

SURVEY OF PHYSICAL WATER QUALITY IN
LAKE TEXOMA WITH EMPHASIS ON
CHEMICAL AND THERMAL
STRATIFICATION - 1975

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CONCLUSIONS

- (1) At this time, there appears to be no justification for an increased thermal standard for Lake Texoma.
- (2) Salinity stratification does exist within Lake Texoma and should be considered in the development of standards for this lake.

RECOMMENDATIONS

- (1) Studies should be undertaken to further analyze the salinity excesses found naturally in the Red River and also the effects of this loading on Lake Texoma and its water quality as a water source for human activities.
- (2) Studies should be undertaken to further assess the thermal conditions and variabilities within Lake Texoma with regard to stratifications and seasonal fluctuations.

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INTRODUCTION

In the establishment of Oklahoma's Water Quality Standards, certain questions have arisen concerning the validity of a thermal maximum standard of 90°F for Lake Texoma. The Oklahoma Department of Wildlife Conservation, during a public hearing on water quality standards held on September 5, 1973, suggested that Lake Texoma have a maximum temperature limit of 90°F. The Wildlife Department stated that this temperature would provide more protection for least resistant fish species than the previously proposed 93°F and that available data does not reflect temperatures in excess of 90°F occurring with regular frequencies within the lake. The Oklahoma Water Resources Board conducted a survey of Lake Texoma during July and August 1975 to examine the thermal structure of the lake and to analyze chemical and physical characteristics which effect the lake's thermal distribution.

Objectives:

- (1) Evaluate the thermal structure of Lake Texoma for possible revision of the lake's thermal maximum standard.
- (2) Survey the physical characteristics of the lake.
- (3) Survey the chemical water quality of the lake.

MATERIALS AND METHODS

Objective 1 was accomplished by thermal measurements at twenty-eight (28) selected sites in the lake. Data and sample collections were taken on two trips, July 15, 16, 17, and 18, and August 26, 27, and 28, 1975.

Objective 2 was accomplished by measuring dissolved oxygen, temperature, pH, and specific conductance at two (2) feet intervals for depth profile analysis.

Objective 3 was accomplished by analysis of chemical quality of representative samples from Lake Texoma.

In July, samples for analysis were taken at depths above and below thermoclines as detected in objective 2. This procedure allowed for both epilimnetic and hypolimnetic measurements necessary for overall understanding of the chemical content of each sample column. In August, samples were taken from various depths reflecting the midway point from the surface to the bottom of each selected sample column.

DESCRIPTION OF THE STUDY AREA

Denison Dam and Lake Texoma are located on the Texas-Oklahoma border at the confluence of the Washita and Red rivers (Figure 1). This impoundment was constructed by the U.S. Army Corps of Engineers in 1944 primarily for flood control, hydroelectric power generation, and a common water supply for the two states. Lake Texoma has a drainage area of 39,719 square miles of which approximately 33,783 square miles are contributing. Maximum and mean depths measured at the top of the power pool elevation are 142 feet and 30.6 feet, respectively. During this study 9,803 acre-feet per year or 0.36% of the 2,773,300 acre-feet capacity reservoir was used as a water supply for domestic, municipal, industrial, and agricultural needs (OWRB, 1976).

Sample sites for this study were selected to provide an adequate, overall cross section of the lake and to consider tributary-induced stratifications which effect the thermal distributions within the lake.

Physical and chemical measurements were collected during July 15, 16, 17, and 18, and August 26, 27, and 28, 1975, from twenty-eight (28) sites on Lake Texoma. Thirteen transects were established at various locations in the lake (Figure 1) with each assigned one to three sampling points as necessary.

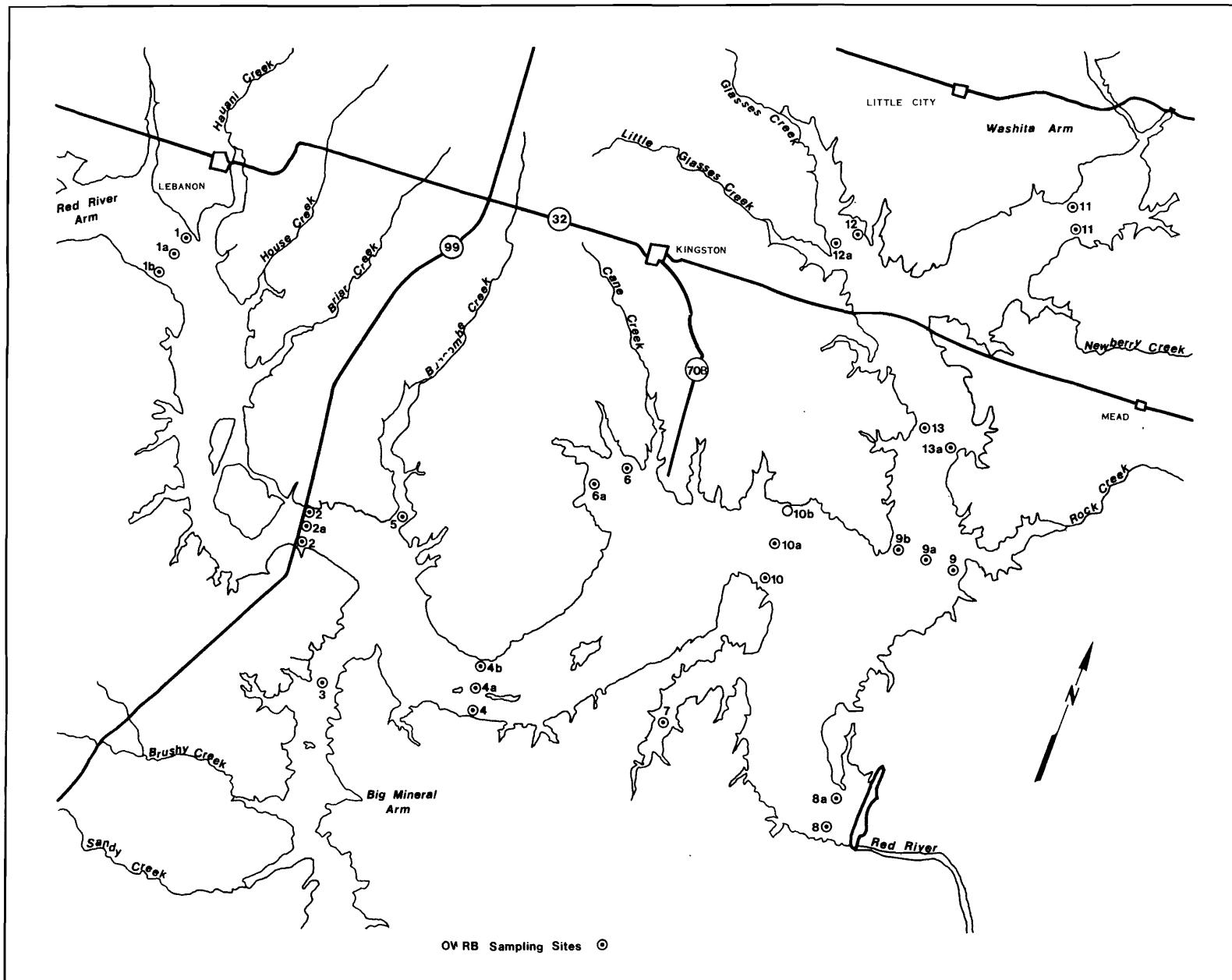
Physical measurements of temperature, dissolved oxygen, pH, and specific conductance were made with a Martek Model-in-site (166-ID Readout) water quality analyzer. A depth profile of the physical parameters was recorded for each site at two feet increments from the surface to the bottom of the reservoir. Measurement of the bottom depth of each site was performed using a Lowrange depth meter (Model 4FG275).

