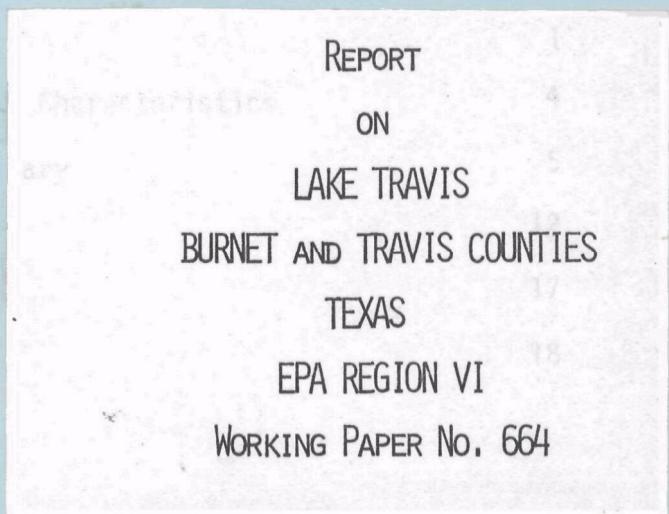


**U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL EUTROPHICATION SURVEY
WORKING PAPER SERIES**



**CORVALLIS ENVIRONMENTAL RESEARCH LABORATORY - CORVALLIS, OREGON
and
ENVIRONMENTAL MONITORING & SUPPORT LABORATORY - LAS VEGAS, NEVADA**

REPORT
ON
LAKE TRAVIS
BURNET AND TRAVIS COUNTIES
TEXAS
EPA REGION VI
WORKING PAPER No. 664

WITH THE COOPERATION OF THE
TEXAS WATER QUALITY BOARD
AND THE
TEXAS NATIONAL GUARD
APRIL, 1977

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FOREWORD

The National Eutrophication Survey was initiated in 1972 in response to an Administration commitment to investigate the nationwide threat of accelerated eutrophication to freshwater lakes and reservoirs.

OBJECTIVES

The Survey was designed to develop, in conjunction with state environmental agencies, information on nutrient sources, concentrations, and impact on selected freshwater lakes as a basis for formulating comprehensive and coordinated national, regional, and state management practices relating to point-source discharge reduction and non-point source pollution abatement in lake watersheds.

ANALYTIC APPROACH

The mathematical and statistical procedures selected for the Survey's eutrophication analysis are based on related concepts that:

- a. A generalized representation or model relating sources, concentrations, and impacts can be constructed.
- b. By applying measurements of relevant parameters associated with lake degradation, the generalized model can be transformed into an operational representation of a lake, its drainage basin, and related nutrients.
- c. With such a transformation, an assessment of the potential for eutrophication control can be made.

LAKE ANALYSIS

In this report, the first stage of evaluation of lake and watershed data collected from the study lake and its drainage basin is documented. The report is formatted to provide state environmental agencies with specific information for basin planning [§303(e)], water quality criteria/standards review [§303(c)], clean lakes [§314(a,b)], and water quality monitoring [§106 and §305(b)] activities mandated by the Federal Water Pollution Control Act Amendments of 1972.

Beyond the single lake analysis, broader based correlations between nutrient concentrations (and loading) and trophic condition are being made to advance the rationale and data base for refinement of nutrient water quality criteria for the Nation's fresh water lakes. Likewise, multivariate evaluations for the relationships between land use, nutrient export, and trophic condition, by lake class or use, are being developed to assist in the formulation of planning guidelines and policies by EPA and to augment plans implementation by the states.

ACKNOWLEDGEMENT

The staff of the National Eutrophication Survey (Office of Research & Development, U. S. Environmental Protection Agency) expresses sincere appreciation to the Texas Water Quality Board for professional involvement, to the Texas National Guard for conducting the tributary sampling phase of the Survey, and to those Texas wastewater treatment plant operators who voluntarily provided effluent samples.

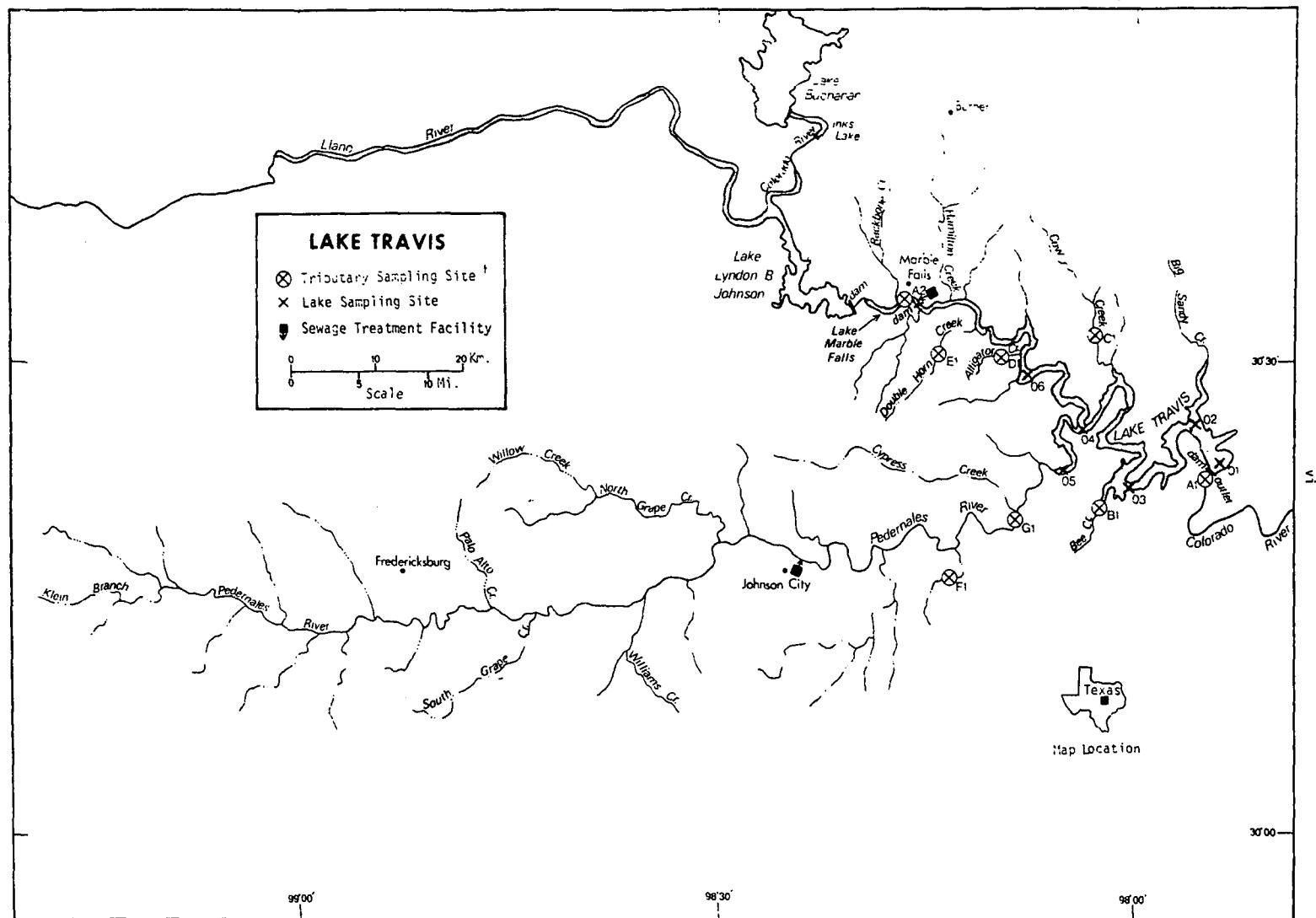
Hugh C. Yantis, Jr., Executive Director of the Texas Water Quality Board, and John B. Latchford, Jr., Director, and the staff of the Field Operations Division provided invaluable lake documentation and counsel during the Survey, reviewed the preliminary reports, and provided critiques most useful in the preparation of this Working Paper series.

Major General Thomas Bishop, the Adjutant General of Texas, and Project Officer Colonel William L. Seals, who directed the volunteer efforts of the Texas National Guardsmen, are also gratefully acknowledged for their assistance to the Survey.

NATIONAL EUTROPHICATION SURVEY
 STUDY RESERVOIRS
 State of Texas

<u>NAME</u>	<u>COUNTY</u>
Amistad	Val Verde
Bastrop	Bastrop
Belton	Bell, Coryell
Braunig	Bexar
Brownwood	Brown
Buchanan	Burnet, Llano
Caddo	Harrison, Marion, TX; Caddo Parish, LA
Calaveras	Bexar
Canyon	Comal
Colorado City	Mitchell
Corpus Christi	Jim Wells, Live Oak, San Patricio
Diversion	Archer, Baylor
Eagle Mountain	Tarrant, Wise
Fort Phantom Hill	Jones
Houston	Harris
Kemp	Baylor
Lake O'The Pines	Camp, Marion, Morris, Upshur
Lavon	Collin
Lewisville (Garza-Little Elm)	Denton
Livingston	Polk, San Jacinto, Trinity, Walker

Lyndon B. Johnson	Burnet, Llano
Medina	Bandera, Medina
Meredith	Hutchinson, Moore, Potter
O. C. Fisher (San Angelo)	Tom Green
Palestine	Anderson, Cherokee, Henderson, Smith
Possum Kingdom	Palo Pinto, Stephens, Young
Sam Rayburn	Angelina, Jasper Nacogdoches, Sabine, San Augustine
Somerville	Burleson, Lee, Washington
E. V. Spence	Coke
Stamford	Haskell
Stillhouse Hollow	Bell
Tawakoni	Hunt, Rains, Van Zandt
Texoma	Cooke, Grayson TX; Bryan, Johnston, Love, Marshall, OK
Travis	Burnet, Travis
Trinidad	Henderson
Twin Buttes	Tom Green
White River	Crosby
Whitney	Bosque, Hill
Wright Patman (Texarkana)	Bowie, Cass



LAKE TRAVIS
STORET NO. 4835

I. CONCLUSIONS

A. Trophic Condition:

Survey data indicate that Lake Travis is mesotrophic; i.e., moderately supplied with nutrients and moderately productive. Whether nutrient enrichment is beneficial or deleterious depends on the actual or potential effect on the uses of the lake. In this regard, no nuisance conditions are known to personnel of the Texas Water Quality Board and there is little or no impairment of the designated beneficial uses of this water body.

