.7 5.4	92 89 84	-- -- --	61 -- --
AUG 10, 71	1300	6	.5 1.4	45000 45000	30.2 30.2	8.1 8.1	7.1 7.2	113 114	-- --	46 --
SEP 29, 71	1145	6	.3 1.5	11000 11000	27.8 27.8	8.3 8.3	7.3 7.4	95 96	-- --	54 --
APR 28, 71	1040	7	.5 1.2	38000 38000	24.8 24.9	-- --	6.5 7.1	89 97	-- --	56 --
JUL 13, 71	0942	7	.3 .9 1.5	43000 43000 43000	29.7 29.6 29.7	8.1 8.1 8.1	5.3 5.3 5.1	83 83 60	-- -- --	56 -- --
AUG 10, 71	1310	7	.3 1.4	45000 45000	30.2 30.3	8.1 8.1	6.7 6.8	106 108	-- --	41 --
APR 28, 71	1021	8	.5 1.5	40000 40000	24.6 24.6	-- --	6.6 7.0	92 97	-- --	61 --
JUL 13, 71	0925	8	.3 .9 1.5	44000 44000 44000	29.6 29.6 29.8	8.1 8.1 8.1	6.6 6.3 6.3	105 100 100	-- -- --	-- -- --
JUL 14, 71	1100	8	.3 .9 1.5	44000 44000 44000	30.7 30.2 30.3	8.2 8.2 8.1	7.2 5.9 5.7	116 94 90	-- -- --	81 -- --
AUG 09, 71	1200	8	.3	45000	29.9	8.2	6.5	103	--	94

TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,  
1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	(SITE)	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRAN- SPARENCY SECCHI DISK (CM)
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LINE 287 CONTINUED

AUG 09, 71	1200	8	1.7	45000	29.6	8.1	5.8	92	--	--
AUG 09, 71	1420	8	.3 1.7	46000 45000	30.6 30.6	8.2 8.2	6.7 6.5	108 105	--	86 --
AUG 10, 71	1320	8	.5 1.7	46000 45000	30.5 30.2	8.1 8.1	7.1 7.2	115 114	--	53 --
SEP 29, 71	1205	8	.3 1.5	7100 7100	27.7 27.7	8.2 8.2	6.4 6.5	82 83	--	54 --
SEP 30, 71	1700	8	.3 1.8	9000 9000	28.3 28.2	8.4 8.4	7.8 8.7	101 113	--	25 --
APR 28, 71	1013	9	.5 1.7	40000 41000	24.7 24.7	-- --	6.8 7.2	94 100	--	61 --
JUL 13, 71	0915	9	.3 1.7	44000 47000	29.8 29.6	8.2 8.1	6.7 5.8	106 92	--	63 --
AUG 10, 71	1340	9	.5 1.5	49000 47000	30.5 30.5	8.2 8.2	7.0 6.8	113 110	--	61 --
SEP 29, 71	1230	9	.5 1.5	6500 6200	27.8 27.8	8.3 8.3	7.0 7.3	91 95	--	51 --

LINE 291

APR 28, 71	1135	1	.5 2.0	46000 46000	25.3 25.4	-- --	6.8 6.6	98 98	--	102 --
JUL 14, 71	1220	1	.3 .9 1.8	48000 49000 47000	31.4 30.9 30.8	8.2 8.2 8.2	6.8 6.8 7.0	111 111 115	--	94 -- --
SEP 28, 71	1330	1	.3 1.2 2.1	15000 18000 18000	30.6 30.6 30.2	8.3 8.3 8.1	9.8 9.5 7.6	136 134 106	--	71 -- --
APR 28, 71	1145	2	.5 2.1	46000 46000	25.4 25.4	-- --	6.6 6.8	96 98	--	147 --
JUL 14, 71	1227	2	.3 .9 1.8	48000 48000 48000	31.6 31.1 31.1	8.2 8.2 8.2	6.1 6.3 6.2	102 103 102	--	76 -- --
SEP 28, 71	1345	2	.3 1.2 2.1	16000 17000 18000	29.6 29.1 29.2	8.4 8.2 8.1	9.9 7.5 6.5	136 103 89	--	56 -- --
APR 28, 71	1155	3	.5 2.0	43000 43000	25.4 25.5	-- --	6.6 6.9	94 98	--	104 --
JUL 14, 71	1235	3	.3 .9 1.8	47000 47000 47000	31.6 30.9 30.8	8.2 8.2 8.2	6.2 6.7 6.0	103 110 98	--	76 -- --
SEP 28, 71	1400	3	.3 1.2 2.1	13000 14000 16000	30.5 29.0 28.9	8.5 8.3 8.1	10.1 8.6 5.8	140 115 78	--	61 -- --
APR 28, 71	1202	4	.5 2.0	42000 42000	25.6 25.5	-- --	6.6 7.1	94 101	--	81 --
JUL 14, 71	1242	4	.3 .9 1.8	45000 48000 47000	31.6 31.4 30.6	8.2 8.2 8.2	5.9 5.8 5.8	97 95 95	--	74 -- --
SEP 28, 71	1410	4	.3	9000	30.3	8.4	10.9	147	--	56

TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS/CM)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
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## LINE 291 CONTINUED

SEP 28, 71	1410	4	1.2 2.1	9500 15000	29.4 29.4	8.2 8.2	9.1 7.3	121 99	-- --	-- --
LINE 294										
APR 28, 71	1120	1	.5 2.0	45000 45000	25.1 25.1	-- --	6.8 7.3	97 104	-- --	107 --
JUL 14, 71	1133	1	.3 .9 1.8	50000 49000 49000	30.7 30.3 30.4	8.2 8.2 8.2	6.6 6.6 7.1	108 108 114	-- -- --	61 -- --
SEP 28, 71	1315	1	.3 1.2 2.1	14000 15000 18000	29.0 28.8 28.6	8.4 8.4 8.2	9.7 9.6 6.7	129 130 92	-- -- --	66 -- --
APR 28, 71	1106	2	.5 1.8	45000 43000	25.0 24.9	-- --	6.6 7.3	94 103	-- --	117 --
JUL 14, 71	1120	2	.3 .9 1.8	49000 49000 48000	30.5 30.5 30.7	8.2 8.2 8.2	6.4 7.1 6.9	103 114 113	-- -- --	-- -- --
AUG 09, 71	1330	2	.3 1.8	49000 49000	30.3 30.1	8.2 8.2	6.6 6.6	106 106	-- --	91 --
SEP 28, 71	1300	2	.3 .9 1.5	12000 13000 17000	29.0 28.6 28.5	8.5 8.5 8.1	10.1 9.9 5.6	135 132 76	-- -- --	69 -- --
APR 28, 71	1056	3	.5 1.5	42000 40000	24.8 24.9	-- --	6.3 7.2	89 100	-- --	58 --
JUL 14, 71	1112	3	.3 .9 1.5	50000 50000 48000	30.8 30.5 30.5	8.2 8.2 8.2	6.0 5.9 6.1	98 95 98	-- -- --	63 -- --
SEP 28, 71	1245	3	.3 1.2 2.1	9500 10000 12000	28.8 28.3 28.4	8.5 8.4 8.1	9.6 7.6 5.6	126 99 74	-- -- --	30 -- --
APR 28, 71	0950	4	.3 1.5 3.0 4.3	43000 43000 43000 42000	24.5 24.4 24.4 24.4	8.1 8.1 8.0 7.8	6.4 6.2 6.3 6.5	89 86 88 90	-- -- -- --	74 -- -- --
JUL 14, 71	1045	4	.3 1.5 2.4 3.7	50000 50000 50000 50000	30.5 30.3 30.3 30.4	8.2 8.2 8.2 8.1	6.6 5.7 5.6 4.9	106 92 90 71	-- -- -- --	53 -- -- --
SEP 28, 71	0900	4	.3 1.5 3.0 5.2	12000 12000 12000 12000	26.6 26.6 26.6 26.4	8.4 8.3 8.3 8.3	6.9 6.8 6.7 6.7	88 87 86 85	-- -- -- --	46 -- -- --
SEP 28, 71	1230	4	.3 1.5 3.0 4.6	10000 12000 12000 12000	29.0 29.0 29.2 29.5	8.4 8.3 8.3 8.3	8.8 7.9 7.4 8.1	116 105 99 109	-- -- -- --	48 -- -- --
LINE 302										
APR 28, 71	1308	1	.5 1.8	48000 48000	25.7 25.8	-- --	6.5 6.8	96 100	-- --	122 --
JUL 14, 71	1326	1	.3	47000	31.6	8.2	5.6	93	--	99

TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	(SPECIFIC CONDUCTANCE) (MICROHMOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK) (CM)
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LINE 302 CONTINUED

JUL 14, 71	1326	1	.9 1.7	47000 47000	31.3 30.8	8.2 8.2	5.0 5.1	82 84	-- --	-- --
SEP 28, 71	1410	1	.3 1.2 2.1	21000 21000 21000	31.6 31.6 31.4	8.1 8.1 8.1	8.9 8.9 8.9	129 129 127	-- -- --	79 -- --
APR 28, 71	1258	2	.5 1.8	48000 46000	25.7 25.7	-- --	6.5 6.6	96 96	-- --	140 --
JUL 14, 71	1312	2	.3 .9 1.7	47000 47000 47000	31.9 31.5 30.8	8.2 8.2 8.2	5.8 6.6 5.4	97 110 88	-- -- --	86 -- --
SEP 24, 71	1310	2	.3 1.5 2.1	19000 19000 19000	28.0 27.5 27.4	8.3 8.3 8.2	7.5 7.0 6.7	101 93 89	-- -- --	46 -- --
APR 28, 71	1251	3	.5 2.0	48000 46000	26.0 26.0	-- --	6.0 7.0	96 100	-- --	91 --
JUL 14, 71	1305	3	.3 .9 1.8	47000 47000 45000	31.9 31.5 30.8	8.2 8.2 8.1	5.8 5.8 5.5	97 97 89	-- -- --	81 -- --
SEP 28, 71	1300	3	.3 .9 1.5 2.1	13000 15000 17000 17000	29.0 28.0 28.0 28.0	8.0 8.0 8.0 8.0	9.0 8.0 7.0 7.0	117 109 95 96	-- -- -- --	76 -- -- --
SEP 28, 71	1445	3	.3 1.2 2.1	12000 16000 17000	30.0 29.0 29.0	8.0 8.0 8.0	11.0 9.0 7.0	149 126 101	-- -- --	61 -- --
APR 28, 71	1240	4	.5 2.0	43000 44000	25.8 25.8	-- --	6.4 6.0	93 88	-- --	99 --
JUL 14, 71	1257	4	.3 .9 1.8	49000 47000 45000	31.9 31.7 31.0	8.2 8.2 8.1	5.7 5.6 5.5	93 93 89	-- -- --	66 -- --
SEP 28, 71	1245	4	.3 .9 1.5 2.1	11000 12000 15000 17000	28.6 28.2 27.5 27.9	8.4 8.3 8.2 8.1	8.9 8.5 7.1 5.6	117 112 93 76	-- -- -- --	71 -- -- --
SEP 28, 71	1430	4	.3 1.2 2.1	11000 14000 15000	30.5 29.7 29.5	8.3 8.1 8.1	10.3 9.0 8.1	139 122 109	-- -- --	53 -- --

LINE 307

APR 28, 71	1400	1	.3 1.2	48000 45000	26.5 26.6	-- --	6.2 6.6	91 98	-- --	107 --
JUL 14, 71	1342	1	.3 1.1	47000 47000	31.4 31.2	8.2 8.2	5.7 6.4	93 105	-- --	86 --
SEP 28, 71	1210	1	.3 1.5 2.4	22000 25000 30000	28.0 27.5 28.0	8.2 8.1 7.9	7.5 6.1 3.9	103 84 56	-- -- --	76 -- --
APR 28, 71	1411	3	.5 2.0	44000 44000	25.9 25.9	-- --	5.8 6.4	85 94	-- --	91 --
JUL 14, 71	1350	3	.3 .9 1.8	45000 47000 47000	31.9 31.4 30.6	8.2 8.2 8.0	5.8 4.3 3.8	95 70 62	-- -- --	112 -- --

TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
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## LINE 307 CONTINUED

AUG 09, 71	1240	3	.3 1.8	45000 43000	29.7 29.4	8.2 8.2	6.2 6.2	98 95	-- --	91 --
AUG 11, 71	1410	3	.5 2.1	45000 45000	30.2 30.2	8.2 8.2	6.3 6.3	100 100	-- --	58 --
SEP 28, 71	1215	3	.3 1.5 2.1	20000 23000 24000	28.3 27.6 27.6	8.3 8.1 8.0	7.4 5.8 6.0	101 78 81	-- -- --	99 -- --
APR 28, 71	1422	5	.5 1.8	42000 42000	25.9 26.0	-- --	6.3 6.7	91 97	-- --	74 --
JUL 14, 71	1405	5	.3 .9 1.8	44000 44000 45000	31.5 31.1 30.8	8.2 8.1 8.1	5.9 5.9 5.6	95 95 90	-- -- --	69 -- --
SEP 28, 71	1225	5	.3 .9 1.8	19000 21000 23000	28.4 27.7 27.6	8.3 8.3 8.0	7.7 7.5 6.2	104 101 84	-- -- --	71 -- --
APR 28, 71	1517	7	.3 1.5 3.0 5.2	42000 43000 42000 42000	25.6 25.6 25.5 25.4	-- -- -- --	5.3 5.5 5.5 5.5	76 78 78 78	-- -- -- --	56 -- -- --

## LINE 311

SEP 28, 71	1115	1	.3 1.2	24000 24000	27.0 26.9	8.3 8.3	7.9 7.8	105 104	-- --	79 --
JUL 14, 71	0935	2	.3 1.2	54000 54000	30.1 30.1	8.1 8.1	4.8 5.2	80 87	-- --	46 --
AUG 11, 71	1515	2	.3 1.1	50000 51000	30.6 30.5	8.2 8.2	6.2 6.4	102 103	-- --	41 --
SEP 28, 71	1130	2	.3 1.5	20000 24000	27.0 26.7	8.3 8.2	8.2 7.2	109 96	-- --	71 --
JUL 14, 71	0908	3	.3 1.1	54000 53000	29.9 29.8	8.2 8.1	5.1 5.3	85 87	-- --	46 --
SEP 28, 71	1140	3	.3 1.5	17000 21000	27.0 26.9	8.3 8.3	9.3 9.4	122 125	-- --	43 --
JUL 14, 71	0855	4	.3 1.1	53000 53000	29.6 29.6	8.1 8.1	4.9 5.4	79 87	-- --	58 --
AUG 11, 71	1500	4	.3 1.2	51000 50000	30.5 30.5	8.3 8.3	6.8 6.8	110 110	-- --	33 --
SEP 28, 71	1150	4	.3 1.5	15000 17000	27.0 26.9	8.3 8.2	7.8 8.3	101 109	-- --	33 --
JUL 14, 71	0845	5	.3 1.2	52000 52000	29.5 29.6	8.2 8.1	5.0 4.9	81 79	-- --	61 --
SEP 28, 71	1200	5	.3 1.8	16000 17000	27.1 27.0	8.2 8.2	7.6 6.9	99 91	-- --	46 --

## LINE 314

JUL 14, 71	0950	1	.3 1.2	57000 57000	30.2 30.3	8.1 8.1	4.7 5.0	80 85	-- --	63 --
SEP 28, 71	1050	1	.3	26000	27.3	8.3	7.8	107	--	91

TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	(SPECIFIC CONDUCTANCE (MICRO-MHOS) FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK)
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LINE 314 CONTINUED

SEP 28, 71	1050	1	.9	30000	27.3	8.2	7.5	106	--	--
JUL 14, 71	0937	2	.3 1.2	57000 57000	30.0 30.1	8.2 8.2	5.0 5.1	85 86	-- --	63 --
AUG 11, 71	1535	2	.3 .9	50000 50000	30.7 30.5	8.3 8.3	7.3 7.4	120 119	-- --	47 --
SEP 28, 71	1030	2	.3 .9 1.8	22000 22000 36000	27.7 28.0 28.0	8.3 8.3 8.2	7.6 8.0 6.8	103 110 99	-- -- --	81 -- --
JUL 14, 71	1000	3	.3 1.2	57000 57000	29.8 29.9	8.2 8.2	5.2 6.1	88 103	-- --	61 --
SEP 28, 71	1010	3	.3 .9 1.5	21000 24000 40000	27.7 27.6 27.6	8.3 8.3 8.2	7.0 7.3 7.2	95 99 106	-- -- --	89 -- --
JUL 14, 71	1015	4	.3 1.2	57000 57000	29.7 29.7	8.1 8.1	5.8 5.7	97 95	-- --	76 --
SEP 28, 71	0955	4	.3 .9 1.5	21000 22000 30000	27.2 27.2 27.2	8.4 8.4 8.3	8.0 7.4 6.7	107 99 93	-- -- --	74 -- --

LINE 317

AUG 11, 71	1550	2	.3 1.5 3.0	50000 50000 50000	30.9 30.9 30.8	8.3 8.4 8.4	7.2 7.2 7.1	118 118 116	-- -- --	53 -- --
SEP 28, 71	0935	2	.3 1.5 3.0 4.3	41000 41000 41000 41000	27.0 27.0 26.9 26.9	8.3 8.3 8.3 8.2	7.8 7.8 7.6 7.3	113 113 110 106	-- -- -- --	81 -- -- --

LINE 320

JUL 14, 71	0832	2	.3 1.5 3.0 4.9	52000 52000 52000 50000	30.0 30.0 30.0 30.0	8.1 8.1 8.1 8.0	5.3 5.3 5.4 5.6	87 87 88 90	-- -- -- --	71 -- -- --
AUG 11, 71	1430	2	.3 1.5 3.0 4.9	50000 50000 48000 50000	30.5 30.5 30.5 30.7	8.1 8.1 8.1 8.1	6.2 5.8 5.6 5.6	100 94 90 92	-- -- -- --	50 -- -- --
SEP 28, 71	0920	2	.3 1.5 3.0 5.8	14000 15000 15000 15000	27.0 26.9 26.9 26.8	8.3 8.3 8.3 8.3	7.4 7.4 7.4 7.7	95 96 96 100	-- -- -- --	41 -- -- --

LINE 333

JUL 14, 71	1425	1	.3 .9 1.5 2.3	48000 48000 52000 52000	31.4 31.3 30.6 30.5	8.1 8.2 8.2 8.2	5.3 4.3 4.2 4.0	87 70 70 67	-- -- -- --	109 -- -- --
SEP 28, 71	1120	1	.3 1.5 2.4	26000 33000 34000	27.3 27.1 27.4	8.2 8.2 8.1	6.9 6.9 6.2	95 97 89	-- -- --	127 -- --
JUL 14, 71	1433	2	.3	48000	31.5	8.2	5.8	97	--	99

TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICROMHOS/CM)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
LINE 333 CONTINUED										
JUL 14, 71	1433	2	.9 2.0	49000 50000	31.1 30.7	8.2 8.0	4.3 2.8	70 46	-- --	-- --
AUG 11, 71	1230	2	.5 2.1	33000 33000	29.8 29.7	8.2 8.2	6.5 6.4	97 96	-- --	71 --
SEP 28, 71	1110	2	.3 1.5 2.4	28000 30000 31000	27.5 27.3 27.2	8.2 8.2 8.1	6.8 6.8 5.2	94 93 72	-- -- --	122 -- --
JUL 14, 71	1448	3	.3 .9 1.5 2.1	47000 48000 48000 48000	31.8 31.6 30.9 30.8	8.2 8.2 8.2 8.1	5.4 5.6 5.6 5.6	90 93 92 92	-- -- -- --	104 -- -- --
SEP 28, 71	1105	3	.3 1.5 2.4	28000 28000 28000	27.5 27.5 27.6	8.2 8.2 8.1	6.8 6.4 5.7	94 89 79	-- -- --	94 -- --
LINE 342										
JUL 14, 71	1518	1	.3 .9 1.8	50000 52000 52000	31.8 31.6 31.0	8.2 8.2 8.2	6.2 6.1 6.1	102 103 102	-- -- --	122 -- --
SEP 28, 71	1035	1	.3 1.5 2.7	34000 35000 39000	26.6 26.6 26.6	8.2 8.2 8.2	7.1 7.3 6.9	100 103 99	-- -- --	183 -- --
JUL 14, 71	1510	2	.5 .9 2.3	50000 50000 50000	32.0 31.6 31.0	8.2 8.2 8.2	6.5 5.6 7.0	108 93 115	-- -- --	135 -- --
AUG 11, 71	1200	2	.5 2.0	38000 38000	29.9 29.8	8.2 8.2	6.9 6.9	105 105	-- --	107 --
SEP 28, 71	1045	2	.3 1.5 2.7	33000 34000 35000	27.0 26.9 26.9	8.2 8.2 8.1	6.9 6.8 6.0	97 96 85	-- -- --	165 -- --
JUL 14, 71	1500	3	.3 .9 1.8	48000 49000 49000	31.7 31.5 31.2	8.2 8.2 8.2	5.4 6.2 7.1	90 103 116	-- -- --	137 -- --
SEP 28, 71	1050	3	.3 1.5 2.4	31000 32000 33000	27.3 27.3 27.3	8.2 8.1 8.0	6.6 5.2 4.5	93 73 64	-- -- --	99 -- --
LINE 354										
JUL 14, 71	1540	1	.3 .9 1.5 2.1	57000 57000 57000 56000	30.9 30.8 30.7 30.6	8.2 8.2 8.2 8.2	6.7 6.7 6.1 6.6	116 116 105 112	-- -- -- --	122 -- -- --
AUG 11, 71	1125	1	.5 1.5 2.4	51000 51000 51000	29.2 29.2 29.2	8.2 8.2 8.2	5.7 5.9 5.9	90 94 94	-- -- --	97 -- --
SEP 28, 71	1020	1	.3 1.5 2.7	39000 39000 40000	26.8 26.8 26.8	8.2 8.2 8.1	6.8 6.9 6.2	97 99 90	-- -- --	188 -- --
JUL 14, 71	1549	2	.5 .9 1.8	57000 57000 57000	31.1 31.2 31.3	8.2 8.2 8.2	6.3 6.1 6.7	109 105 116	-- -- --	-- -- --
AUG 11, 71	1110	2	.5	51000	29.5	8.2	6.3	102	--	132



TABLE 4A--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK) (CM)
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## LINE 359 CONTINUED

AUG 11, 71	1110	2	2.1	51000	29.5	8.2	6.5	105	--	--
SEP 28, 71	1010	2	.3 1.8	38000 39000	27.1 27.1	8.2 8.2	6.8 6.9	97 99	-- --	127 --
JUL 14, 71	1557	3	.5 .9 1.5	57000 57000 57000	31.5 31.5 31.7	8.2 8.2 8.2	6.2 6.4 6.6	107 110 116	-- -- --	152 -- --
AUG 11, 71	1045	3	.5 2.1	51000 51000	29.5 29.6	8.2 8.2	6.0 6.2	97 100	-- --	71 --
SEP 28, 71	0950	3	.3 1.5 2.1	40000 40000 40000	27.0 27.0 26.9	8.2 8.2 8.2	5.8 5.8 5.7	84 84 83	-- -- --	86 -- --
JUL 14, 71	1604	4	.5 .9 1.8	54000 56000 57000	31.5 31.4 31.4	8.2 8.2 8.2	5.4 6.1 5.7	93 103 98	-- -- --	178 -- --
AUG 11, 71	0950	4	.5 1.8	49000 49000	29.5 29.5	8.2 8.2	6.3 6.7	102 108	-- --	81 --
AUG 11, 71	1055	4	.5 1.5 2.4	51000 51000 51000	29.5 29.5 29.5	8.2 8.2 8.2	6.3 6.3 5.8	102 102 94	-- -- --	104 -- --
SEP 28, 71	0940	4	.3 1.5 2.7	38000 39000 39000	26.9 26.9 26.9	8.2 8.2 8.1	6.1 6.1 5.8	87 87 83	-- -- --	99 -- --
JUL 14, 71	1618	5	.5 .9 1.8	53000 54000 54000	31.5 31.4 31.5	8.2 8.2 8.2	5.7 5.4 5.6	95 92 97	-- -- --	183 -- --
AUG 11, 71	0945	5	.5 1.5 3.0	47000 47000 47000	29.4 29.4 29.4	8.2 8.2 8.2	6.3 6.3 6.5	100 100 103	-- -- --	89 -- --
SEP 28, 71	0930	5	.3 1.5 2.4 3.8	36000 39000 39000 39000	27.1 27.0 27.0 26.9	8.2 8.2 8.1 8.1	6.2 6.1 6.0 5.9	87 87 86 84	-- -- -- --	119 -- -- --

## LINE 360

JUL 14, 71	1702	3	.3 .9 1.5 3.0 4.6 7.0	57000 57000 57000 57000 57000 57000	31.6 31.6 31.6 31.5 31.5 31.5	8.2 8.2 8.2 8.2 8.2 8.2	6.6 5.8 5.8 5.6 6.0 5.4	116 102 102 97 103 93	-- -- -- -- -- --	76 -- -- -- -- --
AUG 11, 71	1040	3	.3 .9 1.5 3.0 3.7	48000 48000 48000 48000 48000	29.6 29.6 29.5 29.5 29.7	8.0 8.0 8.0 8.0 8.1	5.7 5.5 5.3 5.6 5.7	90 87 84 89 90	-- -- -- -- --	80 -- -- -- --
AUG 11, 71	1025	3	.3 1.5 3.0 7.3	48000 48000 48000 48000	29.7 29.7 29.7 29.7	8.1 8.0 8.0 8.0	5.8 6.0 5.8 5.8	92 95 92 92	-- -- -- --	65 -- -- --