Chemical parameters were taken at each site with only one site measured per transect. Samples were obtained using a 1-liter Kemmerer water sampler and were analyzed by the Oklahoma State Department of Health Water Quality Laboratory for total hardness, calcium hardness, total alkalinity, chlorides, dissolved solids, pH, sulfates, total suspended solids, turbidity, and specific conductance.

RESULTS AND DISCUSSION

Chemical and selected physical parameter data are compiled in Tables 1 and 2. Comparisons of specific conductance, dissolved solids, chloride and sulfate concentrations from July upper and lower depth samples at sites 1, 2, and 4 indicate a salinity stratification development overlying the former channel of the Red River as it approaches Denison Dam. A U.S. Army Corps of Engineers report (1976) stated that the Red River

Figure 1. Denison Dam and Lake Texoma with OWRB 1975 sampling sites identified.



contributes 3,300 tons of chlorides to Lake Texoma each day. Allochthonous chlorides and sulfates originating in the gypsum flats in southwest Oklahoma (USGS, 1972), compose a major portion of the dissolved solids in the Red River and relate directly to its specific conductance. At site 1 the Red River enters Lake Texoma with a relatively homogenous composition. Stratification of chlorides, dissolved solids, specific conductance, and both total and calcium hardness becomes detectable at site 2. At site 4 this stratification becomes pronounced and at sites 8 and 10 stratification deteriorates.

Physical parameters measured *in situ* are listed in Tables 3 and 4. Dissolved oxygen concentrations at sites 2, 4, and 10 decreased with increased conductivity and depth.

The lake's temperature in July ranged from 30.84°C (87.51°F) at a depth of 2 feet at site 5 to 23.30°C (73.94°F) at a depth of 70 feet at site 8 with an overall mean of 28.88°C (83.99°F). In August the water temperature ranged from 30.72°C (87.30°F) at the surface at site 11 to 26.19°C (79.14°F) at a depth of 70 feet at site 8 with a mean of 28.88°C (83.99°F). The temperature data presented in Tables 3 & 4 does not express temperatures greater than 90°F. A report from the Texas Electric Service Company (Huston and Mitchell, 1973) cites temperatures in excess of 90°F occurring in isolated arms of the reservoir. However, these temperatures do not reflect the average trend for the epilimnion, but rather special cases.

Table 1. Chemical quality analysis from two depths at selected sites per transect in Lake Texoma, July 1975, OWRB.

SITE	DATE (1975)	DEPTH (ft.)	TOTAL HARDNESS	Ca++ HARDNESS	PARAMETERS (mg/L except as noted)						TURB.*	SPEC. COND.**
					TOTAL ALKALINITY	CHLORIDES	pH*	DISSOLVED SOLIDS	TSS	SULFATES		
T-1	7/15	6	449	324	119	483	8.3	1365	14	250	7.5	2300
		12	501	369	125	571	8.2	1527	153	250	74.0	2310
T-2	7/16	26	289	194	110	247	8.3	784	3	149	5.0	1220
		34	336	237	115	333	7.9	978	3	173	6.9	1420
T-3	7/16	16	259	181	106	233	8.0	736	10	137	12.0	1150
		22	263	177	108	238	7.5	755	3	142	13.0	1100
T-4	7/16	20	279	187	112	238	8.0	775	2	153	4.5	1210
		36	395	276	117	390	7.7	1155	<1	221	8.2	1700
T-5	7/16	22	285	179	108	235	8.1	743	6	137	9.7	1020
		30	257	179	108	235	8.1	743	64	137	32.0	1080
T-6a	7/17	20	259	174	117	183	8.1	645	2	127	2.5	999
		32	272	181	117	207	7.7	703	2	137	4.8	1000
T-7	7/17	14	259	166	115	190	8.2	656	1	127	2.8	1010
		26	259	181	117	216	7.7	718	2	137	4.2	1110
T-8	7/17	12	259	170	117	183	8.2	668	53	142	2.5	999
		24	263	185	115	214	7.7	708	3	134	4.7	1080
T-9b	7/17	10	265	170	117	154	8.1	612	2	142	5.2	820
		14	254	164	121	154	8.1	627	900	145	5.1	900
T-10a	7/17	26	259	170	119	166	8.3	628	2	134	4.7	830
		32	259	174	119	178	7.9	653	187	137	17.0	900
T-11	7/18	26	313	198	153	57	8.3	512	3	158	4.7	650
		34	336	222	174	69	8.0	548	66	153	37.0	690
T-12a	7/18	18	267	177	129	88	8.3	486	4	124	2.2	660
		36	282	196	142	83	7.8	519	42	142	29.0	710
T-13	7/18	18	270	162	121	130	8.1	562	3	130	2.2	810
		34	267	170	127	121	8.0	562	2	137	4.5	710
Mean			294.5	198.6	121.4	215.2	8.0	744.9	61.3	152.1	11.8	1091.8
Standard Deviation			62.7	50.5	12.2	119.3	0.2	251.4	181.2	34.4	15.8	430.0

* Standard units

** μmhos

Table 2. Chemical quality analysis from selected sites per transect in Lake Texoma, August 1975, OWRB.

SITE	DATE (1975)	DEPTH (ft.)	TOTAL HARDNESS	Ca++ HARDNESS	PARAMETERS (mg/L except as noted)						SPEC. COND.**		
					TOTAL ALKALINITY	CHLORIDES	pH*	DISSOLVED SOLIDS	TSS	SULFATES	TURB.*		
T-1	8/26	6	426	299	103	411	8.2	1206	***	240	15.0	1750	
T-2	8/27	34	313	202	103	289	8.1	906	9	185	5.5	1100	
T-3	8/27	16	258	176	95	244	7.8	769	17	153	3.0	940	
T-4	8/27	22	260	196	101	244	7.8	776	4	153	1.0	950	
T-5	8/27	16	258	188	95	270	8.0	836	11	167	2.0	850	
T-6	8/28	26	274	176	97	223	8.1	734	4	153	0.8	800	
T-7	8/28	22	266	166	107	202	8.0	702	3	149	0.5	950	
T-8	8/28	30	280	172	105	185	7.9	697	3	167	0.4	750	
T-9b	8/28	6	241	155	120	166	8.2	629	5	134	0.9	650	
T-10a	8/28	14	289	176	103	198	8.1	705	4	158	1.0	1050	
T-11	8/28	14	301	192	130	69	8.1	549	8	185	2.5	700	
T-12	8/28	26	276	166	109	124	8.2	532	6	127	1.5	600	
T-13	8/28	18	225	178	107	120	8.1	552	3	145	1.0	600	
Mean				282.1	186.7	105.8	211.2	8.1	737.9	6.4	162.8	2.7	899.2
Standard Deviation				49.2	34.7	9.8	87.0	.1	179.8	4.2	28.7	4.0	304.0

* Standard units

** μmhos

*** Not determined

Table 3. *In situ* physical analysis for all sampling sites in Lake Texoma.
July 1975, OWRB.

