

*TEXAS
WATER
DEVELOPMENT
BOARD*



Report 157

*A SURVEY OF THE
SUBSURFACE SALINE WATER
OF TEXAS*

*VOLUME 2
CHEMICAL ANALYSES
OF SALINE WATER*

September 1972

Reprinted January 1980
by
Texas Department of Water Resources

TEXAS WATER DEVELOPMENT BOARD

REPORT 157

**A SURVEY OF THE
SUBSURFACE SALINE WATER
OF TEXAS**

**VOLUME 2
CHEMICAL ANALYSES OF SALINE WATER**

By

**CORE LABORATORIES, INC.
Consulting & Engineering Department
Dallas, Texas**

Prepared under contract for the
Texas Water Development Board

September 1972

Reprinted January 1980
by
Texas Department of Water Resources

TEXAS WATER DEVELOPMENT BOARD

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The data in this volume are grouped by county, and within each county the data are sorted by average depth. The beginning page number of each county grouping is given below. Discussion of the data and their use may be found in Volume 1.

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SOURCES OF SALINITY DATA

The last (fourteenth) column of the data sheets provides reference to the sources of salinity data. Codes used in this column are as follows:

CODE	SOURCE
A	"Saline-Water Resources of Texas," by A. G. Winslow and L. R. Kister. U.S. Geological Survey Water-Supply Paper 1365. 1956.
B	Resistivity of water samples in East Texas, compiled by the American Petroleum Institute.
C	"A Survey of Resistivities of Water from Subsurface Formations in West Texas and Southeastern New Mexico," compiled by Permian Basin Section, the American Institute of Mining, Metallurgical, and Petroleum Engineers.
D	"Increasing Concentrations of Subsurface Brines with Depth," by Parke A. Dickey. Presented at Kansas University Symposium on Geochemistry of Subsurface Brines, Lawrence, Kansas, Mar. 1968.
E	Interstitial water resistivity material, compiled by the American Petroleum Institute.
F	"Chemical Characteristics of Waters from the Canyon, Strawn, and Wolfcamp Formations in Scurry, Kent, Borden, and Howard Counties, Texas," by W. C. Elliott, Jr., in <i>Petroleum Engineer</i> , 1953.
G	"The Chemical Analyses of Brines from Some Fields in North and West Texas," by H. S. Beeler and others. Compilation of the American Institute of Mining, Metallurgical, and Petroleum Engineers.
H	"Chemical Analyses and Electrical Resistivities of Oilfield Brines from Fields in East Texas," by M. E. Hawkins, W. D. Dietzman, and C. A. Pearson. U.S. Bureau of Mines, RI 6422. 1964.
I	Formation waters resistivities catalog, compiled by Texaco, Inc.
J	Laboratory analyses from files of the Texas Water Development Board.
K	Resistivities and chemical analyses of formation water from the west central Texas area, compiled by the American Institute of Mining, Metallurgical, and Petroleum Engineers. 1960.
L	Same as above, 1965.
M	Laboratory analyses (additional) from files of the Texas Water Development Board.
N	Unpublished laboratory analysis data, Byron Jackson, Inc.
O	Unpublished laboratory analysis data, Dowell, Inc.
P	"Survey of Water Resistivities of Productive Formations of the Panhandle Region of Texas," compiled by the American Petroleum Institute. 1960.
Q	Miscellaneous sources.

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

ANDERSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1500	56,818											WILCOX	3B
CALCULATED FROM RW = 0.120 AT 75 DEG (F)													
***** DEPTH RANGE 3001 - 4000 *****													
3461	106,857	37,278	3,481	580	65,056	183	279				1.076	WOODBINE	16H
3500	98,572											WOODBINE	2B
CALCULATED FROM RW = 0.074 AT 75 DEG (F)													
3556	103,565	36,439	3,095	550	62,950	195	336					WOODBINE	17H
3617	107,660	37,615	3,451	582	65,499	184	329				1.076	WOODBINE	18H
3768	84,293	30,900	1,443	396	51,061	157	336				1.061	WOODBINE	40H
3775	85,435	31,362	1,412	411	51,770	163	317				1.060	WOODBINE	39H
4000	82,857											WOODBINE	5B
CALCULATED FROM RW = 0.085 AT 75 DEG (F)													
***** DEPTH RANGE 4001 - 5000 *****													
4011	81,232	29,595	1,580	380	49,300	127	250				1.059	WOODBINE	41H
4012	82,880	30,154	1,610	415	50,300	139	262				1.060	WOODBINE	42H
4048	81,869	29,833	1,620	350	49,600	118	348				1.059	WOODBINE	43H
4077	81,171	29,900	1,428	305	49,200	180	158				1.058	WOODBINE	44H
4593	121,258	42,100	4,300	560	74,000		298				1.082	EAGLE FORD SUB-CLARKSVILLE	236H 8B
4600	106,000												
CALCULATED FROM RW = 0.071 AT 75 DEG (F)													
4612	104,795	33,890	3,087	563	67,000	1	254				1.078	EAGLE FORD	235H
4667	100,449	35,500	2,600	700	61,600		49				1.074	EAGLE FORD	237H
4700	109,000											WOODBINE	9B
CALCULATED FROM RW = 0.070 AT 75 DEG (F)													
4733	106,377	36,300	4,300	530	64,700	376	171				1.079	WOODBINE	238H
4735	105,406	35,900	350	4,600	64,300		256				1.076	WOODBINE	239H
4752	104,646	36,201	3,444	741	64,000	1	259				1.075	WOODBINE	240H
5000	106,783	36,294	4,750	242	65,000	247	200	50		6.5	1.075	WOODBINE	01300
***** DEPTH RANGE 5001 - 6000 *****													
5106	88,646	31,201	2,304	656	53,494	331	660				1.063	EAGLE FORD SUB-CLARKSVILLE	28H 4B
5150	88,572												
CALCULATED FROM RW = 0.081 AT 75 DEG (F)													
5192	89,920	32,043	2,320	474	54,613	67	403				1.064	EAGLE FORD	29H
5220	98,611	35,229	2,485	442	59,839	119	427				1.066	WOODBINE	162H
5220	102,439	36,432	2,806	474	62,232	119	376				1.073	WOODBINE	163H
5220	102,509	36,460	2,798	474	62,232	139	406				1.073	WOODBINE	164H
5220	105,377	37,245	3,066	493	64,005	135	433				1.075	WOODBINE	165H
5324	107,252	37,637	3,300	570	65,200	121	424				1.075	WOODBINE	166H
5344	107,641	37,322	3,690	610	65,600	90	329				1.075	WOODBINE	169H
5347	106,656	40,400	3,400	466	62,000		390				1.075	WOODBINE	170H
5350	103,000											WOODBINE	6B
CALCULATED FROM RW = 0.072 AT 75 DEG (F)													
5350	100,000											WOODBINE	7B
CALCULATED FROM RW = 0.073 AT 75 DEG (F)													
5360	105,222	37,100	3,100	600	64,300	30	92				1.075	WOODBINE	168H
5390	99,872	34,814	3,355	530	60,900	135	138				1.071	WOODBINE	167H

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

ANDERSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
5410	108,573	36,488	3,870	1,260	66,500	123	332				1.076	WOODBINE	171H
5416	109,291	37,783	3,830	620	66,500	137	421				1.076	WOODBINE	172H
5681	93,790	32,910	3,000	430	57,000	190	260				1.068	WOODBINE	341H
5700	85,714				CALCULATED FROM RW = 0.083 AT 75 DEG (F)								10B
5715	80,870	28,300	1,900	900	49,200	302	268				1.065	EAGLE FORD	335H
5751	94,068	32,900	3,000	525	57,600		43				1.067	WOODBINE	342H
5754	95,425	34,300	2,700	130	57,600	421	274				1.069	WOODBINE	343H
5800	88,572				CALCULATED FROM RW = 0.081 AT 75 DEG (F)								11B
5935	91,237	31,000	3,300	800	55,800	325	12				1.075	WOODBINE	337H
5940	92,134	31,400	3,334	778	56,300	255	67				1.074	WOODBINE	338H
5950	98,572				CALCULATED FROM RW = 0.074 AT 75 DEG (F)								12B
5950	92,857				CALCULATED FROM RW = 0.078 AT 75 DEG (F)								13B
5950	104,516	35,800	3,400	990	63,800	215	311				1.076	WOODBINE	340H
5951	103,441	35,400	3,800	680	62,900	393	268				1.074	WOODBINE	339H
5958	83,230	27,900	3,900	350	50,500	556	24				1.065	EAGLE FORD	336H
5998	102,800	33,240	2,420	445	56,900	103	460	60		6.2	1.067	SUB-CLARKSVILLE	635J
6000	104,000	34,800	2,960	375	59,900	84	360	138		6.1	1.068	SUB-CLARKSVILLE	636J
6000	102,800	34,100	2,960	325	59,400	103	375	55		6.1	1.067	SUB-CLARKSVILLE	637J
6000	99,400	33,550	2,910	505	57,900	145	405	52		6.1	1.065	SUB-CLARKSVILLE	638J
***** DEPTH RANGE 6001 - 7000 *****													
6008	110,400	34,750	2,960	475	59,900	100	355	140		6.1	1.072	SUB-CLARKSVILLE	634J
***** DEPTH RANGE 8001 - 9000 *****													
8951	203,132	54,259	20,600	2,060	125,900	267	46				1.141	RODESSA	362H
8977	163,121	43,556	16,800	1,480	101,000	248	37				1.116	RODESSA	363H
9000	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)								1B
***** DEPTH RANGE 9001 - 10000 *****													
9040	210,162	58,100	20,000	1,778	129,800	233	251				1.148	RODESSA	34H
9041	212,267	61,100	17,400	2,200	131,200	367					1.150	RODESSA	15H
9052	203,281	54,700	20,100	2,153	125,900	269	159				1.143	RODESSA	364H
9630	130,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)								PETTET-TRAVIS PK 738SP
***** DEPTH RANGE 10001 - 11000 *****													
10057	165,116	48,083	13,620	1,255	101,800	290	66				1.114	RODESSA	229H
10870	130,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)								PETTET-TRAVIS PK 677SP
10900	19,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)								PETTET-TRAVIS PK 749SP

TEXAS WATER DEVELOPMENT BOARD

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ANDREWS COUNTY

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57	1,740	455	164	53	***** DEPTH RANGE 1 - 1000 *****							OGALLALA FORM	358A
750	3,595				375	587	192					SANTA ROSA	4C
					CALCULATED FROM RW = 1.550 AT 75 DEG (F)								
1200	3,643				***** DEPTH RANGE 1001 - 2000 *****							SANTA ROSA	3C
1290	7,058				CALCULATED FROM RW = 1.530 AT 75 DEG (F)							SANTA ROSA	1C
1595	2,107				CALCULATED FROM RW = 0.799 AT 75 DEG (F)							SANTA ROSA	2C
					CALCULATED FROM RW = 2.527 AT 75 DEG (F)								
3000	80,000				***** DEPTH RANGE 2001 - 3000 *****							YATES	13C
					CALCULATED FROM RW = 0.087 AT 75 DEG (F)								
3005	225,000				***** DEPTH RANGE 3001 - 4000 *****							YATES	14C
3034	195,000				CALCULATED FROM RW = 0.039 AT 75 DEG (F)							YATES	12C
4000	175,000				CALCULATED FROM RW = 0.045 AT 75 DEG (F)							QUEEN	53C
					CALCULATED FROM RW = 0.049 AT 75 DEG (F)								
4249	41,000				***** DEPTH RANGE 4001 - 5000 *****							SAN ANDRES	135C
4250	76,154				CALCULATED FROM RW = 0.162 AT 75 DEG (F)							SAN ANDRES	134C
4274	34,000				CALCULATED FROM RW = 0.092 AT 75 DEG (F)							SAN ANDRES	133C
4400	37,500				CALCULATED FROM RW = 0.190 AT 75 DEG (F)							QUEEN	52C
4400	74,767	23,500	3,170	1,217	42,530	3,336	1,014		7.7	1.058	GRAYBURG	261G	
4410	64,402	22,870	2,100	548	35,030	3,252	602		8.0	1.051	GRAYBURG	262G	
4426	63,846				CALCULATED FROM RW = 0.108 AT 75 DEG (F)							CLEARFORK	299C
4450	92,137	16,509	2,332	600	28,230	3,580	886				PERMIAN	00870	
4477	51,667				CALCULATED FROM RW = 0.130 AT 75 DEG (F)							GRAYBURG	106C
4485	61,847	20,571	1,201	1,291	34,477	4,030	277			1.042	PERMIAN	00860	
4500	37,500				CALCULATED FROM RW = 0.175 AT 75 DEG (F)							ABO	438C
4586	89,757	31,100	2,340	684	50,400	4,460	773		8.6	1.068	SAN ANDRES	266G	
4636	53,333				CALCULATED FROM RW = 0.127 AT 75 DEG (F)							GRAYBURG	109C
4650	248,742	81,200	1,920	9,140	153,000	3,250	232		6.3	1.208	GRAYBURG	263G	
4730	44,506	13,869	1,840	677	23,000	4,320	782	10	7.2	1.025	SAN ANDRES	01370	
4750	74,615				CALCULATED FROM RW = 0.094 AT 75 DEG (F)							GRAYBURG	107C
4750	84,503	26,400	3,295	1,892	50,000	2,380	536		7.1	1.067	GRAYBURG	264G	
4750	86,082	26,800	4,200	1,349	50,200	2,390	1,143		6.6	1.068	GRAYBURG	265G	
4790	120,625				CALCULATED FROM RW = 0.065 AT 75 DEG (F)							GRAYBURG	108C
4800	122,500				CALCULATED FROM RW = 0.064 AT 75 DEG (F)							QUEEN	51C
4977	47,161	16,880	871	278	26,500	2,425	207		5.5	1.039	SAN ANDRES	267G	
					***** DEPTH RANGE 5001 - 6000 *****								
5200	41,761	13,620	1,435	460	21,500	3,940	806		7.7	1.039	SAN ANDRES	268G	

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***** DEPTH RANGE 5001 - 6000 *****													
5250	64,615											HOLT	286C
5298	87,143											SAN ANDRES	132C
5375	49,412											GLORIETA	218C
5550	76,923											GLORIETA	219C
5589	63,846											HOLT	287C
5675	52,778											GLORIETA	220C
5695	250,000											CLEARFORK	300C
5710	43,667											HOLT	285C
5890	9,014											SAN ANGELO	257C
***** DEPTH RANGE 6001 - 7000 *****													
6006	33,200											GLORIETA	217C
6100	38,500											CLEARFORK	298C
6166	33,000											HOLT	288C
6372	18,826											TUBB	377C
6770	16,468											TUBB	375C
6823	159,000											WICHITA-ALBANY	420C
6870	51,667											TUBB	376C
6900	170,000											UPPER CLEARFORK	361C
7000	15,500											FULLERTON	417C
7000	40,333											ABO	437C
***** DEPTH RANGE 7001 - 8000 *****													
7080	41,333											FULLERTON	416C
7298	180,000											WICHITA-ALBANY	421C
7300	149,548	37,811	11,465	5,460	93,524	1,283					1,122	FULLERTON	00690
7325	81,429											LEONARD	211C
7350	95,714											LOWER CLEARFORK	398C
7500	122,500											ABO	440C
7550	102,789	34,150	5,130	346	61,600	1,476				6.7	1,083	UPPER DEVONIAN	2696
7600	84,286											CLEARFORK	297C
7606	66,154											WICHITA-ALBANY	418C
7670	100,000											LEONARD	210C
7730	155,000											ABO	439C
7870	146,667											WOLFCAMP	483C
***** DEPTH RANGE 8001 - 9000 *****													
8300	47,941											SILURO-FUSSELMAN	834C
8364	107,831	36,100	5,065	400	64,700	1,410	156			6.3	1,087	UPPER DEVONIAN	2706
8455	47,941											SILURIAN	916C
8472	180,000											WOLFCAMP	484C
8603	64,590	18,640	4,450	1,050	38,000	2,290	160				1,048	SILURIAN	00580
8662	130,000											WOLFCAMP	481C
8670	29,625											DEVONIAN	779C
8783	46,765											ELLENBURGER	970C
8849	124,375											WICHITA-ALBANY	419C
8948	44,140	14,311	1,256	533	24,350	1,375	870			7.5		ELLENBURGER	7A
8969	120,625											PENN-CISCO	553C
9000	45,000											WOLFCAMP	482C

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

ANDREWS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
9000	75,385											SILURO-FUSSELMAN	837C
***** DEPTH RANGE 8001 - 9000 ***** CALCULATED FROM RW = 0.093 AT 75 DEG (F)													
9044	120,625											PENN GENERAL	694C
9072	91,429											PENN STRAWN	625C
9105	124,375											PENN GENERAL	692C
9160	50,556											DEVONIAN	778C
9482	118,750											PENN GENERAL	693C
9560	120,625											PENN GENERAL	691C
9801	109,000											MCKEE	932C
9801	116,875											MCKEE	934C
9808	87,143											MCKEE	931C
9868	42,667											SILURIAN	917C
9878	115,000											MCKEE	933C
9949	70,000											ELLENBURGER	969C
9951	45,882											PENN BEND	685C
10000	57,302	16,970	3,530	992	33,800	1,840	170				1.043	ELLENBURGER	00080
***** DEPTH RANGE 10001 - 11000 *****													
10014	69,550	21,073	2,852	685	37,500	2,640	232			7.7		ELLENBURGER	8A
10531	286,700	70,198	20,972	3,642	156,100	100	49			5.9		ELLENBURGER	9A
10535	21,210											FUSSELMAN	878C
10550	38,750											FUSSELMAN	879C
10590	116,875											DEVONIAN	776C
10618	200,000											PENN STRAWN	627C
10619	27,500											DEVONIAN	777C
10774	180,000											PENN STRAWN	626C
10850	46,765											ELLENBURGER	967C
***** DEPTH RANGE 11001 - 12000 *****													
11712	45,000											SILURO-FUSSELMAN	836C
11720	25,417											FUSSELMAN	880C
***** DEPTH RANGE 12001 - 13000 *****													
12300	55,455											ELLENBURGER	968C
12610	31,237	9,600	1,636	449	16,690	1,835	1,027			7.2	1.025	DEVONIAN	2716
***** DEPTH RANGE 13001 - 14000 *****													
13430	33,000											SILURO-FUSSELMAN	835C

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

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ANGELINA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
74	1,460		49	15	211	460	1 = 1000	444			JACKSON GROUP	335A
435	1,870	473	72	20	375	609		412			UPPER CLAIBORNE	325A
523	1,000		10		1,400	1		780			QUEEN CITY SAND	304A
541	1,170				250	210		568			UPPER CLAIBORNE	324A
880	400										CARRIZO-WILCOX	579SP
***** DEPTH RANGE 1001 = 2000 *****												
1280	600										Z=2 0=2000 FT	574SP
1390	400										CARRIZO-WILCOX	580SP
1510	1,000	717	10	2	920	91		226			SPARTA SAND	315A
1610	1,150										CARRIZO-WILCOX	581SP
1700	13,000										CARRIZO-WILCOX	575SP
***** DEPTH RANGE 2001 = 3000 *****												
2015	2,600										CARRIZO-WILCOX	583SP
2130	2,700										CARRIZO-WILCOX	536SP
2140	13,800										CARRIZO-WILCOX	584SP
2186	1,090		11	5	140	360		432			CARRIZO SAND	295A
2440	3,700										CARRIZO-WILCOX	577SP
2580	5,000										CARRIZO-WILCOX	537SP
2680	11,200										CARRIZO-WILCOX	576SP
2830	9,400										CARRIZO-WILCOX	585SP
2840	15,000										CARRIZO-WILCOX	538SP
3000	2,320		14	7	858	4		1,024			CARRIZO SAND	294A
***** DEPTH RANGE 3001 = 4000 *****												
3250	10,500										CARRIZO-WILCOX	582SP
3340	29,000										CARRIZO-WILCOX	539SP
***** DEPTH RANGE 4001 = 5000 *****												
4600	3,100										CARRIZO-WILCOX	578SP
4940	54,000										CARRIZO-WILCOX	586SP
***** DEPTH RANGE 9001 = 10000 *****												
9640	36,000										LOWER GLEN ROSE	671SP

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CHEMICAL ANALYSIS OF SALINE WATER

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ARANSAS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
165	1,310	501	9	10	495	28	516			8.2		BEAUMONT CLAY	424A
693	600											QUEEN CITY	21E
786	375,604											QUEEN CITY	22E
900	375,604											QUEEN CITY	23E
***** DEPTH RANGE 1001 - 2000 *****													
1550	18,000											Z-2 0-2000 FT	213SP
1900	733											CARRIZO	20E
1980	27,000											Z-2 0-2000 FT	214SP
***** DEPTH RANGE 2001 - 3000 *****													
2870	26,000											Z-3 2000-4000 FT	215SP
***** DEPTH RANGE 4001 - 5000 *****													
4156	30,000											OLMOS	19E
4170	28,500											Z-4 4000-6000 FT	216SP
4368	30,000											OLMOS	18E
4938	33,000											OLMOS	25E
***** DEPTH RANGE 5001 - 6000 *****													
5904	28,750											WILCOX	26E
***** DEPTH RANGE 6001 - 7000 *****													
6375	130,000											AUSTIN	27E
6602	92,778											CATAHOULA	9E
6639	94,444											CATAHOULA	10E
6715	51,111											CATAHOULA	11E
6750	29,500											Z-5 6000-8000 FT	217SP
***** DEPTH RANGE 7001 - 8000 *****													
7129	58,182											FRIO	12E
7144	19,674											FRIO	4E
7154	19,674											FRIO	5E
7165	19,804											FRIO	6E
7197	19,413											FRIO	7E
7303	20,887											FRIO	8E
7314	51,667											FRIO	1E
7350	146,667											EDWARDS	24E
7607	49,706											FRIO	16E
7680	51,667											FRIO	2E
7809	92,778											FRIO	3E

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ARANSAS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
7835	76,923											FRIO	13E
***** DEPTH RANGE 7001 - 8000 ***** CALCULATED FROM RW = 0.091 AT 75 DEG (F)													
8210	45,588											FRIO	14E
***** DEPTH RANGE 8001 - 9000 ***** CALCULATED FROM RW = 0.148 AT 75 DEG (F)													
965 ₂	62,308											FRIO	17E
965 ₄	70,769											FRIO	15E
***** DEPTH RANGE 9001 - 10000 ***** CALCULATED FROM RW = 0.110 AT 75 DEG (F)													
10948	146,667											EDWARDS	28E
***** DEPTH RANGE 10001 - 11000 ***** CALCULATED FROM RW = 0.055 AT 75 DEG (F)													

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

ARCHER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
300	5,030	1,910	36	14	2,590	216	492					PENNSYLVANIAN	19A
700	17,337	6,030	487	155	10,460	8	197				1.015	CISCO	446
700	16,710				CALCULATED FROM RW = 0.355 AT 75 DEG (F)							CISCO	921
700	16,806				CALCULATED FROM RW = 0.353 AT 75 DEG (F)							CISCO	931
900	51,609	17,120	3,011	851	30,610	7	10			4.3	1.039	CISCO	456
900	51,667				CALCULATED FROM RW = 0.130 AT 75 DEG (F)							CISCO	861
900	52,778				CALCULATED FROM RW = 0.128 AT 75 DEG (F)							CISCO	871
900	51,672	17,120	3,011	851	30,610	7	10				1.039	CISCO	0005K
1000	90,000				CALCULATED FROM RW = 0.080 AT 75 DEG (F)							CISCO	981
1000	92,857				CALCULATED FROM RW = 0.078 AT 75 DEG (F)							CISCO	1011
***** DEPTH RANGE 1001 - 2000 *****													
1020	74,615				CALCULATED FROM RW = 0.094 AT 75 DEG (F)							CISCO	841
1063	128,125				CALCULATED FROM RW = 0.061 AT 75 DEG (F)							CISCO	941
1100	78,667	23,930	4,817	1,164	48,710	9	37			6.5	1.060	CISCO	466
1100	99,666	29,760	6,427	1,585	61,830	7	57			6.6	1.077	CISCO	476
1100	68,754	20,945	4,215	966	42,550	11	67			7.1	1.054	CISCO	486
1100	81,429				CALCULATED FROM RW = 0.086 AT 75 DEG (F)							CISCO	641
1100	77,692				CALCULATED FROM RW = 0.090 AT 75 DEG (F)							CISCO	651
1100	98,572				CALCULATED FROM RW = 0.074 AT 75 DEG (F)							CISCO	661
1100	71,539				CALCULATED FROM RW = 0.098 AT 75 DEG (F)							CISCO	701
1100	69,231				CALCULATED FROM RW = 0.101 AT 75 DEG (F)							CISCO	711
1100	78,667	23,930	4,817	1,164	48,710	9	37			6.5	1.060	CISCO	0001K
1100	99,666	29,760	6,427	1,585	61,830	7	57			6.6	1.077	CISCO	0002K
1100	68,754	20,945	4,215	966	42,550	11	67			7.1	1.054	CISCO	0003K
1120	122,500				CALCULATED FROM RW = 0.064 AT 75 DEG (F)							CISCO	691
1125	109,000				CALCULATED FROM RW = 0.070 AT 75 DEG (F)							CISCO	1051
1140	120,625				CALCULATED FROM RW = 0.065 AT 75 DEG (F)							CISCO	751
1160	120,625				CALCULATED FROM RW = 0.065 AT 75 DEG (F)							CISCO	1131
1300	128,125				CALCULATED FROM RW = 0.061 AT 75 DEG (F)							CISCO	771
1300	126,250				CALCULATED FROM RW = 0.062 AT 75 DEG (F)							CISCO	1111
1300	120,625				CALCULATED FROM RW = 0.065 AT 75 DEG (F)							CISCO	1121
1350	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							CISCO	891
1360	120,625				CALCULATED FROM RW = 0.065 AT 75 DEG (F)							CISCO	911
1370	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							CISCO	971
1370	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							CISCO	1181
1380	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							CISCO	991
1400	117,710	36,120	6,513	1,940	73,100	7	30			6.8	1.089	CISCO	496
1400	97,068	29,110	6,241	1,481	60,200	7	29			6.2	1.076	CISCO	506
1400	124,375				CALCULATED FROM RW = 0.063 AT 75 DEG (F)							CISCO	721
1400	120,625				CALCULATED FROM RW = 0.065 AT 75 DEG (F)							CISCO	731

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AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1400	128,125											CISCO	811
1400	98,572											CISCO	95I
1400	95,714											CISCO	96I
1400	51,971	36,120	6,513	1,940	73,100	7	30			6.8	1.089	CISCO	0004K
1400	97,068	29,110	6,241	1,481	60,200	7	24			6.2	1.076	CISCO	0006K
1406	118,750											CISCO	107I
1420	130,000											CISCO	7MI
1420	128,125											CISCO	100I
1422	120,625											CISCO	103I
1440	130,000											CISCO	74I
1440	122,500											CISCO	114I
1440	128,125											CISCO	114I
1510	130,000											CISCO	116I
1550	128,125											CISCO	88I
1580	128,125											CISCO	76I
1580	128,125											CISCO	117I
1583	118,750											CISCO	105I
1591	118,750											CISCO	102I
1600	170,000											CISCO	82I
1600	143,333											CISCO	85I
1603	122,500											CISCO	109I
1603	122,500											CISCO	110I
1618	109,000											CISCO	108I
1650	122,500											CISCO	84I
1700	218,617				135,000	136	20		YES	6.9	1.132	STRAWN	1244J
1710	140,000											CISCO	67I
1720	150,000											CISCO	75I
1731	146,667											CISCO	104I
1800	150,000											CISCO	68I
1800	18,862		1,581	1,019	11,300		300			6.0	1.010	GUNSITE LM=CISCO	1220J
1800	128,980	39,560	7,160	2,187	80,000		73	9				THOMAS + GUNSITE	1221J
1949	179,520	51,800	14,535	2,090	111,250	21	24				1.147	STRAWN	0015K
***** DEPTH RANGE 2001 - 3000 *****													
2127	98,572											LOWER CISCO	61I
2400	154,900	42,400	11,000	1,750	91,700	16	60			6.6	1.100	CANYON	0017K
2530	155,000											CANYON	61I
2533	159,926	48,500	10,560	1,875	98,970	14	7			6.7	1.126	CANYON	51G
2533	155,000											CANYON	62I
2533	159,926	48,500	10,560	1,875	98,970	14	7			6.7	1.126	CANYON	0007K
2600	150,000											CANYON	60I
2669	158,587	46,250	11,960	1,990	98,200	106	81			5.5	1.130	STRAWN	54G
2669	150,000											STRAWN	51I
2669	158,587	46,250	11,960	1,990	98,200	106	81			5.5	1.130	STRAWN	0020K
***** DEPTH RANGE 3001 - 4000 *****													
3220	140,000											STRAWN	24I
3223	138,620	41,000	10,200	1,721	65,550	69	80			5.3	1.105	STRAWN	52G
3223	133,333											STRAWN	23I

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ARCHER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3223	138,570	41,000	10,200	1,721	85,500	69	80			5.3	1.105	STRAWN	0008K
3400	177,613	52,250	12,000	2,870	110,000	304	165	24		6.1	1.125		01960
3598	175,978	53,050	11,605	2,220	109,050	53				3.5	1.141	STRAWN	536
3598	165,000											STRAWN	291
3598	175,978	53,050	11,605	2,220	109,050	53					1.141	STRAWN	0011K
3600	175,000											STRAWN	301
3670	160,000											STRAWN	501
3690	146,667											STRAWN	251
3720	155,000											STRAWN	451
3750	143,333											STRAWN	411
3750	190,000											STRAWN	461
3750	2,012				1,217					7.2	1.004	STRAWN	1217J
3750	206,200	55,600	15,000	1,850	119,600	30	100			6.6	1.132	STRAWN	0018K
3758	190,000											STRAWN	471
3774	165,000											STRAWN	591
3776	165,000											STRAWN	571
3780	165,000											STRAWN	111
3800	191,959	53,795	16,690	2,313	119,100	43	18			4.2	1.161	STRAWN	556
3800	180,000											STRAWN	321
3800	180,000											STRAWN	331
3800	191,959	53,795	16,690	2,313	119,100	43	18				1.161	STRAWN	0012K
3850	228,100	63,100	17,600	1,700	133,500	30	50			6.0	1.145	CTSCO	0023K
3869	170,000											STRAWN	581
3870	241,400	69,000	18,000	2,670	142,000	50	60			5.9	1.154	VOGTSBERGER	0024K
3890	170,000											STRAWN	421
3957	170,000											STRAWN	441
3960	164,398	47,200	13,200	2,013	101,950	35				3.6	1.134	STRAWN	566
3960	155,000											STRAWN	481
3960	175,000											STRAWN	491
3960	164,398	47,200	13,200	2,013	101,950	35					1.134	STRAWN	0019K
3980	138,667											STRAWN	411
4000	179,520	51,600	14,535	2,090	111,250	21	24			4.2	1.147	STRAWN	576
4000	189,753	54,500	15,230	2,290	117,600	17	116			6.6	1.155	STRAWN	586
4000	170,000											STRAWN	371
4000	180,000											STRAWN	381
4000	170,000											STRAWN	391
4000	188,653	54,500	15,230	2,290	117,600	17	116			6.6	1.155	HAZDA FENDLEY SD	0016K
***** DEPTH RANGE 4001 - 5000 *****													
4009	196,700	53,450	18,420	2,432	122,000	145	91			6.5	1.134	N SAND	1219J
4087	183,896	51,030	16,325	2,274	114,150	105	12			4.2	1.148	STRAWN	596
4087	175,000											STRAWN	261
4087	183,896	51,030	16,325	2,274	114,150	105	12				1.148	STRAWN	0009K
4100	185,000											STRAWN	281
4101	182,462	51,205	15,740	2,173	113,200	104	40			4.3	1.149	STRAWN	606
4101	170,000											STRAWN	271
4101	182,462	51,205	15,740	2,173	113,200	104	40				1.149	STRAWN	0010K
4300	208,572	67,150	15,690	3,458	122,100	97	77			5.4	1.159	STRAWN	616
4300	173,192	47,900	14,520	3,540	106,800	302	130			5.8	1.141	STRAWN	626

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AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 4001 - 5000 *****													
4300	190,000												
4300	165,000											STRAWN	341
4300	180,000											STRAWN	751
4300	172,289	50,200	12,600	2,470	106,400	39	33	47		5.0	1.131	4300 SAND	1215J
4300	208,572	67,150	15,690	3,458	122,100	97	77			5.4	1.159	STRAWN	0013K
4300	173,482	47,900	14,520	3,540	106,800	302	130			5.8	1.141	STRAWN	0014K
4400	200,000											STRAWN	401
4500	180,000											PENN BEND	111
4565	185,126	54,180	13,590	2,550	114,600	174	32			6.6	1.152	CADDO	666
4565	175,000											CADDO	191
4565	185,126	54,180	13,590	2,550	114,600	174	32			6.6	1.152	CADDO	0026K
4680	163,244	46,680	12,755	2,375	101,350	84					1.131	CADDO	0027K
4684	163,244	46,680	12,755	2,375	101,350	84				3.0	1.131	CADDO	676
4690	146,667											PENN BEND	171
4691	120,521	33,130	12,515	1,656	72,750	400	70			5.3	1.101	CADDO	680
4691	120,625											CADDO	211
4697	161,195	44,800	14,340	1,906	100,000	113	36			5.5	1.128	CADDO	696
4697	155,000											CADDO	201
4700	261,338	74,280	23,070	2,231	161,750	7				2.8	1.212	STRAWN	636
4700	160,487	46,320	13,490	1,369	99,200	25	83			6.8	1.137	STRAWN	646
4700	147,924	44,895	9,740	1,738	91,230	229	92			6.2	1.116	BEND	710
4700	140,000											PENN BEND	141
4700	170,000											PENN BEND	151
4700	215,000											STRAWN	541
4700	155,000											STRAWN	551
4700	195,000											STRAWN	561
4700	160,487	46,320	13,490	1,369	99,200	25	83			6.8	1.137	STRAWN	0022K
4700	161,295	44,900	14,340	1,906	100,000	113	36			5.5	1.128	CADDO	0025K
4700	147,924	44,895	9,740	1,738	91,230	229	92			6.2	1.116	BEND	0031K
4800	162,390	45,830	13,190	2,371	100,950	21	28			5.8	1.133	CADDO	706
4800	155,000											CADDO	221
4800	162,390	45,830	13,190	2,371	100,950	21	28			5.8	1.133	CADDO	0028K
4810	162,889	45,230	14,050	2,272	101,000	49	288			6.1	1.132	STRAWN	656
4810	146,667											STRAWN	521
4810	155,000											STRAWN	531
4810	162,889	45,230	14,050	2,272	101,000	49	288			6.1	1.132	STRAWN	0021K
4832	160,000											CADDO LIME	181
4880	130,000											PENN BEND	131
4880	137,066	39,395	10,350	2,099	85,100	36	86			6.0	1.107	BEND	0030K
4881	137,066	39,395	10,350	2,099	85,100	36	86			6.0	1.107	BEND	706
4890	165,000											PENN BEND	121
***** DEPTH RANGE 5001 - 6000 *****													
5030	129,584	38,370	9,000	1,800	80,000	308	106			6.4	1.103	BEND	736
5030	128,125											PENN BEND	101
5030	129,584	38,370	9,000	1,800	80,000	308	106			6.4	1.103	BEND	0029K
5036	128,304	39,550	8,005	1,378	78,720	531	120			7.0	1.100	MISS. LIME	746
5036	126,250											MISSISSIPPI	01
5036	128,304	39,550	8,005	1,378	78,720	531	120			7.0	1.100	MISS LIME	0033K

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

ARMSTRONG COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
2026	15,082											CHERNOSKY	1246J

***** DEPTH RANGE 2001 - 3000 *****
9,000

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CHEMICAL ANALYSIS OF SALINE WATER

ATASCOSA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
227	6,530	1,760	338	121	1,730	2,450	214					MT SELMAN FORM	307A
588	2,690	932	30	15	660	894	366					MT SELMAN FORM	308A
870	700											CARRIZO-WILCOX	614SP
900	3,060	1,220	6	2	850	169	1,600			8.1		MT SELMAN FORM	310A
***** DEPTH RANGE 1001 - 2000 *****													
1200	2,980	931	87	37	435	1,330	420					QUEEN CITY SAND	299A
1314	1,710	667	5	1	497	152	743			8.2		MT SELMAN FORM	309A
1520	700											CARRIZO-WILCOX	615SP
1540	1,650											CARRIZO-WILCOX	610SP
1900	3,600											CARRIZO-WILCOX	611SP
***** DEPTH RANGE 2001 - 3000 *****													
2600	1,000											CARRIZO-WILCOX	612SP
***** DEPTH RANGE 3001 - 4000 *****													
3040	700											CARRIZO-WILCOX	608SP
3395	3,300											CARRIZO-WILCOX	603SP
3600	2,010	820	3	1	322	129	1,402			8.3		CARRIZO SAND	286A
3630	1,550											CARRIZO-WILCOX	613SP
***** DEPTH RANGE 4001 - 5000 *****													
4130	675	244	4	1	44	65	504			8.1		CARRIZO SAND	285A
5000	40,211	15,220	350	91	24,100		410	40		7.4	1.030	NAVARRO	01410
5000	26,952	9,800	150	182	15,000		1,820	11		7.9	1.015	NAVARRO	01420
5000	27,130	10,000	200	30	15,000		1,900			7.8	1.015	NAVARRO	01430
***** DEPTH RANGE 5001 - 6000 *****													
5180	38,000											CARRIZO-WILCOX	604SP
5190	460											CARRIZO-WILCOX	609SP
5243	800	184	44	13	120	72	361	6		7.7	1.002	OLMOS A	01910

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CHEMICAL ANALYSIS OF SALINE WATER

BASTROP COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
							1 - 1000						
63	1,120	198	139	50	580	46	130			7.2		WILCOX GROUP	261A
96	2,620	165	43	60,014	400,023	50,104				8.1		WILCOX GROUP	259A
97	1,990	129	382	83	272	928	278			7.4		WILCOX GROUP	257A
170	1,890	226	271	3	337	621	70	90				MT SELMAN FORM	311A
240	6,580	488	1,220	423	3,400	967	54			7.0		WILCOX GROUP	260A
260	2,050	164	61	27	370	1,080		48		3.7		QUEEN CITY SAND	301A
449	1,700	189	232	94	185	858	270			7.8		CARRIZO SAND	292A
680	1,350	508	25	9	450	3	658					WILCOX GROUP	258A
800	3,890	1,060	220	99	1,700	762	82			7.1		CARRIZO SAND	291A
							1001 - 2000						
1060	3,000											CARRIZO-WILCOX	627SP
1682	17,563											NAVARRO	29E
							2001 - 3000						
2950	7,700											CARRIZO-WILCOX	628SP
							3001 - 4000						
3535	6,400											Z-3 2000-4000 FT	555SP

CALCULATED FROM RW = 0.340 AT 75 DEG (F)

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

BAYLOR COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
19	2,430	596	154	76	***** DEPTH RANGE 640	524	1 - 1000 543	*****		7.6		WICHITA + CLR FK	47A
1300	187,800	55,000	11,360	2,050	***** DEPTH RANGE 109,800	250	1001 - 2000 23	*****		6.9	1.120	CAMP COLORADO	0035K
1400	134,679	40,450	8,510	2,024	83,425	52	38			6.1	1.101	TANNEHILL SAND	0036K
1500	150,280											TANNEHILL SAND	0037K
1500	178,200	36,000	10,250	2,040	103,200	200	30			6.6	1.115	TANNEHILL SAND	0038K
2560	129,207	39,890	7,520	1,728	***** DEPTH RANGE 79,500	444	2001 - 3000 125	*****		6.8	1.100	CANYON	77G
2560	126,250				CALCULATED FROM RW = 0.062 AT 75 DEG (F)							CANYON	127I
2560	126,250				CALCULATED FROM RW = 0.062 AT 75 DEG (F)							CANYON	128I
2560	129,207	39,890	7,520	1,728	79,500	444	125			6.8	1.100	CANYON	0039K
4250	29,375				***** DEPTH RANGE 4001 - 5000		*****					STRAWN	126I
4324	30,200				CALCULATED FROM RW = 0.215 AT 75 DEG (F)							STRAWN	125I
4459	12,964				CALCULATED FROM RW = 0.209 AT 75 DEG (F)							STRAWN	124I
4700	198,460	56,000	17,050	2,271	123,100	28	11			3.9	1.150	STRAWN	78G
4700	143,333				CALCULATED FROM RW = 0.056 AT 75 DEG (F)							STRAWN	122I
4700	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							STRAWN	123I
4700	198,460	56,000	17,050	2,271	123,100	28	11				1.150	STRAWN	0040K
5100	201,250	55,050	18,390	2,691	***** DEPTH RANGE 125,050	69	5001 - 6000	*****		3.8	1.163	CADDO	79G
5100	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							BEND	120I
5100	185,000				CALCULATED FROM RW = 0.047 AT 75 DEG (F)							BEND	121I
5100	201,250	55,050	18,390	2,691	125,050	69					1.163	CADDO	0041K
5460	117,609	35,050	7,880	1,610	71,980	1,089					1.084	MISSISSIPPI LIME	00810
5603	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							MISSISSIPPI	119I
6000	250,300	66,700	20,900	2,800	148,900	300	100			6.3	1.159	ELLENBURGER	0034K

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

BEE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS ppm	SODIUM (NA) ppm	CALCIUM (CA) ppm	MAGNESIUM (MG) ppm	CHLORIDE (CL) ppm	SULFATE (SO ₄) ppm	BICARBONATE (HCO ₃) ppm	IRON (FE) ppm	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
367 635	1,120 40,000	166	182	31	428	81	1 - 1000 344	2		7.2		CTHULA+ OKVLE SS Z=2 0-2000 FT	347A 425SP
***** DEPTH RANGE 1001 = 2000 *****													
1300 1410 1539 1725 1915	8,900 25,000 1,350 18,000 11,541	514	7	1	480	1	601			7.5		Z=2 0-2000 FT Z=2 0-2000 FT CTHULA+ OKVLE SS Z=2 0-2000 FT CATAHOULA	243SP 426SP 346A 244SP 30E
CALCULATED FROM RW = 0.500 AT 75 DEG (F)													
***** DEPTH RANGE 2001 = 3000 *****													
2625 2930 2686	20,000 35,000 15,574	5,129	469	230	8,952		794				1.014	Z=3 2000-4000 FT Z=3 2000-4000 FT VICKSBURG	427SP 245SP 00490
***** DEPTH RANGE 3001 = 4000 *****													
3200 3380 3723 3730 3742	39,414 50,000 51,667 15,000 6,630	13,294	510	931	23,500		1,151	28		7.2	1.030	WHITSETT SAND Z=3 2000-4000 FT HOCKLEY Z=3 2000-4000 FT SLICK, LULING	01320 246SP 31E 432SP 654J
CALCULATED FROM RW = 0.130 AT 75 DEG (F)													
***** DEPTH RANGE 4001 = 5000 *****													
4165 4185 4280	73,846 70,000 12,500											YEGUA YEGUA Z=4 4000-6000 FT	32E 33E 252SP
CALCULATED FROM RW = 0.095 AT 75 DEG (F) CALCULATED FROM RW = 0.100 AT 75 DEG (F)													
***** DEPTH RANGE 5001 = 6000 *****													
5280 5604 5840 5975	34,000 70,000 7,850		1,685	217	37,380		572	23		7.3	1.040	Z=4 4000-6000 FT WILCOX LULING Z=4 4000-6000 FT CARRIZO-WILCOX	250SP 647J 247SP 424SP
***** DEPTH RANGE 7001 = 8000 *****													
7468 7468 7468 7468 7468 7590	44,000				12,500 12,500 11,000 11,000 8,500	10 10 10 10 10	1,400 1,440 1,520 1,490 1,440	2 3		7.2 7.2 7.9	1.015 1.015 1.015	SLICK WILCOX SLICK WILCOX SLICK WILCOX SLICK WILCOX SLICK WILCOX CARRIZO-WILCOX	648J 649J 650J 651J 652J 433SP
***** DEPTH RANGE 8001 = 9000 *****													
8078	1,380				610							WILCOX	651

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BEE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
9720	47,500											CARRIZO-WILCOX	251SP

***** DEPTH RANGE 9001 -10000 *****

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

BELL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE		1 - 1000	*****					
250	1,830	454	63	81	190	840	408					TRINITY GROUP	186A
265	1,440	417	39	41	205	527	409			8.4		GLEN ROSE LS	156A
913	13,620	1,210	39	27	1,010	951	507					TRAVIS PEAK	136A
					***** DEPTH RANGE		1001 - 2000	*****					
1172	1,450	519	13	8	275	376	490			7.9		TRINITY GROUP	185A
1900	1,000				246	250	438					GLEN ROSE LS	157A
1985	2,400	712	60	42	362	978	410	1		7.8		TRINITY GROUP	184A
2000	1,200	440	12	5	248	269	437			8.0		TRAVIS PEAK	137A

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BEXAR COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
200	1,000				585		318	37		7.3		CARRIZO SAND	288A
333	2,380	12	324	267	21	1,610	277			8.0		GLEN ROSE LS	151A
462	2,920	43	484	247	14	1,980	273			7.2		GLEN ROSE LS	150A
700	1,850	59	231	82	27	665	380					EDWARDS LS	208A
***** DEPTH RANGE 1001 - 2000 *****													
1196	78,054	1,842	25,600	456	49,480	676					1.067	ANACACHO LIME	00320
1355	4,690	532	652	259	1,040	2,040	313			8.0		EDWARDS LS	207A
1675	14,037				CALCULATED FROM RW = 0.420 AT 75 DEG (F)							NAVARRO	34E
1687	14,402				CALCULATED FROM RW = 0.410 AT 75 DEG (F)							NAVARRO	35E
1836	20,968				CALCULATED FROM RW = 0.290 AT 75 DEG (F)							NAVARRO	36E
***** DEPTH RANGE 4001 - 5000 *****													
4518	2,620	619	86	56	580	956	320			8.9		TRINITY GROUP	177A

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

BORDEN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
46	1,280	144	136	100	238	181	440					OGALLALA FORM	362A
60	1,100	161	129	57	282	260	265					OGALLALA FORM	363A
62	2,380	835	46	21	1,140	208	218					DOCKUM	123A
63	1,160	211	103	62	312	239	330					DOCKUM	122A
63	3,580	1,020	112	76	460	1,620	570					DOCKUM	124A
119	17,700	5,390	678	341	8,020	3,200	214					DOCKUM	127A
335	10,800	3,660	185	94	4,300	2,410	279					DOCKUM	126A
585	6,440	2,300	26	28	2,080	1,730	513					QUARTERMASTER	97A
***** DEPTH RANGE 4001 - 5000 *****													
4450	39,800											CLEARFORK	302C
4640	22,586											SPRABERRY	451C
4847	100,626	34,564	3,254	810	60,011	1,596	391					CANYON REEF	50F
***** DEPTH RANGE 5001 - 6000 *****													
5170	80,000											SPRABERRY	450C
5226	143,333											CLEARFORK	301C
5700	161,300	54,700	4,120	1,015	91,300	310	245			6.8	1.104	SPRAYBERRY	0042K
5995	140,000											WOLFCAMP	488C
***** DEPTH RANGE 6001 - 7000 *****													
6010	130,000											WOLFCAMP	487C
6378	67,844	22,750	2,519	656	40,060	1,709	150			6.9	1.054	CANYON REEF	276G
6424	90,000											SPRABERRY	452C
6500	172,500	56,200	4,670	1,340	97,300	1,750	230			6.4	1.111	WOLFCAMP	0043K
6510	109,000											WOLFCAMP	485C
6722	44,146	14,750	1,642	426	25,900	1,020	408			7.0	1.036	CANYON REEF	277G
6784	133,333											WOLFCAMP	486C
6835	102,477									7.0	1.074	CANYON REEF	345J
6835	71,841	26,611	2,452	392	39,800	2,006	580			6.7	1.042	CANYON REEF	346J
6840	122,500											PENN-CANYON	576C
6935	159,000											PENN-CANYON	574C
***** DEPTH RANGE 7001 - 8000 *****													
7050	62,904	19,275	3,099	890	37,930	1,202	508			7.4	1.059	CANYON REEF	278G
7444	81,429											PENN-CANYON	575C
7444	93,550	30,300	3,960	1,127	54,400	2,900	863			6.9	1.074	CANYON REEF	279G
7462	130,000											SPRABERRY	449C
7800	56,300	17,600	1,990	450	30,600	1,500	650			6.3	1.037	PENN. LIME	0045K
7800	54,900	16,800	1,960	580	29,100	1,750	925			7.0	1.036	PENN. LIME	0046K
7803	155,000											PENN-CANYON	573C

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BORDEN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 7001 - 8000 *****													
7855	98,688	23,456	2,200	600	40,250	1,840	342			7.7	1.049	PENN LIME	0001L
7882	35,090											PENN STRAWN	629C
7970	41,667											MISSISSIPPIAN	758C
7970	45,485	14,740	1,922	518	26,000	1,696	609			3.3	1.038	MISSISSIPPI	280C
8000	54,444											PENN STRAWN	631C
8000	98,820	31,500	5,411	906	59,573	1,356	305			6.8	1.070	MISSISSIPPIAN	0047K
***** DEPTH RANGE 8001 - 9000 *****													
8055	42,333											PENN STRAWN	630C
8100	90,200	17,050	1,550	480	28,700	1,350	1,200			7.1	1.033	ELLENBURGER	0051K
8120	0,803											MISSISSIPPIAN	759C
8170	14,732											MISSISSIPPIAN	760C
8192	58,636											PENN GENERAL	697C
8198	94,280											MISSISSIPPIAN	757C
8198	116,848	33,610	8,150	2,103	72,050	842	93			5.3	1.093	MISSISSIPPI	281C
8200	56,300	16,800	1,860	340	30,440	1,940	348			6.7	1.037	ELLENBURGER	0003L
8300	182,200	38,350	22,300	955	100,500	700	650			6.7	1.117	PENN. REEF	0044K
8332	128,125											PENN-CISCO	554C
8388	109,667	35,656	4,600	1,500	66,500	1,070	341			7.0	1.078	PENN LIME	0002L
8400	44,810	15,100	1,824	429	26,240	1,860	232			6.6	1.034	ELLENBURGER	0052K
8455	84,286											PENN STRAWN	628C
8510	54,900	15,940	1,700	390	27,600	1,450	1,065			7.3	1.036	ELLENBURGER	0049K
8551	57,727											PENN GENERAL	698C
8595	56,364											ELLENBURGER	973C
8611	93,242	18,665	1,700	552	31,200	2,400	732			7.4	1.037	ELLENBURGER	0004L
8638	6,444											DEVONIAN	780C
8640	54,900	16,250	1,690	535	27,600	1,950	955			7.3	1.036	ELLENBURGER	0048K
8730	57,700	16,700	1,920	515	29,400	1,435	925			7.0	1.038	ELLENBURGER	0050K
8796	36,500											ELLENBURGER	974C
***** DEPTH RANGE 9001 -10000 *****													
9020	115,000											PENN GENERAL	695C
9020	60,769											PENN GENERAL	696C
9742	37,250											SILURO-FUSSELMAN	839C
9742	40,667											FUSSELMAN	882C
9759	40,667											FUSSELMAN	881C
9773	46,177											SILURO-FUSSELMAN	838C
9945	57,727											ELLENBURGER	971C
***** DEPTH RANGE 10001 -11000 *****													
10070	44,000											ELLENBURGER	972C

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SALINE WATER RESOURCES SURVEY

OF THE

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CHEMICAL ANALYSIS OF SALINE WATER

BOSQUE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
400	3,398	1,110	27	20	***** DEPTH RANGE 158	1,760	1 - 1000 598	*****		8.3	PALUXY SAND	160A	

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CHEMICAL ANALYSIS OF SALINE WATER

BOWIE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
508	1,290	525	3	1	408	4	706	1000				NACAT0CH SAND	252A
4390	26,912	9,000	966	156	14,100	2,333	397			1.022		PALUXY	66M
4400	24,483				CALCULATED FROM RW = 0.248 AT 75 DEG (F)							PALUXY	15B
4580	31,000											LOWER GLEN ROSE	728SP
5920	82,000											PETTET-TRAVIS PK	6885P
50493	200,000		22,700	4,080	177,000	850	35	40		6.2	1.188	DELAWARE	1171J

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CHEMICAL ANALYSIS OF SALINE WATER

BRAZORIA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (MCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1000	2,480	920			**** DEPTH RANGE 1-350	2	1 - 1000 376	****				LISSIE FORM	410A
1100	2,820				**** DEPTH RANGE 1-620	2	1001 - 2000 274	****		7.2		BEAUMONT CLAY	429A
1120	3,000											Z-2 0-2000 FT	498SP
1200	17,500											Z-2 0-2000 FT	198SP
1220	6,500											Z-2 0-2000 FT	494SP
1305	210,000				CALCULATED FROM RW = 0.042 AT 75 DEG (F)							MIOCENE	40E
1400	220,000				CALCULATED FROM RW = 0.040 AT 75 DEG (F)							MIOCENE	41E
1400	4,350											Z-2 0-2000 FT	191SP
1620	17,500											Z-2 0-2000 FT	192SP
1690	35,000											Z-2 0-2000 FT	199SP
1773	1,340	527	14	6	410	25	732	1				BEAUMONT CLAY	430A
1900	70,000				CALCULATED FROM RW = 0.100 AT 75 DEG (F)							MIOCENE	47E
					**** DEPTH RANGE 2001 - 3000			****				Z-3 2000-4000 FT	200SP
2110	38,500				CALCULATED FROM RW = 0.042 AT 75 DEG (F)							MIOCENE	42E
2200	210,000											Z-3 2000-4000 FT	499SP
2220	35,000				CALCULATED FROM RW = 0.032 AT 75 DEG (F)							MIOCENE	43E
2600	260,000											Z-3 2000-4000 FT	193SP
2600	46,500											Z-3 2000-4000 FT	345SP
2600	6,600											Z-3 2000-4000 FT	201SP
2800	38,500												
					**** DEPTH RANGE 3001 - 4000			****				Z-3 2000-4000 FT	495SP
3300	70,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							MIOCENE	50E
3500	130,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							MIOCENE	51E
3600	170,000											Z-3 2000-4000 FT	486SP
3700	32,500											MIOCENE	52E
3900	180,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							MIOCENE	53E
4000	170,000												
					**** DEPTH RANGE 4001 - 5000			****				FRIO	44E
4600	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							FRIO	45E
4600	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							FRIO	46E
4600	136,667											Z-4 4000-6000 FT	194SP
4770	55,000											Z-4 4000-6000 FT	346SP
4870	11,500											Z-4 4000-6000 FT	500SP
4890	74,000												
					**** DEPTH RANGE 5001 - 6000			****				Z-4 4000-6000 FT	496SP
5030	99,000												