TABLE 4B--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR

## NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS-	TOTAL	AMMONIA	TOTAL	DIS-	TOTAL	BIO-	CHEMICAL	CHEMICAL	TOTAL
				SOLVED SILICA (SI02) (MG/L)	NITRATE (N) (MG/L)	(NITROGEN) (N) (MG/L)	NITRITE (N) (MG/L)	SOLVED PHOS- PHORUS (P) (MG/L)	PHOS- PHORUS (P) (MG/L)	DEMAND (BOD) (MG/L)	DEMAND (COD) (MG/L)	ORGANIC CARBON (MG/L)	
LINE 10													
APR 29, 71	1137	2	.3 4.0	24.0 24.0	.0 .0	.12 .03	.00 .00	.03 .02	.03 .03	1.4 1.7	--	--	--
JUL 14, 71	1025	2	.3 4.0	24.0 25.0	.2 .0	.00 .05	.00 .00	.26 .30	.26 .30	3.0 3.6	--	--	--
AUG 10, 71	1545	2	.3 4.0	20.0 22.0	.0 .0	.00 .00	.01 .02	.33 .22	.38 .24	.4 .9	--	--	--
SEP 27, 71	1545	2	.3 4.3	29.0 32.0	.0 .0	.08 .11	.00 .00	.04 .09	.09 .10	4.8 2.0	--	--	--
LINE 50													
APR 29, 71	1017	2	.3 3.4	8.8 8.4	.0 .0	.16 .15	.00 .00	.05 .05	.05 .05	3.0 2.0	--	--	--
LINE 80													
APR 29, 71	0920	2	.3 3.0	5.3 5.1	.0 .1	.10 .21	.00 .00	.08 .13	.09 .13	3.1 2.0	--	--	--
JUL 14, 71	0825	2	.3 4.0	2.6 2.8	.0 .0	.03 .03	.00 .00	.18 .21	.18 .27	2.7 1.4	--	--	--
AUG 10, 71	1745	2	.3 3.4	9.1 8.6	.0 .0	.00 .03	.01 .04	.30 .33	.31 .34	1.8 .6	--	--	--
SEP 27, 71	1350	2	.3 4.3	23.0 22.0	.2 .1	.24 .32	.01 .01	.20 .19	.20 .36	2.7 2.5	--	--	--
LINE 145													
APR 29, 71	1105	2	.3 3.2	12.0 12.0	2.3 2.2	.07 .07	.01 .01	.54 .56	.63 .56	.3 .0	--	--	--
JUL 13, 71	1435	2	.3 4.0	15.0 15.0	.8 .6	.02 .11	.02 .02	.62 .63	.62 .64	.6 1.2	--	--	--
AUG 10, 71	1000	2	3.0	9.6	.5	.02	.05	.34	.69	2.3	--	--	--
SEP 29, 71	1005	2	.3 3.4	23.0 24.0	.8 .5	.10 .12	.01 .01	.37 .36	.55 .42	1.2 1.5	--	--	--
LINE 170													
APR 29, 71	1020	2	.3 2.1	13.0 13.0	2.4 2.5	.08 .07	.02 .01	.62 .60	.62 .60	.0 .4	--	--	--
LINE 200													
APR 28, 71	1255	2	.3 .9 .3 .9	11.0 12.0 11.0 12.0	1.4 1.2 1.4 1.2	.00 .00 .09 .02	.01 .01 .01 .01	.30 .29 .30 .29	.30 .29 .30 .29	2.3 2.3 2.3 2.3	--	--	--
AUG 10, 71	1205	2	.9	10.0	.0	.06	.10	.37	.38	.5	--	--	--
SEP 29, 71	1115	2	1.5	24.0	.6	.07	.02	.36	.36	1.2	--	--	--
LINE 225													
APR 28, 71	1240	1	.3	3.9	.0	.04	.00	.34	.34	3.3	--	--	--

TABLE 4B--QUALITY OF WATER IN THE GUADALUPE ESTUARY,  
1971 WATER YEAR--CONTINUED

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH METERS	DIS- SOLVED SILICA		TOTAL NITRATE (N)		AMMONIA NITROGEN (N)		TOTAL NITRITE (N)		DIS- SOLVED PHOS- PHORUS		TOTAL PHOS- PHORUS		BIO- CHEMICAL OXYGEN DEMAND		CHEMICAL DEMAND ORGANIC CARBON	
				(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(P)	(P)	(MG/L)	(MG/L)	(MG/L)	(MG/L)				
LINE 225 CONTINUED																			
APR 28, 71	1240	1	.9	3.6	.1	.10	.00	.34	.42	2.9	--	--							
JUL 13, 71	1025	1	.3 .9	11.0 8.8	.0 .0	.00 .04	.00	.50 .92	.50 .42	3.6 3.2	--	--							
AUG 10, 71	1300	1	.9	13.0	.2	.03	.05	.96	.97	--	--	--							
SEP 29, 71	1150	1	1.2	22.0	.1	.14	.01	.19	.19	1.6	--	--							
APR 28, 71	1230	2	.3 .9	1.9 2.0	.1 .1	.12 .06	.00	.28 .26	.28 .31	3.5 2.8	--	--							
JUL 13, 71	1005	2	.3 .9	10.0 6.6	.0 .0	.00 .00	.00	.44 .41	.44 .41	4.0 2.1	--	--							
AUG 10, 71	1245	2	1.1	9.8	.4	.03	.04	.31	.31	--	--	--							
LINE 236																			
AUG 10, 71	1435	2	1.1	8.4	.0	.02	.02	.33	.38	1.4	--	--							
SEP 29, 71	1530	2	1.2	23.0	.6	.01	.00	.28	.52	1.2	--	--							
SEP 30, 71	0930	2	.3 1.2	17.0 17.0	.2 .2	.07 .05	.00	.21 .22	.32 .22	1.6 1.8	--	--							
SEP 30, 71	1530	2	1.2	20.0	.5	.09	.00	.25	.92	2.0	--	--							
LINE 243																			
APR 28, 71	1035	2	.3 3.0	.6 1.2	.1 .1	.18 .19	.00	.08 .10	.10 .10	1.9 2.0	--	--							
APR 28, 71	1110	5	.3 .9	.0 .4	.1 .1	.09 .16	.00	.16 .16	.16 .16	3.1 .2	--	--							
JUL 13, 71	0825	5	.3 1.2	4.4 3.1	.0 .0	.05 .07	.00	.32 .32	.32 .32	1.3 1.6	--	--							
AUG 10, 71	1330	5	1.1	11.0	.4	.08	.04	.42	.45	2.8	--	--							
SEP 29, 71	1230	5	.3 1.2	26.0 28.0	.6 .4	.07 .09	.01	.33 .35	.45 .35	1.4 1.9	--	--							
JUL 13, 71	0850	7	.3 1.1	2.0 2.6	.0 .0	.06 .07	.00	.33 .32	.33 .32	1.5 1.7	--	--							
AUG 10, 71	1450	7	.5 1.1	9.4 8.2	.0 .0	.00 .09	.01	.30 .32	.36 .32	1.2 1.5	--	--							
SEP 29, 71	1240	7	.3 1.2	25.0 26.0	.3 .4	.11 .15	.01	.35 .33	.35 .33	1.7 1.5	--	--							
SEP 30, 71	1030	7	.3	7.3	.0	.17	.00	.28	.28	11000.0	--	--							
APR 28, 71	1125	8	.3 1.1	.0 .0	.1 .1	.12 .14	.00	.11 .10	.11 .11	.1 2.2	--	--							
APR 28, 71	1140	10	.3 1.1	.0 .0	.1 .1	.16 .13	.00	.10 .10	.12 .12	2.1 1.8	--	--							
LINE 254																			
APR 28, 71	0845	2	.3 2.4	.0 .0	.1 .1	.17 .15	.00	.16 .12	.16 .12	1.4 1.1	--	--							
JUL 13, 71	1605	2	.3	.0	.0	.00	.00	.20	.20	1.8	--	--							

TABLE 48--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

## NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS-	TOTAL	AMMONIA	TOTAL	DIS-	TOTAL	BIO-	CHEMICAL	CHEMICAL	TOTAL
				SOLVED SILICA (SI02) (MG/L)	NITRATE (N) (MG/L)	NITROGEN (N) (MG/L)	NITRITE (N) (MG/L)	PHOS- ORTHO (P) (MG/L)	PHOS- PHOSUS (P) (MG/L)	DEMAND (BOD) (MG/L)	OXYGEN DEMAND (COD) (MG/L)	ORGANIC CARBON (MG/L)	
LINE 254 CONTINUED													
JUL 13, 71	1605	2	1.5	1.0	.0	.01	.00	.20	.20	1.2	--	--	--
AUG 10, 71	0900	2	.3 1.2	7.5 6.5	.0	.15 .26	.01	.32 .28	.33 .29	--	--	--	--
SEP 30, 71	1115	2	.3 2.1	20.0 19.0	.2 .2	.08 .12	.02	.18 .15	.20 .17	1.9 1.8	--	--	--
LINE 264													
APR 28, 71	1725	2	.5 1.5	.0 .0	.1 .1	.27 .27	.00	.11 .11	.11 .11	3.3 3.2	--	--	--
APR 28, 71	1650	4	.5 2.4	.0 .0	.0 .1	.08 .16	.00	.12 .18	.12 .18	2.2 2.1	--	--	--
JUL 13, 71	1505	4	.3 1.4	.0 .5	.0 .0	.02 .05	.00	.19 .18	.19 .18	.4 1.4	--	--	--
AUG 10, 71	0940	4	.3 2.6	5.8 5.6	.0 .0	.22 .21	.02	.26 .27	.27 .30	1.0 .9	--	--	--
SEP 30, 71	0900	4	.3 1.5	10.0 20.0	.3 .3	.16 .11	.01	.15 .17	.62 .19	1.5 1.4	--	--	--
LINE 274													
JUL 13, 71	1348	2	.3 .9	.0 .0	.0 .0	.04 .03	.00	.14 .14	.14 .14	.6 .6	--	--	--
AUG 10, 71	1045	2	.3 .9	4.2 4.7	.0 .0	.01 .04	.00	.21 .25	.24 .29	--	--	--	--
SEP 29, 71	1320	2	.3 1.5	14.0 14.0	.0 .0	.06 .01	.00	.10 .09	.14 .10	1.5 1.7	--	--	--
JUL 13, 71	1430	5	.3 1.5	.0 .0	.0 .0	.04 .03	.00	.17 .21	.17 .21	.9 1.2	--	--	--
AUG 10, 71	1010	5	.3 1.5	4.7 5.2	.0 .0	.19 .13	.01	.18 .20	.18 .28	--	--	--	--
SEP 29, 71	1600	5	.3 1.8	19.0 20.0	.1 .3	.07 .02	.01	.20 .19	.20 .19	1.5 1.6	--	--	--
SEP 30, 71	0930	5	.3 1.5	18.0 18.0	.1 .1	.10 .12	.01	.16 .16	.16 .17	1.5 1.7	--	--	--
SEP 30, 71	1615	5	1.8	18.0	.1	.02	.02	.18	.18	1.7	--	--	--
LINE 287													
AUG 10, 71	1130	3	.3 1.2	4.3 4.0	.0 .0	.05 .01	.01	.21 .21	.25 .24	.7 .5	--	--	--
SEP 29, 71	1110	3	.3 1.5	11.0 11.0	.0 .0	.06 .07	.00	.07 .07	.07 .08	1.7 1.9	--	--	--
APR 28, 71	0925	4	.5 1.7	.0 .0	.0 .1	.16 .18	.00	.08 .16	.08 .16	.9 1.0	--	--	--
JUL 13, 71	0829	4	.3 1.8	.0 .0	.0 .0	.05 .27	.00	.17 .23	.17 .23	2.0 2.3	--	--	--
APR 28, 71	1021	8	.5 1.5	.0 .0	.1 .1	.13 .20	.00	.10 .12	.10 .12	1.8 1.5	--	--	--

TABLE 48--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

## NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS- SOLVED SILICA		TOTAL NITRATE		AMMONIA NITROGEN		TOTAL NITRITE		DIS- SOLVED PHOS- PHORUS		TOTAL PHOS- PHORUS		BIO- CHEMICAL	CHEMICAL	TOTAL
				(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)

## LINE 287 CONTINUED

JUL 13, 71	0925	8	.3 1.5	.0 .0	.0 .0	.04 .13	.00 .00	.15 .14	.15 .14	2.5 1.3	--	--	--	--
AUG 10, 71	1320	8	.5 1.7	4.4 4.4	.0 .0	.02 .01	.01 .00	.15 .21	.16 .22	.8 .5	--	--	--	--
SEP 29, 71	1205	8	.3 1.5	16.0 15.0	.2 .3	.12 .01	.01 .00	.13 .13	.17 .14	1.5 1.3	--	--	--	--
SEP 30, 71	1700	8	1.8	15.0	.0	.06	.02	.10	.14	1.9	--	--	--	--

## LINE 291

APR 28, 71	1145	2	.5 2.1	.0 .0	.0 .0	.30 .08	.00 .00	.02 .02	.02 .02	1.4 3.5	--	--	--	--
APR 28, 71	1202	4	.5 2.0	.0 .0	.1 .1	.08 .07	.00 .00	.07 .06	.07 .06	1.6 1.4	--	--	--	--

## LINE 294

APR 28, 71	1106	2	.5 1.8	.0 .0	.0 .0	.12 .28	.00 .00	.03 .08	.03 .08	1.1 1.2	--	--	--	--
JUL 14, 71	1120	2	.3 1.8	.0 .0	.0 .0	.00 .01	.00 .00	.12 .14	.12 .14	.9 .7	--	--	--	--
SEP 28, 71	1300	2	1.5	11.0	.0	.09	.00	.07	.09	2.0	--	--	--	--
APR 28, 71	0950	4	.3 4.3	.0 .0	.0 .1	.16 .15	.00 .00	.07 .07	.07 .07	1.5 .9	--	--	--	--

## LINE 302

APR 28, 71	1258	2	.5 1.8	.0 .0	.1 .0	.14 .07	.00 .00	.02 .02	.02 .02	.9 1.3	--	--	--	--
JUL 14, 71	1312	2	.3 1.7	.0 .0	.0 .0	.03 .01	.00 .00	.12 .13	.12 .13	1.2 1.1	--	--	--	--
SEP 28, 71	1310	2	2.1	10.0	.0	.08	.00	.04	.06	1.6	--	--	--	--
APR 28, 71	1240	4	.5 2.0	.0 .0	.0 .1	.10 .10	.00 .00	.06 .06	.06 .06	1.5 1.4	--	--	--	--

## LINE 307

APR 28, 71	1411	3	.5 2.0	.0 .0	.1 .1	.15 .07	.00 .00	.03 .06	.03 .06	.9 1.0	--	--	--	--
JUL 14, 71	1350	3	.3 1.8	.0 .0	.0 .1	.03 .06	.00 .00	.09 .16	.09 .16	1.2 1.2	--	--	--	--
AUG 11, 71	1410	3	.5 2.1	4.6 4.4	.0 .0	.02 .00	.02 .02	.17 .20	.18 .21	.5 .4	--	--	--	--
SEP 28, 71	1215	3	2.1	7.9	.0	.13	.01	.04	.07	1.0	--	--	--	--
APR 28, 71	1517	7	.3 5.2	.0 .0	.0 .1	.25 .16	.00 .00	.06 .06	.06 .06	1.0 1.2	--	--	--	--

## LINE 311

JUL 14, 71	0855	4	.3	.0	.0	.02	.00	.15	.15	.9	--	--	--	--
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TABLE 4B--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS													
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS- SOLVED SILICA (SiO <sub>2</sub> ) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED PHOS- PHOS- ORTHOPHOS- (P) (MG/L)	TOTAL PHOS- PHOS- (P) (MG/L)	BIO- CHEMICAL OXYGEN DEMAND (BOD) (MG/L)	CHEMICAL OXYGEN DEMAND (COD) (MG/L)	TOTAL ORGANIC CARBON (MG/L)	
LINE 311 CONTINUED													
JUL 14, 71	0855	4	1.1	.0	.0	.01	.00	.12	.12	1.5	--	--	
AUG 11, 71	1500	4	.3 1.2	4.6 4.4	.0 .0	.02 .00	.00 .01	.20 .12	.26 .18	--	--	--	
SEP 28, 71	1150	4	1.5	10.0	.1	.13	.00	.05	.08	1.4	--	--	
LINE 314													
AUG 11, 71	1535	2	.9	2.4	.0	.00	.01	.11	.11	1.8	--	--	
SEP 28, 71	1030	2	1.8	4.0	.0	.10	.00	.03	.13	1.3	--	--	
JUL 14, 71	1000	3	.3 1.2	.0 .0	.0 .0	.00 .02	.00 .00	.06 .08	.06 .08	1.4 1.3	--	--	
LINE 317													
SEP 28, 71	0935	2	4.3	1.2	.0	.07	.01	.01	.06	.8	--	--	
LINE 320													
AUG 11, 71	1430	2	.3 4.9	3.9 3.9	.0 .0	.01 .00	.01 .01	.13 .27	.17 .30	--	--	--	
LINE 333													
JUL 14, 71	1433	2	.3 2.0	.0 .0	.0 .0	.07 .02	.00 .00	.08 .12	.08 .12	.4 .9	--	--	
AUG 11, 71	1230	2	.5 2.1	4.7 4.5	.0 .0	.06 .01	.01 .02	.17 .14	.18 .14	.3 .7	--	--	
SEP 28, 71	1110	2	2.4	6.2	.0	.18	.00	.03	.25	1.0	--	--	
LINE 354													
AUG 11, 71	1110	2	.5 2.1	2.1 1.9	.0 .0	.00 .00	.01 .01	.06 .06	.06 .08	.4 .5	--	--	
JUL 14, 71	1604	4	.5 1.8	.0 .0	.0 .0	.03 .04	.00 .00	.05 .04	.05 .04	.3 .3	--	--	
AUG 11, 71	1055	4	.5 2.4	2.0 1.9	.0 .0	.00 .02	.01 .00	.18 .10	.18 .10	.4 .3	--	--	
SEP 28, 71	0940	4	2.7	2.9	.0	.12	.00	.02	.07	1.4	--	--	
LINE 360													
JUL 14, 71	1702	3	.3 7.0	.0 .0	.0 .0	.04 .04	.00 .00	.04 .04	.04 .04	.2 .3	--	--	
AUG 11, 71	1025	3	.3 7.3	1.7 1.6	.0 .0	.00 .00	.01 .01	.06 .30	.09 .33	--	--	--	

TABLE 4C--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (LAB)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM + POTASSIUM (NA+K) (MG/L)	DISSOLVED BICARBONATE (HCO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED SOLIDS (SUM OF IONS) (MG/L)
LINE 10											
APR 29, 71	1137	2	.3 4.0	972 981	-- 100.0	-- 8.3	-- 190	-- 304	-- 110	-- 160	-- 692
JUL 14, 71	1025	2	.3 4.0	940 1030	-- 76.0	-- 14.0	-- 100	-- 226	-- 49	-- 160	-- 544
AUG 10, 71	1545	2	.3 4.0	986 877	76.0 --	12.0 --	110 --	224 --	72 --	160 --	565 --
SEP 27, 71	1545	2	.3 4.3	799 885	-- 82.0	-- 18.0	-- 60	-- 260	-- 35	-- 110	-- 468
LINE 50											
APR 29, 71	1017	2	.3 3.4	13800 15500	-- --	-- --	-- --	-- --	-- --	-- --	-- --
LINE 80											
APR 29, 71	0920	2	.3 3.0	23800 25600	-- --	-- --	-- --	-- --	-- --	-- --	-- --
JUL 14, 71	0825	2	.3 4.0	24100 27200	-- 260.0	-- 720.0	-- 4800	-- 192	-- 56	-- 9800	-- 15700
AUG 10, 71	1745	2	.3 3.4	17600 18000	-- 180.0	-- 400.0	-- 3300	-- 185	-- 840	-- 5900	-- 751
SEP 27, 71	1350	2	.3 4.3	3600 3650	59.0 --	74.0 --	630 --	157 --	280 --	990 --	2140 --
LINE 145											
APR 29, 71	1105	2	.3 3.2	787 778	-- 86.0	-- 16.0	-- 35	-- 207	-- 58	-- 82	-- 403
JUL 13, 71	1435	2	.3 4.0	641 644	59.0 64.0	13.0 9.8	55 54	192 198	47 43	76 74	365 362
AUG 10, 71	1000	2	3.0	362	42.0	6.6	19	138	20	25	194
SEP 29, 71	1005	2	.3 3.4	547 519	60.0 60.0	12.0 12.0	41 38	218 220	44 37	42 42	334 326
LINE 170											
APR 29, 71	1020	2	.3 2.1	796 799	-- --	-- --	-- --	-- --	-- --	-- --	-- --
LINE 200											
APR 28, 71	1255	2	.3 .9 .3 .9	1080 1080 1080 1080	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --	-- -- -- --
AUG 10, 71	1205	2	.9	373	--	--	--	--	--	--	--
SEP 29, 71	1115	2	1.5	660	--	--	--	--	--	--	--
LINE 225											
APR 28, 71	1240	1	.3	6390	--	--	--	--	--	--	--

TABLE 9C--QUALITY OF WATER IN THE GUADALUPE ESTUARY,  
1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES											
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-
				CON-	SOLVED	SOLVED	SODIUM +	BICAR-	SOLVED	SOLVED	SUM OF
				(MICRO- MHDS)	CALCIUM (CA)	MAGNE- SIUM (MG)	POTAS- SIUM (NA+K) (MG/L)	BONATE (HCO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	CONSTI- TUENTS (MG/L)
LINE 225 CONTINUED											
APR 28, 71	1240	1	.9	6160	--	--	--	--	--	--	--
JUL 13, 71	1025	1	.3 .9	6690 17800	--	--	--	--	--	--	--
AUG 10, 71	1300	1	.9	928	--	--	--	--	--	--	--
SEP 29, 71	1150	1	1.2	420	--	--	--	--	--	--	--
APR 28, 71	1230	2	.3 .9	8430 8530	--	--	--	--	--	--	--
JUL 13, 71	1005	2	.3 .9	13300 22300	--	--	--	--	--	--	--
AUG 10, 71	1245	2	1.1	460	--	--	--	--	--	--	--
LINE 236											
AUG 10, 71	1435	2	1.1	13700	--	--	--	--	--	--	--
SEP 29, 71	1530	2	1.2	1570	--	--	--	--	--	--	--
SEP 30, 71	0930	2	.3 1.2	2700 2590	--	--	--	--	--	--	--
SEP 30, 71	1530	2	1.2	2420	--	--	--	--	--	--	--
LINE 243											
APR 28, 71	1035	2	.3 3.0	35800 33700	300.0	840.0	6500	209	1800	12000	21200
APR 28, 71	1110	5	.3 .9	21800 22300	--	--	--	--	--	--	--
JUL 13, 71	0825	5	.3 1.2	27500 36300	--	--	--	--	--	--	--
AUG 10, 71	1330	5	1.1	2700	--	--	--	--	--	--	--
SEP 29, 71	1230	5	.3 1.2	748 599	61.0	12.0	42	205	35	61	343
JUL 13, 71	0850	7	.3 1.1	28800 35600	--	--	--	--	--	--	--
AUG 10, 71	1450	7	.5 1.1	1640 17200	--	--	--	--	--	--	--
SEP 29, 71	1240	7	.3 1.2	622 603	--	--	--	--	--	--	--
SEP 30, 71	1030	7	.3	11100	--	--	--	--	--	--	--
APR 28, 71	1125	8	.3 1.1	29800 29700	--	--	--	--	--	--	--
APR 28, 71	1140	10	.3 1.1	35800 35800	--	--	--	--	--	--	--
LINE 254											
APR 28, 71	0845	2	.3 2.4	37400 39100	--	--	--	--	--	--	--
JUL 13, 71	1605	2	.3	41300	--	--	--	--	--	--	--



TABLE 9C--QUALITY OF WATER IN THE GUADALUPE ESTUARY,

1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (LAB)	DISTOLVED CALCIUM (CA) (MG/L)	DISTOLVED MAGNE- SIUM (MG) (MG/L)	DISTOLVED SODIUM + POTAS- SIUM (NA+K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	DISTOLVED SULFATE (SO4) (MG/L)	DISTOLVED CHLORIDE (CL) (MG/L)	DISTOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
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LINE 254 CONTINUED

JUL 13, 71	1605	2	1.5	41900	--	--	--	--	--	--	--
AUG 10, 71	0900	2	.3 1.2	28900 32700	--	--	--	--	--	--	--
SEP 30, 71	1115	2	.3 2.1	2930 4140	--	--	--	--	--	--	--

LINE 264

APR 28, 71	1725	2	.5 1.5	38900 39000	340.0	970.0	7600	284	1900	14000	24400
APR 28, 71	1650	4	.5 2.4	36500 36500	320.0	950.0	7000	195	1800	13000	22900
JUL 13, 71	1505	4	.3 1.4	38800 43400	--	--	--	--	--	--	--
AUG 10, 71	0940	4	.3 2.6	34400 36800	300.0	890.0	6600	168	1700	12000	21700
SEP 30, 71	0900	4	.3 1.5	2170 3070	52.0	56.0	480	160	120	820	1620

LINE 274

JUL 13, 71	1348	2	.3 .9	44700 44800	360.0	1200.0	8400	148	2200	15000	27700
AUG 10, 71	1045	2	.3 .9	44500 44400	--	--	--	--	--	--	--
SEP 29, 71	1320	2	.3 1.5	10700 11000	100.0	240.0	1900	136	380	3400	6050
JUL 13, 71	1430	5	.3 1.5	41100 42300	360.0	1100.0	8300	156	2200	15000	26800
AUG 10, 71	1010	5	.3 1.5	43500 43900	--	--	--	--	--	--	--
SEP 29, 71	1600	5	.3 1.8	3520 3520	--	--	--	--	--	--	--
SEP 30, 71	0930	5	.3 1.5	4900 4830	--	--	--	--	--	--	--
SEP 30, 71	1615	5	1.8	5300	--	--	--	--	--	--	--

LINE 287

AUG 10, 71	1130	3	.3 1.2	44100 44100	--	--	--	--	--	--	--
SEP 29, 71	1110	3	.3 1.5	9280 16600	140.0	360.0	2800	126	590	5200	9200
APR 28, 71	0925	4	.5 1.7	40200 42100	--	--	--	--	--	--	--
JUL 13, 71	0829	4	.3 1.8	43100 43000	--	--	--	--	--	--	--
APR 28, 71	1021	8	.5 1.5	40800 40900	--	--	--	--	--	--	--

TABLE 4C--QUALITY OF WATER IN THE GUADALUPE ESTUARY,  
1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES											
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CON- DUCTANCE (MICRO- MHOS) (LAB)	DIS- SOLVED CALCIUM (CA) (MG/L)	DIS- SOLVED MAGNE- SIUM (MG)	DIS- SOLVED SODIUM + POTAS- SIUM (NA+K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLORIDE (CL) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)
LINE 287 CONTINUED											
JUL 13, 71	0925	8	.3 1.5	44100 45900	--	--	--	--	--	--	--
AUG 10, 71	1320	8	.5 1.7	47000 47000	--	--	--	--	--	--	--
SEP 29, 71	1205	8	.3 1.5	6610 7000	--	--	--	--	--	--	--
SEP 30, 71	1700	8	1.8	9280	--	--	--	--	--	--	--
LINE 291											
APR 28, 71	1145	2	.5 2.1	47800 47900	--	--	--	--	--	--	--
APR 28, 71	1202	4	.5 2.0	43800 44000	--	--	--	--	--	--	--
LINE 294											
APR 28, 71	1106	2	.5 1.8	46400 46700	--	--	--	--	--	--	--
JUL 14, 71	1120	2	.3 1.8	48200 48300	400.0	1200.0	9200	152	2400	16000	29700
SEP 28, 71	1300	2	1.5	17600	--	--	--	--	--	--	--
APR 28, 71	0950	4	.3 4.3	44700 45200	400.0	1200.0	8800	173	2300	16000	28600
LINE 302											
APR 28, 71	1258	2	.5 1.8	48400 48400	--	--	--	--	--	--	--
JUL 14, 71	1312	2	.3 1.7	46700 46700	--	--	--	--	--	--	--
SEP 28, 71	1310	2	2.1	19900	--	--	--	--	--	--	--
APR 28, 71	1240	4	.5 2.0	44600 47100	--	--	--	--	--	--	--
LINE 307											
APR 28, 71	1411	3	.5 2.0	46300 46300	--	--	--	--	--	--	--
JUL 14, 71	1350	3	.3 1.8	45500 47500	380.0	1100.0	9600	157	2100	17000	30300
AUG 11, 71	1410	3	.5 2.1	45900 46000	--	--	--	--	--	--	--
SEP 28, 71	1215	3	2.1	25500	--	--	--	--	--	--	--
APR 28, 71	1517	7	.3 5.2	44700 45200	380.0	1200.0	8800	155	2200	16000	28400
LINE 311											
JUL 14, 71	0855	4	.3	53100	--	--	--	--	--	--	--