Lake Travis ranked tenth in overall trophic quality when the 39 Texas reservoirs sampled in 1974 were compared using a combination of six water quality parameters*. However, the lower ranking of this lake is due to a relatively high median inorganic nitrogen concentration (but the lake is phosphorus limited) and depletion of hypolimnetic dissolved oxygen.

Four of the reservoirs had less and one had the same median total phosphorus, two had less and five had the same median dissolved orthophosphorus, seven had less mean chlorophyll a, 29 had less and two had the same median inorganic nitrogen, and three had greater mean Secchi disc transparency. Marked depression or depletion of hypolimnetic dissolved oxygen

* See Appendix A.

occurred at all sampling stations in August; at stations 1, 3, 4, and 6 in May; and at station 1 in November.

Survey limnologists noted small patches of submerged macrophytes in the shallows near station 1 in May, station 2 in March, and station 3 in August.

B. Rate-Limiting Nutrient:

The algal assay results indicate that Lake Travis was limited by phosphorus at the times the samples were collected (03/14-15/74 and 11/06/74). The lake data indicate phosphorus limitation at all sampling stations and times except station 5 in November.

C. Nutrient Controllability:

1. Point sources--During the sampling year, point sources contributed 4.7% of the total phosphorus input to Lake Travis. The municipal wastewater treatment facility at Marble Falls contributed 2.9%; and the facility at Johnson City contributed 1.8% of the total.

The present phosphorus loading is less than that proposed by Vollenweider (Vollenweider and Dillon, 1974) as a eutrophic loading (see page 16). However, because the lake is phosphorus limited, point-source phosphorus control would be a preventative measure to maintain the present quality of the lake.

2. Non-point sources--The Colorado River contributed the largest phosphorus load of the sampled tributaries (80.1%). However, much of this load can be attributed to point sources

upriver. Considering only the phosphorus contributions of point sources impacting upstream Lake Lyndon B. Johnson* and the phosphorus retention in that lake during the sampling year (3%), it is calculated that 16,405 kg of the upstream point-source phosphorus load also impacted Lake Travis (i.e., 97% of the 16,910 kg point-source load impacting Lake Lyndon B. Johnson).

The other gaged tributaries to Lake Travis contributed 9.6% of the phosphorus load. Ungaged tributaries and immediate drainage were estimated to have contributed 2.9% of the total.

* Working Paper No. 645

II. LAKE AND DRAINAGE BASIN CHARACTERISTICS[†]

A. Morphometry^{††}:

1. Surface area: 76.61 kilometers².
2. Mean depth: 18.9 meters.
3. Maximum depth: 58.5 meters.
4. Volume: $1,447.929 \times 10^6$ m³.
5. Mean hydraulic retention time: 1 year (based on outflow).

B. Tributary and Outlet:

(See Appendix C for flow data)

1. Tributaries -

Name	Drainage area (km ²)*	Mean flow (m ³ /sec)*
Colorado River	94,081.7	36.14
Cow Creek	110.6	0.34
Pedernales River	3,071.7	7.46
Minor tributaries & immediate drainage -	<u>1,416.0</u>	<u>4.49</u>
Totals	98,680.0	48.43

2. Outlet -

Colorado River	98,756.6**	45.02
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C. Precipitation***:

1. Year of sampling: 92.0 centimeters.
2. Mean annual: 82.5 centimeters.

[†] Table of metric conversions--Appendix B.

^{††} Butler, 1974.

^{*} For limits of accuracy, see Working Paper No. 175, "...Survey Methods, 1973-1976".

^{**} Includes area of lake.

^{***} See Working Paper No. 175.

III. WATER QUALITY SUMMARY

Travis Lake was sampled four times in 1974 by means of a pontoon-equipped Huey helicopter. Each time, samples for physical and chemical parameters were collected from two or more depths at five stations in March and six stations in May, August, and November (see map, page vi). During each visit, a single depth-integrated (4.6 m to surface) sample was composited from the stations for phytoplankton identification and enumeration; and during the first and last visits, two 18.9-liter depth-integrated samples were composited for algal assays. Also each time, a depth-integrated sample was collected from each of the stations for chlorophyll a analysis. The maximum depths sampled were 53.6 meters at station 1, 35.1 meters at station 2, 39.9 meters at station 3, 26.5 meters at station 4, 9.8 meters at station 5, and 18.6 meters at station 6.

The sampling results are presented in full in Appendix D and are summarized in the following table (the August nutrient samples were not properly preserved and were not analyzed).

A. SUMMARY OF PHYSICAL AND CHEMICAL CHARACTERISTICS FOR TRAVIS LAKE
STURET CODE 4835

PARAMETER	1ST SAMPLING (3/15/74)				2ND SAMPLING (5/22/74)				3RD SAMPLING (8/20/74)			
	5 SITES				6 SITES				6 SITES			
	RANGE	MEAN	MEDIAN	RANGE	MEAN	MEDIAN	RANGE	MEAN	MEDIAN	RANGE	MEAN	MEDIAN
TEMP (C)	12.1 - 19.7	15.6	15.6	13.3 - 28.2	22.2	24.9	14.0 - 30.6	25.6	28.2	11.0 - 30.0	25.0	28.2
DISS OXY (MG/L)	5.4 - 10.0	8.1	8.6	1.0 - 9.0	5.2	5.3	0.0 - 8.2	3.8	2.8	0.0 - 8.2	3.8	2.8
CNDCTVY (MCROMO)	381. - 460.	429.	435.	421. - 546.	483.	485.	419. - 598.	505.	513.	419. - 598.	505.	513.
PH (STAND UNITS)	7.7 - 8.6	8.2	8.2	7.6 - 8.8	8.2	8.3	7.7 - 8.7	8.1	8.1	7.7 - 8.7	8.1	8.1
TOT ALK (MG/L)	147. - 168.	156.	158.	134. - 199.	151.	148.	110. - 200.	150.	150.	110. - 200.	150.	150.
TOT P (MG/L)	0.007 - 0.032	0.013	0.011	0.006 - 0.065	0.019	0.015	0.005 - 0.065	0.015	0.015	0.005 - 0.065	0.015	0.015
ORTHO P (MG/L)	0.003 - 0.014	0.006	0.005	0.002 - 0.012	0.004	0.003	0.002 - 0.012	0.003	0.003	0.002 - 0.012	0.003	0.003
NO2+N03 (MG/L)	0.120 - 0.420	0.210	0.185	0.040 - 0.400	0.213	0.195	0.040 - 0.400	0.213	0.195	0.040 - 0.400	0.213	0.195
AMMONIA (MG/L)	0.020 - 0.110	0.033	0.030	0.020 - 0.070	0.037	0.030	0.020 - 0.070	0.037	0.030	0.020 - 0.070	0.037	0.030
KJEL N (MG/L)	0.200 - 0.600	0.350	0.300	0.200 - 0.500	0.264	0.200	0.200 - 0.500	0.264	0.200	0.200 - 0.500	0.264	0.200
INORG N (MG/L)	0.140 - 0.530	0.243	0.215	0.060 - 0.450	0.251	0.240	0.060 - 0.450	0.251	0.240	0.060 - 0.450	0.251	0.240
TOTAL N (MG/L)	0.380 - 1.020	0.560	0.540	0.240 - 0.780	0.477	0.465	0.240 - 0.780	0.477	0.465	0.240 - 0.780	0.477	0.465
CHLRPYL A (UG/L)	1.8 - 6.6	3.7	3.3	6.6 - 12.4	9.1	9.1	1.4 - 23.9	7.0	3.7	1.4 - 23.9	7.0	3.7
SECCHI (METERS)	1.8 - 5.5	4.0	4.6	1.5 - 5.5	3.0	2.8	1.0 - 5.2	3.2	3.0	1.0 - 5.2	3.2	3.0

A. SUMMARY OF PHYSICAL AND CHEMICAL CHARACTERISTICS FOR TRAVIS LAKE
STORET CODE 4635

4TH SAMPLING (11/ 6/74)

PARAMETER	RANGE	6 SITES	
		MEAN	MEDIAN
TEMP (C)	17.0 - 22.1	21.3	21.8
DISS OXY (MG/L)	0.4 - 7.6	6.4	6.6
CONDCTVY (MICROMO)	215. - 482.	408.	417.
PH (STAND UNITS)	7.3 - 7.9	7.8	7.9
TOT ALK (MG/L)	108. - 175.	142.	143.
TOT P (MG/L)	0.017 - 0.077	0.035	0.026
ORTHO P (MG/L)	0.008 - 0.036	0.016	0.016
NO2+N03 (MG/L)	0.070 - 0.300	0.236	0.230
AMMONIA (MG/L)	0.020 - 0.360	0.043	0.020
KJEL N (MG/L)	0.200 - 1.300	0.607	0.650
INORG N (MG/L)	0.230 - 0.430	0.280	0.255
TOTAL N (MG/L)	0.400 - 1.420	0.844	0.875
CHLRPYL A (UG/L)	1.0 - 1.9	1.6	1.7
SECCHI (METERS)	0.3 - 2.1	1.2	1.2

B. Biological characteristics:

1. Phytoplankton -

<u>Sampling Date</u>	<u>Dominant Genera</u>	<u>Number per ml</u>
03/14-15/74	1. <u>Cryptomonas</u> sp. 2. <u>Chroomonas</u> sp. 3. <u>Chlamydomonas</u> sp. 4. <u>Oocystis</u> sp. 5. <u>Scenedesmus</u> sp. Other genera	487 244 41 41 41 <u>39</u>
	Total	893
05/22/74	1. <u>Coelastrum</u> sp. 2. <u>Fragilaria</u> sp. 3. <u>Chroomonas</u> sp. 4. <u>Cryptomonas</u> sp. 5. <u>Tetraedron</u> sp. Other genera	518 518 330 188 141 <u>236</u>
	Total	1,931
08/20/74	1. <u>Synedra</u> sp. 2. <u>Cyanophytan filaments</u> 3. <u>Melosira</u> sp. 4. <u>Tetraedron</u> sp. 5. <u>Chlorophytan coccoid</u> cells Other genera	654 256 171 57 57 <u>75</u>
	Total	1,279
11/06/74	1. <u>Cyclotella</u> sp. 2. <u>Chlamydomonas</u> sp. 3. <u>Cryptomonas</u> sp. 4. <u>Scenedesmus</u> sp. 5. <u>Oocystis</u> sp. Other genera	103 69 69 68 34 <u>70</u>
	Total	413

2. Chlorophyll a -

<u>Sampling Date</u>	<u>Station Number</u>	<u>Chlorophyll a (µg/l)</u>
03/14-15/74	1	3.3
	2	3.2
	3	1.8
	4	3.6
	5	-
	6	6.6
05/22/74	1	8.6
	2	6.8
	3	6.6
	4	9.7
	5	12.4
	6	10.4
08/20/74	1	2.0
	2	1.4
	3	2.5
	4	4.9
	5	23.9
	6	7.5
11/06/74	1	1.9
	2	1.5
	3	1.7
	4	1.8
	5	-
	6	1.0

C. Limiting Nutrient Study:

1. Autoclaved, filtered, and nutrient spiked -

a. March sample -

(1). Stations 1 and 2.