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

BRAZORIA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
5480	125,000											Z-4 4000-6000 FT	487SP
5600	240,000											FRIO	54E
5670	73,254	27,400	1,104	29	43,800		921					FRIO	44D
5700	235,000											FRIO	55E
5865	102,840											MIOCENE	1093J
CALCULATED FROM RW = 0.036 AT 75 DEG (F)													
***** DEPTH RANGE 6001 - 7000 *****													
6100	82,857											FRIO	49E
6100	130,000											Z-5 6000-8000 FT	5013P
6118	105,161	38,852	1,804	322	64,000		183					FRIO	46D
6200	97,990	36,000	1,300	420	60,000		270			7.0	1.070	UPPER FRIO	1094J
6250	13,000											Z-5 6000-8000 FT	497SP
6370	72,500											Z-5 6000-8000 FT	488SP
6457	62,308											FRIO	48E
6495	105,950	38,899	2,005	368	64,537	37	104					FRIO	49D
6497	98,648	36,262	1,808	338	59,927	69	244					FRIO	48D
6618	44,926	16,625	638	112	26,500	75	976					FRIO	43D
6800	18,780	6,890	253	72	10,900		665					FRIO	47D
7000	101,566	36,800	1,985	545	61,800		285			6.8	1.073	FRIO, MIOCENE	1095J
7000	69,000											Z-5 6000-8000 FT	1955P
***** DEPTH RANGE 7001 - 8000 *****													
7300	116,875											FRIO	37E
7850	200,000											FRIO	38E
***** DEPTH RANGE 8001 - 9000 *****													
8470	83,500											Z-6 8000-10000 FT	196SP
8900	200,000											FRIO	39E
8970	80,000											Z-6 8000-10000 FT	197SP
***** DEPTH RANGE 9001 - 10000 *****													
9726	28,542	10,779	98	21	15,769	60	1,815					FRIO	39D
***** DEPTH RANGE 10001 - 11000 *****													
10100	19,213	7,180	24	17	9,928	256	1,808					FRIO	41
10113	14,600											FRIO	36D
10113	28,902	10,750	333	21	16,450		1,348					FRIO	38D
10130	18,100											FRIO	37D
10137	37,290	14,155	137	64	21,276	151	1,507					FRIO	40D
10582	49,991	17,581	1,688	68	29,800		854					FRIO	45D
10950	42,000											10000-12000 FT	502SP
***** DEPTH RANGE 11001 - 12000 *****													
11050	30,000											10000-12000 FT	489SP
11407	82,342	29,170	2,244	360	49,951	37	580					FRIO	42D
***** DEPTH RANGE 12001 - 13000 *****													
12200	39,000											12000-14000 FT	503SP
***** DEPTH RANGE 13001 - 14000 *****													
13500	39,388	14,760	300	12	22,700		1,168	45		7.9	1.025	YEGUA	01280

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

BRAZORIA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
14100	83,000											14000-16000 FT	5045P
15500	70,000											FRIO	56E

***** DEPTH RANGE 14001 - 15000 *****

***** DEPTH RANGE 15001 - 16000 *****
CALCULATED FROM RW = 0.100 AT 75 DEG (F)

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BRAZOS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
875	1,450	669	7	3	***** DEPTH RANGE 502	4	1 - 1000 917	*****				QUEEN CITY SAND	303A
1500	1,080	439	4		***** DEPTH RANGE 50	11	1001 - 2000 1,100	*****				WILCOX GROUP	262A
2820	7,000				***** DEPTH RANGE 2001 - 3000		*****					CARRIZO-WILCOX	517SP
3270	21,000				***** DEPTH RANGE 3001 - 4000		*****					CARRIZO-WILCOX	518SP
3460	28,000											CARRIZO-WILCOX	519SP
4220	8,100				***** DEPTH RANGE 4001 - 5000		*****					CARRIZO-WILCOX	511SP

T E X A S W A T E R D E V E L O P M E N T B O A R D

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BREWSTER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
9494	70,000											ELLENBURGER	976C
9646	756											ELLENBURGER	975C

***** DEPTH RANGE 9001 - 10000 *****
 CALCULATED FROM RM = 0.100 AT 75 DEG (F)
 CALCULATED FROM RM = 6.700 AT 75 DEG (F)

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BRISCOE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
633 695	49.412 48.572											CISCO LINE CANYON LINE	0801P 0802P

***** DEPTH RANGE 6001 - 7000 *****
 CALCULATED FROM RW = 0.135 AT 75 DEG (F)
 CALCULATED FROM RW = 0.074 AT 75 DEG (F)

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BROOKS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
3000	39,000												57E
3000	27,500												58E
***** DEPTH RANGE 2001 - 3000 *****													
3040	74,615												59E
***** DEPTH RANGE 3001 - 4000 *****													
4392	51,667												62E
4500	29,380	6,573	872	35	11,595	162	116			6.7	1.014	FRIO	813J
4800	21,901	7,218	1,138	36	12,907	1	595			7.6	1.014	CATAHOULA	814J
4744	41,406	13,802	2,400	60	25,286	32	66					FRIO	89D
4800	47,941											FRIO	63E
4900	57,405	18,941	3,032	170	34,700	12	610					FRIO	90D
4950	73,077											FRIO	60E
***** DEPTH RANGE 5001 - 6000 *****													
5850	52,770												61E
***** DEPTH RANGE 6001 - 7000 *****													
6047	29,417												68E
6440	77,092												64E
6450	56,010												65E
6612	63,077												66E
7000	62,300												67E
***** DEPTH RANGE 7001 - 8000 *****													
7325	24,310												69E
7333	23,440												70E
7418	29,417												71E
7656	19,643												72E
7760	50,057	33,355	3,998	420	59,573	1	471			6.2	1.070	FRIO-VICKSBURG	811J
***** DEPTH RANGE 8001 - 9000 *****													
8035	53,392												815J
8035	74,230												816J

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BROWN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE 1 - 1000 *****								
490	26,948	8,948	1,000	348	16,400		508			6.6	1.026	STRAWN	1082J
490	22,784	11,288	1,000	348	20,000		244			6.4		STRAWN	1083J
600	26,452	8,350	1,160	535	16,400		207			6.6	1.025	STRAWN SAND	1085J
					***** DEPTH RANGE 1001 - 2000 *****								
1100	65,150	18,500	4,300	1,455	40,000	427	558			6.0	1.054	BLAKE SD	0057K
1200	57,544	18,800	2,350	793	35,300	4	297			6.9	1.043	CROSS CUT SD.	0053K
1200	68,040	20,720	3,120	1,680	42,500	90	605			6.5	1.048	CROSS CUT SD.	0054K
1200	80,830	23,710	4,800	1,824	50,500	10	149			6.7	1.057	CROSS CUT SD.	0055K
1200	108,500	27,500	6,370	1,920	58,000		155			6.4	1.069	CROSS CUT SD.	0056K
1213	45,700	14,000	2,400	824	28,400		37			5.6	1.036	FRY SAND	1084J
2000	94,500	20,585	7,824	1,319	50,398	190	360			6.3	1.062	MARBLE FALLS	0006L
					***** DEPTH RANGE 2001 - 3000 *****								
2131	108,561	31,800	5,940	3,140	67,500	49	132			7.1	1.086	CADDO	0058K
2400	106,614	30,250	8,030	1,855	60,100	229	150			6.3	1.073	MARBLE FALLS	0059K
3000	112,000	35,510	3,080	505	60,900	950	171			6.7	1.073	CAMBRIAN	0085L
3000	65,000	30,000	7,330	1,890	64,000	100	150			6.7	1.073	FRY SAND	0060K
3000	91,260	26,400	7,440	830	56,000	380	207			6.1	1.060	FRY SAND	0061K
					***** DEPTH RANGE 4001 - 5000 *****								
4500	45,690	16,350	1,000	336	28,000	40	378			7.3	1.028	ELLENBURGER	0062K
4500	42,308	14,250	1,058	285	24,300	125	495			6.8	1.026	ELLENBURGER	0063K
4700	96,410	31,890	2,600	672	55,500	250	44			6.1	1.066	CAMBRIAN	0064K

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BURLESON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE 1 - 1000 *****								
178	1,030	99	129	70	151	244	376			7.5		SPARTA SAND	313A
198	1,810	587	89	4	585	222	492			7.9		UPPER CLAIBORNE	322A
397	1,470	457	62	11	420	284	370			7.5		UPPER CLAIBORNE	323A
820	1,720	638	19	2	570	98	644			8.7		SPARTA SAND	314A
					***** DEPTH RANGE 1001 - 2000 *****								
1100	1,530	649	3	1	144	1	1,445					QUEEN CITY SAND	302A
					***** DEPTH RANGE 6001 - 7000 *****								
6173	151,507	39,426	14,690	1,829	9,100	1,408					1.113	EDWARDS LIME	00120

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BURNET COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
342	31,300	10,200	1,010	665	19,200	129	1 - 1000 173	****		7.5	PENNSYLVANIAN	24A	

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CALDWELL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
171	1,000				700	1,100						CARRIZO SAND	290A
304	1,100	416	2	1	170	227	502			8.4		WILCOX GROUP	256A
519	1,390	525	2	1	222	212	735			8.3		WILCOX GROUP	255A
***** DEPTH RANGE 1001 - 2000 *****													
1847	16,468				CALCULATED FROM RW = 0.360 AT 75 DEG (F)							AUSTIN	73E
2000	1,989	667	50	5	780		460	4		8.5	1.000		01970
2000	31,191	10,810	990	212	18,900	21	258	21		7.0	1.018		01980
***** DEPTH RANGE 2001 - 3000 *****													
2100	11,541				CALCULATED FROM RW = 0.500 AT 75 DEG (F)							EDWARDS	74E
2100	8,934				CALCULATED FROM RW = 0.630 AT 75 DEG (F)							EDWARDS	76E
2100	12,107				CALCULATED FROM RW = 0.480 AT 75 DEG (F)							EDWARDS	77E
2106	13,257	3,673	473	490	6,640	943	1,038				1.008	DOBY CLAY	00130
2124	11,903	2,705	968	479	6,258	1,010	483				1.008	EDWARDS LIME	00110
2141	12,107				CALCULATED FROM RW = 0.480 AT 75 DEG (F)							EDWARDS	75E
2250	29,691	9,690	1,250	333	17,600	153	665	14		8.1	1.013	BUJA LIME	01820

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CALHOUN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.	
333	2,380	837	45	35	1,120	75	506			7.8		BEAUMONT CLAY	425A	
360	2,060	514	180	70	1,140	19	276					BEAUMONT CLAY	426A	
***** DEPTH RANGE 1001 - 2000 *****														
1550	125,000											Z-2 0-2000 FT	479SP	
1800	40,000											Z-2 0-2000 FT	480SP	
1850	6,000											Z-2 0-2000 FT	096SP	
1920	10,000											Z-2 0-2000 FT	003SP	
***** DEPTH RANGE 2001 - 3000 *****														
2080	59,000											Z-3 2000-4000 FT	481SP	
2250	14,000											Z-3 2000-4000 FT	097SP	
2270	15,000											Z-3 2000-4000 FT	004SP	
***** DEPTH RANGE 4001 - 5000 *****														
4740	54,000											Z-4 4000-6000 FT	482SP	
4750	7,000											Z-4 4000-6000 FT	098SP	
***** DEPTH RANGE 5001 - 6000 *****														
5450	65,174	24,154	984	225	39,500		311					FRI0	20D	
5490	28,000											Z-4 4000-6000 FT	005SP	
5500	85,128	27,406	4,515	730	52,400	1	74			6.5	1.061	F-38, F-62	1024J	
***** DEPTH RANGE 7001 - 8000 *****														
7150	50,000											Z-5 6000-8000 FT	099SP	
7440	90,000											Z-5 6000-8000 FT	483SP	
7571	5,931	1,974	6	1	1,650	43	2,148			8.4	1.005	7550 + 8300 ST	687J	
7647	15,134				CALCULATED FROM RW = 0.390 AT 75 DEG (F)							FRI0	78E	
7665	14,500											Z-5 6000-8000 FT	100SP	
7800	1,763	632	43	5	1,040	6	37			6.7	1.002	7800 FOESTER	1023J	
7920	88,000											Z-5 6000-8000 FT	484SP	
***** DEPTH RANGE 8001 - 9000 *****														
8325	8,570	2,959	6	1	3,070	53	2,432			8.3	1.007	8300 FT	688J	
8480	83,000											Z-6 8000-10000 FT	485SP	
8485	12,300											Z-6 8000-10000 FT	101SP	
8604	10,906	3,946	23	6	5,030	37	1,852			8.2	1.008	8100 MELBOURNE	686J	
***** DEPTH RANGE 9001 - 10000 *****														
9106	37,500				CALCULATED FROM RW = 0.175 AT 75 DEG (F)								FRI0	79E

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CALLAHAN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
200	120,000	39,445	4,993	1,333	73,500		78			7.4	1.082	COOK SD.	0075K
300	37,550	1,600	3,220	600	31,600	530					1.040	WICHITA ALBANY	00480
350	77,500	22,800	4,950	630	40,240		180			6.9	1.051	TANNEHILL	0007L
430	47,100	11,400	2,555	290	23,200	22	88			5.9	1.031	HOPE SAND	0011L
900	104,000		6,360	1,460	62,200		84			6.7		KING SAND	0010L
950	113,500	31,300	7,710	620	64,500		400			8.2	1.074	HOPE	0012L
***** DEPTH RANGE 1001 - 2000 *****													
1047	97,434	30,785	5,360	1,099	60,100		83			7.0	1.075	TANNEHILL	0066K
1100	124,800	35,290	5,750	1,440	69,100		85			6.0	1.081	COOK SAND	0077K
1120	121,500		5,200	2,090	72,500	370	75			6.3	1.079	MONTREY	0009L
1125	78,462				CALCULATED FROM RW = 0.089 AT 75 DEG (F)							COOK SAND	0076K
1200	91,200	30,000	2,930	775	51,700	2,730	180			7.0	1.060	FRY SAND	0101K
1200	118,300	34,240	5,960	1,395	67,400	36	110			5.9	1.077	FRY SAND	0102K
1300	92,500	27,000	4,750	1,120	53,300		300			6.3	1.061	TANNEHILL	0070K
1300	112,000	34,600	5,860	1,090	66,900		85			6.2	1.073	U. TANNEHILL	0071K
1300	112,000	34,800	5,360	1,120	66,400		85			6.7	1.075	L. TANNEHILL	0072K
1312	116,613	35,402	6,520	2,106	71,800	680	105			6.8	1.085	TANNEHILL	0069K
1335	70,327	21,160	3,673	1,384	44,050	19	21			5.3	1.056	TANNEHILL	0068K
1500	102,800	30,400	5,120	1,170	60,200	120	150			6.6	1.067	CISCO SAND	0079K
1530	97,900	31,000	3,920	2,350	60,500	45	124			6.3	1.070	CROSS PLAINS	0096K
1550	94,982	30,000	4,770	1,390	58,400	286	136			6.8	1.074	CROSS PLAINS	0097K
1600	129,500	35,400	7,850	1,312	73,990	280	211			7.2	1.084	TANNEHILL	0088L
1609	89,611	28,530	4,159	1,417	55,400	6	99			7.0	1.069	TANNEHILL	3896
1609	88,572				CALCULATED FROM RW = 0.081 AT 75 DEG (F)							WOLFCAMP	141I
1609	89,611	28,530	4,159	1,417	55,400	6	99			7.0	1.069	TANNEHILL	0065K
1623	85,709	27,230	4,128	1,256	52,950	6	139			7.1	1.065	TANNEHILL	3906
1623	84,286				CALCULATED FROM RW = 0.084 AT 75 DEG (F)							WOLFCAMP	140I
1682	132,800	38,000	7,310	1,660	76,200		146			6.2	1.085	FLIPPEN	0073K
1700	119,800	34,100	5,720	1,370	66,300	655	80			6.5	1.078	TANNEHILL	0067K
1700	124,800	32,400	6,240	1,870	67,500		220			6.6	1.081	PALO PINTO SAND	0014L
1763	85,000	29,400	4,390	1,070	50,000	340	95			6.8	1.060	FLIPPEN	0074K
1798	96,000	32,499	3,354	1,143	59,000	275	312			6.7	1.063	HOME CREEK	0080K
1798	95,817	32,586	2,189	820	60,000	40	124			7.2	1.063	HOME CREEK	0081K
1800	107,200	31,100	4,100	1,050	59,350		296			6.3	1.070	CROSS PLAINS	0015L
1956	113,129	33,270	7,793	1,780	70,100	92	94			6.8	1.087	KING	0078K
***** DEPTH RANGE 2001 - 3000 *****													
2200	146,900	31,800	10,250	2,600	76,000		124			5.6	1.095	MORAN SAND	0016L
2200	135,900		9,880	1,773	82,800	133	88			7.1		MORAN	0017L
2250	97,800	35,900	2,880	840	63,045	680	1,520			6.2	1.064	WINCHELL SAND	0018L

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***** DEPTH RANGE 2001 - 3000 *****													
2350	111,815	32,030	8,787	1,518	69,085	329	66			6.2	1.082	MORAN SAND	0082K
2400	98,572											PALO PINTO	0092K
2400	82,000	26,650	2,480	480	45,500	1,480	393			6.4	1.054	CISCO	0013L
2430	100,000											PALO PINTO	0093K
2480	142,300	39,500	9,720	1,400	81,900	350	130			5.9	1.092	MORAN	0083K
2500	134,300	33,900	9,216	2,150	76,125	350	88			5.0	1.089	CROSS CUT	0019L
2580	128,677	36,650	9,324	2,889	79,430	189	195			6.0	1.100	CROSS CUT	0098K
2581	146,900	39,000	10,100	2,600	85,400	165	100			6.0	1.095	CROSS CUT	0099K
2600	143,900	40,100	8,556	1,900	83,480	280	128			5.7	1.093	CROSS CUT	0020L
2680	138,001	39,468	10,880	1,941	85,550	59	93			6.5	1.107	MORAN	3916
2680	133,333											WOLFCAMP	143I
2680	138,181	39,648	10,880	1,941	85,550	69	93			6.5	1.107	MORAN	0085K
2686	70,816	22,944	2,238	1,388	42,034	1,592	480			7.0	1.047	MORAN SAND	784J
2690	130,000											MORAN	0084K
2700	93,848	36,295	10,085	1,586	78,370	110	72			5.8	1.090	MORAN	3920
2700	124,375											WOLFCAMP	142I
2700	126,518	36,295	10,085	1,586	78,370	110	72			5.8	1.090	MORAN	0086K
***** DEPTH RANGE 3001 - 4000 *****													
3221	94,500	30,750	2,900	1,000	54,700	750	528			6.0	1.062	PALO PINTO	0087K
3270	167,700	40,300	15,000	1,980	93,500	476	795			6.1	1.108	PALO PINTO	0091K
3300	97,649	20,010	11,680	2,041	81,650	148	117				1.110	PALO PINTO	0088K
3300	167,700	42,600	12,500	1,860	92,600	510	175			7.0	1.108	PALO PINTO	0089K
3400	100,800	32,600	3,280	1,500	60,500		150			7.3	1.066	PALO PINTO	0090K
3400	170,000	46,000	15,800	2,480	106,000	150	85			5.3	1.122	PALO PINTO	0094K
3460	100,000											MORRIS	0100K
3480	105,150	32,100	4,800	1,205	60,980	740	70			6.0	1.072	CROSS PLAINS	0095K
3500	195,000	49,400	15,100	2,160	109,000	85	290			6.4	1.125	JENNINGS SAND	0103K
3800	158,692	43,661	13,355	2,723	98,759	85	109			6.7	1.127	LAKE	0105K
3806	195,000	50,300	14,200	3,380	112,500	80	100			6.2	1.125	LAKE	0106K
3875	70,738	24,900	2,100	352	42,600	474	312			7.1	1.055	ELLENBURGER	0109K
3900	195,000	62,280	12,800	5,526	114,910	160	360			5.9	1.125	GARDNER SAND	0021L
3910	185,000											GARDNER	0104K
3934	67,758	25,310	7,330	1,405	54,961	1,531					1.071	ELLENBURGER	00070
3934	90,537	25,310	7,330	1,405	54,961	1,531					1.071	ELLENBURGER	01270
4000	75,300	25,100	2,200	554	43,000	1,250	393			7.7	1.049	ELLENBURGER	0117K
***** DEPTH RANGE 4001 - 5000 *****													
4038	58,517	19,826	1,906	496	35,500	459	330			6.7	1.045	ELLENBURGER	394G
4038	58,182											ELLENBURGER	133I
4038	58,517	19,826	1,906	496	35,500	459	330			6.7	1.045	ELLENBURGER	0110K
4096	77,763	29,533	2,603	327	44,000	1,082	218			6.9	1.058	ELLENBURGER	395G
4096	76,154											ELLENBURGER	138I
4096	77,763	29,533	2,603	327	44,000	1,082	218			6.9	1.058	ELLENBURGER	0111K
4170	37,217	19,210	2,380	367	34,070	670	520			7.5	1.045	ELLENBURGER	396G
4170	57,727											ELLENBURGER	131I
4170	57,727											ELLENBURGER	132I
4190	57,335	16,420	4,625	706	35,200	337	47			5.2	1.046	LAKE	393G
4190	58,182											BEND	139I

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***** DEPTH RANGE 4001 - 5000 *****													
4190	60,500	22,500	1,700	690	38,500	1,400	483			7.6	1.044	ELLENBURGER	0112K
4356	147,700	37,330	12,360	2,856	95,000	145	15			4.8	1.108	BEND	0107K
4362	120,281	32,400	10,560	2,180	74,900	175	66			5.3	1.100	CONGLOMERATE	0108K
4381	72,472	22,000	3,240	1,685	43,300	1,855	392			5.6	1.056	ELLENBURGER	397G
4381	73,077											ELLENBURGER	137I
4396	72,472	22,000	3,240	1,685	43,300	1,855	392			6.6	1.056	ELLENBURGER	0113K
4405	76,923											ELLENBURGER	0115K
4410	66,631	23,040	2,200	400	39,520	1,390	81			7.8	1.053	ELLENBURGER	398G
4410	66,154											ELLENBURGER	136I
4420	79,951	21,200	6,890	1,752	49,700	359	50			6.8	1.075	ELLENBURGER	399G
4420	79,231											ELLENBURGER	129I
4442	67,194	22,260	2,375	733	40,020	1,685	121			5.8	1.054	ELLENBURGER	400G
4442	67,692											ELLENBURGER	135I
4442	65,385											ELLENBURGER	0116K
4460	66,416	23,110	2,318	564	39,300	1,064	60			6.8	1.054	ELLENBURGER	0114K
4478	66,416	23,110	2,318	564	39,300	1,064	60			6.8	1.054	ELLENBURGER	601G
4478	66,154											ELLENBURGER	134I
4550	107,200	26,500	5,095	1,250	57,500	1,150	240			6.6	1.070	MISSISSIPPIAN	0022L
4737	66,018	22,500	2,319	499	38,900	1,380	420			7.4	1.053	ELLENBURGER	402G
4737	65,385											ELLENBURGER	130I
4860	80,500	21,400	3,072	614	42,970	1,340	336			6.8	1.053	ELLENBURGER	0023L
***** DEPTH RANGE 5001 - 6000 *****													
6000	82,000	26,650	2,480	480	45,500	1,480	393			6.4	1.054	CAMBRIAN	0024L

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CAMERON COUNTY

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					***** DEPTH RANGE			1 = 1000	*****				
35	1,070	200	116	40	250	267	292			7.4		ALLUVIUM	465A
40	1,020	178	110	45	208	280	304			7.6		ALLUVIUM	464A
200	4,340	1,310	122	91	1,280	1,240	533			7.2		BEAUMONT CLAY	419A
329	3,910	1,140	104	109	1,200	1,060	447			8.5		GOLIAD SAND	384A
390	3,180	1,080	43	42	940	757	574			7.6		GOLIAD SAND	386A
697	4,060	1,230	135	81	1,450	975	309			7.4		GOLIAD SAND	385A

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CAMP COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3861	70,863	25,900	1,300	300	42,900		463				1.054	EAGLE FORD	249H
3873	71,366	25,900	1,400	400	43,300		366				1.054	EAGLE FORD	250H
3900	70,000											SUB-CLARKSVILLE	16B
CALCULATED FROM RM = 0.100 AT 75 DEG (F)													
***** DEPTH RANGE 7001 - 8000 *****													
7881	235,025	56,700	32,640		145,000	285	200				1.157	PETTET	278H
7948	223,400	55,600	26,700	1,900	136,500	2,700					1.162	PETTET	276H
7956	240,384	58,750	29,580	2,280	149,200	220	354				1.160	PETTET	279H
7999	198,801	47,113	24,680	2,682	124,110	94	122			5.7		PITTSBURG	797J
8000	185,000											PETTET (VENTERS)	17B
CALCULATED FROM RM = 0.047 AT 75 DEG (F)													
***** DEPTH RANGE 8001 - 9000 *****													
8041	182,000	44,400	22,000	2,100	113,500						1.135	PETTET	277H

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CARSON COUNTY

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***** DEPTH RANGE 2001 - 3000 *****													
2795	92,857											BROWN DOLOMITE	0006P
2863	420,000											BROWN DOLOMITE	0005P
2915	90,000											GRANITE WASH	0028P
2956	98,872											BROWN DOLOMITE	0004P
2967	97,143											GRANITE WASH	0023P
2974	140,000											BROWN DOLOMITE	0013P
2995	130,000											BROWN DOLOMITE	0009P
2995	130,000											GRANITE WASH	0026P
3000	141,959	49,586	7,460	1,210	85,500	2,080	123	5		7.2	1.090	BROWN DOLOMITE	01830
3000	138,245	43,746	6,635	1,270	81,500	1,950	144	6		7.7	1.090	BROWN DOLOMITE	01840
3000	98,057	31,142	5,230	926	58,000	2,628	131	215		7.5	1.060	BROWN DOLOMITE	01850
***** DEPTH RANGE 3001 - 4000 *****													
3017	112,000											GRANITE WASH	0027P
3045	112,000											GRANITE WASH	0035P
3046	130,000											BROWN DOLOMITE	0010P
3066	106,000											GRANITE WASH	0041P
3074	109,000											BROWN DOLOMITE	0017P
3079	130,000											GRANITE WASH	0024P
3081	160,000											GRANITE WASH	0025P
3091	130,000											BROWN DOLOMITE	0014P
3100					94,500	1,000	40	20		5.4	1.109	GRANITE WASH	81J
3100					102,500	1,500	130			6.5	1.120	BROWN DOLOMITE	82J
3100			7,370	2,240	95,000	416		47		7.1	1.015	GRANITE WASH	83J
3100			10,050	3,875	107,000	1,050	128	5		7.6	1.145	BROWN DOLOMITE	84J
3100	144,765	49,100	4,690	1,730	88,810	303	132				1.114	ARKOSIC	00280
3100	130,767	43,450	4,730	1,680	78,814	1,860	233				1.101	ARKOSIC	00290
3100	146,521	49,057	5,380	1,730	89,920	303	131				1.116	ARKOSIC	00300
3100	116,875											BROWN DOLOMITE	0012P
3102	112,000											GRANITE WASH	0040P
3105	112,000											BROWN DOLOMITE	0007P
3105	140,000											BROWN DOLOMITE	0008P
3108	140,000											BROWN DOLOMITE	0011P
3112	106,000											BROWN DOLOMITE	0016P
3115	112,000											GRANITE WASH	0038P
3129	120,625											GRANITE WASH	0039P
3135	106,000											BROWN DOLOMITE	0018P
3162	100,000											BROWN DOLOMITE	0021P
3162	109,000											GRANITE WASH	0037P
3165	95,714											GRANITE WASH	0033P
3170	116,875											GRANITE WASH	0034P

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CARSON COUNTY

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***** DEPTH RANGE 3001 - 4000 *****													
3176	106,000												
3183	98,572											GRANITE WASH	0031P
3184	106,000											GRANITE WASH	0042P
3192	106,000											GRANITE WASH	0032P
3195	106,000											GRANITE WASH	0030P
3210	120,625											BROWN DOLOMITE	0022P
3217	106,000											BROWN DOLOMITE	0019P
3255	109,000											GRANITE WASH	0029P
3275	106,000											GRANITE WASH	0036P
3286	115,000											BROWN DOLOMITE	0020P
3320	169,514	54,604	8,091	1,993	102,834	1,876	146				1.113	BROWN DOLOMITE	0003P
3656	124,375											DOLOMITE	533J
												BROWN DOLOMITE	0015P
***** DEPTH RANGE 5001 - 6000 *****													
5058	85,714											PENN CONG	0043P
5858	114,875											PENN CONG	0044P

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CHEMICAL ANALYSIS OF SALINE WATER
CASS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3280	900											WOODBINE SAND	663SP
3610	20,500											EAGLE FORD	697SP
3740	42,000											WOODBINE SAND	664SP
3900	12,000											WOODBINE SAND	666SP
***** DEPTH RANGE 4001 - 5000 *****													
4100	6,000											WOODBINE SAND	665SP
***** DEPTH RANGE 5001 - 6000 *****													
5800	160,000											RODESSA	18B
5800	125,000											RODESSA (MND=GLD)	20B
5814	193,405	46,500	17,200	6,900	120,500	2,305				1.142		RODESSA	155H
5900	200,000											DEES-YOUNG	21B
5984	220,029	59,569	21,197	2,503	136,517	219				1.149		RODESSA	316H
5995	228,505	60,929	22,840	2,621	141,836	279				1.155		RODESSA	313H
***** DEPTH RANGE 6001 - 7000 *****													
6002	217,855	55,800	22,920	3,200	135,800	104				1.152		RODESSA	140H
6002	225,428	56,800	25,800	2,440	140,000	327				1.161		RODESSA	141H
6012	225,981	61,672	21,470	2,485	140,063	313				1.194		RODESSA	314H
6019	226,134	62,062	21,397	2,298	140,063	314				1.153		RODESSA	317H
6036	228,539	60,700	23,160	2,551	141,836	292				1.157		RODESSA	318H
6055	228,406	60,285	23,321	2,673	141,836	291				1.158		RODESSA	315H
6058	222,350	57,400	23,200	3,100	138,500	100		50		1.159		RODESSA	142H
6082	220,126	52,600	26,300	3,400	137,700	89		37		1.157		RODESSA	143H
6688	239,517	57,200	30,300	2,590	149,000	363		64		1.162		PETTET	156H
6700	170,000											PETTET	19B
***** DEPTH RANGE 7001 - 8000 *****													
7080	200,000											PETTET-TRAVIS PK	748SP

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

CASTRO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
6635	94,286												
6985	109,000											WOLFCA _M P WOLFCA _M P	0045P 0047P
9210	90,000												
9275	136,667											ELLENBURGER BASAL PENN SAND	0048P 0046P

***** DEPTH RANGE 6001 - 7000 *****
 CALCULATED FROM RM = 0.077 AT 75 DEG (F)
 CALCULATED FROM RM = 0.070 AT 75 DEG (F)

***** DEPTH RANGE 9001 - 10000 *****
 CALCULATED FROM RM = 0.080 AT 75 DEG (F)
 CALCULATED FROM RM = 0.058 AT 75 DEG (F)

TEXAS WATER DEVELOPMENT BOARD
SALINE WATER RESOURCES SURVEY

JUL 1971

OF THE
STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

CHAMBERS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
192	1,100	397	34	10	275		730			8.2		BEAUMONT CLAY	436A
420	1,730	650	23	11	762	1	536					BEAUMONT CLAY	437A
487	1,060	403	14	4	275	68	571			8.3		ALTA LOMA SAND	439A
546	2,040	734	45	19	1,000	4	454					BEAUMONT CLAY	438A
***** DEPTH RANGE 1001 - 2000 *****													
1050	33,500											Z-2 0-2000 FT	468SP
1165	70,000											Z-2 0-2000 FT	469SP
1260	4,900											Z-2 0-2000 FT	474SP
1520	1,250											Z-2 0-2000 FT	178SP
1630	8,100											Z-2 0-2000 FT	177SP
2000	32,000											MIOCENE	82E
CALCULATED FROM RM = 0.200 AT 75 DEG (F)													
***** DEPTH RANGE 2001 - 3000 *****													
2250	160,000											Z-3 2000-4000 FT	470SP
2640	80,000											Z-3 2000-4000 FT	475SP
***** DEPTH RANGE 3001 - 4000 *****													
3020	30,000											Z-2 2000-4000 FT	179SP
3731	97,143											MIOCENE	87E
3863	109,000											MIOCENE	88E
***** DEPTH RANGE 4001 - 5000 *****													
4300	106,000											FRIO	83E
4505	105,375	29,720	7,065	2,474	65,475		357	99		6.2	1.078	MIOCENE	1014J
4840	150,000											Z-4 4000-6000 FT	174SP
4890	250,000											Z-4 4000-6000 FT	471SP
4925	98,572											FRIO	84E
CALCULATED FROM RM = 0.074 AT 75 DEG (F)													
***** DEPTH RANGE 5001 - 6000 *****													
5080	98,572											FRIO	85E
5250	103,000											FRIO	86E
5460	65,000											Z-4 4000-6000 FT	180SP
5765	108,711	36,753	2,794	605	66,376		183	78		7.5	1.081	MICNE + OLIO.	1117J
5912	109,000											FRIO	89E
5967	97,143											FRIO	90E
CALCULATED FROM RM = 0.075 AT 75 DEG (F)													
***** DEPTH RANGE 6001 - 7000 *****													
6040	112,370	39,447	3,448	607	68,418	42	408			6.4	1.081	VICKSBURG	1016J
6095	102,764	34,965	4,350	450	62,800	101	98					FRIO	76D
6096	86,173	28,786	4,130	347	52,300	378	.232					FRIO	77D

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

CHAMBERS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 6001 - 7000 *****													
6142	109,670	32,907	5,810	2,400	67,927		398			6.5	1.080	FRIO	1015J
6240	140,000											Z-5 6000-8000 FT	175SP
6250	230,000											Z-5 6000-8000 FT	472SP
6400	95,714											FRIO	91E
6500	109,000											FRIO	93E
6515	1,286											LOTZ 6500	1148J
6584	103,959	36,669	2,820	735	63,633		102	101		7.5	1.078	MIDDLETON SD.	1149J
6600	91,429											FRIO	92E
6600	103,000											FRIO	94E
6643	71,010	25,267	1,725	483	43,261	103	171					FRIO	78D
***** DEPTH RANGE 7001 - 8000 *****													
7053	109,000											FRIO	80E
7076	98,572											FRIO	81E
7126	93,139	31,116	4,310	517	57,000	50	146					FRIO	74D
7127	116,551	42,472	2,608	312	71,000		159					FRIO	73D
7140	72,442	25,455	2,438	233	44,167	16	133	20		6.7	1.054	TOP FRIO	1116J
7496	115,815	38,718	4,977	904	71,088		128	24		6.8	1.089	DISCORBIS	1146J
7500	62,000											Z-5 6000-8000 FT	181SP
7674	119,132	41,214	3,814	957	73,057		90	22		6.9		F-1A SD.	1154J
7700	95,412	34,131	2,257	593	58,277		154	38		7.3	1.072	STEWART	1145J
8000	165,000		4,800	1,800	98,000			2		7.1		FRIO SD	1115J
***** DEPTH RANGE 8001 - 9000 *****													
8120	89,000											Z-6 8000-10000FT	176SP
8129	146,667											FRIO	95E
8130	200,000											Z-6 8000-10000FT	473SP
8135	146,667											FRIO	96E
8172	78,992	27,271	2,342	802	48,503		74	98		7.3	1.060	F4-SD	1127J
8173	64,869	24,450	748	162	39,509					5.8	1.050	FISA (FRIO)	1114J
8198	88,564	30,591	3,103	520	53,973		377	28		6.2	1.070	F-1	1123J
8208	121,658	44,202	2,669	472	74,225		70	11		6.7	1.094	CRAWFORD	1147J
8214	89,165	31,329	2,037	979	54,728		92	50		7.0	1.069	F-3	1121J
8214	93,101	32,451	2,837	685	56,991		137	17		7.1	1.067	FRIO 3	1124J
8263	115,200		3,860	415	53,500		762	52		6.8	1.075	FRIO	1125J
8270	121,597	41,853	4,006	1,036	74,612		90	44		7.4	1.093	F-4 SD.	1152J
8290	94,931	32,245	3,553	683	57,440	70	866			6.8	1.071	FRIO	1126J
8294	120,838	40,272	5,459	844	74,202		61	232		4.7	1.099	FRIO 3	1131J
8390	86,741	30,393	2,043	960	53,219		126	95			1.066	2ND FRIO	1122J
8446	99,010	34,536	2,719	930	60,746		79	39		6.7	1.074	FB-A, SEABREEZE	1153J
8493	77,666	27,808	1,832	458	47,332		236	8		7.1	1.060	SEABREEZE-3	1141J
8588	79,658	27,745	2,709	367	48,837					5.5	1.060	FB-B, F-1	1120J
8600	192,370	49,224	7,826	1,121	93,131		270			6.1	1.066	FRIO	1011J
8600	123,524	43,084	3,845	566	74,747		382			6.2	1.088	FRIO	1012J
8600	149,916	48,696	7,301	1,060	91,313		262			6.0	1.105	FRIO	1013J
8639	84,933	31,506	1,160	395	51,700		172			4.1	1.063	F-11 SD.	1137J
8660	100,000											Z-6 8000-10000FT	182SP
8731	160,073	46,776	12,116	1,939	99,242			34		5.6	1.129	FB-B, F-1 SD.	1135J
8810	64,738	23,304	1,151	1,199	39,698	71	315			7.3	1.045	FB-B, F-12 SD.	1150J

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

CHAMBERS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 8001 - 9000 *****													
8853	89,981	31,477	2,308	901	55,215		80	22		6.9	1.066	SEABREEZE	1119J
8863	127,213	42,233	5,641	1,048	78,024		267	64		6.7	1.099	SEABREEZE	1132J
9000	65,780	24,334	986	145	39,192	27	832			6.4	1.048	FRIO	999J
9000	87,779	32,178	1,462	454	53,219	340	126			7.4	1.066	F-14 SD,	1151J
***** DEPTH RANGE 9001 - 10000 *****													
9050	131,970				526							FRIO	1118J
9147	81,991	29,502	2,274	115	49,504		573	20		6.7	1.064	SEABREEZE 2	1140J
9194	95,460				58,000							FRIO	1128J
9194	1,100				220							FRIO	1129J
9194	8,000				1,720							FRIO	1130J
9395	73,371	25,144	2,933	308	44,703		289	84		6.2	1.057	F-4 SD,	1139J
9400	62,407	23,099	847	166	36,984	48	1,003			7.5	1.046	FRIO	998J
9400	109,730	36,827	4,524	667	66,566	10	525			6.1	1.078	FRIO	1000J
9499	85,421	31,660	1,279	338	51,995		149	22		7.3	1.064	F-6 SD,	1136J
9606	54,946	20,828	538	96	33,146		315	17		7.6	1.043	F-15A	1133J
9769	84,516	31,576	1,101	271	51,270		298	31		6.8	1.065	F-8 SD,	1138J
9769	99,828	37,368	1,286	220	60,100		854					FRIO	75D
***** DEPTH RANGE 10001 - 11000 *****													
10458	49,547	19,125	220	72	30,060		70	269		6.6	1.038	F-11B	1134J
***** DEPTH RANGE 11001 - 12000 *****													
11528	95,460				58,000							FRIO	1142J
11528	1,100				220							FRIO	1143J
11528	8,000				1,720							FRIO	1144J

TEXAS WATER DEVELOPMENT BOARD
SALINE WATER RESOURCES SURVEY
OF THE
STATE OF TEXAS
CHEMICAL ANALYSIS OF SALINE WATER
CHEROKEE COUNTY

JUL 1971

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1139	1,470	409	2	1	88		803					WILCOX Group	263A
1600	2,900											CARRIZO-WILCOX	540SP
1900	3,800											CARRIZO-WILCOX	541SP
***** DEPTH RANGE 2001 - 3000 *****													
2450	7,000											CARRIZO-WILCOX	543SP
2670	15,500											CARRIZO-WILCOX	542SP
***** DEPTH RANGE 3001 - 4000 *****													
3300	49,118											NACATOCH	27B
												NACATOCH	159H
3300	48,848	17,738	930	230	29,222	122	606				1.035	WOODBINE	347H
3753	46,432	17,400	1,220	170	29,100	396	146				1.042	WOODBINE	348H
3753	53,792	19,400	1,279	161	32,300	188	464				1.043	WOODBINE	349H
3761	61,309	22,008	1,300	400	37,200		409				1.046	WOODBINE	350H
3761	60,508	22,100	1,400	33	36,200	342	433				1.046	WOODBINE	30B
3800	98,636											WOODBINE	160H
3919	86,447	29,100	3,500	660	52,700	456	31				1.068	WOODBINE	161H
3979	87,533	29,400	3,500	780	53,600	216	37				1.068	WOODBINE	28B
4000	94,286											WOODBINE	
***** DEPTH RANGE 4001 - 5000 *****													
4372	85,171	30,900	1,740	390	51,400	284	537				1.060	WOODBINE	148H
4393	87,378	31,632	1,860	400	52,800	216	470				1.062	WOODBINE	149H
4400	80,000											WOODBINE	25B
4443	84,504	30,550	1,810	400	51,100	16	628				1.060	WOODBINE	150H
4843	101,701	37,289	1,500	640	61,600	181	491				1.073	WOODBINE	151H
4900	97,143											WOODBINE	26B
4966	100,957	35,195	3,200	600	61,200	243	519				1.070	WOODBINE	152H
***** DEPTH RANGE 5001 - 6000 *****													
5084	94,311	36,008	800	140	57,200		171				1.073	WOODBINE	68H
5100	97,143											WOODBINE	31B
5115	103,643	36,008	3,960	370	60,600	2,457	256				1.074	WOODBINE	410H
5119	97,271	33,700	3,980	116	59,200	208	67				1.073	WOODBINE	411H
5120	102,021	34,345	4,410	608	62,304	165	189				1.072	WOODBINE	323H
5186	101,026	33,554	4,590	730	61,700	171	281				1.071	WOODBINE	324H
5200	103,000											WOODBINE	29B
5200	108,993	37,814	3,727	612	66,486	116	238				1.074	WOODBINE	325H
5450	115,000											WOODBINE	23B
5900	95,714											WOODBINE	22B
***** DEPTH RANGE 7001 - 8000 *****													
7640	60,000											LOWER GLEN ROSE	673SP

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

CHEROKEE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 8001 - 9000 *****													
8370	93,000											PETTET-TRAVIS PK	681SP
8460	71,000											PETTET-TRAVIS PK	740SP
8870	67,000											LOWER GLEN ROSE	733SP
***** DEPTH RANGE 9001 -10000 *****													
9700	24,000											PETTET-TRAVIS PK	712SP
***** DEPTH RANGE 10001 -11000 *****													
10200	100,000											PETTET	248
CALCULATED FROM RW = 0.052 AT 75 DEG (F)													

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

CHILDRESS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.	
							1 - 1000							
100	3,480	256	608	158	460	1,890	162			7.5		BLAINE GYPSUM	78A	
150	2,070	240	602	139	360	1,890	190			7.4		BLAINE GYPSUM	72A	
150	3,350	240	602	139	360	1,890	190			7.4		BLAINE GYPSUM	74A	
168	2,830	116	608	101	162	1,710	223			7.4		BLAINE GYPSUM	81A	
176	1,810	50	606	73	55	1,580	236			7.4		BLAINE GYPSUM	73A	
176	2,350	50	606	73	55	1,580	236			7.4		BLAINE GYPSUM	75A	
177	3,450	260	604	151	380	1,950	162			7.5		BLAINE GYPSUM	77A	
200	2,910	124	600	117	185	1,770	190			7.5		BLAINE GYPSUM	76A	
270	3,150	730	620	232	1,040	2,400	220			7.5		BLAINE GYPSUM	79A	
278	2,760	83	570	130	102	1,790	104			7.9		BLAINE GYPSUM	80A	
400	1,200	164	184	39	292	409	173			7.3		ALLUVIUM	463A	
							5001 - 6000							
5653	124,375												CANYON LIME	0049P
5917	205,000												LOWER STRAWN	145I
							8001 - 9000							
8178	180,000												ELLENBURGER	144I

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

CLAY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1100	139,094	40,505	10,305	1,850	86,400	18	16			4.9	1.111	GUNSIGHT	80G
1100	133,333											CISCO	205I
1100	165,000											CISCO	206I
1700	155,172	47,710	10,065	1,492	95,350	514	41			6.3	1.120	CISCO	81G
1700	146,667											CISCO	208I
1740	146,667											CISCO	207I
1800	149,032		25,800	6,200	92,000	105	48			6.1	1.098	THOMAS + GUNS.	1234J
***** DEPTH RANGE 3001 - 4000 *****													
3150	199,284	45,160	12,500	2,460	98,900		120	84		6.2	1.113	DES MOINES	1232J
3150	177,880	50,856	14,178	2,336	110,357		61			6.1	1.124	DES MOINES	1233J
3398	210,000											ELLENBURGER	150I
3400	190,000											SIMPSON	160I
3400	155,000											STRAWN	188I
3785	128,125											STRAWN	189I
4000	150,756	42,600	11,700	2,530	93,800		75			6.0	1.108	STRAWN	1228J
***** DEPTH RANGE 4001 - 5000 *****													
4010	224,969	63,460	19,409	2,497	139,101	351	61	10		6.0	1.153	STRAWN	1231J
4220	170,000											MISSISSIPPIAN	762C
4250	140,000											STRAWN	202I
4254	192,096	44,120	11,055	2,383	94,500	10	28			5.0	1.121	UPPER-STRAWN	82G
4254	146,667											UPPER STRAWN	204I
4290	170,000											STRAWN	193I
4325	170,347	51,700	10,400	2,610	105,500	2	135			6.0	1.139	STRAWN	83G
4325	160,000											STRAWN	194I
4400	180,000											STRAWN	195I
4400	155,000											STRAWN	200I
4428	188,961	54,842	14,900	2,040	116,866		153			6.1	1.131	STRAWN	1227J
4658	197,592	53,950	18,070	2,244	123,300	9	19			4.1	1.163	STRAWN	84G
4658	180,000											STRAWN	198I
4660	180,000											STRAWN	199I
4700	184,532	51,397	16,430	2,163	114,500	21	21			4.1	1.153	STRAWN	85G
4700	186,814	53,050	16,310	1,723	115,700	14	17			4.0	1.155	STRAWN	86G
4700	190,000											STRAWN	190I
4700	175,000											STRAWN	191I
4700	180,000											STRAWN	196I
4700	175,000											STRAWN	197I
4750	165,000											STRAWN	203I
4840	143,333											STRAWN	201I
4980	205,000											STRAWN	192I

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CLAY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
5300	209,000												
5358	130,049	35,050	11,495	1,894	51,550	32	28			4.5	1.105	BEND	183I
5358	128,125											CADDO	87G
5360	133,333											BEND	187I
5454	196,925	56,200	15,890	2,569	122,200	39	27			4.3	1.167	BEND	184I
5454	180,000											BEND	88G
5460	190,000											BEND	186I
5470	170,131	49,320	11,515	2,351	106,800	44	101			6.2	1.143	BEND	185I
5470	170,000											BEND	89G
5470	160,000											BEND	177I
5575	130,000											BEND	178I
5600	194,464	53,900	17,345	2,395	120,500	275	49			4.5	1.162	BEND	176I
5600	192,176	51,700	17,880	2,867	119,450	260	19			6.6	1.159	ELLENBURGER	96G
5600	180,000											ELLENBURGER	97G
5600	180,000											ELLENBURGER	148I
5600	185,000											ELLENBURGER	149I
5600	200,000											SIMPSON	159I
5607	165,000											BEND	182I
5700	200,000											MISSISSIPPIAN	76IC
5700	165,000											SIMPSON	158I
5720	160,000											SIMPSON	166I
5720	200,000											BEND	180I
5726	189,796	51,398	17,993	2,358	117,750	194	106			6.2	1.132	BEND	181I
5726	180,000											BEND	90G
5753	251,000		20,100	2,600	141,500	387	73	30		5.9	1.160	MISSISSIPPI	179I
5780	193,900	54,450	16,745	2,303	120,150	224	28			6.0	1.159	MISSISSIPPIAN	1230J
5780	190,000											SIMPSON	92G
5780	180,000											SIMPSON	161I
5800	197,653	55,797	16,930	2,265	122,350	241	70			6.4	1.161	SIMPSON	162I
5800	180,000											ELLENBURGER	98G
5800	190,000											ELLENBURGER	147I
5808	222,813	84,908	1,952	377	135,200		61			6.6	1.154	SIMPSON	156I
5808	222,813	84,908	1,952	377	135,200	315	61			6.6	1.154	MISSISSIPPI LIME	1225J
5950	190,000											MISSISSIPPI	1226J
5954	201,747	51,400	21,910	2,620	125,750	64	3			4.1	1.173	SIMPSON	164I
5954	185,000											MISSISSIPPIAN	93G
5975	180,000											SIMPSON	163I
6000	190,000											SIMPSON	165I
6000	190,000											SIMPSON	173I
***** DEPTH RANGE 6001 - 7000 *****													
6011	197,732	55,000	17,390	2,460	122,600	179	103			7.0	1.161	MISSISSIPPIAN	94G
6011	180,000											SIMPSON	172I
6025	195,000											SIMPSON	170I
6035	170,000											SIMPSON	153I
6045	197,927	56,500	17,300	1,620	122,250	200	57			6.1	1.162	MISSISSIPPIAN	95G
6045	180,000											SIMPSON	167I
6050	185,000											SIMPSON	168I
6080	195,699	53,420	18,200	2,394	121,495	138	52			6.1	1.162	BEND	91G
6080	175,000											BEND	174I

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***** DEPTH RANGE 6001 - 7000 *****													
6080	180,000											BEND	175I
6150	195,000											SIMPSON	157I
6200	215,000											SIMPSON	169I
6227	208,677	54,150	22,300	2,400	129,750	51	26			4.2	1.176	SIMPSON	100G
6227	190,000											SIMPSON	151I
6230	190,000											SIMPSON	155I
6250	195,000											SIMPSON	152I
6261	209,976	55,650	21,110	2,537	130,495	119	65			5.7	1.173	ELLENBURGER	99G
6261	190,000											ELLENBURGER	146I
6275	190,000											SIMPSON	171I
6500	265,000											SIMPSON	154I

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COCHRAN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1350	189,000												
1350	180,000											GUADALUPE	783I
												GUADALUPE	784I
2760	103,000												
												YATES	16C
4800	179,656	44,800	18,640	3,580	111,100	1,020	516			5.9	1.136	SAN ANDRES	233G
4800	170,000											GUADALUPE	792I
4927	86,650		9,440	4,519	54,191	1,470	431			7.4	1.055	SAN ANDRES	1077J
4927	168,241	43,493	16,000	5,760	101,000	1,500	488			5.2		SAN ANDRES	1078J
4927	113,306		22,540	5,861	73,400	508	110	58		6.2	1.165	SAN ANDRES	1079J
4927	287,000		23,000	8,110	129,000	494				7.1		SAN ANDRES	1080J
4934	133,333											SAN ANDRES	1,6C
4962	185,000											SAN ANDRES	139C
4990	191,080	57,350	10,970	3,678	117,450	1,055	577			6.0	1.139	SAN ANDRES	234G
4990	180,000											GUADALUPE	791I
4995	225,653	80,750	3,900	2,240	135,600	2,848	315			6.2	1.152	SAN ANDRES	235G
4995	195,000											GUADALUPE	790I
5000	155,000											GUADALUPE	782I
5000	206,863	51,800	16,690	7,225	129,200	1,460	488			5.9		SAN ANDRES	1081J
5031	212,650	61,349	15,640	3,403	131,076	985	197				1.181	SAN ANDRES	236G
5031	190,000											GUADALUPE	789I
5036	222,660	67,000	16,200	1,130	137,400	350	580			5.9	1.153	SAN ANDRES	237G
5036	195,000											GUADALUPE	788I
5050	193,206	34,253	23,931	10,129	124,292	601					1.164	SAN ANDRES	00640
5050	194,671	33,198	22,785	11,493	124,597	601					1.164	SAN ANDRES	00650
5077	216,651	56,600	19,800	4,300	134,400	960	591				1.152	SAN ANDRES	238G
5077	195,000											GUADALUPE	787I
5080	227,054	62,900	18,150	4,370	140,500	950	584				1.154	SAN ANDRES	239G
5080	200,000											GUADALUPE	786I
5096	235,000											SAN ANDRES	137C
5096	61,419	18,470	2,800	1,506	37,700	511	432			6.8	1.050	SAN ANDRES	240G
5096	62,308											GUADALUPE	785I
5100			6,865	3,230	124,559					6.8	1.090	SAN ANDRES	470J
5114	175,000											SAN ANDRES	138C
10940	87,143												
												DEVONIAN	781C

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COCHRAN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
11000	116,875											DEVONIAN	782C
***** DEPTH RANGE 1001 - 1100 ***** CALCULATED FROM RW = 0.067 AT 75 DEG (F)													
11300	90,000											SILURO-FUSSELMAN	840C
11490	76,154											MISSISSIPPIAN	763C
***** DEPTH RANGE 1101 - 1200 ***** CALCULATED FROM RW = 0.080 AT 75 DEG (F) CALCULATED FROM RW = 0.092 AT 75 DEG (F)													
12400	59,546											DEVONIAN	783C
12600	149,635	45,610	8,895	2,230	92,000	528	372			6.6	1.120	ELLENBURGER	241G
12600	143,333											ELLENBURGER	781I
***** DEPTH RANGE 1201 - 1300 ***** CALCULATED FROM RW = 0.114 AT 75 DEG (F) CALCULATED FROM RW = 0.056 AT 75 DEG (F)													