TABLE 4C--QUALITY OF WATER IN THE GUADALUPE ESTUARY,  
1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CON- DUCTANCE (MICRO- MHOS) (LAB)	DIS- SOLVED CALCIUM (CA) (MG/L)	DIS- SOLVED MAGNE- SIUM (MG)	DIS- SOLVED SODIUM + POTAS- SIUM (NA+K) (MG/L)	DIS- SOLVED BICAR- BONATE (HCO3) (504) (MG/L)	DIS- SOLVED SULFATE (CHLORIDE) (CL) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)

LINE 311 CONTINUED

JUL 14, 71	0855	4	1.1	53100	--	--	--	--	--	--	--
AUG 11, 71	1500	4	.3 1.2	32200 53300	--	--	--	--	--	--	--
SEP 28, 71	1150	4	1.5	20000	--	--	--	--	--	--	--

LINE 314

AUG 11, 71	1535	2	.9	54700	460.0	1400.0	11000	148	3000	20000	35900
SEP 28, 71	1030	2	1.0	38500	--	--	--	--	--	--	--
JUL 14, 71	1000	3	.3 1.2	56200 56500	460.0	1400.0	12000	144	2800	21000	36700

LINE 317

SEP 28, 71	0935	2	4.3	43100	--	--	--	--	--	--	--
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LINE 320

AUG 11, 71	1430	2	.3 4.9	51500 54200	--	--	--	--	--	--	--
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LINE 333

JUL 14, 71	1433	2	.3 2.0	46900 50400	--	--	--	--	--	--	--
AUG 11, 71	1230	2	.5 2.1	46300 46400	--	--	--	--	--	--	--
SEP 28, 71	1110	2	2.4	31800	--	--	--	--	--	--	--

LINE 354

AUG 11, 71	1110	2	.5 2.1	51400 51600	--	--	--	--	--	--	--
JUL 14, 71	1604	4	.5 1.8	54900 54400	--	--	--	--	--	--	--
AUG 11, 71	1055	4	.5 2.4	50800 51100	420.0	1300.0	10000	144	2500	18000	33000
SEP 28, 71	0940	4	2.7	39600	--	--	--	--	--	--	--

LINE 360

JUL 14, 71	1702	3	.3 7.0	53600 54800	440.0	1400.0	12000	150	2800	20000	36600
AUG 11, 71	1025	3	.3 7.3	52600 52200	--	--	--	--	--	--	--

Table 4-D-Quality of water in the Guadalupe estuary, 1971 water year

Insecticide and herbicide analyses

(Whole water analyses in micrograms per liter; bottom deposits analyses in micrograms per kilogram, dry weight)

Date of Collection	Time	Type of Sample	Insecticides													Herbicides			
			Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Heptachlor Epoxide	Lindane	Chlordane	Parathion	Methyl Parathion	Mala-thion	Diazinon	2,4-D	Silvex	2,4,5-T
<u>Line 80, Site 2, Victoria Channel</u>																			
1970																			
Nov. 20	1515	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	0.00	0.00	0.00	0.00	0.00
	1525	Bottom deposits	.0	.8	.9	.0	1.0												
<u>Line 243, Site 5, San Antonio Bay</u>																			
1971																			
Sept. 30	1040	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<u>Line 254, Site 2, San Antonio Bay</u>																			
Sept. 30	1115	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<u>Line 274, Site 2, San Antonio Bay</u>																			
Sept. 29	1320	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<u>Line 287, Site 4, San Antonio Bay</u>																			
1970																			
Nov. 20	1443	Water	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Bottom deposits	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
<u>Line 287, Site 8, San Antonio Bay</u>																			
Nov. 17	1505	Water	.00	.00	.00	.15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Bottom deposits	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov. 20	1533	Water	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Bottom deposits	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
1971																			
Sept. 29	1205	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<u>Line 302, Site 2, San Antonio Bay</u>																			
Sept. 28	1310	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<u>Ayres Dugout</u>																			
1970																			
Nov. 16	1320	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Nov. 18	1440	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
<u>Steamboat Pass</u>																			
Nov. 16	0155	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	1210	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

See footnotes at end of table

Table 4-D-Quality of water in the Guadalupe estuary, 1971 water year

Insecticide and herbicide analyses - Continued

(Whole water analyses in micrograms per liter; bottom deposits analyses in micrograms per kilogram, dry weight)

Date of Collection	Time	Type of Sample	Insecticides													Herbicides			
			Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Heptachlor Epoxide	Lindane	Chlordane	Parathion	Methyl Parathion	Mala-thion	Diazinon	2,4-D	Silvex	2,4,5-T
<u>Line 342, Site 2, Espiritu Santo Bay</u>																			
1970																			
Nov. 18	1450	Water	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<u>Line 342, Site 3, Espiritu Santo Bay</u>																			
Nov. 20	1030	Water	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Bottom deposits	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
<u>Saluria Bayou</u>																			
Nov. 18	2155	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Nov. 18	1215	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

a/ 0 micrograms per liter polychlorinated biphenyl (PCB); detection limit 0.5 micrograms per liter.

b/ Undetermined due to interfering compounds.



## Mission-Aransas Estuary

The Mission-Aransas estuary covers an area of about 160 square miles (410 square kilometers) 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, Carlos Bay, part of Redfish Bay, parts of the Intracoastal Waterway,

Lydia Ann Channel, and Aransas Pass (Figure 8) Water depth at mlw is less than 2 feet (0.6 meter) in Mission Bay, less than 8 feet (2.4 meters) in Copano Bay, less than 13 feet (4 meters) in Aransas Bay, less than 5 feet (1.5 meters) in St. Charles Bay, 4 feet (1.2 meters) or less in Carlos and Redfish Bays, about 15 feet (5 meters)

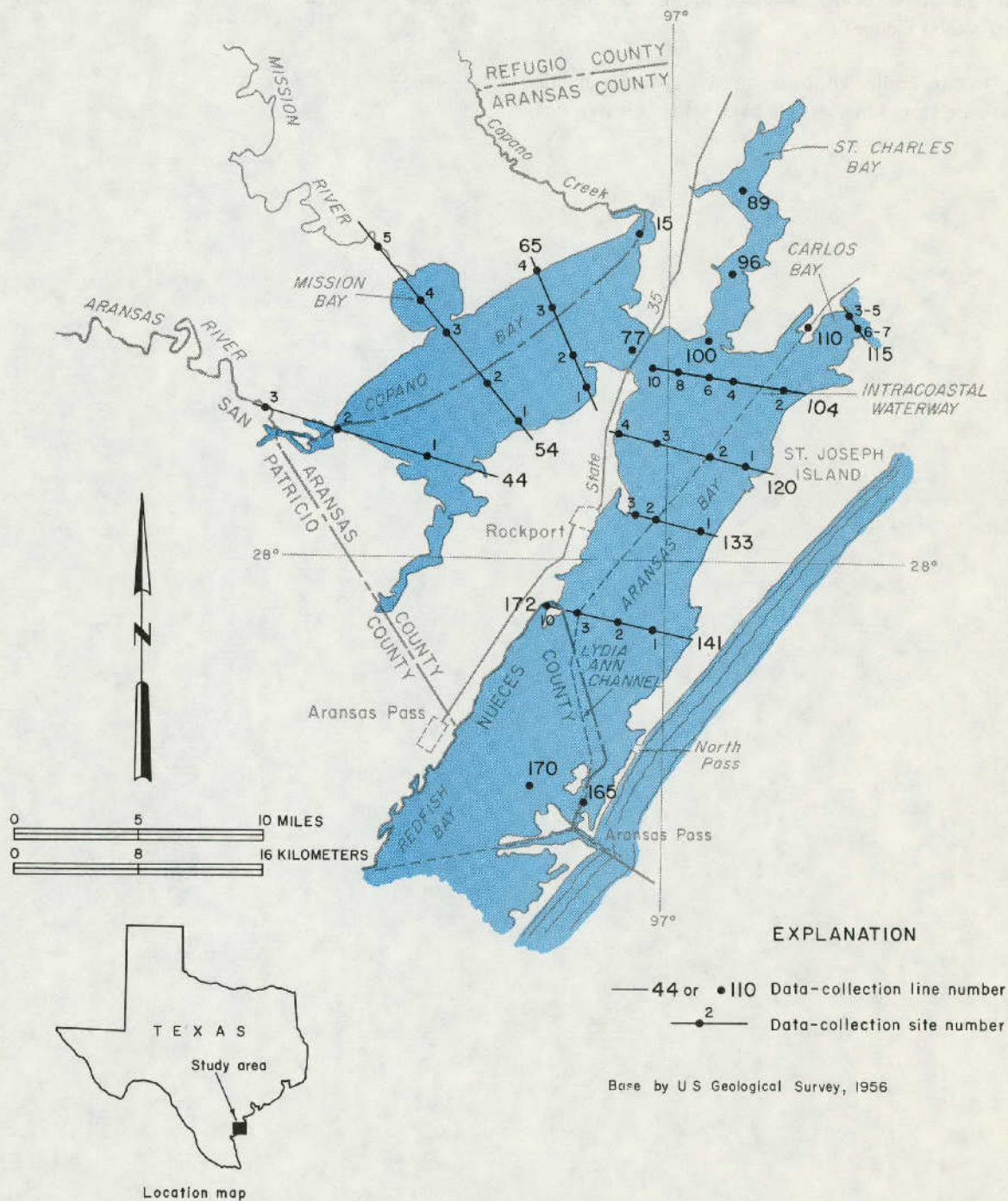


Figure 8.—Data-Collection Sites in the Mission-Aransas Estuary



in the Intracoastal Waterway, about 20 feet (6 meters) in the Lydia Ann Channel, and more than 40 feet (12 meters) in Aransas Pass.

Water-quality data (Table 5) were collected during June and September at most sites shown on Figure 8.

The changes in line numbers to facilitate storage in the Texas Water Oriented Data Bank and to provide opportunity to coordinate data-collection sites among all agencies are shown below. New line numbers are used in Table 5 and on Figure 8.

All data collected prior to the changes in line numbers are stored in the data bank under the new line numbers.

**Mission-Aransas Estuary  
Change in Line Numbers**

OLD	NEW	OLD	NEW
1	15	Carlos Bay	115
4	44	12	120
5	54	13	133
6	65	14	141
7	77	14-site 4	172-site 10
8	89	15	170
9	96	16	165
10	100		
New line	104		
11	110		

TABLE 5A--QUALITY OF WATER IN THE MISSION-ARANSAS ESTUARY,

1971 WATER YEAR

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
LINE 15										
JUN 09, 71	1330	2	.3 1.8	42000 42000	28.3 28.3	8.2 8.2	7.9 7.9	120 120	-- --	51 --
LINE 49										
JUN 09, 71	1530	1	.3 1.1	38000 38000	28.3 28.3	8.2 8.2	7.9 7.9	116 116	-- --	36 --
SEP 15, 71	1115	1	.5 1.5 3.0	3900 3900 3900	25.8 25.8 25.7	-- -- --	6.7 6.7 6.9	83 83 84	-- -- --	-- -- --
JUN 09, 71	1507	2	.5 1.5	36000 36000	28.3 28.3	8.2 8.2	8.4 8.4	122 122	-- --	25 --
SEP 15, 71	1055	2	.5 1.5 2.4	430 350 290	26.0 25.9 25.7	-- -- --	4.7 4.5 4.5	57 55 54	-- -- --	5 -- --
LINE 54										
JUN 09, 71	1410	1	.3 2.1	40000 40000	28.3 28.3	8.1 8.1	8.6 8.4	126 125	-- --	81 --
JUN 09, 71	1423	2	.5 2.3	41000 41000	28.3 28.3	8.2 8.2	8.2 8.2	122 122	-- --	38 --
JUN 09, 71	1435	3	.5 1.7	36000 36000	28.3 28.3	8.1 8.1	8.1 8.2	117 119	-- --	25 --
SEP 15, 71	1025	3	.3 1.5 2.4	210 210 290	25.4 25.4 25.3	-- -- 7.9	4.7 4.7 4.7	57 57 57	-- -- --	-- -- --
LINE 65										
JUN 09, 71	1600	1	.3 2.0	41000 41000	28.3 28.3	8.2 8.2	8.4 8.6	125 128	-- --	69 --
SEP 15, 71	0930	1	.3 1.8	2700 3400	25.5 25.5	8.0 8.1	6.3 5.7	77 70	-- --	61 --
JUN 09, 71	1250	2	.5 1.5 2.6	41000 41000 41000	28.3 28.3 28.3	8.1 8.1 8.1	7.4 7.9 7.4	110 110 110	-- -- --	76 -- --
SEP 15, 71	0940	2	.3 1.5 2.4 3.2	2400 2400 6000 12000	25.5 25.5 25.6 25.6	7.3 7.6 7.2 7.7	6.6 6.6 5.4 5.4	80 80 67 68	-- -- -- --	66 -- -- --
JUN 09, 71	1302	3	.5 1.5 2.3	41000 41000 41000	28.3 28.3 28.3	8.1 8.1 8.1	7.3 7.4 7.4	109 110 110	-- -- --	48 -- --
SEP 15, 71	0950	3	.3 1.5 3.0	2300 2300 3800	25.3 25.2 25.2	7.8 7.9 7.5	6.6 6.5 1.2	80 78 16	-- -- --	-- -- --
JUN 09, 71	1313	4	.5 1.7	42000 42000	28.3 28.3	8.2 8.2	7.2 7.2	109 109	-- --	30 --
SEP 15, 71	1000	4	.3	3600	25.5	7.7	6.7	82	--	--



TABLE SA--QUALITY OF WATER IN THE MISSION-ARANSAS ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICROMHOS/CM)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (CM)
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LINE 65 CONTINUED

SEP 15, 71	1000	4	1.5	3600	25.5	7.7	6.8	83	--	--
			2.7	3600	25.4	7.9	6.8	83	--	--

LINE 77

JUN 08, 71	0831	2	.5	41000	26.8	8.2	5.9	86	--	36
			1.5	41000	26.8	8.1	5.9	86	--	--
			3.0	41000	26.7	8.1	5.9	86	--	--

JUN 09, 71	1235	2	.3	41000	28.3	8.1	7.0	104	--	66
			1.5	41000	28.3	8.0	7.0	104	--	--
			3.0	41000	28.3	8.0	5.9	88	--	--

JUN 09, 71	1613	2	.5	42000	28.3	8.1	7.7	117	--	66
			1.5	42000	28.3	8.1	8.2	124	--	--
			2.9	42000	28.3	8.1	7.5	114	--	--

SEP 15, 71	0910	2	.3	3700	24.8	7.8	6.6	80	--	66
			1.5	3700	24.9	7.9	6.5	78	--	--
			2.4	5500	25.6	7.5	5.2	69	--	--
			3.7	42000	24.6	8.0	3.0	42	--	--

LINE 89

JUN 08, 71	0934	2	.3	38000	26.9	8.2	6.0	86	--	41
			1.5	38000	27.0	8.2	7.0	91	--	--

LINE 96

JUN 08, 71	0911	2	.3	41000	27.0	8.2	5.9	86	--	36
			1.8	41000	27.0	8.2	6.1	88	--	--
			2.0	41000	27.1	7.5	.0	0	--	--

LINE 100

JUN 08, 71	0852	2	.3	42000	26.6	8.2	5.7	84	--	30
			1.5	42000	26.6	8.2	5.5	81	--	--
			3.0	42000	26.6	8.2	4.9	72	--	--

LINE 110

JUN 08, 71	1021	2	.3	43000	27.1	8.2	6.9	101	--	33
			1.5	43000	27.0	8.2	7.3	107	--	--
			3.0	43000	27.0	8.2	7.0	103	--	--
			4.1	42000	27.1	8.2	5.8	85	--	--

LINE 120

JUN 08, 71	1128	1	.5	42000	27.5	8.2	7.6	112	--	41
			1.5	42000	27.6	8.2	6.9	103	--	--
			3.0	42000	27.6	8.2	7.0	104	--	--
			4.3	42000	27.6	8.2	6.7	100	--	--

JUN 08, 71	1145	2	.5	42000	27.7	8.2	7.7	115	--	30
			1.2	42000	27.6	8.2	7.0	104	--	--
			2.1	42000	27.8	8.2	7.1	106	--	--

JUN 08, 71	1153	3	.5	42000	27.8	8.2	8.5	127	--	46
			1.5	43000	27.7	8.2	8.1	121	--	--
			2.9	42000	27.7	8.2	7.3	109	--	--

JUN 08, 71	1206	4	.5	42000	27.9	8.2	8.3	124	--	43
			1.8	42000	27.9	8.2	8.1	121	--	--

TABLE 5A--QUALITY OF WATER IN THE MISSION-ARANSAS ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
LINE 133										
JUN 08, 71	1451	1	.5	43000	27.7	8.3	8.7	130	--	188
			1.5	43000	27.8	8.3	8.0	119	--	--
			3.4	43000	27.9	8.3	7.4	110	--	--
JUN 08, 71	1439	2	.5	43000	27.9	8.3	8.1	121	--	84
			1.5	43000	27.9	8.3	8.2	122	--	--
			3.0	43000	28.0	8.3	7.4	110	--	--
			4.0	43000	27.9	8.2	7.4	110	--	--
JUN 08, 71	1429	3	.5	43000	28.4	8.3	8.5	129	--	64
			1.5	43000	28.4	8.3	7.5	114	--	--
LINE 141										
JUN 08, 71	1512	1	.5	43000	27.9	8.3	8.8	131	--	137
			1.5	43000	28.0	8.3	8.8	131	--	--
			2.7	43000	27.9	8.2	7.4	110	--	--
JUN 08, 71	1524	2	.5	44000	27.7	8.3	8.2	124	--	170
			1.5	44000	27.9	8.3	8.3	126	--	--
			3.0	44000	28.0	8.2	7.9	120	--	--
JUN 08, 71	1534	3	.5	49000	27.9	8.3	8.2	126	--	122
			1.5	49000	27.9	8.3	7.9	122	--	--
			3.8	47000	28.2	8.3	7.9	120	--	--
OCT 14, 70	1530	4	.3	28000	26.3	8.3	9.1	123	--	81
			1.5	28000	26.2	8.3	9.0	122	--	--
			3.0	28000	26.0	8.3	8.7	118	--	--
			5.2	29000	25.8	8.2	8.0	108	--	--
JUN 08, 71	1554	4	.3	47000	28.4	8.7	9.9	152	--	163
			1.5	47000	28.2	8.7	9.9	150	--	--
			3.0	47000	28.0	8.7	8.3	126	--	--
			5.2	47000	28.3	8.7	7.2	111	--	--
LINE 165										
JUN 08, 71	1707	2	.5	49000	27.5	8.3	8.2	124	--	183
			1.5	49000	27.5	8.3	8.0	121	--	--
			3.0	49000	27.6	8.3	7.9	122	--	--
			4.6	49000	27.7	8.3	7.6	117	--	--
			6.2	49000	27.8	8.3	7.7	118	--	--
SEP 14, 71	0955	2	.3	15000	25.8	8.0	6.8	87	--	104
			1.5	15000	25.8	7.9	6.9	88	--	--
			3.0	16000	25.8	7.9	7.1	91	--	--
			4.6	16000	25.8	8.0	7.1	91	--	--
			6.4	16000	25.8	8.0	7.1	91	--	--
LINE 170										
JUN 08, 71	1650	2	.3	51000	28.6	8.5	8.2	128	--	79
			1.2	49000	28.5	8.5	8.4	131	--	--
SEP 14, 71	0940	2	.3	19000	25.4	7.8	6.0	77	--	114
			1.5	21000	25.5	7.8	5.8	75	--	--
			3.0	21000	25.6	7.8	5.7	74	--	--
			4.9	21000	25.6	7.6	5.4	70	--	--
SEP 14, 71	0930	5	.3	19000	25.5	7.8	6.3	81	--	114
			1.5	19000	25.6	7.3	6.3	81	--	--
			3.0	21000	25.6	7.0	6.3	82	--	--

TABLE 5A--QUALITY OF WATER IN THE MISSION-ARANSAS ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	(SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
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LINE 170 CONTINUED

SEP 14, 71	0930	5	5.2	24000	26.0	7.2	6.4	84	--	--
SEP 14, 71	0910	8	.3	17000	26.1	7.8	6.2	81	--	--
			1.5	19000	26.1	7.8	5.9	77	--	--
			3.4	21000	26.1	7.7	5.7	75	--	--
SEP 14, 71	0850	10	.3	22000	26.1	8.1	5.8	76	--	97
			1.5	22000	26.2	7.2	5.8	76	--	--
			2.4	23000	26.1	8.0	5.6	74	--	--
			3.0	24000	26.1	8.0	5.6	74	--	--
			4.6	28000	26.2	8.0	5.3	72	--	--
			5.5	28000	26.3	8.0	5.4	73	--	--

TABLE 5B--QUALITY OF WATER IN THE MISSION-ARANSAS ESTUARY,

1971 WATER YEAR

## NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS- SOLVED SILICA (SiO <sub>2</sub> ) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED PHOS- PHORUS ORTHO (P) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	BIO- CHEMICAL OXYGEN DEMAND (BOD) (MG/L)	CHEMICAL OXYGEN DEMAND (COD) (MG/L)	TOTAL ORGANIC CARBON (MG/L)
LINE 15												
JUN 09, 71	1330	2	.3 1.8	4.1 4.0	.0 .0	.04 .02	.02 .02	.04 .05	.04 .05	3.2 2.7	-- --	-- --
LINE 44												
SEP 15, 71	1115	1	3.0	10.0	.2	.04	.07	.14	.19	.6	--	--
JUN 09, 71	1507	2	.5 1.5	6.9 7.0	.0 .0	.03 .04	.01 .02	.03 .09	.06 .09	3.0 3.1	-- --	-- --
SEP 15, 71	1056	2	2.4	7.0	.2	.15	.08	.06	.08	.6	--	--
LINE 54												
JUN 09, 71	1410	1	.3 2.1	5.3 5.0	.0 .0	.04 .05	.00 .01	.03 .03	.03 .03	3.3 2.8	-- --	-- --
JUN 09, 71	1435	3	.5 1.7	5.7 6.0	.0 .0	.05 .05	.02 .02	.07 .09	.07 .10	3.0 3.2	-- --	-- --
SEP 15, 71	1025	3	2.4	7.2	.3	.07	.03	.10	.10	.5	--	--
LINE 77												
JUN 08, 71	0831	2	.5 3.0	7.6 9.3	.0 .0	.03 .05	.01 .01	.02 .10	.04 .10	1.8 4.4	-- --	-- --
SEP 15, 71	0910	2	.3 3.7	6.1 5.6	.2 .0	.12 .30	.03 .04	.07 .07	.07 .08	.6 1.0	-- --	-- --
LINE 100												
JUN 08, 71	0852	2	.3 3.0	2.9 3.7	.0 .0	.01 .02	.01 .01	.02 .04	.05 .05	3.8 2.0	-- --	-- --
LINE 110												
JUN 08, 71	1021	2	.3 4.1	2.7 2.8	.0 .0	.01 .03	.02 .02	.07 .09	.07 .09	2.3 2.3	-- --	-- --
LINE 120												
JUN 08, 71	1126	1	.5 4.3	2.8 3.1	.0 .0	.01 .01	.01 .02	.03 .10	.03 .17	2.5 2.0	-- --	-- --
JUN 08, 71	1153	3	.5 2.9	3.8 3.3	.0 .0	.00 .04	.01 .02	.03 .09	.03 .09	2.9 1.8	-- --	-- --
LINE 133												
JUN 08, 71	1451	1	.5 3.4	2.4 2.1	.0 .0	.02 .04	.01 .01	.00 .01	.01 .02	2.7 2.5	-- --	-- --
JUN 08, 71	1429	3	.5 1.5	2.5 2.3	.0 .0	.01 .03	.02 .01	.03 .03	.03 .03	3.8 2.5	-- --	-- --
LINE 141												
JUN 08, 71	1512	1	.5	2.3	.0	.04	.01	.00	.00	3.1	--	--

TABLE 5B--QUALITY OF WATER IN THE MISSION-ARANSAS ESTUARY,  
1971 WATER YEAR--CONTINUED

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	(TIME)	SITE	DEPTH (METERS)	DIS-	TOTAL	AMMONIA	TOTAL	DIS-	TOTAL	BIO-	CHEMICAL	CHEMICAL	TOTAL
				SOLVED SILICA (SI02) (MG/L)	NITRATE (NI) (MG/L)	NITROGEN (N) (MG/L)	NITRITE (NI) (MG/L)	PHOS- PHORUS (P) (MG/L)	PHOS- PHORUS (P) (MG/L)	OXYGEN DEMAND (BOD) (MG/L)	OXYGEN DEMAND (COD) (MG/L)	ORGANIC CARBON (MG/L)	

LINE 141 CONTINUED

JUN 08, 71	1512	1	2.7	2.6	.0	.04	.02	.03	.03	2.9	--	--
JUN 08, 71	1534	3	.5 3.8	1.6 1.7	.8 .0	.01 .01	.01 .01	.02 .01	.02 .01	3.3 3.0	--	--
JUN 08, 71	1554	4	.3 5.2	1.1 1.5	.0 .0	.02 .05	.01 .01	.02 .02	.02 .02	2.3 2.7	--	--

LINE 165

JUN 08, 71	1707	2	.5 6.2	.1 .3	.0 .0	.03 .02	.01 .00	.02 .02	.02 .05	2.5 2.1	--	--
SEP 14, 71	0955	2	.3 3.0 6.4	5.8 6.0 5.6	.2 .2	.15 .21 .22	.03 .03 .03	.05 .04 .05	.05 .05 .05	.5 1.1 .5	--	--

TABLE 5C--QUALITY OF WATER IN THE MISSION-ARANSAS ESTUARY,  
1971 WATER YEAR

CHEMICAL ANALYSES											
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICROMHOS) (LAB)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM + POTASSIUM (NA+K) (MG/L)	DISSOLVED BICARBONATE (HCO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
LINE 15											
JUN 09, 71	1330	2	.3 1.8	44000 43700	-- 360.0	-- 1100.0	-- 8600	-- 148	-- 2000	-- 16000	-- 27700
LINE 44											
SEP 15, 71	1115	1	3.0	380	24.0	1.5	47	90	5	66	202
JUN 09, 71	1507	2	.5 1.5	36700 36800	-- 360.0	-- 880.0	-- 7200	-- 134	-- 1600	-- 13000	-- 23100
SEP 15, 71	1055	2	2.4	390	--	--	--	--	--	--	--
LINE 54											
JUN 09, 71	1410	1	.3 2.1	40800 41000	--	--	--	--	--	--	--
JUN 09, 71	1435	3	.5 1.7	37800 38000	--	--	--	--	--	--	--
SEP 15, 71	1025	3	2.4	413	--	--	--	--	--	--	--
LINE 77											
JUN 08, 71	0831	2	.5 3.0	38000 40900	-- 340.0	-- 1200.0	-- 8000	-- 140	-- 1900	-- 15000	-- --
SEP 15, 71	0910	2	.3 3.7	3550 43100	--	--	--	--	--	--	--
LINE 100											
JUN 08, 71	0852	2	.3 3.0	44200 42600	--	--	--	--	--	--	--
LINE 110											
JUN 08, 71	1021	2	.3 4.1	44200 44200	-- 360.0	-- 1100.0	-- 8800	-- 148	-- 2100	-- 16000	-- 28300
LINE 120											
JUN 08, 71	1128	1	.5 4.3	43300 43300	--	--	--	--	--	--	--
JUN 08, 71	1153	3	.5 2.9	42800 43600	--	--	--	--	--	--	--
LINE 133											
JUN 08, 71	1451	1	.5 3.4	44700 45300	--	--	--	--	--	--	--
JUN 08, 71	1429	3	.5 1.5	45200 45000	--	--	--	--	--	--	--
LINE 141											
JUN 08, 71	1512	1	.5	44900	--	--	--	--	--	--	--

TABLE 5C--QUALITY OF WATER IN THE MISSION-ARANSAS ESTUARY,

1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHDS)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM + POTASIUM (NA+K) (MG/L)	BICARBONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
--------------------	------	------	----------------	-----------------------------------	--------------------------------	-----------------------------	--	---------------------------	---------------------------------	---------------------------------	--

LINE 141 CONTINUED

JUN 08, 71	1512	1	2.7	46100	--	--	--	--	--	--	--
JUN 08, 71	1534	3	.5 3.8	49100 49000	--	--	--	--	--	--	--
JUN 08, 71	1554	4	.3 5.2	48300 48400	--	--	--	--	--	--	--

LINE 165

JUN 08, 71	1707	2	.5 6.2	49900 49800	390.0	1300.0	9800	144	2400	18000	31800
SEP 14, 71	0955	2	.3 3.0 6.4	15500 16000 14700	140.0	380.0	3000	70	530	5500	9550

## Nueces Estuary

The Nueces estuary covers an area of about 200 square miles (520 square kilometers) and consists of the tidal parts of the Nueces River and other tributaries, Nueces Bay, Tule Lake Channel, Corpus Christi Bay, part of Redfish Bay, Corpus Christi Ship Channel, Aransas Pass, and parts of the Intracoastal Waterway (Figure 9). Water depth at mlw is less than 13 feet (4 meters) in Corpus Christi Bay; less than 3 feet (1 meter) in Nueces Bay; more than 40 feet (12 meters) in Aransas Pass, Corpus Christi Ship Channel, and Tule Lake Channel; and about 15 feet (5 meters) in the Intracoastal Waterway. A part of Redfish Bay is about 10 feet (3 meters) deep, but about one-fourth of it is only 1 foot (0.3 meter) deep (mlw).