SITE: T1 (Hauani Creek)	DATE: 7/15/75	TIME: 3:15 p.m.
LOCATION: 1000 yards west of Wilson Creek mouth. South bank road to north bank, 400 yards from north bank.		BOTTOM DEPTH: 14 feet

<u>DEPTH</u> (feet)	<u>pH</u> (su)	<u>D.O.</u> (mg/L)	<u>SPECIFIC CONDUCTIVITY</u> (μ mho/cm)	<u>TEMP.</u> ($^{\circ}$ C)
S	8.87	7.80	2785	30.07
2	8.84	7.87	2786	30.08
4	8.82	7.84	2785	30.11
6	8.80	7.73	2797	30.02
8	8.78	7.57	2819	29.92
10	8.74	7.52	3065	29.53
12	8.59	6.47	3896	28.95
14	8.57	6.30	3903	28.89

SITE: T1a	DATE: 7/15/75	TIME:
LOCATION: Midway		BOTTOM DEPTH: 8.3 feet

<u>DEPTH</u> (feet)	<u>pH</u> (su)	<u>D.O.</u> (mg/L)	<u>SPECIFIC CONDUCTIVITY</u> (μ mho/cm)	<u>TEMP.</u> ($^{\circ}$ C)
S	8.83	6.98	2436	30.67
2	8.82	7.11	2437	30.57
4	8.77	7.11	2431	30.55
6	8.75	7.11	2428	30.55
8	8.75	6.97	2423	30.53

SITE: T1b	DATE: 7/15/75	TIME:
LOCATION: South side (bank) 300 yards from south shore		BOTTOM DEPTH: 4.8 feet

<u>DEPTH</u> (feet)	<u>pH</u> (su)	<u>D.O.</u> (mg/L)	<u>SPECIFIC CONDUCTIVITY</u> (μ mho/cm)	<u>TEMP.</u> ($^{\circ}$ C)
S	8.95	8.70	3042	30.77
2	8.93	8.67	3126	30.77
4	8.50	6.54	4700	28.82

Table 3. Continued.

SITE: T2 (Willis Bridge)	DATE: 7/16/75	TIME: 10:15 a.m.		
LOCATION: 400 yards from north bank - 6½ bridge spans from north bank, 100 yards east of bridge.		BOTTOM DEPTH: 40 feet		
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY (μ mho/cm)	TEMP. (°C)
S	8.77	6.26	1160	29.27
2	8.78	6.22	1160	29.29
4	8.75	6.17	1158	29.28
6	8.62	6.12	1159	29.28
8	8.62	6.13	1158	29.29
10	8.62	6.11	1160	29.31
12	8.63	6.11	1168	29.33
14	8.62	6.03	1166	29.34
16	8.62	5.95	1170	29.35
18	8.62	5.96	1168	29.35
20	8.61	5.92	1170	29.35
22	8.62	5.98	1171	29.36
24	8.62	5.96	1176	29.37
26	8.59	5.73	1190	29.33
28	8.58	5.70	1195	29.33
30	8.58	5.70	1210	29.34
32	8.28	3.54	1646	29.54
34	8.07	2.35	1820	29.51
36	7.84	1.15	2250	29.51
38	7.77	0.40	2352	29.15

Table 3. Continued.

SITE: T2a DATE: 7/16/75 TIME: 11:00 a.m.
 LOCATION: 16th span from north side of
 bridge. BOTTOM DEPTH: 39 feet

DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP.* ($^{\circ}\text{C}$)
S	8.84	6.60	1219	*
2	8.85	6.65	1225	*
4	8.84	6.64	1228	*
6	8.83	6.57	1236	*
8	8.73	6.37	1263	*
10	8.70	6.07	1272	*
12	8.65	6.02	1274	*
14	8.62	5.78	1276	*
16	8.59	5.65	1283	*
18	8.57	5.57	1291	*
20	8.57	5.55	1290	*
22	8.55	5.42	1290	*
24	8.58	5.35	1302	*
26	8.46	4.40	1536	*
28	8.41	4.29	1595	*
30	8.34	3.79	1725	*
32	8.27	3.46	1794	*
34	8.21	3.19	1803	*
36	8.16	2.83	1833	*
38	7.99	1.71	2079	*

SITE: T2b DATE: 7/16/75 TIME: 11:15 a.m.
 LOCATION: 3½ spans from south side of Willis
 Bridge (east side of Bridge). BOTTOM DEPTH: 18 feet

DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.87	6.91	1227	29.68
2	8.87	6.88	1228	29.69
4	8.86	6.85	1231	29.63
6	8.81	6.45	1252	29.52
8	8.77	6.06	1266	29.50
10	8.74	5.78	1264	29.47
12	8.71	5.73	1265	29.45
14	8.67	5.71	1268	29.45
16	8.61	5.53	1283	29.45

* Instrument malfunctioned

Table 3. Continued.

SITE: T3 (Big Mineral Bay)	DATE: 7/16/75	TIME: 11:55 a.m.		
LOCATION: 1000 yards past center island - near red conical buoy. Tin boat house on west.		BOTTOM DEPTH: 24 feet		
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY (μ mho/cm)	TEMP. (°C)
S	8.55	5.48	1123	29.24
2	8.56	5.36	1125	29.23
4	8.54	5.33	1125	29.18
6	8.51	5.24	1124	29.12
8	8.50	5.17	1124	29.08
10	8.46	5.18	1123	29.04
12	8.40	4.98	1121	29.01
14	8.39	4.98	1119	28.96
16	8.34	4.87	1118	28.89
18	8.30	4.20	1118	28.88
20	7.85	1.00	1109	28.48
22	7.75	0.78	1108	28.35
24	7.68	0.41	1107	28.22

Table 3. Continued.

SITE: T4 (Treasure Island)	DATE: 7/16/75	TIME: 2:15 p.m.		
LOCATION: From gravel road on south bank - between 2 islands to dirt road on north bank.		BOTTOM DEPTH: 46 feet		
<hr/>				
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.63	5.80	1155	29.60
2	8.67	5.80	1157	29.37
4	8.66	5.64	1157	29.22
6	8.62	5.22	1147	28.91
8	8.52	4.72	1118	28.76
10	8.44	4.55	1119	28.68
12	8.42	4.60	1126	28.67
14	8.39	4.61	1144	28.70
16	8.36	4.53	1168	28.72
18	8.36	4.52	1189	28.76
20	8.36	4.49	1185	28.77
22	8.36	4.49	1186	28.77
24	8.35	4.42	1175	28.75
26	8.25	3.43	1342	28.87
28	8.12	2.91	1408	28.96
30	8.12	2.51	1500	28.98
32	7.98	2.11	1504	28.97
34	7.86	1.65	1662	28.91
36	7.79	0.92	1871	28.96
38	7.72	0.53	1875	28.83
40	7.68	0.34	1911	28.68
42	7.66	0.30	1880	28.60
44	7.65	0.09	1776	28.17
46	7.60	0.08	1781	27.74

Table 3. Continued.