<u>Spike (mg/l)</u>	<u>Ortho P Conc. (mg/l)</u>	<u>Inorganic N Conc. (mg/l)</u>	<u>Maximum yield (mg/l-dry wt.)</u>
Control	<0.005	0.260	0.1
0.050 P	<0.055	0.260	4.9
0.050 P + 1.0 N	<0.055	1.260	9.9
1.0 N	<0.005	1.260	0.1

(2). Stations 3 and 4.

<u>Spike (mg/l)</u>	<u>Ortho P Conc. (mg/l)</u>	<u>Inorganic N Conc. (mg/l)</u>	<u>Maximum yield (mg/l-dry wt.)</u>
Control	<0.005	0.383	0.1
0.050 P	<0.055	0.383	5.3
0.050 P + 1.0 N	<0.055	1.383	9.0
1.0 N	<0.005	1.383	0.1

b. November sample -

(1). Stations 1, 2, and 3.

<u>Spike (mg/l)</u>	<u>Ortho P Conc. (mg/l)</u>	<u>Inorganic N Conc. (mg/l)</u>	<u>Maximum yield (mg/l-dry wt.)</u>
Control	0.007	0.212	0.2
0.050 P	0.057	0.212	4.8
0.050 P + 1.0 N	0.057	1.212	17.4
1.0 N	0.007	1.212	0.3

(2). Stations 4, 5, and 6.

<u>Spike (mg/l)</u>	<u>Ortho P Conc. (mg/l)</u>	<u>Inorganic N Conc. (mg/l)</u>	<u>Maximum yield (mg/l-dry wt.)</u>
Control	0.011	0.236	0.9
0.050 P	0.061	0.236	5.6
0.050 P + 1.0 N	0.061	1.236	17.8
1.0 N	0.011	1.236	0.8

2. Discussion -

The control yields of the assay alga, Selenastrum capricornutum, indicate that the potential primary productivity of Lake Travis was low to moderate at the times the samples were collected (03/14-15/74 and 11/06/74). Also, an increase in yields with the addition of orthophosphorus alone indicates that the lake was phosphorus limited at those times.

Note that the addition of nitrogen alone resulted in yields which were not significantly different from those of the controls.

The lake data indicate phosphorus limitation as well. At all sampling stations and times, the mean inorganic nitrogen/orthophosphorus ratios were 15/1 or greater, except for station 5 in November where the ratio was 13/1 (possible nitrogen limitation).

IV. NUTRIENT LOADINGS
(See Appendix E for data)

For the determination of nutrient loadings, the Texas National Guard collected monthly near-surface grab samples from each of the tributary sites indicated on the map (page vi), except for the months of April and May when two samples were collected. Sampling was begun in September, 1974, and was completed in August, 1975.

Through an interagency agreement, stream flow estimates for the year of sampling and a "normalized" or average year were provided by the Texas District Office of the U.S. Geological Survey for the tributary sites nearest the lake.

In this report, nutrient loads for sampled tributaries were determined by using a modification of a U.S. Geological Survey computer program for calculating stream loadings*. Nutrient loads shown are those measured minus point-source loads, if any.

Nutrient loads for unsampled "minor tributaries and immediate drainage" ("ZZ" of U.S.G.S.) were estimated using the nutrient loads at station C-1, in kg/km²/year, and multiplying by the ZZ area in km².

The operator of the Burnet wastewater treatment plant provided monthly effluent samples and corresponding flow data; however, the plant does not discharge wastewater to Travis Lake (Wyatt, 1976) and is not included in the loadings. The operators of the treatment plants at Johnson City and Marble Falls did not participate; nutrient loads from these sources were estimated at 1.134 kg P and 3.401 kg N/capita/year, and flows were estimated at 0.3785 m³/capita/day.

* See Working Paper No. 175.

A. Waste Sources:

1. Known domestic -

<u>Name</u>	<u>Pop. Served</u>	<u>Treatment</u>	<u>Mean Flow (m³/d)</u>	<u>Receiving Water</u>
Burnet*	3,000	cont. stab	-	no discharge**
Johnson City [†]	800	stab. pond	302.8	Pedernales River
Marble Falls	1,250	tr. filter	473.1	Colorado River

2. Known industrial - None

* Treatment plant questionnaire.

** Wyatt, 1976.

† Anonymous, 1971.

B. Annual Total Phosphorus Loading - Average Year:

1. Inputs -

<u>Source</u>	<u>kg P/ yr</u>	<u>% of total</u>
a. Tributaries (non-point load) -		
Colorado River	39,585	80.1
Cow Creek	145	0.3
Pedernales River	4,575	9.3
b. Minor tributaries & immediate drainage (non-point load) -	1,415	2.9
c. Known domestic STP's -		
Johnson City	905	1.8
Marble Falls	1,420	2.9
d. Septic tanks* -	15	<0.1
e. Known industrial - None	-	-
f. Direct precipitation** -	<u>1,340</u>	<u>2.7</u>
Total	49,400	100.0

2. Outputs -

Lake outlet - Colorado River 27,165

3. Net annual P accumulation - 22,235 kg.

* Estimate based on 60 lakeshore dwellings (elevation 691 to shoreline; Wyatt, 1976); see Working Paper No. 175.

** See Working Paper No. 175.

C. Annual Total Nitrogen Loading - Average Year:

1. Inputs -

<u>Source</u>	<u>kg N/ yr</u>	<u>% of total</u>
a. Tributaries (non-point load) -		
Colorado River	1,366,785	70.7
Cow Creek	14,040	0.7
Pedernales River	282,160	14.6
b. Minor tributaries & immediate drainage (non-point load) -		
	179,830	9.3
c. Known domestic STP's -		
Johnson City	2,720	0.2
Marble Falls	4,250	0.2
d. Septic tanks* -		
	640	<0.1
e. Known industrial - None		
	-	-
f. Direct precipitation** -		
	<u>82,710</u>	<u>4.3</u>
Total	1,933,135	100.0

2. Outputs -

Lake outlet - Colorado River 1,121,110

3. Net annual N accumulation - 812,025 kg.

D. Non-point Nutrient Export by Subdrainage Area:

<u>Tributary</u>	<u>kg P/km²/yr</u>	<u>kg N/km²/yr</u>
Colorado River	<1	15
Cow Creek	1	127
Pedernales River	1	92

* Estimate based on 60 lakeshore dwellings (elevation 691 to shoreline; Wyatt, 1976); see Working Paper No. 175.

** See Working Paper No. 175.

E. Mean Nutrient Concentrations in Ungaged Streams:

<u>Tributary</u>	<u>Mean Total P Conc. (mg/l)</u>	<u>Mean Total N Conc. (mg/l)</u>
Bee River	0.011	0.637
Alligator Creek	0.020	1.097
Double Horn Creek	0.019	0.698
Flat Creek	0.010	0.598

F. Yearly Loads:

In the following table, the existing phosphorus loadings are compared to those proposed by Vollenweider (Vollenweider and Dillon, 1974). Essentially, his "dangerous" loading is one at which the receiving water would become eutrophic or remain eutrophic; his "permissible" loading is that which would result in the receiving water remaining oligotrophic or becoming oligotrophic if morphometry permitted. A mesotrophic loading would be considered one between "dangerous" and "permissible".

Note that Vollenweider's model may not be applicable to water bodies with short hydraulic retention times.

	Total Phosphorus		Total Nitrogen	
	Total	Accumulated	Total	Accumulated
grams/m ² /yr	0.64	0.29	25.2	10.6

Vollenweider phosphorus loadings (g/m²/yr) based on mean depth and mean hydraulic retention time of Lake Travis:

"Dangerous" (eutrophic loading)	0.84
"Permissible" (oligotrophic loading)	0.42

V. LITERATURE REVIEWED

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VI. APPENDICES

APPENDIX A

LAKE RANKINGS

LAKE DATA TO BE USED IN RANKINGS

LAKE CODE	LAKE NAME	MEDIAN TOTAL P	MEDIAN INORG N	500-MEAN SEC	MEAN CHLORA	15-MIN DO	MEDIAN DISS ORTHO P
4801	AMISTAD LAKE	0.013	0.500	371.474	2.042	14.900	0.009
4802	BASTROP LAKE	0.022	0.090	419.917	12.392	15.000	0.007
4803	BELTON RESERVOIR	0.016	0.185	378.312	8.025	15.000	0.007
4804	BRAUNIG LAKE	0.134	0.150	461.625	22.762	14.800	0.062
4805	BROWNWOOD LAKE	0.027	0.100	470.375	4.887	14.400	0.007
4806	LAKE BUCHANAN	0.036	0.250	437.625	8.606	15.000	0.012
4807	CADDY LAKE	0.055	0.070	463.333	14.808	11.400	0.013
4808	CALAVERAS LAKE	0.038	0.060	461.667	22.500	13.000	0.007
4809	CANYON RESERVOIR	0.010	0.450	384.812	2.500	14.800	0.006
4810	LAKE COLORADO CITY	0.042	0.090	473.625	12.675	10.200	0.012
4811	CORPUS CRISTI LAKE	0.113	0.130	475.187	19.756	14.000	0.050
4812	DIVERSION LAKE	0.025	0.080	470.111	15.867	9.000	0.009
4813	EAGLE MOUNTAIN LAKE	0.024	0.070	469.625	5.662	11.000	0.008
4814	FT PHANTOM HILL LAKE	0.060	0.105	474.909	6.317	9.800	0.022
4815	GARZA LITTLE ELM RESERVO	0.045	0.380	475.782	14.156	14.600	0.018
4816	KEMP LAKE	0.023	0.110	455.000	10.217	10.400	0.007
4817	HOUSTON LAKE	0.097	0.260	486.187	16.650	12.400	0.036
4818	LAKE OF THE PINES	0.031	0.090	440.000	12.919	15.000	0.011
4819	LAVON RESERVOIR	0.063	0.180	485.333	5.400	8.800	0.018
4820	LIVINGSTON LAKE	0.196	0.555	465.469	16.112	15.000	0.128
4821	LYNDON B JOHNSON LAKE	0.042	0.420	456.500	8.100	14.900	0.013
4822	MEDINA LAKE	0.010	0.600	403.562	12.944	15.000	0.004
4823	LAKE MEREDITH	0.021	0.070	439.312	3.037	14.900	0.009
4824	PALESTINE LAKE	0.031	0.180	442.625	10.619	14.800	0.010
4825	POSSUM KINGDOM RESERVOIR	0.023	0.070	419.045	9.495	15.000	0.009
4826	SAN ANGELO RESERVOIR	0.098	0.140	481.000	24.675	10.200	0.011
4827	SAM RAYBURN RESERVOIR	0.029	0.150	439.458	6.267	15.000	0.009
4828	E V SPENCE RESERVOIR	0.036	0.080	462.583	11.775	15.000	0.008

LAKE DATA TO BE USED IN RANKINGS

LAKE CODE	LAKE NAME	MEDIAN TOTAL P	MEDIAN INORG N	500- MEAN SEC	MEAN CHLORA	15- MIN DO	MEDIAN DISS ORTHO P
4829	SOMERVILLE LAKE	0.053	0.115	473.833	24.491	13.000	0.013
4830	STAMFORD LAKE	0.073	0.060	482.714	18.457	10.600	0.012
4831	STILLHOUSE HOLLOW RESERV	0.018	0.160	406.250	3.917	15.000	0.010
4832	TAWAKONI LAKE	0.046	0.100	466.417	18.246	13.200	0.013
4833	TEXARKANA LAKE	0.106	0.120	478.500	19.119	12.400	0.030
4834	TEXOMA LAKE	0.042	0.160	451.321	12.493	15.000	0.018
4835	TRAVIS LAKE	0.018	0.250	389.913	5.595	15.000	0.007
4836	TRINIDAD	0.389	0.110	479.500	24.300	10.000	0.240
4837	TWIN BUTTES RESERVOIR	0.029	0.250	454.917	8.708	14.800	0.009
4838	WHITE RIVER RESERVOIR	0.020	0.110	434.500	4.333	15.000	0.009
4839	WHITNEY LAKE	0.028	0.120	430.500	6.912	15.000	0.008

LAKES RANKED BY INDEX NOS.

RANK	LAKE CODE	LAKE NAME	INDEX NO
1	4809	CANYON RESERVOIR	445
2	4823	LAKE MEREDITH	441
3	4813	EAGLE MOUNTAIN LAKE	430
4	4816	KEMP LAKE	423
5	4801	AMISTAD LAKE	402
6	4805	BROWNWOOD LAKE	394
7	4802	BASTROP LAKE	393
8	4838	WHITE RIVER RESERVOIR	390
9	4825	POSSUM KINGDOM RESERVOIR	387
10	4835	TRAVIS LAKE	384
11	4803	BELTON RESERVOIR	384
12	4831	STILLHOUSE HOLLOW RESERV	372
13	4812	DIVERSION LAKE	372
14	4808	CALAVERAS LAKE	362
15	4839	WHITNEY LAKE	357
16	4822	MEDINA LAKE	342
17	4827	SAM RAYBURN RESERVOIR	322
18	4828	E V SPENCE RESERVOIR	321
19	4837	TWIN BUTTES RESERVOIR	311
20	4810	LAKE COLORADO CITY	310
21	4824	PALESTINE LAKE	302
22	4818	LAKE OF THE PINES	298
23	4807	CADDY LAKE	297
24	4814	FT PHANTOM HILL LAKE	296
25	4806	LAKE BUCHANAN	261
26	4830	STAMFORD LAKE	259
27	4819	LAVON RESERVOIR	258
28	4832	TAWAKONI LAKE	253

LAKES RANKED BY INDEX NOS.

RANK	LAKE CODE	LAKE NAME	INDEX NO
29	4821	LYNDON B JOHNSON LAKE	238
30	4834	TEXOMA LAKE	217
31	4829	SOMERVILLE LAKE	208
32	4826	SAN ANGELO RESERVOIR	200
33	4833	TEXARKANA LAKE	176
34	4815	GARZA LITTLE ELM RESERVO	173
35	4836	TRINIDAD	169
36	4804	BRAUNIG LAKE	159
37	4811	CORPUS CRISTI LAKE	155
38	4817	HOUSTON LAKE	139
39	4820	LIVINGSTON LAKE	91

PERCENT OF LAKES WITH HIGHER VALUES (NUMBER OF LAKES WITH HIGHER VALUES)

LAKE CODE	LAKE NAME	MEDIAN TOTAL P	MEDIAN INORG N	500- MEAN SEC	MEAN CHLORA	15- MIN DO	MEDIAN DISS ORTHO P	INDEX NU
4801	AMISTAD LAKE	95 (36)	5 (2)	100 (38)	100 (38)	39 (14)	63 (21)	402
4802	BASTROP LAKE	79 (30)	76 (28)	82 (31)	47 (18)	17 (0)	92 (34)	393
4803	BELTON RESERVOIR	92 (35)	26 (10)	97 (37)	68 (26)	17 (0)	84 (31)	384
4804	BRAUNIG LAKE	5 (2)	42 (16)	50 (19)	8 (3)	49 (17)	5 (2)	159
4805	BROWNWOOD LAKE	66 (25)	70 (26)	29 (11)	87 (33)	58 (22)	84 (31)	394
4806	LAKE BUCHANAN	47 (18)	21 (7)	74 (28)	63 (24)	17 (0)	39 (14)	261
4807	CADDY LAKE	26 (10)	91 (33)	42 (16)	32 (12)	76 (29)	30 (10)	297
4808	CALAVERAS LAKE	45 (17)	100 (38)	47 (18)	11 (4)	67 (25)	92 (34)	362
4809	CANYON RESERVOIR	99 (37)	8 (3)	95 (36)	97 (37)	49 (17)	97 (37)	445
4810	LAKE COLORADO CITY	39 (14)	76 (28)	26 (10)	42 (16)	88 (33)	39 (14)	310
4811	CORPUS CRISTI LAKE	8 (3)	47 (18)	18 (7)	13 (5)	61 (23)	8 (3)	155
4812	DIVERSION LAKE	68 (26)	83 (31)	32 (12)	29 (11)	97 (37)	63 (21)	372
4813	EAGLE MOUNTAIN LAKE	71 (27)	91 (33)	34 (13)	79 (30)	79 (30)	75 (28)	430
4814	FT PHANTOM HILL LAKE	24 (9)	66 (25)	21 (8)	74 (28)	95 (36)	16 (6)	296
4815	GARZA LITTLE ELM RESERVO	34 (13)	13 (5)	16 (6)	34 (13)	55 (21)	21 (7)	173
4816	KEMP LAKE	76 (29)	61 (22)	55 (21)	55 (21)	84 (32)	92 (34)	423
4817	HOUSTON LAKE	16 (6)	16 (6)	0 (0)	24 (9)	72 (27)	11 (4)	139
4818	LAKE OF THE PINES	54 (20)	76 (28)	66 (25)	39 (15)	17 (0)	46 (17)	298
4819	LAVON RESERVOIR	21 (8)	29 (11)	3 (1)	84 (32)	100 (38)	21 (7)	258
4820	LIVINGSTON LAKE	3 (1)	3 (1)	39 (15)	26 (10)	17 (0)	3 (1)	91
4821	LYNDON B JOHNSON LAKE	39 (14)	11 (4)	53 (20)	66 (25)	39 (14)	30 (10)	238
4822	MEDINA LAKE	99 (37)	0 (0)	89 (34)	37 (14)	17 (0)	100 (38)	342
4823	LAKE MEREDITH	82 (31)	91 (33)	71 (27)	95 (36)	39 (14)	63 (21)	441
4824	PALESTINE LAKE	54 (20)	32 (12)	63 (24)	53 (20)	49 (17)	51 (19)	302
4825	POSSUM KINGDOM RESERVOIR	74 (28)	91 (33)	84 (32)	58 (22)	17 (0)	63 (21)	387
4826	SAN ANGELO RESERVOIR	13 (5)	45 (17)	8 (3)	0 (0)	88 (33)	46 (17)	200
4827	SAM RAYBURN RESERVOIR	59 (22)	39 (15)	68 (26)	76 (29)	17 (0)	63 (21)	322
4828	E V SPENCE RESERVOIR	50 (19)	83 (31)	45 (17)	50 (19)	17 (0)	76 (28)	321

PERCENT OF LAKES WITH HIGHER VALUES (NUMBER OF LAKES WITH HIGHER VALUES)