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COKE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
60	3,450	385	169	402	**** DEPTH RANGE 624	1,560	1 - 1000 476	****				SAN ANGELO SS	51A
2203	84,898	26,727	2,298	1,070	48,200	4,200	2001 - 3000 403			6.8	1.059	COLEMAN JUNCTION	0120K
2280	66,749	22,013	2,033	942	36,524	4,676	561					COLEMAN JUNCTION	0121K
2500	97,800	27,800	3,000	1,070	48,400	3,620	340			6.8	1.064	COLEMAN JUNCTION	0122K
2800	81,074	26,460	2,502	1,202	46,470	3,575	277			6.6	1.055	SAN ANGELO LIME	0118K
3000	143,900	38,040	8,330	2,058	80,178	470	816			6.5	1.093	SWASTIKA	0025L
3500	83,500	26,500	2,230	745	**** DEPTH RANGE 43,800	3,050	3001 - 4000 545	****		7.0	1.055	WOLFCAMP CANYON	0119K
3954	77,692				CALCULATED FROM RW = 0.090 AT 75 DEG (F)								0124K
4300	153,300	40,340	8,820	1,323	**** DEPTH RANGE 83,166	290	4001 - 5000 180	****		5.9	1.099	SWASTIKA	0026L
4338	90,000				CALCULATED FROM RW = 0.080 AT 75 DEG (F)							PALO PINTO	0125K
4417	123,100		6,290	1,690	68,000	405				6.2	1.080	PALO PINTO	0016M
4500	81,012	27,580	2,350	872	46,555	3,610	45			7.6	1.058	CISCO LIME	0123K
4616	80,500		2,810	605	42,100	1,275				6.2	1.053	CAPPS LIME	0017M
4620	91,000	29,400	2,810	690	51,400	950	425			7.3	1.063	CAPPS LIME	0132K
4800	73,077				CALCULATED FROM RW = 0.096 AT 75 DEG (F)							GOEN	0133K
4950	5,347				CALCULATED FROM RW = 1.064 AT 75 DEG (F)							GOEN	0014M
4950	97,800		2,160	1,060	52,800	855				6.4	1.064	GOEN	0015M
5328	115,000				**** DEPTH RANGE 66,500	1,550	5001 - 6000 478	****		6.3		LOWER GARDNER	0134K
5337	110,243	32,845	7,480	1,390	CALCULATED FROM RW = 0.068 AT 75 DEG (F)							GRAY SAND	0028L
5340	65,800	22,700	2,240	533	35,800	2,125	542			7.6	1.043	CAMBRIAN	0144K
5345	116,157	34,980	7,600	1,415	70,500	1,350	232			6.3		GRAY SAND	0029L
5450	127,004	37,264	10,565	666	77,500	800	209			6.2	1.09	GRAY	0135K
5520	124,914	35,540	10,086	1,631	76,544	896	171					ODOM LIME	0142K
5537	13,077				CALCULATED FROM RW = 0.096 AT 75 DEG (F)							CAMBRIAN	0146K
5541	61,079	20,701	2,013	548	35,500	1,750	587	45		7.3	1.044	CAMBRIAN	0008M
5722	52,222				CALCULATED FROM RW = 0.129 AT 75 DEG (F)							CAMBRIAN	0145K
5800	102,800	31,200	3,890	867	56,000	1,500	285			6.8	1.067	CROSS CUT SAND	0126K
5800	156,500	46,690	6,370	1,294	88,146	780	370			6.7	1.101	STRAWN REEF	0027L
5997	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							PENN STRAWN	632C
6000	167,927	21,286	13,000	301	72,200	704	432					STRAWN SAND	0130K
6000	215,700	58,000	13,200	2,240	119,000		190			6.5	1.138	STRAWN SAND	0131K
6016	198,130	47,210	10,605	2,220	**** DEPTH RANGE 97,900	95	6001 - 7000 100	****		5.9	1.128	STRAWN REEF	0018M

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6062	179,285	55,830	11,120	1,660	110,470	70	6001 - 7000	135		6.1	1.141	STRAWN SAND	0012M
6108	150,000											PENN STRAWN	633C
6190	79,293	27,596	2,551	418	47,500	800		428		6.7	1.040	ELLENBURGER	0143K
6200	158,100	45,400	7,130	1,240	85,000	1,350		260		7.2	1.102	STRAWN REEF	0138K
6200	136,551	43,700	7,212	1,342	83,415	844		38		5.8	1.101	STRAWN REEF	0139K
6210	162,900	46,800	7,650	1,400	88,800	1,125		190		6.0	1.105	STRAWN REEF	0136K
6211	148,481	47,290	8,081	1,361	89,800	812		271		6.2	1.108	PENNSYLVANIAN	0137K
6250	173,630	53,430	10,686	1,824	106,025	585		146		5.2	1.129	STRAWN SAND	0128K
6390	193,400	52,500	12,600	1,960	108,500			120		6.1	1.124	STRAWN SAND	0129K
6405	115,000											PENN STRAWN	635C
6471	84,286											ELLENBURGER	982C
6475	133,333											PENN STRAWN	634C
6558	82,857											ELLENBURGER	983C
6560	152,787	47,887	8,879	1,593	93,676	676		76		7.0	1.110	CADDO	0140K
6600	145,280	45,260	8,777	1,457	88,986	756		44		5.4	1.110	CADDO LIME	0141K
6690	162,465	58,673	9,771	1,540	112,300	25		151		6.0	1.125	STRAWN SAND	0011M
6773	62,308											ELLENBURGER	981C
6773	98,121	19,767	1,665	620	33,999	1,786		884				ELLENBURGER	0030L
7050	185,400	55,800	8,430	1,450	105,000					6.3	1.119	STRAWN SAND	0127K
7328	47,353											ELLENBURGER	984C
8375	163,345	52,811	8,656	1,739	101,500	769		90				CANYON	0010M

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***** DEPTH RANGE 1 - 1000 *****													
441	28,400	8,580	1,640	504	17,500	175	146				1.020	AMERADA SAND	0149K
450	33,000											AMERADA SAND	0147K
450	33,830	11,040	1,120	672	21,000		105			7.5	1.022	AMERADA SAND	0148K
***** DEPTH RANGE 1001 - 2000 *****													
1400	94,500	23,800	6,300	1,470	52,820		244			6.1	1.062	KING SAND	0031L
1800	121,500	30,500	8,130	2,060	67,400		125			6.2	1.079	BRENEKE SAND	0157K
1800	102,800	27,700	4,580	1,470	55,000		120			6.8	1.067	BRENEKE SAND	0158K
1811	65,200	17,180	2,450	1,029	33,864	690	880			7.8	1.043	KING SAND	0032L
1950	150,100	37,700	11,700	1,810	85,500		180			5.7	1.097	FRY	0035L
1950	118,300	30,950	8,630	1,620	65,000		170			5.8	1.077	CAPPS LIME	0037L
2000	58,600	19,000	2,800	820	36,000	3	49			6.6	1.040	KING SAND	0150K
2000	148,500	37,800	10,750	2,280	84,000		100			6.7	1.096	FRY SAND	0160K
2000	158,100		12,160	2,530	93,700		57			7.3	1.102	FRY SAND	0036L
***** DEPTH RANGE 2001 - 3000 *****													
2050	124,060	34,780	9,640	2,488	77,100		50			5.9	1.100	FRY SAND	0159K
2117	17,700		1,056	185	8,550		73			6.6	1.011	MORRIS	0033L
2180	62,200	19,780	1,820	455	34,500	600	140			7.4	1.041	SERATT SAND	0152K
2230	119,510	31,990	10,440	2,180	74,900						1.091	FREY SAND	01140
2300	82,000	23,000	4,000	980	45,200		50				1.054	CROSS CUT SAND	0153K
2345	109,552	28,850	11,600	902	67,600	316	284				1.081	MARBLE FALLS	0170K
2350	109,552	28,850	11,600	902	67,600	316	284					MARBLE FALLS	0171K
2500	111,194	27,310	11,230	2,725	69,600	239	90			6.1	1.089	MARBLE FALLS	0172K
2600	167,000	43,746	14,040	4,248	105,000		34			6.2	1.120	LOWER FRY SAND	0162K
2605	165,000	44,000	15,400	2,500	103,000		46			6.3	1.118	LOWER FRY SAND	0161K
2734	72,900	21,600	1,581	1,080	39,132	480	1,280			7.1	1.048	WINCHELL REEF	0038L
2895	74,500	25,050	4,315	935	49,500		320			6.9	1.049	GUNSIGHT	0039L
3000	215,700	52,700	16,900	2,750	119,000	180	95			5.6	1.138	GARDNER SAND	0166K
***** DEPTH RANGE 3001 - 4000 *****													
3060	220,000	48,500	17,000	2,560	112,200	495	71			5.4	1.133	LOWER GARDNER	0167K
3100	77,500	20,800	2,900	1,075	39,600	725	170			6.8	1.051	MCMILLAN SAND	0151K
3150	147,700	42,900	8,330	1,860	86,450		50			7.6	1.102	MORRIS SAND	0155K
3200	204,600	49,990	13,692	4,648	111,054	190	140			6.2	1.131	MORRIS SAND	0040L
3405	217,300	52,200	17,600	2,770	119,500		30			6.0	1.139	GLEN COVE	0163K
3470	158,100	36,900	13,000	1,780	86,500	180	120			5.9	1.102	GARDNER SAND	0042L
3500	164,500	42,000	9,160	2,540	88,400		49			6.2	1.106	MORRIS SAND	0156K
3597	89,700		2,800	900	54,000	725	280	20			1.059	JENNINGS SAND	219J
3597	225,300		20,880	3,210	126,700	190	118			6.3	1.144	JENNINGS	0041L
3600	88,100		2,200	645	50,650	725	549			6.8	1.058	CAMBRIAN	0044L

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

COLEMAN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3600	96,100		2,880	825	57,800	1,400	445			7.3	1.063	CAMBRIAN	0045L
3600	97,800		3,100	465	99,200	1,370	242			7.1	1.064	CAMBRIAN	0046L
3600	99,400		2,720	510	58,800	375	148			6.9	1.065	CAMBRIAN	0047L
3600	108,800		3,120	632	63,600	910	238			7.1	1.071	CAMBRIAN	0048L
3688	165,880	45,000	16,170	1,585	102,700	264	151				1.134	GARDNER SAND	0165K
3840	225,300		20,100	2,270	127,500	140	90			6.0	1.144	GRAY SAND	0169K
4000	198,300	48,000	15,600	2,580	109,000	140	20			6.4	1.127	GRAY SAND	0168K
***** DEPTH RANGE 4001 - 5000 *****													
4225	57,137	20,400	1,200	393	33,900	1,015	229			7.6	1.043	ELLENBURGER	0173K
4902	91,500	31,900	2,700	655	55,500	500	217			6.7	1.065	CAMBRIAN	0174K
4950	82,000	28,865	2,205	590	49,300	450	900			6.5	1.060	CAMBRIAN	0043L
***** DEPTH RANGE 5001 - 6000 *****													
5350	110,400	36,110	2,840	385	61,500	365	142			6.9	1.072	CAMBRIAN	0049L

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COLLIN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1065	3,750	1,370	14	8	1,180	800	701	1		8.2		WOODBINE SAND	243A
1180	2,010	758	6	2	378	425	803			8.2		WOODBINE SAND	242A
1462	2,850	1,120	3	5	1,270	13	755			8.4		WOODBINE SAND	244A
1475	2,800	1,030	10	4	660	654	780			8.3		WOODBINE SAND	245A
***** DEPTH RANGE 2001 - 3000 *****													
2380	4,000											LOWER GLEN ROSE	725SP
***** DEPTH RANGE 3001 - 4000 *****													
3230	1,260	440	15	6	205	371	400			8.0		TRINITY GROUP	202A

TEXAS WATER DEVELOPMENT BOARD

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OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

COLLINGSWORTH COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1	2,930	32	600	91	41	1,630	229			7.0		BLAINE GYPSUM	82A
1	2,450	38	574	87	54	1,610	110			7.7		BLAINE GYPSUM	83A
					***** DEPTH RANGE 1001 - 2000 *****								
1936	98,872											DOLOMITE	0051P
1969	118,875											DOLOMITE	0052P
					***** DEPTH RANGE 2001 - 3000 *****								
2011	106,000											DOLOMITE	0050P
2061	103,000											DOLOMITE	0053P

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COLORADO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1990	17,500											Z-2 0-2000 FT	291SP
***** DEPTH RANGE 1001 - 2000 *****													
2170	7,000											Z-2 0-2000 FT	131SP
2250	7,500											Z-3 2000-4000 FT	130SP
2300	16,500											Z-3 2000-4000 FT	202SP
2420	8,000											Z-3 2000-4000 FT	283SP
2560	11,800											Z-3 2000-4000 FT	128SP
2990	14,800											Z-3 2000-4000 FT	263SP
***** DEPTH RANGE 2001 - 3000 *****													
3030	30,000											Z-3 2000-4000 FT	129SP
3500	74,000											Z-3 2000-4000 FT	229SP
3870	20,000											Z-3 2000-4000 FT	292SP
***** DEPTH RANGE 3001 - 4000 *****													
4110	89,500											Z-4 4000-6000 FT	264SP
4400	17,500											Z-4 4000-6000 FT	284SP
***** DEPTH RANGE 4001 - 5000 *****													
5200	27,000											Z-4 4000-6000 FT	132SP
5690	54,000											Z-4 4000-6000 FT	230SP
***** DEPTH RANGE 5001 - 6000 *****													
6260	90,000											Z-5 6000-8000 FT	205SP
***** DEPTH RANGE 6001 - 7000 *****													
7250	99,000											CARRIZO-WILCOX	293SP
7700	43,000											CARRIZO-WILCOX	336SP
***** DEPTH RANGE 7001 - 8000 *****													
8300	92,000											CARRIZO-WILCOX	133SP
8430	50,000											Z-6 8000-10000 FT	231SP
***** DEPTH RANGE 8001 - 9000 *****													
9530	106,668	34,370	5,700	700	65,065		675	142		6.4	1.079	WILCOX	241J
9568	43,538	15,120	1,080	145	25,380	170	1,240	395		6.9	1.032	WILCOX	243J
9787	10,044	3,440	25	3	4,000	380	2,086	110		7.3	1.008	WILCOX	242J
***** DEPTH RANGE 9001 - 10000 *****													
10410	20,060											CARRIZO-WILCOX	206SP

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COMAL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE		1 - 1000	*****					
154	2,370	17	326	220	17	1,380	360				GLEN ROSE LS	152A	
221	1,000			2,200	10		245				GLEN ROSE LS	153A	
280	1,350	325	71	71	560	237	171				TRAVIS PEAK	130A	
300	1,560				41	870	317				TRAVIS PEAK	131A	
513	1,130	301	62	32	233	349	294				EDWARDS LS	210A	

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CHEMICAL ANALYSIS OF SALINE WATER

CONCHO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2516	121,500	28,300	11,960	810	68,500	660	120			5.8	1.079	CISCO REEF	0050L
2600			5,500		48,000	150	146			7.1	1.054	CISCO REEF	215J
2892	105,500	28,750	5,880	1,470	59,760	110	300			7.0	1.069	STRAWN SAND	0051L
2905	41,067				CALCULATED FROM RW = 0.160 AT 75 DEG (F)							PENN-CANYON	077C
2930	123,100	31,465	6,664	1,911	65,975	560	80			6.9	1.080	CROSS CUT	0052L
2950	126,300	28,290	7,024	2,624	72,065		220			7.4	1.082	CANYON SAND	0053L
***** DEPTH RANGE 3001 - 4000 *****													
3190	121,500	32,500	8,220	1,130	67,200	850	155			6.4	1.079	JENNINGS SAND	0178K
3574	107,200	32,800	3,100	1,625	60,700		150			6.9	1.070	STRAWN SAND	0177K
3600	102,800	36,800	1,700	1,530	60,000		1,060			6.7	1.067	STRAWN LINE	0179K
3600	86,100	28,500	1,918	1,900	53,300	190	720			8.3	1.063	CAPPS	0054L
3670	1,937				CALCULATED FROM RW = 3.400 AT 75 DEG (F)							CAMBRIAN	0181K
3663	65,365				CALCULATED FROM RW = 0.106 AT 75 DEG (F)							CANYON	0175K
***** DEPTH RANGE 4001 - 5000 *****													
4150	1,110	417	0	2	400	23	138			8.0		HICKORY SS	1A
***** DEPTH RANGE 5001 - 1000 *****													
6000	77,400	31,600	2,630	613	34,150	850	661			7.1	1.064	ELLENBURGER	0180K

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STATE OF TEXAS

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COOKE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.	
***** DEPTH RANGE 1 - 1000 *****														
775	15,134											CANYON	253I	
775	9,714											CANYON	254I	
775	9,071											CANYON	255I	
944	17,563											CANYON	252I	
***** DEPTH RANGE 1001 - 2000 *****														
1019	77,011	21,300	6,123	1,486	47,920	23	159			7.5	1.060	STRAWN	1180	
1019	76,923											STRAWN	229I	
1020	74,615											STRAWN	230I	
1300	59,487	17,398	2,888	829	34,110	192	70			7.4	1.043	STRAWN	1190	
1300	59,455											STRAWN	239I	
1300	56,818											STRAWN	240I	
1300	71,300		4,372	2,080	39,200	40	308			6.7	1.047	1300 STRAWN SD	1238J	
1424	99,309	18,110	3,632	808	36,350	373	36			6.8	1.046	STRAWN	1200	
1424	60,000											STRAWN	241I	
1490	78,462											ELLENBURGER	217I	
1600	120,625											STRAWN	231I	
1600	60,000											STRAWN	249I	
1680	85,832	23,530	4,987	1,694	53,450	56	115			7.5	1.066	STRAWN	1210	
1680	85,714											STRAWN	234I	
1680	87,143											STRAWN	235I	
1758	117,224	29,230	12,200	2,325	73,300	106	83			7.3	1.090	ELLENBURGER	1280	
1758	118,750											ELLENBURGER	213I	
1760	120,625											ELLENBURGER	214I	
1800	80,985	25,600	3,210	1,764	50,400	6	5			3.8	1.065	STRAWN	1220	
1800	128,125											ELLENBURGER	223I	
1800	79,231											STRAWN	232I	
1800	80,000											STRAWN	233I	
1800	44,380		4,590	414	27,451		108			YES	7.4	1.030	1800 SAND	1235J
1860	128,125											ELLENBURGER	221I	
1900	104,384	28,020	8,980	2,090	65,200	37	57			6.0	1.084	STRAWN	1230	
1900	103,000											STRAWN	224I	
1900	106,000											STRAWN	225I	
***** DEPTH RANGE 2001 - 3000 *****														
2180	160,000											ELLENBURGER	212I	
2183	164,999	39,620	19,480	2,630	103,200	32	37			6.4	1.132	ELLENBURGER	1290	
2183	160,000											ELLENBURGER	211I	
2200	148,723	40,641	12,436	2,802	92,814	30				5.8	1.110	BRUHLMEYER	1236J	
2720	133,333											ELLENBURGER	219I	
***** DEPTH RANGE 3001 - 4000 *****														
3200	174,622	46,300	16,800	2,610	108,800	112				3.5	1.140	STRAWN	1240	

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COOKE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3200	203,184	55,200	19,530	2,229	126,000	206	19			4.4	1.164	ELLENBURGER	1306
3200	185,000											ELLENBURGER	209I
3200	185,000											ELLENBURGER	210I
3200	160,000											STRAWN	227I
3200	165,000											STRAWN	228I
3320	136,667											STRAWN	248I
3350	124,375											ELLENBURGER	222I
3366	51,111											ELLENBURGER	218I
3475	143,333											STRAWN	226I
3574	166,150	42,170	16,209	3,007	103,490	20	43			6.1	1.131	STRAWN	1237J
3600	165,000											STRAWN	250I
4000	184,607	50,550	15,397	3,552	114,950	154	4			6.4	1.151	STRAWN	125G
4000	185,000											STRAWN	244I
4000	175,000											STRAWN	245I
***** DEPTH RANGE 4001 - 5000 *****													
4200	201,557	55,450	17,810	2,859	125,300	138				2.9	1.163	STRAWN	126G
4200	185,000											STRAWN	246I
4200	185,000											STRAWN	247I
4600	150,000											STRAWN	242I
4740	165,000											STRAWN	251I
4775	180,000											STRAWN	243I
***** DEPTH RANGE 5001 - 6000 *****													
5390	147,808	39,600	13,160	2,698	92,020	125	205			7.2	1.122	ELLENBURGER	131G
5390	143,333											ELLENBURGER	215I
5450	150,000											ELLENBURGER	216I
5600	170,000											ELLENBURGER	220I
***** DEPTH RANGE 6001 - 7000 *****													
6882	210,000											STRAWN	238I
6900	202,997	55,970	18,100	2,722	126,150	55				3.0	1.164	STRAWN	127G
6900	200,000											STRAWN	236I
6900	185,000											STRAWN	237I

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CORYELL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE		1 - 1000	*****					
370	2,940	898	34	57	180	1,470	595			7.8		TRINITY GROUP	190A
505	2,020	613	42	45	295	778	458					TRINITY GROUP	191A
520	1,280	412	16	10	246	334	352	1		7.9		TRINITY GROUP	189A
640	2,280	750	27	8	530	700	380			7.8		TRINITY GROUP	187A
768	1,220	437	8	5	286	233	442			7.6		TRINITY GROUP	188A

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COTTLER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
127	3,240	337	534	144	730	1,370	232						
127	3,400	398	530	140	830	1,350	243			7.9			
					***** DEPTH RANGE		1 - 1000	*****				BLAINE GYPSUM	65A
												ALLUVIUM	462A

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CHEMICAL ANALYSIS OF SALINE WATER

CRANE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SU4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
461	2,940	1,480	852	197	2,660	2,190	1 - 1000	98				RUSTLER LS	91A
***** DEPTH RANGE 2001 - 3000 *****													
2111	190,000											GRAYBURG	111C
2880	23,448											GRAYBURG	112C
***** DEPTH RANGE 3001 - 4000 *****													
3200	28,750											GRAYBURG	110C
3200	115,180	35,795	4,830	2,460	68,000	3,179	916			7.2	1.089	UPPER GLORIETA	441B
3231	36,500											SAN ANDRES	141C
3350	300,000											GLORIETA	222C
3490	47,059											SAN ANDRES	143C
3575	23,103											SAN ANGELO	261C
3580	37,500											SAN ANDRES	142C
3600	84,286											CLEARFORK	306C
3792	25,417											GLORIETA	223C
3840	166,000											SAN ANDRES	140C
3840	24,828											SAN ANGELO	259C
3925	16,468											SAN ANGELO	260C
***** DEPTH RANGE 4001 - 5000 *****													
4160	73,077											LOWER CLEARFORK	399C
4255	215,000											LOWER CLEARFORK	400C
4274	112,000											GLORIETA	221C
4300	84,286											CLEARFORK	305C
4374	55,000											LOWER CLEARFORK	401C
4375	62,728	22,900	1,965	772	30,200	5,890	1,001			7.4	1.046	CLEARFORK	443B
4400	81,429											CLEARFORK	303C
4400	66,425	22,010	2,122	714	35,200	4,711	1,668			7.9	1.049	CLEARFORK	442G
4410	37,250											LOWER CLEARFORK	402C
4440	68,462											TUBB	380C
4464	34,000											WICHITA-ALBANY	422C
4500	97,143											TUBB	378C
4548	76,761	24,510	2,436	1,557	42,200	5,775	283			7.6	1.060	CLEARFORK	444G
4550	68,300	19,610	3,228	2,326	38,980	3,657	499			6.8	1.056	CLEARFORK	445G
4590	136,867											GRAYBURG	114C
4800	109,800											WICHITA-ALBANY	424C
4910	143,333											TUBB	379C
***** DEPTH RANGE 5001 - 6000 *****													
5488	40,667											DEVONIAN	785C

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CRANE COUNTY

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***** DEPTH RANGE 5001 - 6000 *****													
5612	118,750											WICHITA-ALBANY	425C
5800	32,000											ELLENBURGER	977C
5870	190,000											WADDELL	946C
5892	43,235											WADDELL	944C
5892	48,235											CONNELL	961C
5895	45,588											WADDELL	945C
***** DEPTH RANGE 6001 - 7000 *****													
6045	126,250											MCKEE	943C
6050	136,667											WOLFCAMP	492C
6061	39,750											ELLENBURGER	980C
6080	128,125											ABO	441C
6090	55,909											CONNELL	959C
6100	126,250											WICHITA-ALBANY	423C
6190	130,000											SAN ANGELO	258C
6445	92,857											TUBB	381C
6643	100,000											WOLFCAMP	491C
6826	94,286											DEVONIAN	787C
6972	75,385											CONNELL	962C
7000	136,667											SILURO-FUSSELMAN	844C
***** DEPTH RANGE 7001 - 8000 *****													
7388	150,000											FUSSELMAN	884C
7425	143,333											FUSSELMAN	885C
7440	130,000											SILURO-FUSSELMAN	842C
7440	106,000											SILURO-FUSSELMAN	843C
7491	130,000											CLEARFORK	304C
7500	120,625											MISSISSIPPIAN	764C
7516	103,000											FUSSELMAN	883C
7640	155,000											ABO	442C
7659	128,125											WOLFCAMP	489C
7935	82,308											WOLFCAMP	490C
***** DEPTH RANGE 8001 - 9000 *****													
8176	124,375											CONNELL	960C
8360	180,000											SILURO-FUSSELMAN	841C
8364	51,539											ELLENBURGER	979C
8800	130,000											DEVONIAN	784C
***** DEPTH RANGE 9001 - 10000 *****													
9720	81,429											MCKEE	935C
9735	78,442											MCKEE	936C
***** DEPTH RANGE 10001 - 11000 *****													
10724	46,177											DEVONIAN	786C
***** DEPTH RANGE 12001 - 13000 *****													
12168	195,000											MCKEE	937C
12399	65,385											ELLENBURGER	978C

T E X A S W A T E R D E V E L O P M E N T B O A R D

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

CRANE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH	RANGE	1 - 1000	*****					
51	3,630	883	320	95	1,180	1,060	183			7.6		CENOZOIC ALLUV.	
87	8,640	1,740	844	301	2,920	2,730	222						
165	6,740	2,090	212	151	3,020	1,080	362			7.9		SANTA ROSA	
170	13,100	3,220	612	527	4,270	4,290	263					CENOZOIC ALLUV.	
205	6,880	1,070	810	370	2,660	1,880	124			7.3		SANTA ROSA	
461	8,670	1,840	906	224	3,390	2,220	98			7.4		RUSTLER	
560	3,610	1,160	45	26	530	1,720	253			7.9		SANTA ROSA	

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

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CHEMICAL ANALYSIS OF SALINE WATER

CROCKETT COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
933	103,000											QUEEN	56C
***** DEPTH RANGE 1 - 1000 *****													
CALCULATED FROM RW = 0.072 AT 75 DEG (F)													
1122	143,333											QUEEN	55C
1135	98,572											SAN ANDRES	146C
1193	135,000											QUEEN	54C
1375	175,000											QUEEN	57C
1400	75,071	25,750	1,781	773	41,300	4,510		957			1.053	SAN ANDRES	00620
1543	49,118											SAN ANDRES	144C
1600	19,478											GRAYBURG	113C
***** DEPTH RANGE 1001 - 2000 *****													
CALCULATED FROM RW = 0.056 AT 75 DEG (F)													
CALCULATED FROM RW = 0.074 AT 75 DEG (F)													
CALCULATED FROM RW = 0.068 AT 75 DEG (F)													
CALCULATED FROM RW = 0.049 AT 75 DEG (F)													
2172	48,168	14,650	1,665	1,200	24,920	4,825					1.035	GRAYBURG	451G
2200	34,000											SAN ANDRES	145C
2416	36,797	11,050	1,453	874	18,993	3,929		498			1.033	SAN ANDRES	452C
2553	38,000											SAN ANDRES	147C
2600	209,848	79,800	11	1,290	122,300	6,300		48			1.165	SAN ANDRES	00630
2650	45,301	15,710	1,046	313	24,130	2,884		1,218		7.3	1.036	SAN ANDRES	453G
2650	44,584	15,160	946	585	24,190	2,591		1,112		7.4	1.034	SAN ANDRES	454G
2650	44,634	15,155	892	640	24,150	2,667		1,130		7.2	1.035	SAN ANDRES	455G
2650	43,527	14,380	998	769	23,205	3,365		810		7.7	1.034	SAN ANDRES	456G
2650	45,454	15,350	944	660	24,330	2,977		1,193		7.5	1.035	SAN ANDRES	457G
2650	43,275	14,550	944	657	23,200	2,863		1,061		7.2	1.034	SAN ANDRES	458G
2650	43,779	14,800	997	565	23,405	3,056		956		7.8	1.034	SAN ANDRES	459G
2650	43,809	14,870	998	667	23,320	3,057		897		7.2	1.033	SAN ANDRES	460G
2650	45,652	15,675	1,099	523	24,500	3,069		786		6.7	1.036	SAN ANDRES	461G
2650	44,395	14,710	1,209	648	23,920	3,074		834		6.9	1.041	SAN ANDRES	462G
2650	44,741	15,060	848	508	24,840	2,583		902		6.6	1.037	SAN ANDRES	463G
2650	58,310	20,890	738	546	32,520	2,566		1,050		6.2	1.045	SAN ANDRES	464G
2650	49,168	15,180	870	558	24,150	2,511		877		6.4	1.035	SAN ANDRES	465G
2650	45,163	15,670	806	523	24,890	2,586		688		6.4	1.036	SAN ANDRES	466G
2650	45,743	15,690	817	524	25,110	2,511		1,091		5.8	1.035	SAN ANDRES	467G
2650	44,009	15,160	766	588	23,790	2,591		1,114		7.3	1.034	SAN ANDRES	468G
2650	44,906	15,420	912	524	24,160	3,096		794		6.6	1.034	SAN ANDRES	469G
2650	41,632	13,750	1,103	604	21,700	3,601		874		7.7	1.033	SAN ANDRES	470G
2650	45,375	15,440	944	585	24,180	3,325		901		6.6	1.035	SAN ANDRES	471G
2650	41,515	13,745	1,144	565	21,850	3,479		732		7.6	1.034	SAN ANDRES	472G
***** DEPTH RANGE 4001 - 5000 *****													
CALCULATED FROM RW = 0.126 AT 75 DEG (F)													
4654	53,889			180	7,620	374		1,520			1.014	CLEARFORK	307C
4715	14,995	4,940	361									CLEARFORK	00170

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

CROCKETT COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
5892	61,539											PENN STRAWN	637C
***** DEPTH RANGE 5001 - 6000 ***** CALCULATED FROM RW = 0.111 AT 75 DEG (F)													
6170	71,539												
6200	66,154												
6223	64,615												
6232	70,908	20,124	4,571	1,617	42,808	1,388							
6235	45,800	15,436	1,116	262	24,050	2,850	708			7.5	1.052	WOLFCAMP DEVONIAN WOLFCAMP ELLENBURGER ELLENBURGER	494C 788C 493C 01240 3A
6252	43,667												
6395	98,572												
6397	165,000												
6398	126,250												
6432	64,419	22,330	1,939	366	36,950	2,210	624			7.6	1.050	PENN STRAWN DEVONIAN WOLFCAMP DEVONIAN STRAWN ELLENBURGER	636C 789C 496C 790C 473G 988C
6648	37,250												
***** DEPTH RANGE 7001 - 8000 ***** CALCULATED FROM RW = 0.185 AT 75 DEG (F)													
7478	35,000											ELLENBURGER	986C
***** DEPTH RANGE 8001 - 9000 ***** CALCULATED FROM RW = 0.077 AT 75 DEG (F)													
8175	94,286												
8275	90,000												
8650	120,625												
8900	77,692												
8900	74,615												
***** DEPTH RANGE 9001 - 10000 ***** CALCULATED FROM RW = 0.126 AT 75 DEG (F)													
9069	53,889												
9380	87,143												
9464	190,000												
***** DEPTH RANGE 10001 - 11000 ***** CALCULATED FROM RW = 0.058 AT 75 DEG (F)													
10610	136,667												
***** DEPTH RANGE 11001 - 12000 ***** CALCULATED FROM RW = 0.100 AT 75 DEG (F)													
11262	70,000												
												SILURO-FUSSELMAN	847C
												ELLENBURGER	987C

TEXAS WATER DEVELOPMENT BOARD
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 STATE OF TEXAS
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 CROSBY COUNTY

JUL 1971

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.	
					***** DEPTH RANGE 3001 - 4000 *****									
3605	216,770				84,100							GLORIETA	1204J	
3605	196,570				87,500							GLORIETA	1205J	
3605	199,780				88,000							GLORIETA	1206J	
3605	206,160				88,000							GLORIETA	1207J	
3605	204,510				89,500							GLORIETA	1208J	
3605	207,730				89,200							GLORIETA	1209J	
3778	143,333				CALCULATED FROM RW = 0.056 AT 75 DEG (F)								GLORIETA	224C
					***** DEPTH RANGE 7001 - 8000 *****									
7650	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)								WOLFCAMP	497C
					***** DEPTH RANGE 9001 - 10000 *****									
9274	66,154				CALCULATED FROM RW = 0.105 AT 75 DEG (F)								ELLENBURGER	989C
9357	143,333				CALCULATED FROM RW = 0.056 AT 75 DEG (F)								MISSISSIPPIAN	766C
9490	98,572				CALCULATED FROM RW = 0.074 AT 75 DEG (F)								MISSISSIPPIAN	765C

TEXAS WATER DEVELOPMENT BOARD
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STATE OF TEXAS

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CULBERSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1	2,700	64	615	51	51	1,640	105					RUSTLER LS	84A
1	3,720	92	677	166	83	2,240	141					RUSTLER LS	85A
451	1,180	105	178	68	46	639	270			7.8		RUSTLER LS	86A
***** DEPTH RANGE 1 - 1000 *****													
1493	3,833											DELAWARE	83C
1670	38,750											DELAWARE	81C
***** DEPTH RANGE 1001 - 2000 *****													
CALCULATED FROM RW = 1.450 AT 75 DEG (F)													
CALCULATED FROM RW = 0.170 AT 75 DEG (F)													
***** DEPTH RANGE 2001 - 3000 *****													
2010	9,786											DELAWARE	82C
2400	1,000											DELAWARE MT GP	29A
2548	25,578	8,995	275	423	15,175	19	691	14		7.9	1.015	DELAWARE	1176J
2548	28,290	18,051	3,320	360	16,500	100	956			7.6	1.020	DELAWARE	1177J
2557	83,031	25,215	4,779	1,346	50,080	1,533	78			7.0	1.055	DELAWARE	1173J
2557	79,072	23,900	4,467	1,422	47,875	1,324	84			7.6	1.055	DELAWARE	1174J
2557	69,973	22,225	3,187	1,098	42,060	1,291				7.8	1.055	DELAWARE	1175J
2600	40,000									8.1	1.047	DELAWARE	80C
CALCULATED FROM RW = 0.165 AT 75 DEG (F)													
***** DEPTH RANGE 3001 - 4000 *****													
3142	33,147											PENN-CANYON	578C
CALCULATED FROM RW = 0.450 AT 75 DEG (F)													

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CULBERSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
250	4,090	601	448	245	**** DEPTH RANGE 1,270	1,370	1 - 1000 252	****		7.0		BOLSON DEPOSITS	

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

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DALLAM COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
3327	112,000											VIRGIL LIME	0055P
3427	112,000											VIRGIL LIME	0056P
3520	72,308											VIRGIL LIME	0054P
3610	130,000											VIRGIL LIME	0059P
3625	97,143											VIRGIL LIME	0057P
3633	82,857											VIRGIL LIME	0060P
4139	97,143											VIRGIL LIME	0058P
4786	64,615											L. MISSOURI	0061P
5608	79,231											CHEROKEE	0063P
7196	85,714											DES MOINES	0062P

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DALLAS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
819	1,680	613	3	3	185	498	698			8.0		WOODBINE SAND	238A
***** DEPTH RANGE 1 - 1000 *****													
2555	1,060	394	2	2	63	307	564					WOODBINE SAND	237A
2700	1,040	378	6	2	88	279	491			8.5		TRAVIS PEAK	142A
2700	1,090	394	7	2	80	341	488					TRAVIS PEAK	143A
2778	1,390	506	6	2	80	466	597			8.2		PALUXY SAND	165A
2790	1,510	544	4	2	91	510	605			8.4		PALUXY SAND	164A
2863	2,500	851	10	4	137	1,190	529			8.7		PALUXY SAND	163A
2921	1,030	381	8	3	94	253	528			8.5		TRAVIS PEAK	140A
***** DEPTH RANGE 2001 - 3000 *****													
***** DEPTH RANGE 3001 - 4000 *****													
3368	7,470	2,230	126	54	293	4,740	40			8.5		TRAVIS PEAK	141A

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DAWSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
70	1,410	176	142	116	472	754	316			8.2		OGALLALA FORM	361A
488	7,434	302,472	90,252	85	104,200	384	403			7.0	1.055	SAN ANDRES	785J
***** DEPTH RANGE 3001 - 4000 *****													
3930	133,036		4,760	1,652	79,200	2,624	525		YES	7.7	1.095	SAN ANDRES	230J
3930	120,155		4,240	2,017	71,000	2,857	1,000	29	YES	7.7	1.075	SAN ANDRES	229J
***** DEPTH RANGE 4001 - 5000 *****													
4200	82,857				CALCULATED FROM RW = 0.085 AT 75 DEG (F)							SAN ANDRES	149C
4800			4,544	2,661	46,081	3,357				6.8	1.041	SAN ANDRES	239J
4835	63,077				CALCULATED FROM RW = 0.109 AT 75 DEG (F)							SAN ANDRES	148C
4916	81,429				CALCULATED FROM RW = 0.086 AT 75 DEG (F)							SAN ANDRES	150C
5000			5,900		63,000	5,400		5		7.0	1.048	SAN ANDRES	238J
5000	71,373	23,391	2,680	802	40,000	3,500	1,000			6.7	1.053	SAN ANDRES	991J
***** DEPTH RANGE 5001 - 6000 *****													
5015			111	96	1,839	3,213				7.7	1.005	SAN ANDRES	824J
5708	112,000				CALCULATED FROM RW = 0.069 AT 75 DEG (F)							SAN ANDRES	151C
***** DEPTH RANGE 6001 - 7000 *****													
6420			4,650		88,000	68	470			7.1	1.103	SPRABERRY	231J
6700	128,125				CALCULATED FROM RW = 0.061 AT 75 DEG (F)							SPRABERRY	455C
***** DEPTH RANGE 7001 - 8000 *****													
7010	197,349	56,971	2,520	1,320	96,000	40	498	5		5.0	1.110	SPRABERRY (UPPER)	220J
7010	153,032	55,844	2,600	984	93,000	160	444			7.2	1.105	SPRABERRY (UPPER)	221J
7108	83,412	28,101	6,200	3,993	78,037	3,687			YES	6.7	1.065	SPRABERRY	826J
7323	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							SPRABERRY	454C
7396	20,898	7,080	560	292	11,600	1,220	146			6.5	1.020	SPRABERRY	823J
7592	140,330	51,300	2,600	608	85,500	90	232			7.1	1.101	LOWER SPRABERRY	228J
7794	193,114	54,257	3,560	1,272	93,500	120	405			5.0	1.110	SPRABERRY	829J
7824	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							SPRABERRY	453C
7900	263,007	75,164	20,691	3,675	163,116	83	207	67		5.3	1.179	SPRABERRY	240J
7900	225,000				CALCULATED FROM RW = 0.039 AT 75 DEG (F)							SPRABERRY	957J
***** DEPTH RANGE 8001 - 9000 *****													
8068	192,885	55,900	2,000	600	94,200	185				6.0	1.108	SPRABERRY	825J
8172			2,302	314	89,000	353	245			6.6		DEAN SAND	817J
8172	154,367	57,818	2,145	312	93,450	401	241			6.7		DEAN SAND	818J
8172	144,099	53,845	2,038	260	87,402	342	212			6.3		DEAN SAND	819J
8172	144,136	53,809	2,132	310	87,220	420	245			6.1		DEAN SAND	820J

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DAWSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 8001 - 9000 *****													
8172	140,991	52,015	2,787	185	85,084	519	401			6.7		DEAN SAND	821J
8172	122,340	45,544	1,972	232	74,048	322	222			6.3		DEAN SAND	822J
8352	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							WOLFCAMP	500C
8370	155,314	58,804	1,393	443	93,969	258	447			6.3	1.105	SPRABERRY	226J
8370	148,220		1,884	243	89,714	360	203			5.6	1.100	SPRABERRY	227J
8543	197,877	67,200	7,480	1,530	120,400	840	427			6.3	1.140	PENNSYLVANIAN	222J
8570	199,032	68,150	7,270	1,385	121,300	720	207			5.9	1.135	PENN. REEF	223J
8570	76,819	25,600	2,120	779	38,300	9,000	1,020		YES	7.7	1.045	PENN.	224J
8600	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							WOLFCAMP	498C
8600	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							WOLFCAMP	499C
8600	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							PENN GENERAL	700C
8600	97,959	75,200	7,400	1,360	132,300	440	329			5.4	1.145	PENN.	225J
8645	103,000				CALCULATED FROM RW = 0.072 AT 75 DEG (F)							PENN TENERAL	703C
8805	143,333				CALCULATED FROM RW = 0.056 AT 75 DEG (F)							PENN TENERAL	702C
***** DEPTH RANGE 9001 - 10000 *****													
9104	175,000				CALCULATED FROM RW = 0.049 AT 75 DEG (F)							PENN-CANYON	579C
9245	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							PENN GENERAL	701C
9263	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							PENN-CISCO	555C
***** DEPTH RANGE 10001 - 11000 *****													
10060	126,415	43,700	3,840	1,110	77,000	640	125				1.092	CANYON REEF	237J
10181			1,800	480	31,500	3,600	1,340			6.5	1.034	FUSSELMAN	827J
10181	51,700		1,680	486	25,500	1,700	739			7.1	1.034	FUSSELMAN	828J
10715	155,000				CALCULATED FROM RW = 0.053 AT 75 DEG (F)							SPRABERRY	456C
10993	38,000				CALCULATED FROM RW = 0.173 AT 75 DEG (F)							FUSSELMAN	888C
***** DEPTH RANGE 11001 - 12000 *****													
11340	38,750				CALCULATED FROM RW = 0.170 AT 75 DEG (F)							ELLENBURGER	992C
11675			5,720	2,880	45,630	1,760			YES	6.9		MONTOYA	236J
11732	35,500				CALCULATED FROM RW = 0.183 AT 75 DEG (F)							MONTOYA	922C
***** DEPTH RANGE 12001 - 13000 *****													
12033	34,800				CALCULATED FROM RW = 0.186 AT 75 DEG (F)							ELLENBURGER	991C
12078	49,706				CALCULATED FROM RW = 0.134 AT 75 DEG (F)							SILURO-FUSSELMAN	849C
12078	54,444				CALCULATED FROM RW = 0.125 AT 75 DEG (F)							FUSSELMAN	889C
12080	36,750				CALCULATED FROM RW = 0.178 AT 75 DEG (F)							FUSSELMAN	887C
12100	36,750				CALCULATED FROM RW = 0.178 AT 75 DEG (F)							DEVONIAN	791C
12159	17,000				CALCULATED FROM RW = 0.349 AT 75 DEG (F)							DEVONIAN	792C
12540	28,250				CALCULATED FROM RW = 0.224 AT 75 DEG (F)							SILURO-FUSSELMAN	848C
12748	38,500				CALCULATED FROM RW = 0.171 AT 75 DEG (F)							ELLENBURGER	993C
12955	66,154				CALCULATED FROM RW = 0.105 AT 75 DEG (F)							ELLENBURGER	990C

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CHEMICAL ANALYSIS OF SALINE WATER

DEAF SMITH COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
6089	98,572											WGLFCAMP	0064P

***** DEPTH RANGE 6001 - 7000 *****
CALCULATED FROM RM = 0.074 AT 75 DEG (F)

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CHEMICAL ANALYSIS OF SALINE WATER

DELTA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
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***** DEPTH RANGE 5001 - 6000 *****

5550 26,500

PETTER-TRAVIS PK 747SP

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DENTON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1550	95.714												
1600	85.714												
<p>***** DEPTH RANGE 1001 - 2000 *****</p> <p>CALCULATED FROM RW = 0.076 AT 75 DEG (F)</p> <p>CALCULATED FROM RW = 0.083 AT 75 DEG (F)</p>													
												CANYON	257I
												CANYON	256I

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CHEMICAL ANALYSIS OF SALINE WATER

DEWITT COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS ppm	SODIUM (NA) ppm	CALCIUM (CA) ppm	MAGNESIUM (MG) ppm	CHLORIDE (CL) ppm	SULFATE (SO ₄) ppm	BICARBONATE (HCO ₃) ppm	IRON (FE) ppm	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1207	1,070	408	9	1	334	1	565			7.8		CTHULA+ OKVLF SS	350A
1240	8,000											Z-2 0-2000 FT	315SP
1650	12,500											Z-2 0-2000 FT	322SP
1880	26,000											Z-2 0-2000 FT	316SP
1900	19,000											Z-2 0-2000 FT	323SP
***** DEPTH RANGE 2001 - 3000 *****													
2215	19,300											Z-2 0-2000 FT	285SP
2810	24,500											Z-3 2000-4000 FT	324SP
3000	15,000											Z-3 2000-4000 FT	319SP
***** DEPTH RANGE 3001 - 4000 *****													
3240	50,000											Z-3 2000-4000 FT	308SP
3400	59,000											Z-3 2000-4000 FT	309SP
3495	40,500											Z-3 2000-4000 FT	286SP
3930	28,000											Z-3 2000-4000 FT	317SP
***** DEPTH RANGE 4001 - 5000 *****													
4130	50,000											Z-3 2000-4000 FT	325SP
***** DEPTH RANGE 5001 - 6000 *****													
5347	17,563											YEGUA	97E
5354	21,774											YEGUA	98E
***** DEPTH RANGE 6001 - 7000 *****													
6275	90,000											CARRIZO=WILCOX	310SP
6550	85,000											Z-5 6000-8000 FT	321SP
6590	88,500											CARRIZO=WILCOX	311SP
7000	50,180	16,850	1,600	610	30,000	12	1,080	28		6.3		WILCOX	659J
***** DEPTH RANGE 7001 - 8000 *****													
7340	65,000											Z-5 6000-8000 FT	318SP
7600	52,461	18,300	1,600	488	32,000	10	18	45		6.4		WILCOX	660J
7603	56,818											WILCOX	103E
7760	40,500											CARRIZO=WILCOX	287SP
7953			2,400	267	44,400		635			6.4		WILCOX	764J
8000	103,000											WILCOX	99E
***** DEPTH RANGE 8001 - 9000 *****													
8147	87,143											WILCOX	100E
8160	80,000											WILCOX	101E

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DEWITT COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
8170	106,000												
8320	18,000												
8800	57,500												
***** DEPTH RANGE 8001 - 9000 ***** CALCULATED FROM RW = 0.071 AT 75 DEG (F)													
												WILCOX	102E
												CARRIZO-WILCOX	320SP
												CARRIZO-WILCOX	288SP

TEXAS WATER DEVELOPMENT BOARD

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CHEMICAL ANALYSIS OF SALINE WATER

DICKENS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
57	1,000											QUARTERMASTER	1024
					***** DEPTH RANGE		1 = 1000	*****					
					552	1,200	302						

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CHEMICAL ANALYSIS OF SALINE WATER

DIMMIT COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
70	4,930	1,830	32	15	2,190	680	384					BIGFORD MEMBER	296A
200	1,880	624	52	34	820	126	414			7.8		INDIO FORM	271A
435	11,800	3,390	385	218	3,420	4,070	278	1				BIGFORD MEMBER	297A
475	1,280	291	116	25	169	385	502					INDIO FORM	270A
582	2,150	714	46	34	795	402	326					CARRIZO SAND	281A
677	6,400	1,610	350	207	2,350	1,610	321					CARRIZO SAND	279A
***** DEPTH RANGE 1001 - 2000 *****													
1110	700											CARRIZO-WILCOX	595SP
1334	1,170	392	16	7	378	212	240			7.9		CARRIZO SAND	282A
1360	700											CARRIZO-WILCOX	600SP
1432	7,430	2,630	68	34	3,460	956	333					CARRIZO SAND	280A
1670	5,000											CARRIZO-WILCOX	602SP
1700	3,900											CARRIZO-WILCOX	597SP
***** DEPTH RANGE 2001 - 3000 *****													
2100	41,333											OLMOS	107E
2122	37,750											OLMOS	106E
2130	4,200											CARRIZO-WILCOX	598SP
2270	3,900											CARRIZO-WILCOX	596SP
2330	700											CARRIZO-WILCOX	601SP
2520	5,200											CARRIZO-WILCOX	599SP
2763	36,250											OLMOS	105E
CALCULATED FROM RM = 0.161 AT 75 DEG (F) CALCULATED FROM RM = 0.174 AT 75 DEG (F)													
***** DEPTH RANGE 3001 - 4000 *****													
3279	38,750											OLMOS	108E
3817	47,941											NAVARRO	109E
CALCULATED FROM RM = 0.170 AT 75 DEG (F) CALCULATED FROM RM = 0.140 AT 75 DEG (F)													
***** DEPTH RANGE 4001 - 5000 *****													
4213	37,500											OLMOS	104E
CALCULATED FROM RM = 0.175 AT 75 DEG (F)													

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DONLEY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					*****	DEPTH RANGE	1 - 1000	*****					
127	2,510	74	588	61	94	1,600	99			7.7	OGALLALA FORM	381A	
136	1,980	42	446	64	25	1,340	43			7.8	OGALLALA FORM	380A	

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DUVAL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
240	1,180	278	92	48	515	75	274	1				GOLIAD SAND	400A
288	1,220	358			560	54	243					CTHULA+ OKVLE SS	344A
450	4,460	1,660	52	12	2,520	8	322			7.5		CTHULA+ OKVLE SS	343A
500	13,440				7,195							JACKSON	1248J
570	4,440	1,650	52	12	2,510	7	326			7.4		CTHULA+ OKVLE SS	341A
615	1,200	364	41	17	338	231	297			7.8		GOLIAD SAND	401A
700	2,810	921	88	24	1,320	191	353			7.4		CTHULA+ OKVLE SS	342A
***** DEPTH RANGE 1001 - 2000 *****													
1250	1,138				CALCULATED FROM RW = 4,500 AT 75 DEG (F)							JACKSON	131E
1328	20,950				11,340							JACKSON	598J
1328	22,320				12,110							JACKSON	599J
1328	20,358				11,005							JACKSON	600J
1474	11,946				CALCULATED FROM RW = 0,485 AT 75 DEG (F)							COLE	110E
1487	19,804				CALCULATED FROM RW = 0,305 AT 75 DEG (F)							COLE	111E
1492	21,613				CALCULATED FROM RW = 0,282 AT 75 DEG (F)							COLE	112E
1500	24,598				13,750							JACKSON	607J
1513	19,804				CALCULATED FROM RW = 0,305 AT 75 DEG (F)							COLE	113E
1530	10,429				CALCULATED FROM RW = 0,540 AT 75 DEG (F)							JACKSON	123E
1546	18,188				CALCULATED FROM RW = 0,330 AT 75 DEG (F)							COLE	114E
1550	8,671				CALCULATED FROM RW = 0,650 AT 75 DEG (F)							JACKSON	124E
1568	10,050				5,515							JACKSON	610J
1568	8,960				4,905							JACKSON	611J
1577	16,692	6,335	145	18	9,920		274			7.4	1,010	COLE SAND	995J
1621	16,952				CALCULATED FROM RW = 0,350 AT 75 DEG (F)							COLE	115E
1865	16,576	6,335	110	21	9,905	13	192			7.3	1,010	1800 SAND	996J
1950	14,805				CALCULATED FROM RW = 0,399 AT 75 DEG (F)							GOVT WELLS	127E
1960	14,037				CALCULATED FROM RW = 0,420 AT 75 DEG (F)							GOVT WELLS	128E
1965	12,893				CALCULATED FROM RW = 0,458 AT 75 DEG (F)							GOVT WELLS	129E
1970	10,714				CALCULATED FROM RW = 0,530 AT 75 DEG (F)							JACKSON	117E
2000	13,529				CALCULATED FROM RW = 0,437 AT 75 DEG (F)							GOVT WELLS	130E
***** DEPTH RANGE 2001 - 3000 *****													
2112	230				107							FRIO	591J
2200	13,560				7,350							GOVT WELLS	609J
2200	13,105		46	21	6,880		1,170			7.4	1,005	GOVT WELLS	608J
2230	4,600				CALCULATED FROM RW = 1,230 AT 75 DEG (F)							JACKSON	125E
2250	4,520				CALCULATED FROM RW = 1,250 AT 75 DEG (F)							JACKSON	126E
2300	13,616	5,110	41	10	7,230	28	1,161			7.6	1,008	LOWER GOV#T WELL	590J
2300	18,940				9,802							FRIO	582J
2306	13,143	4,981	47	10	7,358		747			7.4	1,007	GOV#T WELLS	997J

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

DUVAL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF NO.
***** DEPTH RANGE 2001 = 3000 *****													
2450	28,000											Z=2 0=2000 FT	647SP
2525	6,800											ARGO	116E
2544	12,990											ARGO SAND	613J
2588	6,889											JACKSON	118E
2592	11,135											PETTUS	121E
2600	7,625											JACKSON	119E
2603	20,378	7,617	252	16	11,800	246	447			7.0	1.015	UPPER FRIO	0004N
2630	8,803											JACKSON	120E
2750	11,258	4,188	13	4	5,803		1,190	6		8.2	1.011	JACKSON SAND	578J
2750	10,350				5,250							JACKSON	579J
2750	13,440				7,220							JACKSON	580J
2750	10,640				5,825							JACKSON	581J
2750	10,080				5,490							JACKSON	582J
2750	11,215				6,050							JACKSON	583J
2750	10,398				5,515							JACKSON	584J
2750	11,990				6,280							JACKSON	585J
2940	11,380				6,120							Z=40 SAND (YEGUA)	605J
***** DEPTH RANGE 3001 = 4000 *****													
3100	4,553	1,650	390	7	2,421	28	346	25		8.0	1.007	FRIO, BRYAN, RAMON	588J
3193	15,680				8,565							B SAND	601J
3193	18,340				8,658							B SAND	602J
3270	28,250											FRIO	132E
3286	15,680				8,565							DINN SAND	603J
3572	54,900				36,963			7				PETTIS B SAND	606J
3725	47,500											Z=3 2000-4000 FT	648SP
3959	26,367	9,330	325	125	15,988	12	476	17		7.4	1.022	WILCOX	1252J
***** DEPTH RANGE 4001 = 5000 *****													
4100	15,807	5,855	197	28	8,945	371	411			6.3	1.008	COOK MOUNTAIN	1247J
4680	41,500											Z=4 4000-6000 FT	649SP
***** DEPTH RANGE 5001 = 6000 *****													
5194	27,552				15,500							QUEEN CITY	612J
5400	6,379	1,311	400	96	900	12	3,660			7.5		TINNEY	604J
5643	31,690				16,850							QUEEN CITY	586J
5643	19,390				10,475							QUEEN CITY	587J
5900	7,817											QUEEN CITY	122E
***** DEPTH RANGE 7001 = 8000 *****													
7020	31,500											Z=5 6000-8000 FT	650SP
***** DEPTH RANGE 9001 = 10000 *****													
9934	32,000											Z=6 8000-10000 FT	651SP

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CHEMICAL ANALYSIS OF SALINE WATER