SITE: T4a DATE: 7/16/75 TIME: 1:15 p.m.
 LOCATION: Between Treasure Island on east and smaller island on west on line with two (2) roads. BOTTOM DEPTH: 7 feet

<u>DEPTH</u> (feet)	<u>pH</u> (su)	<u>D.O.</u> (mg/L)	<u>SPECIFIC CONDUCTIVITY</u> ($\mu\text{mho}/\text{cm}$)	<u>TEMP.</u> ($^{\circ}\text{C}$)
S	8.70	5.73	1098	29.41
2	8.71	5.80	1098	29.27
4	8.71	5.79	1102	29.17
6	8.69	5.57	1099	29.02
7	8.65	5.51	1095	28.97

SITE: T4b DATE: 7/16/75 TIME: 1:35 p.m.
 LOCATION: 300 yards of north shore and from dirt boat ramp. BOTTOM DEPTH: 14.3 feet

<u>DEPTH</u> (feet)	<u>pH</u> (su)	<u>D.O.</u> (mg/L)	<u>SPECIFIC CONDUCTIVITY</u> ($\mu\text{mho}/\text{cm}$)	<u>TEMP.</u> ($^{\circ}\text{C}$)
S	8.93	6.84	1031	29.96
2	8.94	6.81	1031	29.89
4	8.93	6.74	1027	29.71
6	8.84	6.59	1076	29.27
8	8.77	6.30	1083	29.20
10	8.74	6.15	1094	29.16
12	8.73	5.99	1071	28.94
14	8.73	5.92	1064	28.85

Table 3. Continued.

SITE: T5 (Buncombe Creek)	DATE: 7/16/75	TIME: 1:55 p.m.		
LOCATION:		BOTTOM DEPTH: 32 feet		
DEPTH (feet)	pH (su)	D.O. (mg/L)	<u>SPECIFIC CONDUCTIVITY</u> ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.88	6.79	1159	30.79
2	8.95	7.04	1163	30.84
4	8.95	7.12	1163	30.84
6	8.95	7.11	1159	30.59
8	8.88	6.64	1152	30.33
10	8.86	6.56	1152	30.27
12	8.86	6.52	1152	30.22
14	8.85	6.39	1152	30.20
16	8.78	5.79	1151	30.05
18	8.72	5.57	1151	29.95
20	8.72	5.79	1150	29.91
22	8.70	5.79	1150	29.89
24	8.67	5.78	1149	29.85
26	8.64	5.55	1150	29.82
28	8.57	4.82	1151	29.78
30	8.31	3.57	1153	29.68
32	8.21	3.28	1153	29.63

Table 3. Continued.

SITE: T6 (Caney Creek)	DATE: 7/17/75	TIME: 11:00 a.m.		
LOCATION:		BOTTOM DEPTH: 54 feet		
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.79	6.55	983	29.13
2	8.82	6.54	984	29.33
4	8.82	6.62	985	29.36
6	8.82	6.56	985	29.36
8	8.82	6.52	985	29.36
10	8.82	6.48	985	29.36
12	8.81	6.39	986	29.35
14	8.77	6.18	992	29.31
16	8.75	5.99	999	29.23
18	8.74	5.95	1000	29.17
20	8.71	5.94	1002	29.09
22	8.67	5.94	1004	28.99
24	8.64	5.68	1009	28.92
26	8.30	3.83	1021	28.64
28	8.03	2.36	1038	28.04
30	7.83	1.10	1179	27.83
32	7.77	1.05	1052	27.71
34	7.72	0.65	1045	27.36
36	7.67	0.45	1055	26.96
38	7.66	0.45	1103	26.83
40	7.65	0.44	1101	26.75
42	7.65	0.41	1066	26.55
44	7.61	0.38	1060	26.42
46	7.61	0.38	1064	26.38
48	7.61	0.35	1062	26.19
50	7.62	0.30	1064	26.10
52	7.62	0.30	1046	25.92
54	7.62	0.37	1044	25.85

Table 3. Continued.

SITE: T6a	DATE: 7/17/75	TIME: 11:45 a.m.		
LOCATION: 600 yards of south bank.		BOTTOM DEPTH: 51 feet		
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DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.84	6.56	987	29.64
2	8.84	6.54	988	29.64
4	8.84	6.50	989	29.61
6	8.83	6.47	990	29.52
8	8.82	6.40	993	29.47
12	8.78	6.00	997	29.38
16	8.74	5.84	1001	29.25
20	8.69	5.45	1005	29.11
24	8.47	3.90	1025	28.91
28	8.09	1.04	1058	28.11
32	7.90	0.55	1080	27.06
36	7.80	0.41	1117	26.60
40	7.72	0.28	1169	26.54
44	7.67	0.28	1098	26.30
48	7.65	0.14	1078	26.12
50	7.65	0.11	1077	25.99

Table 3. Continued.

SITE: T7 (Little Mineral Bayou) DATE: 7/17/75 TIME: 1:15 p.m.
LOCATION: From Cove to American Legion sign
east to west. BOTTOM DEPTH: 46 feet

DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY (μ mho/cm)	TEMP. (°C)
S	8.57	5.60	1029	29.02
2	8.56	5.51	1029	29.03
6	8.55	5.46	1029	29.01
10	8.53	5.40	1027	28.91
14	8.53	5.36	1024	28.82
18	8.17	2.94	1040	28.51
22	7.92	1.34	1075	27.93
26	7.82	0.73	1086	27.52
30	7.77	0.63	1093	27.38
34	7.73	0.45	1077	27.18
38	7.71	0.38	1066	27.01
42	7.76	0.29	1059	26.92
46	7.64	0.18	1052	26.64

Table 3. Continued.

SITE: T8 DATE: 7/17/75 TIME: 2:30 p.m.
 LOCATION: 300 yards off south shore - hexagonal TV antenna on south bank to sand point on north bank approximately one mile west of dam. BOTTOM DEPTH: 78 feet

DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.68	6.43	1012	28.94
6	8.68	6.26	1009	28.84
12	8.46	5.16	1030	28.12
18	7.91	1.10	1026	27.42
24	7.82	0.71	1084	27.06
30	7.77	0.63	1074	26.92
36	7.73	0.57	1048	26.71
42	7.72	0.80	1036	26.39
48	7.65	0.58	1038	25.85
54	7.63	0.44	1034	25.57
60	7.61	0.14	1032	24.95
66	7.61	0.08	1042	23.77
72	7.61	0.07	1066	23.07
78	7.56	0.07	1075	21.38

SITE: T8a DATE: 7/17/75 TIME: 3:00 p.m.
 LOCATION: 75 yards of north shore. BOTTOM DEPTH: 31 feet

DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.73	6.60	1028	29.04
2	8.75	6.63	1027	29.06
6	8.74	6.66	1028	28.98
10	8.73	6.63	1031	28.94
14	8.72	6.63	1033	28.92
18	8.71	6.48	1037	28.88
20	7.84	1.35	1047	27.35
22	7.95	0.85	1049	26.97
26	7.82	0.69	1055	26.95
30	7.80	0.65	1058	26.93

Table 3. Continued.