Water-quality data (Table 6) were collected during October, May, July, August, and September at most sites shown on Figure 9.

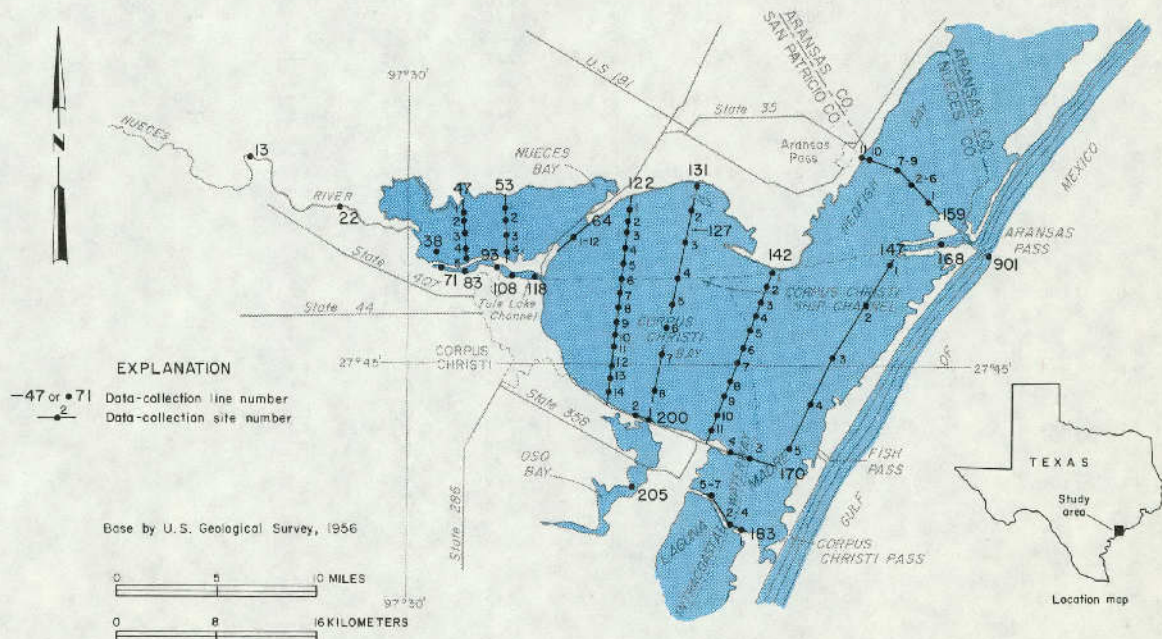
The changes in line numbers to facilitate storage in the Texas Water Oriented Data Bank and to provide opportunity to coordinate data-collection sites among all

agencies are shown below. New line numbers are used in Table 6 and on Figure 9.

All data collected prior to the changes in line numbers are stored in the data bank under the new line numbers.

### Nueces Estuary Change in Line Numbers

OLD	NEW	OLD	NEW
1	13	13a	127
2	22	13a-site 1	131
3	38	14	142
4	47-site 4	14a	147
4a	47-site 2	15	159
5	53	16	168
6	64	Laguna Madre 1	170
7	71	Laguna Madre 2	183
8	83		
9	93	Gulf of Mexico 17-site 2	901-site 70
10	108		
11	118		
12	122		
12a	205		
13	200		



**Figure 9.—Data-Collection Sites in the Nueces Estuary**



TABLE 6A--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DISS- OLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRAN- SPARENCY SECCHI DISK (CM)
LINE 13										
OCT 12, 70	1545	2	.3	1400	27.3	--	7.8	98	--	53
			1.5	2300	26.1	--	5.7	70	--	--
			2.4	2700	26.3	--	4.3	53	--	--
			4.0	6400	27.1	7.4	1.8	23	--	--
MAY 05, 71	0835	2	.3	1900	25.4	8.4	7.8	95	--	58
			1.5	1900	25.4	8.4	7.7	94	--	--
			3.0	2100	25.3	8.3	7.7	94	--	--
JUL 19, 71	1135	2	.3	410	31.2	7.1	3.5	47	--	43
			1.5	410	30.6	7.1	3.5	47	--	--
			3.0	410	31.1	7.1	3.5	47	--	--
			4.6	400	31.1	7.1	3.5	47	--	--
			6.1	410	31.4	7.1	3.6	48	--	--
LINE 22										
OCT 12, 70	1640	2	.0	5000	26.1	--	9.5	117	--	30
			1.5	5100	25.7	--	7.8	96	--	--
			2.4	11500	25.0	8.4	1.7	21	--	--
			.3	5000	26.1	--	9.5	117	--	30
			1.5	5100	25.7	--	7.8	96	--	--
			2.4	11500	25.0	8.4	1.7	21	--	--
MAY 05, 71	0915	2	.3	34000	25.1	8.7	5.4	73	--	33
			1.5	37000	25.2	8.5	4.4	59	--	--
			2.4	53000	25.7	8.1	.3	4	--	--
JUL 19, 71	1230	2	.3	410	30.9	7.2	4.0	53	--	51
			1.5	410	30.7	7.2	4.0	53	--	--
			3.0	410	30.9	7.2	4.1	55	--	--
LINE 38										
OCT 12, 70	1700	2	.3	8000	26.4	--	15.0	188	--	24
			.8	9000	26.5	9.0	12.8	160	--	--
MAY 05, 71	0950	2	.5	54000	24.6	8.2	2.7	40	--	--
JUL 19, 71	1315	2	.3	560	32.6	7.3	4.6	63	--	30
			1.2	530	33.0	7.3	4.6	63	--	--
SEP 14, 71	1035	2	.3	220	25.9	7.5	5.6	68	--	10
			.9	220	25.9	7.6	5.6	68	--	--
			1.8	220	26.0	7.5	5.6	68	--	--
LINE 47										
SEP 14, 71	1100	2	.3	210	25.8	7.9	5.8	71	--	13
			1.5	210	25.9	7.9	6.0	73	--	--
			2.4	210	25.8	7.9	6.2	76	--	--
JUN 20, 71	1045	3	.3	1500	31.7	7.9	7.7	104	--	30
			.6	1600	31.6	8.0	7.8	105	--	--
JUN 20, 71	1050	4	.3	1300	31.1	7.9	7.6	103	--	30
			1.5	1500	31.9	7.9	7.0	93	--	--
JUN 20, 71	1100	5	.3	1000	31.9	7.8	7.2	97	--	28
			.9	950	31.5	7.8	7.2	97	--	--
LINE 53										
OCT 14, 70	1210	1	.3	38000	25.5	8.4	7.3	101	--	58

TABLE 6A--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK) (CM)
LINE 53 CONTINUED										
OCT 14, 70	1210	1	1.2	40000	25.2	8.4	6.6	92	--	--
JUL 20, 71	1025	1	.3 .9	3700 3700	30.4 30.9	8.2 8.2	7.5 7.2	100 97	-- --	33 --
AUG 23, 71	1628	1	.3 .9	1230 1260	30.4 30.4	8.3 8.4	7.2 7.3	95 96	-- --	18 --
SEP 03, 71	0955	1	.3 .9	1200 1000	28.5 28.8	8.3 8.3	7.4 7.6	95 97	-- --	28 --
SEP 14, 71	1215	1	.3 .9 1.5	250 250 250	26.3 26.3 26.3	7.6 7.6 7.7	7.0 6.8 7.0	85 83 85	-- -- --	13 -- --
OCT 14, 70	1215	2	.3 1.2	41000 41000	26.5 25.2	8.5 8.4	7.8 6.7	111 93	-- --	56 --
JUL 20, 71	1015	2	.3 1.2	2500 2500	29.5 28.8	8.1 8.1	7.2 6.7	95 87	-- --	33 --
AUG 23, 71	1613	2	.3 1.2	540 530	30.2 30.3	8.2 8.2	7.6 7.7	100 101	-- --	30 --
SEP 03, 71	0940	2	.3 .9 1.5	720 720 720	28.8 28.7 28.7	8.2 8.1 8.2	7.4 7.6 7.9	95 97 101	-- -- --	25 -- --
SEP 14, 71	1200	2	.3 .9 1.8	340 340 340	26.2 26.1 26.1	7.7 7.6 7.7	7.1 6.9 7.1	87 84 87	-- -- --	13 -- --
OCT 14, 70	1240	3	.3 1.2	41000 40000	27.6 27.2	8.5 8.4	7.7 6.7	113 97	-- --	-- --
JUL 20, 71	1005	3	.3 1.2	2200 2200	29.3 29.3	8.2 8.1	7.2 6.8	95 89	-- --	-- --
AUG 23, 71	1600	3	.3 1.2	1500 2800	30.1 30.2	8.3 8.3	7.8 7.4	103 99	-- --	30 --
SEP 03, 71	0945	3	.3 .9 1.5	480 480 480	28.7 28.7 28.7	8.1 8.2 8.2	7.2 7.2 7.3	92 92 94	-- -- --	18 -- --
SEP 14, 71	1140	3	.3 .9 1.5	340 340 340	26.1 26.1 26.1	7.6 7.7 7.7	7.0 7.0 7.2	85 85 88	-- -- --	13 -- --
OCT 14, 70	1245	4	.3 1.2	41000 43000	27.2 26.7	8.5 8.4	8.0 6.8	116 100	-- --	61 --
JUL 20, 71	1000	4	.3 1.1	1300 10000	29.8 30.1	8.3 8.1	7.3 5.9	96 80	-- --	-- --
AUG 23, 71	1545	4	.3 1.7	14000 18000	30.8 31.3	8.2 8.2	7.9 8.0	110 113	-- --	25 --
SEP 03, 71	0930	4	.3 .9 1.5	500 500 640	28.7 28.7 28.7	8.0 8.0 8.1	6.9 7.1 7.2	88 91 92	-- -- --	36 -- --
SEP 14, 71	1135	4	.3 .9 1.5	260 260 340	26.0 26.0 26.0	7.7 7.7 7.6	6.4 6.4 6.6	78 78 80	-- -- --	13 -- --
OCT 14, 70	1305	5	.3 1.2	41000 43000	27.9 27.7	8.5 8.4	8.2 7.1	121 106	-- --	48 --
JUL 20, 71	0950	5	.3	1900	29.3	8.3	7.7	105	--	--

TABLE 6A--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY DISK (CM)
LINE 53 CONTINUED										
JUL 20, 71	0950	5	.8	22000	30.4	7.8	5.8	83	--	--
SEP 03, 71	0920	5	.3	520	28.6	8.2	7.3	94	--	28
			.6	600	28.6	8.1	7.2	92	--	--
			.9	9400	28.9	8.1	7.0	92	--	--
SEP 14, 71	1125	5	.3	380	25.8	7.8	6.5	79	--	10
			.9	380	25.8	7.7	6.6	80	--	--
			1.8	380	25.8	7.7	6.8	83	--	--
LINE 64										
OCT 14, 70	0910	1	.3	43000	23.3	8.3	6.8	93	--	46
			1.5	43000	23.3	8.3	6.7	92	--	--
			2.4	43000	23.4	8.3	6.8	93	--	--
			3.7	43000	23.4	8.3	7.0	96	--	--
JUL 20, 71	0855	1	.3	10000	28.2	8.1	6.6	86	--	38
			.8	11000	28.1	8.1	6.8	88	--	--
AUG 23, 71	1730	1	.3	1700	31.4	8.5	7.8	104	--	18
			1.1	1900	31.4	8.7	7.9	107	--	--
SEP 03, 71	1030	1	.3	2500	28.9	8.3	7.5	97	--	23
			.9	2400	29.0	8.3	7.6	99	--	--
SEP 14, 71	1320	1	.3	2600	27.0	7.8	7.3	91	--	30
			1.2	2700	27.1	7.7	7.5	94	--	--
OCT 14, 70	0915	6	.3	43000	23.4	8.3	6.7	92	--	--
			1.5	43000	23.4	8.3	6.6	90	--	--
			3.0	43000	23.4	8.3	6.5	89	--	--
			4.6	43000	23.4	8.3	6.5	89	--	--
			6.7	43000	23.4	8.3	6.5	89	--	--
JUL 20, 71	0915	6	.3	21000	30.0	8.0	5.8	82	--	51
			.9	33000	30.6	7.8	1.6	24	--	--
			1.5	37000	30.2	7.8	1.6	24	--	--
			2.4	36000	29.6	7.8	1.5	22	--	--
SEP 03, 71	1045	6	.3	1200	29.0	8.3	7.5	96	--	28
			.9	1200	29.0	8.4	7.4	95	--	--
			1.5	7000	29.1	8.2	5.8	76	--	--
			2.1	14000	29.6	8.1	4.7	64	--	--
SEP 14, 71	1337	6	.3	650	27.0	8.1	7.1	88	--	18
			.9	990	27.0	8.0	7.2	89	--	--
			1.5	11000	27.0	7.9	7.2	91	--	--
			3.0	38000	27.1	7.8	6.7	96	--	--
OCT 14, 70	0930	9	.3	41000	23.2	8.3	5.7	77	--	46
			.9	46000	23.5	8.3	5.6	78	--	--
MAY 06, 71	1325	9	.5	51000	25.4	8.1	7.0	103	--	13
			1.5	51000	25.3	8.1	6.4	94	--	--
			3.0	51000	25.2	8.1	6.5	96	--	--
			4.9	51000	25.6	8.0	7.0	104	--	--
JUL 19, 71	1428	9	.5	33000	30.4	8.4	6.5	97	--	66
			.9	33000	30.4	8.4	6.2	92	--	--
			1.5	33000	30.4	8.4	6.3	94	--	--
			2.4	36000	30.2	8.2	4.3	65	--	--
			3.0	47000	30.5	8.1	1.6	26	--	--
			4.6	50000	30.6	8.1	1.3	21	--	--
JUL 20, 71	0825	9	.3	18000	28.5	8.1	6.2	84	--	61
			1.5	22000	28.8	8.1	5.7	79	--	--
			3.0	39000	29.4	7.9	2.4	36	--	--

TABLE 6A--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	DEPTH (METERS)	(SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRAN- SPARENCY SECCHI DISK
LINE 64 CONTINUED									
JUL 20, 71	0825	9	4.6	46000	29.2	7.8	3.1	48	--
AUG 23, 71	1700	9	.3 1.5 3.0 4.9	4500 8500 28000 39000	30.9 30.4 30.6 30.4	8.5 8.2 8.1 8.2	7.5 5.5 .9 2.3	101 74 13 35	-- -- -- --
AUG 24, 71	1205	9	.3 .9 1.5 2.1 3.0 5.2	2600 2700 3600 9900 35000 41000	31.1 30.8 30.7 30.3 31.6 32.1	8.4 8.3 8.3 8.1 8.1 8.1	8.3 7.6 7.1 5.4 1.9 2.4	112 103 96 73 30 38	-- -- -- -- -- --
AUG 27, 71	1035	9	.3 .9 1.5 2.1 3.0 4.6	1700 4200 23000 34000 42000 45000	31.1 30.9 30.9 30.9 30.8 30.8	8.1 8.1 8.1 8.1 8.1 8.0	6.6 5.9 4.0 2.5 2.2 .7	88 80 58 38 35 11	-- -- -- -- -- --
SEP 03, 71	1100	9	.3 .9 1.5 2.1 3.0 4.6 5.5	3900 3900 4600 12000 18000 19000 19000	29.0 29.0 29.0 29.4 30.2 30.2 30.3	8.4 8.4 8.4 8.2 8.3 8.3 8.2	7.3 7.2 7.1 6.2 5.1 4.5 4.8	95 94 92 84 71 62 67	-- -- -- -- -- -- --
SEP 08, 71	1355	9	.6 1.5 3.0 4.6	31000 33000 35000 45000	29.7 29.5 29.7 29.9	8.2 8.1 8.0 7.9	7.7 5.4 3.2 1.5	113 79 48 24	-- -- -- --
SEP 14, 71	1350	9	.3 1.5 3.7 5.2	1300 6500 38000 38000	26.8 26.9 26.9 26.9	8.1 8.0 8.0 7.8	6.8 6.8 7.5 6.8	84 86 107 97	-- -- -- --
OCT 14, 70	0950	12	.3 .8	43000 44000	24.1 24.1	8.3 8.3	5.9 5.7	82 80	-- --
JUL 20, 71	0800	12	.3 1.5 2.4 3.7	14000 23000 34000 34000	28.0 28.7 29.1 28.8	8.1 7.9 7.9 7.9	6.1 4.6 3.6 3.7	80 64 52 54	-- -- -- --
AUG 23, 71	1800	12	.3 1.5	3400 8900	31.1 30.9	8.4 8.2	7.1 6.0	96 82	-- --
SEP 03, 71	1115	12	.3 .9 1.5 2.1 3.4	2700 2800 3000 3600 14000	29.4 29.3 29.2 29.0 30.2	8.3 8.4 8.4 8.3 8.1	7.5 7.5 7.5 7.1 4.1	99 99 97 92 56	-- -- -- -- --
SEP 14, 71	1410	12	.3 .9 1.5 3.0	2200 2100 2400 3200	26.7 26.7 26.7 26.7	-- -- 7.9 7.9	7.1 7.1 7.1 7.0	89 89 89 88	-- -- -- --
LINE 71									
OCT 14, 70	1100	2	.3 1.5 3.0 4.6	46000 46000 47000 47000	27.6 27.5 27.3 27.1	7.6 7.6 7.5 7.5	1.9 1.6 .9 .4	29 24 13 6	-- -- -- --
MAY 06, 71	1435	2	.3	51000	26.7	7.7	4.8	73	--

TABLE 6A--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICROMHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY DISK (CM)
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LINE 71 CONTINUED

MAY 06, 71	1435	2	1.5	51000	26.7	7.7	4.7	71	--	--
			3.0	51000	26.5	7.6	4.0	61	--	--
			6.1	51000	26.4	7.6	4.0	60	--	--
			9.1	51000	26.4	7.6	3.9	58	--	--
			12.6	51000	26.3	7.6	3.1	46	--	--

LINE 83

OCT 14, 70	1120	2	.3	46000	26.5	7.7	7.7	113	--	91
			1.5	46000	26.4	7.7	7.3	107	--	--
			3.0	47000	26.2	7.4	3.0	44	--	--
			4.6	47000	26.2	7.4	2.2	32	--	--
			6.1	47000	26.4	7.4	1.6	24	--	--
			12.2	49000	26.5	7.4	.0	0	--	--

LINE 93

OCT 14, 70	1035	2	.3	47000	27.4	7.8	5.2	78	--	122
			1.5	47000	27.1	7.8	4.5	67	--	--
			3.0	47000	26.8	7.7	3.8	57	--	--
			4.6	46000	26.5	7.7	3.1	46	--	--
			6.1	47000	26.5	7.6	2.6	38	--	--
			13.4	49000	25.8	7.8	.0	0	--	--

MAY 06, 71	1510	2	.3	50000	26.8	7.9	6.4	97	--	127
			1.5	50000	26.7	7.9	6.0	91	--	--
			3.0	50000	26.4	7.8	5.5	82	--	--
			6.1	50000	26.3	7.7	4.0	60	--	--
			9.1	50000	26.0	7.6	3.3	49	--	--
			13.1	49000	25.6	7.9	3.8	57	--	--

SEP 14, 71	1530	2	.3	23000	27.4	--	8.6	116	--	99
			1.5	24000	27.2	--	8.3	111	--	--
			3.0	28000	27.0	--	5.4	74	--	--
			6.1	38000	26.8	--	4.7	67	--	--
			9.1	40000	26.7	--	5.1	74	--	--
			12.2	42000	26.8	--	4.5	66	--	--

LINE 108

OCT 14, 70	1025	2	.3	46000	26.1	8.2	7.8	115	--	122
			1.5	46000	26.0	8.1	6.0	88	--	--
			3.0	46000	26.0	8.1	5.1	75	--	--
			6.1	47000	25.9	8.0	3.9	57	--	--
			13.1	49000	25.3	8.0	1.2	18	--	--

SEP 14, 71	1515	2	.3	18000	27.3	--	8.6	115	--	91
			1.5	27000	27.2	--	6.6	90	--	--
			3.0	31000	27.1	--	5.1	71	--	--
			6.1	39000	26.8	--	6.9	99	--	--
			9.1	40000	26.6	--	5.8	84	--	--
			12.2	42000	26.6	--	4.5	66	--	--

LINE 118

OCT 14, 70	1005	2	.3	44000	25.0	8.3	8.5	121	--	102
			1.5	46000	25.0	8.2	5.6	80	--	--
			3.0	46000	25.0	8.1	4.9	70	--	--
			4.6	46000	25.0	8.1	4.7	67	--	--
			6.1	46000	24.9	8.1	4.6	66	--	--
			9.1	46000	24.8	8.1	4.4	63	--	--
			13.3	46000	24.7	8.1	3.8	54	--	--

MAY 06, 71	1340	2	.3	51000	25.4	8.0	6.5	96	--	84
			1.5	51000	25.4	8.0	6.6	97	--	--

TABLE 6A--QUALITY OF WATER IN THE NOECES ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
LINE 118 CONTINUED										
MAY 06, 71	1340	2	3.0	51000	25.4	8.0	6.6	97	--	--
			6.1	52000	25.3	8.0	6.1	91	--	--
			9.1	52000	25.3	8.1	6.2	92	--	--
			14.0	51000	25.3	8.1	6.5	96	--	--
SEP 14, 71	1445	2	.3	11000	27.1	--	8.1	103	--	84
			1.5	27000	27.2	--	5.6	77	--	--
			3.0	32000	27.0	--	4.9	68	--	--
			6.1	39000	26.7	--	6.6	94	--	--
			9.1	40000	26.6	--	5.7	83	--	--
			12.2	42000	26.6	--	5.2	76	--	--
LINE 122										
OCT 13, 70	1155	2	.3	44000	23.7	8.3	7.8	108	--	79
			1.5	44000	23.3	8.3	8.4	117	--	--
MAY 06, 71	1300	2	.5	51000	25.1	8.1	6.7	98	--	24
			1.5	51000	25.1	8.1	6.7	98	--	--
			3.7	51000	25.0	8.1	6.4	94	--	--
JUL 19, 71	1302	2	.5	26000	30.1	8.4	7.6	109	--	112
			.9	26000	30.0	8.5	7.5	107	--	--
			1.5	45000	29.6	8.3	5.2	82	--	--
			2.4	54000	29.8	8.2	2.0	33	--	--
			3.4	54000	29.8	8.2	1.8	30	--	--
AUG 24, 71	1112	2	.3	11000	30.9	8.4	8.2	112	--	91
			.6	27000	30.9	8.3	7.0	10	--	--
			.9	33000	31.1	8.2	6.7	102	--	--
			1.5	36000	31.2	8.2	4.2	65	--	--
			3.7	47000	30.9	8.0	1.6	26	--	--
AUG 27, 71	1053	2	.3	33000	32.0	8.4	8.6	132	--	150
			.9	36000	31.7	8.4	8.8	138	--	--
			1.5	39000	31.4	8.4	8.3	128	--	--
			2.1	44000	31.1	8.2	5.7	92	--	--
			3.7	46000	31.0	7.9	1.3	21	--	--
SEP 03, 71	1035	2	.6	13000	30.0	8.4	6.9	95	--	76
			1.5	13000	30.0	8.4	6.9	95	--	--
			2.4	26000	29.9	8.4	5.8	83	--	--
			3.7	31000	29.9	8.2	4.7	69	--	--
SEP 08, 71	1415	2	.6	28000	30.7	8.2	7.1	104	--	91
			1.5	28000	30.6	8.2	7.3	107	--	--
			2.4	29000	30.4	8.2	7.4	107	--	--
			3.4	31000	29.8	8.1	6.1	90	--	--
SEP 14, 71	1420	2	.5	38000	27.2	8.1	9.2	131	--	112
			1.5	38000	27.2	8.1	9.0	129	--	--
			4.0	38000	27.2	8.0	7.8	111	--	--
OCT 13, 70	1145	4	.3	44000	23.6	8.3	8.2	114	--	86
			1.5	44000	23.5	8.3	7.7	107	--	--
			2.4	44000	23.5	8.3	6.5	90	--	--
MAY 06, 71	1245	4	.5	51000	25.0	8.1	6.7	98	--	30
			1.5	51000	24.9	8.1	6.7	98	--	--
			3.7	52000	24.9	8.1	6.8	101	--	--
JUL 19, 71	1317	4	.5	29000	29.9	8.4	7.5	109	--	94
			.9	33000	29.9	8.4	7.0	104	--	--
			1.5	53000	29.9	8.3	5.0	82	--	--
			2.4	53000	29.9	8.2	2.1	34	--	--
			3.8	53000	29.9	8.0	.3	5	--	--
AUG 24, 71	1049	4	.3	4500	30.9	8.8	8.2	111	--	71