EASTLAND COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
317	1,950	757	14	4	922	3	481			7.9		PENNSYLVANIA	23A
***** DEPTH RANGE 1001 - 2000 *****													
1150	88,435	25,450	6,213	1,659	55,005		108			6.4	1.069	STRAWN	0183K
1350	93,636	26,958	6,631	1,684	57,860	342	161			6.5	1.075	STRAWN	0182K
***** DEPTH RANGE 2001 - 3000 *****													
2906	121,794	34,600	7,880	3,010	76,000	5	299			6.6	1.095	CADDO	0185K
3000	98,690	29,800	7,680	339	59,800	945	126			6.6	1.077	MARBLE FALLS	384G
3000	95,714				CALCULATED FROM RW = 0.076 AT 75 DEG (F)							BEND	264I
3000	98,690	29,800	7,680	339	59,800	945	126			6.6	1.077	MARBLE FALLS	0189K
***** DEPTH RANGE 3001 - 4000 *****													
3100	60,032	19,150	2,833	857	36,810	214	168			6.9	1.048	RANGER SAND	0184K
3257			12,674	3,813	87,681	113	117			7.2	1.068	STRAWN	0055L
3300	136,353	40,100	10,520	1,320	84,000	242	171			6.8	1.108	LAKE SAND	382G
3300	135,440	39,650	10,310	1,524	83,600	183	173			6.4	1.109	LAKE SAND	383G
3300	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							BEND	266I
3300	133,333				CALCULATED FROM RW = 0.059 AT 75 DEG (F)							BEND	267I
3300	94,500		5,030	1,060	51,400	180				6.3	1.062	RANGER SAND	873J
3300	139,100		8,350	1,270	74,600	500				5.6	1.090	RANGER SAND	874J
3300	38,300		1,180	415	23,650	255				6.4	1.026	RANGER SAND	875J
3300	124,800		7,090	1,180	68,500	170				5.7	1.081	RANGER SAND	876J
3300	126,300		6,940	1,030	68,100	145				6.2	1.082	RANGER SAND	877J
3300	162,900		10,100	1,600	87,100	205				5.7	1.105	RANGER SAND	878J
3300	164,500		10,100	1,660	87,600	190				5.7	1.106	RANGER SAND	879J
3300	104,000		3,985	1,620	59,900					6.2	1.068	RANGER SAND	880J
3300	30,100		2,610	1,560	18,600					6.4	1.020	RANGER SAND	881J
3300	100,800		3,740	1,505	57,900					6.3	1.066	RANGER SAND	882J
3300	82,000		2,660	1,090	45,800					6.4	1.054	RANGER SAND	883J
3300	112,000		4,675	1,595	63,900					6.3	1.073	RANGER SAND	884J
3300	118,300		4,920	1,680	65,900					6.2	1.077	RANGER SAND	885J
3300	68,300		3,975	815	38,800					6.1	1.045	RANGER SAND	886J
3300	159,700		9,860	1,540	86,200	180				5.9	1.103	RANGER SAND	887J
3300	109,700		9,910	1,570	85,700	170				5.9	1.103	RANGER SAND	888J
3300	126,300		6,940	1,030	68,100	145				6.2	1.082	RANGER SAND	889J
3300	48,600		2,520	545	27,200					6.3	1.032	RANGER SAND	890J
3300	38,300		2,120	485	22,200					6.2	1.026	RANGER SAND	891J
3300	107,200		5,880	1,420	60,000					5.9	1.070	RANGER SAND	892J
3300	72,900		3,470	815	40,300					5.8	1.048	RANGER SAND	893J
3300	69,800		3,470	845	40,300					5.8	1.046	RANGER SAND	894J

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

EASTLAND COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3300	135,900		8,850	845	73,100	200				5.6	1.088	RANGER SAND	895J
3300	38,300		1,180	415	23,650	255				6.4	1.026	RANGER SAND	896J
3300	58,300		1,770	620	31,700	285				6.3	1.035	RANGER SAND	897J
3300	107,200		6,080	1,210	60,000					5.9	1.070	RANGER SAND	898J
3300	104,000		6,030	1,180	60,000					5.9	1.068	RANGER SAND	899J
3300	105,500		5,980	1,180	60,000	115				5.9	1.069	RANGER SAND	900J
3300	136,353	40,100	10,520	1,320	84,000	242	171			6.8	1.108	LAKE SAND	0186K
3312	35,000				CALCULATED FROM RW = 0.185 AT 75 DEG (F)							RANGER SAND	872J
3400	73,387	24,195	3,382	606	44,450	454	300			7.2	1.057	MISSISSIPPI	386G
3400	74,281	25,501	2,305	718	45,010	378	369			7.3	1.058	MISSISSIPPI	387G
3400	73,846				CALCULATED FROM RW = 0.095 AT 75 DEG (F)							ELLENBURGER	261I
3400	73,077				CALCULATED FROM RW = 0.096 AT 75 DEG (F)							ELLENBURGER	262I
3400	89,920	25,330	6,190	2,090	56,045	9	114			6.3	1.061	MARBLE FALLS	869J
3400	96,376	27,324	6,324	2,335	60,048	28	133			6.3	1.066	RANGER SAND	870J
3400	73,387	24,195	3,382	606	44,450	454	300			7.2	1.057	MISSISSIPPIAN	0191K
3500	145,099	41,932	11,034	1,960	89,722	191	99			6.2	1.098	RANGER SAND	868J
3500	56,873	15,597	3,229	2,025	35,629		80			6.2	1.039	RANGER SAND	871J
3500	155,897	42,700	13,150	2,737	97,030	96	184			6.2	1.130	MISSISSIPPI	0188K
3548	151,651	43,904	12,100	1,655	93,780	138	74			4.7	1.120	LAKE SAND	0187K
3700	9,588	26,000	8,370	833	56,500	678	207			5.7	1.072	MISSISSIPPI	388G
3700	90,000				CALCULATED FROM RW = 0.080 AT 75 DEG (F)							ELLENBURGER	260I
3890	145,779	40,750	12,850	1,656	90,210	122	191			6.7	1.113	DUFFER	385G
3890	140,000				CALCULATED FROM RW = 0.057 AT 75 DEG (F)							ELLENBURGER	263I
3890	145,832	40,750	12,850	1,659	90,210	172	191			6.7	1.113	DUFFER	0190K
4000	63,846				CALCULATED FROM RW = 0.108 AT 75 DEG (F)							ELLENBURGER	0192K
***** DEPTH RANGE 4001 - 5000 *****													
4459	82,857				CALCULATED FROM RW = 0.085 AT 75 DEG (F)							BEND	268I

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CHEMICAL ANALYSIS OF SALINE WATER

ECTOR COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
550	72,209	20,773	4,765	1,444	43,102	2,125	1 - 1000	****			1.054	HOLT	00700
640	1,760	2,280	170	90	2,710	1,580	348					DOCKUM	110A
650	6,440	2,150	210	134	2,140	2,440	228					DOCKUM	109A
700	4,520	692	10	6	395	484	596					DOCKUM	111A
***** DEPTH RANGE 3001 - 4000 *****													
3471	190,000											SAN ANDRES	155C
3620	64,615											GRAYBURG	114C
4000	175,000											SILURO-FUSSELMAN	851C
***** DEPTH RANGE 4001 - 5000 *****													
4091	38,750											GRAYBURG	117C
4143	41,333											SAN ANDRES	154C
4200	122,500											GRAYBURG	116C
4200	56,818											HOLT	292C
4300	116,750											SAN ANDRES	153C
4300	38,053	13,724	539	253	21,062	2,460	15				1.027	PERMIAN GRAYBURG	00680
4300	41,225	9,940	2,605	820	23,800	2,830	1,230				1.032	GRAYBURG	00970
4315	43,470	13,780	1,931	521	24,000	1,934	1,304			7.7	1.033	GRAYBURG	4336
4320	45,396	14,100	2,033	538	25,130	2,380	1,215			7.2	1.035	GRAYBURG	4346
4390	92,146	31,500	3,040	538	51,900	3,886	1,282			6.8	1.108	SAN ANDRES	4356
4500	53,333											SAN ANDRES	152C
4520	60,021	18,200	3,535	646	33,100	3,080	1,460				1.041	SAN ANDRES	4366
4632	91,429											GLORIETA	228C
4996	118,750											CLEARFORK	311C
***** DEPTH RANGE 5001 - 6000 *****													
5053	185,000											GLORIETA	227C
5125	180,000											GLORIETA	226C
5135	81,429											HOLT	289C
5150	56,578	16,776	3,091	1,229	33,328	2,154					1.040	HOLT	00730
5150	79,024	22,859	5,416	1,382	47,437	1,930					1.057	HOLT	00740
5150	65,843	15,366	7,572	1,394	40,137	1,374					1.048	HOLT	00750
5151	80,000											HOLT	291C
5255	82,857											TUBB	383C
5274	98,572											GLORIETA	225C
5290	73,846											GRAYBURG	115C
5300	66,923											SAN ANGELO	262C
5321	23,707											HOLT	290C
5455	30,600											CLEARFORK	310C
5625	118,750											TUBB	385C

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ECTOR COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
5670	143,333											UPPER CLEARFORK	365C
5716	136,667											UPPER CLEARFORK	363C
5735	180,000											CLEARFORK	309C
5746	103,000											UPPER CLEARFORK	362C
5788	116,875											WICHITA-ALBANY	427C
5819	125,214	42,942	3,719	1,328	75,522	1,425	278			1.094		CLEARFORK	00160
5943	146,667											UPPER CLEARFORK	364C
***** DEPTH RANGE 6001 - 7000 *****													
6285	133,333											LOWER CLEARFORK	403C
6300	128,712	37,957	9,920	990	78,110	1,261	474			6.4	1.101	CLEARFORK	437B
6300	155,000											TUBB	382C
6378	116,875											LOWER CLEARFORK	405C
6400	82,857											LOWER CLEARFORK	404C
6466	170,000											TUBB	384C
6511	90,000											CLEARFORK	308C
***** DEPTH RANGE 7001 - 8000 *****													
7213	106,000											ABO	443C
7294	103,000											WOLFCAMP	501C
7400	180,000											WICHITA-ALBANY	426C
7561	185,000											SILURO-FUSSELMAN	850C
7890	47,059											DEVONIAN	793C
7984	143,695	43,900	10,480	699	87,400	1,000	216			6.3	1.103	DEVONIAN	438B
8000	205,000											DEVONIAN	796C
8000	172,969	54,000	11,800	670	105,500	825	174			6.3	1.138	SILURIAN	439B
***** DEPTH RANGE 8001 - 9000 *****													
8130	51,667											FUSSELMAN	890C
8225	136,667											WOLFCAMP	503C
8258	146,667											WOLFCAMP	504C
8378	73,077											SILURO-FUSSELMAN	852C
8400	118,750											SILURO-FUSSELMAN	853C
8416	165,000											WOLFCAMP	502C
8444	91,429											FUSSELMAN	891C
8460	7,817											MCKEE	938C
8523	106,000											PENN-CANYON	581C
8600	143,333											WADDELL	947C
8642	146,667											PENN GENERAL	704C
8830	70,769											CONNELL	964C
8845	43,667											ELLENBURGER	994C
8962	77,692											CONNELL	963C
***** DEPTH RANGE 9001 - 10000 *****													
9124	146,667											WADDELL	949C
9210	180,000											PENN-CANYON	580C
9256	160,000											WADDELL	950C
9339	122,500											SILURIAN	918C
9339	124,738	35,620	8,167	2,786	75,872	1,851	442				1.077	SILURIAN	440B

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ECTOR COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.	
9358	62,308													
9516	155,000													
9722	33,600													
***** DEPTH RANGE 9001 -10000 *****														
												CALCULATED FROM RW = 0.110 AT 75 DEG (F)		948C
												CALCULATED FROM RW = 0.053 AT 75 DEG (F)		965C
												CALCULATED FROM RW = 0.192 AT 75 DEG (F)		995C
***** DEPTH RANGE 10001 -11000 *****														
10700	86,169	22,229	6,680	2,680	52,229	2,100	251				1.066	ELLENBURGER	01230	
10700	86,165	22,229	6,680	2,680	52,225	2,100	251				1.066	ELLENBURGER	01260	
10725	85,800	27,221	2,668	757	46,600	2,640	702			7.8		ELLENBURGER	5A	
10750	76,923											ELLENBURGER	997C	
												CALCULATED FROM RW = 0.091 AT 75 DEG (F)		
***** DEPTH RANGE 11001 -12000 *****														
11800	170,000													
												CALCULATED FROM RW = 0.050 AT 75 DEG (F)		795C
***** DEPTH RANGE 12001 -13000 *****														
12120	170,000													
12270	90,000													
												CALCULATED FROM RW = 0.050 AT 75 DEG (F)		794C
												CALCULATED FROM RW = 0.080 AT 75 DEG (F)		892C
***** DEPTH RANGE 14001 -15000 *****														
14194	66,923													
												CALCULATED FROM RW = 0.104 AT 75 DEG (F)		996C

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ECTOR COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPH	SODIUM (NA) PPH	CALCIUM (CA) PPH	MAGNESIUM (MG) PPH	CHLORIDE (CL) PPH	SULFATE (SO4) PPH	BICARBONATE (HCO3) PPH	IRON (FE) PPH	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
640	3,090	1,110	24	13	***** DEPTH RANGE 975	694	1 - 1000 527	*****		7.9	SANTA ROSA		

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CHEMICAL ANALYSIS OF SALINE WATER

EDWARDS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
6180	68,462											ELLENBURGER	998C

***** DEPTH RANGE 6001 - 7000 *****
CALCULATED FROM RW = 0.102 AT 75 DEG (F)

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ELLIS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
750	1,750	645	5	2	195	501	1 = 1000	730		8.4		WOODBINE SAND	233A
					***** DEPTH RANGE 1001 = 2000 *****								
1408	1,380	519	3	2	126	337		732		8.4		WOODBINE SAND	232A
1796	2,140	807	5	2	285	500		1,005		8.4		WOODBINE SAND	234A
1796	2,060	785	5	2	277	488		974		8.2		WOODBINE SAND	235A
2000	1,010	358	13	5	110	245		483		8.4		TRINITY GROUP	198A
					***** DEPTH RANGE 2001 = 3000 *****								
2950	1,130	429	5	2	288	112		512		8.4		TRINITY GROUP	199A
					***** DEPTH RANGE 3001 = 4000 *****								
3700	2,100											LOWER GLEN ROSE	730SP
					***** DEPTH RANGE 4001 = 5000 *****								
4300	600											PETTET-TRAVIS PK	711SP

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EL PASO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1020	1,090	256	81	26	355	316	77			6.9		ALLUVIUM	443A
1020	1,530	357	122	26	405	569	64			7.1		ALLUVIUM	444A
1020	6,500	1,940	370	62	2,980	1,110	54			7.3		ALLUVIUM	445A
1020	11,800	3,540	684	111	5,490	1,990	53			7.1		ALLUVIUM	446A
1200	1,580	501	62	14	708	195	151			7.4		ALLUVIUM	442A

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EL PASO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPH	SODIUM (NA) PPH	CALCIUM (CA) PPH	MAGNESIUM (MG) PPH	CHLORIDE (CL) PPH	SULFATE (SO4) PPH	BICARBONATE (HCO3) PPH	IRON (FE) PPH	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
128	6,470	1,920	254	103	2,230	1,730	398			7.8		DST DEPTH INT.	
128	3,080	933	94	59	610	939	808			7.7		UNKNOWN	
128	3,080	933	94	59	610	939	808			7.7		ALLUVIUM	
130	3,370	1,120	41	37	940	955	458			8.2		UNKNOWN	
130	3,370	1,120	41	37	940	955	458			8.2		ALLUVIUM	
149	23,680		8,784	5,215	6,240	2,700				7.4		UNKNOWN	
373	5,680	1,790	152	80	2,120	2,470	87			7.5		DST DEPTH INT.	
400	5,120		420	165	1,910	466	112					BOLSON DEPOSITS	
400	5,140		364		2,670	799	39			8.2		BOLSON DEPOSITS	
425	3,510	1,200	38	33	970	951	578			8.1		DST DEPTH INT.	
***** DEPTH RANGE 1001 - 2000 *****													
1007	4,542											UNKNOWN	

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ERATH COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
2900	72,856	24,184	3,160	559	44,587	30	124					STRAWN	867J

***** DEPTH RANGE 2001 - 3000 *****

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FALLS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
990	24,394	8,535	398	371	15,000	90					1.018	AUSTIN CHALK	00260
1000	25,593	6,350	2,900	333	15,700		310	51		6.6	1.020	BUDA	01810
***** DEPTH RANGE 1001 - 2000 *****													
CALCULATED FROM RW = 0.338 AT 75 DEG (F)													
1050	17,688				11,700	18	268				1.016	BUDA	32B
1057	19,536	7,100	300	150	11,500	21	494				1.017	BUDA LIMESTONE	67H
1211	19,455	6,900	380	160	11,510	27	319				1.012	BUDA LIMESTONE	177H
1237	20,096	7,600	340	303	12,000	20	366				1.017	AUSTIN CHALK	00270
1239	20,136	7,200	390	160	11,900	18	171				1.017	BUDA LIMESTONE	178H
1240	18,761											BUDA	33B
1298	19,649	7,100	300	160	11,900	18	171				1.017	BUDA LIMESTONE	179H
***** DEPTH RANGE 2001 - 3000 *****													
2350	25,104	8,550	930	502	15,000	122					1.015	CHALK	00190
2709	1,680	491	55	17	66	802	433			7.8		TRINITY GROUP	192A
***** DEPTH RANGE 3001 - 4000 *****													
3305	1,560	415	78	18	83	749	350			8.1		TRAVIS PEAK	138A
3378	8,020	2,250	266	62	645	4,470	300					GLEN ROSE LS	158A

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CHEMICAL ANALYSIS OF SALINE WATER

FANNIN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	CARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1900	1,700											MOOBINE SAND	662SP
2670	2,800											PALUXY	703SP
3580	5,500											LOWER GLEN ROSE	727SP
3930	16,000											PETTET-TRAVIS PK	746SP

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FAYETTE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2830	4,500											Z-3 2000-4000 FT	289SP
***** DEPTH RANGE 4001 - 5000 *****													
4010	1,700											CARRIZO-WILCOX	419SP
4170	67,000											Z-3 2000-4000 FT	290SP
4200	13,000											CARRIZO-WILCOX	420SP
***** DEPTH RANGE 5001 - 6000 *****													
5780	65,000											CARRIZO-WILCOX	421SP

TEXAS WATER DEVELOPMENT BOARD
SALINE WATER RESOURCES SURVEY

JUL 1971

OF THE
STATE OF TEXAS
CHEMICAL ANALYSIS OF SALINE WATER
FISHER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
87	4,520	350	810	232	1,220	1,780	135					QUARTERMASTER	99A
100	3,740	404	558	146	268	2,310	112					BLAINE GYPSUM	63A
100	1,760	80	330	109	122	950	345					QUARTERMASTER	98A
494	34,000											GLORIETA	229C
CALCULATED FROM RW = 0.190 AT 75 DEG (F)													
***** DEPTH RANGE 2001 - 3000 *****													
2200	63,365	20,600	2,490	855	36,100	2,850	470			6.1	1.051	COLEMAN JUNCTION	0193K
2400	88,100	20,750	4,185	960	43,610	1,280	352			7.5	1.058	NOODLE CREEK	0056L
2545	74,100	24,335	2,720	1,104	45,000	900	261			6.5	1.054	NOODLE CREEK	0195K
2600	93,610	55,340	1,691	519	30,495	5,236	329			7.9	1.042	NOODLE CREEK	0194K
2600	65,444	21,800	2,560	677	38,600	1,710	197			7.2	1.052	NOODLE CREEK	0196K
2648	73,615	24,200	3,080	748	42,243	2,229	115			5.6	1.052	NOODLE CREEK	0197K
2970	83,000	25,600	3,315	642	44,750	3,125	256			7.0	1.055	NOODLE CREEK	0199K
2971	165,782	4,130	34,382	2,825	75,050	553					1.099	FISHER CO LIME	00990
3000	81,429											WOLFCAMP	505C
3000	121,500	33,600	5,880	1,380	64,900	1,475				6.3	1.079	FLIPPEN LIME	0200K
CALCULATED FROM RW = 0.086 AT 75 DEG (F)													
***** DEPTH RANGE 3001 - 4000 *****													
3020	89,400	27,100	3,920	764	49,500	1,900	245			7.1	1.059	EIVANS	0198K
3050	81,429											PENN-CISCO	557C
3200	108,531	30,300	8,500	1,945	66,600	707	479			6.6	1.086	FLIPPEN	0201K
3203	108,531	30,300	8,500	1,945	66,600	707	479			6.6	1.086	FLIPPEN	316G
3203	109,000											PERMIAN	288I
3248	103,000											PENN-CANYON	582C
3268	97,143											WOLFCAMP	506C
3285	95,714											PENN-CISCO	558C
3300	88,572											FLIPPEN LIME	0202K
3679	217,300	53,000	16,700	2,340	118,000	90				5.4	1.139	CANYON SAND	0214K
3730	126,250											SWASTIKA	0212K
3733	136,667											PENN-CISCO	559C
3743	126,250											SWASTIKA	0204K
3743	130,000											SWASTIKA	0205K
3755	100,800	24,900	5,254	750	50,400	1,720	992			5.8	1.066	NOODLE CREEK	0057L
3765	140,976	42,650	9,250	1,728	86,400	836	112			6.2	1.111	SWASTIKA	317G
3765	136,667											CISCO	283I
3765	141,343	42,650	9,250	1,728	86,400	836	479			6.2	1.111	SWASTIKA	0207K
3770	177,300	47,700	10,380	2,120	97,200	900	120			6.4	1.114	SWASTIKA	0206K
3772	143,351	42,870	9,930	1,687	87,800	919	145			6.3	1.114	SWASTIKA	318G
3772	144,764	43,330	9,660	1,948	89,000	682	144			6.2	1.115	SWASTIKA	319G
3772	140,000											CISCO	281I
3772	136,667											CISCO	282I
CALCULATED FROM RW = 0.057 AT 75 DEG (F)													
CALCULATED FROM RW = 0.058 AT 75 DEG (F)													

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

FISHER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3799	140,600	42,000	10,230	1,333	86,400	512	125			7.6	1.109	SWASTIKA	320G
3799	136,667											CISCO	280I
3815	187,000	45,700	14,592	1,596	102,480	400	168			5.5	1.120	SWASTIKA	0059L
3820	147,625	41,300	12,750	1,823	91,200	405	147			7.5	1.124	SWASTIKA	321G
3820	143,333											CISCO	287I
3820	151,625	41,300	12,750	1,823	95,200	405	147			7.5	1.124	SWASTIKA	0211K
3832	140,700	42,100	6,510	1,260	80,870	1,050	224			6.3	1.091	CISCO	0060L
3835	85,000	23,780	3,726		722	46,100	1,800	312		7.6	1.056	NOODLE CREEK	0058L
3849	143,668	42,000	10,920	1,637	88,800	166	145			6.0	1.113	SWASTIKA	322G
3849	140,000											CISCO	286I
3850	152,888	43,750	12,420	1,816	94,430	268	204			6.0	1.120	SWASTIKA	323G
3850	146,667											CISCO	285I
3850	124,375											SWASTIKA	0203K
3850	152,888	43,750	12,420	1,816	94,430	268	204			6.0	1.120	SWASTIKA	0210K
3860	154,500	44,700	12,265	1,773	95,300	267	195			6.2	1.121	SWASTIKA	324G
3860	146,667											CISCO	284I
3860	154,400	44,700	12,265	1,773	95,300	267	195			6.2	1.121	SWASTIKA	0208K
3860	163,200	44,850	11,350	1,665	93,900	198	222			6.8	1.106	SWASTIKA	0209K
3900	142,300	42,550	11,264	1,842	92,340	350	160			6.8	1.110	SWASTIKA	0061L
3900	142,300	36,570	6,958	1,764	74,700	715	820			5.9	1.092	SWASTIKA	0062L
3925	124,375											PENN=CISCO	556C
3970	146,800	37,600	7,695	1,248	76,500	1,290	130			5.6	1.095	HOPE LIME	0063L
***** DEPTH RANGE 4001 - 5000 *****													
4400	137,812	40,010	10,557	1,703	84,749	619	171					PALO PINTO	0223K
4420	138,050	40,010	10,557	1,703	84,749	619	171			6.2	1.098	CANYON REEF	0222K
4421	131,547	37,650	10,190	1,914	81,250	521	22			4.0	1.105	PALO PINTO	326G
4421	128,125											CANYON	274I
4421	131,457	37,650	10,100	1,914	81,250	521	22			4.0	1.105	PALO PINTO	0224K
4450	201,400	49,500	16,050	2,280	111,500	900	444			6.1	1.129	CANYON SAND	0218K
4465	115,790	36,588	6,047	1,455	70,459	1,035	204			6.9	1.090	CISCO SAND	0213K
4489	130,000											PENN=CANYON	583C
4489	163,281	46,100	13,800	2,008	101,200	35	138			6.0	1.128	CANYON	325G
4489	155,000											CANYON	279I
4489	163,281	46,100	13,800	2,008	101,200	35	138			6.0	1.128	CANYON SAND	0217K
4495	91,373	29,800	4,240	860	54,600	1,492	381			6.9	1.072	PALO PINTO	327G
4495	90,000											CANYON	278I
4500	180,600	47,400	13,400	2,120	102,900	50	240			6.2	1.116	CANYON SAND	0219K
4700	112,000	30,890	4,508	1,176	59,760	900	444			7.1	1.073	PALO PINTO	0064L
4800	30,494	19,800	9,380	253	47,150	849	212			6.0	1.065	PALO PINTO	328G
4800	76,154											CANYON	277I
4800	188,600	55,700	13,200	1,970	115,000	190	120			6.3	1.121	STRAWN	0233K
4800	214,100	57,400	16,000	2,580	124,000	240	170			6.5	1.137	STRAWN	0235K
4820	104,990	32,790	5,168	1,739	63,580	1,497	216			6.3	1.082	PALO PINTO	329G
4820	106,000											CANYON	276I
4850	108,417	32,220	7,550	1,362	66,300	744	211			6.2	1.085	PALO PINTO	330G
4850	109,000											CANYON	275I
4900	66,154											PENN=CANYON	584C
4970	68,605	22,310	2,720	1,011	41,150	1,270	144			6.7	1.055	PALO PINTO	0225K

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

FISHER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 4001 - 5000 *****													
4970	85,000	28,600	3,650	960	51,700	1,675	360			7.0	1.056	PALO PINTO	0226K
4970	76,000	24,650	3,100	810	44,600	1,275	530			6.9	1.050	PALO PINTO	0227K
***** DEPTH RANGE 5001 - 6000 *****													
5136	130,686	41,600	6,822	1,462	79,630	966	206			6.5	1.097	STRAWN	3310
5136	128,125											STRAWN	272I
CALCULATED FROM RW = 0.061 AT 75 DEG (F)													
5136	130,686	41,600	6,822	1,462	79,630	966	206			6.5	1.097	STRAWN	0228K
5147	127,220	40,550	6,680	1,382	77,520	932	156			6.3	1.096	STRAWN	3320
5147	126,250											STRAWN	273I
CALCULATED FROM RW = 0.062 AT 75 DEG (F)													
5200	220,500	54,800	17,300	2,030	121,000	230	135			6.1	1.141	CANYON SAND	0215K
5260	235,000	62,900	17,600	2,140	131,200		210			6.3	1.150	CANYON SAND	0216K
CALCULATED FROM RW = 0.058 AT 75 DEG (F)													
5270	136,667											PENN-CANYON	585C
5360	130,000											STRAWN	0230K
5670	225,400	56,400	18,850	1,900	125,800		115			6.6	1.144	STRAWN SAND	0229K
5700	223,000	56,200	15,500	2,620	121,900	445	220			5.9	1.143	CANYON REEF	0220K
5700	172,151	48,035	14,257	2,271	106,230	468	95			5.7	1.132	CANYON REEF	0221K
5700	218,900	58,400	17,000	1,770	127,230	118	172			5.7	1.140	CANYON LIME	0065L
CALCULATED FROM RW = 0.053 AT 75 DEG (F)													
5710	155,000											PENN STRAWN	642C
5723	155,000											PENN STRAWN	643C
CALCULATED FROM RW = 0.053 AT 75 DEG (F)													
5750	159,700	41,630	11,508	2,034	94,105	320	220			6.9	1.103	CANYON LIME	0066L
5754	160,000											PENN STRAWN	640C
5754	136,667											PENN STRAWN	641C
5900	187,267	53,775	14,028	2,982	116,320	141	21			7.0	1.143	STRAWN	0232K
CALCULATED FROM RW = 0.120 AT 75 DEG (F)													
5935	56,818											ELLENBURGER	1002C
5950	57,971	19,630	1,866	619	34,000	1,587	269			7.4	1.046	ELLENBURGER	3330
5950	58,182											ELLENBURGER	270I
CALCULATED FROM RW = 0.117 AT 75 DEG (F)													
5976	62,363	20,820	2,138	422	35,200	2,190	593			7.5	1.047	ELLENBURGER	3346
5976	60,000											ELLENBURGER	269I
CALCULATED FROM RW = 0.113 AT 75 DEG (F)													
5976	61,363	20,820	2,138	422	35,200	2,190	593			7.5	1.047	ELLENBURGER	0236K
5989	51,667											ELLENBURGER	1001C
CALCULATED FROM RW = 0.130 AT 75 DEG (F)													
6000	63,700	20,100	2,000	535	34,200	2,130	540			7.4	1.042	ELLENBURGER	0237K
6000	220,500	54,535	12,740	2,764	116,725	190	32			5.5	1.141	CANYON LIME	0067L
6000	223,700	58,465	14,014	2,176	123,000	490	440			6.3	1.143	CANYON LIME	0068L
***** DEPTH RANGE 6001 - 7000 *****													
6160	39,250											ELLENBURGER	1000C
6200	63,077											ELLENBURGER	0238K
6200	47,059											CAMBRIAN	0243K
CALCULATED FROM RW = 0.109 AT 75 DEG (F)													
6240	215,646	57,280	21,315	2,830	134,134	53	61			5.2	1.124	DES MOINES SD.	0070L
6400	55,000											ELLENBURGER	999C
6460	146,667											STRAWN	0234K
CALCULATED FROM RW = 0.124 AT 75 DEG (F)													
6790	157,800	47,600	7,440	1,280	89,000	812	215			6.5	1.103		0231K
6880	66,700	19,250	1,663	567	34,860	1,050	1,824			6.1	1.044	MISSISSIPPIAN	0069L
7000	63,800	19,200	2,035	379	32,400	2,150	685			7.2	1.042	ELLENBURGER	0240K
7000	79,100	22,000	2,490	505	41,700	1,850	405			7.0	1.052	ELLENBURGER	0242K
***** DEPTH RANGE 7001 - 8000 *****													
7047	60,036	20,790	1,732	415	34,390	2,269	440			7.3	1.049	ELLENBURGER	3356
7047	59,091											ELLENBURGER	271I
CALCULATED FROM RW = 0.119 AT 75 DEG (F)													

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

FISHER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
7047	60,046	20,790	1,732	415	34,390	2,269	440			7.3	1.049	ELLENBURGER	0241K
7340	65,949	22,670	2,072	471	38,297	1,933	506					ELLENBURGER	0239K

**** DEPTH RANGE 7001 - 8000 ****

TEXAS WATER DEVELOPMENT BOARD

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OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

FLOYD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
825	33,700	4,990	206	89	7,320	863	1 - 1000 398	*****		7.7		DOCKUM	121A
6602 6972	73,846 160,000						***** DEPTH RANGE 6001 - 7000 ***** CALCULATED FROM RW = 0.095 AT 75 DEG (F) CALCULATED FROM RW = 0.052 AT 75 DEG (F)					WOLFCAMP LIME WOLFCAMP	0065P 0066P
8900 8960	146,667 130,000						***** DEPTH RANGE 8001 - 9000 ***** CALCULATED FROM RW = 0.055 AT 75 DEG (F) CALCULATED FROM RW = 0.060 AT 75 DEG (F)					SAN ANDRES DES MOINES	156C 0067P

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FOARD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION
34	2,630	959	652	243	1,180	2,830	110					SAN ANGELO SS
***** DEPTH RANGE 1001 - 2000 *****												
1470	165,000											CISCO
1478	171,387	50,500	12,465	2,145	105,950	275	52			6.9	1.136	CISCO
1478	160,000											CISCO
1478	171,387	50,500	12,465	2,145	105,950	275	52			6.9	1.136	CISCO
1541	122,500											WOLF CAMP
***** DEPTH RANGE 3001 - 4000 *****												
3600	125,775	37,700	7,625	2,182	77,300	830	138			7.6	1.100	CANYON
3600	150,000											CANYON
3600	128,125											CANYON
3600	125,775	37,700	7,625	2,182	77,300	830	138			7.6	1.100	CANYON
3700	175,000											CANYON
3701	146,667											CANYON
***** DEPTH RANGE 5001 - 6000 *****												
5420	175,000											CANYON
5547	155,000											ELLENBURGER
5550	160,000											ELLENBURGER
6000	257,400		18,100	9,150	144,800	31	45			5.7	1.164	CADDO LIME
***** DEPTH RANGE 6001 - 7000 *****												
6161	230,370	66,107	20,728	3,231	148,200	4	98			7.1	1.107	CADDO LIME
6170	190,000											BEND
6172	199,222	55,300	17,105	2,862	123,800	45	90			7.0	1.167	BEND
6172	185,000											BEND
6172	199,222	55,300	17,105	2,862	123,800	65	90			7.0	1.167	BEND

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FORT BEND COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1980	850											Z-2 0-2000 FT	165SP
***** DEPTH RANGE 2001 - 3000 *****													
2410	55,000											Z-3 2000-4000 FT	222SP
2530	9,400											Z-3 2000-4000 FT	223SP
2800	18,500											Z-3 2000-4000 FT	166SP
***** DEPTH RANGE 3001 - 4000 *****													
3644	119,236	40,307	5,100	628	73,000	8	193					FRIO	60D
3717	88,580	30,980	2,781	508	54,000		311					FRIO	63D
3788	100,292	34,856	3,480	484	61,300	3	169					FRIO	61D
3870	32,500											Z-3 2000-4000 FT	490SP
***** DEPTH RANGE 4001 - 5000 *****													
4030	107,100	37,800	3,377	565	62,230	280	360			7.5	1.068	MIOCENE + FRIO	901J
4040	8,900											CARRIZO-WILCOX	294SP
4120	16,000											CARRIZO-WILCOX	296SP
4126	107,184	37,145	3,880	472	65,500	6	181					FRIO	62D
4340	15,000											CARRIZO-WILCOX	297SP
4440	30,000											CARRIZO-WILCOX	298SP
4640	28,000											Z-4 4000-6000 FT	491SP
4800	98,000											Z-4 4000-8000 FT	169SP
***** DEPTH RANGE 5001 - 6000 *****													
5230	88,000											Z-4 4000-6000 FT	224SP
5230	5,100											CARRIZO-WILCOX	299SP
5247	91,429											FRIO	134E
5385	103,494	37,937	2,040	322	63,000		195					FRIO	64D
5400	94,046	32,700	2,280	1,160	57,784		122					FRIO	65D
5850	90,000											CARRIZO-WILCOX	300SP
***** DEPTH RANGE 6001 - 7000 *****													
6200	47,000											Z-5 6000-8000 FT	492SP
6550	120,000											Z-5 6000-8000 FT	176SP
6630	37,000											CARRIZO-WILCOX	295SP
***** DEPTH RANGE 7001 - 8000 *****													
7494	97,143											YEGUA	133E
7640	51,000											Z-5 6000-8000 FT	225SP
7784	136,667											VICKSBURG	135E

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

FRANKLIN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
900	25,208											NACATOCH	41B
***** DEPTH RANGE 1 - 1000 ***** CALCULATED FROM RW = 0.241 AT 75 DEG (F)													
2240	38,250											BLOSSOM	42B
2500	44,000											SUB-CLARKSVILLE	43B
***** DEPTH RANGE 2001 - 3000 ***** CALCULATED FROM RW = 0.172 AT 75 DEG (F) ***** DEPTH RANGE 3001 - 4000 ***** CALCULATED FROM RW = 0.153 AT 75 DEG (F)													
3200	58,636											WOODBINE	44B
***** DEPTH RANGE 4001 - 5000 *****													
4258	17,125	5,849	430	87	8,080	2,200		479		1.013		PALUXY	359H
4300	16,365											PALUXY	45B
4420	12,036											PALUXY	35B
4500	83,363	30,365	1,652	381	50,704	4		257		1.058		WOODBINE	241H
4600	81,429											WOODBINE	36B
***** DEPTH RANGE 7001 - 8000 *****													
7300	180,000											RODESSA (BACON)	37B
7302	284,910	83,181	23,233	2,306	175,877	242		71		1.156		RODESSA	242H
7364	242,225	61,486	26,800	2,970	150,692	237		40		1.170		RODESSA	243H
7364	302,988	87,773	25,004	2,691	187,224	234		62		1.168		RODESSA	244H
7375	217,899	54,136	25,597	2,376	135,446	344				1.155		RODESSA	245H
7375	237,388	61,948	24,699	2,918	147,501	287		35		1.166		RODESSA	246H
7386	243,875	63,670	26,935	1,870	151,053	227		120		1.167		RODESSA	247H
7400	190,000											RODESSA (MILL)	38B
7756	259,459	62,900	32,800	2,193	161,300	216		50		1.180		RODESSA	57H
8000	200,000											PETTET (PITTS)	39B
***** DEPTH RANGE 8001 - 9000 *****													
8015	190,000											RODESSA + PETTET	34B
8072	241,562	58,982	29,476	2,524	150,300	228		52		1.169		PETTET	248H
8271	264,879	61,900	35,800	2,123	164,900	138		18		1.185		PETTET	58H
***** DEPTH RANGE 11001 - 12000 *****													
12000	180,000											SHACKOVER	40B
CALCULATED FROM RW = 0.048 AT 75 DEG (F)													

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

FREESTONE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
965 1000	19,755 17,750	7,295	250	100	11,800	23	1 - 1000 287	*****			1.017	NACATOCH NACATOCH	301H 48B
1002	11,709	4,286	150	70	6,900	16	1001 - 2000 287	*****			1.016	NACATOCH	302H
2944 3000	22,022 21,774	8,111	270	100	12,900	25	2001 - 3000 616	*****			1.019	WOODBINE WOODBINE	419H 50B
4000 4000	82,857 60,000						3001 - 4000 *****					WOODBINE WOODBINE	46B 49B
4004	94,119	21,700	1,300	64	35,500	372	4001 - 5000 183	*****			1.042	WOODBINE	346H
5400	100,000						5001 - 6000 *****					WOODBINE	47B
6945	180,695	50,349	16,342	1,814	111,600	464	6001 - 7000 126	*****			1.123	RODESSA	360H
7382	226,174	61,949	21,492	2,255	140,000	440	7001 - 8000 38	*****			1.138	PETTET	361H
8970	190,000						8001 - 9000 *****					PETTET-TRAVIS PK 750SP	

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FRIO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
130	1,020	138	176	22	***** DEPTH RANGE 1 - 1000 *****		282	177	304			MT SELMAN FORM	306A
930	700											CARRIZO-WILCOX	616SP
2606	28,984	10,665	577	296	***** DEPTH RANGE 2001 - 3000 *****		17,130	316			1.019	AUSTIN CHALK	00440
2651	21,871	7,443	509	288	13,420	211					1.015	AUSTIN CHALK	00430
2651	22,786	7,930	391	262	13,407	175	621				1.016	AUSTIN CHALK	00450
3230	600				***** DEPTH RANGE 3001 - 4000 *****							CARRIZO-WILCOX	617SP
3460	16,500											CARRIZO-WILCOX	618SP
3504	8,167	2,970	97	56	4,980		110	34		6.6	1.005	OLMOS	01400
3970	21,000											CARRIZO-WILCOX	619SP

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

GAINES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
60	2,490	420	164	193	615	931	336					OGALLALA FORM	366A
***** DEPTH RANGE 1 - 1000 *****													
3220			1,140	340	159,600	7,500	104			5.5	1.185	CLEARFORK SAND YATES	260J 15C
3250	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)								
***** DEPTH RANGE 3001 - 4000 *****													
4500	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)								
4698	96,299	31,000	4,620	1,069	57,400	2,060	150			7.2	1.074	QUEEN	58C
4725	101,260	31,350	6,100	1,086	61,000	1,960	184			7.3	1.074	SAN ANDRES	245G
4796	54,444				CALCULATED FROM RW = 0.125 AT 75 DEG (F)								
4800	71,526	23,800	2,849	647	42,000	2,060	179			7.6	1.054	SAN ANDRES	158C
4800	60,677	21,497	1,006	395	32,000	4,905	1,174			7.7	1.025	SAN ANDRES	247G
4825	49,706				CALCULATED FROM RW = 0.134 AT 75 DEG (F)								
4835	63,077				CALCULATED FROM RW = 0.109 AT 75 DEG (F)								
4840	89,920	19,900	4,320	1,505	39,000	3,000	1,595			7.1	1.050	SAN ANDRES	248G
4841	60,870	17,000	3,840	580	31,000	6,200	1,650			7.2	1.043	SAN ANDRES	285J
4859	204,279	56,833	16,240	3,336	124,000		2,830			6.1	1.135	SAN ANDRES	283J
4900			4,800	1,550	120,000	1,650	740	34		7.2	1.130	SAN ANDRES	334J
4900	78,287	27,554	1,890	77	39,003	9,000	763			7.5	1.043	SAN ANDRES	335J
4900	92,182	17,071	1,885	459	26,700	5,000	1,067			7.0	1.049	SAN ANDRES	338J
4900	167,268	58,788	3,870	1,530	99,500	3,000	580	1		7.4	1.125	SAN ANDRES	339J
4900	91,000	65,939	3,400	692	106,000	4,800	214			7.1	1.131	SAN ANDRES	340J
4900	68,100	17,166	2,100	586	31,200	4,400	1,202			7.2	1.047	SAN ANDRES	341J
4900	50,459	18,009	1,789	76	26,900	2,250	1,435			7.7	1.041	SAN ANDRES	342J
4900	72,300	23,049	1,885	78	34,100	5,700	1,065			7.3	1.048	SAN ANDRES	343J
4900	69,000	20,359	1,890	563	32,600	4,350	975	1		7.7	1.049	SAN ANDRES	344J
4900	179,060	56,321	7,057	4,045	109,876	1,761					1.136	PERMIAN	01010
4900	34,825	10,380	1,660	665	18,100	2,750	1,280		YES	7.5	1.036	SAN ANDRES	336J
4900	46,111	14,806	1,830	535	24,800	2,950	1,100		YES	7.1	1.043	SAN ANDRES	337J
4952	120,422	31,370	7,566	3,340	77,198	1,848	200				1.096	PERMIAN	01020
4964			1,920	680	30,000	2,650	520			6.5	1.034	SAN ANDRES	287J
5000	45,528	13,710	2,096	852	27,398	1,472					1.040	PERMIAN	01030
5000	70,745	17,892	5,320	2,376	41,500	2,920	737		YES	6.5	1.052	SAN ANDRES	347J
***** DEPTH RANGE 5001 - 6000 *****													
5032	44,152		820	2,357	27,380	2,145	159	161		7.2		SAN ANDRES	296J
5032	40,666	9,150	1,460	3,380	26,300	251	125			8.5	1.037	SAN ANDRES	299J
5032	56,970	13,600	2,370	2,450	31,200	825	1,180			7.1	1.045	SAN ANDRES	300J
5032	33,181		961	583	13,487	2,045	333	12		7.0		SAN ANDRES	301J
5032	217,315	81,200	850	2,610	119,700	12,800	155			6.0	1.166	SAN ANDRES	304J

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

GAINES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 = 6000 *****													
5032	61,993	11,132	7,360	4,880	36,900	1,450	231			3.0	1.057	SAN ANGELO	309J
5032	41,383	13,284	1,579	433	21,231	3,403	1,386			7.8	1.029	SAN ANDRES	315J
5032	82,016		8,770	4,690	55,065	4,008		540		4.3		SAN ANDRES	316J
5032	49,353	12,650	3,560	1,550	27,300	3,500	793		YES	7.2	1.049	SAN ANDRES	307J
5037	39,310	8,000	1,350	3,450	26,100	304	106			8.7	1.034	SAN ANDRES	298J
5060	41,214	13,386	1,514	408	21,200	3,843	831			7.4		SAN ANDRES	313J
5100	44,309	13,480	2,142	654	23,040	3,150	1,843			7.3	1.041	SAN ANDRES	2496
5100	103,140	22,800	3,050	9,200	65,600	1,650	840			7.4	1.082	SAN ANDRES	295J
5100	27,354	8,100	1,365	484	14,000	1,875	1,530			7.5	1.024	SAN ANDRES	303J
5100	44,330	14,700	1,750	505	25,100	1,485	790			7.7	1.036	SAN ANDRES	305J
5175	41,072	13,250	1,436	539	21,090	4,380	377			7.7	1.033	CLEARFORK	2506
5175	30,240	9,350	1,320	400	13,690	3,850	1,360			7.7	1.022	SAN ANDRES	322J
5200	29,635	6,580	2,310	1,410	15,650	1,945	1,740			6.7	1.022	SAN ANDRES	292J
5200	31,760	6,930	2,980	1,320	18,500	765	1,265			7.4	1.028	SAN ANDRES	293J
5200	251,553	79,500	2,100	11,000	158,200	495	258			7.4	1.208	SAN ANDRES	294J
5200	29,635	6,580	2,310	1,410	15,650	1,945	1,740			6.7	1.022	SAN ANDRES	297J
5200	64,280	15,220	5,530	2,430	38,300	2,800				5.0	1.050	SAN ANDRES	306J
5200	64,280	15,220	5,530	2,430	38,300	2,800				5.0	1.050	SAN ANDRES	306J
5225	48,317	15,430	1,321	940	24,400	4,850	1,376			7.7	1.032	SAN ANDRES	2516
5281	45,294				CALCULATED FROM RW = 0.149 AT 75 DEG (F)							SAN ANDRES	160C
5300	55,553	14,800	2,370	2,800	34,400	493	690			7.1	1.050	SAN ANDRES	302J
5375	39,742	12,010	1,984	718	21,730	3,121	179			7.3	1.031	SAN ANDRES	2526
5448	4,360				CALCULATED FROM RW = 1.290 AT 75 DEG (F)							MISSISSIPPIAN	768C
5475	9,500				CALCULATED FROM RW = 0.590 AT 75 DEG (F)							DEVONIAN	799C
5795	114,495	42,365	1,169	506	63,700	6,728	395	5		6.5		DEVONIAN	273J
5950	55,909				CALCULATED FROM RW = 0.122 AT 75 DEG (F)							GLORIETA	231C
5957	46,498	14,637	1,980	541	23,900	3,920	1,520	12		8.1	1.032	SAN ANGELO	361J
5984	78,154				CALCULATED FROM RW = 0.092 AT 75 DEG (F)							GLORIETA	230C
5994	23,208	2,769	4,081	418	7,180	2,920	5,840	5		7.9	1.020	DOLOMITE	362J
***** DEPTH RANGE 6001 = 7000 *****													
6050	136,667				CALCULATED FROM RW = 0.058 AT 75 DEG (F)							GLORIETA	232C
6060	103,785	31,600	6,850	945	62,000	1,875	515			6.4	1.082	CLEARFORK	2536
6100	183,058	66,574	4,906	1,823	114,040	2,963	797	2		6.6	1.119	GLORIETA	274J
6100	170,540	42,150	13,200	6,800	107,500	680	210			5.6	1.136	GLORIETA	275J
6103	136,667				CALCULATED FROM RW = 0.058 AT 75 DEG (F)							CLEARFORK	314C
6103	120,455	35,300	9,960	1,018	71,800	1,710	667			6.7	1.100	CLEARFORK	2546
6115	98,735	30,950	4,480	930	59,100	2,800	475			7.0	1.075	GLORIETA	257J
6123	91,699	26,400	7,070	1,200	55,050	1,660	319			5.4	1.073	CLEARFORK	2556
6165	105,752	29,900	6,710	2,600	63,600	2,065	877			7.1	1.084	CLEARFORK	2568
6181	47,941				CALCULATED FROM RW = 0.140 AT 75 DEG (F)							GLORIETA	233C
6343	40,747	12,457	1,790	657	20,900	3,470	1,473	1	YES	6.6	1.030	CLEARFORK	249J
6370	25,614	7,454	1,380	434	11,460	3,200	1,440			7.7	1.017	SAN ANGELO	323J
6380	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							UPPER CLEARFORK	366C
6420	168,678	41,050	2,424	14,490	107,500	2,912	302			7.0	1.147	CLEARFORK	2576
6455	213,606	66,350	1,933	9,810	130,700	4,241	572			7.2	1.170	CLEARFORK	2586
6536	60,794	9,022	7,270	4,370	38,400	1,500	232			3.2	1.058	SAN ANGELO	310J
6600	152,749	47,956	7,580	2,480	94,100	358	275			6.4	1.128	UPPER CLEARFORK	279J
6630		41,241	10,760	3,305	83,600	1,400	793			5.9	1.100	WASSON 6600	289J

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GAINES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 6001 - 7000 *****													
6640	38,831	12,200	2,080	424	23,200	620	307			9.7	1.036	CLEARFORK	282J
6770	143,842	44,384	7,751	2,301	87,900	1,300	206	46		5.9	1.102	CLEARFORK	248J
6772	155,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							UPPER CLEARFORK	369C
6800	13,588				CALCULATED FROM RW = 0.435 AT 75 DEG (F)							SAN ANGELO	263C
6800	195,009				CALCULATED FROM RW = 0.045 AT 75 DEG (F)							UPPER CLEARFORK	367C
6900		22,000	25,300	10,300	110,200	100	865	999		5.7	1.128	UPPER CLEARFORK	329J
6900			18,300	9,700	164,800					6.0		CLEARFORK	330J
6900	19,747	4,906	1,378	503	8,290	2,967	1,710	1				CLEARFORK SAND	368J
6930			1,450	450	15,500	3,800	250	200		6.6	1.020	CLEARFORK	363J
6930			1,450	450	15,500	3,800	250			6.6	1.020	CLEARFORK	364J
6930			1,450	450	15,500	3,800	250	200		6.6	1.020	CLEARFORK	370J
6985	45,588				CALCULATED FROM RW = 0.148 AT 75 DEG (F)							CLEARFORK	315C
7000	182,840	43,700	19,200	4,900	114,000	800	240			6.0	1.146	CLEARFORK SAND	262J
7000	188,459	45,700	21,120	3,300	116,000	2,000	314	25		6.2	1.132	CLEARFORK SAND	263J
7000	61,785	17,670	6,240	1,093	36,000	2,160	622			6.2	1.056	CLEARFORK	266J
7000	92,789	15,820	2,840	826	30,000	2,070	1,233			7.2	1.043	CLEARFORK	276J
***** DEPTH RANGE 7001 - 8000 *****													
7044	55,000				CALCULATED FROM RW = 0.124 AT 75 DEG (F)							WICHITA-ALBANY	428C
7045	17,669	3,741	1,490	646	7,000	3,222	1,570			7.0		UPPER CLEARFORK	367J
7050	143,333				CALCULATED FROM RW = 0.056 AT 75 DEG (F)							UPPER CLEARFORK	368C
7056	182,269	50,568	8,405	2,457	98,600	1,510	729	14		6.7	1.091	LOWER CLEARFORK	250J
7072	71,254	22,570	2,990	1,155	41,000	2,920	612	7		6.9	1.049	LOWER CLEARFORK	252J
7098	89,661	28,923	3,411	1,395	52,100	2,800	1,028	4	YES	6.2	1.063	LOWER CLEARFORK	251J
7100	132,945	40,000	7,030	2,850	81,900	1,230	635			7.0	1.106	UPPER CLEARFORK	255J
7100	178,530	37,950	5,680	1,560	70,250	2,620	470			7.0	1.092	UPPER CLEARFORK	256J
7100	74,195	10,900	8,560	5,050	45,600	2,800	1,195			6.1	1.058	CLEARFORK	369J
7100	76,050	21,800	4,320	1,870	44,000	2,560	1,500		YES	7.1	1.060	LOWER CLEARFORK	253J
7114	102,985	34,100	4,480	910	60,000	3,050	445			7.0	1.072	CLEARFORK	258J
7155	175,000				CALCULATED FROM RW = 0.049 AT 75 DEG (F)							CLEARFORK	313C
7167	89,440	19,500	4,195	1,505	36,514	6,060	1,666		YES	7.0	1.050	UPPER CLEARFORK	254J
7200	66,923				CALCULATED FROM RW = 0.104 AT 75 DEG (F)							LOWER CLEARFORK	406C
7200	81,429				CALCULATED FROM RW = 0.086 AT 75 DEG (F)							LOWER CLEARFORK	407C
7200	185,000				CALCULATED FROM RW = 0.047 AT 75 DEG (F)							LOWER CLEARFORK	409C
7288	182,038	45,793	13,840	1,536	99,000	1,280	429	360		6.0	1.120	LOWER CLEARFORK	288J
7300	245,000				CALCULATED FROM RW = 0.035 AT 75 DEG (F)							LOWER CLEARFORK	408C
7300			28,050	12,950	159,120	1,410				7.3		CLEARFORK SAND	261J
7432	129,990	33,940	8,420	1,310	79,100	1,460	260	45		6.4	1.091	LOWER CLEARFORK	328J
7605	155,000				CALCULATED FROM RW = 0.053 AT 75 DEG (F)							WICHITA-ALBANY	630C
7640	155,000				CALCULATED FROM RW = 0.053 AT 75 DEG (F)							ABO	445C
7665	205,000				CALCULATED FROM RW = 0.043 AT 75 DEG (F)							WICHITA-ALBANY	429C
7700	227,796	45,300	37,700	2,030	142,000	520	246			6.0	1.192	CLEARFORK	280J
7800	46,471				CALCULATED FROM RW = 0.145 AT 75 DEG (F)							ABO	444C
***** DEPTH RANGE 8001 - 9000 *****													
8004	31,905	7,175	3,480	705	16,000	2,800	1,745		YES	5.8	1.027	WICHITA-ALBANY	352J
8474	19,217				CALCULATED FROM RW = 0.314 AT 75 DEG (F)							WICHITA-ALBANY	431C
8742	22,492	7,544	520	240	12,000	70	2,118			6.7	1.018	LEONARD	318J
8815	21,542	7,756	480	122	10,400	300	2,490		YES	7.6	1.018	LEONARD	319J