SITE: T9 (Washita Point)	DATE: 7/17/75	TIME: 3:40 p.m.		
LOCATION: Point 5 to point 10 (Corps map).		BOTTOM DEPTH: 8 feet		
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.70	6.93	872	30.18
2	8.70	8.32	871	30.01
4	8.68	8.49	868	29.54
6	8.71	8.41	865	29.44
8	8.69	8.58	865	29.41

Note: Changed units - battery low - using #2 surface unit with #1 probe.

SITE: T9a	DATE: 7/17/75	TIME: 4:00 p.m.		
LOCATION: Midway.		BOTTOM DEPTH: 20 feet		
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.75	8.37	922	29.92
2	8.78	8.58	922	29.83
4	8.78	8.54	921	29.79
6	8.78	8.41	921	29.75
8	8.77	8.58	921	29.72
10	8.76	8.49	921	29.65
12	8.75	8.43	923	29.59
14	8.74	8.30	924	29.54
16	8.73	8.29	924	29.51
18	8.73	8.25	924	29.48
20	8.72	8.25	924	29.48

Table 3. Continued.

SITE: T9b (Washita Point)		DATE: 7/17/75	TIME: 4:45 p.m.
LOCATION: 100 yards off Washita Point.		BOTTOM DEPTH: 18 feet	
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)
0	8.73	8.29	914
2	8.73	8.21	915
4	8.73	8.22	915
6	8.72	8.08	912
8	8.71	7.94	907
10	8.64	7.44	890
12	8.57	6.92	875
14	8.45	6.12	860
16	8.44	6.22	864
18	8.34	5.51	856

Table 3. Continued.

SITE: T10 DATE: 7/17/75 TIME: 5:15 p.m.
 LOCATION: Preston Point to McBride, 150 yards. BOTTOM DEPTH: 60 feet

DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.72	8.05	936	29.36
2	8.72	8.06	936	29.37
6	8.71	7.99	935	29.33
10	8.64	7.54	921	29.10
14	8.61	7.33	922	28.99
18	8.60	7.12	926	28.95
22	8.58	6.95	928	28.92
26	8.57	6.85	928	28.91
30	8.55	6.79	932	28.91
32	7.76	2.15	1031	27.88
34	7.87	0.81	1104	27.58
38	7.71	0.74	1036	27.25
42	7.67	0.49	1058	26.77
46	7.63	0.31	1065	26.42
50	7.58	0.08	942	25.18
54	7.53	0.06	971	24.91
58	7.52	0.05	976	24.48
60	7.50	0.05	976	24.29

SITE: T10a DATE: 7/17/75 TIME: 5:45 p.m.
 LOCATION: Midway between Preston Point and McBride. BOTTOM DEPTH: 34 feet

DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY (mmho/cm)	TEMP. ($^{\circ}\text{C}$)
S	8.79	8.71	947	29.66
2	8.79	8.63	948	29.72
6	8.78	8.50	946	29.72
10	8.77	8.47	945	29.67
14	8.74	8.18	936	29.58
18	8.73	8.15	932	29.53
22	8.70	7.88	919	29.47
26	8.72	7.89	924	29.44
30	8.64	5.44	904	28.75
32	8.39	4.46	913	28.74
34	8.04	2.71	938	28.13

Table 3. Continued.

SITE: T10b	DATE: 7/17/75	TIME: 6:00 p.m.		
LOCATION: McBride side.		BOTTOM DEPTH: 9 feet		
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DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
0	8.78	8.59	929	29.76
2	8.78	8.55	930	29.87
4	8.79	8.55	930	29.92
6	8.78	8.54	930	29.93
8	8.77	8.45	930	29.94

Table 3. Continued.

SITE: T11 DATE: 7/18/75 TIME: 9:40 a.m.
 LOCATION: East bank Washita Arm, point from
 big tree to point on west bank. BOTTOM DEPTH: 38 feet

DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.59	6.68	711	29.48
2	8.60	6.68	712	29.50
6	8.59	6.63	712	29.50
10	8.58	6.61	712	29.50
14	8.57	6.50	713	29.48
18	8.53	6.44	717	29.47
22	8.51	6.36	721	29.47
26	8.50	6.27	727	29.46
30	8.34	4.95	736	29.33
32	8.19	3.32	757	28.95
34	8.03	2.78	763	28.83
36	7.92	1.97	756	28.63
38	7.85	0.92	742	28.30

SITE: T11b DATE: 7/18/75 TIME: 10:05 a.m.
 LOCATION: Washita Arm, west bank. BOTTOM DEPTH: 32 feet

DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.55	6.71	718	29.30
2	8.55	6.45	719	29.46
6	8.54	6.42	720	29.46
10	8.54	6.38	720	29.46
14	8.54	6.34	720	29.45
18	8.53	6.29	722	29.45
22	8.52	6.34	724	29.45
26	8.52	6.27	724	29.45
30	8.35	4.85	752	29.27
32	8.27	4.07	752	29.27

Table 3. Continued.

SITE: T12	DATE: 7/18/75	TIME: 10:35 a.m.		
LOCATION: Just below Little Glasses on east, 500 yards of east bank before Cove.	BOTTOM DEPTH: 46 feet			
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.56	6.34	703	29.26
2	8.55	6.30	703	29.29
6	8.55	6.29	704	29.29
10	8.55	6.19	712	29.29
14	8.55	6.12	727	29.28
18	8.54	6.07	738	29.26
22	8.53	6.05	760	29.26
28	8.53	5.92	782	29.28
30	8.52	5.91	784	29.28
32	8.49	5.70	783	29.27
34	8.07	3.11	737	28.85
36	7.78	1.15	730	28.41
38	7.69	0.43	719	27.68
40	7.67	0.41	724	27.65
42	7.63	0.23	731	27.57
44	7.61	0.17	733	27.49
46	7.59	0.17	734	27.49

Table 3. Continued.

SITE: T12a		DATE: 7/18/75	TIME: 11:05 a.m.	
LOCATION: Just above Little Glasses on west 350 yards from west shore.			BOTTOM DEPTH: 48 feet	
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
8	8.57	6.40	688	29.54
2	8.56	6.33	689	29.57
6	8.56	6.35	689	29.60
10	8.55	6.19	694	29.49
14	8.47	5.72	744	29.23
18	8.47	5.72	772	29.19
22	8.44	5.52	765	29.16
26	8.34	4.75	756	29.09
28	8.22	4.57	752	29.05
30	8.11	3.61	719	28.88
32	7.98	3.01	718	28.71
34	7.84	1.96	718	28.61
36	7.77	1.53	720	28.37
38	7.66	0.54	724	28.07
42	7.58	0.12	745	27.25
46	7.57	0.08	780	26.62
48	7.54	0.08	762	25.92

Table 3. Continued.