TABLE 6A--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK) (CM)
LINE 122 CONTINUED										
AUG 24, 71	1049	4	.6	27000	30.7	8.6	7.1	104	--	--
			.9	35000	30.6	8.6	6.6	102	--	--
			1.5	40000	30.7	8.5	5.9	92	--	--
			3.0	45000	30.8	8.3	2.1	34	--	--
			4.0	45000	30.7	8.3	.7	11	--	--
AUG 27, 71	1014	4	.3	14000	31.1	8.4	7.1	99	--	58
			.9	31000	31.4	8.4	7.2	107	--	--
			1.5	39000	31.1	8.5	7.4	114	--	--
			2.1	44000	31.0	8.4	6.5	105	--	--
			3.0	47000	30.5	8.2	1.6	26	--	--
			4.3	47000	30.5	8.0	.4	6	--	--
SEP 03, 71	1025	4	.6	16000	30.0	8.4	6.9	95	--	76
			1.5	16000	30.0	8.4	6.9	95	--	--
			2.4	24000	29.9	8.3	6.1	87	--	--
			3.7	31000	30.0	8.2	2.8	41	--	--
SEP 08, 71	1340	4	.6	44000	30.6	8.2	7.0	113	--	132
			1.5	45000	30.5	8.2	7.1	115	--	--
			3.0	45000	30.4	8.2	6.5	103	--	--
			3.7	46000	30.2	8.1	5.2	83	--	--
SEP 14, 71	1410	4	.5	33000	27.0	8.1	8.4	118	--	112
			1.5	33000	27.0	8.1	8.2	115	--	--
			3.0	35000	27.0	8.0	7.8	110	--	--
			4.9	38000	27.0	8.0	6.6	94	--	--
OCT 13, 70	1125	6	.3	46000	23.9	8.3	7.7	108	--	91
			1.5	46000	23.8	8.3	7.7	108	--	--
			3.0	46000	23.7	8.3	7.4	103	--	--
			4.6	46000	23.6	8.3	7.1	99	--	--
			6.1	46000	23.6	8.2	6.6	92	--	--
			11.3	46000	23.6	8.2	6.1	85	--	--
MAY 06, 71	1230	6	.5	52000	24.9	8.2	6.2	92	--	23
			1.5	53000	24.9	8.1	6.2	92	--	--
			3.0	53000	24.9	8.1	6.3	94	--	--
			6.1	53000	24.9	8.1	6.9	103	--	--
			9.1	53000	24.9	8.1	6.6	98	--	--
			10.7	53000	24.9	8.1	6.9	103	--	--
JUL 19, 71	1335	6	.5	39000	30.1	8.5	6.8	103	--	74
			1.5	52000	30.2	8.2	3.9	64	--	--
			3.0	57000	29.6	8.2	3.9	65	--	--
			6.1	62000	29.6	8.2	5.4	92	--	--
			9.1	62000	29.6	8.2	4.2	71	--	--
			12.3	61000	29.8	8.1	3.3	57	--	--
AUG 24, 71	1027	6	.3	5000	30.4	8.7	8.1	108	--	76
			.6	21000	30.6	8.6	7.3	104	--	--
			.9	36000	30.7	8.6	6.4	98	--	--
			1.5	42000	30.5	8.5	5.4	84	--	--
			3.0	45000	30.5	8.4	3.5	56	--	--
			6.1	53000	30.5	8.4	3.1	52	--	--
			9.1	56000	30.6	8.1	.0	0	--	--
			12.8	57000	30.4	8.1	.0	0	--	--
AUG 27, 71	0954	6	.3	4700	30.5	8.2	7.3	97	--	109
			.9	18000	31.2	8.3	6.9	97	--	--
			1.5	37000	30.8	8.2	3.2	49	--	--
			2.1	44000	30.7	8.4	4.5	73	--	--
			3.0	47000	30.3	8.1	.0	0	--	--
			6.1	53000	30.0	8.2	1.7	28	--	--
			9.1	53000	29.9	8.0	.0	0	--	--
			13.7	55000	29.6	7.7	.0	0	--	--
SEP 03, 71	1005	6	.6	21000	30.0	8.4	6.7	94	--	97
			1.5	22000	29.7	8.4	6.6	93	--	--

TABLE 6A--QUALITY OF WATER IN THE NUECES ESTUARY.

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
SEP 03, 71	1005	6	3.0	42000	29.6	8.3	5.2	81	--	--
			4.6	49000	30.6	8.0	.4	7	--	--
			6.1	51000	30.5	8.0	.3	5	--	--
			9.1	51000	30.5	8.0	.2	3	--	--
			13.7	51000	30.5	7.9	.0	0	--	--
SEP 08, 71	1320	6	.6	45000	30.5	8.2	6.3	102	--	84
			1.5	45000	30.4	8.2	6.3	100	--	--
			3.0	45000	29.9	8.2	5.8	92	--	--
			4.6	47000	29.9	8.0	3.7	60	--	--
			7.6	47000	29.9	7.9	5.0	81	--	--
			10.7	47000	29.9	7.9	5.0	81	--	--
SEP 14, 71	1355	6	.5	10000	27.0	8.0	7.3	92	--	38
			1.5	26000	26.8	8.0	7.2	97	--	--
			3.0	33000	26.8	8.0	6.8	96	--	--
			4.6	38000	26.9	8.0	6.5	93	--	--
			6.1	38000	26.8	8.0	6.1	87	--	--
			9.1	38000	26.6	8.0	5.9	84	--	--
OCT 13, 70	1225	8	.3	46000	23.7	8.3	7.3	101	--	112
			1.5	44000	23.6	8.3	7.5	104	--	--
			2.4	44000	23.6	8.2	6.7	93	--	--
			4.0	44000	23.6	8.2	6.3	88	--	--
JUL 19, 71	1350	8	.5	52000	30.2	8.4	7.6	125	--	91
			.9	52000	30.2	8.4	7.6	125	--	--
			1.5	53000	29.8	8.3	6.9	113	--	--
			2.4	54000	29.6	8.2	3.9	64	--	--
			3.7	54000	29.8	8.2	2.4	40	--	--
AUG 27, 71	0943	8	.3	7400	30.3	8.1	7.4	100	--	74
			.6	7400	30.3	8.2	7.4	100	--	--
			.9	8900	30.5	8.2	7.0	95	--	--
			1.5	36000	30.6	8.2	3.1	48	--	--
			3.7	47000	30.2	8.1	.0	0	--	--
SEP 03, 71	0955	8	.5	26000	29.7	8.3	6.1	87	--	71
			1.5	27000	29.7	8.3	5.9	86	--	--
			3.7	28000	29.7	8.3	5.6	81	--	--
SEP 08, 71	1315	8	.6	27000	30.4	8.2	7.1	103	--	99
			1.5	27000	30.3	8.2	7.3	106	--	--
			3.0	27000	30.3	8.2	7.0	101	--	--
SEP 14, 71	1340	9	.5	15000	27.0	8.0	6.9	90	--	46
			1.5	22000	26.8	8.0	6.9	92	--	--
			3.0	31000	26.9	8.0	7.6	106	--	--
			4.6	38000	27.0	8.0	4.8	69	--	--
OCT 13, 70	1240	10	.3	46000	24.0	8.3	8.4	113	--	107
			1.5	46000	23.7	8.3	8.4	117	--	--
			2.7	46000	23.5	8.3	7.3	101	--	--
MAY 04, 71	1215	10	.5	53000	24.9	8.2	6.5	97	--	33
			1.5	53000	24.9	8.2	6.5	97	--	--
			4.0	54000	24.9	8.2	6.8	103	--	--
JUL 19, 71	1359	10	.5	53000	30.2	8.4	5.7	93	--	109
			.9	53000	30.0	8.4	6.4	105	--	--
			1.5	56000	29.9	8.4	6.3	105	--	--
			3.0	57000	29.6	8.2	4.4	73	--	--
			4.0	57000	29.8	8.2	3.4	58	--	--
AUG 24, 71	1140	10	.3	15000	30.9	8.3	8.0	111	--	119
			.9	38000	30.7	8.3	7.2	111	--	--
			1.5	44000	30.4	8.2	5.9	94	--	--

LINE 122 CONTINUED



TABLE 6A--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICROMHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK) (CM)
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LINE 122 CONTINUED

AUG 24, 71	1140	10	3.7	47000	30.2	8.2	5.4	67	--	--
SEP 08, 71	1305	10	.6	27000	30.5	8.2	7.3	107	--	130
			1.5	27000	30.4	8.2	7.1	103	--	--
			3.0	27000	30.3	8.2	6.9	100	--	--
OCT 13, 70	1250	12	.3	44000	23.9	8.4	8.9	125	--	94
			1.5	44000	23.8	8.4	9.0	127	--	--
			2.4	44000	23.6	8.3	7.6	106	--	--
			4.0	44000	23.6	8.2	4.9	68	--	--
JUL 19, 71	1408	12	.5	54000	30.3	8.4	6.3	105	--	107
			.9	54000	30.3	8.4	6.2	103	--	--
			1.8	56000	30.2	8.4	5.5	92	--	--
AUG 27, 71	0930	12	.3	18000	30.7	8.4	7.0	99	--	111
			.9	20000	30.9	8.3	6.3	90	--	--
			1.5	33000	30.9	8.2	3.5	53	--	--
			3.0	47000	30.3	8.1	.2	32	--	--
SEP 03, 71	0945	12	.5	24000	29.8	8.4	6.4	91	--	91
			1.5	25000	29.8	8.3	6.1	87	--	--
			3.4	26000	29.6	8.3	5.5	79	--	--
SEP 08, 71	1235	12	.6	26000	30.4	8.2	7.1	101	--	97
			1.5	26000	29.9	8.2	7.2	103	--	--
			2.4	26000	29.8	8.2	7.6	109	--	--
			3.4	26000	29.7	8.2	6.9	99	--	--
SEP 14, 71	1330	12	.5	13000	26.9	8.0	7.4	95	--	74
			1.5	15000	26.8	7.9	6.8	88	--	--
			3.7	34000	26.7	7.9	4.8	68	--	--
OCT 13, 70	1300	14	.3	44000	24.4	8.4	9.3	131	--	86
			1.5	44000	24.2	8.4	9.3	131	--	--
			2.7	44000	23.9	8.4	8.8	124	--	--
MAY 06, 71	1205	14	.5	56000	24.9	8.2	6.4	97	--	30
			1.5	56000	24.9	8.2	6.5	98	--	--
			3.5	69000	24.9	8.1	6.3	103	--	--

LINE 142

OCT 13, 70	1050	1	.3	44000	24.4	8.2	7.5	106	--	84
			1.5	44000	24.4	8.2	7.4	104	--	--
			3.0	44000	24.0	8.2	7.4	104	--	--
			4.6	44000	23.4	8.2	7.3	101	--	--
			6.1	44000	23.6	8.2	7.0	97	--	--
			9.1	44000	23.6	8.2	6.8	94	--	--
14.0	46000	23.8	8.2	6.7	94	--	--			
MAY 06, 71	0820	1	.3	50000	24.7	8.2	6.3	91	--	71
			1.5	50000	24.7	8.2	6.2	90	--	--
			3.0	50000	24.8	8.2	6.1	90	--	--
			6.1	52000	24.9	8.2	5.6	84	--	--
			9.1	52000	24.9	8.1	5.7	85	--	--
			12.8	52000	24.9	8.1	6.5	97	--	--
MAY 06, 71	1620	1	.3	50000	25.8	8.2	7.3	109	--	53
			1.5	51000	25.6	8.2	6.8	101	--	--
			6.1	51000	25.5	8.1	6.6	97	--	--
			13.1	51000	25.6	8.1	6.6	98	--	--
JUL 19, 71	1157	1	.3	57000	29.5	8.2	5.3	88	--	152
			1.5	57000	29.3	8.2	5.3	88	--	--
			3.0	60000	29.2	8.2	4.8	79	--	--
			6.1	60000	29.4	8.2	4.9	82	--	--
			9.1	61000	29.4	8.2	4.8	81	--	--

TABLE 6A--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
LINE 142 CONTINUED										
JUL 19, 71	1157	1	12.8	62000	29.4	8.2	4.4	74	--	--
AUG 24, 71	0930	1	.3	53000	29.5	8.4	5.7	92	--	109
			1.5	53000	29.5	8.4	5.5	89	--	--
			3.0	53000	29.4	8.4	5.5	89	--	--
			6.1	53000	29.4	8.4	5.0	81	--	--
			9.1	54000	29.7	8.2	3.0	49	--	--
			12.8	55000	30.1	8.0	.2	3	--	--
AUG 27, 71	0813	1	.3	39000	29.0	8.5	7.0	104	--	152
			1.5	47000	29.4	8.4	5.7	90	--	--
			3.0	50000	29.7	8.4	5.9	95	--	--
			6.1	53000	29.9	8.3	4.9	80	--	--
			9.1	53000	29.8	8.2	6.0	98	--	--
			12.2	53000	29.7	8.2	5.7	92	--	--
			14.3	53000	29.6	8.1	6.5	105	--	--
SEP 03, 71	0820	1	.3	42000	29.0	8.0	5.0	83	--	--
			1.5	42000	29.0	8.0	5.0	83	--	--
			3.0	45000	29.0	8.0	5.0	83	--	--
			4.6	49000	30.0	8.0	5.0	82	--	--
			6.1	53000	30.0	8.0	6.0	90	--	--
			9.1	53000	30.0	8.0	6.0	92	--	--
			13.7	53000	30.0	8.0	6.0	98	--	--
SEP 08, 71	1030	1	.3	39000	29.5	8.3	6.1	92	--	160
			1.5	42000	29.4	8.3	6.0	92	--	--
			3.0	46000	29.4	8.3	5.5	86	--	--
			4.6	46000	29.3	8.3	5.5	86	--	--
			7.6	51000	29.6	8.2	5.4	87	--	--
			10.7	51000	29.8	8.2	5.6	90	--	--
			13.7	51000	29.7	8.3	5.2	84	--	--
SEP 14, 71	1450	1	.3	31000	26.9	8.2	9.9	138	--	91
			1.5	31000	26.8	8.1	9.3	129	--	--
			3.0	35000	26.8	8.1	7.5	106	--	--
			4.6	35000	26.7	8.1	7.0	99	--	--
			9.1	39000	26.6	8.0	5.1	73	--	--
			14.0	41000	26.6	8.0	4.8	70	--	--
OCT 13, 70	0955	2	.3	44000	23.2	8.3	7.3	100	--	107
			1.5	49000	23.1	8.3	7.1	97	--	--
			3.4	46000	23.9	8.2	3.4	47	--	--
MAY 06, 71	0850	2	.5	50000	24.8	8.1	6.3	93	--	--
			1.5	51000	24.8	8.1	6.3	93	--	--
			3.0	52000	24.8	8.1	6.6	99	--	--
AUG 24, 71	0950	2	.3	50000	29.7	8.4	5.3	85	--	152
			1.5	50000	29.6	8.4	5.3	85	--	--
			3.7	46000	29.6	8.4	5.3	85	--	--
AUG 27, 71	0831	2	.3	32000	29.5	8.5	8.8	129	--	147
			.9	39000	29.8	8.3	8.4	127	--	--
			1.5	48000	30.2	8.5	7.6	123	--	--
			3.7	49000	29.9	8.4	78.0	126	--	--
SEP 08, 71	1110	2	.6	39000	29.5	8.2	5.6	85	--	157
			1.5	39000	29.4	8.2	5.6	84	--	--
			3.0	39000	29.2	8.3	5.3	79	--	--
			4.0	45000	29.5	8.2	3.5	8	--	--
SEP 14, 71	1125	2	.3	30000	26.2	8.0	7.6	104	--	107
			1.5	32000	26.3	8.0	7.3	100	--	--
			4.0	35000	26.3	8.0	6.8	94	--	--
SEP 03, 71	0840	3	.6	40000	29.3	8.4	5.8	88	--	91
			1.5	40000	29.3	8.4	5.9	89	--	--
			3.0	40000	29.3	8.4	5.9	89	--	--

TABLE 6A--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK) (CM)
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LINE 192 CONTINUED

SEP 03, 71	0840	3	4.0	40000	29.3	8.4	6.0	91	--	--
OCT 13, 70	0940	4	.3	44000	23.1	8.2	6.6	90	--	91
			1.5	44000	23.1	8.2	6.5	89	--	--
			2.4	44000	23.1	8.2	6.3	86	--	--
			4.3	44000	23.1	8.2	6.3	86	--	--
MAY 06, 71	0905	4	.5	52000	24.7	8.2	6.3	93	--	28
			1.5	52000	24.7	8.2	6.4	94	--	--
			4.0	52000	24.8	8.1	6.7	100	--	--
JUL 19, 71	1525	4	.5	62000	30.1	8.3	4.8	83	--	114
			1.5	62000	29.8	8.3	4.9	84	--	--
			3.0	62000	29.6	8.3	4.4	75	--	--
			4.0	62000	29.5	8.2	3.8	64	--	--
SEP 08, 71	1130	4	.6	39000	29.6	8.3	6.0	91	--	142
			1.5	40000	29.6	8.3	6.0	92	--	--
			3.0	40000	29.4	8.3	5.8	88	--	--
			3.7	42000	29.3	8.3	5.8	89	--	--
SEP 14, 71	1135	4	.3	28000	26.3	8.0	7.3	99	--	112
			1.5	28000	26.3	8.0	7.3	99	--	--
			3.0	36000	26.3	8.0	6.3	88	--	--
			4.6	40000	26.0	7.9	4.5	64	--	--
SEP 03, 71	0850	5	.6	39000	29.5	8.4	5.9	89	--	122
			1.5	39000	29.5	8.4	5.9	89	--	--
			3.0	39000	29.4	8.4	6.1	91	--	--
			4.3	39000	29.4	8.3	5.7	85	--	--
OCT 13, 70	0920	6	.3	44000	23.2	8.1	5.8	79	--	86
			1.5	44000	23.2	8.2	5.8	79	--	--
			2.4	44000	23.2	8.2	5.8	79	--	--
			4.3	44000	23.1	8.2	5.8	79	--	--
MAY 06, 71	0915	6	.5	52000	24.7	8.2	6.3	93	--	76
			1.5	53000	24.7	8.2	6.3	93	--	--
			4.0	63000	24.9	8.3	6.4	100	--	--
AUG 27, 71	0853	6	.3	28000	29.7	8.4	7.9	114	--	228
			.9	29000	30.0	8.5	8.1	117	--	--
			1.5	41000	30.5	8.4	9.0	141	--	--
			3.0	53000	29.9	8.2	3.9	64	--	--
SEP 03, 71	0900	6	4.3	53000	29.8	7.9	.0	0	--	--
			.6	38000	29.4	8.4	5.5	82	--	81
			1.5	38000	29.4	8.4	5.6	84	--	--
			3.0	38000	29.4	8.4	5.6	84	--	--
SEP 08, 71	1145	6	4.0	38000	29.4	8.4	5.7	85	--	--
			.6	38000	29.6	8.3	6.6	100	--	178
			1.5	39000	29.6	8.3	6.7	102	--	--
			3.0	40000	29.6	8.3	6.4	98	--	--
SEP 14, 71	1145	6	3.7	42000	29.5	8.3	6.3	98	--	--
			.6	24000	26.4	8.0	8.1	107	--	91
			1.5	26000	26.3	8.0	7.3	97	--	--
			3.0	33000	26.3	8.0	6.9	96	--	--
OCT 13, 70	0910	8	4.9	40000	26.0	8.0	4.4	63	--	--
			.3	44000	23.2	8.3	6.2	85	--	76
			1.5	44000	23.2	8.3	6.2	85	--	--
			3.0	44000	23.2	8.3	6.2	85	--	--
MAY 06, 71	0930	8	4.6	44000	23.1	8.2	6.1	84	--	--
			.5	60000	24.7	8.2	6.1	92	--	48
			1.5	60000	24.8	8.2	6.1	94	--	--
			4.1	60000	24.8	8.3	6.1	94	--	--

TABLE 6A--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
LINE 142 CONTINUED										
JUL 19, 71	1510	8	.5	62000	30.3	8.4	5.2	90	--	127
			1.5	64000	30.2	8.4	5.3	93	--	--
			3.0	64000	30.0	8.4	4.6	81	--	--
			4.1	57000	29.8	8.4	3.9	58	--	--
SEP 08, 71	1155	8	.6	39000	29.6	8.2	7.2	109	--	178
			1.5	39000	29.7	8.1	7.1	108	--	--
			3.0	40000	29.7	8.1	6.8	105	--	--
			4.0	40000	29.7	8.1	6.7	103	--	--
SEP 14, 71	1155	8	.5	21000	26.3	8.0	7.4	97	--	--
			1.5	22000	26.3	8.0	5.4	71	--	--
			3.0	26000	26.3	8.0	5.3	71	--	--
			3.0	39000	26.1	7.9	4.5	63	--	--
SEP 03, 71	0910	9	.6	39000	29.3	8.3	5.2	78	--	102
			1.5	39000	29.4	8.3	5.2	78	--	--
			3.0	39000	29.4	8.2	5.1	76	--	--
			4.3	42000	29.6	8.1	.8	12	--	--
OCT 13, 70	0850	10	.3	44000	22.9	8.4	7.3	100	--	61
			1.5	44000	22.9	8.4	7.2	99	--	--
			2.4	49000	22.8	8.4	7.2	99	--	--
			4.3	49000	22.8	8.3	7.2	99	--	--
MAY 06, 71	0940	10	.5	61000	24.9	8.3	5.5	86	--	76
			1.5	61000	24.9	8.3	5.6	88	--	--
			4.1	63000	25.0	8.3	6.0	94	--	--
AUG 27, 71	0903	10	.3	35000	29.7	8.5	7.8	116	--	198
			.9	37000	29.6	8.4	6.4	96	--	--
			1.5	47000	29.6	8.3	5.2	82	--	--
			3.0	52000	30.3	8.2	2.7	44	--	--
			4.3	61000	29.6	7.9	.0	0	--	--
SEP 08, 71	1205	10	.6	39000	29.7	7.7	7.3	111	--	178
			1.5	39000	29.6	7.8	7.2	109	--	--
			3.0	39000	29.5	8.2	7.1	108	--	--
			4.0	39000	29.7	8.2	6.9	106	--	--
SEP 14, 71	1205	10	.5	16000	26.3	8.0	7.8	100	--	102
			1.5	19000	26.3	8.0	7.5	97	--	--
			3.0	22000	26.3	8.0	7.3	96	--	--
			4.9	35000	26.4	7.9	5.6	78	--	--
SEP 03, 71	0920	11	.6	38000	29.3	8.3	5.5	82	--	152
			1.5	38000	29.3	8.3	5.4	81	--	--
			3.0	39000	29.4	8.3	5.3	79	--	--
			4.0	40000	29.4	8.3	5.1	77	--	--
LINE 159										
OCT 14, 70	1450	8	.3	31000	25.8	8.3	8.1	111	--	76
			1.5	31000	25.8	8.3	8.1	111	--	--
			2.7	31000	26.1	8.3	8.1	111	--	--
MAY 04, 71	1730	8	.3	44000	25.7	8.1	6.8	100	--	48
			1.5	44000	25.7	8.1	6.8	100	--	--
			2.6	45000	25.8	8.1	7.1	104	--	--
OCT 14, 70	1500	10	.3	32000	26.6	8.4	8.2	114	--	109
			2.1	41000	26.1	8.2	6.2	89	--	--
MAY 06, 71	1745	10	.3	46000	25.6	8.2	7.4	107	--	66
			1.5	46000	25.6	8.2	7.2	104	--	--
			3.0	46000	25.6	8.1	7.2	104	--	--
			5.2	46000	25.8	8.1	7.5	110	--	--
LINE 168										
MAY 06, 71	1650	2	.3	47000	25.3	8.2	7.0	101	--	89

TABLE 6A--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY DISK (CM)
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## LINE 168 CONTINUED

MAY 06, 71	1650	2	1.5	49000	25.4	8.2	7.0	103	--	--
			3.0	51000	25.4	8.2	6.4	94	--	--
			6.1	52000	25.5	8.1	5.8	88	--	--
			9.1	52000	25.6	8.1	5.8	88	--	--
			13.1	50000	25.7	8.1	6.1	91	--	--
JUL 19, 71	1600	2	.3	57000	29.4	8.3	5.5	92	--	124
			1.5	57000	29.3	8.3	5.2	87	--	--
			3.0	57000	29.2	8.3	5.0	82	--	--
			6.1	57000	29.0	8.3	4.8	79	--	--
			9.1	57000	28.9	8.3	4.8	79	--	--
			12.2	57000	28.9	8.2	4.7	77	--	--
SEP 14, 71	1020	2	.3	24000	26.0	7.3	7.1	93	--	102
			1.5	25000	26.0	7.4	7.0	93	--	--
			3.0	28000	26.0	7.4	6.7	91	--	--
			4.6	32000	26.1	7.4	6.4	88	--	--
			6.1	34000	26.2	7.6	6.2	86	--	--
			9.1	38000	26.3	7.8	5.9	83	--	--
			14.0	39000	26.3	8.3	5.9	83	--	--