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GAINES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 8001 - 9000 *****													
8816	79,605	13,130	13,320	2,185	48,400	1,460	1,110			6.6	1.063	SAN ANDRES	311J
8900	53,581	16,608	2,558	772	29,500	3,640	503			7.6	1.043	PENNSYLVANIAN	259G
8905			2,600	230	32,800	3,500	1,520		YES	7.4	1.043	DEVONIAN	278J
8928	47,941				CALCULATED FROM RW = 0.140 AT 75 DEG (F)							PENN-CANYON	586C
8950	38,750				CALCULATED FROM RW = 0.170 AT 75 DEG (F)							CLEARFORK	312C
***** DEPTH RANGE 9001 - 10000 *****													
9010	55,455				CALCULATED FROM RW = 0.123 AT 75 DEG (F)							PENN-CANYON	587C
9092	48,529				CALCULATED FROM RW = 0.138 AT 75 DEG (F)							PENN GENERAL	706C
9103			886	394	9,150	2,600	733			6.7	1.017	WOLFCAMP	317J
9120	82,016		8,770	4,690	55,065	4,008				4.3		WOLFCAMP	314J
9125			5,113	1,279	37,958				YES	6.7	1.033	WOLFCAMP	349J
9200	98,572				CALCULATED FROM RW = 0.074 AT 75 DEG (F)							WOLFCAMP	508C
9316	39,500				CALCULATED FROM RW = 0.167 AT 75 DEG (F)							WOLFCAMP	509C
9595	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							ELLENBURGER	1005C
9786	140,000				CALCULATED FROM RW = 0.057 AT 75 DEG (F)							PENN GENERAL	708C
9800	25,417				CALCULATED FROM RW = 0.240 AT 75 DEG (F)							DEVONIAN	800C
***** DEPTH RANGE 10001 - 11000 *****													
10349	201,270	73,250	9,000	3,160	114,700	590	610			5.7	1.135	WOLFCAMP REEF	371J
10410			6,600	8,600	52,000	1,125				7.2		STRAWN	291J
10500	41,383	13,284	1,579	433	21,231	3,403	1,386			7.8	1.029	DEVONIAN	312J
10695	118,750				CALCULATED FROM RW = 0.066 AT 75 DEG (F)							WOLFCAMP	507C
10919	50,210	15,570	3,080	460	28,400	2,700				6.5	1.038	DEVONIAN	267J
***** DEPTH RANGE 11001 - 12000 *****													
11025	36,430	12,173	1,885	360	21,077	2,086	939	1		7.3		DEVONIAN	270J
11040	20,344	6,200	1,060	194	11,200	1,118	572		YES	6.7	1.012	DEVONIAN	269J
11070	38,723	13,032	1,978	354	22,534	2,086	966	1		7.1		DEVONIAN	271J
11070	35,589	11,704	1,859	391	20,385	2,058	998	1		7.2		DEVONIAN	272J
11098	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							PENN GENERAL	707C
11100	40,030		1,640	173	22,390	1,945	464		YES	7.0	1.030	DEVONIAN	351J
11125	72,505	23,375	3,140	845	41,575	2,620	950			6.8	1.053	DEVONIAN	259J
11125			1,920	970	20,000	1,850	910			7.2	1.024	DEVONIAN	265J
11125	36,424	11,356	1,562	586	19,917	2,164	831	6		7.8	1.024	DEVONIAN	268J
11125	37,644	11,917	1,772	392	20,567	2,265	728			8.1	1.026	DEVONIAN	277J
11125	36,770	11,918	1,591	303	20,168	2,103	626			7.0	1.023	DEVONIAN	281J
11125			2,000	1,740	29,200	2,450	680			6.7	1.032	DEVONIAN	324J
11125			1,920	780	23,600	1,750	930		YES	7.0	1.025	DEVONIAN	264J
11135			3,858	1,110	31,344	1,864			YES	6.9	1.027	DEVONIAN	348J
11150	38,322	10,400	2,880	822	22,420		1,800			6.9		DEVONIAN DOLOMIT	286J
11200	45,832	15,027	1,830	376	25,629	2,003	693			7.3	1.034	DEVONIAN	372J
11204	140,000				CALCULATED FROM RW = 0.057 AT 75 DEG (F)							PENN STRAWN	644C
11300	49,412				CALCULATED FROM RW = 0.135 AT 75 DEG (F)							DEVONIAN	798C
11338	77,692				CALCULATED FROM RW = 0.090 AT 75 DEG (F)							PENN GENERAL	705C
11430	70,768				CALCULATED FROM RW = 0.099 AT 75 DEG (F)							WOLFCAMP	510C
11502			6,600	8,600	52,000	1,125				7.2		DEVONIAN	290J
***** DEPTH RANGE 12001 - 13000 *****													
12015	73,077				CALCULATED FROM RW = 0.096 AT 75 DEG (F)							ELLENBURGER	1006C

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***** DEPTH RANGE 12001 - 13000 *****													
12300			144	39	100		488			7.4	1.006	DEVONIAN	326J
12390	28,875					CALCULATED FROM RW = 0.219 AT 75 DEG (F)						ELLENBURGER	1004C
12390	18,065	22,800	5,740	973	47,300	1,090	162			5.3	1.064	ELLENBURGER	260G
12400	25,497	7,700	1,320	365	13,600	1,560	952			6.8	1.027	DEVONIAN	325J
12500	31,936	9,740	1,600	437	17,200	2,080	879			6.9	1.025	DEVONIAN	327J
12608			1,700	480	18,500	700	830			6.2	1.025	DEVONIAN	360J
12628	34,709	10,240	1,600	750	19,000	2,300	817	2		6.6	1.026	DEVONIAN	350J
12650	32,000					CALCULATED FROM RW = 0.200 AT 75 DEG (F)						DEVONIAN	797C
12735			10,012	6,960	138,294	1,660		62				DEVONIAN	365J
12735			10,250	6,572	142,780	1,690		98				DEVONIAN	366J
***** DEPTH RANGE 13001 - 14000 *****													
13020	34,400					CALCULATED FROM RW = 0.188 AT 75 DEG (F)						MISSISSIPPIAN	767C
13942	120,625					CALCULATED FROM RW = 0.065 AT 75 DEG (F)						ELLENBURGER	1003C

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GALVESTON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
100	1,070	321	61	36	351		616					BEAUMONT CLAY	434A
279	2,430	837	47	48	1,160	57	542			8.2		BEAUMONT CLAY	435A
884	1,660	578	46	16	820		340			7.9		ALTA LOMA SAND	432A
1000	1,780	636	42	15	875	3	347			8.0		ALTA LOMA SAND	431A
***** DEPTH RANGE 1001 - 2000 *****													
1165	3,200											Z-2 0-2000 FT	161SP
1210	1,350											Z-2 0-2000 FT	189SP
1221	2,020	750	26	13	1,060	1	307			8.2		LISSIE FORM	411A
1317	5,870	2,130	87	53	3,400		330			7.5		ALTA LOMA SAND	433A
1410	20,000											Z-2 0-2000 FT	160SP
1500	3,300											Z-2 0-2000 FT	190SP
***** DEPTH RANGE 2001 - 3000 *****													
2110	83,000											Z-3 2000-4000 FT	162SP
2870	90,000											Z-3 2000-4000 FT	155SP
***** DEPTH RANGE 3001 - 4000 *****													
3700	143,333											MIOCENE	140E
3731	130,000											MIOCENE	141E
3939	106,370	35,608	3,426	1,611	65,623		102			6.0	1.080	FB VI,1W	548J
***** DEPTH RANGE 4001 - 5000 *****													
4129	108,368	37,186	2,655	1,710	66,974		113			5.8	1.084	FB III,1B	1025J
4450	79,000											Z-4 4000-6000 FT	163SP
4500	109,324	39,670	1,698	994	66,993		169			6.8	1.085	FB III	536J
4500	118,366	42,385	2,357	1,033	72,513		78			7.7	1.086	FB III	537J
4560	112,873	40,318	1,679	1,444	69,280		152			7.5	1.085	FB III-A	535J
4834	114,823	41,082	2,288	1,012	70,261		180			6.9	1.085	FB VII	546J
***** DEPTH RANGE 5001 - 6000 *****													
5222	99,479	34,459	1,567	888	58,840		125			8.0	1.072	FB III,2A2	547J
5450	146,000											Z-4 4000-6000 FT	156SP
6000	157,323	43,148	15,120	1,459	97,514		82	106		5.1	1.127	FB II	538J
***** DEPTH RANGE 6001 - 7000 *****													
6090	80,000											Z-5 6000-8000 FT	157SP
6370	80,000											Z-5 6000-8000 FT	164SP
6456	114,528	38,412	4,479	1,135	70,457		45			7.0	1.087	FB I,5W	545J
6500	134,845	38,500	9,639	2,622	84,084					6.2	1.130	FB II	540J
6806	125,289	36,818	5,781	1,446	71,222		22			5.6	1.089	FB II,5A	551J

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GALVESTON COUNTY

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6990	108,509	34,707	6,014	919	66,835	34	220			6.1	1.084	FB I,7	544J
***** DEPTH RANGE 6001 - 7000 *****													
7064	139,901	41,852	10,469	1,126	86,234	220				5.1	1.108	FB I	534J
7064	139,901	41,852	10,469	1,126	86,234	220				5.1	1.108	FB I	541J
7064	133,917	34,745	7,757	1,037	70,288	90				5.6	1.088	FB I	542J
7172	114,877	37,109	5,743	1,174	70,784	67				5.8	1.087	FB II	539J
7290	121,048	36,017	8,523	1,493	75,005					5.4	1.092	FB I,9A	553J
7309	130,207	40,945	8,284	800	80,103	75				6.9	1.125	FB V,9	549J
7474	158,418	42,094	15,113	2,437	98,774					5.5	1.120	FB II,9A	550J
7592	109,990	33,341	7,248	1,309	68,036	56				6.4	1.014	FB I,10X	552J
7900	118,185	40,800	4,020	719	72,000	6	471	17		6.6	1.080	WAY SAND	554J
7970	149,080	40,800	12,800	2,260	92,400	100		62		5.5	1.104	FRIO GAS	555J
***** DEPTH RANGE 8001 - 9000 *****													
8031	79,042	27,106	2,852	496	48,100	488						FRIO	53D
8048	96,668	34,170	2,910	380	58,750	458						FRIO	55D
8095	67,897	23,783	2,288	265	41,000	561						FRIO	56D
8130	98,000											Z=6 8000-10000FT	158SP
8464	54,187	19,056	1,880	41	32,300	25	885					FRIO	57D
8570	44,617	16,542	746	68	26,700	561						FRIO	54D
8947	59,091											FRIO	136E
CALCULATED FROM RW = 0.115 AT 75 DEG (F)													
***** DEPTH RANGE 9001 -10000 *****													
9078	54,548	20,435	512	235	32,750	616						FRIO	52D
9117	102,114	37,432	1,886	400	61,921	25	450					FRIO	51D
9258	110,361	39,996	2,374	486	67,012	40	453					FRIO	50D
9314	45,495	17,120	418	81	26,684	103	1,089					FRIO	58D
9320	28,000											Z=6 8000-10000FT	159SP
9409	49,412											FRIO	137E
CALCULATED FROM RW = 0.135 AT 75 DEG (F)													
***** DEPTH RANGE 10001 -11000 *****													
10364	62,367	23,446	629	163	37,223	52	854					FRIO	59D
10829	62,308											FRIO	138E
10874	55,909											FRIO	139E
CALCULATED FROM RW = 0.110 AT 75 DEG (F)													
CALCULATED FROM RW = 0.122 AT 75 DEG (F)													

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GARZA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1290	1,070												17C
1875	67,010	22,010	1,488	1,390	36,600	5,430	92	37		6.2		YATES	1021J
1926	145,410				65,500							SAN ANDRES	839J
1926	156,950				76,000							SAN ANDRES	841J
1926	146,430				65,400							SAN ANDRES	842J
1926	166,350	57,300	4,800	1,702	100,000	2,060	488			6.9	1.112	SAN ANDRES	843J
1926	60,223	19,893	1,595	905	32,500	5,030	197			7.6		SAN ANGELO	852J
***** DEPTH RANGE 2001 - 3000 *****													
2400	47,271	15,420	1,520	679	25,200	4,000	452			7.5	1.040	GLORIETA	853J
2432	58,182											SAN ANGELO	264C
2456	67,477	22,319	1,913	1,066	37,650	4,270	259			7.3	1.048	SAN ANGELO	835J
2456	33,778		1,000	510	17,875	2,945	440	3		8.1	1.020	GLORIETA	1243J
2467	58,653	19,232	1,657	979	32,000	4,420	365			7.5	1.042	SAN ANGELO	833J
2480	37,463	11,963	1,280	558	18,800	4,520	342			7.3	1.035	GLORIETA	854J
2480	57,658		1,680	730	31,400	4,286	366			8.4	1.037	GLORIETA	855J
2480	61,715		1,600	760	33,550	4,353	244			7.9	1.044	GLORIETA	856J
2496	56,364											SAN ANGELO	266C
2520	68,775	20,834	3,057	1,551	39,200	3,200	933			6.7	1.052	SAN ANGELO	834J
2520	68,300	21,100	1,690	835	34,100	4,850	385			7.5	1.045	GLORIETA	0248K
2530	54,444											GLORIETA	234C
2539	74,615											SAN ANGELO	267C
2554	55,909											GLORIETA	237C
2556	85,400	27,554	3,800	996	50,000	2,270	780			6.4	1.060	SAN ANDRES	865J
2618	52,778											SAN ANGELO	265C
2650	76,000	23,600	2,170	975	39,000	5,000	460			8.1	1.050	GLORIETA	0247K
2651	53,889											SAN ANDRES	162C
2700	91,080		4,576	1,767	54,600	2,350	890			6.7	1.077	SAN ANDRES	863J
2700	58,400	19,300	1,760	875	33,200	2,740	525			7.8	1.046	GLORIETA	860J
2700	60,377	20,000	1,960	826	34,400	2,740	451			7.8	1.047	GLORIETA	861J
2700	69,338	22,900	2,360	972	40,000	2,740	366			7.8	1.053	GLORIETA	862J
2750	79,231											SAN ANDRES	157C
2900	119,000		4,840	1,190	70,800	2,510	293			7.3	1.085	SAN ANDRES	1241J
3000	133,103	42,528	4,900	2,640	79,500	2,800	635			6.9	1.092	SAN ANDRES	0071L
3000	216,770				84,100							GLORIETA	837J
***** DEPTH RANGE 3001 - 4000 *****													
3015	135,125	44,600	6,360	815	80,550	2,025	775			6.5	1.103	SAN ANDRES	2720
3015	130,000											GUADALUPE	795I
3082	120,250		6,435	2,418	72,150	1,600	940			6.5	1.102	GLORIETA	864J
3097	135,594	42,900	5,960	2,380	82,000	1,905	449			6.8	1.105	SAN ANDRES	2730

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***** DEPTH RANGE 3001 - 4000 *****													
3097	130,000											GUADALUPE	794I
												CALCULATED FROM RW = 0.060 AT 75 DEG (F)	
3138	129,883	3,247	9,680	3,936	80,000	1,305	715			6.8	1.096	SAN ANDRES	846J
3138	181,612	59,500	8,400	1,460	109,000	1,850	1,402			6.1	1.130	SAN ANDRES	848J
3138	127,609	26,675	14,400	4,666	79,778	1,207	244			6.2	1.097	SAN ANDRES	851J
3150	136,438	45,000	5,710	1,095	81,000	2,712	921				1.098	SAN ANDRES	274G
3150	130,000											CALCULATED FROM RW = 0.060 AT 75 DEG (F)	
3374	136,667											CALCULATED FROM RW = 0.058 AT 75 DEG (F)	
3513	128,125											CALCULATED FROM RW = 0.061 AT 75 DEG (F)	
3600	126,250											CALCULATED FROM RW = 0.062 AT 75 DEG (F)	
3605	234,540											89,000	
3605	237,140											103,500	
3700	133,333											CALCULATED FROM RW = 0.059 AT 75 DEG (F)	
3762	82,857											CALCULATED FROM RW = 0.085 AT 75 DEG (F)	
3966	151,089	39,400	14,600	2,430	92,200	1,300	1,159			6.8	1.114	GLORIETA	847J
3966			14,100	9,000	115,000		1,525			5.2	1.125	GLORIETA	849J
3966	168,725	57,600	5,400	1,580	102,000	1,450	695			6.3	1.122	GLORIETA	850J
***** DEPTH RANGE 4001 - 5000 *****													
4040	118,750											GLORIETA	236C
												CALCULATED FROM RW = 0.066 AT 75 DEG (F)	
4836	156,895	54,000	5,800	1,215	95,500	300	80			6.5	1.108	SPRABERRY	845J
***** DEPTH RANGE 5001 - 6000 *****													
5041	154,805	53,785	4,500	1,380	94,500	250	390			7.0	1.108	SPRABERRY	0072L
5067	112,000											CALCULATED FROM RW = 0.069 AT 75 DEG (F)	458C
5070	159,931	55,950		1,260	97,550	240	396			7.3	1.110	SPRABERRY	858J
5728	136,667											CALCULATED FROM RW = 0.058 AT 75 DEG (F)	457C
***** DEPTH RANGE 7001 - 8000 *****													
7400	84,329	29,100	2,581	678	50,180	1,359	431			7.3	1.066	STRAWN	275G
7400	81,429											CALCULATED FROM RW = 0.086 AT 75 DEG (F)	793I
7707	76,000	22,400	3,225	800	43,137	1,485	284			6.5	1.050	PENNSYLVANIAN	0073L
7751	84,232	30,200	1,880	480	50,900	620	152				1.063	STRAWN	844J
7866	73,505	22,100	4,400	1,260	45,000	625	120			6.6	1.055	PENN LIME	0079L
7903	110,043	37,373	3,500	1,260	66,500	1,080	330			7.0	1.078	PENN LIME	0075L
7960	111,448	38,170		980	67,240	1,100	278			7.1	1.079	PENN	857J
7968	180,600	31,865	5,120	3,070	99,470	260	360			6.2	1.116	PENNSYLVANIAN	0074L
7968	178,910	53,465	7,100	2,040	110,000	110	195			7.8	1.125	PENN LIME	0076L
7972	38,500											CALCULATED FROM RW = 0.171 AT 75 DEG (F)	711C
7978	106,312	34,970	4,200	1,380	64,500	920	342			7.4	1.077	PENN LIME	0077L
7979	113,035	38,500		1,030	68,400	1,000	200				1.080	PENN	859J
7985	143,333											CALCULATED FROM RW = 0.056 AT 75 DEG (F)	645C
7994	111,665	37,005	4,325	1,365	67,750	1,000	220			7.7	1.080	PENN STRAWN	0078L
7999	92,857											CALCULATED FROM RW = 0.078 AT 75 DEG (F)	709C
***** DEPTH RANGE 8001 - 9000 *****													
8060	123,100	39,600	3,850	1,200	70,500	810	440			7.4	1.080	STRAWN	0249K
8090	97,143											CALCULATED FROM RW = 0.075 AT 75 DEG (F)	712C
8098	95,625	32,100		880	57,720	1,250	195			7.3	1.070	PENN	866J
8128	79,231											CALCULATED FROM RW = 0.088 AT 75 DEG (F)	316C

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

GARZA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 8001 - 9000 *****													
8150	140,700	44,300	4,020	865	76,700	1,250	220			6.0	1.091	STRAWN	0250K
8200	56,300	15,640	1,843	798	20,435	1,350	1,416			5.8	1.037	ELLENBURGER	0080L
8270	51,977	17,270	1,780	528	29,050	2,520	693			7.4	1.037	ELLENBURGER	0081L
8308	48,235											ELLENBURGER	1007C
8344	59,546											PENN GENERAL	710C
8371	54,120	17,872	1,960	678	31,250	1,600	682			8.0	1.040	ELLENBURGER	0082L
8400	57,700	17,800	1,760	435	30,100	1,700	890			7.3	1.038	ELLENBURGER	0251K
8724	51,667											ELLENBURGER	1008C
8770	71,539											MISSISSIPPIAN	769C
8835	82,000	22,300	2,140	924	41,306	1,350	208			6.3	1.054	ELLENBURGER	0083L
8907	63,846											ELLENBURGER	1010C
***** DEPTH RANGE 9001 - 10000 *****													
9061	53,333											ELLENBURGER	1009C

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

GLASSCOCK COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1633	91,429											QUEEN	62C
***** DEPTH RANGE 1001 - 2000 ***** CALCULATED FROM RW = 0.079 AT 75 DEG (F)													
2200	66,923											QUEEN	59C
2200	66,923											QUEEN	60C
2200	58,182											SAN ANDRES	167C
2200	64,615											SAN ANDRES	168C
2491	66,154											SAN ANDRES	169C
2532	32,000											SAN ANDRES	166C
3000	54,444											QUEEN	61C
***** DEPTH RANGE 2001 - 3000 ***** CALCULATED FROM RW = 0.104 AT 75 DEG (F)													
***** DEPTH RANGE 3001 - 4000 *****													
3200	65,602	22,300	1,880	740	37,700	2,660	300	320	2	7.5	1.047	SAN ANDRES	0057M
***** DEPTH RANGE 4001 - 5000 ***** CALCULATED FROM RW = 0.110 AT 75 DEG (F)													
***** DEPTH RANGE 5001 - 6000 *****													
5140	80,000											SPRABERRY	462C
5325	185,000											CLEARFORK	318C
***** DEPTH RANGE 6001 - 7000 *****													
6676	143,333											SPRABERRY	460C
6700	84,286											SPRABERRY	459C
***** DEPTH RANGE 7001 - 8000 *****													
7600	76,154											SPRABERRY	461C
7760	115,130	40,846	2,511	905	68,300	2,225	343	3		8.6	1.080	SPRABERRY	0058M
***** DEPTH RANGE 8001 - 9000 *****													
9626	45,000											DEVONIAN	801C
9626	45,000											ELLENBURGER	1012C
9815	81,429											SILURO-FUSSELMAN	855C
9871	50,556											FUSSELMAN	893C
***** DEPTH RANGE 10001 - 11000 *****													
10126	52,778											FUSSELMAN	895C
10130	47,847											ELLENBURGER	1014C
10210	60,769											SILURO-FUSSELMAN	854C
10371	32,600											FUSSELMAN	894C
10450	49,412											SILURO-FUSSELMAN	856C

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

GLASSCOCK COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
10540	45,588											ELLENBURGER	1013C

***** DEPTH RANGE 10001 - 11000 *****
CALCULATED FROM RW = 0.148 AT 75 DEG (F)

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

GOLIAD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2260	5,100											Z-3 2000-4000 FT	239SP
2580	24,000											Z-3 2000-4000 FT	238SP
***** DEPTH RANGE 3001 - 4000 *****													
3330	39,500											Z-3 2000-4000 FT	241SP
***** DEPTH RANGE 4001 - 5000 *****													
4100	14,623	5,530	37	20	8,227		736	11		7.7	1.008	PETTUS	655J
4332	9,614											YEGUA	142E
4670	37,500											Z-4 4000-6000 FT	242SP
***** DEPTH RANGE 7001 - 8000 *****													
7557	24,862	8,563	761	159	14,787		426	13				SLICK SAND	656J
7571	28,500	10,400	240	97	15,600	30	2,100			7.2	1.023	SLICK SAND	657J
7571	5,620	1,700	152	5	1,770	9	1,950			7.6	1.005	SLICK SAND	658J
***** DEPTH RANGE 8001 - 9000 *****													
8095	55,000											CARRIZO-WILCOX	240SP

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

GONZALES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
440	1,150											CARRIZO-WILCOX	556SP
730	4,600											Z=2 0=2000 FT	301SP
***** DEPTH RANGE 1001 - 2000 *****													
1250	8,000											Z=2 0=2000 FT	302SP
1345	2,000											Z=2 0=2000 FT	303SP
2000	22,500											Z=2 0=2000 FT	304SP
***** DEPTH RANGE 2001 - 3000 *****													
2160	19,000											Z=2 0=2000 FT	312SP
2660	2,700											CARRIZO-WILCOX	556SP
***** DEPTH RANGE 3001 - 4000 *****													
3200	21,500											Z=3 2000=4000 FT	305SP
3300	1,857											WILCOX	143E
3340	3,524											WILCOX	144E
3660	14,000											Z=3 2000=4000 FT	313SP
3960	3,600											CARRIZO-WILCOX	557SP
***** DEPTH RANGE 4001 - 5000 *****													
4290	2,400											CARRIZO-WILCOX	306SP
4530	26,500											CARRIZO-WILCOX	314SP
4890	9,250											CARRIZO-WILCOX	307SP

CALCULATED FROM RW = 1,440 AT 75 DEG (F)
 CALCULATED FROM RW = 1,580 AT 75 DEG (F)

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

GRAY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
450	1,120	278	72	31	312	281	228			7.8		OGALLALA FORM	383A
922	40,000				CALCULATED FROM RW = 0.165 AT 75 DEG (F)							GRANITE WASH	0135P
***** DEPTH RANGE 2001 - 3000 *****													
2317	138,896	43,797	5,536	2,200	83,086	2,490	488					DOLOMITE	67J
2336	120,625				CALCULATED FROM RW = 0.065 AT 75 DEG (F)							GRANITE WASH	0164P
2356	126,250				CALCULATED FROM RW = 0.062 AT 75 DEG (F)							BROWN DOLOMITE	0070P
2378	120,625				CALCULATED FROM RW = 0.065 AT 75 DEG (F)							GRANITE WASH	0162P
2533	120,625				CALCULATED FROM RW = 0.065 AT 75 DEG (F)							GRANITE WASH	0163P
2536	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							GRANITE WASH	0120P
2640	68,462				CALCULATED FROM RW = 0.102 AT 75 DEG (F)							BROWN DOLOMITE	0071P
2645	82,857				CALCULATED FROM RW = 0.085 AT 75 DEG (F)							GRANITE WASH	0116P
2650	54,444				CALCULATED FROM RW = 0.125 AT 75 DEG (F)							BROWN DOLOMITE	0073P
2650	54,444				CALCULATED FROM RW = 0.125 AT 75 DEG (F)							BROWN DOLOMITE	0074P
2650	54,444				CALCULATED FROM RW = 0.125 AT 75 DEG (F)							BROWN DOLOMITE	0076P
2650	54,444				CALCULATED FROM RW = 0.125 AT 75 DEG (F)							BROWN DOLOMITE	0078P
2650	54,444				CALCULATED FROM RW = 0.125 AT 75 DEG (F)							BROWN DOLOMITE	0079P
2654	73,846				CALCULATED FROM RW = 0.095 AT 75 DEG (F)							GRANITE WASH	0117P
2685	159,000		3,125	3,850	125,820					6.5	1.165	BROWN DOLOMITE	65J
2718	109,000				CALCULATED FROM RW = 0.070 AT 75 DEG (F)							GRANITE WASH	0118P
2791	98,572				CALCULATED FROM RW = 0.074 AT 75 DEG (F)							GRANITE WASH	0142P
2797	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							GRANITE WASH	0151P
2798	98,572				CALCULATED FROM RW = 0.074 AT 75 DEG (F)							GRANITE WASH	0143P
2800			9,750	2,075	54,750	1,125	133	12		6.3		WOLFCAMP	69J
2800	292,000		17,600	4,010	114,000	546	30	5		5.5	1.145	WOLFCAMP DOLOMIT	74J
2800	116,875				CALCULATED FROM RW = 0.067 AT 75 DEG (F)							BROWN DOLOMITE	0077P
2800			7,370	2,240	95,000	416	3	47		7.1	1.015	WOLFCAMP DOLOMIT	71J
2800	29,291	10,338	480	195	15,000	2,750	525	3	YES	7.6		WOLFCAMP DOLOMIT	73J
2814	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							GRANITE WASH	0113P
2822	124,375				CALCULATED FROM RW = 0.063 AT 75 DEG (F)							BROWN DOLOMITE	0090P
2825	112,000				CALCULATED FROM RW = 0.069 AT 75 DEG (F)							BROWN DOLOMITE	0099P
2848	98,572				CALCULATED FROM RW = 0.074 AT 75 DEG (F)							GRANITE WASH	0149P
2852	124,375				CALCULATED FROM RW = 0.063 AT 75 DEG (F)							GRANITE WASH	0139P
2856	98,572				CALCULATED FROM RW = 0.074 AT 75 DEG (F)							GRANITE WASH	0146P
2857	116,875				CALCULATED FROM RW = 0.067 AT 75 DEG (F)							GRANITE WASH	0157P
2870	106,000				CALCULATED FROM RW = 0.071 AT 75 DEG (F)							GRANITE WASH	0137P
2873	100,000				CALCULATED FROM RW = 0.073 AT 75 DEG (F)							GRANITE WASH	0150P
2882	115,000				CALCULATED FROM RW = 0.068 AT 75 DEG (F)							GRANITE WASH	0109P
2888	36,750				CALCULATED FROM RW = 0.178 AT 75 DEG (F)							BROWN DOLOMITE	0068P
2889	116,875				CALCULATED FROM RW = 0.067 AT 75 DEG (F)							GRANITE WASH	0144P
2900	98,572				CALCULATED FROM RW = 0.074 AT 75 DEG (F)							GRANITE WASH	0148P

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GRAY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2925	116,875											GRANITE WASH	0141P
2939	116,875											GRANITE WASH	0145P
2952	115,000											BROWN DOLOMITE	0100P
2953	63,846											BROWN DOLOMITE	0087P
2955	120,625											BROWN DOLOMITE	0086P
2961	112,000											BROWN DOLOMITE	0105P
2963	120,625											GRANITE WASH	0112P
2965	133,333											GRANITE WASH	0156P
2966	116,875											BROWN DOLOMITE	0069P
2981	98,572											GRANITE WASH	0147P
2984	115,000											BROWN DOLOMITE	0088P
2988	95,714											GRANITE WASH	0110P
2997	112,000											BROWN DOLOMITE	0093P
3000	219,760	63,807	18,360	2,325	135,812	456				5.1	1.149	GRANITE WASH	66J
3000			11,200	5,400	100,150	1,727	74			7.4		BROWN DOLOMITE	70J
3000			27,210		156,200	530	130	70		4.6	1.175	BROWN DOLOMITE	76J
3000	115,000						0.068	AT 75 DEG (F)				GRANITE WASH	0119P
3000			10,050	3,875	107,000	1,050	128	5	YES	7.6	1.145	BROWN DOLOMITE	72J
3000	158,100		10,900	1,890	94,500	1,700		4	YES	6.8		GRANITE WASH	75J
3000	204,945	53,498	6,800	3,440	140,000	825	122	260	YES	6.6		DOLOMITE	77J
***** DEPTH RANGE 3001 - 4000 *****													
3001	98,572											BROWN DOLOMITE	0089P
3005	112,000											GRANITE WASH	0140P
3010	124,375											BROWN DOLOMITE	0085P
3012	120,625											GRANITE WASH	0153P
3013	109,000											GRANITE WASH	0114P
3013	133,333											GRANITE WASH	0115P
3029	109,000											BROWN DOLOMITE	0101P
3047	98,572											BROWN DOLOMITE	0096P
3053	130,000											GRANITE WASH	0125P
3069	115,000											GRANITE WASH	0124P
3080	124,375											GRANITE WASH	0158P
3083	130,000											GRANITE WASH	0127P
3085	116,875											GRANITE WASH	0138P
3089	115,000											BROWN DOLOMITE	0092P
3090	116,875											GRANITE WASH	0154P
3100	124,375											GRANITE WASH	0159P
3110	126,250											GRANITE WASH	0160P
3120	130,000											GRANITE WASH	0128P
3125	126,250											BROWN DOLOMITE	0091P
3127	130,000											GRANITE WASH	0126P
3132	116,875											BROWN DOLOMITE	0082P
3142	124,375											GRANITE WASH	0161P
3144	126,250											BROWN DOLOMITE	0094P
3147	100,000											BROWN DOLOMITE	0095P
3165	116,875											BROWN DOLOMITE	0080P
3178	130,000											GRANITE WASH	0122P
3185	126,250											GRANITE WASH	0152P

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GRAY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3191	95,714											BROWN DOLOMITE	0102P
3195	133,333											GRANITE WASH	0123P
3200	46,471											BROWN DOLOMITE	0081P
3205	116,875											BROWN DOLOMITE	0083P
3206	115,000											BROWN DOLOMITE	0084P
3208	22,177											BROWN DOLOMITE	0103P
3210	130,000											GRANITE WASH	0136P
3220	106,000											BROWN DOLOMITE	0104P
3225	95,714											BROWN DOLOMITE	0105P
3235	116,875											GRANITE WASH	0131P
3246	103,000											BROWN DOLOMITE	0107P
3250	103,000											BROWN DOLOMITE	0108P
3253	130,000											GRANITE WASH	0165P
3275	116,875											BROWN DOLOMITE	0097P
3280	116,875											BROWN DOLOMITE	0098P
3284	130,000											GRANITE WASH	0166P
3284	150,000											GRANITE WASH	0167P
3291	95,714											GRANITE WASH	0155P
3300	112,000											BROWN DOLOMITE	0075P
3325	136,667											GRANITE WASH	0132P
3333	200,701	58,532	14,100	3,220	124,000	820	29			6.3	1.144	DOLOMITE	68J
3350	130,000											GRANITE WASH	0133P
3380	126,250											GRANITE WASH	0134P
3405	115,000											GRANITE WASH	0121P
3625	136,667											GRANITE WASH	0130P
3673	85,714											BROWN DOLOMITE	0072P
3725	146,667											GRANITE WASH	0129P
***** DEPTH RANGE 5001 - 6000 *****													
5475	98,572											GRANITE WASH	0169P
***** DEPTH RANGE 6001 - 7000 *****													
6102	106,000											GRANITE WASH	0170P
6560	116,875											LOWER MISSOURI	0171P
***** DEPTH RANGE 7001 - 8000 *****													
7171	115,000											LOWER MISSOURI	0172P
7181	98,572											LOWER MISSOURI	0173P
7298	98,572											LOWER MISSOURI	0174P
7982	112,000											GRANITE WASH	0168P
***** DEPTH RANGE 10001 - 11000 *****													
10649	74,615											MISSISSIPPI CRT	0176P
***** DEPTH RANGE 11001 - 12000 *****													
11138	115,000											HUNTON	0175P

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

GRAYSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
345	1,750	334	128	71	***** DEPTH RANGE 60	1,050	1 = 1000 193	*****		7.5		GLEN ROSE LS	169A
1155	3,380	1,170	13	7	***** DEPTH RANGE 472	1,400	1001 = 2000 591	*****		8.4		WOODBINE SAND	246A
3060	3,700				***** DEPTH RANGE 3001 = 4000		*****					LOWER GLEN ROSE STRAWN	724SP
3617	228,140	62,960	19,705	3,406	141,950		55		1.154	5.7		STRAWN	2J
3617	222,424	60,172	20,185	3,455	138,600		12					STRAWN	3J
4043	180,000				***** DEPTH RANGE 4001 = 5000		*****					STRAWN	313I
4061	175,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							STRAWN	314I
4372	180,000				CALCULATED FROM RW = 0.049 AT 75 DEG (F)							STRAWN	312I
4788	244,712	70,261	18,000	4,131	151,940	380			1.195	4.0		4800 STRAWN	5J
5008	236,743	67,391	16,400	5,103	147,680	120	49		1.150	4.0		RIVERSIDE SAND	4J
5364	248,139	70,294	19,200	4,131	154,070	420	24		1.150	4.0		5360 SAND	6J
5811	236,600				139,000							S SANDSTONE	1J
6460	190,000				***** DEPTH RANGE 6001 = 7000		*****					STRAWN	310I
6591	180,000				CALCULATED FROM RW = 0.046 AT 75 DEG (F)							STRAWN	311I
7065	175,000				***** DEPTH RANGE 7001 = 8000		*****					BEND	309I
7112	110,000				CALCULATED FROM RW = 0.049 AT 75 DEG (F)							SIMPSON	301I
7156	175,000				CALCULATED FROM RW = 0.042 AT 75 DEG (F)							SIMPSON	305I
7156	180,000				CALCULATED FROM RW = 0.049 AT 75 DEG (F)							SIMPSON	306I
7156	167,672		24,800	4,568	141,696	375	49		1.168	6.5		OIL CREEK	9J
7180	185,000				CALCULATED FROM RW = 0.047 AT 75 DEG (F)							SIMPSON	307I
7184	185,000				CALCULATED FROM RW = 0.047 AT 75 DEG (F)							SIMPSON	302I
7185	185,000				CALCULATED FROM RW = 0.047 AT 75 DEG (F)							SIMPSON	303I
7214	155,000				CALCULATED FROM RW = 0.053 AT 75 DEG (F)							SIMPSON	308I
7500	202,215	56,343	16,994	2,940	125,706	2		107	1.142	4.6		SAND	7J
8900	188,564	53,285	15,218	2,641	117,018	2	16		1.128	5.6		PENNSYLVANIAN	8J

TEXAS WATER DEVELOPMENT BOARD
SALINE WATER RESOURCES SURVEY

JUL 1971

OF THE
STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

GREGG COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
290	1,520	377	15	6	750	33	281					WILCOX GROUP	264A
780	1,600				630	23	604					WILCOX GROUP	267A
875	1,780				740	27	593					WILCOX GROUP	265A
906	1,830				780	23	588					WILCOX GROUP	266A
***** DEPTH RANGE 3001 - 4000 *****													
3115	61,300	22,225	1,205	330	37,060	170	310			1.045		WOODBINE	201J
3700	59,546				CALCULATED FROM RH = 0.114 AT 75 DEG (F)							WOODBINE	51B
3700	60,255	21,622	1,260	378	36,120	298	577			1.042		WOODBINE	74H
3700	61,757	22,531	1,100	295	37,080	204	547			1.045		WOODBINE	75H
3700	64,268	23,228	1,283	340	38,470	344	603			1.046		WOODBINE	76H
3757	60,378	21,350	1,183	317	37,165	64	299			1.044		WOODBINE	200J
***** DEPTH RANGE 4001 - 5000 *****													
4570	22,000											PALUXY	705SP
***** DEPTH RANGE 7001 - 8000 *****													
7268	221,680	40,600	22,800	14,330	143,500	220	85	145		5.4	1.155	TRAVIS PEAK	01390

TEXAS WATER DEVELOPMENT BOARD

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CHEMICAL ANALYSIS OF SALINE WATER

GRIMES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
2000	1,100											CARRIZO-WILCOX	516SP
***** DEPTH RANGE 2001 - 3000 *****													
2270	3,100											Z-2 0-2000 FT	039SP
2330	6,100											Z-2 0-2000 FT	044SP
2425	500											Z-3 2000-4000 FT	057SP
2500	2,800											CARRIZO-WILCOX	512SP
2860	17,500											Z-3 2000-4000 FT	040SP
***** DEPTH RANGE 3001 - 4000 *****													
3065	6,500											Z-3 2000-4000 FT	043SP
3260	2,650											Z-3 2000-4000 FT	05RSP
3270	6,000											CARRIZO-WILCOX	513SP
3310	6,400											Z-3 2000-4000 FT	059SP
3440	6,000											CARRIZO-WILCOX	514SP
3620	9,000											CARRIZO-WILCOX	515SP
3680	32,000											CARRIZO-WILCOX	041SP
***** DEPTH RANGE 4001 - 5000 *****													
4720	18,000											Z-4 4000-6000 FT	060SP
***** DEPTH RANGE 6001 - 7000 *****													
6200	35,000											CARRIZO-WILCOX	045SP
6250	75,000											CARRIZO-WILCOX	061SP
***** DEPTH RANGE 7001 - 8000 *****													
7420	80,000											CARRIZO-WILCOX	042SP
8000	88,000											CARRIZO-WILCOX	046SP
***** DEPTH RANGE 8001 - 9000 *****													
8300	86,000											CARRIZO-WILCOX	062SP
***** DEPTH RANGE 9001 - 10000 *****													
9750	76,000											CARRIZO-WILCOX	047SP

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CHEMICAL ANALYSIS OF SALINE WATER

GUADALUPE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2240	23,793												
2350	1,000											AUSTIN	145E
CALCULATED FROM RM = 0.256 AT 75 DEG (F)													
					1,000	1,200	196					EDWARDS LS	209A
2500	28,037	8,418	1,720	387	165,000	712	275	142		6.8	1.019	EDWARDS LIME	01580
2500	33,362	10,212	1,810	429	18,500	1,950	426	66		6.2	1.018	EDWARDS LIME	01590
2500	29,056	8,648	1,770	381	16,000	1,947	285	129		7.0	1.018	EDWARDS LIME	01600
2700	1,350											Z-3 2000-4000 FT	388SP
***** DEPTH RANGE 3001 - 4000 *****													
3035	11,000											Z-3 2000-4000 FT	389SP
3850	30,000											CARRIZO-WILCOX	390SP
***** DEPTH RANGE 7001 - 8000 *****													
7050	70,000											CARRIZO-WILCOX	391SP
***** DEPTH RANGE 11001 - 12000 *****													
11600	14,768											DEVONIAN	802C
CALCULATED FROM RM = 0.400 AT 75 DEG (F)													

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

HALE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
5448	46,471												
5450	62,308											WOLFCAMP	0178P
5700	210,000											ABO	446C
5721	160,000											CLEARFORK	321C
5780	230,000											L. CLEARFORK	0180P
5852	12,821											CLEARFORK	320C
5907	68,462											WOLFCAMP	0177P
5970	175,000											TUBB	386C
												CLEARFORK	0181P
***** DEPTH RANGE 6001 - 7000 *****													
6250	230,000											CLEARFORK	319C
6510	143,333											ABO	447C
6991	205,000											PENN-CISCO	560C
6991	150,000											CISCO	0179P
***** DEPTH RANGE 9001 - 10000 *****													
9137	220,000											PENN BEND	687C
9166	190,000											PENN GENERAL	713C
***** DEPTH RANGE 11001 - 12000 *****													
11299	165,000											MISSISSIPPIAN	770C
11386	165,000											MISSISSIPPIAN	771C

T E X A S W A T E R D E V E L O P M E N T B O A R D

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SALINE WATER RESOURCES SURVEY

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CHEMICAL ANALYSIS OF SALINE WATER

HALL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
							1 = 1000						
1	1,850	403	172	71	620	401	362					QUARTERMASTER	105A
55	49,800	17,100	1,500	293	26,700	4,190	126					QUARTERMASTER	106A
55	1,990	394	550	411	432	2,970	227		7.4			QUARTERMASTER	107A
70	2,210	15	352	82	15	1,080	162		7.4			QUARTERMASTER	108A
							3001 = 4000						
385 ₁	115,000						CALCULATED FROM RW = 0.068 AT 75 DEG (F)					WOLFCAMP	0184P
							4001 = 5000						
4950	64,615						CALCULATED FROM RW = 0.107 AT 75 DEG (F)					CANYON	0182P
4950	73,077						CALCULATED FROM RW = 0.096 AT 75 DEG (F)					CANYON	0183P
							5001 = 6000						
5285	87,143						CALCULATED FROM RW = 0.082 AT 75 DEG (F)					CANYON REEF LIME	0185P

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

HANSFORD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.	
***** DEPTH RANGE 2001 - 3000 *****														
2854	130,000												BROWN DOLOMITE	0190P
2868	124,375												KRIDER	0196P
2890	103,000												BROWN DOLOMITE	0191P
***** DEPTH RANGE 3001 - 4000 *****														
3010	195,000												HERRINGTON LIME	0197P
3041	99,546												BROWN DOLOMITE	0195P
3113	51,667												BROWN DOLOMITE	0189P
3192	85,714												BROWN DOLOMITE	0193P
3240	81,429												WOLFCAMP	0192P
3254	94,286												BROWN DOLOMITE	0194P
3262	88,572												LOWER ALBANY	0188P
3300	53,889												BROWN DOLOMITE	0199P
3453	97,143												CHASE GROUP	0186P
3454	79,231												FORT RILEY	0187P
***** DEPTH RANGE 4001 - 5000 *****														
4092	94,286												WOLFCAMP DOLOMIT	0198P
4511	126,250												COLLIER LIME	0208P
4517	130,000												COLLIER LIME	0207P
4561	126,250												DOUGLAS	0210P
4591	126,250												COLLIER LIME	0206P
4602	140,000												COLLIER	0212P
4648	140,000												COLLIER	0204P
4690	130,000												COLLIER LIME	0205P
4697	234,778	76,392	8,636	4,252	145,102	329	67			5.6	1.158		CISCO	566J
4765	120,625												COLLIER LIME	0209P
4915	90,000												DOUGLAS	0211P
4982	98,572												LOWER DOUGLAS	0202P
4982	68,462												DOUGLAS	0203P
***** DEPTH RANGE 5001 - 6000 *****														
5065	72,308												TONKAWA	0219P
5125	109,000												DOUGLAS	0200P
5146	126,250												TONKAWA	0221P
5157	109,000												MISSOURI LIME	0214P
5164	130,000												MISSOURI LIME	0213P
5249	115,000												LOWER TONKAWA	0218P
5294	109,000												LOWER DOUGLAS	0201P
5303	115,000												TONKAWA	0222P
5304	133,333												TONKAWA	0217P

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

HANSFORD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
5368	109,000											TONKAWA	0216P
5374	140,000											TONKAWA	0220P
5880	133,333											HARMATON	0235P
5985	58,182											OSWEGO	0236P
***** DEPTH RANGE 6001 - 7000 *****													
6040	106,000											HEPLER SAND	0225P
6046	27,500											HARMATON 2ND LM	0234P
6079	74,619											CLEVELAND	0230P
6109	80,000											HEPLER	0223P
6113	112,000											CHEROKEE LIME	0241P
6135			5,800	1,216	102,225	200				6.2	1.110	DES MOINES	567J
6158	78,462											LOWER STRAWN	0240P
6200	153,460	47,500	8,700	2,100	95,000	160					1.125	CHEROKEE	00180
6200	124,375											DES MOINES	0232P
6202	150,000											CHEROKEE LIME	0243P
6218	98,572											DES MOINES	0231P
6238	120,625											CHEROKEE SAND	0244P
6275	84,286											CLEVELAND	0229P
6293	94,286											OSWEGO	0238P
6300	51,667											TAZE PAY	0215P
6300	112,000											HEPLER	0226P
6300	100,000											CHEROKEE SAND	0245P
6315	126,250											CHEROKEE LIME	0242P
6350	92,857											HARMATON	0233P
6370	80,000											Upper CHEROKEE	0239P
6375	116,875											CLEVELAND	0227P
6518	109,000											HEPLER	0224P
6543	78,462											OSWEGO	0237P
6625	94,286											CHEROKEE SAND	0246P
6650	62,308											CLEVELAND	0228P
6951	48,529											UPPER MORROW	0248P
***** DEPTH RANGE 7001 - 8000 *****													
7054	46,471											UPPER MORROW	0247P
7077	126,250											LOWER MORROW	0250P
7094	175	39	16	2	64	5	28	1		6.8	1.000	MORROW	562J
7094	291	58	11	9	27	13	173	42		7.4	1.000	MORROW	564J
7094	820	250	54	6	475	17	18	82		6.6	1.000	MORROW	565J
7194	120,625											MISSISSIPPIAN	0253P
7231	106,000											MISSISSIPPIAN	0255P
7235	109,000											MISSISSIPPIAN	0254P
7386	106,000											LOWER MORROW	0251P
7524	11,000											UPPER MORROW	0249P
***** DEPTH RANGE 8001 - 9000 *****													
8134	16,952											LOWER MORROW	0252P
8372	140,000											SIMPSON	0258P
8458	126,250											ELLENBURGER	0259P

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

HANSFORD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
8513	133,333											LOWER ORDOVICIAN	0256P
<p>***** DEPTH RANGE 8001 - 9000 ***** CALCULATED FROM RW = 0.059 AT 75 DEG (F)</p>													
9164	133,333											LOWER ORDOVICIAN	0257P
<p>***** DEPTH RANGE 9001 - 10000 ***** CALCULATED FROM RW = 0.059 AT 75 DEG (F)</p>													

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

HARDENAN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE 1 - 1000 *****								
1	3,580	383	515	161	232	2,160	256					SAN ANGELO SS	61A
1	1,740				104	970	244					SAN ANGELO SS	62A
103	1,890	39	592	101	55	1,680	191			7.1		BLAINE GYPSUM	71A
116	1,780	1,070	484	214	500	3,200	73					SAN ANGELO SS	59A
125	2,610	288	611	262	400	2,340	281					SAN ANGELO SS	60A
146	1,000	53			60	1,660	200			7.1		BLAINE GYPSUM	70A
165	2,900	145	610	100	152	1,790	207					BLAINE GYPSUM	66A
230	2,580	145	486	104	63	1,710	146			7.0		BLAINE GYPSUM	69A
					***** DEPTH RANGE 4001 - 5000 *****								
4900	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							CANYON	316I
					***** DEPTH RANGE 5001 - 6000 *****								
510	227,522	66,368	16,800	3,120	141,000	100	134					PALO PINTO	11J
510	226,696	65,920	17,000	3,060	140,500	94	122					PALO PINTO	15J
6000	200,000				CALCULATED FROM RW = 0.044 AT 75 DEG (F)							STRAWN	315I
					***** DEPTH RANGE 7001 - 8000 *****								
7790	213,258	60,962	17,100	2,760	132,000	284	152					MISSISSIPPIAN	10J
8000				3,780	131,500	400	73			6.0	1.152	ELLENBURGER	12J
8000	226,081	64,291	18,600	2,820	140,000	278	92			6.5	1.163	ELLENBURGER	13J
8000	221,200	62,730	17,500	3,540	137,000	340	90			6.0	1.160	ELLENBURGER	14J
8000	221,967	63,027	18,100	2,940	137,510	278	122					ELLENBURGER	16J
8000	219,815	61,680	17,800	3,480	136,500	265	90			5.8	1.160	ELLENBURGER	19J
8000	4,240				CALCULATED FROM RW = 1.320 AT 75 DEG (F)							ELLENBURGER	20J
					***** DEPTH RANGE 8001 - 9000 *****								
8084	214,542	59,914	18,100	3,060	133,000	346	122					OSAGE	17J
8084	213,081	49,177	25,300	4,560	133,500	452	92			5.6	1.162	OSAGE	18J
8592	235,835			3,360	146,500	220	47	8		5.9	1.168	CHAPPEL	21J

TEXAS WATER DEVELOPMENT BOARD
SALINE WATER RESOURCES SURVEY
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STATE OF TEXAS
CHEMICAL ANALYSIS OF SALINE WATER
HARDIN COUNTY

JUL 1971

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
400	36,250											MIocene	147E
700	56,818											MIocene	148E
763	1,180	396			330	5	511			7.8		LISSIE FORM	418A
900	13,441											PLIOCENE	165E
909	15,984											PLIOCENE	166E
910	3,200											Z=2 0=2000 FT	019SP
***** DEPTH RANGE 1001 - 2000 *****													
1386	16,468											PLIOCENE	167E
1860	2,500											Z=2 0=2000 FT	146SP
***** DEPTH RANGE 2001 - 3000 *****													
2050	4,500											Z=3 2000-4000 FT	147SP
2230	13,000											Z=3 2000-4000 FT	145SP
2905	245,000											MIocene	168E
3000	97,143											FRIO	149E
3000	106,000											FRIO	150E
***** DEPTH RANGE 3001 - 4000 *****													
3300	124,375											FRIO	151E
***** DEPTH RANGE 4001 - 5000 *****													
4400	35,749	13,684	97	76	20,825	126	882			7.8	1.030	EY-SERIES	773J
4400	138,031	46,752	5,545	967	84,712		55			6.4	1.105	EY-1,N,FLK.	774J
4400	137,100				79,700	1,018	537		YES	6.7		MIocene=FRIO	772J
***** DEPTH RANGE 5001 - 6000 *****													
5645	69,231											FRIO	162E
***** DEPTH RANGE 6001 - 7000 *****													
6008	143,333											YEGUA	171E
6400	146,667											YEGUA	152E
6400	126,250											YEGUA	153E
6400	128,125											YEGUA	155E
6450	130,000											YEGUA	154E
6457	130,000											COCKFIELD	156E
6563	128,125											COCKFIELD	157E
6637	175,000											YEGUA	159E
6640	175,000											YEGUA	160E
6710	128,125											COCKFIELD	158E
***** DEPTH RANGE 7001 - 8000 *****													
7169	165,000											MIocene	169E

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

HARDIN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 7001 - 8000 *****													
7179	146,667											COCKFIELD	163E
7225	155,000											COCKFIELD	164E
7300	165,000											YEGUA	146E
***** DEPTH RANGE 8001 - 9000 *****													
8260	120,625											COOK	161E
8500	55,332	19,315	1,280	220	33,180	22	950	295		7.0	1.044	WILCOX M SAND	1018J
***** DEPTH RANGE 9001 - 10000 *****													
9998	124,375											DISCORBIS	170E

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HARRIS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1110	38,500											Z-2 0-2000 FT	258SP
1158	2,380	931	15	6	1,040	1	706	1				LISSIE FORM	413A
1676	1,100	436	6	2	305		643			8.6		LISSIE FORM	412A
1710	89,500											Z-2 0-2000 FT	259SP
1905			6,000		136,000	1,125		3		6.5	1.098	YEGUA	569J
1930	900											Z-2 0-2000 FT	183SP
1980	600											Z-2 0-2000 FT	396SP
***** DEPTH RANGE 2001 - 3000 *****													
2005	2,600											Z-2 0-2000 FT	187SP
2240	2,100											Z-3 2000-4000 FT	397SP
2360	15,000											Z-2 2000-4000 FT	184SP
2500	45,073	15,318	1,760	254	27,200		541	29		7.4	1.030	FRIO	01880
2680	1,250											Z-3 2000-4000 FT	119SP
2700	73,077											MIOCENE	181E
2730	1,900											Z-3 2000-4000 FT	404SP
2890	2,800											Z-3 2000-4000 FT	120SP
2890	17,500											Z-3 2000-4000 FT	405SP
2940	2,200											Z-3 2000-4000 FT	399SP
2960	5,800											Z-3 2000-4000 FT	121SP
***** DEPTH RANGE 3001 - 4000 *****													
3030	22,500											Z-3 2000-4000 FT	398SP
3600	40,000											Z-3 2000-4000 FT	441SP
3650	97,143											MIOCENE	187E
3688	41,961	14,610	1,540	122	25,500		189					FRIO	680
3800	56,818											MIOCENE	182E
3900	143,333											YEGUA	183E
3930	70,769											MIOCENE	193E
***** DEPTH RANGE 4001 - 5000 *****													
4280	50,000											Z-4 4000-6000 FT	442SP
4300	73,846											MIOCENE	185E
4300	73,846											MIOCENE	186E
4370	72,000											Z-4 4000-6000 FT	406SP
4380	48,000											Z-4 4000-6000 FT	188SP
4495	88,218	27,931	4,740	1,007	54,400		140					FRIO	660
4700	98,572											MIOCENE	194E
4828	111,024	40,600	2,552	402	67,300		170					FRIO	670
4873	105,788	39,120	1,849	303	64,400		116					FRIO	690
4900	98,572											YEGUA	184E

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***** DEPTH RANGE 4001 - 5000 *****													
4950	72,000											Z-4 4000-6000 FT	4005P
***** DEPTH RANGE 5001 - 6000 *****													
5330	140,000											Z-4 4000-6000 FT	4075P
5500	66,528	25,100	606	218	40,000	15	586	3		7.4	1.050	YEGUA	559J
5505	68,300		195	66	40,600		760			6.3	1.045	HRAUTIGAM SAND	568J
5541	35,229	13,123	482	97	21,080		386			6.8	1.046	TRESELER SAND	560J
5560	67,959	25,781	413	262	40,870	14	609	4		7.6	1.051	SCHULTZ SE	558J
5592	99,333	22,464	425	185	35,500		759			6.8	1.045	ADAMS	561J
5630	42,000											Z-2 4000-6000 FT	185SP
5780	75,000											Z-4 4000-6000 FT	392SP
5925	104,923	37,720	2,744	337	64,000		122					FRIO	71D
5995	97,143											FRIO	176E
6000	73,846											MIOCENE	195E
***** DEPTH RANGE 6001 - 7000 *****													
6012	97,143											FRIO	177E
6024	97,143											FRIO	178E
6048	101,664	35,997	3,050	397	62,000		220					FRIO	70D
6200	82,857											FRIO	179E
6250	70,769											YEGUA	172E
6370	70,000											Z-5 6000-8000 FT	393SP
6403	70,769											YEGUA	192E
6540	40,000											Z-5 6000-8000 FT	186SP
***** DEPTH RANGE 7001 - 8000 *****													
7010	78,000											Z-5 6000-8000 FT	401SP
7020	68,000											Z-5 6000-8000 FT	443SP
7189	78,462											YEGUA	173E
7535	63,846											VICKSBURG	188E
7612	69,231											VICKSBURG	189E
7630	19,000											Z-5 6000-8000 FT	408SP
7681	109,000											VICKSBURG	180E
7700	90,000											VICKSBURG	190E
7721	47,941											YEGUA	174E
7801	45,000											YEGUA	175E
***** DEPTH RANGE 8001 - 9000 *****													
8129	95,714											VICKSBURG	191E
8230	38,000											Z-6 8000-10000FT	394SP
8300	44,763	16,292	1,015	69	26,715		637			6.8	1.035	YEGUA	556J
8300	55,310	20,582	692	118	32,475		1,443			6.7	1.040	YEGUA	557J
8600	32,000											Z-6 8000-10000FT	409SP
***** DEPTH RANGE 9001 - 10000 *****													
9020	11,000											Z-6 8000-10000FT	395SP
***** DEPTH RANGE 10001 - 11000 *****													
10090	29,000											CARRIZO-WILCOX	402SP