SITE: T13	DATE: 7/18/75	TIME: 11:45 a.m.		
LOCATION: Railroad bridge north side 100 yards from west bank of railroad.	BOTTOM DEPTH: 38 feet			
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY (μ mho/cm)	TEMP. (°C)
S	8.69	6.65	916	29.36
2	8.69	6.59	915	29.39
6	8.62	6.25	900	29.24
10	8.49	5.67	865	29.01
14	8.45	5.44	853	28.93
18	8.43	5.33	837	28.87
22	8.38	5.28	826	28.81
26	8.34	4.87	819	28.78
30	8.32	4.81	819	28.77
32	8.25	4.65	819	28.76
34	7.81	1.59	791	28.07
36	7.77	1.45	790	27.98
38	7.76	1.42	790	27.92

Table 3. Continued.

SITE: T13a	DATE: 7/18/75	TIME: 12:15 p.m.		
LOCATION: Railroad Bridge, east side perpendicular with first main span from west.		BOTTOM DEPTH: 70 feet		
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.70	6.58	965	29.52
2	8.71	6.55	965	29.53
6	8.68	6.44	961	29.51
10	8.68	6.41	962	29.50
14	8.65	6.41	954	29.48
18	8.63	6.19	947	29.44
22	8.61	6.07	940	29.42
26	8.58	5.96	930	29.37
30	8.53	5.71	916	29.32
32	8.07	3.33	820	28.62
34	7.88	1.86	818	28.22
36	7.73	0.74	797	27.66
38	7.66	0.36	819	27.35
42	7.61	0.13	830	27.01
46	7.59	0.08	840	26.72
54	7.55	0.07	871	25.05
62	7.54	0.07	914	24.15
70	7.54	0.06	915	23.49

Table 4. *In situ* physical analysis for all sample sites in Lake Texoma
August 1975, OWRB.

SITE: T1	DATE: 8/26/75	TIME: 5:00 p.m.		
LOCATION: Hauani Creek		BOTTOM DEPTH: 12 feet		
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DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.66	8.15	1558	27.98
2	8.64	7.44	1568	28.03
4	8.58	6.77	1592	27.95
6	8.52	6.59	1598	27.92
8	8.48	6.25	1659	27.71
10	8.38	6.16	1883	27.63
12	8.29	6.64	1947	27.49
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SITE: T1a	DATE: 8/26/75	TIME: 5:15 p.m.		
LOCATION: Hauani Creek		BOTTOM DEPTH: 8 feet		
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.59	6.94	1569	28.38
2	8.57	6.78	1577	28.44
4	8.50	5.75	1374	27.93
6	8.37	6.43	1850	27.77
8	8.35	6.61	2101	27.44
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SITE: T1b	DATE: 8/26/75	TIME: 5:30 p.m.		
LOCATION: Hauani Creek		BOTTOM DEPTH: 3 feet		
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.72	8.22	1542	28.17
2	8.47	6.79	1674	27.58
3	8.38	6.99	2077	26.97

Table 4. Continued.

SITE: T2		DATE: 8/27/75	TIME: 11:00 a.m.
LOCATION: Willis.			BOTTOM DEPTH: 45 feet
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)
8	8.35	5.15	1232
2	8.35	5.13	1232
4	8.35	5.13	1232
6	8.34	5.12	1233
8	8.34	5.11	1235
10	8.34	5.10	1238
12	8.33	5.15	1238
14	8.31	5.09	1239
16	8.33	5.06	1242
18	8.34	4.97	1243
20	8.34	5.08	1240
22	8.35	5.04	1243
24	8.36	4.87	1243
26	8.35	5.04	1248
28	8.34	4.89	1254
30	8.34	4.78	1258
32	8.31	4.58	1286
34	8.24	4.17	1350
36	8.14	3.35	1448
38	8.08	3.19	1457
40	8.05	2.71	1479
42	8.02	2.47	1480
43	7.92	1.67	1543
44	7.88	0.69	1684

Table 4. Continued.

SITE: T2a	DATE: 8/27/75	TIME: 11:00 a.m.		
LOCATION: 16 span.		BOTTOM DEPTH: 34 feet		
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.40	5.30	1280	29.03
2	8.40	5.38	1279	29.08
4	8.41	5.42	1279	29.07
6	8.41	5.32	1279	29.04
8	8.39	5.19	1280	29.04
10	8.37	4.96	1282	29.02
12	8.36	5.05	1282	29.02
14	8.35	5.05	1282	29.02
16	8.35	5.02	1283	29.05
18	8.35	5.01	1284	29.06
20	8.34	5.02	1284	29.06
22	8.37	5.00	1285	29.06
24	8.33	5.03	1285	29.05
26	8.32	4.99	1285	29.07
28	8.33	4.98	1285	29.07
30	8.34	4.98	1285	29.07
32	8.34	4.90	1299	29.08
34	8.20	4.07	1384	29.20

Table 4. Continued.

SITE: T2b

DATE: 8/27/75

TIME: 11:05 a.m.

LOCATION: 3½ bridge span.

BOTTOM DEPTH: 29.5 feet

DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. (°C)
S	8.42	5.87	1291	29.06
2	8.41	6.01	1292	29.11
4	8.40	5.97	1292	29.10
6	8.38	5.82	1291	29.06
8	8.37	5.73	1291	29.04
10	8.36	5.58	1289	29.03
12	8.35	5.62	1288	29.02
14	8.35	5.67	1288	29.01
16	8.34	5.59	1288	29.01
18	8.34	5.53	1285	29.01
20	8.35	5.50	1279	28.99
22	8.35	5.45	1273	28.97
24	8.35	5.81	1265	28.96
26	8.35	5.58	1262	28.95
28	8.35	5.45	1263	28.93
30	8.35	5.39	1266	28.89

Table 4. Continued.

SITE: T3		DATE: 8/27/75	TIME: 11:40 a.m.
LOCATION: Big Mineral.			BOTTOM DEPTH: 22 feet
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY (μ mho/cm)
S	8.35	6.32	1077
2	8.40	6.35	1082
4	8.38	5.82	1075
6	8.32	5.65	1074
8	8.28	5.47	1074
10	8.23	5.38	1074
12	8.22	5.35	1074
14	8.21	5.33	1074
16	8.19	5.33	1074
18	8.18	5.32	1075
20	8.16	5.28	1075
22	8.15	5.14	1076

Table 4. Continued.

SITE: T4	DATE: 8/27/75	TIME: 12:05 p.m.		
LOCATION: Treasure Island.		BOTTOM DEPTH: 44 feet		
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DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.34	5.68	1102	29.07
2	8.33	5.43	1096	28.92
4	8.28	4.99	1084	28.73
6	8.23	4.86	1083	28.59
8	8.19	4.59	1091	28.54
10	8.16	4.59	1097	28.52
12	8.15	4.60	1100	28.52
14	8.14	4.57	1100	28.51
16	8.12	4.51	1092	28.49
18	8.11	4.59	1098	28.49
20	8.10	4.58	1102	28.49
22	8.11	4.58	1104	28.50
24	8.12	4.59	1104	28.49
26	8.13	4.62	1112	28.49
28	8.14	4.65	1134	28.49
30	8.15	4.67	1145	28.51
32	8.15	4.66	1157	28.52
34	8.16	4.65	1169	28.52
36	8.16	4.71	1179	28.53
38	8.15	4.53	1209	28.55
40	8.14	4.38	1228	28.57
42	8.13	4.34	1232	28.57
44	8.12	4.30	1234	28.58

Table 4. Continued.