## LINE 170

OCT 13, 70	1400	3	.3	47000	25.1	8.4	7.9	114	--	86
			1.5	46000	24.6	8.4	7.9	113	--	--
			2.4	46000	24.5	8.4	7.7	110	--	--
			3.7	46000	24.5	8.4	7.6	109	--	--
MAY 06, 71	1005	3	.3	77000	24.4	8.1	4.5	76	--	76
			1.5	81000	24.5	8.1	4.3	75	--	--
			3.0	81000	24.6	8.1	4.3	75	--	--
			5.2	81000	24.6	8.1	4.6	81	--	--
SEP 14, 71	1225	3	.5	26000	26.3	8.1	7.6	101	--	91
			1.5	26000	26.3	8.1	7.3	97	--	--
			4.0	31000	26.3	8.0	6.3	86	--	--
OCT 13, 70	0835	4	.3	44000	22.6	8.4	6.3	86	--	61
			1.5	46000	22.4	8.3	6.3	85	--	--

## LINE 183

MAY 06, 71	1030	5	.3	81000	24.5	8.1	4.3	75	--	86
			1.5	81000	24.5	8.1	4.1	72	--	--
			3.0	81000	24.4	8.1	4.2	74	--	--
			6.7	77000	24.4	8.1	4.9	83	--	--

## LINE 200

OCT 13, 70	1325	1	.3	46000	24.5	8.3	9.0	127	--	69
			1.1	49000	24.5	8.3	8.9	125	--	--
SEP 14, 71	1310	1	.5	12000	26.5	8.0	7.7	99	--	89
			1.5	13000	26.5	8.0	7.6	97	--	--
			3.0	19000	26.4	8.0	6.0	78	--	--
			4.3	35000	26.3	7.9	3.1	43	--	--
OCT 13, 70	1340	2	.3	41000	24.3	9.0	9.9	136	--	43
			1.2	43000	24.0	8.4	8.7	121	--	--
SEP 14, 71	1300	2	.5	2200	26.6	7.9	7.1	89	--	15
			2.0	13000	26.4	8.0	6.9	87	--	--

## LINE 901

JUL 19, 71	1630	2	.5	57000	28.5	8.2	4.6	74	--	165
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TABLE 6A--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHO/CM)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
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LINE 901 CONTINUED

JUL 19, 71	1630	2	1.5	57000	28.4	8.2	4.6	74	--	--
			3.0	57000	28.1	8.2	4.3	69	--	--
			6.1	57000	28.3	8.2	3.9	63	--	--
			9.8	57000	28.5	8.2	4.0	64	--	--

TABLE 6B--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR

## NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS- SOLVED SILICA (SiO <sub>2</sub> ) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED PHOS- PHORUS ORTHO (P) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	BIO- CHEMICAL OXYGEN DEMAND (BOD) (MG/L)	CHEMICAL OXYGEN DEMAND (COD) (MG/L)	TOTAL ORGANIC CARBON (MG/L)
LINE 13												
OCT 12, 70	1545	2	4.0	24.0	.0	.72	.00	.15	.40	4.4	--	--
MAY 05, 71	0835	2	.3 3.0	20.0 20.0	.0 .1	.10 .10	.01 .00	.10 .18	.11 .20	1.4 1.6	-- --	-- --
JUL 19, 71	1135	2	.3 6.1	21.0 21.0	.1 .1	.16 .17	.00 .00	.54 .56	.54 .56	-- --	-- --	-- --
LINE 22												
OCT 12, 70	1640	2	2.4 2.4	20.0 --	.0 .0	.86 .86	.20 .20	.14 .14	2.00 2.00	18.5 8.5	-- --	-- --
MAY 05, 71	0915	2	2.4	3.3	.0	.08	.00	.00	.04	5.0	--	--
LINE 38												
OCT 12, 70	1700	2	.8	20.0	.0	.16	.01	.50	.60	9.1	--	--
MAY 05, 71	0950	2	.5	2.4	.0	.03	.00	.04	.17	3.7	--	--
LINE 53												
OCT 14, 70	1215	2	1.2	2.5	.0	.06	.00	.03	.07	3.8	--	--
SEP 14, 71	1200	2	1.8	13.0	.2	.19	.03	.15	.21	.5	--	--
OCT 14, 70	1245	4	1.2	3.0	.0	.06	.00	.03	.21	6.8	--	--
SEP 03, 71	0930	4	1.5	22.0	.1	.16	.00	.07	.09	--	--	--
SEP 14, 71	1135	4	1.5	13.0	.2	.14	.03	.15	.24	.9	--	--
LINE 64												
JUL 20, 71	0855	1	.8	16.0	.0	.59	.00	.64	.64	--	--	--
OCT 14, 70	0930	9	.3 .9	1.7 2.5	.0 .0	.06 .00	.00 .00	.00 .00	.05 .04	3.0 2.6	-- --	-- --
MAY 06, 71	1325	9	.5 4.9	1.6 1.9	.0 .0	.07 .07	.00 .01	.00 .04	.06 .09	1.3 2.3	-- --	-- --
SEP 03, 71	1100	9	.3 5.5	29.0 9.8	.1 .2	.00 .14	.01 .01	.08 .06	.11 .08	-- --	-- --	-- --
SEP 14, 71	1350	9	.3 5.2	4.8 12.0	.0 .2	.22 .19	.02 .02	.06 .13	.11 .19	.8 1.0	-- --	-- --
JUL 20, 71	0800	12	3.7	8.7	.1	.60	.00	.56	.56	--	--	--
LINE 71												
OCT 14, 70	1100	2	.3 4.6	2.7 4.1	.0 .0	.70 .72	.01 .01	.12 .12	.17 .18	3.5 2.7	-- --	-- --
MAY 06, 71	1435	2	.3 12.5	.4 .5	.0 .0	.43 .52	.01 .00	.19 .19	.19 .19	3.0 2.5	-- --	-- --
LINE 93												
OCT 14, 70	1035	2	.3	3.4	.0	.68	.01	.08	.14	5.5	--	--

TABLE 6B--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS-SOLVED SILICA (SiO2) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS-SOLVED PHOS- ORTHO (P) (MG/L)	TOTAL PHOS- (P) (MG/L)	BIO-CHEMICAL OXYGEN DEMAND (BOD) (MG/L)	CHEMICAL OXYGEN DEMAND (COD) (MG/L)	TOTAL ORGANIC CARBON (MG/L)
LINE 93 CONTINUED												
OCT 14, 70	1035	2	13.4	2.7	.0	.62	.00	.11	.17	2.6	--	--
MAY 06, 71	1510	2	.3 13.1	.5 .9	.0 .0	.47 .31	.01 .00	.15 .08	.15 .08	2.2 1.7	--	--
SEP 14, 71	1530	2	.3 12.2	7.6 4.9	.1 .0	.39 .30	.04 .01	.17 .08	.18 .09	2.1 1.0	--	--
LINE 118												
OCT 14, 70	1005	2	.3 13.3	2.3 4.4	.0 .1	.00 .32	.00 .01	.02 .21	.03 1.20	3.7 8.2	--	--
MAY 06, 71	1340	2	.3 14.0	.4 .9	.0 .0	.23 .06	.01 .00	.09 .00	.09 .04	1.8 1.3	--	--
LINE 122												
OCT 13, 70	1155	2	.3 1.5	1.0 .4	.0 .0	.04 .04	.00 .00	.00 .00	.02 .05	1.7 2.3	--	--
MAY 06, 71	1300	2	.5 3.7	1.5 1.2	.0 .0	.05 .03	.00 .00	.00 .03	.04 .06	1.2 1.0	--	--
OCT 13, 70	1125	6	.3 11.3	2.5 .4	.0 .0	.40 .02	.00 .00	.01 .02	.01 .05	2.1 2.5	--	--
MAY 06, 71	1230	6	.5 10.7	.7 1.3	.0 .0	.03 .00	.00 .00	.00 .07	.04 .07	1.3 1.3	--	--
JUL 19, 71	1335	6	.5 12.3	12.0 5.1	.0 .1	.11 .26	.00 .00	.37 .22	.37 .31	3.0 2.3	--	--
SEP 03, 71	1005	6	.6 4.6 13.7	17.0 2.6 3.4	.0 .0 .0	.00 .24 .48	.00 .00 .00	.06 .07 .13	.08 .07 .13	-- -- --	-- -- --	-- -- --
MAY 06, 71	1215	10	.5 4.0	1.2 1.5	.0 .0	.03 .03	.00 .00	.00 .00	.05 .09	1.4 1.9	--	--
OCT 13, 70	1300	14	.3 2.7	1.7 1.3	.0 .0	.06 .02	.00 .00	.00 .00	.02 .04	2.7 3.2	--	--
MAY 06, 71	1205	14	.5 3.5	1.1 1.1	.0 .0	.02 .02	.00 .00	.00 .07	.06 .08	1.4 1.2	--	--
LINE 142												
OCT 13, 70	1050	1	.3 14.0	.5 3.0	.0 .0	.00 .02	.00 .00	.00 .00	.01 .05	2.1 2.5	--	--
MAY 06, 71	0820	1	.3 12.8	1.7 2.1	.0 .2	.03 .11	.01 .00	.02 .00	.04 .07	1.2 1.3	--	--
SEP 14, 71	1450	1	.3 4.6 14.0	7.0 6.7 3.8	.0 .0 .0	.05 .12 .20	.02 .02 .02	.08 .08 .06	.09 .08 .07	1.5 1.0 1.0	-- -- --	-- -- --
OCT 13, 70	0955	2	.3 3.4	2.2 2.6	.0 .0	.04 .06	.00 .00	.00 .01	.00 .03	2.1 1.6	--	--
MAY 06, 71	0850	2	.5 3.0	2.1 2.5	.0 .0	.00 .02	.00 .00	.04 .05	.04 .07	1.4 1.7	--	--
OCT 13, 70	0920	6	.3 4.3	2.6 2.5	.0 .0	.04 .06	.01 .01	.02 .00	.02 .01	1.4 1.5	--	--



TABLE 6B--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS														
DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS- SOLVED SILICA (SiO <sub>2</sub> ) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED PHOS- PHORUS (P) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	BIO- (CHEMICAL OXYGEN DEMAND (BOD) (MG/L)	CHEMICAL OXYGEN DEMAND (COD) (MG/L)	TOTAL ORGANIC CARBON (MG/L)		
LINE 142 CONTINUED														
MAY 06, 71	0915	6	.5 4.0	2.3 3.0	.0 .0	.02 .01	.00 .00	.04 .05	.04 .08	1.2 1.6	--	--	--	--
SEP 03, 71	0900	6	.6 4.0	9.8 9.4	.0 .0	.11 .07	.00 .00	.06 .06	.06 .06	--	--	--	--	--
SEP 14, 71	1145	6	.6 3.0 4.9	7.4 7.0 6.1	.1 .0 .0	.24 .27 .25	.03 .02 .02	.09 .08 .08	.10 .08 .08	.5 .5 .2	--	--	--	--
OCT 13, 70	0850	10	.3 4.3	1.9 1.8	.0 .0	.00 .00	.01 .00	.01 .00	.02 .04	2.6 2.9	--	--	--	--
MAY 06, 71	0940	10	.5 4.1	1.8 2.4	.0 .0	.00 .05	.00 .00	.02 .03	.03 .03	1.4 1.5	--	--	--	--
LINE 159														
MAY 06, 71	1730	8	.3 2.6	3.1 3.0	.0 .0	.00 .00	.00 .00	.00 .01	.00 .03	.9 1.3	--	--	--	--
OCT 14, 70	1500	10	.3 2.1	4.7 1.2	.0 .0	.02 .08	.00 .00	.00 .02	.01 .04	1.4 2.2	--	--	--	--
MAY 06, 71	1745	10	.3 5.2	2.7 2.9	.0 .0	.01 .00	.00 .00	.00 .00	.00 .00	1.2 1.3	--	--	--	--
LINE 168														
MAY 06, 71	1650	2	.3 13.1	.9 1.0	.0 .0	.00 .00	.00 .00	.00 .05	.00 .22	1.3 4.2	--	--	--	--
JUL 19, 71	1600	2	.3 16.8	1.4 1.5	.0 .0	.15 .10	.00 .00	.04 .06	.04 .10	.8 1.6	--	--	--	--
SEP 14, 71	1020	2	.3 4.6 14.0	5.6 5.7 4.5	.1 .1 .0	.18 .15 .16	.03 .02 .02	.04 .04 .06	.07 .05 .07	.5 .7 1.1	--	--	--	--
LINE 170														
MAY 06, 71	1005	3	.3 5.2	4.0 3.8	.0 .0	.01 .01	.00 .00	.01 .03	.02 .11	1.5 3.0	--	--	--	--
SEP 14, 71	1225	3	.5 4.0	7.5 7.1	.1 .1	.28 .26	.03 .02	.09 .10	.10 .11	.8 .6	--	--	--	--
LINE 200														
OCT 13, 70	1340	2	1.2	2.2	.0	.02	.00	.04	.05	2.8	--	--	--	--

TABLE 6C--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (LAB)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM + POTASSIUM (NA+K) (MG/L)	BICARBONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
LINE 13											
OCT 12, 70	1545	2	4.0	7960	--	--	--	--	--	--	--
MAY 05, 71	0835	2	.3 3.0	1980 2150	110.0	29.0	320	218	120	560	1280
JUL 19, 71	1135	2	.3 6.1	492 492	59.0 58.0	3.1 3.7	39 40	183 183	30 30	43 44	288 289
LINE 22											
OCT 12, 70	1640	2	2.4 2.4	8830 8830	--	--	--	--	--	--	--
MAY 05, 71	0915	2	2.4	56100	720.0	1400.0	12000	130	2800	21000	37500
LINE 38											
OCT 12, 70	1700	2	.8	9440	--	--	--	--	--	--	--
MAY 05, 71	0950	2	.5	56900	870.0	1300.0	12000	129	2700	21000	37700
LINE 53											
OCT 14, 70	1215	2	1.2	44600	480.0	1200.0	8700	146	2200	16000	29000
SEP 14, 71	1200	2	1.8	378	44.0	3.7	27	151	14	32	210
OCT 14, 70	1245	4	1.2	44700	480.0	1000.0	9000	148	2100	16000	29000
SEP 03, 71	0930	4	1.5	10300	180.0	170.0	1900	170	530	3300	6210
SEP 14, 71	1135	4	1.5	447	--	--	--	--	--	--	--
LINE 64											
JUL 20, 71	0855	1	.8	11200	160.0	250.0	1900	197	420	3400	6260
OCT 14, 70	0930	9	.3 .9	45600 43300	--	--	--	--	--	--	--
MAY 06, 71	1325	9	.5 4.9	51700 52300	450.0	1300.0	11000	147	2600	19000	34100
SEP 03, 71	1100	9	.3 5.5	4020 20200	--	--	--	--	--	--	--
SEP 14, 71	1350	9	.3 5.2	1590 39700	--	--	--	--	--	--	--
JUL 20, 71	0800	12	3.7	37900	360.0	970.0	7600	160	1800	14000	24700
LINE 71											
OCT 14, 70	1100	2	.3 4.6	48700 48700	420.0 410.0	1300.0 1500.0	9900 8900	140 140	2400 2400	18000 17000	32000 30000
MAY 06, 71	1435	2	.3 12.5	51700 51700	450.0 450.0	1300.0 1300.0	11000 11000	154 156	2800 2600	19000 19000	34100 34100
LINE 93											
OCT 14, 70	1035	2	.3	48400	--	--	--	--	--	--	--

TABLE 6C--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICROMHOS)	SILICA (MG/L)	DISSOLVED CALCIUM (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM + POTASSIUM (MG/L)	DISSOLVED BICARBONATE (MG/L)	DISSOLVED SULFATE (MG/L)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED SOLIDS (MG/L)
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LINE 93 CONTINUED

OCT 14, 70	1035	2	13.4	48800	--	--	--	--	--	--	--	--
MAY 06, 71	1510	2	.3 13.1	51400 52000	--	--	--	--	--	--	--	--
SEP 14, 71	1530	2	.3 12.2	23400 42100	--	--	--	--	--	--	--	--

LINE 118

OCT 14, 70	1005	2	.3 13.3	46300 48500	400.0 440.0	1100.0 1300.0	9600 9300	150 310	2300 2400	17000 17000	30000 31000	
MAY 06, 71	1340	2	.3 14.0	51800 53400	--	--	--	--	--	--	--	--

LINE 122

OCT 13, 70	1155	2	.3 1.5	47400 47300	--	--	--	--	--	--	--	--
MAY 06, 71	1300	2	.5 3.7	51400 51500	--	--	--	--	--	--	--	--
OCT 13, 70	1125	6	.3 11.3	47800 48600	--	--	--	--	--	--	--	--
MAY 06, 71	1230	6	.5 10.7	52300 52500	--	--	--	--	--	--	--	--
JUL 19, 71	1335	6	.5 12.3	42100 67300	--	--	--	--	--	--	--	--
SEP 03, 71	1005	6	.6 4.6 13.7	22900 49800 53100	--	--	--	--	--	--	--	--
MAY 06, 71	1215	10	.5 4.0	53400 53300	--	--	--	--	--	--	--	--
OCT 13, 70	1300	14	.3 2.7	47900 47700	--	--	--	--	--	--	--	--
MAY 06, 71	1205	14	.5 3.5	55200 55200	--	--	--	--	--	--	--	--

LINE 142

OCT 13, 70	1050	1	.3 14.0	48600 49200	380.0 400.0	1200.0 1300.0	9500 10000	160 157	2400 2500	17000 18000	31000 32000	
MAY 06, 71	0820	1	.3 12.8	51200 52900	420.0 450.0	1300.0 1400.0	10000 11000	156 158	2600 2600	18000 19000	33000 34700	
SEP 14, 71	1450	1	.3 4.6 14.0	31700 37000 42900	--	--	--	--	--	--	--	--
OCT 13, 70	0955	2	.3 3.4	48800 49400	--	--	--	--	--	--	--	--
MAY 06, 71	0850	2	.5 3.0	53400 53800	--	--	--	--	--	--	--	--
OCT 13, 70	0920	6	.3 4.3	48900 49100	380.0 400.0	1300.0 1500.0	9200 9600	156 155	2200 2500	17000 18000	30000 32000	

TABLE 6C--QUALITY OF WATER IN THE NUECES ESTUARY,

1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-
				CON-	SOLVED	SOLVED	(SODIUM +	BICAR-	SOLVED	SOLVED	SOLVED
				(MICRO-	CALCIUM	MAGNE-	POTAS-	BONATE	SULFATE	CHLORIDE	(SUM OF
				MMOS)	(CA)	SIUM	SIUM	(HCO3)	(SO4)	(CL)	CONSTIT-
				(LAB)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)

LINE 142 CONTINUED

MAY 06, 71	0915	6	.5 4.0	54100 62600	--	--	--	--	--	--	--
SEP 03, 71	0900	6	.6 4.0	37300 39000	360.0	900.0	8000	164	2000	14000	25300
SEP 14, 71	1145	6	.6 3.0 4.9	25300 32500 41800	--	--	--	--	--	--	--
OCT 13, 70	0850	10	.3	49100	--	--	--	--	--	--	--
MAY 06, 71	0940	10	.5 4.1	59600 64100	--	--	--	--	--	--	--

LINE 159

MAY 06, 71	1730	8	.3 2.6	47200 47200	--	--	--	--	--	--	--
OCT 14, 70	1500	10	.3 2.1	32900 44100	260.0 340.0	810.0 1200.0	6100 8200	148 157	1500 2200	11000 15000	20000 27000
MAY 06, 71	1745	10	.3 5.2	47100 47100	390.0	1200.0	9700	160	2500	17000	30800

LINE 166

MAY 06, 71	1650	2	.3 13.1	47700 53700	--	--	--	--	--	--	--
JUL 19, 71	1600	2	.3 16.8	62500 63100	--	--	--	--	--	--	--
SEP 14, 71	1020	2	.3 4.6 14.0	24300 33500 41000	210.0 -- 350.0	580.0 -- 980.0	4600 -- 8000	90 -- 148	1000 -- 1900	8400 -- 14000	14900 -- 25700

LINE 170

MAY 06, 71	1005	3	.3 5.2	73000 75200	--	--	--	--	--	--	--
SEP 14, 71	1225	3	.5 4.0	26300 32200	--	--	--	--	--	--	--

LINE 200

OCT 13, 70	1340	2	1.2	48200	400.0	1200.0	9500	157	2400	17000	31000
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Table 6-D--Quality of water in the Nueces estuary, 1971 water year

Insecticide and herbicide analyses

(Whole water analyses in micrograms per liter; bottom deposits analyses in micrograms per kilogram, dry weight)

Date of Collection	Time	Type of Sample	Insecticides													Herbicides			
			Aldrin	DDE	DDE	DDT	Dieldrin	Endrin	Heptachlor	Heptachlor Epoxide	Lindane	Chlordane	Parathion	Methyl Parathion	Malathion	Diazinon	2,4-D	Silvex	2,4,5-T
<u>Line 13, Site 2, Nueces River</u>																			
1970																			
Oct. 12	1545	Bottom deposits																	
		0-3 inches	a/	0.4	1.4	0.0	0.0	0.0	0.0	a/	a/	a/	0.0	0.0	0.0	0.0	a/	--	--
		5-9 inches	.0	.0	.7	.0	.0	.0	.0	.0	.0	.0	0.0	0.0	0.0	0.0	.0	--	--
<u>Line 53, Site 2, Nueces Bay</u>																			
Oct. 14	1215	Water	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00	0.00
		Bottom deposits																	
		0-2 inches	a/	.0	1.1	.0	.0	.0	.0	a/	a/	a/	.0	.0	.0	.0	a/	--	--
		3-7 inches	a/	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	--
		12-18 inches	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	--
<u>Line 53, Site 4, Nueces Bay</u>																			
Oct. 14	1245	Water	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	.00	.00
		Bottom deposits																	
		0-2 inches	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	a/	--	--
		2-5 inches	a/	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	--
		14-20 inches	a/	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	--	--
<u>Line 122, Site 2, Corpus Christi Bay</u>																			
Oct. 13	1155	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

a/ Undetermined due to interfering compounds.

## Laguna Madre Estuary

The Laguna Madre estuary covers an area of about 640 square miles (1,660 square kilometers) 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 10). At mlw, upper and lower Laguna Madre and Baffin Bay are generally less than 4 feet (1.2 meters) deep, but in a few areas are as much as 10 feet (3 meters) deep. The Intracoastal Waterway, Port Mansfield Channel, and Arroyo Colorado are about 15 feet (5 meters) deep; the Brownsville Ship Channel is about 40 feet (12 meters) deep.

Water-quality data (Table 7) were collected in October at most sites shown on Figure 10.

The changes in line numbers to facilitate computer storage in the Texas Water Oriented Data Bank and to provide opportunity to coordinate data-collection sites among all agencies are shown below. New line numbers are used in Table 7 and on Figure 10.

All data collected prior to the changes in line numbers are stored in the data bank under the new line numbers.

### Laguna Madre Estuary Change in Line Numbers

OLD	NEW	OLD	NEW
1	10	26	263
2	23	27	274
3	34	28	287
4	44	29	297
5	53	30	301
6	64	31	313
7	74	32	320
8	82	33	334
9	94	33a	342
10	107	34	343
11	119	34a	348
12	125	35	351
13	134	36	364
14	145	37	370
15	157	38	376
16	163	Gulf of Mexico	
17	175	39-site 2	902-site 95
18	188		
19	194		
20	203		
21	217		
22	223		
23	233		
24	247		
25	258		



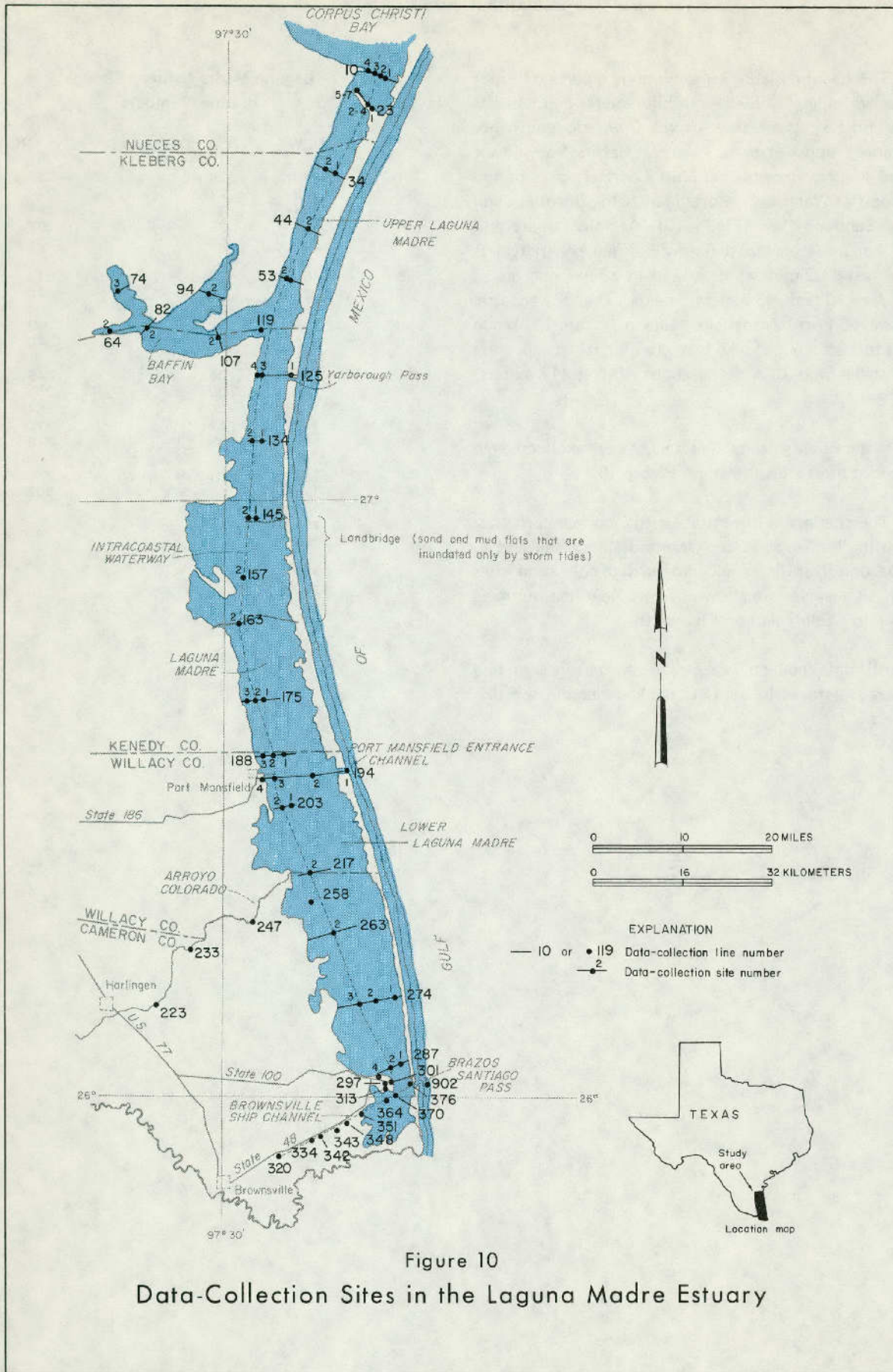


Figure 10  
Data-Collection Sites in the Laguna Madre Estuary

TABLE 7A--QUALITY OF WATER IN THE LAGUNA MAURE ESTUARY,

1971 WATER YEAR

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICROMMOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY SECCHI DISK (CM)
LINE 10										
OCT 08, 70	1235	2	.3	49000	27.3	8.4	5.9	89	--	--
			1.5	49000	27.2	8.4	5.8	88	--	--
			3.7	46000	27.4	8.4	6.3	94	--	--
LINE 23										
OCT 08, 70	1145	1	.3	50000	27.2	8.2	5.9	89	--	122
			2.4	50000	27.3	8.3	5.9	89	--	--
LINE 34										
OCT 08, 70	1055	1	.3	56000	26.7	8.1	5.6	88	--	175
			1.5	56000	26.8	8.1	5.6	88	--	--
			3.0	56000	27.2	8.1	5.6	88	--	--
			4.6	53000	27.0	8.2	5.6	86	--	--
LINE 134										
OCT 08, 70	0905	1	.3	43000	27.1	8.3	5.1	75	--	56
			1.7	42000	27.2	8.2	5.0	74	--	--
OCT 08, 70	0915	2	.3	43000	27.0	8.2	5.3	78	--	--
			1.5	43000	26.9	8.2	5.3	78	--	--
			3.0	43000	26.8	8.2	5.3	78	--	--
			4.3	43000	26.9	8.2	5.5	81	--	--
LINE 145										
OCT 07, 70	1420	1	.3	38000	29.3	8.3	6.9	103	--	84
			1.8	46000	28.9	8.3	6.0	94	--	--
OCT 07, 70	1430	2	.3	41000	28.5	8.3	6.1	91	--	--
			1.5	41000	28.3	8.3	5.7	85	--	--
			3.0	41000	28.1	8.3	5.6	82	--	--
			5.2	41000	28.1	8.3	5.6	82	--	--
LINE 157										
OCT 07, 70	1345	2	.3	41000	27.9	8.3	6.1	90	--	--
			1.5	42000	27.7	8.2	5.7	85	--	--
			3.0	45000	27.5	8.2	4.9	74	--	--
			4.9	43000	27.6	8.2	4.7	70	--	--
LINE 163										
OCT 07, 70	1245	2	.3	41000	28.6	8.3	8.6	128	--	152
			.9	47000	28.4	8.3	7.0	108	--	--
			1.5	50000	28.1	8.2	6.8	106	--	--
			3.0	53000	28.2	8.2	5.9	92	--	--
			4.6	53000	27.4	8.2	5.2	80	--	--
			5.2	53000	27.5	8.2	5.2	81	--	--
LINE 175										
OCT 07, 70	1205	1	.3	58000	27.9	8.0	7.5	121	--	122
			1.1	58000	27.9	8.0	7.6	123	--	--
OCT 07, 70	1120	2	.3	58000	27.2	8.1	5.9	94	--	140
			1.5	58000	27.1	8.1	5.9	94	--	--



TABLE 7A--QUALITY OF WATER IN THE LAGUNA MADRE ESTUARY.