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HARRIS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
						****	DEPTH RANGE 11001 -12000	****					
11600	31,000											CARRIZO-WILCOX	444SP
						****	DEPTH RANGE 14001 -15000	****					
14260	34,000											CARRIZO-WILCOX	403SP

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200	1,040	636	4	4	305	192	1 - 1000	317				WILCOX GROUP	268A
***** DEPTH RANGE 2001 - 3000 *****													
CALCULATED FROM RW = 0.154 AT 75 DEG (F)													
2350	43,667				29,400	111		52			1.037	GOODLAND	58B
2378	47,907	15,199	2,700	445	26,600	37		525			1.033	GOODLAND LS	174H
2379	44,045	15,143	1,300	440	26,900	152		512			1.033	GOODLAND LS	173H
2397	44,635	15,101	1,500	470	26,900	508		482			1.040	GOODLAND LS	175H
2400	45,466	16,400	1,050	126	22,700			640			1.030	GOODLAND LS	396H
2400	38,046	13,300	1,330	76	23,400			421			1.034	GOODLAND LS	397H
2400	38,658	13,000	1,600	237	25,248	14		356		6.9	1.030	GOODLAND LS	398H
2450	41,581	14,303	1,242	416	27,162	14		390		6.9	1.030	GOODLAND LIME	640J
2450	44,872	15,942	1,006	356	24,822	32		394		6.9	1.029	GOODLAND LIME	641J
2450	41,010	14,295	1,086	381								GOODLAND LIME	642J
2500	48,824											GOODLAND	52B
2500	44,333											GOODLAND	53B
***** DEPTH RANGE 3001 - 4000 *****													
3040	35,000											PALUXY	722SP
***** DEPTH RANGE 4001 - 5000 *****													
4530	70,000											PALUXY	7215P
***** DEPTH RANGE 5001 - 6000 *****													
CALCULATED FROM RW = 0.050 AT 75 DEG (F)													
5580	150,000				99,300	232		110			1.114	LOWER GLEN ROSE	668SP
5600	170,000				133,900	337		24			1.150	PETTET	54B
5636	160,662	46,210	13,000	1,810	136,500	355		122			1.151	PETTET	176H
5800	190,000											PETTET	59B
5825	215,991	59,160	19,950	2,620								PETTET	399H
5827	220,799	62,742	18,650	2,430								PETTET	400H
6000	170,000											TRAVIS PEAK	55B
***** DEPTH RANGE 6001 - 7000 *****													
CALCULATED FROM RW = 0.054 AT 75 DEG (F)													
6100	150,000				101,000	237		293			1.116	TRAVIS PEAK	60B
6116	163,170	43,100	16,700	1,840	119,000	320					1.134	TRAVIS PEAK	403H
6136	192,750	56,700	14,800	1,930	131,025	335		112			1.141	TRAVIS PEAK	402H
6150	212,288	60,622	18,328	1,866	123,000	230					1.137	TRAVIS PEAK	401H
6191	198,670	55,300	18,100	2,040	134,700	355		67			1.154	TRAVIS PEAK	404H
6241	217,643	59,561	20,750	2,210	140,067	273		67			1.158	TRAVIS PEAK	405H
6241	226,653	64,135	20,240	1,871								TRAVIS PEAK	406H
6250	185,000											TRAVIS PEAK	61B
6650	150,000											LOWER GLEN ROSE	667SP

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HARRISON COUNTY

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***** DEPTH RANGE 6001 - 7000 *****													
6700	180,000												
CALCULATED FROM RW = 0.048 AT 75 DEG (F)													
6730	204,384	50,900	24,000	2,150	127,000	304	30				1.148	PETTET	62B
6780	219,725	55,565	24,700	2,540	136,500	298	122				1.155	PETTET	416H
6792	218,439	56,613	23,600	2,320	135,600	263	43				1.152	PETTET	417H
7000	190,000											RODESSA (YOUNG)	418H
7000	90,000											PETTET-TRAVIS PK	56B
													680SP
***** DEPTH RANGE 7001 - 8000 *****													
7100	70,000												
CALCULATED FROM RW = 0.046 AT 75 DEG (F)													
7500	190,000											PETTET-TRAVIS PK	682SP
												PETTET (LOWER)	57B

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HARTLEY COUNTY

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1431	12,643											BLAINE DOLOMITE	0260P
													***** DEPTH RANGE 1001 - 2000 ***** CALCULATED FROM RW = 0.065 AT 75 DEG (F)
2795	160,000											WOLFCAMP	0261P
													***** DEPTH RANGE 2001 - 3000 ***** CALCULATED FROM RW = 0.052 AT 75 DEG (F)
3446	75,385											WOLFCAMP	0263P
3572	92,857											WOLFCAMP	0264P
3648	63,077											WOLFCAMP	0265P
3827	150,000											WOLFCAMP	0262P
3857	92,857											WOLFCAMP	0266P
3938	35,750											WOLFCAMP	0268P
													***** DEPTH RANGE 3001 - 4000 ***** CALCULATED FROM RW = 0.093 AT 75 DEG (F)
4086	75,385											WOLFCAMP	0267P
4598	79,231											WOLFCAMP	0269P
													***** DEPTH RANGE 4001 - 5000 ***** CALCULATED FROM RW = 0.093 AT 75 DEG (F)
5427	133,333											VIRGIL LS	0271P
5532	77,692											VIRGIL GW	0272P
													***** DEPTH RANGE 5001 - 6000 ***** CALCULATED FROM RW = 0.059 AT 75 DEG (F)
6100	124,375											VIRGIL	0270P
6134	185,000											REHM GW	0273P
6134	185,000											MISSOURI	0275P
6146	122,500											LOWER MISSOURI	0276P
6302	88,572											REHM GW	0274P
													***** DEPTH RANGE 6001 - 7000 ***** CALCULATED FROM RW = 0.063 AT 75 DEG (F)
8170	63,077											MERAMEC	0277P
8351	94,286											ELLENBURGER	0278P
													***** DEPTH RANGE 7001 - 8000 ***** CALCULATED FROM RW = 0.047 AT 75 DEG (F)
													***** DEPTH RANGE 8001 - 9000 ***** CALCULATED FROM RW = 0.109 AT 75 DEG (F)
													***** DEPTH RANGE 9001 - 10000 ***** CALCULATED FROM RW = 0.077 AT 75 DEG (F)

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HASKELL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE			1 = 1000	*****				
28	1,490	221	151	92	365	251	399			7.6		ALLUVIUM	456A
65	1,240	250	131	41	320	286	286					ALLUVIUM	455A
					***** DEPTH RANGE			1001 = 2000	*****				
1300	71,300	21,875	1,764	911	39,840	1,850	320			7.0	1.047	COLEMAN JUNCTION	0086L
					***** DEPTH RANGE			2001 = 3000	*****				
2860	123,066	50,255	3,591	820	68,000	100	281			6.4	1.080		0261K
2900	112,534	36,823	4,640	1,434	68,160	1,255	220			6.0	1.075	PALO PINTO	0254K
					***** DEPTH RANGE			3001 = 4000	*****				
3180	115,888	37,310	5,899	1,172	71,275	89	140					CANYON SAND	0259K
3200	130,160	39,870	8,505	1,330	80,150	272	33			5.5	1.103	SWASTIKA	0253K
3500	103,752	32,800	5,360	1,320	63,200	860	212			6.7	1.080	PALO PINTO	0255K
3600	110,442	35,483	5,064	1,450	66,665	1,438	342					CANYON REEF	0260K
3607	132,700		6,175	1,530	72,300		253			6.2	1.086	UPPER CANYON SND	1041J
3607	132,700		6,125	1,470	72,800	40	207			6.1	1.086	UPPER CANYON SND	1042J
3607	120,000		5,000	1,836	67,800	1,350	538			6.0	1.078	UPPER CANYON SND	1043J
3647	124,800	36,570	5,800	1,320	71,320	1,010	332			6.2	1.081	PALO PINTO	0087L
3710	122,474	38,341	6,120	1,944	74,550	1,309	210			4.5	1.090	PALO PINTO	0257K
3800	132,700	35,300	6,320	1,300	69,000	490	195			7.0	1.086	PALO PINTO	0256K
4000	117,993	38,686	4,520	1,434	71,710	1,431	212			6.0	1.080	PALO PINTO	0258K
					***** DEPTH RANGE			4001 = 5000	*****				
4500	239,800		18,600	16,601	373,000	52				5.6	1.153	STRAWN	1052J
4650	231,700		16,930	2,310	130,700					5.7	1.148	STRAWN	1053J
4702	156,675	43,150	14,040	2,010	97,300	71	104			6.0	1.127	STRAWN	0275K
4710	190,170	52,645	17,600	2,084	118,082	242	116			6.8	1.135	BURSON SD	0273K
4730	156,675	43,150	14,040	2,010	97,300	71	104			6.0	1.127	STRAWN	201G
4730	159,580	44,100	14,350	1,918	99,000	64	148			5.7	1.152	STRAWN	202G
4730	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							STRAWN	319I
4730	155,000				CALCULATED FROM RW = 0.053 AT 75 DEG (F)							STRAWN	320I
4740	236,500	58,400	18,250	2,520	129,500		100			6.1	1.151	STRAWN	0276K
4740	177,300	51,300	11,625	1,175	104,350	460	180			6.8	1.114	BURLSON SAND	0088L
4800	249,800	60,375	12,500	4,998	131,970	46	160			6.4	1.153	1ST STRAWN SAND	0089L
4810	250,350	61,800	18,900	2,300	135,500		32			6.3	1.156	STRAWN SAND	0262K
4830	231,700	65,400	19,000	2,400	132,500	15	150			6.2	1.148		0268K
4840	94,300	43,100	13,000	1,710		228	107			6.0	1.122	STRAWN SAND	0263K
4845	202,436	56,693	17,472	2,537	125,528	78	128						0269K
4847	150,645	43,100	13,000	1,710	94,300	228	107			6.0	1.122	STRAWN	203G
4847	146,667				CALCULATED FROM RW = 0.055 AT 75 DEG (F)							STRAWN	317I

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***** DEPTH RANGE 4001 - 5000 *****													
4878	170,150	47,660	15,050	1,880	105,300	144	116			5.6	1.136	STRAWN SAND	0272K
4900	200,690	56,430	13,205	2,689	128,150	139	77			5.0	1.152	STRAWN	204G
4900	185,000											STRAWN	318I
CALCULATED FROM RW = 0.047 AT 75 DEG (F)													
4900	200,620	56,430	13,205	2,619	128,150	139	77			5.0	1.152	STRAWN SAND	0264K
4900	238,200	64,500	15,600	2,880	137,320		136			5.7	1.152	BURLSON SAND	0090L
4914	244,600	62,900	18,250	2,320	136,000	10	81			6.0	1.156	STRAWN SAND	0265K
4920	209,690	57,000	18,720	3,950	130,000	20	105			5.9	1.151	STRAWN SAND	0270K
4920	210,490	56,030	19,380	3,600	131,500	12	107			5.6	1.154	STRAWN SAND	0271K
4972	234,900	68,170	12,900	3,377	140,360		180			5.9	1.150	STRAWN SAND	0091L
4976	214,100	54,900	15,500	2,170	118,000	255	165			6.2	1.137	STRAWN SAND	0266K
4976	238,200	61,700	17,000	2,370	132,000	250	110			5.4	1.154	STRAWN	0267K
5000	225,806	63,808	17,450	3,305	140,000	185	17			4.8	1.152	STRAWN	1044J
5000	223,359	62,920	18,470	2,578	138,200	186	42			5.1	1.152	STRAWN	1045J
5000	223,405	62,719	18,890	2,430	138,200	177	37			5.0	1.152	STRAWN	1046J
5000	225,806	63,808	17,450	3,305	140,000	185	17			4.8	1.152	CADDO,STRAWN	1047J
5000	223,359	62,920	18,470	2,578	138,200	186	42			5.1	1.152	CADDO,STRAWN	1048J
5000	223,823	62,719	18,890	2,430	138,200	177	37			5.0	1.152	CADDO,STRAWN	1049J
5000	222,065	60,619	17,780	3,012	134,700	174	37			5.0	1.150	CADDO,STRAWN	1050J
5000	153,471	45,422	10,240	1,798	94,000	706	61			5.6	1.103	CADDO,STRAWN	1051J
***** DEPTH RANGE 5001 - 6000 *****													
5023	161,300	44,500	7,810	1,940	87,500	935	100			7.5	1.104	SWASTIKA	0252K
5250	213,840	59,770	19,278	2,235	132,620	84	61			7.4	1.152	SOJOURNER	0274K
5512	134,200	34,400	9,000	2,320	75,000	780	184			5.6	1.087	KATZ	0277K
5830	139,100	36,900	8,200	1,300	74,500	600	305			6.8	1.090	BEND CONGL.	0278K
5850	145,500	41,000	7,930	940	79,000	1,450	340			7.5	1.094	CONGL. CHERT	0279K
6000	156,555	47,610	10,571	1,531	96,097	675	37			5.6	1.108	CAMBRIAN	0280K

T E X A S W A T E R D E V E L O P M E N T B O A R D

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

HAYS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE		1 - 1000 *****						
440	1,510	54	274	108	70	802	380				GLEN ROSE LS	154A	
450	1,040	207	82	57	208	324	301		7.5		EDWARDS LS	211A	
650	9,400	2,570	489	221	3,280	2,720	256		7.2		EDWARDS LS	212A	
799	1,980	89	198	150	54	896	343		8.3		TRINITY GROUP	179A	

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

HEMPHILL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
3985	140,000												
***** DEPTH RANGE 3001 - 4000 *****													
CALCULATED FROM RM = 0.057 AT 75 DEG (F)													
4383	109,000												
4415	126,250												
***** DEPTH RANGE 4001 - 5000 *****													
CALCULATED FROM RM = 0.070 AT 75 DEG (F)													
***** DEPTH RANGE 11001 - 12000 *****													
CALCULATED FROM RM = 0.300 AT 75 DEG (F)													
11115	20,161												
***** DEPTH RANGE 19001 - 20000 *****													
20000	4,856	1,264	447	88	2,740	7	330	3		6.4	1.005	HUNTON	01500

TEXAS WATER DEVELOPMENT BOARD
SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

HENDERSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
NON-NUMERIC IN FIELD TO BE EDITED													
SOURCE LINE NUMBER 00487													
	171,960	47,600	15,200	2,250	106,600	250	60				1.144	TRAVIS PEAK	00500
***** DEPTH RANGE 2001 - 3000 *****													
CALCULATED FROM RW = 0.274 AT 75 DEG (F)													
2940	13,500											EAGLE FORD	698SP
3000	22,258											WOODBINE	648
***** DEPTH RANGE 3001 - 4000 *****													
3021	22,498	8,439	172	70	13,120	2	695				1.018	WOODBINE	110H
3049	22,601	8,419	140	78	12,765	3	1,196				1.017	WOODBINE	111H
3093	29,219	10,949	280	100	17,375	9	506				1.021	WOODBINE	112H
3141	33,401	12,475	341	124	19,857	1	604				1.023	WOODBINE	320H
3141	33,377	12,474	333	126	19,857	1	586				1.024	WOODBINE	321H
3193	30,639	11,400	336	120	18,300	8	475				1.026	WOODBINE	322H
3200	32,000											WOODBINE	688
***** DEPTH RANGE 4001 - 5000 *****													
4110	10,000											EAGLE FORD	699SP
4490	40,000											EAGLE FORD	693SP
***** DEPTH RANGE 6001 - 7000 *****													
6330	50,000											PALUXY	723SP
***** DEPTH RANGE 7001 - 8000 *****													
CALCULATED FROM RW = 0.047 AT 75 DEG (F)													
7440	185,000											RODESSA	63B
7440	221,924	59,447	22,800	1,930	137,400	225	122				1.154	RODESSA	45H
7467	191,700	52,484	17,900	2,200	118,800	258	58				1.135	RODESSA	180H
CALCULATED FROM RW = 0.049 AT 75 DEG (F)													
7500	175,000											RODESSA (BACON)	69B
7501	190,513	49,800	18,100	3,500	118,800	249	64				1.137	RODESSA	181H
7515	188,100	52,476	16,800	1,940	116,600	229	55				1.130	RODESSA	182H
CALCULATED FROM RW = 0.049 AT 75 DEG (F)													
7700	175,000											RODESSA	70B
7715	186,278	51,900	10,260	6,570	117,000	54	24				1.137	RODESSA	366H
7750	195,822	55,030	17,800	1,823	120,919	121	129			5.1		LOWER TRAVIS PK	767J
7750	199,528	55,204	18,640	1,871	123,401	117	295			6.0		LOWER TRAVIS PK	768J
CALCULATED FROM RW = 0.047 AT 75 DEG (F)													
7760	185,000											RODESSA (BACON)	66B
7767	222,999	59,600	22,100	2,600	138,300	289	110				1.157	RODESSA	157H
7900	217,231	59,000	20,100	3,000	134,700	364	67				1.157	RODESSA	158H
***** DEPTH RANGE 8001 - 9000 *****													
CALCULATED FROM RW = 0.055 AT 75 DEG (F)													
8900	146,667											RODESSA	67B
***** DEPTH RANGE 9001 - 10000 *****													
9517	166,542	44,475	16,815	1,741	103,155	284	70			5.9	1.132	RODESSA	766J

TEXAS WATER DEVELOPMENT BOARD • SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

HENDERSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 9001 -10000 *****													
9575	178,260	34,020	32,200	610	111,000	400	30				1.122	RODESSA	106H
9824	172,118	47,234	16,688	1,407	106,025	520	244				1.117	JAMES LIMESTONE	107H
***** DEPTH RANGE 10001 -11000 *****													
10012	174,316	46,840	17,400	1,760	108,000	240	75				1.120	JAMES LIMESTONE	108H
10050	185,000				CALCULATED FROM RW = 0.047 AT 75 DEG (F)							JAMES	65B
10057	213,939	56,000	23,100	1,887	132,600	223	10				1.160	JAMES LIMESTONE	114H
10225	163,830	38,930	20,700	1,880	102,000	240	80				1.148	JAMES LIMESTONE	109H

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STATE OF TEXAS

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HIDALGO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
312	1,420	319	117	47	468	310	259			7.4		ALLUVIUM	471A
338	2,640	796	82	46	820	672	360			7.7		GOLIAD SAND	392A
346	1,380	350	88	38	385	332	302			7.5		ALLUVIUM	466A
346	1,250	364	49	24	242	347	376			7.8		ALLUVIUM	467A
349	2,270	657	97	48	780	459	378			7.9		GOLIAD SAND	393A
363	2,480	756	88	44	950	461	286			7.5		ALLUVIUM	470A
438	1,910	378	187	67	565	570	216			7.4		GOLIAD SAND	389A
460	1,940	543	82	41	542	579	258			7.8		GOLIAD SAND	390A
465	2,090	610	78	33	530	663	284			8.1		GOLIAD SAND	391A
512	1,160	367	32	13	238	296	372			7.8		ALLUVIUM	468A
547	2,350	656	106	5	630	742	264			7.5		ALLUVIUM	469A
***** DEPTH RANGE 1001 - 2000 *****													
1430	3,050	993	74	36	1,300	492	154					CTHULA+ OKVLE SS	336A
1464	2,360	808	43	27	950	409	248					CTHULA+ OKVLE SS	337A
***** DEPTH RANGE 2001 - 3000 *****													
2556	26,693	10,321	95	48	16,062	83	84					FRIO	169D
2784	18,429	6,933	173	44	10,912		367					FRIO	111D
***** DEPTH RANGE 3001 - 4000 *****													
3095	31,508	12,048	130	47	18,470	4	809					FRIO	113D
3877	21,000											Z-3 2000-4000 FT	633SP
3950	93,566				28,750							FRIO	85J
3950	53,566				287,500							FRIO	86J
***** DEPTH RANGE 4001 - 5000 *****													
4016	42,208	15,548	762	126	25,578		194					FRIO	115D
4102	47,033	17,028	1,096	162	28,555	10	182					FRIO	110D
4666	32,608	11,564	925	96	18,963	987	73					FRIO	116D
4742	66,422				34,000							FRIO	87J
4742	68,422				34,000							FRIO	88J
***** DEPTH RANGE 5001 - 6000 *****													
5765	32,500											Z-4 4000-6000 FT	634SP
***** DEPTH RANGE 6001 - 7000 *****													
6210	25,761	19,591	1,072	126	3,218	1,510	244					FRIO	114D
***** DEPTH RANGE 7001 - 8000 *****													
7007	44,000											Z-5 6000-8000 FT	635SP

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

HIDALGO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
7505	45,377	15,251	1,640	270	24,397	3,672	147	***** DEPTH RANGE 7001 - 8000 *****			FRIO	1120	
9925	27,000							***** DEPTH RANGE 9001 -10000 *****			Z-6 8000-10000FT	636SP	

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

HILL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE 1 - 1000 *****								
538	1,830	660	4	2	182	681	583			8.3		WOODBINE SAND	227A
760	1,900	705	5	2	193	598	612			8.2		WOODBINE SAND	225A
833	1,850	629	11	8	105	796	561			8.0		PALUXY SAND	161A
915	2,180	812	6	2	460	505	750			8.0		WOODBINE SAND	224A
					***** DEPTH RANGE 1001 - 2000 *****								
1400	1,400	492	5	2	173	480	420			8.2		PALUXY SAND	162A
1400	2,160	668	22	28	73	1,090	488			7.8		TRINITY GROUP	195A
1400	1,590	583	3	2	166	487	644			8.2		WOODBINE SAND	226A
1850	1,400	401	46	22	40	683	345			8.2		TRINITY GROUP	197A
					***** DEPTH RANGE 2001 - 3000 *****								
2471	3,350	855	147	49	76	2,070	225			7.8		TRINITY GROUP	196A

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CHEMICAL ANALYSIS OF SALINE WATER

HOCKLEY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
115	1080	83	104	107	266	360	1 - 1000 337	*****		7.2		OGALLALA FORM	374A
***** DEPTH RANGE 4001 - 5000 *****													
4653	235,000											SAN ANDRES	172C
4714	260,400	29,517	34,589	22,855	173,277	162					1.234	SAN ANDRES	00610
4733	230,000											SAN ANDRES	173C
4750	193,877	53,400	17,300	2,620	120,000	400				5.4	1.160	SAN ANDRES	1029J
4767	245,000											SAN ANDRES	170C
4880	211,892	65,743	14,123	1,371	129,498	1,154					1.178	PERMIAN	01100
4900	221,607	54,800	21,600	5,580	138,300	900				5.9	1.175	SAN ANDRES	1031J
4913	243,834	26,830	36,970	18,700	160,950	261					1.210	PERMIAN	01060
4927	81,931	15,939	10,880	2,640	49,500					6.7	1.060	SAN ANDRES	1027J
4927	16,848	6,011	294	76	8,617	1,628				7.4		SAN ANDRES	1028J
4960	189,078	9,762	30,520	20,275	128,100	421					1.155	PERMIAN	01080
5000	217,485	56,856	18,160	5,735	136,000	600				6.1	1.153	SAN ANDRES	1035J
5000	128,417	35,535	8,520	3,572	79,000	1,400				6.6	1.093	SAN ANDRES	1036J
5000			39,600	20,650	224,640	656				6.9		SAN ANDRES	1037J
5000	216,242	58,867	16,995	4,935	134,400	755		8		6.6	1.147	SAN ANDRES	1038J
5000	188,515	53,800	13,750	3,600	116,000	1,100				6.5	1.148	SAN ANDRES	1042J
5000			36,300	27,700	189,540	988			YES	6.8		SAN ANDRES	1039J
***** DEPTH RANGE 5001 - 6000 *****													
5004	222,028	25,830	31,640	17,485	146,500	573					1.188	PERMIAN LINE	01050
5011	199,000											GUADALUPE	774I
5035	195,000											GUADALUPE	773I
5035	184,356	47,598	16,546	4,428	115,038	746					1.159	PERMIAN	01070
5042	210,000											SAN ANDRES	171C
5896	199,963	52,831	17,000	4,560	124,500	560				5.5	1.142	GLORIETA	1060J
5993	185,000											CLEARFORK	322C
5997	239,422	67,600	27,750	6,570	137,200	302					1.178	CLEARFORK	00150
***** DEPTH RANGE 6001 - 7000 *****													
6036	211,849	57,054	16,400	5,280	132,000	900				6.5	1.150	CLEARFORK	1034J
6645	170,000											LOWER CLEARFORK	411C
6749	160,000											CLEARFORK	324C
***** DEPTH RANGE 7001 - 8000 *****													
7080	130,000											CLEARFORK	323C
7110	200,000											LOWER CLEARFORK	410C
7120	180,000											CLEARFORK	325C
***** DEPTH RANGE 8001 - 9000 *****													
8904	155,000											WOLFCAMP	511C

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HOCKLEY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 9001 -10000 *****													
9261	56,818											PENN GENERAL	717C
9328	59,546											PENN GENERAL	715C
9673	68,462											PENN CANYON	589C
9686	70,000											PENN CANYON	591C
9705	68,462											PENN CANYON	590C
9808	160,000											PENN GENERAL	714C
9875	180,619	56,300	10,500	2,200	111,200	241	178			6.5	1.162	CISCO SAND	1033J
9900	190,000											PENN CANYON	588C
10000	201,478	61,500	12,400	2,680	123,700	990	208			6.0	1.145	STRAWN	1030J
10000	200,844	62,100	12,640	1,945	123,500	500	159			5.7	1.155	STRAWN	1040J
***** DEPTH RANGE 10001 -11000 *****													
10044	136,667											PENN STRAWN	648C
10054	190,000											PENN STRAWN	647C
10054	126,250											PENN STRAWN	649C
10185	62,308											PENN GENERAL	716C
10687	180,000											PENN BEND	689C
10690	126,250											PENN STRAWN	646C
10760	143,333											PENN BEND	688C

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

HOPKINS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.	
480	1,040	405	5	2	265	94	1000	513		8.0		NACATOCCH SAND	251A	
***** DEPTH RANGE 2001 - 3000 *****														
2730	48,529											WOODBINE	77B	
***** DEPTH RANGE 3001 - 4000 *****														
3974	78,487	29,200	1,500	12	47,500			275			1.051	EAGLE FORD SUB-CLARKSVILLE	52H 72B	
4000	65,385													
***** DEPTH RANGE 4001 - 5000 *****														
4031	66,123	24,200	1,300	250	40,100	181		92			1.051	EAGLE FORD	53H	
4185	73,007	26,400	2,100	6	44,300			201			1.058	EAGLE FORD	54H	
4185	71,584	27,700	300	40	43,300			244			1.056	EAGLE FORD	55H	
4200	75,385											SUB-CLARKSVILLE	73B	
4202	77,037	29,900	260	50	46,500	193		134			1.055	EAGLE FORD	56H	
4434	10,893	3,800	376	10	6,200	354		153			1.014	PALUXY	353H	
4470	13,517	4,470	385	65	5,920	2,240		437			1.009	PALUXY	352H	
4500	13,412											PALUXY	74B	
4500	13,294											PALUXY	78B	
4500	14,719	5,044	315	61	6,595	2,228		476			1.012	PALUXY	355H	
4500	14,897	4,900	364	68	6,840	2,220		505		7.6	1.011	PALUXY	803J	
4500	19,647	6,845	440	90	10,000	1,747		525	YES	7.4	1.016	PALUXY	800J	
4500	14,798	5,201	234	61	7,074	1,542		686	YES	7.4	1.011	PALUXY	801J	
4503	12,985	4,400	450	22	6,600	1,409		104			1.013	PALUXY	226H	
4504	13,352	4,900	145	15	7,300	96		896			1.012	PALUXY	225H	
4513	14,618	4,970	386	38	6,560	2,300		364			1.010	PALUXY	227H	
4523	13,640	4,510	384	72	6,000	2,230		444			1.012	PALUXY	356H	
4526	13,612	4,580	380	24	6,000	2,100		528			1.014	PALUXY	354H	
4648	14,787	4,898	442	85	6,656	2,249		457			1.010	PALUXY	228H	
4750	10,114											PALUXY	71B	
4756	12,674	4,281	270	52	5,200	2,316		555			1.012	PALUXY	12H	
4757	12,954	4,600	266	49	5,200	2,369		470			1.012	PALUXY	13H	
4930	91,429											WOODBINE	75B	
***** DEPTH RANGE 6001 - 7000 *****														
6330	112,000											PALUXY	76B	
6630	85,000											PALUXY	718SP	
***** DEPTH RANGE 7001 - 8000 *****														
7892	230,476	55,400	28,800	2,670	143,000	350		256			5.9	1.162	RODESSA-GLOYD	799J
***** DEPTH RANGE 8001 - 9000 *****														
8093	341,489	96,349	31,640	2,211	210,987	34			YES	5.7		SMACKOVER LIME	798J	

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

HOPKINS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
9610	107,000												

***** DEPTH RANGE 9001 -10000 *****

PETTET-TRAVIS PK 678SP

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

HOUSTON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2180	1,000											CARRIZO-WILCOX	548SP
2180	5,400											CARRIZO-WILCOX	564SP
2400	1,800											CARRIZO-WILCOX	551SP
2630	3,030											CARRIZO-WILCOX	552SP
2660	3,600											CARRIZO-WILCOX	565SP
2820	2,050											CARRIZO-WILCOX	549SP
2990	1,150											CARRIZO-WILCOX	560SP
***** DEPTH RANGE 3001 - 4000 *****													
3040	7,400											CARRIZO-WILCOX	553SP
3050	4,040											CARRIZO-WILCOX	550SP
3070	6,700											CARRIZO-WILCOX	566SP
3260	1,250											CARRIZO-WILCOX	561SP
3540	2,000											CARRIZO-WILCOX	563SP
3760	4,600											CARRIZO-WILCOX	562SP
3770	22,500											CARRIZO-WILCOX	554SP
***** DEPTH RANGE 4001 - 5000 *****													
4130	38,000											CARRIZO-WILCOX	567SP
***** DEPTH RANGE 5001 - 6000 *****													
5795	99,338	34,023	3,852	527	60,596	110	230			6.5	1.075	WOODBINE	769J
5800	100,000				CALCULATED FROM RW = 0.073 AT 75 DEG (F)							WOODBINE	81B
5873	106,830	36,470	4,100	670	65,200	109	281				1.074	WOODBINE	233H
5876	79,845	28,400	1,700	760	48,900		85				1.061	EAGLE FORD	118H
5878	80,218	29,600	1,500	200	48,900		18				1.060	EAGLE FORD	119H
5890	78,958	27,700	1,700	740	48,900		18				1.063	EAGLE FORD	120H
5890	111,886	38,601	4,087	585	68,259	104	250				1.076	WOODBINE	122H
5900	81,429				CALCULATED FROM RW = 0.086 AT 75 DEG (F)							SUB-CLARKSVILLE	79B
5900	112,000				CALCULATED FROM RW = 0.069 AT 75 DEG (F)							WOODBINE	80B
5900	106,062	35,813	4,400	680	64,700	115	354				1.075	WOODBINE	234H
***** DEPTH RANGE 6001 - 7000 *****													
6081	104,371	35,454	4,267	594	63,823	80	153				1.074	WOODBINE	121H

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

HOWARD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
50	1,680	177	249	94	590	335	260			7.2		OGALLALA FORM	360A
790	15,839											SANTA ROSA	5C
***** DEPTH RANGE 1001 - 2000 *****													
1248	28,875											YATES	19C
1310	165,000											SEVEN RIVERS	38C
1345	190,000											SEVEN RIVERS	39C
1350	109,000											QUEEN	66C
1500	195,000											SEVEN RIVERS	40C
1565	185,000											QUEEN	65C
1600	118,750											QUEEN	63C
1600	88,572											QUEEN	64C
1828	143,333											YATES	21C
1864	92,857											YATES	20C
***** DEPTH RANGE 2001 - 3000 *****													
2300	74,554	25,180	3,030	187	42,000	3,162	995			7.0	1.053	SAN ANDRES	424G
2300	78,161	29,500	3,100	104	42,000	2,520	937			7.0	1.053	SAN ANDRES	425G
2300	75,942	25,800	3,050	154	43,400	2,460	1,078			7.2	1.058	SAN ANDRES	426G
2350	81,726	26,473	3,428	1,143	48,908	1,774					1.060	PERMIAN	0010U
2357	355,000											YATES	18C
2436	75,923											SAN ANDRES	174C
2485	150,000											SAN ANDRES	175C
2559	74,615											CLEARFORK	329C
2582	125,477	34,250	3,650	7,110	78,900	1,470	97			7.3	1.100	CLEARFORK	427G
2600	128,125											SAN ANGELO	268C
2656	112,859	36,455	4,080	1,992	67,500	1,900	932			6.7	1.087	GLORIETA	0086M
2800	103,000											SAN ANDRES	176C
2800	109,000											GLORIETA	240C
2817	124,206	33,130	3,071	7,940	78,300	1,676	89			6.7	1.098	CLEARFORK	428G
2840	118,750											GLORIETA	238C
2842	75,794	24,805	2,512	1,279	44,680	1,910	608			7.4	1.057	CLEARFORK	429G
2893	78,713	20,360	3,071	1,061	51,420	2,093	708			7.3	1.070	SAN ANDRES	430G
2900	112,000											GLORIETA	241C
2959	75,385											CLEARFORK	326C
3000	76,154											GLORIETA	239C
***** DEPTH RANGE 3001 - 4000 *****													
3121	86,039	26,128	4,400	1,560	50,000	2,980	771			6.7	1.055	CLEARFORK	0085M
3142	70,000											SAN ANDRES	177C
3150	95,000		4,450	1,140	57,000	1,650	260			8.5	1.070	SAN ANDRES	0053M

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

HOWARD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3150	109,000		6,150	1,200	55,500	1,750	140	170		6.2	1.080	SAN ANDRES	0054M
3150	100,800		5,850	1,290	60,500	1,400	190			8.2	1.070	SAN ANDRES	0055M
3200	110,591	35,632	3,400	2,677	68,870		12					SEVEN RIVERS	0056M
3200	64,740	21,897	1,853	796	37,659	1,463	1,072				1.048	PERMIAN	01090
3500	23,448											CLEARFORK	327C
CALCULATED FROM RW = 0.260 AT 75 DEG (F)													
***** DEPTH RANGE 4001 - 5000 *****													
4230	66,154											CLEARFORK	328C
CALCULATED FROM RW = 0.105 AT 75 DEG (F)													
***** DEPTH RANGE 5001 - 6000 *****													
5210	106,761	36,905	3,488	723	64,089	1,235	321					CANYON REEF	51F
***** DEPTH RANGE 6001 - 7000 *****													
6024	100,000											PENN GENERAL	718C
6504	28,750											SPRABERRY	463C
6860	130,000											PENN GENERAL	719C
6960	69,869	21,396	4,429	483	40,956	1,783	632	90		6.6	1.050	WOLFCAMP	0088M
***** DEPTH RANGE 7001 - 8000 *****													
7414	118,544	40,118	4,268	1,117	71,629	1,095	317	24		6.1	1.083	CANYON REEF	0052M
7561	124,375											PENN CANYON	594C
7586	71,539											PENN GENERAL	721C
7647	105,932	35,500	4,150	991	64,350	789	152			6.2	1.084	PENN. REEF	431G
7660	133,333											PENN CANYON	592C
7770	104,000		3,950	950	66,960	2,250	132			6.6	1.068	CANYON REEF	0084M
7773			4,400	480	67,000	770	245			6.0	1.076	CANYON REEF	0078M
7773			6,200	780	64,000	2,530	341	270		6.6	1.073	CANYON REEF	0087M
7800	91,808	30,900	3,000	1,093	55,000	1,400	415			7.2	1.068	CANYON REEF	0079M
7923	104,749	36,130	2,962	1,095	63,190	1,112	260			7.0	1.080	PENN. REEF	432G
7954	109,000											PENN GENERAL	720C
***** DEPTH RANGE 8001 - 9000 *****													
8090	109,000											PENN CANYON	593C
8140	122,039	41,531	4,589	876	73,757	1,018	268	3		6.9	1.085	PENNSYLVANIAN	0081M
8140	116,291	40,135	3,800	875	70,400	800	281			6.0	1.090	PENNSYLVANIAN	0082M
8140	116,789	40,324	3,880	802	70,400	1,090	293			5.7	1.085	PENNSYLVANIAN	0083M
8796	38,750											ELLENBURGER	1018C
***** DEPTH RANGE 9001 - 10000 *****													
9100	56,818											ELLENBURGER	1017C
9903	37,250											ELLENBURGER	1016C
***** DEPTH RANGE 10001 - 11000 *****													
10371	50,556											DEVONIAN	803C
10378	38,250											HONTOYA	923C
10521	36,500											ELLENBURGER	1015C
10688	34,000											FUSSELMAN	896C

T E X A S W A T E R D E V E L O P M E N T B O A R D

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

HUDSPETH COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE								
							1 - 1000						
187	1,510	89	251	97	130	798	248	19			BONE SPRING LS	25A	
187	1,800	192	254	99	268	845	236	14	7.5		BONE SPRING LS	27A	
250	1,120	25	213	79	32	624	260	16			BONE SPRING LS	26A	
390	1,230	99	170	90	118	608	252	18			BONE SPRING LS	28A	
1000	1,660	496	68	19	468	373	340		7.8		ALLUVIUM	447A	

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

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CHEMICAL ANALYSIS OF SALINE WATER

HUDSPETH COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
90	3,270	802	246	66	1,040	871	382			7.6		ALLUVIUM	
168	3,700	670	343	176	1,120	1,330	73			8.0		DELL CITY SUB-A	
180	3,710	560	433	172	1,000	1,400	228			7.7		DELL CITY SUB-A	
187	4,260	392	630	285	1,230	1,480	205			6.7		DELL CITY SUB-A	
201	4,810	480	680	296	1,280	1,910	212			7.6		DELL CITY SUB-A	
201	4,500	441	650	290	1,190	1,780	211			7.1		DELL CITY SUB-A	
219	4,370	690	496	197	1,260	1,570	246			7.4		DELL CITY SUB-A	
220	3,820	510	358	264	890	1,670	138					DELL CITY SUB-A	
230	3,780	471	435	219	800	1,630	195			7.4		DELL CITY SUB-A	
235	4,842	770	550	235	1,430	1,710	212			7.3		DELL CITY SUB-A	
240	3,700	422	530	192	770	1,610	194			7.7		DELL CITY SUB-A	
248	3,769	484	216	357	590	1,910	199			7.0		DELL CITY SUB-A	
250	4,010	476	478	234	820	1,750	176			7.7		DELL CITY SUB-A	
250	4,560	640	459	255	594	2,230	172			7.1		DELL CITY SUB-A	
250	4,180	550	460	233	660	1,860	177			7.1		DELL CITY SUB-A	
250	3,870	520	390	248	640	1,730	195			7.2		DELL CITY SUB-A	
250	3,280	323	442	215	680	1,440	256			7.6		DELL CITY SUB-A	
250	6,280	1,090	541	339	1,790	2,350	232			7.2		DELL CITY SUB-A	
250	3,750	630	392	190	1,030	1,350	264			7.3		DELL CITY SUB-A	
250	3,460	318	478	221	494	1,810	200			7.8		DELL CITY SUB-A	
256	3,620	432	431	225	481	1,900	196			7.3		DELL CITY SUB-A	
256	3,720	437	439	222	580	1,780	183			7.4		DELL CITY SUB-A	
278	48,700	8,200	5,000	1,990	1,120	2,110	123			7.9		DELL CITY SUB-A	
278	5,050	920	448	252	1,370	1,880	204			7.3		DELL CITY SUB-A	
278	5,730	940	680	258	1,750	1,970	177			7.0		DELL CITY SUB-A	
278	3,670	550	466	166	1,170	1,170	244			7.6		DELL CITY SUB-A	
280	3,660	324	550	232	780	1,610	222			7.1		DELL CITY SUB-A	
283	4,570	265	750	334	1,300	1,830	55			7.8		DELL CITY SUB-A	
285	3,800	510	452	203	1,010	1,470	190			7.7		DELL CITY SUB-A	
300	3,650	340	493	233	610	1,600	176			7.2		DELL CITY SUB-A	
325	3,120	251	465	209	590	1,370	217			7.1		BONE SPRG-VIC.PK	
330	3,920	447	610	137	469	2,070	192			7.6		DELL CITY SUB-A	
335	3,780	458	395	240	366	2,170	95			8.0		DELL CITY SUB-A	
335	3,150	337	374	197	428	1,610	209			7.4		DELL CITY SUB-A	
350	3,380	530	362	161	830	1,350	201			7.8		DELL CITY SUB-A	
962	3,110	143	580	155	186	1,920	214			7.6		DELL CITY SUB-A	
***** DEPTH RANGE 1001 - 2000 *****													
1044	3,690	620	400	163	1,150	1,190	264			7.5		DELL CITY SUB-A	

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

HUNT COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.	
***** DEPTH RANGE 1 - 1000 *****														
180	1,350	405	40	8	65	646	335			7.4		NACAT0CH SAND	250A	
181	1,030	355	9	2	62	354	435			7.6		NACAT0CH SAND	249A	
521	1,710	692	5	1	554	2	886			8.1		NACAT0CH SAND	248A	
***** DEPTH RANGE 2001 - 3000 *****														
2580	17,000											EAGLE FORD	690SP	
2770	15,227	5,716	97	38	8,700	17	659			1.013		WOODBINE	407H	
2787	15,004	5,700	93	5	8,700		506			1.015		WOODBINE	408H	
2800	14,110				CALCULATED FROM RW = 0.418 AT 75 DEG (F)								WOODBINE	83B
***** DEPTH RANGE 3001 - 4000 *****														
3217	13,748	5,136	83	33	7,700		796			1.012		WOODBINE	4H	
3220	12,571				CALCULATED FROM RW = 0.467 AT 75 DEG (F)								WOODBINE	82B
3228	13,465	5,006	86	40	7,500	22	811			1.012		WOODBINE	6H	
3520	11,200											LOWER GLEN ROSE	710SP	
***** DEPTH RANGE 4001 - 5000 *****														
4350	15,000											PETTET-TRAVIS PK	737SP	
***** DEPTH RANGE 5001 - 6000 *****														
5970	41,000											PETTET-TRAVIS PK	679SP	

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

HUTCHINSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
645	140,000											GLORIETA	0286P
650	124,375											GLORIETA	0285P
740	150,000											GLORIETA	0284P
790	160,000											GLORIETA	0283P
***** DEPTH RANGE 1001 - 2000 *****													
1390	140,000											RED CAVE	0287P
1408	140,000											RED CAVE	0288P
1441	133,333											RED CAVE	0289P
***** DEPTH RANGE 2001 - 3000 *****													
2535	100,000											WOLFCAMP	0392P
2698	94,286											WOLFCAMP	0348P
2708	126,250											WOLFCAMP	0373P
2713	79,231											WOLFCAMP	0306P
2740	98,572											WOLFCAMP	0400P
2745	106,000											WOLFCAMP	0393P
2770	80,000											WOLFCAMP	0304P
2785	74,615											WOLFCAMP	0328P
2847	106,000											WOLFCAMP	0358P
2858	109,000											WOLFCAMP	0311P
2870	97,143											WOLFCAMP	0370P
2878	115,000											WOLFCAMP	0356P
2888	146,667											WOLFCAMP	0293P
2895	112,000											WOLFCAMP	0312P
2896	106,000											WOLFCAMP	0298P
2904	82,857											WOLFCAMP	0303P
2908	97,143											WOLFCAMP	0334P
2920	109,000											WOLFCAMP	0360P
2921	87,143											WOLFCAMP	0305P
2930	100,000											WOLFCAMP	0379P
2939	112,000											WOLFCAMP	0296P
2941	120,625											WOLFCAMP	0401P
2943	116,875											WOLFCAMP	0330P
2943	109,000											WOLFCAMP	0339P
2943	109,000											WOLFCAMP	0355P
2952	116,875											WOLFCAMP	0294P
2962	116,875											WOLFCAMP	0346P
2967	85,714											WOLFCAMP	0322P
2970	106,000											WOLFCAMP	0331P
2974	115,000											WOLFCAMP	0365P

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

HUTCHINSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2984	106,000											WOLFCAMP	0368P
2987	95,714											WOLFCAMP	0374P
2990	95,714											WOLFCAMP	0323P
2990	106,000											WOLFCAMP	0371P
2993	98,572											WOLFCAMP	0332P
2993	97,143											WOLFCAMP	0375P
2995	106,000											WOLFCAMP	0335P
2997	136,667											WOLFCAMP	0300P
3000	165,647	62,630	1,468	239	99,980	133				7.0		DOLOMITES	203J
3000	157,990	61,000	891	138	95,740	221						DOLOMITES	204J
3000	121,896	19,500	4,825	1,810	91,000	4,500	240	21		8.3	1.105	BROWN DOLOMITE	205J
3000			23,393	1,498	112,060		421			5.6	1.120	ARKOSE+GRANITE W	210J
3000					89,000	110		45	YES	7.6	1.100	BROWN DOLOMITE	206J
3000	165,000	43,500	5,870	2,240	83,100	1,560		2	YES	8.9	1.105	WOLFCAMP DOLOMIT	208J
3000			6,250		84,000	2,550	456	6	YES	7.6		DOLMITE+LIME	209J
3000	157,954			3,480	97,000	1,630	235	4	YES	7.8	1.100	BROWN DOLOMITE	211J
3000	117,500		6,100	2,445	71,000	4,500	333	5	YES	7.4	1.080	BROWN DOLOMITE	212J
3000	165,392		9,550	3,180	101,700	1,320	95	22	YES	7.2	1.110	BROWN DOLOMITE	213J
***** DEPTH RANGE 3001 - 4000 *****													
3001	106,000											WOLFCAMP	0372P
3008	100,000											WOLFCAMP	0344P
3012	166,806	53,993	7,360	2,173	100,500	2,050	250					DOLOMITE	207J
3012	90,000											WOLFCAMP	0307P
3023	98,572											WOLFCAMP	0396P
3026	90,000											WOLFCAMP	0302P
3026	97,143											WOLFCAMP	0359P
3029	120,625											WOLFCAMP	0349P
3035	90,000											WOLFCAMP	0310P
3045	90,000											WOLFCAMP	0308P
3050	85,714											WOLFCAMP	0394P
3050	97,143											WOLFCAMP	0395P
3050	98,572											WOLFCAMP	0397P
3055	130,000											WOLFCAMP	0321P
3057	98,572											WOLFCAMP	0320P
3060	160,000											WOLFCAMP	0299P
3060	95,714											WOLFCAMP	0333P
3061	92,857											WOLFCAMP	0342P
3061	98,572											WOLFCAMP	0398P
3065	136,667											WOLFCAMP	0313P
3066	109,000											WOLFCAMP	0340P
3072	106,000											WOLFCAMP	0291P
3074	92,857											WOLFCAMP	0301P
3078	100,000											WOLFCAMP	0316P
3078	109,000											WOLFCAMP	0341P
3083	94,286											WOLFCAMP	0361P
3085	98,572											WOLFCAMP	0354P
3090	95,714											WOLFCAMP	0317P
3091	100,000											WOLFCAMP	0319P

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HUTCHINSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3094	112,000											WOLFCAMP	0295P
3098	85,714											WOLFCAMP	0350P
3105	112,000											WOLFCAMP	0337P
3108	98,572											WOLFCAMP	0318P
3108	94,286											WOLFCAMP	0325P
3120	95,714											WOLFCAMP	0326P
3120	95,714											WOLFCAMP	0367P
3121	112,000											WOLFCAMP	0376P
3125	106,000											WOLFCAMP	0292P
3125	88,572											WOLFCAMP	0369P
3125	97,143											WOLFCAMP	0383P
3127	80,000											WOLFCAMP	0314P
3128	106,000											WOLFCAMP	0338P
3133	109,000											WOLFCAMP	0345P
3140	97,143											WOLFCAMP	0382P
3146	87,143											WOLFCAMP	0309P
3146	94,286											WOLFCAMP	0362P
3148	98,572											WOLFCAMP	0124P
3154	80,000											WOLFCAMP	0385P
3159	80,000											WOLFCAMP	0343P
3160	76,923											WOLFCAMP	0327P
3165	109,000											WOLFCAMP	0380P
3168	150,000											WOLFCAMP	0366P
3171	95,714											WOLFCAMP	0381P
3176	95,714											WOLFCAMP	0290P
3185	97,143											WOLFCAMP	0336P
3185	90,000											WOLFCAMP	0377P
3195	79,231											WOLFCAMP	0351P
3195	95,714											WOLFCAMP	0363P
3195	98,572											WOLFCAMP	0364P
3200	98,572											WOLFCAMP	0390P
3201	115,000											WOLFCAMP	0347P
3202	95,714											WOLFCAMP	0388P
3208	94,286											WOLFCAMP	0389P
3211	92,857											WOLFCAMP	0384P
3212	95,714											WOLFCAMP	0391P
3217	94,286											WOLFCAMP	0387P
3224	90,000											WOLFCAMP	0357P
3225	100,000											WOLFCAMP	0378P
3254	109,000											WOLFCAMP	0315P
3254	106,000											WOLFCAMP	0353P
3268	94,286											WOLFCAMP	0386P
3331	98,572											WOLFCAMP	0399P
3395	106,000											WOLFCAMP	0352P
3620	90,000											WOLFCAMP	0297P
4000	97,143											WOLFCAMP	0329P
***** DEPTH RANGE 4001 - 5000 *****													
4250	126,250											PENN LINE	0402P

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HUTCHINSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 4001 - 5000 *****													
4695	98,572											GRANITE WASH	0408P
4780	103,000											GRANITE WASH	0409P
4790	115,000											DOUGLAS SAND	0403P
4913	115,000											GRANITE WASH	0410P
4932	124,375											DOUGLAS SAND	0406P
4974	90,000											TONKAWA SAND	0407P
4981	124,375											DOUGLAS SAND	0404P
4983	106,000											GRANITE WASH	0417P
***** DEPTH RANGE 5001 - 6000 *****													
5080	133,333											DOUGLAS SAND	0405P
5228	109,000											GRANITE WASH	0411P
5357	112,000											GRANITE WASH	0412P
5445	130,000											GRANITE WASH	0422P
5454	124,375											GRANITE WASH	0418P
5482	136,667											GRANITE WASH	0416P
5518	126,250											GRANITE WASH	0413P
5649	98,572											GRANITE WASH	0420P
5669	78,462											GRANITE WASH	0414P
5735	106,000											GRANITE WASH	0421P
5755	109,000											GRANITE WASH	0419P
5810	130,000											GRANITE WASH	0415P
***** DEPTH RANGE 6001 - 7000 *****													
6175	63,077											DES MOINES SAND	0425P
6264	112,000											CHEROKEE SAND	0423P
6272	115,000											CHEROKEE SAND	0424P
6427	108,000											ELLENBURGER	0429P
6638	109,000											ELLENBURGER	0430P
6687	22,177											VIOLA	0426P
6885	106,000											SIMPSON DOLOMITE	0427P
6965	112,000											SIMPSON SAND	0428P
***** DEPTH RANGE 7001 - 8000 *****													
7120	205,000											ELLENBURGER	0431P

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IRION COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1150	32,000											SAN ANGELO	269C
1410	72,308											SAN ANGELO	271C
1450	73,846											GLORIETA	242C
1540	66,923											SAN ANGELO	270C
1794	64,615											SAN ANGELO	272C
1858	69,231											SAN ANDRES	180C
1904	67,692											SAN ANDRES	181C
1955	47,059											SAN ANDRES	179C
***** DEPTH RANGE 2001 - 3000 *****													
2105	40,000											SAN ANDRES	178C
***** DEPTH RANGE 4001 - 5000 *****													
4204	81,852	29,278	1,561	559	49,600		476			6.6	1.057	CLEARFORK	0049M
4209	81,852	29,278	1,561	559	49,600	5	476			6.6	1.057	CLEARFORK	0069M
4209	81,852	29,278	1,561	559	49,600	5	476			6.6	1.057	CLEARFORK	0070M
4356	81,488	28,969	1,640	620	49,600	21	226			5.4	1.059	CLEARFORK	0048M
4387	81,488	28,969	1,640	620	49,600	21	226			5.4	1.059	CLEARFORK	0068M
4414	81,488	28,969	1,640	620	49,600		226					CLEARFORK	0050M
4456	78,462											CLEARFORK	331C
4500	80,000											CLEARFORK	330C
4500	81,429											CLEARFORK	332C
4548	86,867	31,143	1,760	535	52,654	2	476			6.7	1.064	CLEARFORK	0067M
***** DEPTH RANGE 6001 - 7000 *****													
6650	225,000											PENN STRAWN	651C
***** DEPTH RANGE 7001 - 8000 *****													
7140	56,364											PENN STRAWN	650C
7180	43,333											PENN STRAWN	652C
7439	68,462											WOLFCAMP	512C
7850	46,471											ELLENBURGER	1022C
***** DEPTH RANGE 8001 - 9000 *****													
8500	56,818											ELLENBURGER	1021C
8800	25,417											FUSSELMAN	897C
8990	49,412											ELLENBURGER	1019C
***** DEPTH RANGE 9001 - 10000 *****													
9162	64,615											ELLENBURGER	1020C