SITE: T4a	DATE: 8/27/75	TIME: 12:50 p.m.		
LOCATION: Treasure Island.		BOTTOM DEPTH: 7 feet		
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DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.38	5.67	1032	28.90
2	8.36	5.58	1033	28.95
4	8.36	5.64	1024	28.81
6	8.35	5.69	1042	28.64
7	8.38	6.04	1060	24.45
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SITE: T4b	DATE: 8/27/75	TIME: 1:00 p.m.		
LOCATION: Near Treasure Island.		BOTTOM DEPTH: 14 feet		
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.42	6.43	1168	28.94
2	8.43	6.48	1167	28.92
4	8.44	6.44	1135	28.49
6	8.40	5.93	1147	28.18
8	8.29	5.42	1158	28.07
10	8.25	5.40	1158	28.04
12	8.17	4.91	1148	27.85

Table 4. Continued.

SITE: T5

DATE: 8/27/75

TIME: 1:30 p.m.

LOCATION: Buncombe Creek.

BOTTOM DEPTH: 30 feet

<u>DEPTH</u> <u>(feet)</u>	<u>pH</u> <u>(su)</u>	<u>D.O.</u> <u>(mg/L)</u>	<u>SPECIFIC CONDUCTIVITY</u> <u>(μmho/cm)</u>	<u>TEMP.</u> <u>(°C)</u>
S	8.61	6.49	1156	30.49
2	8.61	6.02	1133	30.17
4	8.54	5.21	1114	29.50
6	8.48	5.00	1110	29.23
8	8.42	4.65	1110	29.15
10	8.38	4.70	1113	29.10
12	8.36	4.72	1118	29.08
14	8.35	4.80	1124	29.07
16	8.35	4.70	1125	29.08
18	8.33	4.81	1142	29.07
20	8.31	4.70	1146	29.07
22	8.27	4.92	1174	29.05
24	8.24	4.85	1179	29.01
26	8.24	4.78	1179	28.95
28	8.23	4.60	1180	28.93
30	8.19	3.97	1181	28.91

Table 4. Continued.

SITE: T6		DATE: 8/28/75	TIME: 9:20 a.m.
LOCATION: Caney Creek.			BOTTOM DEPTH: 55 feet
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)
S	8.49	6.58	985
2	8.53	6.48	986
6	8.53	6.44	986
10	8.52	6.33	987
14	8.52	6.19	986
18	8.50	6.11	986
22	8.48	5.87	987
26	8.38	5.08	998
30	8.30	4.95	1001
34	8.29	4.95	999
38	8.26	4.68	1020
42	8.19	4.33	1048
46	8.15	4.11	1068
50	8.07	3.54	1061
54	7.99	2.55	1075
55	7.88	1.38	1093

Table 4. Continued.

SITE: T6a		DATE: 8/28/75	TIME: 9:35 a.m.
LOCATION: Caney Creek.			BOTTOM DEPTH: 51 feet
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)
S	8.57	6.31	975
2	8.55	6.00	976
6	8.54	5.98	977
10	8.51	5.82	978
14	8.44	5.18	983
18	8.36	4.95	1004
22	8.32	4.95	1008
26	8.32	5.01	1008
30	8.29	5.01	1012
34	8.27	4.98	1012
38	8.23	4.79	1018
42	8.22	4.72	1018
46	8.20	4.01	1019
50	8.07	3.25	1025
51	8.02	3.08	1025

Table 4. Continued.

SITE: T7

DATE: 8/28/75

TIME: 10:50 a.m.

LOCATION: Little Mineral Bayou.

BOTTOM DEPTH: 45 feet

<u>DEPTH</u> <u>(feet)</u>	<u>pH</u> <u>(su)</u>	<u>D.O.</u> <u>(mg/L)</u>	<u>SPECIFIC CONDUCTIVITY</u> <u>(μmho/cm)</u>	<u>TEMP.</u> <u>(°C)</u>
S	8.83	6.55	957	29.05
2	8.72	6.44	958	28.89
6	8.64	5.91	955	28.77
10	8.51	5.62	953	28.63
14	8.48	5.63	954	28.56
18	8.35	4.54	951	28.44
22	8.24	4.38	951	28.38
26	8.19	4.31	951	28.32
30	8.15	4.12	951	28.28
34	8.08	4.01	952	28.26
38	8.04	3.85	952	28.22
42	7.99	3.21	951	28.13
45	7.96	2.89	951	28.08

Table 4. Continued.

SITE: T8	DATE: 8/28/75	TIME: 11:35 a.m.		
LOCATION: Denison Dam.		BOTTOM DEPTH: 78 feet		
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DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	8.95	5.68	946	28.82
6	8.85	5.38	938	28.58
12	8.72	4.92	938	28.43
18	8.61	4.72	937	28.38
24	8.53	4.65	937	28.36
30	8.37	4.67	938	28.38
36	8.34	4.68	938	28.38
42	8.32	4.68	940	28.37
48	8.23	3.59	966	28.31
54	7.89	1.02	1025	27.91
60	7.81	0.12	1033	27.64
66	7.69	0.07	1097	26.80
72	7.68	0.06	1068	25.88
78	7.57	0.05	909	23.45

SITE: T8a	DATE: 8/28/75	TIME: 12:05 p.m.		
LOCATION: Denison Dam.		BOTTOM DEPTH: 30 feet		
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DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	9.00	6.88	965	28.98
2	8.97	6.83	967	29.06
6	8.87	6.73	964	29.01
10	8.77	5.84	958	28.77
14	8.60	5.48	955	28.54
18	8.56	5.43	955	28.49
22	8.52	5.36	951	28.46
26	7.49	5.36	951	28.45
30	8.45	5.23	956	28.45

Table 4. Continued.

SITE: T9	DATE: 8/28/75	TIME: 12:40 p.m.		
LOCATION: Washita Point.	BOTTOM DEPTH: 8 feet			
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	10.44	7.30	945	29.71
2	9.73	7.24	944	29.65
4	9.67	7.24	941	29.54
6	9.51	7.01	927	29.16
8	9.32	7.06	929	29.05
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SITE: T9a	DATE: 8/28/75	TIME: 1:00 p.m.		
LOCATION: Washita Point (midway).	BOTTOM DEPTH: 20 feet			
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	10.34	7.00	883	29.23
2	9.73	6.78	885	29.17
6	9.58	6.81	894	29.16
10	9.37	6.67	918	28.97
14	9.27	6.57	920	28.92
18	9.19	6.58	920	28.92
20	9.08	6.56	921	28.92
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SITE: T9b	DATE: 8/28/75	TIME: 1:10 p.m.		
LOCATION: Washita Point.	BOTTOM DEPTH: 18 feet			
DEPTH (feet)	pH* (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. ($^{\circ}\text{C}$)
S	*	7.16	892	29.64
2	9.96	7.04	891	29.62
6	9.65	6.63	875	29.40
10	9.34	5.92	843	28.88
14	9.29	5.75	842	28.78
15	9.21	5.78	843	28.77

* Instrument malfunctioned

Table 4. Continued.