LAKE CODE	LAKE NAME	MEDIAN TOTAL P	MEDIAN INORG N	500- MEAN SEC	MEAN CHLORA	15- MIN DO	MEDIAN DISS ORTHO P	INDEX NO
4829	SOMERVILLE LAKE	29 (11)	55 (21)	24 (9)	3 (1)	67 (25)	30 (10)	203
4830	STAMFORD LAKE	18 (7)	47 (37)	5 (2)	18 (7)	82 (31)	39 (14)	259
4831	STILLHOUSE HOLLOW RESERV	88 (33)	37 (14)	87 (33)	92 (35)	17 (0)	51 (19)	372
4832	TAWAKONI LAKE	32 (12)	70 (26)	37 (14)	21 (8)	63 (24)	30 (10)	253
4833	TEXARKANA LAKE	11 (4)	51 (19)	13 (5)	16 (6)	72 (27)	13 (5)	176
4834	TEXOMA LAKE	39 (14)	34 (13)	61 (23)	45 (17)	17 (0)	21 (7)	217
4835	TRAVIS LAKE	88 (33)	21 (7)	92 (35)	82 (31)	17 (0)	84 (31)	384
4836	TRINIDAD	0 (0)	61 (22)	11 (4)	5 (2)	92 (35)	0 (0)	169
4837	TWIN BUTTES RESERVOIR	59 (22)	21 (7)	58 (22)	61 (23)	49 (17)	63 (21)	311
4838	WHITE RIVER RESERVOIR	84 (32)	61 (22)	76 (29)	89 (34)	17 (0)	63 (21)	390
4839	WHITNEY LAKE	63 (24)	51 (19)	79 (30)	71 (27)	17 (0)	76 (28)	357

APPENDIX B

CONVERSION FACTORS

CONVERSION FACTORS

Hectares x 2.471 = acres

Kilometers x 0.6214 = miles

Meters x 3.281 = feet

Cubic meters x 8.107×10^{-4} = acre/feet

Square kilometers x 0.3861 = square miles

Cubic meters/sec x 35.315 = cubic feet/sec

Centimeters x 0.3937 = inches

Kilograms x 2.205 = pounds

Kilograms/square kilometer x 5.711 = lbs/square mile

APPENDIX C

TRIBUTARY FLOW DATA

TRIBUTARY FLOW INFORMATION FOR TEXAS

04/14/76

LAKE CODE 4835 TRAVIS LAKE

TOTAL DRAINAGE AREA OF LAKE(SQ KM) 98756.6

TRIBUTARY	SUB-DRAINAGE AREA(SQ KM)	NORMALIZED FLOWS(CMS)												MEAN
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
4835A1	98756.6	21.52	23.22	39.93	60.03	85.52	78.44	48.70	42.19	35.68	32.85	45.31	26.05	45.02
4835A2	94081.7	35.11	21.24	34.26	25.20	90.90	32.28	24.64	29.45	37.10	57.20	29.73	14.44	36.14
4835C1	110.6	0.31	0.34	0.31	0.22	0.27	0.62	0.45	0.34	0.23	0.45	0.26	0.21	0.34
4835G1	3071.7	5.35	6.54	6.65	9.43	11.84	9.46	4.42	4.56	12.03	10.25	3.79	5.30	7.40
4835Z2	1491.8	2.61	3.43	3.99	5.15	6.20	6.31	4.84	4.39	6.40	5.13	2.55	2.89	4.49

SUMMARY

TOTAL DRAINAGE AREA OF LAKE = 98756.6
SUM OF SUB-DRAINAGE AREAS = 98755.7TOTAL FLOW IN = 579.08
TOTAL FLOW OUT = 539.44

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
4835A1	9	74	102.790	7	87.499				
	10	74	124.028	5	0.0				
	11	74	149.513	2	509.703				
	12	74	59.465	7	85.800				
	1	75	75.606	4	85.800				
	2	75	145.832	10	154.044				
	3	75	80.137	1	156.592				
	4	75	59.749	2	60.881	19	75.606		
	5	75	246.357	8	154.044	24	154.044		
	6	75	167.919	7	154.044				
	7	75	84.384	18	86.083				
	8	75	42.192	26	50.970				
4835A2	9	74	89.198	8	14.413				
	10	74	76.172	6	0.0				
	11	74	128.275	8	0.0				
	12	74	31.149	7	0.0				
	1	75	49.271	8	39.077				
	2	75	103.073	8	118.931				
	3	75	35.113	8	52.952				
	4	75	52.952	2	34.547	19	59.749		
	5	75	140.452	10	178.679	28	149.796		
	6	75	75.889	14	61.872				
	7	75	26.448	7	149.796				
	8	75	20.473	26	34.263				

TRIBUTARY FLOW INFORMATION FOR TEXAS

04/14/76

LAKE CODE 4835 TRAVIS LAKE

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
4835C1	9	74	0.283	8	0.091				
	10	74	0.144	6	0.093				
	11	74	0.235	8	0.453				
	12	74	0.082	7	0.085				
	1	75	0.071	8	0.068				
	2	75	0.266	8	0.311				
	3	75	0.065	8	0.074				
	4	75	0.023	2	0.028	19		0.017	
	5	75	0.235	10	0.085	28		0.255	
	6	75	0.122	14	0.108				
	7	75	0.025	7	0.028				
	8	75	0.011	16	0.004				
4835G1	9	74	20.445	7	7.985				
	10	74	36.529	5	3.143				
	11	74	21.266	2	31.998				
	12	74	7.844	7	7.136				
	1	75	8.835	4	9.571				
	2	75	40.776	10	29.166				
	3	75	9.713	1	12.686				
	4	75	7.985	2	6.230	19		5.012	
	5	75	59.465	8	48.705				
	6	75	25.740						
	7	75	7.815	18	10.959				
	8	75	4.248	16	3.710				
4835ZZ	9	74	37.661						
	10	74	21.238						
	11	74	105.622						
	12	74	3.823						
	1	75	6.230						
	2	75	32.281						
	3	75	3.936						
	4	75	6.400						
	5	75	105.055						
	6	75	30.016						
	7	75	5.409						
	8	75	0.906						

APPENDIX D
PHYSICAL and CHEMICAL DATA

STORET RETRIEVAL DATE 76/02/11

483501
 30 23 32.0 097 54 04.0
 TRAVIS LAKE
 48453 TEXAS

DATE FROM TO	TIME OF DAY	DEPTH FEET	WATER TEMP CENT	00010	00300	00077	00094	00400	00410	00610	00625	00630	00671
				DO	MG/L	TRANSP SECCHI INCHES	CNDCTVY FIELD MICRUMHO	PH	TALK CACO3 MG/L	NH3-N TOTAL MG/L	TOT KJEL N MG/L	N02&N03 N-TOTAL MG/L	PHOS-DIS ORTHO MG/L P
74/03/15	13 30	0000	17.5	216	450	8.60	160	0.020	0.500	0.140	0.005		
	13 30	0006	16.8		445	8.50	161	0.020	0.300	0.120	0.004		
	13 30	0025	15.9		440	8.30	161	0.030	0.300	0.170	0.006		
	13 30	0045	14.6		432	8.20	148	0.030	0.200	0.180	0.004		
	13 30	0070	13.7		425	8.20	148	0.020	0.200	0.190	0.003		
	13 30	0100	12.9		410	8.00	148	0.020	0.200	0.250	0.007		
	13 30	0135	12.4		400	7.70	148	0.020	0.300	0.260	0.008		
	13 30	0174	12.1		399	7.70	147	0.040	0.300	0.300	0.009		
	14 20	0000	27.6		546	8.70	136	0.050	0.300	0.100	0.003		
	14 20	0005	27.4		541	8.65	136	0.030	0.200	0.040	0.003		
74/05/22	14 20	0020	25.4	216	522	8.70	134	0.030	0.200K	0.060	0.012		
	14 20	0038	21.9		499	8.50	142	0.030	0.200	0.060	0.003		
	14 20	0070	18.2		475	8.30	149	0.040	0.200K	0.190	0.005		
	14 20	0100	14.9		442	8.00	147	0.040	0.200K	0.260	0.003		
	14 20	0130	13.7		431	7.85	147	0.020	0.200K	0.310	0.004		
	14 20	0168	13.3		430	7.65	148	0.020	0.200K	0.370	0.007		
	10 25	0000	28.9	168	528	8.60							
	10 25	0020	28.9		525	8.50							
	10 25	0035	28.0		513	8.15							
	10 25	0059	26.4		509	7.80							
	10 25	0080	20.2		470	7.90							
	10 25	0120	16.5		438	7.80							
	10 25	0140	14.4		419	7.80							
	10 25	0160	14.0		429	7.70							
74/11/06	09 00	0000	22.0	84	420	7.86	142	0.020	1.100	0.220	0.018		
	09 00	0005	22.0		420	7.86	142	0.020K	0.800	0.220	0.021		
	09 00	0020	22.0		421	7.86	142	0.020K	0.800	0.210	0.014		
	09 00	0040	22.0		420	7.84	143	0.020	0.800	0.220	0.011		
	09 00	0060	22.0		421	7.84	143	0.020K	0.700	0.220	0.016		
	09 00	0080	22.0		419	7.83	144	0.020K	0.700	0.220	0.009		
	09 00	0100	22.0		420	7.82	146	0.020K	0.700	0.220	0.010		
	09 00	0130	21.8		417	7.70	146	0.020	0.800	0.240	0.017		
	09 00	0155	20.9		338	7.45	135	0.110	1.000	0.260	0.027		
	09 00	0176	17.0		452	7.25	175	0.360	1.300	0.070	0.036		

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/02/11

483501
30 23 32.0 097 54 04.0
TRAVIS LAKE
48453 TEXAS

11EPALES 2111202
3 0178 FEET DEPTH

DATE	TIME	DEPTH	00665 PHOS-TOT	32217 CHLORPHYL	00031 INCOT LT
FROM	OF		MG/L P	UG/L	PERCENT
TO	DAY	FEET			
74/03/15	13	30 0000	0.013	3.3	
	13	30 0006	0.011		
	13	30 0025	0.008		
	13	30 0045	0.007		
	13	30 0070	0.007		
	13	30 0100	0.010		
	13	30 0135	0.013		
	13	30 0174	0.018		
74/05/22	14	20 0000	0.010	8.6	
	14	20 0005	0.008		50.0
	14	20 0020	0.012		
	14	20 0038	0.009		1.0
	14	20 0070	0.007		
	14	20 0100	0.006		
	14	20 0130	0.010		
	14	20 0168	0.018		
74/08/20	10	25 0000		2.0	
74/11/06	09	00 0000	0.025	1.9	
	09	00 0005	0.021		
	09	00 0011			1.0
	09	00 0020	0.021		
	09	00 0040	0.021		
	09	00 0060	0.020		
	09	00 0080	0.020		
	09	00 0100	0.019		
	09	00 0130	0.029		
	09	00 0155	0.062		
	09	00 0176	0.062		