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICRO-MHOS) (FIELD)	TEMPERATURE (DEG. C) (IDEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK) (CM)
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LINE 175 CONTINUED

OCT 07, 70	1120	2	3.4	58000	27.2	8.1	6.0	95	--	--
OCT 07, 70	1145	3	.3 1.5	58000 58000	27.2 27.5	8.1 8.1	5.9 6.4	94 103	-- --	173 --

LINE 188

OCT 07, 70	1045	1	.3 .9	49000 49000	27.2 27.4	8.1 8.1	6.7 7.2	102 109	-- --	97 --
OCT 07, 70	1015	2	.3 1.5 3.0	49000 49000 53000	26.6 26.7 26.8	8.1 8.1 8.0	6.7 6.5 5.5	102 98 85	-- -- --	163 -- --
OCT 07, 70	1030	3	.3 1.8	49000 49000	27.0 26.9	7.9 7.9	4.8 4.3	73 65	-- --	109 --

LINE 194

OCT 07, 70	0905	1	.3 1.5 3.0 4.6	47000 47000 47000 47000	26.9 26.9 26.9 26.8	8.0 8.0 8.0 8.0	6.2 6.2 6.2 6.4	93 93 93 96	-- -- -- --	58 -- -- --
OCT 07, 70	0940	2	.3 1.5 3.0 4.9	45000 45000 47000 50000	27.2 27.2 27.1 26.7	8.1 8.1 8.1 8.1	5.2 5.2 5.0 5.1	78 78 75 77	-- -- -- --	137 -- -- --
OCT 07, 70	0955	3	.3 .9 1.5 2.3	46000 46000 53000 53000	26.7 26.7 26.7 26.7	8.2 8.2 8.2 8.1	6.4 6.4 5.4 5.0	96 96 83 77	-- -- -- --	-- -- -- --
OCT 07, 70	1620	4	.3 1.5 3.0 4.0 4.9	41000 47000 54000 54000 54000	28.9 28.6 26.6 26.1 24.4	8.3 8.2 8.1 8.0 7.7	7.4 7.3 4.5 3.2 .0	112 112 70 49 0	-- -- -- -- --	-- -- -- -- --

LINE 203

OCT 06, 70	1510	2	.3 1.5 3.0 4.0	47000 49000 53000 49000	28.0 27.2 26.3 26.7	8.8 8.8 8.8 8.7	7.3 6.5 5.2 5.1	111 98 79 77	-- -- -- --	81 -- -- --
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LINE 217

OCT 06, 70	1430	2	.3 .9 1.5 2.1 3.0 4.0 4.9	28000 28000 36000 47000 47000 47000 42000	30.7 28.8 27.6 26.6 26.5 26.5 26.8	9.1 8.9 8.8 8.8 8.7 8.7 8.7	10.7 8.6 7.2 4.7 4.4 4.2 4.1	157 123 103 70 65 62 60	-- -- -- -- -- -- --	53 -- -- -- -- -- --
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LINE 223

OCT 07, 70	0940	2	.3 1.5 3.0	1400 1400 1500	26.6 26.7 26.6	7.6 7.6 7.7	6.2 6.2 6.3	77 77 78	-- -- --	16 -- --
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LINE 233

OCT 07, 70	1115	2	.3	2400	27.4	7.7	5.6	71	--	42
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TABLE 7A--QUALITY OF WATER IN THE LAGUNA MADRE ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	(FIELD)	(SPECIFIC CONDUCTANCE (MICROHOS))	TEMPERATURE (DEG. C)	PH	(MG/LI)	(PERCENT SATURATION)	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK)
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## LINE 233 CONTINUED

OCT 07, 70	1115	2	1.5	3300	27.2	7.8	5.7	71	--	--
			3.0	3200	27.1	7.7	5.3	66	--	--
			4.6	49000	26.7	7.4	.2	3	--	--
			6.1	50000	26.9	7.4	.5	8	--	--

## LINE 247

OCT 07, 70	1145	2	.3	3800	28.0	7.6	5.2	67	--	--
			1.5	4000	27.7	7.7	5.8	73	--	--
			3.0	13000	26.3	7.5	3.5	44	--	--
			4.9	42000	24.9	7.8	2.5	35	--	--

## LINE 258

OCT 07, 70	1215	2	.3	5000	28.4	7.9	6.0	77	--	66
			1.5	6000	28.1	8.0	5.8	75	--	--
			3.0	40000	28.1	8.2	4.7	69	--	--
			5.3	42000	27.8	8.1	4.2	63	--	--

## LINE 263

OCT 06, 70	1400	2	.3	39000	28.0	8.9	7.8	115	--	53
			1.5	40000	27.9	8.8	7.7	113	--	--
			3.0	41000	27.5	8.8	6.6	97	--	--
			4.0	41000	26.7	8.7	5.0	72	--	--

## LINE 274

OCT 06, 70	1240	1	.3	47000	27.4	8.6	6.5	97	--	91
			1.2	47000	27.4	8.6	6.5	97	--	--
OCT 06, 70	1210	2	.3	50000	26.9	8.5	6.6	100	--	69
			1.5	48000	26.7	8.5	6.6	98	--	--
OCT 06, 70	1140	3	.3	46000	26.7	8.5	6.2	93	--	58
			1.5	47000	26.4	8.5	5.8	85	--	--
			3.0	47000	26.4	8.5	5.7	84	--	--
			4.6	48000	26.6	8.3	6.3	94	--	--

## LINE 287

OCT 06, 70	1100	1	.3	45000	26.6	8.5	6.0	90	--	104
			.9	34000	26.9	8.5	6.4	90	--	--
OCT 06, 70	1040	3	.3	46000	26.4	8.5	6.1	90	--	76
			1.5	46000	26.4	8.5	6.0	88	--	--
			3.0	46000	26.4	8.5	6.1	90	--	--
			4.0	45000	26.9	8.5	6.2	93	--	--
OCT 06, 70	0940	4	.3	45000	25.9	8.1	4.5	66	--	86
			1.5	43000	26.1	8.1	4.3	62	--	--

## LINE 297

OCT 06, 70	0935	2	.3	46000	26.1	8.1	5.4	79	--	--
			1.5	46000	26.1	8.1	5.1	75	--	--
			2.4	46000	26.1	8.1	5.4	79	--	--
			3.8	46000	26.3	8.1	5.7	84	--	--

## LINE 301

OCT 06, 70	1000	2	.3	46000	26.3	8.1	5.6	82	--	53
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TABLE 7A--QUALITY OF WATER IN THE LAGUNA MADRE ESTUARY,

1971 WATER YEAR--CONTINUED

FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICROMHOS) (FIELD)	TEMPERATURE (DEG. C)	PH	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	TURBIDITY (JTU)	TRANSPARENCY (SECCHI DISK) (CM)
--------------------	------	------	----------------	--	----------------------	----	-------------------------	--------------------	-----------------	---------------------------------

LINE 301 CONTINUED

OCT 06, 70	1000	2	1.5	46000	26.3	8.1	5.7	84	--	--
			3.0	46000	26.3	8.1	5.8	85	--	--
			4.4	46000	26.3	8.1	5.8	85	--	--

LINE 313

OCT 06, 70	1025	2	.3	44000	26.8	8.1	6.0	90	--	99
			1.5	46000	26.8	8.1	6.0	90	--	--
			3.0	46000	26.8	8.1	6.0	90	--	--
			4.6	46000	26.9	8.1	5.7	85	--	--
			6.1	46000	26.9	8.1	5.9	88	--	--
10.4	46000	26.7	8.1	6.0	90	--	--			

LINE 320

OCT 06, 70	1245	2	.3	22000	28.6	7.9	6.4	89	--	119
			1.5	37000	27.1	7.8	4.7	66	--	--
			3.0	46000	27.3	7.8	3.5	52	--	--
			4.6	46000	27.3	7.8	2.8	42	--	--
			6.1	47000	27.5	7.8	2.9	43	--	--
10.4	50000	27.9	7.7	2.6	40	--	--			

LINE 334

OCT 06, 70	1225	2	.3	34000	28.2	7.8	5.4	78	--	76
			1.5	42000	27.4	7.8	4.3	63	--	--
			3.0	46000	27.1	7.6	4.0	60	--	--
			6.1	46000	26.9	8.1	4.7	70	--	--
			11.3	50000	27.3	7.7	3.2	48	--	--

LINE 343

OCT 06, 70	1215	2	.3	20000	28.7	7.8	4.0	56	--	30
			1.5	37000	28.1	7.8	4.6	67	--	--
			3.0	43000	27.6	7.9	4.0	60	--	--
			4.6	46000	27.4	8.1	5.1	76	--	--
			6.1	46000	27.5	8.1	4.8	73	--	--
11.9	50000	27.7	7.7	3.9	60	--	--			

LINE 351

OCT 06, 70	1135	2	.3	32000	28.1	7.8	4.1	59	--	58
			1.5	37000	27.4	7.8	4.6	66	--	--
			3.0	44000	27.1	7.8	5.2	78	--	--
			4.6	46000	27.0	8.1	5.2	78	--	--
			6.1	46000	27.1	8.1	5.2	78	--	--
11.0	47000	26.7	8.1	4.0	60	--	--			
11.0	47000	26.7	8.1	4.0	60	--	--			

LINE 364

OCT 06, 70	1110	2	.3	37000	27.1	7.9	5.4	76	--	61
			1.5	37000	26.9	7.9	5.4	76	--	--
			3.0	37000	26.8	8.0	5.3	75	--	--
			4.6	46000	27.1	8.2	5.9	88	--	--
			6.1	46000	27.0	8.2	5.3	79	--	--
			9.1	46000	26.9	8.2	5.4	81	--	--
11.9	49000	26.4	8.0	3.8	57	--	--			

LINE 370

OCT 06, 70	1045	2	.3	41000	27.3	8.0	6.2	90	--	75
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TABLE 7A--QUALITY OF WATER IN THE LAGUNA MADRE ESTUARY,

1971 WATER YEAR--CONTINUED

## FIELD DETERMINATIONS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCT- ANCE (MICRO- MHO/CM)	TEMPER- ATURE (DEG. C)	PH	DIS- SOLVED OXYGEN (MG/L)	PERCENT SATUR- ATION	TUR- BIDITY (JTU)	TRANS- PARENCY SECCHI DISK (CM)
--------------------------	------	------	-------------------	--	------------------------------	----	------------------------------------	----------------------------	-------------------------	---

## LINE 370 CONTINUED

OCT 06, 70	1045	2	1.5	44000	27.3	8.1	6.1	91	--	--
			3.0	46000	27.4	8.1	5.9	88	--	--
			6.1	46000	27.2	8.1	5.4	81	--	--
			9.1	47000	26.8	8.1	5.2	78	--	--
			12.5	47000	26.7	7.9	4.2	63	--	--

## LINE 376

OCT 06, 70	1010	2	.3	45000	26.4	8.4	6.2	91	--	--
			1.5	45000	26.4	8.5	6.2	91	--	--
			3.0	46000	26.4	8.5	6.2	91	--	--
			6.1	46000	26.4	8.4	6.2	91	--	--
			10.4	46000	26.4	8.4	6.0	88	--	--

TABLE 7B--QUALITY OF WATER IN THE LAGUNA MADRE ESTUARY,

1971 WATER YEAR

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS-SOLVED SILICA (SiO <sub>2</sub> ) (MG/L)	TOTAL NITRATE (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS-SOLVED PHOS- PHORUS ORTHO (P) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	BIO-CHEMICAL OXYGEN DEMAND (BOD) (MG/L)	CHEMICAL OXYGEN DEMAND (COD) (MG/L)	TOTAL ORGANIC CARBON (MG/L)
LINE 10												
OCT 08, 70	1235	2	.3 3.7	.9 1.2	.0 .0	.00 .00	.02 .07	.01 .01	.01 .02	1.6 1.4	-- --	-- --
LINE 34												
OCT 08, 70	1055	1	.3 4.6	1.1 1.3	.0 .0	.02 .02	.05 .05	.01 .01	.16 .01	1.3 1.7	-- --	-- --
LINE 157												
OCT 07, 70	1345	2	.3 4.9	2.3 1.2	.0 .0	.00 .08	.02 .07	.00 .01	.00 .01	.7 .8	-- --	-- --
LINE 175												
OCT 07, 70	1205	1	.3 1.1	.6 .3	.0 .0	.06 .00	.04 .04	.01 .00	.01 .03	.6 1.0	-- --	-- --
OCT 07, 70	1120	2	.3 3.4	2.5 2.5	.0 .0	.06 .10	.12 .04	.00 .02	.01 .02	.8 .9	-- --	-- --
OCT 07, 70	1145	3	.3 1.5	1.1 1.6	.0 .0	.04 .02	.05 .04	.00 .00	.01 .01	.8 .7	-- --	-- --
LINE 194												
OCT 07, 70	0905	1	.3 4.6	.8 .0	.1 .1	.02 .04	.06 .07	.02 .02	.03 .03	.2 .2	-- --	-- --
OCT 07, 70	0955	3	.3 2.3	3.8 1.3	.0 .0	.06 .04	.09 .06	.02 .00	.03 .01	.7 .9	-- --	-- --
OCT 07, 70	1620	4	.3 4.9	2.1 5.6	.0 .1	.02 .88	.06 .06	.02 .08	.03 .10	2.3 5.8	-- --	-- --
LINE 217												
OCT 06, 70	1430	2	.3	5.3	.1	.06	.07	.09	.10	2.7	--	--
LINE 223												
OCT 07, 70	0940	2	.3 3.0	13.0 13.0	.6 .6	.12 .10	.11 .14	.28 .28	.30 .32	2.0 2.1	-- --	-- --
LINE 258												
OCT 07, 70	1215	2	.3 5.3	10.0 3.3	.3 .1	.20 .18	.06 .01	.23 .01	.27 .04	1.8 1.0	-- --	-- --
LINE 274												
OCT 06, 70	1240	1	.3 1.2	1.1 4.8	.0 .0	.14 .10	.06 .02	.01 .00	.01 .01	.2 .9	-- --	-- --
OCT 06, 70	1210	2	.3 1.5	2.8 1.5	.0 .0	.06 .00	.14 .00	.00 .00	.01 .01	.4 1.1	-- --	-- --
OCT 06, 70	1140	3	.3	1.4	.0	.02	.00	.00	.02	1.7	--	--

TABLE 7B--QUALITY OF WATER IN THE LAGUNA MADRE ESTUARY,

1971 WATER YEAR--CONTINUED

NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	DIS-	TOTAL	AMMONIA	TOTAL	DIS-	TOTAL	BIO-	CHEMICAL	CHEMICAL	TOTAL
				SOLVED SILICA (SiO2) (MG/L)	NITRATE (N) (MG/L)	NITROGEN (N) (MG/L)	NITRITE (N) (MG/L)	PHOS- PHORUS (P) (MG/L)	PHOS- PHORUS (P) (MG/L)	PHOS- PHORUS (P) (MG/L)	PHOS- PHORUS (P) (MG/L)	DEMAND (BOD) (MG/L)	DEMAND (COD) (MG/L)

LINE 274 CONTINUED

OCT 06, 70	1140	3	4.6	1.8	.1	.04	.00	.00	.02	.7	--	--
LINE 297												
OCT 06, 70	0935	2	.3 3.8	1.5 2.4	.0 .0	.08 .10	.00 .03	.01 .02	.02 .04	1.1 1.2	--	--
LINE 320												
OCT 06, 70	1245	2	.3 10.4	7.9 4.3	.1 .0	.10 .38	.00 .00	.13 .05	.14 .07	2.4 .5	--	--
LINE 351												
OCT 06, 70	1135	2	.3 11.0 11.0	8.6 6.3 6.3	.1 .0 .0	.04 .10 .10	.02 .00 .00	.04 .01 .01	.06 .03 .03	1.9 .3 .3	--	--
LINE 376												
OCT 06, 70	1010	2	.3 10.4	.6 1.6	.0 .0	.00 .00	.01 .01	.05 .00	.05 .02	.3 .3	--	--

TABLE 7C--QUALITY OF WATER IN THE LAGUNA MADRE ESTUARY,

1971 WATER YEAR

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CONDUCTANCE (MICROMHOS) (LAB)	DISTOLVED CALCIUM (CA) (MG/L)	DISTOLVED MAGNESIUM (MG)	DISTOLVED SODIUM + POTASSIUM (NA+K) (MG/L)	DISTOLVED BICARBONATE (HCO3) (MG/L)	DISTOLVED SULFATE (SO4) (MG/L)	DISTOLVED CHLORIDE (CL) (MG/L)	DISTOLVED SOLIDS (SUM OF IONS) (MG/L)
LINE 10											
OCT 08, 70	1235	2	.3 3.7	51200 51500	--	--	--	--	--	--	--
LINE 39											
OCT 08, 70	1055	1	.3 4.6	56900 56500	--	--	--	--	--	--	--
LINE 157											
OCT 07, 70	1345	2	.3 4.9	40700 47700	400.0	1400.0	9200	120	2500	17000	31000
LINE 175											
OCT 07, 70	1205	1	.3 1.1	57000 56800	--	--	--	--	--	--	--
OCT 07, 70	1120	2	.3 3.4	58600 59000	--	--	--	--	--	--	--
OCT 07, 70	1145	3	.3 1.5	34200 54700	--	--	--	--	--	--	--
LINE 194											
OCT 07, 70	0905	1	.3 4.6	49100 49100	380.0	1300.0	9400	148	2500	17000	31000
OCT 07, 70	0955	3	.3 2.3	45400 53700	--	--	--	--	--	--	--
OCT 07, 70	1620	4	.3 4.9	26300 57000	--	--	--	--	--	--	--
LINE 217											
OCT 06, 70	1430	2	.3	27800	--	--	--	--	--	--	--
LINE 223											
OCT 07, 70	0940	2	.3 3.0	1800 1430	87.0	47.0	140	157	200	260	830
LINE 258											
OCT 07, 70	1215	2	.3 5.3	4990 42700	--	--	--	--	--	--	--
LINE 274											
OCT 06, 70	1240	1	.3 1.2	48000 48500	--	--	--	--	--	--	--
OCT 06, 70	1210	2	.3 1.5	51600 31900	--	--	--	--	--	--	--
OCT 06, 70	1140	3	.3	46800	380.0	1200.0	8900	197	2400	16000	29000

TABLE 7C--QUALITY OF WATER IN THE LAGUNA MADRE ESTUARY,

1971 WATER YEAR--CONTINUED

CHEMICAL ANALYSES

DATE OF COLLECTION	TIME	SITE	DEPTH (METERS)	SPECIFIC CON- DUCTANCE (MICRO- MHQS)	CALCIUM (CA) (MG/L)	MAGNE- SIUM (MG/L)	DIS- SOLVED MAGNE- SIUM (MG/L)	DIS- SOLVED SODIUM + POTAS- SIUM (NA+K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLORIDE (CL) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)

LINE 274 CONTINUED

OCT 06, 70	1140	3	4.6	49300	400.0	1200.0	9600	150	2600	17000	31000	
LINE 297												
OCT 06, 70	0935	2	.3 3.8	46000 46400	--	--	--	--	--	--	--	
LINE 320												
OCT 06, 70	1245	2	.3 10.4	22700 50600	230.0 390.0	660.0 1300.0	4300 9500	144 172	1200 2800	8000 17000	19000 31000	
LINE 351												
OCT 06, 70	1135	2	.3 11.0 11.0	26700 31800 31800	--	--	--	--	--	--	--	
LINE 376												
OCT 06, 70	1010	2	.3 10.4	31000 46900	--	--	--	--	--	--	--	



Table 7-D--Quality of water in Laguna Madre estuary, 1971 water year

## Insecticide and herbicide analyses

(Whole water analyses in micrograms per liter; bottom deposits analyses in micrograms per kilogram, dry weight)

Date of Collection	Time	Type of Sample	Insecticides												Herbicides				
			Aldrin	DDU	DDG	DDT	Dieldrin	Endrin	Hepta-chlor	Hepta-chlor-Epoxy-ide	Lit-dane	Chlor-dane	Para-thion	Methyl Para-thion	Wala-thion	Blazinon	2,4-D	Silvex	2,4,5-T
<u>Line 223, Site 2, Arroyo Colorado</u>																			
1970		Water	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00	0.00	0.01
Oct. 7	0940	Bottom deposits																	
		0-2 inches	0.0	10	38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		4-7 inches	0.0	10	86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		8-11 inches	0.0	20	150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		13-16 inches	0.0	3.8	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<u>Line 258, Site 2, Arroyo Colorado</u>																			
1970		Water	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00	0.00	0.03
Oct. 7	1215	Bottom deposits																	
		0-2 inches	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

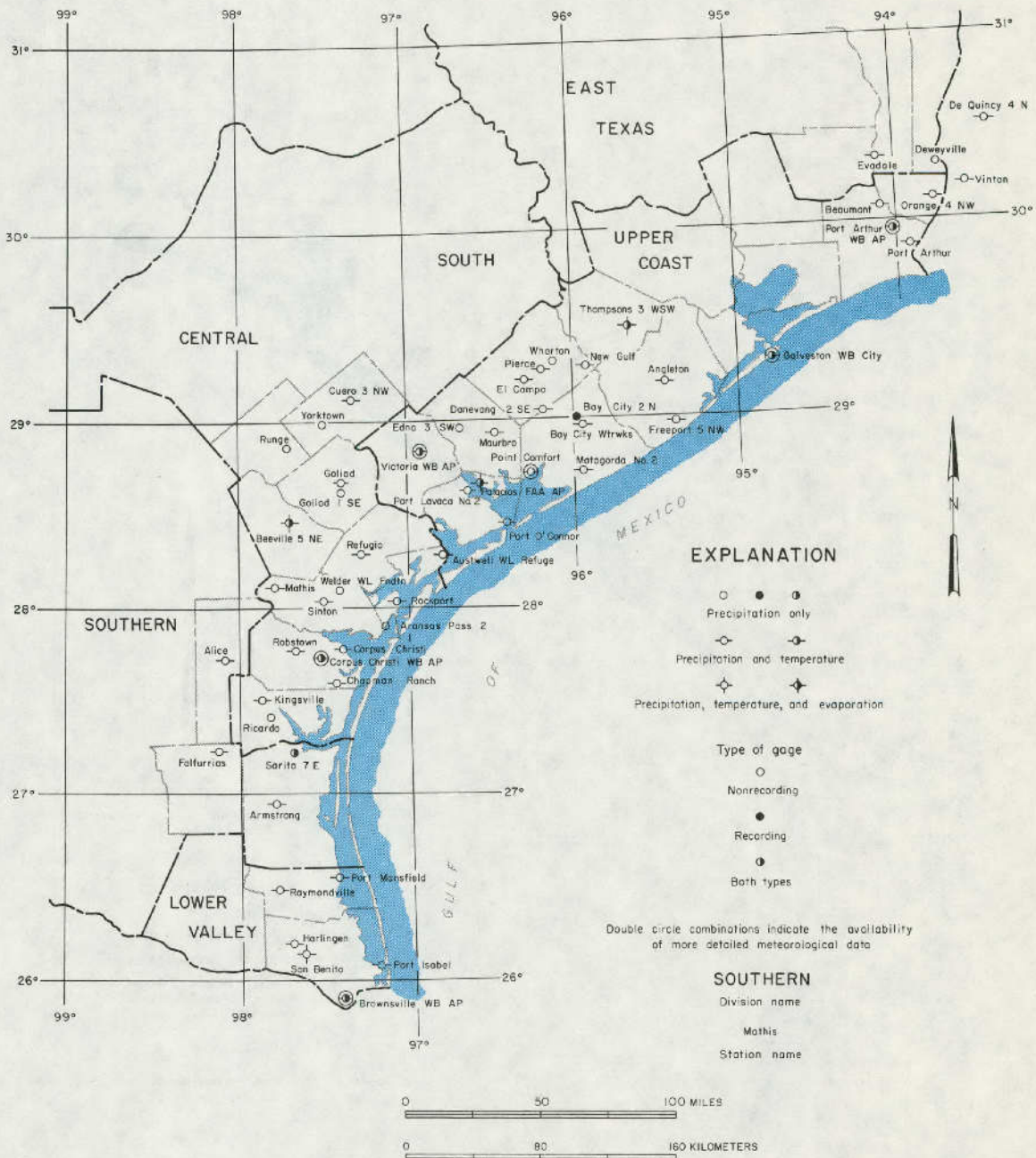
s/ Undetermined due to interfering compounds.