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

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JACK COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
635	15,162	3,102	433	1,545	9,900	47	135			7.5	1.019	GUNSIGHT	216G
635	16,952											CISCO	365I
640	15,500											CISCO	366I
690	17,068	5,060	568	663	10,651	24	102			7.2	1.014	GUNSIGHT	217G
690	16,226											CISCO	363I
690	18,000											CISCO	364I
690	17,068	5,060	568	663	10,651	24	102			7.2	1.014	GUNSIGHT	0281K
***** DEPTH RANGE 1001 - 2000 *****													
2000	206,857	67,700	9,500	2,115	127,400	47	95			5.3	1.100	BUTTRAM SAND	01800
***** DEPTH RANGE 2001 - 3000 *****													
2065	124,869	36,156	9,408	1,635	77,140	5	525			6.4	1.098	BUTTRAM SAND	0282K
2300	131,836	36,620	10,865	2,212	82,100	15	24			6.8	1.104	STRAWN	218G
2300	128,125											STRAWN	358I
2380	130,000											STRAWN	359I
2380	131,836	36,620	10,865	2,212	82,100	15	24			6.8	1.104	STRAWN	0290K
2440	124,375											STRAWN	362I
2460	132,375	37,895	10,315	1,916	82,200	7	42			5.7	1.102	STRAWN	219G
2460	130,000											STRAWN	357I
2500	140,771		9,547	1,684	86,964		330		YES	6.3	1.105	STRAWN	809J
***** DEPTH RANGE 3001 - 4000 *****													
3030	140,000											STRAWN	354I
3031	141,577	43,180	9,278	1,555	87,450	11	103			5.1	1.112	STRAWN	220G
3031	136,667											STRAWN	353I
3031	141,577	43,180	9,278	1,555	87,450	11	103			5.1	1.112	STRAWN	0288K
3100	180,000											STRAWN	349I
3110	178,967	51,900	13,800	2,259	110,800	91	117			6.3	1.147	STRAWN	221G
3110	170,000											STRAWN	348I
3211	138,101	41,500	9,360	1,560	85,500	23	158			6.2	1.102	STRAWN	0287K
3458	152,836	45,239	10,800	2,024	94,680		93				1.116	STRAWN SAND	00550
3465	139,596	40,777	12,230	509	85,920	28	132				1.107	STRAWN SAND	00560
3472	170,000	51,400	12,900	821	104,000		85			6.8	1.116	BRYSON SAND	810J
3580	154,477	44,580	12,365	1,776	95,650	21	85			5.0	1.125	STRAWN	222G
3580	146,667											STRAWN	352I
3582	160,000											STRAWN	351I
3600	160,000											STRAWN	0283K
3610	151,753	46,600	9,930	1,452	93,600	3	168			6.2	1.122	STRAWN	0284K
3614	164,652	49,350	11,710	1,736	101,800	11	45			4.4	1.134	STRAWN	223G
3614	155,000											STRAWN	356I

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JACK COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3614	164,652	49,350	11,710	1,736	101,800	11	45			4.4	1.134	STRAWN	0289K
3620	170,000											STRAWN	355I
3640	165,000											STRAWN	350I
3700	151,573	45,500	10,420	1,760	93,800	2	91			5.0	1.128	STRAWN	0285K
3714	154,783	47,500	11,000	1,040	94,400	680	163				1.139	STRAWN	224G
3714	146,667											STRAWN	347I
3714	154,783	47,500	11,000	1,040	94,400	680	163				1.139	STRAWN	0286K
3870	140,000											STRAWN	361I
3900	143,333											STRAWN	360I
4000	143,333											BEND	332I
***** DEPTH RANGE 4001 - 5000 *****													
4040	119,703	35,500	8,280	1,620	73,800	9	494			6.2	1.095	CADDO	0291K
4110	180,063	53,950	10,070	3,830	111,900	251	62			6.4	1.147	CADDO	225G
4110	170,000											BEND	346I
4110	180,063	53,950	10,070	3,830	111,900	251	62			6.4	1.147	CADDO	0292K
4375	139,688	31,710	13,015	1,766	76,820	219	158			6.3	1.099	BEND	226G
4375	124,375											BEND	337I
4380	126,250											BEND	336I
4550	139,530	42,100	8,300	1,755	86,000	265	999			4.2	1.095	CONGLOMERATE	01730
4640	112,000											ELLENBURGER	330I
4650	138,680	44,450	8,300	605	85,000	123	72	130		4.9	1.095	CONGLOMERATE	01740
4700	176,872	57,600	8,495	1,655	109,050	14	58			6.6	1.138	BEND	227G
4700	170,000											BEND	336I
4700	185,000											BEND	339I
4716	90,000											BEND	0294K
4716	176,867	57,600	8,490	1,655	109,050	14	58			6.6	1.138	BEND	0295K
4737	131,656	42,000	6,842	1,466	80,450	801	97			8.1	1.099	MISSISSIPPI	228G
4737	128,125											ELLENBURGER	331I
4737	131,656	42,000	6,842	1,466	80,450	801	97			8.1	1.099	MISSISSIPPIAN	0297K
4770	170,000											BEND	335I
4882	140,163	37,255	12,804	2,502	86,826	776					1.108	CADDO	00400
4900	185,000											BEND	334I
4950	132,821	42,200	7,430	1,165	81,100	446	180			7.0	1.102	MISSISSIPPIAN	0298K
4962	132,521	42,200	7,430	1,165	81,100	446	180			7.0	1.102	MISSISSIPPI LIME	808J
***** DEPTH RANGE 5001 - 6000 *****													
5050	130,000											BEND	333I
5097	150,933	46,391	9,770	1,483	92,500	676	113			6.6	1.124	MISSISSIPPI	229G
5097	143,333											ELLENBURGER	327I
5097	151,153	46,391	9,970	1,483	92,500	676	113			6.6	1.124	MISSISSIPPIAN	0299K
5150	143,333											ELLENBURGER	326I
5153	128,125											BEND	345I
5200	142,212	43,000	9,655	1,557	87,800	90	110			5.1	1.112	DEES CONGL.	0296K
5275	143,333											BEND	340I
5371	160,000											BEND	344I
5396	118,750											BEND	343I
5411	165,000											BEND	342I
5450	169,810	48,800	13,765	1,939	104,800	387	119			6.7	1.139	MISS. LIME	230G

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JACK COUNTY

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***** DEPTH RANGE 5001 - 6000 *****													
5450	1,0,000											ELLENBURGER	328I
5450	170,000											ELLENBURGER	329I
5450	169,810	48,800	13,765	1,939	104,800	387	119			6.7	1.139	MISSISSIPPIAN	0300K
5457	122,500											BEND	341I
5519	160,000											BEND	0293K
5695	195,278	53,550	17,550	2,680	121,250	248				3.5	1.161	ELLENBURGER	231G
5695	180,000											ELLENBURGER	321I
5700	190,000											ELLENBURGER	322I
***** DEPTH RANGE 6001 - 7000 *****													
6210	197,808	54,530	18,100	2,300	122,500	326	52				1.163	ELLENBURGER	01250
6240	273,073	55,070	15,720	2,415	119,550	241	77			6.2	1.160	ELLENBURGER	232G
6240	180,000											ELLENBURGER	323I
6240	190,000											ELLENBURGER	324I
6240	193,073	55,070	15,720	2,415	119,550	241	77			6.2	1.160	ELLENBURGER	0301K
6340	190,000											ELLENBURGER	325I

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JACKSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1130	5,900											Z-2 0-2000 FT	0135P
1670	6,200											Z-2 0-2000 FT	134SP
1810	15,000											Z-2 0-2000 FT	0145P
***** DEPTH RANGE 2001 - 3000 *****													
2195	6,200											Z-3 2000-4000 FT	1355P
2600	18,000											Z-3 2000-4000 FT	0155P
2648	32,175				19,500							C-2 SAND	729J
2740	15,000											Z-3 2000-4000 FT	0105P
***** DEPTH RANGE 3001 - 4000 *****													
3640	36,000											Z-3 2000-4000 FT	0115P
***** DEPTH RANGE 4001 - 5000 *****													
4070	54,000											Z-4 4000-6000 FT	1365P
4440	74,000											Z-4 4000-6000 FT	0165P
4601	59,658	21,271	1,832	93	36,200		262					FRIO	21D
4670	60,000											Z-4 4000-6000 FT	0125P
***** DEPTH RANGE 5001 - 6000 *****													
5100	15,984											FRIO	198E
5227	65,042	23,616	1,314	307	39,500		305					FRIO	25D
5228	61,580	21,598	1,680	119	38,000		183					FRIO	26D
5452	49,699	18,229	1,052	68	30,000	6	344					FRIO	22D
5482	62,959	23,290	934	232	38,000	15	488					FRIO	24D
5658	20,161											FRIO	196E
***** DEPTH RANGE 6001 - 7000 *****													
6080	80,000											Z-5 6000-8000 FT	0,7SP
6180	90,000											Z-5 6000-8000 FT	1375P
6398	68,518	25,643	900	170	41,500	12	293					FRIO	27D
6446	63,190	23,885	649	122	38,234					1,048		HULTQUIST (FRIO)	01150
6452	63,821	24,092	731	131	38,572		295			1,048		HULTQUIST (FRIO)	01200
6453	64,737	24,443	736	136	39,174		248			1,050		HULTQUIST (FRIO)	01180
6457	59,123	22,436	580	116	35,664		327			1,044		HULTQUIST (FRIO)	01170
6634	61,786	23,319	652	123	37,250		442					FRIO	23D
6700	51,667											FRIO	199E
6900	51,667											FRIO	200E
***** DEPTH RANGE 7001 - 8000 *****													
7070	12,855	4,745	36	42	6,637		1,300			7.9	1.015	A-1	736J

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JACKSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
7200	23,448												
7450	70,000												
7700	36,250												
7770	59,706	26,077	858	240	42,207		250			6.2	1.049	FRIO Z=5 6000-8000 FT FRIO C-1	197E 018SP 201E 731J
8414	47,941	18,166	297	173	28,694		611			7.4	1.038	S-1	732J
8536	73,618	27,595	831	272	44,700		220			7.7	1.055	ARNOLD	733J
8630	12,855	4,745	36	42	6,637		1,300			7.9	1.015	A-1	740J
8700	30,000											FRIO	202E
8971	25,236	6,299	2,006	939	15,992						1.024	LOWER FRIO	01120

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

JASPER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
						***** DEPTH RANGE 1001 - 2000 *****							
1249	15,100	4,880	675	66	8,700	10	217					UPPER CLAIBORNE	327A
1320	1,330	416	3	2	41	604	183					UPPER CLAIBORNE	328A
1400	5,450	2,060	140	24	3,060	12	531					UPPER CLAIBORNE	326A
						***** DEPTH RANGE 2001 - 3000 *****							
2510	8,500											Z-3 2000-4000 FT	267SP
						***** DEPTH RANGE 9001 -10000 *****							
9050	4,667					CALCULATED FROM RM = 0.160 AT 75 DEG (F)						WILCOX	203E

TEXAS WATER DEVELOPMENT BOARD
 SALINE WATER RESOURCES SURVEY
 OF THE
 STATE OF TEXAS
 CHEMICAL ANALYSIS OF SALINE WATER
 JEFF DAVIS COUNTY

JUL 1971

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1	2,310	473	191	86	**** DEPTH RANGE 655	691	1 - 1000 285	****				EDWARDS LS	219A
1988	918				**** DEPTH RANGE 1001 - 2000 **** CALCULATED FROM RW = 5.500 AT 75 DEG (F)							DELAWARE	84C
2190	1,217				**** DEPTH RANGE 2001 - 3000 **** CALCULATED FROM RW = 4.200 AT 75 DEG (F)							DELAWARE	85C

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

JEFFERSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
200	1,820	644	6	50,001	93	50,002	1 - 1000	342				HEAUMONT CLAY	440A
620	4,510	1,660	64	30	2,590	2		286				LISSIE FORM	416A
840	46,000											Z-2 0-2000 FT	410SP
1000	4,600											Z-2 0-2000 FT	461SP
***** DEPTH RANGE 1001 - 2000 *****													
1250	4,200											Z-2 0-2000 FT	049SP
1270	6,500											Z-2 0-2000	053SP
1330	11,500											Z-2 0-2000 FT	052SP
1435	15,000											Z-2 0-2000 FT	104SP
***** DEPTH RANGE 2001 - 3000 *****													
2030	72,000											Z-3 2000-4000 FT	054SP
2060	11,000											Z-3 2000-4000 FT	048SP
2210	56,000											Z-3 2000-4000 FT	105SP
2387	122,150	44,250	2,380	880	74,300		315			6.8	1.088	MIOCENE	1096J
2387	79,770	45,140	2,300	680	75,620		150			6.7	1.089	MIOCENE	1097J
2387	121,830	44,569	1,931	777	74,205		340			6.7	1.084	MIOCENE	1098J
2420	32,000											Z-3 2000-4000 FT	462SP
2960	40,000											Z-3 2000-4000 FT	458SP
***** DEPTH RANGE 4001 - 5000 *****													
4035	118,750											MIOCENE	215E
4100	100,000											Z-4 4000-6000 FT	055SP
4179	116,875											MIOCENE	216E
4430	75,000											Z-4 4000-6000 FT	463SP
4600	94,000											Z-4 4000-6000 FT	106SP
5000	75,000											Z-4 4000-6000 FT	050SP
***** DEPTH RANGE 5001 - 6000 *****													
5130	72,000											Z-4 4000-6000 FT	459SP
5283	146,667											MIOCENE	204E
5593	146,667											DISCORBIS	205E
5975	146,667											MARGINULINA	221E
6000	110,336	39,430	2,340	915	67,594		57			7.8	1.078	MARG. (FRIO)	1112J
***** DEPTH RANGE 6001 - 7000 *****													
6030	104,067	36,955	2,386	885	63,750		91			6.9	1.079	MARG.	1113J
6037	107,931	38,232	2,970	611	65,794	103		221				FRIO	86D
6055	112,837	40,100	2,835	764	69,100	11		27				FRIO	85D
5100	59,245	22,395	759	296	35,627			128		8.0	1.045	FRIO	1109J

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

JEFFERSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 6001 - 7000 *****													
6200	88,000											Z=5 6000-8000 FT	056SP
6250	130,000											Z=5 6000-8000 FT	051SP
6250	110,000											Z=5 6000-8000 FT	107SP
6256	130,000											FRIO	209E
6309	116,875											FRIO	210E
6323	122,500											FRIO	206E
6330	109,000											AMELIA	207E
6346	119,682	42,255	2,676	1,230	73,465		56			7.8	1.091	MIOCENE	1100J
6370	82,000											Z=5 6000-8000 FT	464SP
6500	121,557	42,331	3,251	1,249	74,631		95			6.8	1.095	MIOCENE	1101J
6528	122,500											FRIO	208E
6600	130,102	45,118	3,732	1,283	79,892		77			6.5	1.104	MIOCENE	1099J
6778	100,381	35,540	2,756	606	61,400		79					FRIO	82D
6778	56,894	20,290	1,568	238	34,700		98					FRIO	84D
6779	49,780	17,670	1,475	192	30,400		43					FRIO	83D
6800	119,807	42,216	2,635	1,306	73,572		78			7.0	1.094	MIOCENE	1102J
***** DEPTH RANGE 7001 - 8000 *****													
7100	79,000											Z=6 6000-8000 FT	460SP
7179	100,124	36,072	2,217	572	61,184		79			6.5	1.075	V=1	1107J
7200	124,337	44,079	3,209	853	76,096		100			6.8	1.097	MIOCENE	1103J
7273	99,585	36,132	2,075	496	60,803		79			6.8	1.073	V=2 (FRIO)	1108J
7363	97,493	35,103	2,238	512	59,357		103			6.8	1.072	V=2A (FRIO)	1111J
7400	103,275	36,828	1,968	1,059	63,313		107			6.9	1.078	MIOCENE	1104J
7421	96,844	34,837	2,077	634	59,205		91			6.5	1.072	V=3 (FRIO)	1110J
7425	130,000											FRIO	222E
7577	32,000											FRIO	211E
7716	54,444											FRIO	217E
7724	44,335	16,296	8,6	136	26,800		287					FRIO	80D
7788	32,007	11,903	4,26	79	19,000		62					FRIO	79D
7835	32,008	11,869	3,48	152	18,900		80					FRIO	81D
7900	82,308											FRIO	223E
8000	30,000											FRIO	212E
***** DEPTH RANGE 8001 - 9000 *****													
8007	41,667											FRIO	213E
8040	64,000											Z=6 8000-10000FT	465SP
8100	100,000											Z=6 8000-10000FT	108SP
8295	29,250											FRIO	214E
8521	114,450	38,383	4,655	906	69,502		96					FRIO	87D
8600	65,054	23,724	1,107	321	38,899		31			7.3	1.048	8600 MIOCENE	1017J
8825	86,513	30,692	2,658	211	52,268		79					FRIO	88D
***** DEPTH RANGE 9001 - 10000 *****													
9004	36,250											FRIO	218E
9540	68,000											Z=6 8000-10000FT	109SP
***** DEPTH RANGE 10001 - 11000 *****													
10965	82,000											10000-12000 FT	466SP

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

JEFFERSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
11003	77,692												
11241	146,667												
11500	109,000												
<p>***** DEPTH RANGE 11001 -12000 *****</p> <p>CALCULATED FROM RW = 0.090 AT 75 DEG (F)</p> <p>CALCULATED FROM RW = 0.055 AT 75 DEG (F)</p> <p>CALCULATED FROM RW = 0.070 AT 75 DEG (F)</p>													
12430	58,000											12000-14000 FT	4675P

TEXAS WATER DEVELOPMENT BOARD

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CHEMICAL ANALYSIS OF SALINE WATER

JIM HOGG COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1198	1,020	342	18	4	361	131	198			7.7		CTHULA+ OKVLE SS	340A
1770			39	60	10,694					5.5	1.008	COLE SAND	92J
1770	6,720				3,670							COLE SAND	94J
					***** DEPTH RANGE 2001 - 3000 *****								
2005	1,480	585	4		420	314	428					GOLIAD SAND	396A
					***** DEPTH RANGE 3001 - 4000 *****								
3099	16,709				9,090							LOMA NOVIA	100J
3247	13,906				8,500							ARMSTRONG	90J
3670	33,600				CALCULATED FROM RW = 0.192 AT 75 DEG (F)							JACKSON	225E
3732			429	71	14,040	10				7.7	1.012	LOMA NOVIA	96J
3732	9,786				CALCULATED FROM RW = 0.570 AT 75 DEG (F)							LOMA NOVIA	97J
3732	9,929				CALCULATED FROM RW = 0.560 AT 75 DEG (F)							LOMA NOVIA	98J
3732	10,429				CALCULATED FROM RW = 0.540 AT 75 DEG (F)							LOMA NOVIA	99J
					***** DEPTH RANGE 4001 - 5000 *****								
4221	59,091				CALCULATED FROM RW = 0.115 AT 75 DEG (F)							JACKSON	226E
4600	64,615				CALCULATED FROM RW = 0.107 AT 75 DEG (F)							JACKSON	227E
4743	28,500				CALCULATED FROM RW = 0.222 AT 75 DEG (F)							YEGUA	230E
4790	83,077				CALCULATED FROM RW = 0.109 AT 75 DEG (F)							JACKSON	228E
4811	52,308				CALCULATED FROM RW = 0.110 AT 75 DEG (F)							JACKSON	229E
					***** DEPTH RANGE 5001 - 6000 *****								
5048	60,000				CALCULATED FROM RW = 0.113 AT 75 DEG (F)							YEGUA	231E
5067	57,273				CALCULATED FROM RW = 0.119 AT 75 DEG (F)							YEGUA	232E
					***** DEPTH RANGE 8001 - 9000 *****								
8064	18,120				8,874							LOMA NOVIA SAND	93J

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

JIM WELLS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
288	1,080	297	70	27	332	124	389	3		7.6		GOLIAD SAND	404A
620	1,320	451	26	16	495	180	268					GOLIAD SAND	403A
992	1,020	317	30	17	289	128	358			7.8		GOLIAD SAND	402A
***** DEPTH RANGE 1 - 1000 *****													
3354	24,910												
3400	17,813												
***** DEPTH RANGE 3001 - 4000 *****													
13,485													
CALCULATED FROM RW = 0.336 AT 75 DEG (F)													
***** DEPTH RANGE 4001 - 5000 *****													
4750	7,240												
5000	8,382												
***** DEPTH RANGE 4001 - 5000 *****													
CALCULATED FROM RW = 0.780 AT 75 DEG (F)													
CALCULATED FROM RW = 0.672 AT 75 DEG (F)													
***** DEPTH RANGE 5001 - 6000 *****													
5300	7,952												
5300	19,631	7,359	268		11,562	95	347			7.2	1.014	FRIO	240E
***** DEPTH RANGE 5001 - 6000 *****													
CALCULATED FROM RW = 0.706 AT 75 DEG (F)													
11,562 95 347													
***** DEPTH RANGE 6001 - 7000 *****													
7000	29,764												
***** DEPTH RANGE 6001 - 7000 *****													
15,570													
***** DEPTH RANGE 7001 - 8000 *****													
CALCULATED FROM RW = 0.220 AT 75 DEG (F)													
7160	28,750												
7179	27,750												
7201	26,667												
7252	17,250												
***** DEPTH RANGE 7001 - 8000 *****													
CALCULATED FROM RW = 0.228 AT 75 DEG (F)													
CALCULATED FROM RW = 0.234 AT 75 DEG (F)													
CALCULATED FROM RW = 0.345 AT 75 DEG (F)													
***** DEPTH RANGE 10001 - 11000 *****													
10296	30,000												
***** DEPTH RANGE 10001 - 11000 *****													
CALCULATED FROM RW = 0.210 AT 75 DEG (F)													

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JONES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
50	1,940	204	282	80	138	1,060	189			7.6		WICHITA + CLR FK	41A
50	1,940	204	282	80	138	1,060	189	16		7.6		WICHITA + CLR FK	45A
60	6,590	1,270	556	260	1,300	3,070	205	14		7.6		WICHITA + CLR FK	43A
65	1,670	149	255	83	208	882	124	19		7.9		WICHITA + CLR FK	44A
70	2,460	720	40	61	725	736	261			8.0		WICHITA + CLR FK	40A
80	2,370	262	314	118	228	1,310	222			7.6		WICHITA + CLR FK	42A
85	3,450	278	592	91	391	1,590	256			7.5		WICHITA + CLR FK	39A
90	8,020	1,140	880	371	1,870	1,740	314			7.4		SAN ANGELO SS	54A
90	2,730	91	616	98	285	1,430	258			7.6		SAN ANGELO SS	55A
101	1,240	351	38	36	240	235	444			7.9		ALLUVIUM	454A
160	4,790	887	510	97	372	2,860	116	8		7.7		SAN ANGELO SS	53A
1000	69,480	22,460	2,664	459	37,400	4,400	122			6.6			0302K
***** DEPTH RANGE 1001 - 2000 *****													
1400	100,611	32,105	5,380	1,024	61,800	209	93			6.5	1.077	FRYE SAND	0308K
1500	68,300	22,800	2,120	675	37,950	3,875	195			6.8	1.045	COLEMAN JUNCTION	0096L
1515	70,608	21,430	4,210	874	40,500	2,804	790			6.6	1.057	CANYON	341G
1515	69,231											CANYON	368I
1730	91,039	26,440	7,108	674	56,600	212	5				1.069	COOK LIME	00140
1760	74,000	23,500	2,120	750	39,500	3,700	180					COLEMAN JUNCTION	0304K
1760	62,180	19,150	2,376	730	32,600	4,240	251			7.5		COLEMAN JUNCTION	0305K
1800	145,500	37,900	9,750	1,410	80,983	350	164			6.8	1.094	FLIPPEN LIME	0092L
1800	118,300	33,200	6,200	1,180	65,600	8	88			6.4	1.077	FLIPPEN	0093L
1884	118,300	31,100	4,880	1,650	69,400	250	85			7.0	1.077	HOPE	0328K
1900	77,500	20,590	3,328	1,105	41,370		348			6.3	1.051	SADDLE CREEK	0094L
1920	102,074	31,582	5,517	1,369	63,080		126			6.7	1.078	FLIPPEN SAND	0319K
1920	110,400	31,600	5,460	1,340	62,200		130			6.6	1.072	FLIPPEN SAND	0320K
1930	113,500	32,600	6,440	1,250	65,400	7	142			6.4	1.074	COOK	0095L
1934	135,900	31,600	7,615	1,416	70,000	50	72			5.3	1.088	BLUFF CREEK	0097L
1950	113,500	24,105	5,480	2,132	63,438	60	192			7.1	1.074	FLIPPEN	0098L
1950	107,200	28,955	4,832	1,312	57,855	100	180			7.2	1.070	FLIPPEN	0099L
1965	90,000											WOLFCAMP	375I
1965	87,143											WOLFCAMP	376I
1966	121,891	33,225	10,790	1,832	75,630	414					1.093	HOPE	00760
1975	86,500	25,900	4,080	855	49,200	415	240			6.5	1.057	TANNEHILL	0309K
***** DEPTH RANGE 2001 - 3000 *****													
2030	101,717	31,400	5,930	1,378	62,850	6	153			6.9	1.078	COOK	0321K
2056	124,000	37,350	4,800	1,750	72,500	25	237			6.8	1.080	KING	0330K
2070	102,670	30,610	5,835	1,476	63,520	222	7			4.1	1.080	COOK	0322K
2100	96,100	28,900	3,880	1,195	53,400	1,000	370			6.9	1.063	FLIPPEN LIME	0317K

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JONES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2100	100,632	30,660	5,840	1,632	62,500	40	134			6.6	1.072	COOK	0323K
2110	106,104	34,090	4,728	1,598	65,300	340	48			5.9	1.082	HOPE	338G
2110	106,000				CALCULATED FROM RW = 0.071 AT 75 DEG (F)							LOWER WOLFCAMP	373I
2110	104,104	34,090	4,728	1,598	63,300	340	48			5.9	1.082	HOPE	0326K
2180	86,940	30,700	5,065	886	49,650	489	150			6.2	1.064	FLIPPEN	336G
2180	84,286				CALCULATED FROM RW = 0.084 AT 75 DEG (F)							WOLFCAMP	377I
2180	102,670	30,610	6,835	1,476	63,520	222	7			4.1	1.080	FLIPPEN SAND	0318K
2200	125,000	37,600	4,450	1,018	66,800	1,650	147			7.0	1.080	COOK	0324K
2200	134,300	35,900	5,060	1,640	69,200		45			6.1	1.087	GUNSIGHT	0333K
2290	120,000	35,200	5,220	1,670	68,300		175			6.4	1.078	GUNSIGHT	0332K
2381	74,538	24,398	3,407	666	44,329	1,580	158			7.3	1.058	FRYE SAND	0307K
2400	107,200	30,900	5,400	1,100	60,100	100	210			7.0	1.070	TANNEHILL	0310K
2424	100,800	33,700	2,920	1,895	62,200	315	310			6.7	1.066	GUNSIGHT	0336K
2430	73,077				CALCULATED FROM RW = 0.096 AT 75 DEG (F)							TANNEHILL	0312K
2500	48,825	15,940	1,520	864	28,500	2,000	149			6.5	1.040	COLEMAN JUNCTION	0303K
2500	63,000	21,200	1,570	620	34,000	4,300	212			7.1	1.043	COLEMAN JUNCTION	0306K
2530	74,500	21,650	2,880	525	39,600	2,300	265			7.4	1.049	NOODLE CR.,LM.	0313K
2560	80,500	23,900	2,790	695	42,200	1,950	200			7.2	1.053	NOODLE CR.,LM.	0315K
2575	72,900	23,440	2,540	670	41,100	1,875	222			7.4	1.048	NOODLE CREEK	0100L
2577	81,126	26,900	3,210	878	49,000	1,112	26			5.9	1.058	NOODLE CREEK	0314K
2590	121,500	36,040	3,400	2,670	69,100		350			6.9	1.079	GUNSIGHT	0335K
2730	135,900	38,600	4,880	2,620	75,700		400			6.5	1.088	GUNSIGHT	0334K
2750	92,982	29,900	4,880	880	57,100	138	84			6.0	1.073	GUNSIGHT	0337K
2796	82,000	23,330	3,672	820	45,675	1,000	800			8.1	1.054	SADDLE CREEK	0101L
2820	100,484	31,700	5,020	1,400	61,300	910	154			6.7	1.081	SWASTIKA	0344K
2904	69,231				CALCULATED FROM RW = 0.101 AT 75 DEG (F)							LOWER CISCO	369I
2925	113,373	36,550	3,290	2,759	70,400	9	245					GUNSIGHT	0331K
2957	88,572				CALCULATED FROM RW = 0.081 AT 75 DEG (F)							CISCO	371I
2980	96,102	30,310	4,027	2,039	59,250	224	252			7.3	1.074	HOPE	339G
2980	95,714				CALCULATED FROM RW = 0.076 AT 75 DEG (F)							LOWER WOLFCAMP	374I
2980	107,525	34,500	5,030	1,403	65,100	1,237	255			6.9	1.083	HOPE	0325K
2980	96,102	30,310	4,027	2,039	59,250	224	252			7.3	1.074	HOPE	0327K
***** DEPTH RANGE 3001 - 4000 *****													
3011	132,000	39,815	7,400	2,568	82,000	250	85			6.0	1.095	SWASTIKA	0340K
3080	113,816	35,260	7,120	1,074	70,320	42					1.081	SWASTIKA	00510
3125	107,342	33,610	5,220	1,890	66,580	6	36			5.5	1.088	SWASTIKA	340G
3125	109,000				CALCULATED FROM RW = 0.070 AT 75 DEG (F)							CISCO	370I
3125	107,342	33,610	5,220	1,890	66,580	6	36			5.5	1.088	SWASTIKA	0339K
3136	145,500	39,600	6,900	1,625	77,000	1,475	166			6.9	1.094	SWASTIKA	0341K
3175	102,670	30,610	6,835	1,476	63,520	222	7			4.1	1.080	COOK	337G
3175	103,000				CALCULATED FROM RW = 0.072 AT 75 DEG (F)							LOWER WOLFCAMP	372I
3200	117,459	36,660	6,095	1,782	71,800	1,028	94			7.0	1.090	SWASTIKA	0343K
3200	206,600	56,626	17,240	3,720	129,000	75	100			6.0	1.148	STRAWN SAND	0355K
3200	126,300	35,950	4,690	1,170	67,200	1,275	980			7.2	1.082	PALO PINTO	0102L
3270	97,826	29,740	5,857	1,347	58,990	1,638	254				1.073	PALO PINTO	00830
3275	103,049	33,143	4,680	1,725	61,770	1,525	204			6.0	1.080	PALO PINTO	0348K
3290	78,379	23,168	5,709	917	48,341	155	64			5.3	1.085	KING	0329K
3291	107,324	31,200	7,448	1,719	65,000	1,957					1.080	PALO PINTO	00910

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JONES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3296	99,884	31,170	5,006	1,567	60,480	1,861					1.078	PALO PINTO	00840
3300	120,842	37,959	7,378	967	74,088	314	136			6.4	1.096	SWASTIKA	0338K
3300	166,143	31,620	7,263	565	63,410	1,913					1.080	PALO PINTO	00900
3430	60,072	19,120	2,817	856	36,570	709					1.045	PALO PINTO	00920
3555	126,250											SWASTIKA	0342K
3600	167,443	45,980	13,145	2,070	105,900	192	156			6.2	1.123	CANYON	342G
3600	161,000											CANYON	347I
3600	131,443	45,980	13,145	2,070	105,900	192	156			6.7	1.123	CANYON	0346K
3600			11,100	1,500	106,500	160	2			5.3	1.121	CANYON	0347K
3600	166,396	47,500	14,160	210	104,000	390	136			6.5	1.135	PALO PINTO	0350K
3600	207,800	53,600	15,400	2,500	117,000	165	190			6.5	1.133	PALO PINTO	0351K
3600	100,900	33,000	4,070	1,360	61,000	700	425			6.9	1.062	CANYON	0353K
3800	125,500	39,600	7,450	735	76,500		34			5.9	1.100	BLUFF CREEK	0316K
***** DEPTH RANGE 4001 - 5000 *****													
4100	123,100	35,950	5,650	1,590	71,900	1,300	430			7.1	1.080	PALO PINTO	0352K
4200	156,500	40,160	12,480	1,705	88,900	11	166			6.3	1.101	CANYON SAND	0104L
4250	187,000	46,000	16,200	1,940	105,000	330				6.7	1.120	STRAWN	0359K
4400	146,500	46,100	9,292	1,480	83,700	500	95			6.4	1.096	PALO PINTO	0349K
4400	174,200	46,945	11,880	1,870	98,600	265	152			6.7	1.112	PALO PINTO LIME	0103L
4495	191,800	46,300	14,600	2,140	103,500	970				5.9	1.123	STRAWN SAND	0361K
4500	126,300	45,800	4,930	1,335	66,830	1,775	354			5.9	1.082	CANYON REEF	0107L
4544	76,498	24,895	3,357	949	46,510	528	259			7.8	1.053	TANNEHILL	0311K
4544	161,300	43,200	13,100	1,600	95,800	600	92			7.9	1.104	STRAWN	0360K
4552	76,498	24,895	3,357	949	46,510	528	259			7.8	1.053	TANNEHILL	343G
4552	76,154											WOLFCAMP	378I
4589	206,200	51,800	17,480	1,945	116,500	500				5.6	1.132	STRAWN	0356K
4648	207,600	50,500	14,850	2,050	109,000	280	142			6.5		STRAWN	0354K
4700	198,300	52,800	16,100	2,100	112,000	105				5.4	1.127	STRAWN SAND	0358K
4800	176,314	50,400	15,280	1,505	108,900	131	98			5.8	1.143	STRAWN	0357K
***** DEPTH RANGE 5001 - 6000 *****													
5574	88,100	27,500	3,160	810	48,900	1,950	405			7.0	1.058	ELLENBURGER	0362K
5858	63,700	21,400	2,160	535	37,300	1,800	408			6.7	1.042	CAMBRIAN	0367K
5858	56,856	19,412	2,008	442	33,110	1,164	720			6.7	1.045	CAMBRIAN	0368K
5858	69,800	25,200	2,310	550	37,500	1,550	550			7.0	1.046	CAMBRIAN	0369K
6000	70,100	22,500	2,160	560	38,600	1,880	460			6.3		CAMBRIAN	0363K
6000	77,500	23,500	2,200	554	40,000	1,900	512			6.8	1.051	CAMBRIAN	0364K
6000	88,200	22,800	2,400	600	39,700	1,600	385			6.7		CAMBRIAN	0365K
6000	60,000	18,700	2,065	450	33,000	1,900	421			6.5	1.042	CAMBRIAN	0105L
6000	72,900	20,310	2,576	525	37,900	1,300	480			7.7	1.048	CAMBRIAN	0106L

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KARNFS COUNTY

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400	1,190	341	68	10	365	112	428			7.4		CTHULA+ OKVLE SS	348A
860	1,230	433	7	1	420	109	313			8.2		CTHULA+ OKVLE SS	349A
***** DEPTH RANGE 1001 - 2000 *****													
1555	14,000											Z-2 0-2000 FT	327SP
1800	25,000											Z-2 0-2000 FT	331SP
2000	25,000											Z-2 0-2000 FT	328SP
***** DEPTH RANGE 2001 - 3000 *****													
2530	37,000											Z-3 2000-4000 FT	332SP
***** DEPTH RANGE 3001 - 4000 *****													
3210	32,500											Z-2 2000-4000 FT	333SP
3400	24,500											Z-3 2000-4000 FT	329SP
***** DEPTH RANGE 4001 - 5000 *****													
4040	12,100											CARRIZO-WILCOX	605SP
4600	5,000											CARRIZO-WILCOX	606SP
4900	21,500											Z-4 4000-6000 FT	334SP
***** DEPTH RANGE 5001 - 6000 *****													
5700	66,700	22,000	2,300	520	38,100	1,600	380			6.4	1.044	CAMBRIAN	0366K
5860	64,500											Z-4 4000-6000 FT	330SP
***** DEPTH RANGE 6001 - 7000 *****													
6430	60,000											Z-5 6000-8000 FT	326SP
6700	60,000											Z-5 6000-8000 FT	335SP
***** DEPTH RANGE 9001 - 10000 *****													
10000	197,109	48,024	11,850	514	96,500	23	198	19		6.5	1.100	EDWARDS LIME	01670
10000	33,255	9,637	2,810	145	19,700	13	950	23		6.3	1.022	EDWARDS LIME	01690
***** DEPTH RANGE 10001 - 11000 *****													
10800	115,235	24,120	10,400	6,320	74,000		320	75				EDWARDS LIME	01630
10800	96,232	17,411	16,350	1,631	60,500	30	310	48		6.3	1.065	EDWARDS LIME	01640
10869	196,991	57,000	17,000	3,750	119,000	126	104	11		6.2	1.140	EDWARDS LIME	01610
10884	29,209	7,340	3,660	85	18,000	26	88	10		5.9	1.020	EDWARDS LIME	01650
10884	133,401	36,400	13,100	1,109	82,500	49	215	28		6.4	1.095	EDWARDS	01660
10900	40,969	7,400	4,070	2,650	26,500	30	122	197		7.2	1.035	EDWARDS LIME	01620

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KAUFMAN COUNTY

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***** DEPTH RANGE 2001 - 3000 *****													
2051	2,570	785	7	2	348	453	1,075			8.2		WOODBINE SAND	240A
2400	7,470	1,360	9	3	1,210	269	1,184			8.2		WOODBINE SAND	239A
***** DEPTH RANGE 3001 - 4000 *****													
3241	39,506	14,700	593	82	23,600		531				1.029	WOODBINE	135H
3243	36,795	14,000	237	70	22,000		488				1.027	WOODBINE	136H
3250	37,750				CALCULATED FROM RW = 0.174 AT 75 DEG (F)							WOODBINE	84B
3250	39,750				CALCULATED FROM RW = 0.166 AT 75 DEG (F)							WOODBINE (LWSVL)	89B
3250	37,250				CALCULATED FROM RW = 0.176 AT 75 DEG (F)							WOODBINE (LWSVL)	90B
3250	38,710	14,600	530	21	23,400		159				1.030	WOODBINE	409H
3255	35,807	13,600	400	24	21,600		183				1.028	WOODBINE	133H
3261	34,666	13,000	370	96	20,700		500				1.029	WOODBINE	134H
3269	38,017	14,100	480	175	23,000		262				1.033	WOODBINE	129H
3404	44,182	16,500	670	75	26,900		37				1.034	WOODBINE	126H
3422	37,094	14,000	240	68	22,200		586				1.028	WOODBINE	130H
3425	42,000				CALCULATED FROM RW = 0.159 AT 75 DEG (F)							W.B. (LEWISVILLE)	85B
3641	47,317	18,000	394	72	28,400		451				1.034	WOODBINE	127H
3700	46,765				CALCULATED FROM RW = 0.144 AT 75 DEG (F)							WOODBINE	86B
3707	46,818	17,900	388	68	28,000		433				1.037	WOODBINE	128H
4000	53,889				CALCULATED FROM RW = 0.126 AT 75 DEG (F)							W.B. (L DEXTER)	87B
***** DEPTH RANGE 4001 - 5000 *****													
4006	39,050	14,600	530	93	23,400		427				1.040	WOODBINE	131H
4162	36,457	24,800	1,200	14	40,400		43				1.048	WOODBINE	391H
4173	51,298	22,200	1,250	331	37,200		317				1.048	WOODBINE	392H
4200	66,154				CALCULATED FROM RW = 0.105 AT 75 DEG (F)							WOODBINE	91B
4914	67,001	24,200	1,410	377	40,600		214				1.048	WOODBINE	393H
4968	13,607	4,800	205	80	7,300		295				1.017	PALUXY	394H
4973	12,237	4,400	229	11	6,700		300				1.013	PALUXY	395H
5000	13,441				CALCULATED FROM RW = 0.440 AT 75 DEG (F)							PALUXY	92B
***** DEPTH RANGE 5001 - 6000 *****													
5783	114,324	35,400	5,900	1,984	70,000		948				1.084	UPPER GLEN ROSE	132H
5790	106,000				CALCULATED FROM RW = 0.071 AT 75 DEG (F)							UPPER GLEN ROSE	88B
***** DEPTH RANGE 7001 - 8000 *****													
7700	76,000											PETTET-TRAVIS PK 744SP	

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KENDALL COUNTY

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1982	1,210		205	120	***** DEPTH RANGE 1001 - 2000 *****							TRINITY GROUP	178A
					13	688	342						

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KENEDY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
960	1,340	467	17	8	***** DEPTH RANGE 302	513	1 - 1000 156	*****			GOLIAD SAND	397A	
3895	23,000				***** DEPTH RANGE		3001 - 4000	*****			Z-3 2000-4000 FT	637SP	
5502	34,500				***** DEPTH RANGE		5001 - 6000	*****			Z-4 4000-6000 FT	638SP	
7850	27,000				***** DEPTH RANGE		7001 - 8000	*****			Z-5 6000-8000 FT	639SP	
9905	40,000				***** DEPTH RANGE		9001 - 10000	*****			Z-6 8000-10000FT	640SP	

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KENT COUNTY

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***** DEPTH RANGE 2001 - 3000 *****													
2161	33,085	10,392	1,280	309	14,400	5,750	954					WOLFCAMP	64F
2200	28,125				CALCULATED FROM RW = 0.061 AT 75 DEG (F)							SAN ANDRES	182C
2253	9,182	1,777	1,119	217	3,440	2,446	183					WOLFCAMP	67F
2325	120,349	34,197	8,845	2,149	73,402	1,518	238					SAN ANDRES	0370K
***** DEPTH RANGE 3001 - 4000 *****													
3151	185,561	61,438	9,145	919	112,500	1,450	109					WOLFCAMP	63F
3171	169,067	54,811	9,845	490	102,000	1,800	121					WOLFCAMP	62F
3195	177,452	58,484	9,263	735	108,000	900	151					WOLFCAMP	65F
3313	105,244	33,793	5,368	980	62,800	2,200	103					WOLFCAMP	61F
3456	177,452	56,022	10,240	1,645	108,800	630	115					WOLFCAMP	66F
***** DEPTH RANGE 4001 - 5000 *****													
4380	102,800	32,400	4,896	896	59,138	1,380	148			6.4	1.067	NOODLE CREEK	0108L
4395	192,451	54,647	12,970	1,901	112,450	360	123					CANYON REEF	47F
4566	98,455	33,339	4,080	515	59,200	1,150	171					CANYON REEF	48F
4605	172,045	53,475	11,131	1,315	105,622	398	104					STRAWN	58F
4608	166,682	50,749	10,839	1,915	102,749	298	132					STRAWN	59F
4637	128,472	42,591	5,555	1,126	77,850	1,122	228					CANYON REEF	49F
4650	76,154				CALCULATED FROM RW = 0.092 AT 75 DEG (F)							WOLFCAMP	513C
4780	91,429				CALCULATED FROM RW = 0.079 AT 75 DEG (F)							WOLFCAMP	515C
4790	66,154				CALCULATED FROM RW = 0.105 AT 75 DEG (F)							WOLFCAMP	514C
4830	87,143				CALCULATED FROM RW = 0.082 AT 75 DEG (F)							WOLFCAMP	516C
4928	75,638	25,913	2,839	291	43,850	2,550	195					STRAWN	60F
***** DEPTH RANGE 6001 - 7000 *****													
6100	105,400	49,300	7,700	1,440	93,500	120	99			6.1	1.107	ATKINS SAND	0371K
6100	201,400	64,950	9,250	1,725	121,200	123	67			5.5	1.129	ATKINS SAND	0372K
6100	147,570	44,600	10,400	1,320	91,000	116	134			5.7	1.117	CANYON SAND	0373K
6478	150,000				CALCULATED FROM RW = 0.052 AT 75 DEG (F)							PENN CANYON	599C
6500	192,451	54,647	12,970	1,901	112,450	360	123					CANYON REEF	0375K
6582	217,300	60,500	11,000	2,620	121,000	385	200			6.1	1.139	CANYON REEF	0374K
6600	165,664	51,010	10,270	1,909	102,165	283	27			6.2	1.126	STRAWN	0377K
6623	222,100	56,500	14,500	2,310	120,000	200	325			6.4	1.142	STRAWN	0378K
6718	143,333				CALCULATED FROM RW = 0.056 AT 75 DEG (F)							PENN STRAWN	655C
6721	133,333				CALCULATED FROM RW = 0.059 AT 75 DEG (F)							PENN STRAWN	656C
6746	143,333				CALCULATED FROM RW = 0.056 AT 75 DEG (F)							PENN STRAWN	653C
6750	166,682	50,749	10,839	1,915	102,749	298	298					STRAWN	0376K
6753	140,000				CALCULATED FROM RW = 0.057 AT 75 DEG (F)							PENN STRAWN	654C
***** DEPTH RANGE 7001 - 8000 *****													
7023	255,000				CALCULATED FROM RW = 0.033 AT 75 DEG (F)							PENN CANYON	596C

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7023	95,714												
7595	57,727												
7800	61,592	20,095	2,391	847	36,641	1,111	507			7.3	1.048	PENN CANYON ELLENBURGER ELLENBURGER	597C 1023C 0379K
8292	122,500												

***** DEPTH RANGE 7001 - 8000 *****
 CALCULATED FROM RW = 0.076 AT 75 DEG (F)
 CALCULATED FROM RW = 0.118 AT 75 DEG (F)

***** DEPTH RANGE 9001 - 9000 *****
 CALCULATED FROM RW = 0.064 AT 75 DEG (F)

T E X A S W A T E R D E V E L O P M E N T B O A R D

JUL 1971

SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

KIMBLE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
3806	51,667											ELLENBURGER	1024C

***** DEPTH RANGE 3001 - 4000 *****
CALCULATED FROM RW = 0.130 AT 75 DEG (F)

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STATE OF TEXAS
CHEMICAL ANALYSIS OF SALINE WATER

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KING COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	H ₂ HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.		
***** DEPTH RANGE 3001 - 4000 *****															
3660	25,840	8,250	600	426	11,050	4,880	834			7.8	1.020	BUNGER LINE	0109L		
3700	151,700		8,811	960	85,260	1,130	168			6.9	1.098	CISCO LIME	1210J		
***** DEPTH RANGE 4001 - 5000 *****															
4018	158,100	42,000	8,130	2,370	85,300	1,100	117			5.6	1.102	BURGER SAND	0380K		
4220	135,279	42,192	7,511	1,721	82,286	1,320	268					CANYON SAND	0382K		
4224	109,000				CALCULATED FROM RW = 0.070 AT 75 DEG (F)							PENN CANYON	601C		
4750	128,660	38,610	8,920	1,450	79,076	424	183			7.4	1.089	CANYON SAND	0381K		
***** DEPTH RANGE 5001 - 6000 *****															
5100	154,900		7,998	1,570	87,210	1,190	440		YES	6.1	1.100	CANYON LIME	1211J		
5237	169,714	48,880	12,800	2,520	105,000	422	92			5.8	1.124	DES MOINES SD.	0111L		
5300	154,900	40,700	8,630	2,210	85,500	1,005	425			6.4	1.100	STRAWN	0110L		
5314	156,798		9,177	2,150	96,200	930	137	4		6.2	1.108	STRAWN LIME	1212J		
5320	169,261	51,150	12,325	1,271	104,026	458	31			6.8	1.222	DES MOINES SD.	0113L		
5330	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							PENN STRAWN	657C		
5340	191,800	53,800	10,800	2,210	108,000	666	130			7.4	1.123	STRAWN SAND	0383K		
5404	73,077				CALCULATED FROM RW = 0.096 AT 75 DEG (F)							PENN GENERAL	723C		
5440	177,614		10,800	3,960	109,500	1,375	134			6.5	1.124	DES MOINES LIME	1213J		
5464	136,667				CALCULATED FROM RW = 0.058 AT 75 DEG (F)							PENN GENERAL	722C		
5487	176,532	53,800	9,700	3,240	109,000	670	122			6.2	1.125	DES MOINES SD.	0112L		
5560	191,800	53,800	10,450	2,150	107,000	790	127			6.3	1.123	MADZA FINLEY	0385K		
5680	54,444				CALCULATED FROM RW = 0.125 AT 75 DEG (F)							PENN CANYON	600C		
5956	175,000				CALCULATED FROM RW = 0.049 AT 75 DEG (F)							PENN GENERAL	724C		
***** DEPTH RANGE 6001 - 7000 *****															
6160	70,000				CALCULATED FROM RW = 0.100 AT 75 DEG (F)									ELLENBURGER	1025C
6348	118,812	35,721	7,650	1,316	70,716	1,317	92			6.5	1.085	ELLENBURGER	0114L		

T E X A S W A T E R D E V E L O P M E N T B O A R D

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KINNEY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (MCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE		1 - 1000	*****					
280	1,010	169	111	63	212	258	400				EDWARDS LS	203A	
312	1,020	216	60	74	178	234	524				EDWARDS LS	204A	

TEXAS WATER DEVELOPMENT BOARD
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STATE OF TEXAS
CHEMICAL ANALYSIS OF SALINE WATER
KLEBERG COUNTY

JUL 1971

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
100	8,410	2,020	569	400	4,640	627	1 - 1000	308				BEAUMONT CLAY	420A
725	1,110	358	33	11	278	270		267		8.3		GOLIAD SAND	398A
3000	15,500						2001 - 3000					CATAHOULA	245E
							CALCULATED FROM RW = 0.380 AT 75 DEG (F)						
3412	40,000						3001 - 4000					Z-3 2000-4000 FT	643SP
4695	23,269	8,257	738	35	14,000	111	4001 - 5000	128				FRIO	8D
5232	41,841	13,756	2,400	24	25,300	160	5001 - 6000	201				FRIO	7D
5376	35,000											Z-4 4000-6000 FT	644SP
5695	31,672	10,634	1,590	10	19,000	54		384				FRIO	9D
5884	109,545	37,171	4,314	768	67,108	88		70	24	6.0	1.076	MIOCENE	689J
6198	88,654	25,551	8,168	234	54,500	201	6001 - 7000					FRIO	11D
6669	15,840	5,809	195	18	8,750			1,068				FRIO	10D
6700	70,000											FRIO	234E
6840	47,500						CALCULATED FROM RW = 0.100 AT 75 DEG (F)					Z-5 6000-8000 FT	645SP
7622	63,846						7001 - 8000					FRIO	242E
7755	39,178	13,658	1,138	279	23,758	20	CALCULATED FROM RW = 0.108 AT 75 DEG (F)					MIOCENE	690J
8218	74,528	27,245	1,295	287	44,502	13	8001 - 9000	1,133	12	6.6	1.051	FRIO + MIOCENE	692J
8419	86,058	31,675	1,345	324	51,772	5		600	12	6.6	1.059	FRIO	691J
8450	62,308						CALCULATED FROM RW = 0.110 AT 75 DEG (F)					FRIO	244E
8738	44,500											Z-6 8000-10000 FT	646SP

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KNOX COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
37	1,850	372	112	99	340	469	481			7.6		ALLUVIUM	458A
38	1,140	187	135	55	251	315	272					ALLUVIUM	459A
45	1,410	294	113	60	296	386	394			7.9		ALLUVIUM	457A
50	1,000				395	1,750	224					WICHITA + CLR FK	46A
***** DEPTH RANGE 1001 - 2000 *****													
1620	126,250				CALCULATED FROM RW = 0.062 AT 75 DEG (F)					7.1	1.105	CISCO	383I
1700	134,802	41,800	7,518	1,946	83,100	290	148					CISCO	42G
1700	133,333				CALCULATED FROM RW = 0.059 AT 75 DEG (F)							CISCO	381I
1700	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							CISCO	382I
1700	134,802	41,800	7,518	1,946	83,100	290	148			7.1	1.105	E. WISDOM	0389K
1706	156,200	45,400	6,790	1,900	87,700		88			7.5	1.102	TANNEHILL	0387K
1750	81,472	26,642	3,150	1,051	47,162	3,266	201					TANNEHILL	0386K
***** DEPTH RANGE 2001 - 3000 *****													
2012	154,600	44,500	7,190	1,760	85,800	880	100			7.8	1.101	TANNEHILL	0388K
2100	74,500	20,800	3,204	320	39,130	1,600	240			6.8	1.049	COLEMAN JUNCTION	0115L
***** DEPTH RANGE 4001 - 5000 *****													
4170	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)					6.3	1.146	CANYON	380I
4175	181,693	52,197	13,910	2,612	112,700	139	135					CANYON	43G
4175	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							CANYON	379I
4175	181,693	52,197	13,910	2,612	112,700	139	135			6.3	1.146	CANYON	0390K
4300	226,900	60,800	15,000	3,300	129,600	130	190			6.2	1.145	PALO PINTO	0391K
4725	204,968	58,870	16,146	2,670	126,947	227	104					STRAWN	0392K

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LAMB COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE 1 - 1000 *****								
100	6,450	884	552	466	1,310	3,020	236			7.5	OGALLALA FORM	379A	
198	4,030	742	251	246	748	1,780	410			8.0	OGALLALA FORM	378A	
208	3,810	755	216	211	732	1,670	326			8.0	OGALLALA FORM	377A	
					***** DEPTH RANGE 3001 - 4000 *****								
3802	126,250				CALCULATED FROM RW = 0.062 AT 75 DEG (F)						SAN ANDRES	0432P	
					***** DEPTH RANGE 4001 - 5000 *****								
4030	155,000				CALCULATED FROM RW = 0.053 AT 75 DEG (F)						SAN ANDRES	1214J	
4215	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)						SAN ANDRES	183C	
					***** DEPTH RANGE 6001 - 7000 *****								
6450	71,539				CALCULATED FROM RW = 0.098 AT 75 DEG (F)						CLEARFORK	333C	
6868	28,000				CALCULATED FROM RW = 0.226 AT 75 DEG (F)						LOWER WOLFCAMP	0433P	
6870	37,500				CALCULATED FROM RW = 0.175 AT 75 DEG (F)						WOLFCAMP	517C	
					***** DEPTH RANGE 8001 - 9000 *****								
8189	70,000				CALCULATED FROM RW = 0.100 AT 75 DEG (F)						CANYON	0434P	

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CHEMICAL ANALYSIS OF SALINE WATER

LAMPASAS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
280	1,470	451	51	27	***** DEPTH RANGE 350	407	1 - 1000 365	*****			TRAVIS PEAK	135A	
1091	83,600	28,400	3,710	1,010	***** DEPTH RANGE 51,200	129	1001 - 2000 327	*****			PENNSYLVANIAN	18A	

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LA SALLE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
75	1,720	430	106	45	385	589	299	2		7.7		UPPER CLAIHORNE	319A
250	5,820	2,060	35	11	1,650	1,830	434			8.5		UPPER CLAIHORNE	318A
390	4,700											Z-2 0-2000 FT	448SP
880	4,500											Z-2 0-2000 FT	362SP
900	420											Z-2 0-2000 FT	454SP
945	2,000											Z-2 0-2000 FT	456SP
***** DEPTH RANGE 1001 - 2000 *****													
1140	2,600											Z-2 0-2000 FT	451SP
1260	3,800											Z-2 0-2000 FT	452SP
1310	15,000											Z-2 0-2000 FT	363SP
1580	700											CARRIZO-WILCOX	592SP
1660	5,500											Z-2 0-2000 FT	449SP
1700	2,360	933	3	1	422	192	1,489	1		8.0		MT SELMAN FORM	305A
1740	4,200											Z-2 0-2000 FT	367SP
1900	5,100											Z-2 0-2000 FT	364SP
***** DEPTH RANGE 2001 - 3000 *****													
2060	700											CARRIZO-WILCOX	593SP
2080	8,000											Z-2 0-2000 FT	368SP
2170	17,500											Z-2 0-2000 FT	369SP
2360	1,150	396	14	4	118	110	714	1				CARRIZO SAND	287A
2380	17,000											Z-3 2000-4000 FT	370SP
2910	12,000											CARRIZO-WILCOX	594SP
***** DEPTH RANGE 3001 - 4000 *****													
3370	3,700											Z-3 2000-4000 FT	457SP
3415	800											CARRIZO-WILCOX	506SP
3500	2,000											CARRIZO-WILCOX	505SP
3550	3,200											CARRIZO-WILCOX	371SP
3730	15,000											CARRIZO-WILCOX	365SP
3760	4,500											CARRIZO-WILCOX	453SP
***** DEPTH RANGE 4001 - 5000 *****													
4150	3,000											CARRIZO-WILCOX	455SP
4200	1,120	443	2	1	179	104	741			8.4		CARRIZO SAND	283A
4300	8,800											Z-4 4000-6000 FT	450SP
4420	7,100											CARRIZO-WILCOX	507SP
4740	29,000											CARRIZO-WILCOX	366SP
***** DEPTH RANGE 5001 - 6000 *****													
5054	33,600											OLMOS	246E
CALCULATED FROM RW = 0.192 AT 75 DEG (F)													