STORET RETRIEVAL DATE 76/02/11

483502
 30 27 07.0 097 55 29.0
 TRAVIS LAKE
 48453 TEXAS

DATE FROM TO	TIME OF DAY	DEPTH FEET	WATER TEMP CENT	00010 DO MG/L	00300 TRANSP SECCHI INCHES	00077 CNDUCTVY FIELD MICROMHO	00094 PH SU	00400 TALK CACO3 MG/L	00410 NH3-N TOTAL MG/L	11EPALES 3		2111202 0087 FEET DEPTH		00671 PHOS-DIS ORTHO MG/L P
										00610 N MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L		
74/03/15	14 10	0000	17.8			180		455	8.50	148	0.030	0.500	0.140	0.005
	14 10	0006	17.5	10.0				450	8.50	148	0.020	0.400	0.120	0.004
	14 10	0025	17.1	8.6				450	8.10	148	0.020	0.300	0.150	0.004
	14 10	0050	13.7	8.4				410	8.10	149	0.030	0.300	0.190	0.003
	14 10	0083	12.8	8.2				400	8.05	149	0.020	0.300	0.220	0.004
74/05/22	11 50	0000	26.7			126		534	8.65	140	0.030	0.500	0.050	0.003
	11 50	0005	26.6	8.2				533	8.65	138	0.030	0.300	0.040	0.002
	11 50	0033	22.0	6.0				494	8.30	144	0.020	0.200K	0.140	0.002
	11 50	0060	20.0	4.4				486	8.30	148	0.030	0.200K	0.150	0.002
	11 50	0090	14.9	4.8				444	8.00	153	0.020	0.200K	0.260	0.002K
	11 50	0115	14.0	5.6				442	7.80	153	0.040	0.200K	0.330	0.004
74/08/20	09 50	0000	29.9	7.2		108		536	8.45					
	09 50	0030	29.8	6.6				534	8.40					
	09 50	0040	27.9	4.8				517	8.10					
	09 50	0050	27.3	2.2				516	7.90					
	09 50	0080	20.2	0.2				477	7.80					
	09 50	0100*	18.3	0.0				468	7.80					
74/11/06	10 05	0000	22.1	7.0		72		416	7.86	154	0.020	1.200	0.220	0.015
	10 05	0005	22.1	6.4				413	7.87	161	0.020K	0.700	0.230	0.019
	10 05	0020	22.1	6.4				416	7.86	162	0.030	0.600	0.230	0.018
	10 05	0040	22.1	6.4				416	7.85	163	0.020K	0.600	0.230	0.015
	10 05	0060	22.1	6.2				416	7.86	164	0.020K	0.600	0.220	0.010
	10 05	0080	22.1	6.6				416	7.85	165	0.020K	0.700	0.230	0.008
	10 05	0101	22.0	6.6				416	7.86	165	0.020K	0.700	0.220	0.012

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/02/11

483502
30 27 07.0 097 55 29.0
TRAVIS LAKE
48453 TEXAS

11EPALES 2111202
3 0087 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TUT MG/L P	32217 CHLRPHYL UG/L	00031 INCDT LT REMNING PERCENT
74/03/15	14 10	0000	0.011	3.2	
	14 10	0006	0.009		
	14 10	0025	0.010		
	14 10	0050	0.007		
	14 10	0093	0.008		
74/05/22	11 50	0000	0.011	6.8	
	11 50	0005	0.008		50.0
	11 50	0033	0.010		1.0
	11 50	0060	0.008		
	11 50	0090	0.008		
	11 50	0115	0.023		
74/08/20	09 50	0000		1.4	
74/11/06	10 05	0000	0.028	1.5	
	10 05	0001			50.0
	10 05	0005	0.020		
	10 05	0010			1.0
	10 05	0020	0.018		
	10 05	0040	0.017		
	10 05	0060	0.017		
	10 05	0080	0.019		
	10 05	0101	0.018		

STORED RETRIEVAL DATE 76/02/11

483503
30 22 18.0 098 00 16.0
TRAVIS LAKE
48453 TEXAS

11EPALES 2111202
3 0131 FEET DEPT

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CONDUTVY FIELD MICROMHO	00400 PH SU	00410 TALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
74/03/15	14 15	0000	17.8		180	451	8.40	159	0.030	0.400	0.140	0.008
	14 15	0010	17.8	9.0		452	8.30	160	0.030	0.300	0.150	0.005
	14 15	0030	17.2	10.0		446	8.25	160	0.030	0.300	0.160	0.005
	14 15	0060	14.1	8.6		414	8.10	160	0.030	0.300	0.210	0.005
	14 15	0090	13.1	8.8		408	8.05	159	0.020	0.300	0.290	0.008
	14 15	0125	12.7	6.4		407	7.75	159	0.020	0.300	0.290	0.008
74/05/22	11 10	0000	27.1		144	534	8.70	138	0.030	0.300	0.060	0.002
	11 10	0005	26.8	8.0		530	8.70	138	0.020	0.300	0.040	0.002
	11 10	0030	24.4	6.0		484	8.30	144	0.030	0.300	0.150	0.002K
	11 10	0045	21.1	3.0		462	7.90	143	0.020	0.200K	0.330	0.002
	11 10	0070	17.1	5.0		460	8.10	153	0.030	0.200K	0.250	0.002
	11 10	0100	14.6	3.4		442	7.80	154	0.020	0.200	0.320	0.003
74/08/16	11 10	0130	13.7	2.0		435	7.60	152	0.040	0.200	0.380	0.006
	15 35	0000	29.4	7.2	206	524	8.60					
	15 35	0020	28.4	6.6		507	8.40					
	15 35	0045	27.7	2.8		504	8.10					
	15 35	0080	20.4	0.4		448	7.70					
	15 35	0105	17.7	0.4		444	7.80					
74/11/06	10 45	0000	21.8	7.2	72	406	7.90	164	0.020K	0.800	0.230	0.008
	10 45	0005	21.9	6.6		406	7.90	164	0.020K	0.700	0.230	0.008
	10 45	0020	21.9	6.4		406	7.90	163	0.020K	0.700	0.230	0.008
	10 45	0040	21.9	6.8		406	7.89	161	0.020K	0.600	0.230	0.009
	10 45	0060	21.8	5.0		406	7.89	161	0.020K	0.700	0.230	0.009
	10 45	0080	21.8	6.6		405	7.87	159	0.020K	0.200	0.230	0.008
74/11/06	10 45	0100	21.8	6.2		405	7.86	158	0.020K	0.300	0.230	0.009
	10 45	0131	21.1	6.2		379	7.70	122	0.060	0.400	0.260	0.015

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/02/11

483503
30 22 18.0 098 00 16.0
TRAVIS LAKE
48453 TEXAS

11EPALES 2111202
3 0131 FEET DEPTH

DATE	TIME	DEPTH	PHOS-TOT	32217	00031	INCDT LT
FROM	OF			A	REMNING	
TO	DAY	FEET	MG/L P	UG/L	PERCENT	
74/03/15	14	15 0000	0.011		1.8	
	14	15 0010	0.009			
	14	15 0030	0.008			
	14	15 0060	0.009			
	14	15 0090	0.015			
	14	15 0125	0.015			
74/05/22	11	10 0000	0.009	6.6		
	11	10 0005	0.008		50.0	
	11	10 0030	0.011		1.0	
	11	10 0045	0.012			
	11	10 0070	0.008			
	11	10 0100	0.012			
	11	10 0130	0.029			
74/08/16	15	35 0000		2.5		
74/11/06	10	45 0000	0.018	1.7		
	10	45 0001			50.0	
	10	45 0005	0.018			
	10	45 0020	0.018			
	10	45 0040	0.017			
	10	45 0060	0.018			
	10	45 0080	0.018			
	10	45 0100	0.020			
	10	45 0131	0.052			

STORET RETRIEVAL DATE 76/02/11

483504
 30 25 53.0 098 03 25.0
 TRAVIS LAKE
 48453 TEXAS

DATE FROM TO	TIME OF DAY	DEPTH FEET	WATER TEMP CENT	00010	00300	00077	00094	00400	00410	00610	00625	00630	00671
				DO	TRANSP	SECCHI INCHES	CNDUCTVY FIELD MICROMHO	PH	TALK CACO3 SU	NH3-N TOTAL MG/L	TOT KJEL N MG/L	N02&N03 N-TOTAL MG/L	ORTHO MG/L
74/03/15	13 35 0000	18.4				140	460	8.35	164	0.040	0.400	0.170	0.007
	13 35 0010	18.2	10.0				460	8.35	164	0.030	0.400	0.150	0.004
	13 35 0025	17.5	9.0				442	8.20	160	0.040	0.300	0.180	0.004
	13 35 0050	15.3	7.6				431	7.95	168	0.050	0.400	0.250	0.004
	13 35 0070	13.5	6.0				406	7.75	159	0.030	0.400	0.320	0.009
	13 35 0082	13.4	5.6				409	7.70	160	0.050	0.500	0.330	0.010
	10 00 0000	27.3				96	512	8.70	152	0.050	0.400	0.190	0.004
74/05/22	10 00 0005	27.2	8.8				509	8.70	148	0.050	0.200	0.080	0.004
	10 00 0025	25.8	7.0				489	8.50	148	0.040	0.200	0.130	0.003
	10 00 0045	22.0	2.1				421	7.70	150	0.030	0.200	0.380	0.003
	10 00 0065	17.2	1.8				445	7.70	159	0.030	0.200K	0.400	0.005
	10 00 0085	15.8	1.0				458	7.60	164	0.060	0.300	0.300	0.007
	14 45 0000	30.6	8.0			130	543	8.70					
74/08/16	14 45 0010	29.4	8.2				513	8.60					
	14 45 0025	28.6	5.6				500	8.10					
	14 45 0050	27.9	0.6				493	7.70					
	14 45 0070	21.3	0.0				537	7.70					
	11 30 0000	21.0	7.4			24	466	7.87	134	0.040	0.500	0.260	0.021
74/11/06	11 30 0005	21.0	7.0				466	7.89	134	0.030	0.300	0.260	0.016
	11 30 0020	21.0	7.0				479	7.87	134	0.040	0.300	0.260	0.015
	11 30 0040	21.0	7.2				480	7.87	134	0.040	0.300	0.250	0.017
	11 30 0060	21.0	7.2				482	7.87	134	0.040	0.400	0.250	0.015
	11 30 0087	21.0	7.0				477	7.87	132	0.040	0.400	0.250	0.017