# SELECTED HYDROLOGIC RECORDS

## 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-(97-kilometer-) wide band along the Texas coast are shown on Figure 11.

Tabulation of daily precipitation, temperature, and other data are published monthly, and monthly summaries are published annually by the Environmental Science Services Administration (1972) in the series titled Climatological Data-Texas. For the period 1931-60, monthly and annual data are summarized in two U.S. Weather Bureau publications (1958,1965).



Base From USCOMM - Weather Bureau, Revised July, 1965

Figure 11.—Locations of Selected Climatological Stations



## Streamflow and 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 often are reflected many miles up tributary streams. Consequently, the farthest downstream sites at which continuous streamflow data can be determined are located many miles upstream from the principle estuarine water bodies. The location

of sites<sup>2</sup> at which continuous streamflow and daily water-quality data are available are shown on Figure 12.

The streamflow data for these sites represent runoff reaching the coastal area, but do not describe all

<sup>2</sup> Station numbers greater than 400 are abbreviated from the U.S. Geological Survey numbering system. For example, two station numbers 08041500 and 08162650, in abbreviated form become 415 and 1626.5.

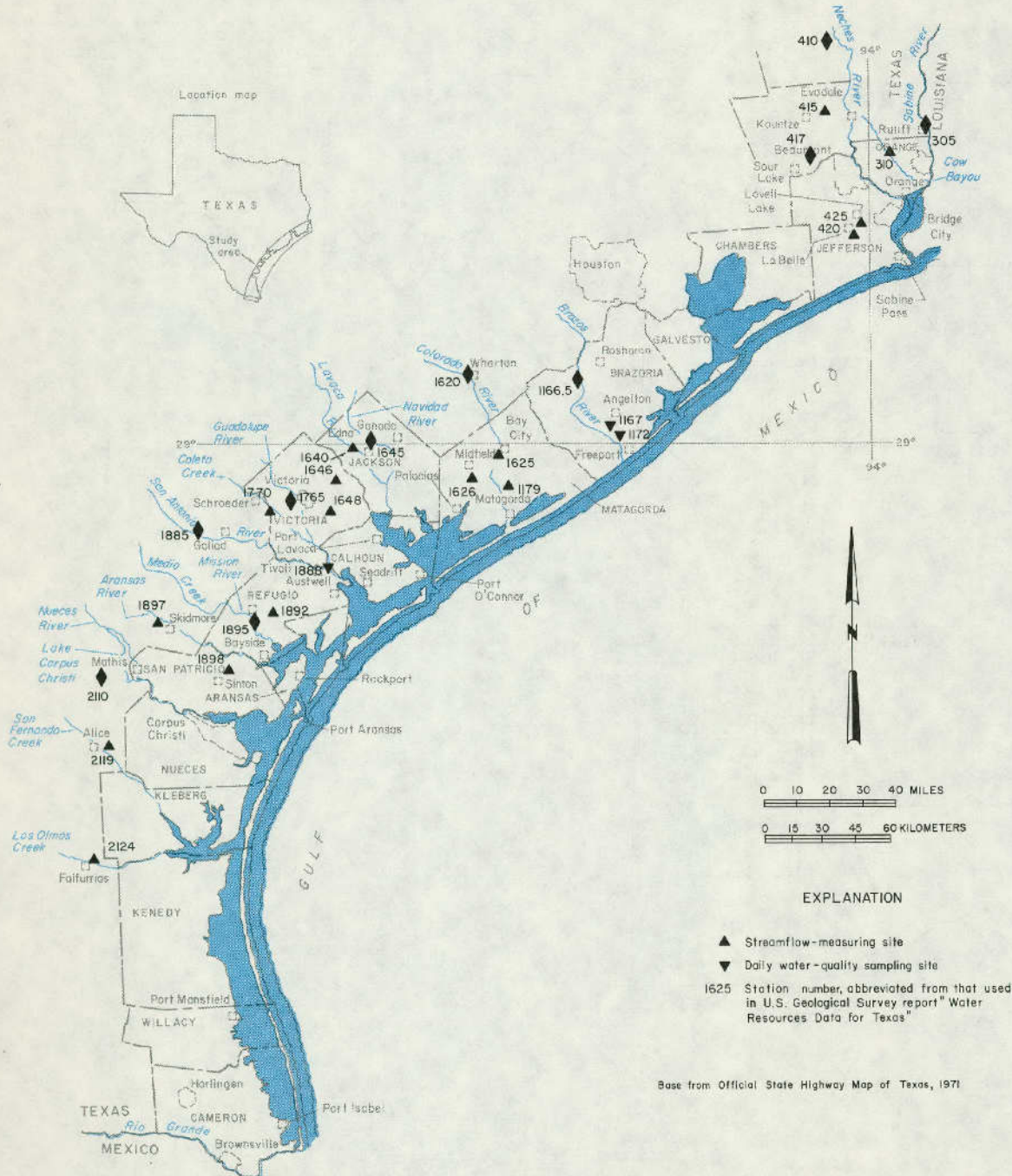


Figure 12.—Locations of Streamflow-Measuring Sites and Daily Water-Quality Data-Collection Sites



of the flow from streams that enter the estuaries. Intervening drainage, diversion for irrigation, return flows, and evapotranspiration may influence streamflow between the measuring sites and the estuaries.

Analyses of water collected daily at streamflow measuring sites show the effect of geology and cultural development on runoff from the drainage basins. At times, however, return flows, evapotranspiration, and lack of significant flow from upstream result in altered water quality between the data-collection site and the estuary.

Streamflow and chemical-quality data are published annually in the U.S. Geological Survey series Water Resources Data for Texas: Part 1. Surface-Water Records, and Part 2. Water-Quality Records.

Drainage areas from which unmeasured runoff enters the estuaries ranges from less than 100 square miles (259 square kilometers) on some estuaries to more than 10,000 square miles (25,900 square kilometers). Periodic measurements indicate that during some seasons unmeasured runoff that reaches the estuaries exceeds measured flow from the major tributaries.

To completely describe the quality and quantity of runoff from the entire area between continuous streamflow stations and the estuaries is not feasible; however, representative data are collected periodically at sites shown on Figure 13 and are published annually by the U.S. Geological Survey (1971,1971a).

Some of the sites are not sampled regularly and have no index number. These sites were numbered consecutively, from 1 through 29, for this report. The station names are listed below so the reader can identify them in the literature. The data from the 29 sites not previously published are listed in Table 8.

1. West Branch Mad Island Slough near Collegeport
2. Unnamed tributary to Oyster Lake near Collegeport
3. Unnamed tributary to Matagorda Bay near Collegeport
4. Willow Dam Slough near Collegeport
5. Johnsons Timber Slough near Collegeport
6. Lunis Creek near La Ward
7. Keller Creek near La Ward
8. Huisache Creek near Lolita
9. Mustang Creek near Ganado
10. Unnamed drainage ditch near Point Comfort
11. Arenosa Creek near Inez
12. Dry Creek near Inez
13. Casa Blanca Creek near Inez
14. Mercado Creek near Inez
15. Drain southeast of Swan Point near Seadrift
16. Drain northeast of Swan Point near Seadrift
17. Seadrift drain near Seadrift
18. Seadrift Creek at Seadrift
19. Drain near Seadrift
20. Schwing Bayou near Tivoli
21. Unnamed tributary at Highway 35 near Tivoli
22. Drain near Tivoli
23. Millers Creek at Tivoli
24. Drain at Highway 113 near Tivoli
25. Drain at FM 2040 near Austwell
26. Drain near Austwell
27. Unnamed tributary at FM 2040 near Austwell
28. Unnamed tributary near McDowell Point near Austwell
29. Oso Creek near Corpus Christi



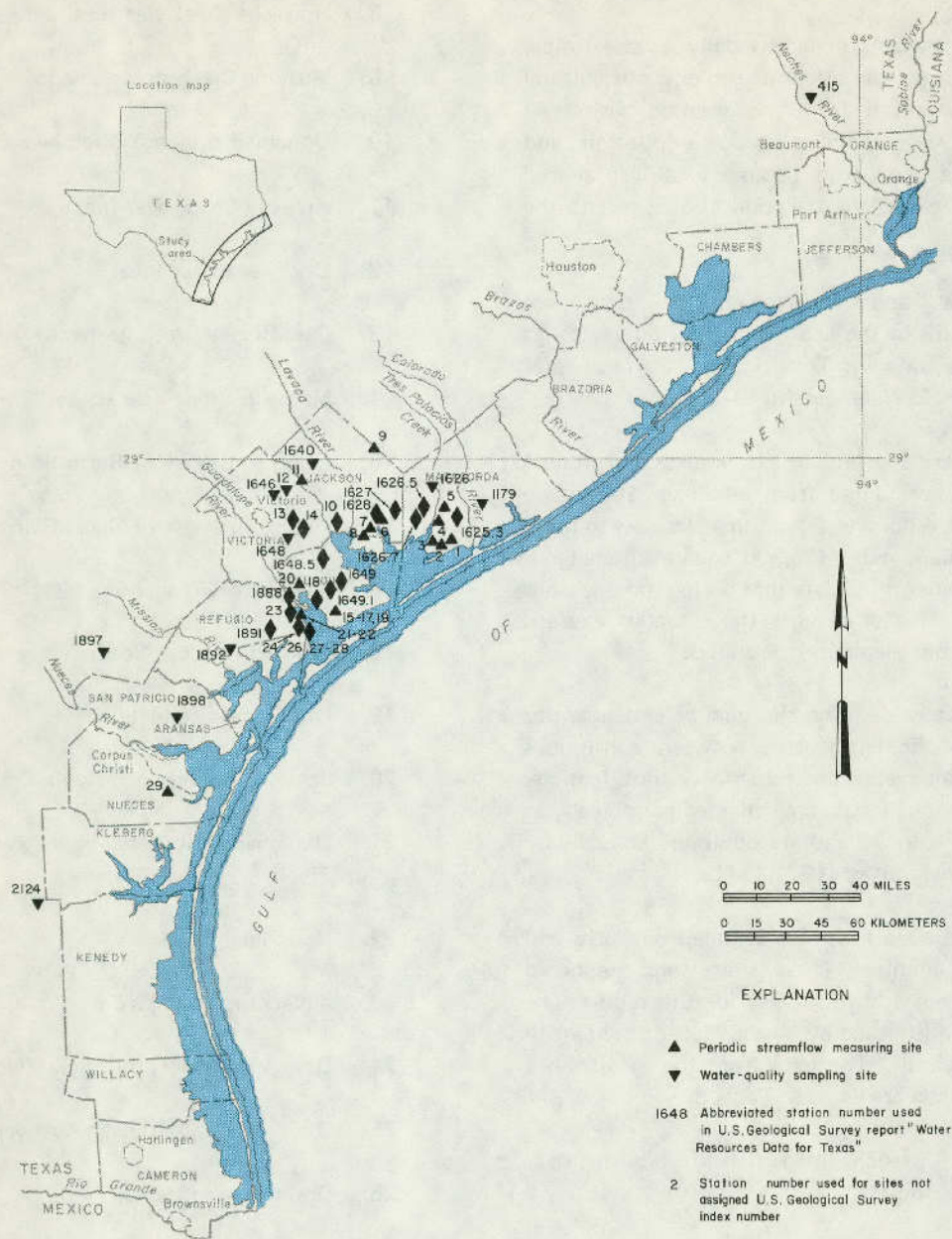


Figure 13  
Locations of Selected Water-Quality  
and Streamflow Data-Collection Sites

Base from Official State Highway Map of Texas, 1971

TABLE BA --NUTRIENT AND OTHER ENVIRONMENTAL CHARACTERISTICS FOR SELECTED TRIBUTARIES, 1971 WATER YEAR

DATE	TIME	DISCHARGE (FT <sup>3</sup> /S) 1/	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	TEMPER- ATURE (°C) (FIELD)	PH (UNITS) (FIELD)	DIS- SOLVED OXYGEN (MG/L) (FIELD)	PERCENT SATURA- TION	BIO- CHEMICAL OXYGEN DEMAND (MG/L)	CHEMICAL OXYGEN DEMAND (MG/L)	DIS- SOLVED SILICA (MG/L)	TOTAL NITRATE (M) (MG/L)	AMMONIA NITROGEN (M) (MG/L)	TOTAL NITRITE (M) (MG/L)	DIS- SOLVED PHOS- PHORUS ORTHO (P) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)
<u>TRIBUTARIES TO LAVACA-TRES PALACIOS ESTUARY</u>															
<u>1625.3 Little Robin Slough near Matagorda</u>															
1971	Feb. 25	1930	0.05	--	19	--	--	3.3	--	5.0	0.1	0.10	0.02	0.00	0.02
	Mar. 4	1055	.05	--	11.5	--	--	3.4	26	8.5	.5	.24	.06	.03	.04
<u>1626.7 Turtle Creek near Palacios</u>															
1971	Mar. 3	1635	.00	--	10	--	--	--	--	1.8	.2	.16	.02	.08	.15
<u>10. Unnamed Derringse Ditch near Point Comfort</u>															
1971	Feb. 20	1645	.53	--	24.5	--	--	7.0	270	46	.0	15	.01	.40	.28
	Mar. 4	0847	.38	--	30.5	--	--	--	--	44	.0	14	.01	1.00	.46
<u>13. Casa Blanca Creek near Inez</u>															
1971	Feb. 26	1035	.08	--	17	--	--	--	--	30	.1	.00	.01	.02	.02
	Mar. 3	1203	.04	--	12.5	--	--	--	--	30	.0	.06	.00	.04	.04
<u>14. Marcado Creek near Inez</u>															
1971	Feb. 26	0947	.07	--	18	--	--	--	--	22	.6	.10	.04	.13	.13
	Mar. 3	1105	.05	--	10.5	--	--	--	--	22	.8	.29	.06	.61	.62
<u>1649 East Coloma Creek near Port Lavaca</u>															
1971	Feb. 26	0855	5.05	--	17.5	--	--	--	--	20	2.7	.20	.07	.19	.19
	Mar. 3	0850	.14	--	0	--	--	--	--	7.7	.1	.18	.01	.05	.07
<u>1649.1 West Coloma Creek near Seadrift</u>															
1971	Feb. 28	0950	11.2	--	18	--	--	--	--	8.0	1.1	.20	.06	.18	.27
	Mar. 3	0945	.13	--	7.5	--	--	--	--	7.1	.1	.13	.01	.08	.09
<u>TRIBUTARIES TO GUADALUPE ESTUARY</u>															
<u>18. Seadrift Creek at Seadrift</u>															
1970	Nov. 12	0830	0.22		17.0	8.1	12.0	126	2.5	18	20	.1	.03	.01	.00
	Nov. 16	1300	.07		--	--	--	--	3.5	--	18	.2	.03	.01	.00
	Nov. 18	1630	.07		--	--	--	--	3.0	--	15	.0	.05	.00	.01
<u>23. Miller's Creek at Tivoli</u>															
1970	Nov. 12	1545	2/ .01	1,900	18.0	7.9	5.2	55	7.1	29	19	.1	.37	.01	.75
	Nov. 16	1445	2/ .03	--	--	--	--	--	4.8	--	32	.1	.92	.00	.48
	Nov. 18	1115	2/ .01	--	--	--	--	--	5.1	22	16	.1	.64	.01	.35
<u>27. Unnamed Tributary at FM 2040 near Austwell</u>															
1970	Nov. 12	1300	--	100	20.0	8.4	7.0	83	2.8	--	11	.0	.05	.00	.05
	Nov. 16	1545	.16	--	--	--	--	--	4.6	--	10	.2	.16	.00	.06
<u>28. Unnamed Tributary near McDowell Point near Austwell</u>															
1970	Nov. 18	0900	2/ .07	--	--	--	--	--	2.5	23	14	.4	.08	.00	.10

1/ To convert water discharge in cubic feet per second (ft<sup>3</sup>/s) to cubic meters per second (m<sup>3</sup>/s) multiply by 0.02831.

2/ Estimated.

TABLE 8B --CHEMICAL ANALYSES OF WATER FROM SELECTED TRIBUTARIES, 1971 WATER YEAR

DATE	TIME	DISCHARGE (FT <sup>3</sup> /S) 1/	SPECIFIC CONDUCT- ANCE (MICRO- MHOS) (FIELD)	DIS- SOLVED CALCIUM (CA) (MG/L)	DIS- SOLVED MAGNE- SIUM (MG)	DIS- SOLVED SODIUM + POTAS- SIUM (NA+K) (MG/L)	BICAR- BONATE (HCO <sub>3</sub> ) (MG/L)	DIS- SOLVED SULFATE (SO <sub>4</sub> ) (MG/L)	DIS- SOLVED CHLORIDE (CL) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	HARD- NESS (CA, MG)	NON- CARBONATE HARDNESS
<u>TRIBUTARIES TO EAST MATAGORDA ESTUARY</u>												
<u>1625.3 Little Robin Slough near Matagorda</u>												
1971												
Feb. 25	1930	0.05	1,880	91	45	240	296	25	480	1,030	410	170
Mar. 4	1055	.05	1,420	86	38	150	228	67	310	772	370	180
<u>TRIBUTARIES TO LAVACA-TRES PALACIOS ESTUARY</u>												
<u>1626.7 Turtle Creek near Palacios</u>												
1971												
Mar. 3	1635	.00	1,450	54	35	180	174	19	360	747	280	140
<u>10. Unnamed Drainage Ditch near Point Comfort</u>												
1971												
Feb. 25	1645	.53	82,700	500	310	21,000	856	400	33,000	55,500	2,500	1,800
Mar. 4	0847	.38	82,400	480	200	22,000	718	940	34,000	57,200	2,000	1,400
<u>13. Casa Blanca Creek near Inez</u>												
1971												
Feb. 26	1035	.08	1,100	93	23	120	442	37	140	659	330	0
Mar. 3	1203	.04	1,150	98	26	120	462	38	130	670	350	0
<u>14. Mercado Creek near Inez</u>												
1971												
Feb. 26	0947	.07	2,460	110	32	440	434	230	530	1,580	400	44
Mar. 3	1105	.05	1,630	71	26	250	392	110	280	952	280	0
<u>1649 East Coloma Creek near Port Lavaca</u>												
1971												
Feb. 26	0855	5.05	4,260	260	100	560	84	550	1,200	2,700	1,100	1,000
Mar. 3	0850	.14	7,620	420	190	970	165	730	2,200	4,560	1,800	1,700
<u>1649.1 West Coloma Creek near Seadrift</u>												
1971												
Feb. 26	0950	11.2	1,230	94	21	140	50	230	230	753	320	280
Mar. 3	0445	.13	7,580	530	150	920	158	670	2,200	4,570	1,900	1,800
<u>TRIBUTARIES TO GUADALUPE ESTUARY</u>												
<u>18. Seadrift Creek at Seadrift</u>												
1970												
Nov. 12	0930	.22	4,640	240	140	530	200	390	1,200	2,660	1,200	1,000
Nov. 16	1300	.07	6,670	300	230	680	246	520	1,700	3,590	1,700	1,500
Nov. 18	1530	.07	5,500	270	170	640	294	460	1,500	3,170	1,400	1,100
<u>23. Miller's Creek at Tivoli</u>												
1970												
Nov. 12	1545	2/ .01	1,820	40	7.8	350	440	44	340	1,020	130	0
Nov. 16	1445	2/ .03	1,880	38	5.6	340	380	52	340	984	100	0
<u>27. Unnamed Tributary at FM 2040 near Austwell</u>												
1970												
Nov. 12	1300	.16	190	7.5	7.4	10	44	1.6	24	181	49	13
Nov. 16	1545	2/ .07	197	8.5	3.4	22	42	10	25	104	35	1
Nov. 18	0900	2/ .16	364	24	7.3	34	92	8.0	55	169	90	15
<u>28. Unnamed Tributary near McDowell Point near Austwell</u>												
1970												
Nov. 18	115	2/ .01	1,900	37	2.3	380	420	50	340	1,020	100	0

1/ To convert water discharge in cubic feet per second (ft<sup>3</sup>/s) to cubic meters per second (m<sup>3</sup>/s) multiply by 0.02831

2/ Estimated.

TABLE 8C --ANALYSES FOR SELECTED IONS IN WATER FROM SELECTED TRIBUTARIES, 1971 WATER YEAR

(Results in micrograms per liter except as indicated)

DATE	TIME	DISCHARGE (FT <sup>3</sup> /S) 1/	SPECIFIC CONDUCT- ANCE (MICRO- MHOES AT 25° C)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED BRO- MIDE (BR) (MG/L)	DIS- SOLVED IO- DATE (I) (MG/L)	DIS- SOLVED AKSE- NIC (AS)	DIS- SOLVED BORON (B)	DIS- SOLVED COPPER (CU)	DIS- SOLVED IRON (FE)	DIS- SOLVED LEAD (PB)	DIS- SOLVED LITHI- UM (LI)	DIS- SOLVED MANGA- NESE (MG)	DIS- SOLVED MERCURY (HG)	DIS- SOLVED STRON- TIUM (SR)	DIS- SOLVED ZINC (ZN)
<u>TRIBUTARIES TO LAVACA-TRES PALACIOS ESTUARY</u>																
<u>1620.30 Little Robin Slough near Matagorda</u>																
1971	Feb. 25 1830	0.05	1,880	0.4	--	--	--	--	--	--	--	--	--	--	--	--
	Mar. 4 1055	.05	1,420	.3	--	--	--	--	--	--	--	--	--	--	--	--
<u>1626.7 Turtle Creek near Palacios</u>																
1971	Mar. 3 1835	.00	1,450	.3	--	--	--	--	--	--	--	--	--	--	--	--
<u>10. Unnamed Drainage Ditch near Point Comfort</u>																
1971	Feb. 25 1645	.53	82,700	1.0	--	--	--	--	--	--	--	--	--	--	--	--
	Mar. 4 0947	.38	82,400	.9	--	--	--	--	--	--	--	--	--	--	--	--
<u>13. Casa Blanca Creek near Inez</u>																
1971	Feb. 26 1035	.08	1,700	.5	--	--	--	--	--	--	--	--	--	--	--	--
	Mar. 3 1203	.04	1,150	.5	--	--	--	--	--	--	--	--	--	--	--	--
<u>14. Marcado Creek near Inez</u>																
1971	Feb. 26 0947	.07	2,460	1.0	--	--	--	--	--	--	--	--	--	--	--	--
	Mar. 3 1105	.05	1,930	.7	--	--	--	--	--	--	--	--	--	--	--	--
<u>1649 East Coloma Creek near Port Lavaca</u>																
1971	Feb. 26 0855	5.05	4,260	.3	--	--	--	--	--	--	--	--	--	--	--	--
	Mar. 3 0850	.14	7,620	.3	--	--	--	--	--	--	--	--	--	--	--	--
<u>1649.1 West Coloma Creek near Seadrift</u>																
1971	Feb. 26 0950	11.2	1,230	.3	--	--	--	--	--	--	--	--	--	--	--	--
	Mar. 3 0945	.13	7,580	.2	--	--	--	--	--	--	--	--	--	--	--	--
<u>TRIBUTARIES TO GUADALUPE ESTUARY</u>																
<u>18. Seadrift Creek at Seadrift</u>																
1970	Nov. 12 0930	.22	4,640	.4	4.8	.83	<10	550	2	10	0	70	2,000	<0.5	2,800	28
	Nov. 16 1300	.07	6,670	.4	8.8	.080	--	340	--	--	--	--	--	--	--	--
	Nov. 16 1530	.07	5,500	.5	8.3	.080	<10	590	9	0	0	70	1,100	<.5	3,100	28
<u>23. Miller's Creek at Tivoli</u>																
1970	Nov. 12 1545	2/ .01	1,820	2.3	1.5	.14	<10	1,100	3	90	0	40	130	<.5	380	26
	Nov. 16 1445	2/ .03	1,880	2.4	3.8	.041	--	1,500	--	--	--	--	--	--	--	--
	Nov. 16 1115	2/ .01	1,900	2.4	3.7	.042	<10	1,500	2	120	0	50	110	<.5	350	26
<u>27. Unnamed Tributary at FM 2040 near Austwell</u>																
1970	Nov. 12 1300	.16	100	.0	.1	.017	10	30	14	900	0	0	0	.5	160	44
	Nov. 16 1645	2/ .07	197	.0	7.8	--	--	--	--	--	--	--	--	--	--	--
<u>28. Unnamed Tributary near McDowell Point near Austwell</u>																
1970	Nov. 18 0900	2/ .16	364	.1	2.5	.016	10	60	6	80	0	0	0	.5	160	26

1/ To convert water discharge in cubic feet per second (ft<sup>3</sup>/s) to cubic meters per second (m<sup>3</sup>/s) multiply by 0.02831.

2/ Estimated.



TABLE NO. --INSECTICIDES AND HERBICIDES ANALYSES OF WATER AND BOTTOM DEPOSITS FROM SELECTED TRIBUTARIES, 1971 WATER YEAR

(Whole water analyses in micrograms per liter; bottom deposits analyses in micrograms per kilogram, dry weight)

DATE	DISCHARGE (FT <sup>3</sup> /S) 1/	TYPE OF SAMPLE	INSECTICIDES											HERBICIDES				
			ALDRIN	DDD	DDE	DDT	DIEL- DRIN	ENDRIN	HEPTA- CHLOR	HEPTA- CHLOR EPOX- IDE	LIN- DANE	CHLOR- DANE	PARA- THION	METHYL PARA- THION	MALA- THION	DIA- ZINON	2,4-D	Silvex
TRIBUTARIES TO GUADALUPE ESTUARY																		
18. Searift Creek at Searift																		
1970																		
Nov. 16	.07	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	0.00	0.00	0.00	0.00
		Bottom deposits	.0	.4	.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	b	0.07
																		0.01
																		0.01
1888. Guadalupe River near Tivoli																		
1970																		
Nov. 16	786	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Bottom deposits	.0	5.8	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	b	--	--
																		.01
23. Miller's Creek near Tivoli																		
1970																		
Nov. 16	.02	Water	.00	.00	.00	.00	.00	.00	.00	.00	.06	.0	.00	.00	.00	.00	.00	.00
		Bottom deposits	.0	4.4	4.1	.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	b	--	--
																		.00
28. Unnamed Tributary near McDowell Point near Austwell																		
1970																		
Nov. 18	.16	Water	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.00	.00	.00	.00	.00
		Bottom deposits	.0	.0	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	b	--	--
																		.00

1/ To convert water discharge in cubic feet per second (ft<sup>3</sup>/s) to cubic meters per second (m<sup>3</sup>/s) multiply by 0.028317.

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