SITE: T10		DATE: 8/28/75	TIME: 9:30 a.m.
LOCATION: Preston Point.			BOTTOM DEPTH: 58 feet
DEPTH (feet)	pH (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY (μ mho/cm)
S	8.83	7.09	998
2	8.69	6.45	984
6	8.61	5.85	965
10	8.49	5.57	968
14	8.46	5.35	967
18	8.41	5.17	974
22	8.38	5.17	972
26	8.37	5.16	972
30	8.35	5.11	977
34	8.20	4.05	1032
38	8.12	3.76	1050
42	8.05	3.27	1082
46	7.99	2.98	1083
50	7.95	2.58	1075
54	7.83	0.74	1114
58	7.72	0.46	1120

Table 4. Continued.

SITE: T10a DATE: 8/28/75 TIME: 10:05 a.m.
 LOCATION: Midway. BOTTOM DEPTH: 30 feet

<u>DEPTH</u> (feet)	<u>pH</u> (su)	<u>D.O.</u> (mg/L)	<u>SPECIFIC CONDUCTIVITY</u> ($\mu\text{mho}/\text{cm}$)	<u>TEMP.</u> ($^{\circ}\text{C}$)
S	8.52	6.13	940	28.47
2	8.47	6.06	941	28.52
6	8.46	6.01	941	28.54
10	8.44	5.91	940	28.52
14	8.42	5.78	941	28.50
18	8.41	5.58	941	28.49
22	8.37	5.00	938	28.50
26	8.32	5.10	933	28.48
30	8.26	4.82	926	28.42

SITE: T10b DATE: 8/28/75 TIME: 10:00 a.m.
 LOCATION: McBride. BOTTOM DEPTH: 9 feet

<u>DEPTH</u> (feet)	<u>pH</u> (su)	<u>D.O.</u> (mg/L)	<u>SPECIFIC CONDUCTIVITY</u> ($\mu\text{mho}/\text{cm}$)	<u>TEMP.</u> ($^{\circ}\text{C}$)
S	8.56	6.71	909	28.71
2	8.54	6.62	910	28.75
4	8.53	6.60	911	28.79
6	8.52	6.42	911	28.76
8	8.51	6.47	909	28.75
9	8.51	6.39	908	28.74

Table 4. Continued.

SITE: T11

DATE: 8/28/75

TIME: 3:00 p.m.

LOCATION: Washita arm.

BOTTOM DEPTH: 38 feet

<u>DEPTH</u> <u>(feet)</u>	<u>pH*</u> <u>(su)</u>	<u>D.O.</u> <u>(mg/L)</u>	<u>SPECIFIC CONDUCTIVITY</u> <u>(μmho/cm)</u>	<u>TEMP.</u> <u>(°C)</u>
S	*	6.75	708	30.72
2	*	7.15	708	30.62
8	*	5.44	709	29.84
14	*	5.14	723	29.57
20	*	4.65	736	29.47
26	*	4.80	790	29.35
32	*	4.50	835	29.25
38	*	3.08	824	29.17

SITE: T11b

DATE: 8/28/75

TIME: 3:10 p.m.

LOCATION: Washita arm.

BOTTOM DEPTH: 33 feet

<u>DEPTH</u> <u>(feet)</u>	<u>pH*</u> <u>(su)</u>	<u>D.O.</u> <u>(mg/L)</u>	<u>SPECIFIC CONDUCTIVITY</u> <u>(μmho/cm)</u>	<u>TEMP.</u> <u>(°C)</u>
S	*	7.53	696	30.08
2	*	7.42	698	30.15
8	*	6.18	722	29.80
14	*	5.27	756	29.44
20	*	5.07	754	29.27
26	*	4.48	770	29.10
32	*	4.24	816	29.05

* Instrument malfunctioned

Table 4. Continued.

SITE: T12 DATE: 8/28/75 TIME: 3:30 p.m.
 LOCATION: Little Glasses before cave. BOTTOM DEPTH: 46 feet

DEPTH (feet)	pH* (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. (°C)
S	*	6.94	735	29.83
2	*	6.80	737	29.87
8	*	6.70	733	29.79
14	*	5.24	729	29.54
20	*	4.40	745	29.07
26	*	4.58	755	28.98
32	*	4.57	748	28.94
38	*	4.38	768	28.86
44	*	4.13	778	28.80

SITE: T12a DATE: 8/28/75 TIME: 3:45 p.m.
 LOCATION: 350 yards west above Little Glasses. BOTTOM DEPTH: 48 feet

DEPTH (feet)	pH* (su)	D.O. (mg/L)	SPECIFIC CONDUCTIVITY ($\mu\text{mho}/\text{cm}$)	TEMP. (°C)
S	*	6.80	733	29.85
2	*	6.22	733	29.81
8	*	5.34	725	29.57
14	*	4.92	724	29.17
20	*	4.86	728	29.06
26	*	4.85	729	29.03
32	*	4.74	733	29.01
38	*	3.50	770	28.87
44	*	2.47	771	28.77
48	*	1.82	767	28.63

* Instrument malfunctioned

Table 4. Continued.

SITE: T13 DATE: 8/28/75 TIME: 2:05 p.m.
 LOCATION: Railroad Bridge. BOTTOM DEPTH: 34 feet

<u>DEPTH</u> (feet)	<u>pH*</u> (su)	<u>D.O.</u> (mg/L)	<u>SPECIFIC CONDUCTIVITY</u> ($\mu\text{mho}/\text{cm}$)	<u>TEMP.</u> ($^{\circ}\text{C}$)
S	*	6.91	769	29.58
2	*	6.74	769	29.57
6	*	6.33	767	29.45
10	*	6.13	765	29.33
14	*	5.43	758	29.14
18	*	4.96	756	28.92
22	9.89	4.72	755	28.87
26	9.66	4.68	755	28.86
30	9.44	4.45	763	28.83
34	9.15	3.94	785	28.79

SITE: T13a DATE: 8/28/75 TIME: 2:20 p.m.
 LOCATION: Railroad Bridge. BOTTOM DEPTH: 80 feet

<u>DEPTH</u> (feet)	<u>pH</u> (su)	<u>D.O.</u> (mg/L)	<u>SPECIFIC CONDUCTIVITY</u> ($\mu\text{mho}/\text{cm}$)	<u>TEMP.</u> ($^{\circ}\text{C}$)
S	10.60	6.71	805	29.71
2	10.15	6.72	807	29.70
8	9.88	6.45	778	29.58
14	9.88	5.79	764	29.22
20	9.66	4.80	768	28.95
26	9.51	4.64	779	28.87
32	9.22	4.55	828	28.75
38	9.07	4.37	846	28.69
44	8.72	3.05	953	28.33
50	8.47	1.79	982	28.17
56	8.35	1.42	988	27.98
62	8.14	0.12	1020	27.25
68	7.99	0.05	978	26.53
74	7.95	0.04	932	25.82
80	7.88	0.05	969	25.57

* Instrument malfunctioned

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