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/02/11

483504
30 25 53.0 098 03 25.0
TRAVIS LAKE
48453 TEXAS

11EPALES 2111202
3 0087 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL UG/L	00031 INCOT LT A REMNING PERCENT
74/03/15	13 35	0000	0.012		3.6
	13 35	0010		0.011	
	13 35	0025		0.011	
	13 35	0050		0.012	
	13 35	0070		0.022	
	13 35	0082		0.031	
74/05/22	10 00	0000	0.020		9.7
	10 00	0005		0.018	
	10 00	0025		0.019	
	10 00	0045		0.028	
	10 00	0065		0.025	
	10 00	0085		0.056	
74/08/16	14 45	0000			4.9
74/11/06	11 30	0000	0.040		1.8
	11 30	0005		0.037	
	11 30	0020		0.042	
	11 30	0040		0.040	
	11 30	0060		0.040	
	11 30	0087		0.049	

STORET RETRIEVAL DATE 76/02/11

483505
 30 23 22.0 098 05 14.0
 TRAVIS LAKE
 48453 TEXAS

DATE FROM TO	TIME OF DAY	DEPTH FEET	WATER TEMP CENT	00010 DO MG/L	00300 TRANSP SECCHI INCHES	00077 CNDUCTVY FIELD MICROMHO	00094 PH SU	00400 TALK CACO3 MG/L	00410 NH3-N TOTAL MG/L	11EPALES 3		2111202 0025 FEET DEPTH		
										NH3-N TOTAL MG/L	TOT KJEL N MG/L	00625 NU2&NO3 N-TOTAL MG/L	00630 ORTHO MG/L	00671 PHOS-DIS MG/L P
74/05/22	10	40	0000	28.2		60	529	8.50	182	0.030	0.400	0.250	0.003	
	10	40	0005	28.1	6.8			534	8.40	199	0.030	0.200	0.200	0.003
	10	40	0015	26.5	4.4			494	8.10	189	0.070	0.400	0.290	0.009
	10	40	0020	25.5	4.0			456	7.90	165	0.040	0.400	0.370	0.004
	15	15	0000	30.0	7.8		40	598	8.50					
74/08/16	15	15	0010	28.4	2.4	40	588	7.90						
	16	50	0000	20.1	5.0			222	7.55	109	0.070	0.700	0.240	0.020
	16	50	0005	20.2	7.0			226	7.55	111	0.070	0.700	0.250	0.023
	16	50	0015	20.0	6.4			217	7.49	109	0.070	0.600	0.230	0.026
	16	50	0032	19.8	6.6			215	7.48	108	0.080	0.200	0.200	0.027

DATE FROM TO	TIME OF DAY	DEPTH FEET	PHOS-TOT MG/L P	00665 CHLRPHYL A UG/L	32217 INCDT LT REMNING PERCENT	00031		
74/05/22	10	40	0000	0.021	12.4			
	10	40	0005	0.025				
	10	40	0015	0.031				
	10	40	0020	0.027				
	15	15	0000				23.9	
74/08/16	16	50	0000	0.077				
	16	50	0005	0.056				
	16	50	0015	0.065				
	16	50	0032	0.072				

STORET RETRIEVAL DATE 76/02/11

483506
30 29 15.0 098 07 45.0
TRAVIS LAKE
48053 TEXAS

11EPALES
3 2111202
0058 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICRUMHO	00400 PH SU	00410 TALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	
74/03/14	15 00	0000	19.7	70	441	8.60	154	0.030	0.500	0.180	0.005		
	15 00	0005	14.7		445	8.60	154	0.030	0.400	0.180	0.004		
	15 00	0015	18.7		437	8.45	155	0.040	0.300	0.210	0.004		
	15 00	0030	17.4		428	8.30	157	0.050	0.300	0.240	0.013		
		15 00	0053		15.2	381	7.80	155	0.110	0.600	0.420	0.014	
74/05/22	09 30	0000	27.5	60	492	8.80	141	0.060	0.500	0.130	0.009		
	09 30	0005	27.0		480	8.70	143	0.060	0.300	0.170	0.006		
	09 30	0015	26.5		488	8.50	149	0.060	0.200	0.180	0.006		
	09 30	0035	25.4		484	8.10	154	0.050	0.200	0.340	0.005		
		09 30	0050		18.9	448	7.60	161	0.070	0.400	0.380	0.011	
74/08/16	14 05	0000	30.3	110	519	8.70							
	14 05	0010	29.6		510	8.60							
	14 05	0025	28.8		517	8.10							
		14 05	0040		28.4	517	7.90						
		14 05	0040		28.4	462	7.85	121	0.050	0.500	0.300	0.025	
74/11/06	12 05	0000	20.3	18	463	7.85	118	0.050	0.300	0.290	0.024		
	12 05	0005	20.3		462	7.85	119	0.040	0.300	0.290	0.018		
	12 05	0020	20.4		464	7.85	117	0.050	0.300	0.280	0.022		
		12 05	0040		20.3	469	7.86	117	0.050	0.300	0.290	0.020	
		12 05	0061		20.3								

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L	00031 INCDT LT REMNING PERCENT	
74/03/14	15 00	0000	0.021	6.6		
	15 00	0005	0.015			
	15 00	0015	0.014			
	15 00	0030	0.018			
		15 00	0053	0.032		
74/05/22	09 30	0000	0.028	10.4		
	09 30	0005	0.026			
	09 30	0015	0.025	1.0		
	09 30	0035	0.041			
		09 30	0050	0.065		
74/08/16	14 05	0000		7.5		
	74/11/06	12 05	0000	0.051	1.0	
		12 05	0005	0.047		
		12 05	0020	0.052		
		12 05	0040	0.049		
		12 05	0061	0.050		

APPENDIX E

**TRIBUTARY AND WASTEWATER
TREATMENT PLANT DATA**

STORET RETRIEVAL DATE 76/03/10

4835A1
30 23 17.0 097 54 47.0 4
COLORADO RIVER
48181 7.5 MANSFIELD UM
O/LAKE TRAVIS
2NDHY RD BRDG 0.6 MI SW MANSFIELD DAM
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL	00625 TOT KJEL	00610 NH3-N N	00671 PhOS-PO4IS TOTAL	00665 ORTHO MG/L P	PHOS-TOT MG/L P
74/09/07	12 20		0.060	0.500	0.017	0.005	0.010K	
74/10/05	09 56		0.160	0.300	0.045	0.015	0.015	
74/11/02	09 20		0.208	0.800	0.085	0.020	0.030	
74/12/07	12 30		0.280	0.700	0.040	0.016	0.030	
75/01/04	09 40		0.320	0.500	0.016	0.010	0.020	
75/02/10	13 07		0.304	0.500	0.016	0.008	0.030	
75/03/01	12 48		0.280	0.250	0.015	0.010	0.010	
75/04/02	15 15		0.310	0.850	0.035	0.005	0.010K	
75/04/19			0.370	0.450	0.020	0.005K	0.010	
75/05/08	15 35		0.430	0.350	0.020	0.005K	0.010K	
75/05/24	15 00		0.430	0.450	0.030	0.010	0.030	
75/06/07	10 15		0.345	0.450	0.035	0.005	0.010	
	15 35		0.330	0.450	0.175	0.005	0.020	
75/07/18	13 58		0.390	0.450	0.050	0.005	0.020	
75/08/26	13 20		0.280	0.450	0.090	0.020	0.020	

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORED RETRIEVAL DATE 75/03/10

4835A2
30 34 03.0 098 16 30.0 4
COLORADO RIVER
48 7.5 MARBLE FALLS
T/LAKE TRAVIS
RT 251 BRDG 0.1 MI S MARBLE FALLS
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE	TIME	DEPTH	00630 NO2&N03	00625 TOT KJEL	00610 NH3-N	00671 PHOS-DIS	00665 PHOS-TOT	
FROM	OF		N-TOTAL	N	TOTAL	URTHO		
TO	DAY	FEET	MG/L	MG/L	MG/L	MG/L P	MG/L P	
74/09/08	15	53		0.450	0.700	0.025	0.045	0.095
74/10/06	10	15		0.216	0.400	0.020	0.035	
74/11/08	11	00		0.272	0.500	0.045	0.015	0.030
74/12/07	10	10		0.248	2.400	0.032	0.008K	0.030
75/01/08	10	50		0.368	1.400	0.040	0.010	0.020
75/02/08	10	45		0.352	0.300	0.072	0.024	0.040
75/03/08	09	05		0.400	0.750	0.045	0.015	0.020
75/04/02	11	00		0.370	0.800	0.045	0.005	0.015
75/04/19	09	10		0.410	0.725	0.030	0.005K	0.015
75/05/10	10	00		0.440	0.800	0.035	0.010	0.040
75/05/28	10	35		0.375	1.050	0.090	0.020	0.090
75/06/14	09	43		0.375	1.200	0.025	0.005	0.020
75/07/07	09	34		0.210	1.200	0.070	0.010	0.020
75/08/26	10	10		0.500	0.325	0.025	0.010	0.020

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/03/10

483581
30 20 17.0 098 02 08.0 4
BEE RIVER
48 7.5 SHINGLE HILL
T/LAKE TRAVIS
50 YDS UPSTREAM OF HWY 71 BRDG
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&N03 N-TOTAL	00625 TOT KJEL N	00610 NH3-N TOTAL	00671 PHOS-DIS ORTHO	00665 PHOS-TOT MG/L P
74/09/07	11 58		0.038	0.100	0.007	0.005	0.005
74/10/05	10 30		0.416	0.350	0.020	0.005K	0.010K
74/11/02	11 30		0.352	0.600	0.040	0.005K	0.010K
74/12/07	13 10		0.504	0.100K	0.016	0.008K	0.010K
75/01/08	10 15		0.480	0.100K	0.008	0.005	0.010K
75/02/10	15 45		0.448	0.300	0.016	0.008K	0.010K
75/03/01	15 20		0.410	0.150	0.015	0.005K	0.010K
75/04/02			0.165	0.750	0.025	0.005K	0.010K
75/04/19	15 05		0.050	0.450	0.030	0.005K	0.010K
75/05/08	16 05		0.220	0.400	0.090	0.005K	0.010K
75/05/24	17 00		0.280	0.600	0.120	0.005K	0.030
75/06/07	13 29		0.300	0.100	0.025	0.005K	0.010K
75/07/18	14 22		0.180	0.600	0.145	0.005K	0.010K
75/08/16	12 20		0.270	0.200	0.015	0.005K	0.010K

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/03/10

4835C1
30 31 20.0 098 02 30.0 4
CO* CREEK
48 7.5 TRAVIS CREEK
T/LAKE TRAVIS
HWY 1431 BRDG 2.0 MI S OF TRAVIS CREEK
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 N02&N03	00625 TOT KJEL	00610 NH3-N	00671 PHOS-DIS	00665 PHOS-TOT
			MG/L	MG/L	MG/L	MG/L P	MG/L P
74/09/08	09 40		0.750	0.200	0.005	0.005K	0.005K
74/10/06	09 30		0.432	0.400	0.015	0.005K	0.010K
74/11/08	14 10		1.280	0.400	0.055	0.005	0.010K
74/12/07	14 05		1.100L	0.200	0.008	0.008K	0.010K
75/01/08	13 25		1.320	0.500	0.016	0.005	0.040
75/02/08	14 45		0.650	0.200	0.072	0.008K	0.010K
75/03/08	12 35		1.400	0.250	0.015	0.005	0.010K
75/04/02	14 15		1.250	0.850	0.075	0.005K	0.010K
75/04/19	12 45		0.780	0.200	0.025	0.005K	0.010K
75/05/10	14 30		0.610	0.650	0.070	0.005	0.065
75/06/14	13 25		0.710	0.250	0.010	0.005K	0.010K
75/07/07	12 16		0.660	0.200	0.025	0.005K	0.010K
75/08/16	13 00		0.250	0.200	0.010	0.005K	0.010K

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/03/10

483SD1
30 30 55.0 098 09 34.0 4
ALLIGATOR CREEK
48 " 7.5 SMITHWICK
T/LAKE TRAVIS
AT FORD ON SPUR 2.6 MI N SPICEWOOD
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NC2&N03 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
74/09/08	16 40		0.008	0.400	0.005K	0.010	0.010
74/10/05	15 30		0.016	0.300	0.015	0.005	0.020
74/11/08	09 53		0.080	0.900	0.170	0.020	0.030
74/12/07	08 50		0.800	0.600	0.124	0.008K	0.010
75/01/08	10 15		0.710	0.300	0.012	0.005	0.010K
75/02/08	10 00		0.260	0.100K	0.048	0.008K	0.010K
75/03/08	08 10		0.850	0.400	0.025	0.010	0.010
75/04/02	10 15		0.890	0.600	0.030	0.010	0.010
75/04/19	08 25		0.740	0.500	0.035	0.005K	0.010K
75/05/10	08 45		0.560	1.550	0.080	0.010	0.040
75/05/28	10 55		0.440	1.150	0.050	0.010	0.050
75/06/14	08 50		0.640	0.300	0.040	0.005K	0.010K
75/07/07	14 45		0.690	0.650	0.060	0.005K	0.010K
75/08/16	09 10		0.470	0.450	0.020	0.005	0.050

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/03/10

4835E1

30 30 50.0 098 14 05.0 4

DOUBLE HORN CREEK

48 7.5 SMITHWICK

T/LAKE TRAVIS

AT UNPAVED RD BRDG 6.0 MI SW OF SMITHWICK

11EPALES 2111204

0000 FEET DEPTH CLASS 00

DATE	TIME	DEPTH	00630 NO2&NO3	00625 TOT KJEL	00610 NH3-N	00671 PHOS-DIS	00665 PHOS-TOT
FROM	OF		N-TOTAL	N	TOTAL	ORTHO	
TO	DAY	FEET	MG/L	MG/L	MG/L	MG/L P	MG/L P
74/09/08	16	05	0.012	0.300	0.005K	0.005K	0.005
74/10/05	15	00	0.008	0.200	0.010	0.005K	0.010K
74/11/08	10	31	0.072	0.500	0.050	0.010	0.010
74/12/07	09	35	0.192	0.800	0.032	0.008	0.010K
75/01/08	10	35	0.192	0.200	0.016	0.010	0.010
75/02/08	10	50	0.248	0.100	0.032	0.008K	0.010K
75/03/08	08	33	0.075	0.575	0.015	0.015	0.015
75/04/02	10	40	0.040	0.350	0.020	0.005K	0.010K
75/04/19	08	45	0.020	1.450	0.055	0.005K	0.010K
75/05/10	09	15	0.190	0.900	0.310	0.065	0.120
75/05/28	10	20	0.005	0.800	0.045	0.005K	0.030
75/06/14	09	15	0.015	1.600	0.035	0.005K	0.010
75/07/07	09	06	0.020	0.650	0.045	0.005K	0.010K
75/08/16	09	45	0.010	0.250	0.010	0.005K	0.010

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/03/10

4835F1
30 16 30.0 098 12 30.0 4
FLAT GREEK
48 BLANCO CO MAP
T/LAKE TRAVIS
2NDRY RD XING 1.0 MI E OF PEDERNALES SP
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE	TIME	DEPTH	NO2&NO3	00630	00625	00610	00671	00665
FROM	OF		N-TOTAL	TOT KJEL	NH3-N	TOTAL	PHOS-DIS	PHOS-TOT
TO	DAY	FEET	MG/L	MG/L	MG/L	MG/L	MG/L P.	MG/L P.
74/10/05	11	45		0.336	0.200	0.020	0.005K	0.010K
74/11/02	10	35		0.232	0.500	0.072	0.005	0.010
74/12/07	14	30		0.384	0.200	0.048	0.008	0.010K
75/01/04	11	05		0.352	0.200	0.008K	0.005K	0.010K
75/02/10	16	30		0.368	0.300	0.016	0.008K	0.010K
75/03/01	16	00		0.300	0.150	0.010	0.005K	0.010K
75/04/02				0.380	0.500	0.025	0.005K	0.010K
75/04/19	15	25		0.300	0.350	0.035	0.005K	0.010K
75/05/08	16	20		0.175	0.225	0.020	0.005	0.010K
75/06/07	09	48		0.190	0.250	0.020	0.005K	0.010K
75/07/18	15	17		0.240	0.450	0.040	0.005K	0.010K
75/08/16	11	50		0.250	0.350	0.030	0.005K	0.010K

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 76/03/10

4835G1
30 20 20.0 098 08 20.0 4
PEDEKVALES RIVER
48 7.5 HAMMITS XING
T/LAKE TRAVIS
Hwy 962 BRDG 3.0 MI SE OF TRAVIS CO CORN
11EPALES 2111204
0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&N03 N-TOTAL MG/L	00625 TOT KJEL MG/L	00610 NH3-N N MG/L	00671 PHOS-DIS TOTAL MG/L	00665 ORTHO MG/L P	PHOS-TOT MG/L P
74/09/07	11 20		0.470	1.100	0.055	0.040	0.075	
74/10/05	12 30		0.072	0.500	0.040	0.005	0.020	
74/11/02	10 10		0.256	1.100	0.060	0.020		
74/12/07	15 30		0.840	0.200	0.016	0.008K	0.010K	
75/01/04	11 25		0.820	0.400	0.016	0.005K	0.010K	
75/02/10	16 50		0.720	0.400	0.016	0.008	0.020	
75/03/01	16 20		0.820	0.300	0.015	0.005K	0.010K	
75/04/02	09 10		0.780	0.700	0.045	0.005K	0.010K	
75/04/19	15 35		0.570	0.250	0.025	0.005K	0.010K	
75/05/08	16 48		0.470	0.700	0.020	0.015	0.070	
75/07/18	15 37		0.410	0.500	0.085	0.005K	0.020	
75/08/16	11 00		0.195	2.100	0.065	0.005K	0.020	

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORED RETRIEVAL DATE 76/03/10

4835XA AS4835XA P003000
 30 45 00.0 098 13 30.0 4
 BURNET
 48 7.5 BURNET
 T/LAKE TRAVIS
 HAMILTON CREEK
 11EPALES 2141204
 0000 FEET DEPTH CLASS 00

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 N02&N03 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P	50051 FLOW RATE INST MGD	50053 CONDUIT FLOW-MGD MONTHLY
74/10/02	08 00								
CP(T)-			1.040	11.000	0.850	8.700	9.300	0.300	0.250
74/10/02	16 00								
74/11/13	08 00								
CP(T)-			5.400	7.000	0.089	5.600	6.000	0.300	0.320
74/11/13	16 00								
74/12/24	08 00								
CP(T)-			5.280	5.600	0.050K	6.600	7.000	0.326	0.315
74/12/24	16 00								
75/01/22	16 00								
75/02/10	08 00								
CP(T)-			3.200	3.400	0.050K	6.300	7.500	0.330	0.300
75/02/10	16 30								
75/03/10	08 00								
CP(T)-			3.200	6.600	0.080K	4.100	5.100	0.300	0.333
75/03/10	16 00								
75/04/03	08 00								
CP(T)-			3.120	9.900	1.400	5.750	7.000	0.300	0.330
75/04/03	16 00								
75/04/03	08 00								
CP(T)-			0.898	11.000	0.470	4.000	8.600	0.340	0.320
75/04/03	16 00								
75/06/25	10 00								
CP(T)-			0.650	3.800	0.110	7.200	7.400	0.300	0.356
75/06/25	14 00								
75/07/30	08 00								
CP(T)-			1.450	10.000	0.150	7.200	7.700	0.360	0.340
75/07/30	12 00								
75/09/22	08 00								
CP(T)-			7.500	3.900	0.025K	6.600	6.900	0.333	0.300
75/09/22	16 00								
75/10/28	08 00								
CP(T)-			9.800	10.000	0.210	6.200	6.800	0.304	0.300
75/10/28	14 00								
75/11/06	10 00								
75/11/06	10 00		1.570	3.000	4.200	5.900	9.900	0.270	0.300
76/01/05	11 00		5.800	9.600	0.470	7.100	7.500	2.340	2.430

K VALUE KNOWN TO BE
LESS THAN INDICATED