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

LA SALLE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
5495	28,750											WILCOX	247E

***** DEPTH RANGE 5001 - 6000 *****
 CALCULATED FROM RW = 0,220 AT 75 DEG (F)

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

LAVACA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
100	1,900	248	384	49	910	41	1 - 1000 450	*****		7.1		CTHULA+ OKVLE SS	351A
1900	7,000											Z-2 0-2000 FT	232SP
1980	8,400											Z-2 0-2000 FT	349SP
2260	12,600											Z-3 2000-4000 FT	233SP
2670	7,200											Z-3 2000-4000 FT	445SP
3730	28,500											Z-3 2000-4000 FT	234SP
3730	35,000											Z-3 2000-4000 FT	350SP
7830	18,500											CARRIZO-WILCOX	446SP
8306	29,764	11,000	400	60	18,000		8001 - 9000 300	4		6.5	1.028	WILCOX	720J
8510	68,000											CARRIZO-WILCOX	351SP
8650	22,300											CARRIZO-WILCOX	235SP

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CHEMICAL ANALYSIS OF SALINE WATER

LEE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
200	700						1 - 1000						
210	2,090	350	248	92	640	557	337			7.4		CARRIZO-WILCOX SPARTA SAND	620SP 312A
1364	1,080	417	5	2	94	155	762			8.5		CARRIZO SAND	293A
1800	350											CARRIZO-WILCOX	621SP
2440	700						2001 - 3000					CARRIZO-WILCOX	622SP
3100	590						3001 - 4000					CARRIZO-WILCOX	623SP
4650	22,000						4001 - 5000					CARRIZO-WILCOX	624SP
5150	50,000						5001 - 6000					CARRIZO-WILCOX	625SP
5900	68,000											CARRIZO-WILCOX	626SP

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STATE OF TEXAS

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LEON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
5644	86,585	30,586	2,500	430	52,500	69	500				1.064	WOODBINE	21H
5700	73,846											WOODBINE	93B
5700	92,857											WOODBINE	95B
5720	78,038									6.6		WOODBINE	1090J
5720	78,789									6.7		WOODBINE	1091J
5734	73,719	27,164	1,200	260	44,300	42	753				1.050	WOODBINE	22H
5745	73,719	27,164	1,700	320	44,300	42	753				1.050	WOODBINE	23H
5746	83,560	30,807	1,198	431	50,500	92	532				1.061	WOODBINE	24H
5800	100,000											WOODBINE	94B
***** DEPTH RANGE 8001 - 9000 *****													
8300	143,333												263E
8300	190,000												264E
8300	140,000												265E
8710	141,495	41,028	11,565	1,295	87,240	283	85			6.2	1.111	RODESSA	1092J
***** DEPTH RANGE 9001 - 10000 *****													
9100	170,000												262E
9650	32,000												PETTET-TRAVIS PK 739SP

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

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LIBERTY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SU4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
443	1,140	332	85	15	550	4	264					LISSIE FORM	414A
834	1,140	423	26	3	560	12	240					LISSIE FORM	415A
***** DEPTH RANGE 1001 - 2000 *****													
1329	85,714											MIOCENE	257E
1370	10,000											Z-2 0-2000 FT	110SP
1527	82,857											MIOCENE	258E
1870	73,846											MIOCENE	259E
***** DEPTH RANGE 2001 - 3000 *****													
2059	109,000											MIOCENE	260E
2649	3,952											MIOCENE	250E
2650	22,000											Z-3 2000-4000 FT	1145P
2760	15,500											Z-3 2000-4000 FT	029SP
***** DEPTH RANGE 3001 - 4000 *****													
3070	54,000											Z-3 2000-4000 FT	1115P
3200	40,000											Z-3 2000-4000 FT	0275P
3200	47,500											Z-3 2000-4000 FT	0745P
***** DEPTH RANGE 4001 - 5000 *****													
4035	84,286											FRIO	251E
4207	109,219	37,057	3,500	1,312	67,000		275	75		6.8	1.075	FRIO	113J
4207	95,460				58,000							MIOCENE	714J
4207	109,144	37,057	3,500	1,312	67,000		275	80		6.8	1.075	FRIO + MIOCENE	1006J
4280	64,000											Z-4 4000-6000 FT	080SP
4450	72,000											Z-4 4000-6000 FT	1155P
4600	50,000											Z-4 4000-6000 FT	1125P
4880	56,000											Z-4 4000-6000 FT	0755P
***** DEPTH RANGE 5001 - 6000 *****													
6000	70,000											VICKSBURG	252E
6000	73,846											VICKSBURG	253E
***** DEPTH RANGE 6001 - 7000 *****													
6074	70,000											VICKSBURG	254E
6100	125,063	45,177	2,806	573	76,150	21	280	14		7.0	1.084	VICKSBURG	1010J
6100	115,099	41,622	2,453	544	69,768	18	623	12		7.0	1.078	VICKSBURG	1026J
6560	120,000											Z-5 6000-8000 FT	0815P
6750	79,000											Z-5 6000-8000 FT	1135P
7000	58,780	19,320	2,429	744	36,240		47			7.5	1.042	NOD. MEX.	715J

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

LIBERTY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 7001 - 8000 *****													
7550	100,000											Z-5 6000-8000 FT	116SP
7850	48,000											Z-5 6000-8000 FT	076SP
***** DEPTH RANGE 8001 - 9000 *****													
8136	40,802	14,100	1,331	260	24,645	2	415			7.2	1.029	YEGUA, FRIO	707J
8136	41,484	13,801	1,731	340	25,177	8	351			7.4	1.030	YEGUA, MIOCENE	709J
8136	41,636	14,489	1,287	253	25,141	3	419			7.2	1.030	FRIO, YEGUA	710J
8136	40,581	14,102	1,259	253	24,485	3	433			7.2	1.028	FRIO MIOCENE	711J
8136	36,532	12,685	1,134	231	22,021	2	420			7.2	1.024	YEGUA MIOCENE	712J
8136	114,507	42,540	1,796	287	69,324	63	454	13		6.7	1.077	LOWER YEGUA	1009J
8450	25,000											CARRIZO-WILCOX	077SP
8480	90,000											Z-6 8000-10000 FT	117SP
8500	126,250											WILCOX	248E
8500	160,000											WILCOX	249E
8500	160,000											WILCOX	261E
9000	70,000											YEGUA	255E
CALCULATED FROM RW = 0.062 AT 75 DEG (F)													
CALCULATED FROM RW = 0.052 AT 75 DEG (F)													
CALCULATED FROM RW = 0.052 AT 75 DEG (F)													
CALCULATED FROM RW = 0.100 AT 75 DEG (F)													
***** DEPTH RANGE 9001 - 10000 *****													
9052	92,737	34,626	1,196	284	55,936		673			6.8	1.070	EY-1B	716J
9052	96,006	35,927	1,252	275	58,267		285			6.9	1.071	EY-1B	717J
9522	40,638	14,145	1,242	253	24,521	4	431			7.2	1.028	FRIO, MIOCENE	708J
9522	24,379	7,838	1,238	199	14,680		373	20		7.2	1.018	MIOCENE	1007J
9522	23,281	8,228	603	117	13,829	37	441	8		7.5	1.017	MIOCENE	1008J
9950	107,275	39,570	1,764	335	64,892	2	545			6.6	1.073	YEGUA, COOK MT	706J
***** DEPTH RANGE 10001 - 11000 *****													
10400	97,143											COOK MTN	256E
10488	20,190	7,634	43	16	10,840	419	1,191			8.3	1.014	EY-2B (FRIO)	705J
10540	60,000											CARRIZO-WILCOX	082SP
***** DEPTH RANGE 11001 - 12000 *****													
11111	121,393	43,058	3,682	478	74,026		511	38		6.5	1.080	YEGUA	718J
***** DEPTH RANGE 12001 - 13000 *****													
12880	18,000											10000-12000 FT	118SP

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

LIMESTONE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2830	26,575	9,666	461	149	15,957	25	317				1.020	WOODBINE	251H
2836	28,873	10,567	453	158	17,375	9	311				1.020	WOODBINE	252H
2849	26,027	9,453	461	144	15,602	7	360				1.020	WOODBINE	253H
2850	27,875				CALCULATED FROM RW = 0.227 AT 75 DEG (F)							WOODBINE	97B
2856	22,438	8,063	441	156	13,474	5	299				1.018	WOODBINE	254H
2932	31,017	11,311	505	172	18,581	9	439				1.021	WOODBINE	210H
2970	29,105	10,684	437	137	17,375	27	445				1.022	WOODBINE	212H
2972	29,290	10,727	449	150	17,517	8	439				1.021	WOODBINE	209H
***** DEPTH RANGE 3001 - 4000 *****													
3004	29,128	10,700	425	147	17,446	7	403				1.020	WOODBINE	211H
3020	28,943	10,572	465	150	17,304	7	445				1.020	WOODBINE	213H
3027	32,090	11,499	744	170	19,361	32	284				1.024	WOODBINE	214H
3036	30,799	11,273	485	155	18,439	5	442				1.024	WOODBINE	215H
3042	29,608	10,864	437	153	17,730	6	418				1.022	WOODBINE	216H
3065	32,425	11,818	561	179	19,573	4	290				1.023	WOODBINE	217H
3100	28,250				CALCULATED FROM RW = 0.224 AT 75 DEG (F)							WOODBINE	96B
3900	3,300											WOODBINE SAND	660SP
***** DEPTH RANGE 4001 - 5000 *****													
4950	60,000											PETTET-TRAVIS PK	686SP
***** DEPTH RANGE 5001 - 6000 *****													
5683	145,198	42,663	11,147	1,452	89,352	478	100				1.013	PETTET	123H
***** DEPTH RANGE 8001 - 9000 *****													
8430	230,000											PETTET-TRAVIS PK	687SP

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

LIPSCOMB COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
5846	106,000											DOUGLAS SAND	0439P
***** DEPTH RANGE 6001 - 7000 *****													
6150	116,875											DOUGLAS SAND	0436P
6163	115,000											DOUGLAS SAND	0438P
6178	87,143											DOUGLAS SAND	0435P
6274	100,000											DOUGLAS SAND	0437P
6390	126,250											DOUGLAS SAND	0441P
6399	136,667											DOUGLAS SAND	0440P
6558	98,572											TONKAWA SAND	0446P
6635	178,148	54,266	11,824	1,903	109,926	144	85			5.0	1.124	LOWER TONKAWA	499J
6635	112,000											TONKAWA SAND	0445P
6644	97,143											TONKAWA SAND	0443P
6669	92,857											TONKAWA SAND	0447P
6689	92,857											TONKAWA SAND	0442P
***** DEPTH RANGE 7001 - 8000 *****													
7090	136,667											TONKAWA SAND	0448P
7563	98,572											CLEVELAND SAND	0449P
***** DEPTH RANGE 8001 - 9000 *****													
8631			7,380	370	26,930		1,440			6.4	1.036	MORROW	495J
8631			1,729	131	28,520		1,171			7.2	1.030	MORROW	496J
8631			42	10	76					8.1	1.000	MORROW SAND	497J
8933	43,293	14,712	1,580	305	25,710	610	376			7.0	1.031	UPPER MORROW	498J
***** DEPTH RANGE 9001 - 10000 *****													
9006	13,735											LOWER MORROW	0464P
9032	15,134											LOWER MORROW	0460P
9469	14,951											LOWER MORROW	0458P
9691	133,333											LOWER MORROW	0456P
9732	17,933	6,412	386	17	9,800	136	1,122			8.3	1.015	LOWER MORROW	956J
9799	49,412											LOWER MORROW	0457P
9864	11,541											LOWER MORROW	0454P
9975	112,000											LOWER MORROW	0453P
***** DEPTH RANGE 10001 - 11000 *****													
10036	180,000											LOWER MORROW	0452P
10069	6,296											LOWER MORROW	0455P
10146	130,000											LOWER MORROW	0451P
10358	90,000											LOWER MORROW	0450P

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

LIPSCOMB COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
10367	8,276												
10404	14,402											LOWER MORROW	0459P
10478	15,984											LOWER MORROW	0463P
10599	14,402											LOWER MORROW	0461P
												LOWER MORROW	0462P
14061	205,000											ELLENBURGER	0465P

***** DEPTH RANGE 10001 - 11000 *****
 CALCULATED FROM RW = 0.680 AT 75 DEG (F)
 CALCULATED FROM RW = 0.410 AT 75 DEG (F)
 CALCULATED FROM RW = 0.370 AT 75 DEG (F)
 CALCULATED FROM RW = 0.410 AT 75 DEG (F)

***** DEPTH RANGE 14001 - 15000 *****
 CALCULATED FROM RW = 0.043 AT 75 DEG (F)

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

LIVE OAK COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
200	1,320	484	21	9	638	2	292			8.4		GOLIAD SAND	409A
454	3,430	1,200	41	6	1,110	819	386					JACKSON GROUP	332A
500	1,230	300	74	20	267	316	343	1		7.4		CTHULA OKVLE SS	345A
***** DEPTH RANGE 1 - 1000 *****													
1135	4,000											/CARRIZO-WILCOX	361SP
1655	21,000											Z-2 0-2000 FT	356SP
1880	7,800											Z-2 0-2000 FT	253SP
1900	4,500											Z-2 0-2000 FT	431SP
***** DEPTH RANGE 1001 - 2000 *****													
2040	26,000											Z-2 0-2000 FT	357SP
2205	10,000											Z-2 0-2000 FT	254SP
2400	42,000											Z-3 2000-4000 FT	358SP
2710	29,000											Z-3 2000-4000 FT	434SP
2905	28,000											Z-3 2000-4000 FT	428SP
***** DEPTH RANGE 2001 - 3000 *****													
3050	60,000											Z-3 2000-4000 FT	359SP
3240	40,000											Z-3 2000-4000 FT	429SP
3800	13,147											VICKSBURG	267E
3850	13,147											VICKSBURG	268E
3850	19,000											Z-3 2000-4000	255SP
***** DEPTH RANGE 3001 - 4000 *****													
4400	24,310											HOCKLEY	266E
4430	18,000											CARRIZO-WILCOX	430SP
4490	47,500											Z-4 4000-6000 FT	360SP
4540	40,000											Z-4 4000-6000 FT	435SP
4730	39,500											Z-4 4000-6000 FT	256SP
***** DEPTH RANGE 4001 - 5000 *****													
5300	32,000											YEGUA	269E
***** DEPTH RANGE 5001 - 6000 *****													
8000	53,086	19,688	920	73	32,000		405	10		7.3	1.040	WILCOX	01310
***** DEPTH RANGE 7001 - 8000 *****													
10870	55,000											CARRIZO-WILCOX	257SP
***** DEPTH RANGE 10001 - 11000 *****													

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

LOVING COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
246	4,200	369	637	248	880	2,030	1 - 1000	68				ALLUVIUM	452A
34.14 3592	116,000 115,000	37,500	7,000	1,520	70,100	1,550	3001 - 4000	46				DELAWARE MT GP DELAWARE	31A 87C
45.10 4510	202,514 219,880	56,217 55,706	18,080 22,400	3,499 4,080	125,872 137,500	398 170	4001 - 5000	24		5.5	1.160	DELAWARE SAND DELAWARE	1184J 1185J
4527	205,000											DELAWARE	88C
4607	195,000											DELAWARE	86C
4612	140,000											DELAWARE	89C
4900	244,389	58,290	27,480	4,109	152,225	185		15		6.0	1.199	DELAWARE SAND	1182J
4950	282,803	101,729	6,400	1,440	171,000	2,000		234		6.4	1.181	DELAWARE SAND	1183J
4993	234,482	57,408	24,000	5,520	147,000	500		54		5.4	1.175	DELAWARE	1186J
5032	217,466		9,940	19,460	155,600	165	5001 - 6000	120				DELAWARE	1255J

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SALINE WATER RESOURCES SURVEY

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CHEMICAL ANALYSIS OF SALINE WATER

LUBBOCK COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
135	1,080	164	78	96	151	398	386					OGALLALA FORM	375A
150	1,080	166	76	94	146	421	345					OGALLALA FORM	376A
999	20,600	7,420	284	122	10,800	1,850	230			7.4		ROCKUM	129A
***** DEPTH RANGE 5001 - 6000 *****													
5002	190,000											CLEARFORK	335C
5182	170,000											CLEARFORK	334C
5920	116,875											WICHITA-ALBANY	432C
6000	120,625											ABO	448C
***** DEPTH RANGE 6001 - 7000 *****													
6102	190,000											CLEARFORK	336C
***** DEPTH RANGE 7001 - 8000 *****													
7300	210,000											CLEARFORK	337C
***** DEPTH RANGE 10001 - 11000 *****													
10150	87,143											ELLENBURGER	1028C
10306	146,667											PENN GENERAL	725C
10451	165,000											ELLENBURGER	1029C
10670	180,000											MISSISSIPPIAN	772C
***** DEPTH RANGE 11001 - 12000 *****													
11130	45,000											ELLENBURGER	1027C
11327	59,091											ELLENBURGER	1026C
11804	220,000											MISSISSIPPIAN	773C

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CHEMICAL ANALYSIS OF SALINE WATER

LYNN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE 1 - 1000 *****								
27	1,890	262	96	142	222	685	518			7.7		EDWARDS LS	218A
82	3,160	595	194	165	400	1,560	272			7.2		OGALLALA FORM	372A
99	1,820	288	118	142	555	543	178			7.9		OGALLALA FORM	371A
117	17,400	3,090	727	1,520	5,920	5,970	276			7.6		OGALLALA FORM	373A
128	1,390	222	98	104	320	418	314			8.0		OGALLALA FORM	369A
200	3,280	672	109	237	820	1,270	264	27		7.5		DOCKUM	120A
200	4,590	1,590	69	52	2,050	667	314			7.8		OGALLALA FORM	370A
					***** DEPTH RANGE 3001 - 4000 *****								
3803	162,852	43,900	14,100	3,100	101,200	423	129			5.7	1.136	SAN ANDRES	1054J
3803	173,571	47,100	15,000	3,062	107,900	382	127		YES	5.9	1.150	SAN ANDRES	1056J
					***** DEPTH RANGE 4001 - 5000 *****								
4299	211,297	63,000	14,230	2,920	131,000	137	10			5.2	1.167	GLORIETA	1057J
4904	61,539				CALCULATED FROM RW = 0.111 AT 75 DEG (F)							SAN ANDRES	184C
					***** DEPTH RANGE 6001 - 7000 *****								
6850	205,000				CALCULATED FROM RW = 0.043 AT 75 DEG (F)							SPRABERRY	464C
					***** DEPTH RANGE 8001 - 9000 *****								
8630	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							PENN GENERAL	726C
					***** DEPTH RANGE 9001 - 10000 *****								
9606	146,667				CALCULATED FROM RW = 0.055 AT 75 DEG (F)							PENN GENERAL	728C
9743	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							PENN GENERAL	727C
9743	116,875				CALCULATED FROM RW = 0.067 AT 75 DEG (F)							PENN GENERAL	729C
9830	230,778	61,960	18,754	5,411	144,300	272	65	4		6.4	1.156	PENN - STRAWN	1058J

T E X A S W A T E R D E V E L O P M E N T B O A R D

JUL 1971

SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MCCULLOCH COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
900	5,640				***** DEPTH RANGE 3,310	10	1 - 1000 116	*****		9.2		PENNSYLVANIAN	22A
1500	1,050	388	17	9	***** DEPTH RANGE 400	14	1001 - 2000 403	*****		8.4		PENNSYLVANIAN	12A
2150	1,030	384	14	7	***** DEPTH RANGE 335	19	2001 - 3000 409	*****		8.2		PENNSYLVANIAN	11A

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MCLENNAN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
355	1,300	1,360	39	45	**** DEPTH RANGE 180	2,330	1 - 1000 688	****				TRINITY GROUP	193A
2311 2500	3,330 4,100	933	112	46	**** DEPTH RANGE 242 760	1,830 1,770	2001 - 3000 298 396	**** 1		7.6 8.1		TRINITY GROUP WOODBINE SAND	194A 222A
3010	3,800	1,040	148	39	**** DEPTH RANGE 198	2,270	3001 - 4000 180	****				WOODBINE SAND	223A

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MCMULLEN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1	1,000	2,620	486	211	1,020	8,680	1 - 1000	10		3.3		UPPER CLAIBORNE	321A
155	5,000											Z-1 ABOVE SEA LV	440SP
250	11,500											Z-2 0-2000 FT	436SP
335	7,000											Z-1 ABOVE SEA LV	352SP
760	700											Z-2 0-2000 FT	411SP
***** DEPTH RANGE 1001 - 2000 *****													
1030	10,000											Z-2 0-2000 FT	437SP
1057	9,071											PETTUS	286E
1355	20,500											Z-2 0-2000 FT	353SP
1410	4,400											Z-2 0-2000 FT	591SP
1690	20,000											Z-2 0-2000 FT	412SP
***** DEPTH RANGE 3001 - 4000 *****													
3030	11,122											JACKSON	1005J
3440	850											CARRIZO-WILCOX	587SP
3460	20,000											Z-3 2000-4000 FT	413SP
3500	19,500											Z-3 2000-4000 FT	438SP
3990	1,300											CARRIZO-WILCOX	588SP
***** DEPTH RANGE 4001 - 5000 *****													
4150	1,430	591	1	1	168	3	1,280			8.2		CARRIZO SAND	284A
4470	4,000											CARRIZO-WILCOX	590SP
4950	15,500											CARRIZO-WILCOX	354SP
4950	3,950											Z-4 4000-6000 FT	447SP
***** DEPTH RANGE 5001 - 6000 *****													
5040	25,000											CARRIZO-WILCOX	589SP
5525	17,000											Z-4 4000-6000 FT	414SP
5640	13,500											CARRIZO-WILCOX	439SP
***** DEPTH RANGE 6001 - 7000 *****													
6645	12,500											CARRIZO-WILCOX	355SP
6980	9,250											CARRIZO-WILCOX	415SP
***** DEPTH RANGE 1001 - 12000 *****													
11285	126,250											EDWARDS	287E
CALCULATED FROM RW = 0.062 AT 75 DEG (F)													

T E X A S W A T E R D E V E L O P M E N T B O A R D

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MADISON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1550	400											CARRIZO-WILCOX	533SP
													***** DEPTH RANGE 1001 - 2000 *****
2330	6,800											CARRIZO-WILCOX	508SP
2540	920											CARRIZO-WILCOX	534SP
													***** DEPTH RANGE 2001 - 3000 *****
3215	8,600											CARRIZO-WILCOX	509SP
													***** DEPTH RANGE 3001 - 4000 *****
4010	29,000											CARRIZO-WILCOX	510SP
4010	1,500											CARRIZO-WILCOX	535SP
4155	5,100											CARRIZO-WILCOX	532SP

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MARION COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1000	28,625											NATATOCH	98B
***** DEPTH RANGE 1 - 1000 ***** CALCULATED FROM RW = 0.221 AT 75 DEG (F)													
2300	33,765	11,800	960	271	20,500	28	206				1.026	TOKIO	194H
2400	44,166	15,700	1,060	339	27,000	18	49				1.033	TOKIO	195H
2700	47,353											PALUXY	99B
***** DEPTH RANGE 2001 - 3000 ***** CALCULATED FROM RW = 0.142 AT 75 DEG (F)													
6000	195,000											RODESSA	100B
***** DEPTH RANGE 5001 - 6000 ***** CALCULATED FROM RW = 0.045 AT 75 DEG (F)													
6077	226,057	62,711	20,195	2,699	140,063	310	79				1.152	RODESSA	310H
6079	225,755	61,332	21,197	2,839	140,063	297	67				1.155	RODESSA	311H
6100	200,000											RODESSA	101B
6100	225,740	61,391	20,997	2,909	140,063	307	73				1.155	RODESSA	312H
6102	223,368	65,841	15,778	3,101	138,290	299	49				1.155	LOWER GLEN ROSE	319H
6653	163,456	55,000	2,760	106	105,000	520	130			5.8	1.140	PETTET, TRAVIS PK	1254J
***** DEPTH RANGE 6001 - 7000 ***** CALCULATED FROM RW = 0.044 AT 75 DEG (F)													
7080	200,000											LOWER GLEN ROSE	729SP
***** DEPTH RANGE 7001 - 8000 *****													

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MARTIN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
100	1,320	237	104	67	378	322	232			8.2		OGALLALA FORH	359A
4030 4480	59,091 26,458											SAN ANDRES SAN ANDRES	186C 185C
6345 6638	116,875 47,353											CLEAFORK SPRABERRY	338C 465C
7512 7877	34,600 132,026	37,000	9,800	2,673	80,800	1,560	193			6.7	1.105	BURGER SPRABERRY	466C 373J
8172 8172 8172 8300 8350 8350 8501 8725	58,083 50,511 131,900 121,725	47,200 44,481	2,020 1,828 3,520 2,445	571 559 486 447	35,386 30,814 80,000 73,757	229 187 375 406	207 195 294 189	43 47 25		7.2 6.4 6.7 7.0	1.081 1.071 1.085 1.088	DEAN SAND DEAN SAND DEAN SAND SPRABERRY	377J 378J 379J 382J
8350 8350 8501 8725	4,000 3,100 193,885 76,154	57,500	4,000 3,100 1,760	480 633	98,000 97,000 92,500	930 900 870	360 400 622	430		6.9 7.8	1.113 1.100 1.105	SPRABERRY SPRABERRY SPRABERRY BURGER	381J 383J 786J 467C
9442 9442 9846	109,507 126,899 5,361	38,591 45,170 2,480	2,960 3,080 160	756 805 40	66,500 76,600 2,670	400 970 5	300 273			6.3 6.4 6.5	1.077 1.089	8790 DEAN 8790 DEAN DEAN-WOLFCAMP	374J 375J 376J
10820 10820 10950 11000	67,692 67,692 127,882 54,160	19,250	25,600 2,100	1,942 1,170	80,000 32,500	870 1,200	220 650			5.6 6.8	1.103 1.038	ELLENBURGER ELLENBURGER STRAWN DEVONIAN	1030C 1031C 787J 384J
11165 11690	28,750 51,667											ELLENBURGER DEVONIAN	1033C 806C
12078	40,000											DEVONIAN	805C

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

MARTIN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 12001 - 13000 *****													
12078			7,500	1,650	42,500	1,030	366			6.6	1.049	DEVONIAN	380J
12078	53,750	13,200	2,900	800	26,400		450				1.030	DEVONIAN	386J
12078	40,580	11,000	3,000	1,100	25,000		480				1.032	DEVONIAN	387J
12090	35,674	11,379	1,944	181	20,212	970	986			6.9	1.030	DEVONIAN	385J
12140	275,000				CALCULATED FROM RW = 0.029 AT 75 DEG (F)							DEVONIAN	804C
12140	21,774				CALCULATED FROM RW = 0.280 AT 75 DEG (F)							DEVONIAN	807C
12140	95,714				CALCULATED FROM RW = 0.076 AT 75 DEG (F)							SILURO-FUSSELMAN	857C
12165	30,800				CALCULATED FROM RW = 0.206 AT 75 DEG (F)							SILURIAN	919C
12630	31,000				CALCULATED FROM RW = 0.205 AT 75 DEG (F)							FUSSELMAN	898C
***** DEPTH RANGE 13001 - 14000 *****													
13165	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							ELLENBURGER	1032C

SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MATAGORDA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
600	1,320	519	11	8	358	3	829					BEAUMONT CLAY	427A
744	1,380	535	12	5	630	2	364			7.8		BEAUMONT CLAY	428A
***** DEPTH RANGE 1 = 1000 *****													
1160	19,500												
1162	35,000											Z-2 0-2000 FT	091SP
1420	5,000											MIOCENE	270E
1430	30,000											Z-2 0-2000 FT	171SP
1470	44,000											Z-2 0-2000 FT	347SP
1530	40,800											Z-2 0-2000 FT	092SP
***** DEPTH RANGE 1001 = 2000 *****													
CALCULATED FROM RW = 0.185 AT 75 DEG (F)													
***** DEPTH RANGE 2001 = 3000 *****													
2195	80,000											MIOCENE	271E
2350	39,000											Z-3 2000-4000 FT	093SP
2560	60,000											Z-3 2000-4000 FT	125SP
***** DEPTH RANGE 3001 = 4000 *****													
3280	45,000											Z-3 2000-4000 FT	094SP
3810	66,000											Z-3 2000-4000 FT	476SP
3900	47,941											FRIO	274E
3995	66,154											MIOCENE	272E
***** DEPTH RANGE 4001 = 5000 *****													
4100	62,308											FRIO	275E
4200	45,000											FRIO	276E
4360	60,000											Z-4 4000-6000 FT	348SP
4371	81,429											MIOCENE	273E
4385	81,819	29,797	1,660	263	49,400		415			6.7		FRIO	750J
4385	88,547	32,451	1,696	273	53,600		390			6.8		FRIO	751J
4385	85,523	31,485	1,500	260	51,700		439			6.6		FRIO	752J
4385	69,238	23,055	2,482	943	42,600		159			6.7		FRIO	753J
4385	98,932	36,423	1,712	348	60,000		342			6.6		FRIO	754J
4385	81,363	25,956	3,850	1,172	50,200	10	73			6.3		FRIO	755J
4385	98,426	36,232	1,690	334	59,600		390			6.5		FRIO	756J
4385	98,762	36,356	1,748	352	60,000		293			6.6		FRIO	757J
4385	99,086	36,464	1,644	382	60,000		415			7.0		FRIO	758J
4385	98,440	36,112	1,742	384	59,700		317			6.8		FRIO	759J
4385	42,856	16,180	344	56	25,000	10	1,220			6.8		FRIO	762J
4385	86,082	32,360	1,576	312	53,400	10	317			6.4		FRIO	763J
4551	13,650	1,214	110	29	1,790	39	576	19		5.6		4900 MIOCENE	973J
4600	77,692											FRIO	277E
***** DEPTH RANGE 5001 = 6000 *****													
CALCULATED FROM RW = 0.090 AT 75 DEG (F)													

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

MATAGORDA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 4001 - 5000 *****													
4740	95,000											Z-4 4000-6000 FT	477SP
4810	9,500											Z-4 4000-6000 FT	0955P
***** DEPTH RANGE 5001 - 6000 *****													
5720	90,000											Z-4 4000-6000 FT	1725P
5810	140,000											Z-4 4000-6000 FT	126SP
***** DEPTH RANGE 6001 - 7000 *****													
6200	83,000											Z-5 6000-8000 FT	4785P
6969	122,500											FRIO	278E
***** DEPTH RANGE 7001 - 8000 *****													
7240	72,000											Z-5 6000-8000 FT	1735P
7713	136,250											FRIO	279E
7926	54,183	19,780	896	174	31,636	50	1,647			7.1	1.070	FRIO	320
7988	91,708	34,112	1,179	421	55,836		160					CULBERTSON	749J
***** DEPTH RANGE 8001 - 9000 *****													
8022	116,875											FRIO	280E
8207	102,764	34,965	4,350	450	82,800	101	98					FRIO	310
8386	112,000											FRIO	281E
***** DEPTH RANGE 8001 - 9000 *****													
8450	82,000											Z-6 8000-10000 FT	493SP
8559	44,573	16,968	244	59	26,053	51	1,198			6.5	1.055	FRIO	330
8564	72,807	26,865	1,061	380	44,316		185					CAYCE	743J
8660	88,647	32,882	1,294	354	53,934		183			7.2	1.065	TALCOTT A	744J
8790	84,998	31,697	991	403	51,700		207			7.4	1.063	TALCOTT #C#	746J
8850	89,927	32,369	2,206	348	54,627		377			7.0	1.070	TALCOTT	745J
8939	12,539	4,616	64	28	6,560	112	1,159					FRIO	340
***** DEPTH RANGE 9001 - 10000 *****													
9020	91,484	33,476	1,687	421	55,775		125			6.8	1.068	ROBERTSON	747J
9089	30,000											FRIO	282E
***** DEPTH RANGE 9001 - 10000 *****													
9180	90,000											Z-6 8000-10000 FT	127SP
9220	94,708	34,548	2,056	280	57,631		193			7.3	1.070	LAURENCE	748J
9402	17,959	6,424	52	51	9,042	66	1,824					FRIO	350

T E X A S W A T E R D E V E L O P M E N T B O A R D

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MAVERICK COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
629	24,310											OLMOS	284E
<p>***** DEPTH RANGE 1 - 1000 ***** CALCULATED FROM RW = 0.250 AT 75 DEG (F)</p>													
1307	32,000											OLMOS	285E
<p>***** DEPTH RANGE 1001 - 2000 ***** CALCULATED FROM RW = 0.200 AT 75 DEG (F)</p>													
3028	32,000											SAN MIGUEL	283E
<p>***** DEPTH RANGE 3001 - 4000 ***** CALCULATED FROM RW = 0.200 AT 75 DEG (F)</p>													

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MEDINA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.	
***** DEPTH RANGE 1 - 1000 *****														
49	1,150	138	236	11	312	81	340			7.0		INDIO FORM	276A	
55	1,290	176	213	24	322	229	410			8.1		INDIO FORM	274A	
145	2,840	1,020	52	39	1,290	15	834			7.6		INDIO FORM	277A	
200	3,610	54	538	344	30	2,480	303			7.3		GLEN ROSE LS	148A	
220	2,260	53	476	106	18	1,500	184	1		7.8		GLEN ROSE LS	146A	
300	2,840	991	48	31	1,070	393	586			7.8		INDIO FORM	275A	
385	1,070	9	176	107	11	825	273			7.4		EDWARDS LS	206A	
400	2,350	520	196	80	565	733	471			7.2		INDIO FORM	273A	
460	1,380	52	186	141	37	783	350			7.3		GLEN ROSE LS	149A	
585	4,100	81	540	434	27	2,900	251			6.7		GLEN ROSE LS	147A	
671	3,850	17	540	369	16	2,580	238			7.0		GLEN ROSE LS	145A	
960	9,125	3,159	27	14	3,255	80	2,590			8.0	1.007	FRIO	0002N	
980	10,925	3,600	33	28	3,230	59	3,975			8.0	1.009	FRIO	0001N	
***** DEPTH RANGE 1001 - 2000 *****														
1080	8,322	2,820	57	130	4,313	99	903				1.006	BASAL TAYLOR	00420	
1550	13,147				CALCULATED FROM RW = 0.450 AT 75 DEG (F)								AUSTIN	288E
***** DEPTH RANGE 2001 - 3000 *****														
2634	13,310	4	486	347	23	2,320	230			7.9		GLEN ROSE LS	144A	
***** DEPTH RANGE 4001 - 5000 *****														
4200	2,220	533	137	67	358	919	376			7.4		TRINITY GROUP	176A	

T E X A S W A T E R D E V E L O P M E N T B O A R D

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MENARD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
3335	162,900		11,214	3,744	93,100	34	44			5.4	1.105	CANYON (PENN)	0047M

***** DEPTH RANGE 3001 - 4000 *****

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MIDLAND COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
107	1,220	193	127	79	273	378	235			7.2		OGALLALA FORM	357A
127	1,120	164	150	48	365	220	214			7.8		OGALLALA FORM	355A
140	1,750	399	100	66	240	824	218					OGALLALA FORM	356A
***** DEPTH RANGE 1 - 1000 *****													
3918	61,539											GRAYBURG	119C
***** DEPTH RANGE 3001 - 4000 *****													
CALCULATED FROM RW = 0.111 AT 75 DEG (F)													
4326	195,000											QUEEN	67C
4570	55,455											SAN ANDRES	187C
4929	195,000											GRAYBURG	120C
4650	109,000											SAN ANDRES	190C
***** DEPTH RANGE 4001 - 5000 *****													
CALCULATED FROM RW = 0.045 AT 75 DEG (F)													
***** DEPTH RANGE 5001 - 6000 *****													
CALCULATED FROM RW = 0.067 AT 75 DEG (F)													
5574	146,667											SAN ANDRES	189C
5584	116,875											SAN ANDRES	188C
5617	70,000											GLORIETA	245C
5640	130,000											GLORIETA	244C
5653	136,667											GLORIETA	243C
5739	94,286											SAN ANGELO	273C
***** DEPTH RANGE 5001 - 6000 *****													
CALCULATED FROM RW = 0.055 AT 75 DEG (F)													
***** DEPTH RANGE 6001 - 7000 *****													
CALCULATED FROM RW = 0.067 AT 75 DEG (F)													
7041	136,667											BURGER	468C
7378	128,125											PENN GENERAL	733C
***** DEPTH RANGE 7001 - 8000 *****													
CALCULATED FROM RW = 0.058 AT 75 DEG (F)													
***** DEPTH RANGE 8001 - 9000 *****													
CALCULATED FROM RW = 0.061 AT 75 DEG (F)													
8451	160,000											WOLFCAMP	518C
***** DEPTH RANGE 9001 - 10000 *****													
CALCULATED FROM RW = 0.052 AT 75 DEG (F)													
***** DEPTH RANGE 10001 - 11000 *****													
CALCULATED FROM RW = 0.260 AT 75 DEG (F)													
9500	83,448											WOLFCAMP	521C
9849	90,000											WOLFCAMP	520C
***** DEPTH RANGE 10001 - 11000 *****													
CALCULATED FROM RW = 0.080 AT 75 DEG (F)													
***** DEPTH RANGE 11001 - 12000 *****													
CALCULATED FROM RW = 0.085 AT 75 DEG (F)													
10249	82,857											WOLFCAMP	519C
10430	29,375											PENN GENERAL	731C
10629	66,154											ELLENBURGER	1035C
10814	73,077											PENN GENERAL	732C
***** DEPTH RANGE 11001 - 12000 *****													
CALCULATED FROM RW = 0.215 AT 75 DEG (F)													
***** DEPTH RANGE 12001 - 13000 *****													
CALCULATED FROM RW = 0.105 AT 75 DEG (F)													
11125	66,154											PENN GENERAL	730C
11554	150,000											DEVONIAN	811C
***** DEPTH RANGE 12001 - 13000 *****													
CALCULATED FROM RW = 0.096 AT 75 DEG (F)													
***** DEPTH RANGE 13001 - 14000 *****													
CALCULATED FROM RW = 0.054 AT 75 DEG (F)													

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

MIDLAND COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
11615	12,107											DEVONIAN	808C
12165	130,000											DEVONIAN	809C
12260	136,667											FUSSELMAN	902C
12519	75,385											FUSSELMAN	901C
12590	7,625											FUSSELMAN	900C
12610	63,846											FUSSELMAN	899C
12625	116,875											DEVONIAN	810C
12990	133,333											ELLENBURGER	1036C
13090	140,000											ELLENBURGER	1037C
13324	133,333											ELLENBURGER	1034C

T E X A S W A T E R D E V E L O P M E N T B O A R D

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MIDLAND COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE 1001 - 2000 *****								
1300	10,700	3,540	169	205	4,840	1,810	308			7.5	SANTA ROSA		
1317	13,500	4,600	222	181	6,540	1,760	304			7.8	SANTA ROSA		

T E X A S W A T E R D E V E L O P M E N T B O A R D

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MILAM COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
430	700						1 - 1000					CARRIZO-WILCOX	520SP
1470	700						1001 - 2000					CARRIZO-WILCOX	521SP
2498	14,800	4,730	298	79	3,270	6,300	2001 - 3000					EDWARDS LS	217A

TEXAS WATER DEVELOPMENT BOARD

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MITCHELL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
117	10,000	132	184	61	220	492	104			7.1		DOCKUM	112A
160	9,190	1,800	56	56	2,210	935	226					DOCKUM	114A
170	6,800	2,240	112	141	3,150	990	292					DOCKUM	115A
220	1,240	100	198	54	65	543	136					ALLUVIUM	453A
243	8,390	2,820	169	88	3,510	1,650	291					DOCKUM	116A
261	2,370	200	302	118	103	1,480	172			7.3		DOCKUM	113A
320	6,510	2,190	120	64	2,540	1,390	156					DOCKUM	125A
***** DEPTH RANGE 1001 - 2000 *****													
1550	241,400	72,000	9,750	2,990	135,000	1,400	235			5.8	1.0154	SAN ANDRES	0393K
1550	152,600	78,900	6,620	4,610	145,500	2,250	245			6.3	1.0161	SAN ANDRES	0394K
1926	132,389	44,211	4,289	1,762	77,569	4,318	238			6.0	1.0090	GLORIETA	992J
***** DEPTH RANGE 2001 - 3000 *****													
2345	134,146	39,897	5,918	3,918	80,983	3,041	361			7.7	1.0092	SAN ANDRES	188J
2563	112,000				CALCULATED FROM RW = 0.009 AT 75 DEG (F)							UPPER CLEARFORK	370C
2700	111,653	32,699	3,766	4,384	67,557	2,757	494			8.1	1.0090	CLEARFORK	189J
2900	135,800	41,200	4,530	2,190	75,100	3,370	282			7.4	1.0088	CLEARFORK	0395K
2900	151,400	48,800	3,240	1,970	83,700	3,880	202			7.0	1.0094	CLEARFORK	0396K
2972	127,875	43,910	3,928	1,106	75,352	2,910	662					CLEARFORK	190J
***** DEPTH RANGE 3001 - 4000 *****													
3020	73,846				CALCULATED FROM RW = 0.045 AT 75 DEG (F)							CLEARFORK	339C
3030	88,572				CALCULATED FROM RW = 0.081 AT 75 DEG (F)							CLEARFORK	340C
3075	146,407	47,720	4,461	3,002	87,941	2,797	444	37				CLEARFORK	396J
3077	212,643	71,589	5,170	3,987	129,429	2,114	327	27				CLEARFORK	399J
3100			1,529		451	5,390	4,013			3.5		CLEARFORK	194J
3100			650		60,550	144,879	3,283			7.6	1.0148	CLEARFORK	195J
3100	140,894	46,085	3,888	3,005	54,395	3,136	77	26				CLEARFORK	397J
3100	132,953	46,000	3,463	1,440	85,000	1,550	50		YES	6.3	1.0094	CLEARFORK	393J
3154	116,875				CALCULATED FROM RW = 0.067 AT 75 DEG (F)							LOWER CLEARFORK	412C
3220			5,040	3,135	95,200	293				6.8	1.0103	CLEARFORK	392J
3437	91,200	25,300	4,400	1,440	51,240	1,450	1,120			6.4	1.0060	CLEARFORK	0116L
***** DEPTH RANGE 4001 - 5000 *****													
4748	48,824				CALCULATED FROM RW = 0.147 AT 75 DEG (F)							WOLFCAMP	522C
***** DEPTH RANGE 5001 - 6000 *****													
5100	87,144	29,145	3,236	732	49,821	3,367	843			7.4	1.0059	CLEARFORK	1001J
***** DEPTH RANGE 6001 - 7000 *****													
6020	158,455	47,675	11,035	1,695	97,460	190				5.1	1.0132	STRAWN SAND	390J

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

MITCHELL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
6232	172,024	55,000	9,150	1,820	106,000	6001 - 7000	54	*****		6.1	1.135	CANYON	78RJ
7220	175,504	51,980	12,886	1,933	108,508	7001 - 8000	95	*****				CANYON	0397K
7221	47,941					CALCULATED FROM RW = 0.140 AT 75 DEG (F)						ELLENBURGER	1078C
7385	91,429					CALCULATED FROM RW = 0.079 AT 75 DEG (F)						PENN GENERAL	734C
8273	200,000					8001 - 9000	700	*****				MISSISSIPPIAN	774C
8420	62,000		8,325	1,718	43,200	CALCULATED FROM RW = 0.044 AT 75 DEG (F)				6.7	1.051	FUSSELMAN	0117L
8466	83,164	17,731	2,050	420	30,750	1,650	793			6.8	1.037	ELLENBURGER	0118L

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MONTAGUE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
NON-NUMERIC IN FIELD ARE EDITED													
SOURCE LINE NUMBER	00487												
780	229,139	63,200	20,900	2,690	142,000	284	65	102		8.9	1.145	CADD	01760
785	1,210	481	9	1	285	53	698	16		8.4		PENNSYLVANIAN	21A
795	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							CISCO	4551
795	1,410	557	7	2	465	44	636			8.0		PENNSYLVANIAN	20A
***** DEPTH RANGE 1001 - 2000 *****													
1025	146,667				CALCULATED FROM RW = 0.055 AT 75 DEG (F)							CISCO	4541
1600	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							CANYON	4511
1650	167,934	45,150	15,810	2,449	104,495	26	4			4.8	1.138	CANYON	1016
1650	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							CANYON	4521
1650	160,000				CALCULATED FROM RW = 0.052 AT 75 DEG (F)							CANYON	4531
***** DEPTH RANGE 2001 - 3000 *****													
2470	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							STRAWN	4321
2475	174,877	41,958	16,400	3,251	113,250	21				3.4	1.134	STRAWN	1036
2475	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							STRAWN	4331
2800	202,678	52,750	22,010	1,811	125,950	137	20			4.2	1.166	CANYON	1026
2800	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							CANYON	4491
2800	185,000				CALCULATED FROM RW = 0.047 AT 75 DEG (F)							CANYON	4501
3000	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							STRAWN	4271
***** DEPTH RANGE 3001 - 4000 *****													
3100	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							STRAWN	4441
3420	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							STRAWN	4171
3500	171,567	46,810	15,149	2,497	106,900	9	2			3.9	1.139	STRAWN	1046
3500	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							STRAWN	4391
3500	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							STRAWN	4401
3640	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							STRAWN	4461
3850	237,280	56,547	30,038	2,871	147,567	200	61			6.5	1.164	GRANITE WASH	22J
3898	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							STRAWN	4481
3900	185,000				CALCULATED FROM RW = 0.047 AT 75 DEG (F)							STRAWN	4411
***** DEPTH RANGE 4001 - 5000 *****													
4045	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							STRAWN	4471
4400	210,000				CALCULATED FROM RW = 0.042 AT 75 DEG (F)							STRAWN	4421
4490	226,000		15,527	510	122,000		5			5.4		STRAWN	25J
4630	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							STRAWN	4781
4652	208,858	55,000	21,250	2,790	129,900	14	4			3.8	1.176	STRAWN	1056
4652	185,000				CALCULATED FROM RW = 0.047 AT 75 DEG (F)							STRAWN	4431
4745	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							STRAWN	4361
5000	209,057	56,969	18,817	3,031	129,990	240					1.164	CONGLOMERATE	00370

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

MONTAGUE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
5100	175,000											STRAWN	431I
5120	190,000											HEND	497I
5122	206,106	56,200	19,210	2,571	128,000	125				3.2	1.171	HEND	109G
5122	190,000											HEND	496I
5122	190,000		28,000	12,000	68,000	640				6.5		STRAWN SAND	23J
5279	160,000											STRAWN	429I
5300	170,000											STRAWN	428I
5309	170,000											STRAWN	430I
5400	203,068	55,700	18,605	2,536	126,000	227				3.6	1.165	STRAWN	106G
5400	180,000											STRAWN	425I
5400	189,000											STRAWN	426I
5537	143,333											HEND	420I
5601	165,000											HEND	421I
5620	140,000											STRAWN	445I
5700	202,961	56,200	17,530	2,906	126,050	193	82			5.7	1.162	HEND	110G
5700	185,000											HEND	106I
5701	202,948	56,450	17,975	2,823	126,100	221	74			6.0	1.163	HEND	109G
5701	189,000											HEND	405I
5800	180,000											HEND	419I
5800	190,000											STRAWN	424I
5806	189,000											STRAWN	423I
5830	191,627	49,350	20,555	2,420	119,350	152				3.6	1.156	STRAWN	107G
5830	180,000											STRAWN	434I
5830	189,000											STRAWN	435I
5840	170,000											LOWER STRAWN	422I
5880	143,333											HEND	391I
5970	190,000											HEND	413I
5975	214,308	57,692	21,320	2,640	134,500	153				3.7	1.178	HEND	111G
5975	199,000											HEND	414I
6000	203,257	56,300	18,300	2,420	126,100	137				3.5	1.165	HEND	112G
6000	182,899	50,810	15,710	2,577	113,700	20	74			6.7	1.148	HEND	113G
6000	206,282	55,300	20,270	2,450	128,050	212				3.5	1.167	HEND	114G
6000	199,000											HEND	494I
6000	189,000											HEND	395I
6000	180,000											HEND	410I
6000	179,000											HEND	411I
6000	190,000											HEND	415I
6000	190,000											HEND	416I
***** DEPTH RANGE 6001 - 7000 *****													
6080	180,000											SIMPSON	386I
6100	160,000											HEND	392I
6100	209,000											HEND	394I
6100	160,000											HEND	412I
6150	180,000											HEND	417I
6170	180,000											HEND	418I
6200	192,189	52,500	17,410	2,685	119,500	52	42			6.7	1.158	HEND	115G
6200	185,000											HEND	399I
6200	180,000											HEND	400I

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

MONTAGUE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 6001 - 7000 *****													
6214	170,000											HEND	493I
6214	160,000											HEND	404I
6258	169,173	40,294	17,896	3,376	143,399	248					1.130	CADDO	00320
6260	207,219	63,800	19,300	790	127,450	7				6.5	1.168	HEND	1168
6260	189,000											HEND	407I
6260	200,000											HEND	409I
6275	185,000											HEND	402I
6300	190,000											HEND	408I
6470	202,524	60,450	14,080	2,550	125,200	110	134			7.0	1.165	VIOLA	1170
6470	185,000											VIOLA	188I
6580	180,000											HEND	401I
6650	195,000											VIOLA	191I
6700	230,000											SIMPSON	384I
6710	180,000											VIOLA	390I
6765	200,000											VIOLA	187I
***** DEPTH RANGE 7001 - 8000 *****													
7053	190,000											VIOLA	189I
7150	195,000											SIMPSON	185I
7325	151,069	42,734	11,738	2,530	93,969	98					1.120	MARBLE FALLS	00780
7325	159,847	45,005	11,426	2,418	94,569	129					1.124	MARBLE FALLS	00790
7325	163,899	40,570	18,168	2,509	102,309	237					1.130	MARBLE FALLS	00800
7325	149,012	40,028	12,943	2,103	90,073	205					1.109	MARBLE FALLS	00940
7325	161,797	42,568	15,974	2,426	100,824	222					1.127	MARBLE FALLS	00950

TEXAS WATER DEVELOPMENT BOARD
SALINE WATER RESOURCES SURVEY

JUL 1971

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MONTGOMERY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2680	12,000											Z-3 2000-4000 FT	0365P
2720	6,800											Z-3 2000-4000 FT	3845P
2950	22,000											Z-3 2000-4000 FT	3815P
***** DEPTH RANGE 3001 - 4000 *****													
3160	5,987	2,243	32	16	3,180		512					FRIG	720
3410	30,000											Z-3 2000-4000 FT	3905P
***** DEPTH RANGE 4001 - 5000 *****													
4020	45,000											Z-3 2000-4000 FT	3795P
4380	66,000											Z-4 4000-6000 FT	3825P
4800	65,000											Z-4 4000-6000 FT	3725P
***** DEPTH RANGE 5001 - 6000 *****													
5200	73,029	26,835	1,179	348	44,250		417			7.0	1.052	COCKFIELD, UPPER	804J
5200	72,628	27,603	503	210	43,899		385			7.5	1.050	MAIN CONDOE	807J
5810	59,000											Z-4 4000-6000 FT	3855P
5813	108,780				60,465							YEAQUE	804J
5977	128,020				57,820							YEAQUE	804J
***** DEPTH RANGE 6001 - 7000 *****													
6100	90,000											YEGUA	899E
6100	92,857											YEGUA	200E
6825	100,000											Z-5 6000-8000 FT	3965P
***** DEPTH RANGE 7001 - 8000 *****													
7280	59,000											Z-5 6000-8000 FT	3715P
7760	44,000											CARRIZO-WILCOX	3935P
***** DEPTH RANGE 9001 - 10000 *****													
9585	42,000											Z-6 8000-10000 FT	3875P
***** DEPTH RANGE 10001 - 11000 *****													
10450	200,000											CARRIZO-WILCOX	3745P

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

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MOORE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
855	120,625											GLORIETA SAND	0466P
							***** DEPTH RANGE 1 - 1000 ***** CALCULATED FROM RW = 0.065 AT 75 DEG (F)						
2900	128,195	46,400	1,889	777	74,890	3,550	339				1.099	DOLOMITE	526J
							***** DEPTH RANGE 2001 - 3000 *****						
3105	106,000											WOLFCAMP	0469P
3174	112,000											WOLFCAMP	0468P
3192	98,572											WOLFCAMP	0482P
3201	43,010	14,300	1,110	380	25,000	1,930	290			7.4	1.034	WOLFCAMP	503J
3200	16,968	4,700	1,080	420	9,800	880	88			5.6	1.014	WOLFCAMP	504J
3200	38,028	12,600	2,500	440	25,000	380	48			4.9	1.020	WOLFCAMP	505J
3200	25,390	8,300	780	360	14,600	370	980			7.1	1.020	WOLFCAMP	506J
3200	23,148	6,601	1,929	222	13,829	567				6.0		RIG LIME	507J
3200	10,563	3,895	205	33	6,381	49				4.5		RIG LIME	508J
3200	9,229	2,553	706	91	4,964	835				4.0		RIG LIME	509J
3200	6,925	1,610	829	76	3,546	864						RIG LIME	510J
3200	12,157	4,429	127	137	7,449	15				5.0		RIG LIME	511J
3200	9,171	1,449	328	70	2,127	1,197						RIG LIME	512J
3200	263,168	79,700	1,510	110	181,480	368				4.5		RIG LIME	513J
3200	154,048	53,912	4,881	631	90,423	4,201				4.0		RIG LIME	514J
3200	7,009	2,392	271	50	4,255	41						RIG LIME	515J
3200	7,817	2,875	71	32	4,255	584						RIG LIME	516J
3200	237,602	72,105	16,740	1,995	146,430	308	24					RIG LIME	517J
3200	150,049	44,344	11,792	1,138	71,841	934				4.0		RIG LIME	518J
3200	77,348	29,640	688	14	46,794	212				5.0		RIG LIME	519J
3200	4,646	580	1,134	2	2,834	94				5.0		RIG LIME	520J
3200	15,373	3,519	2,036	172	9,219	427				5.0		RIG LIME	521J
3200	180,473	69,900	727	187	109,500	159				5.0		RIG LIME	522J
3200	5,671	437	1,200	227	2,482	1,325				5.0		RIG LIME	523J
3200	5,223	667	979	157	2,482	938						RIG LIME	524J
3222	150,700	51,830	4,702	1,384	90,980	1,705	99					DOLOMITE	527J
3223	168,705	59,820	3,760	1,420	101,400	2,100	205				1.117	DOLOMITE	525J
3225	92,857											WOLFCAMP	0476P
3305	75,385											WOLFCAMP	0471P
3311	89,714											WOLFCAMP	0472P
3325	88,572											WOLFCAMP	0478P
3340	73,846											WOLFCAMP	0477P
3347	90,000											WOLFCAMP	0479P
3348	85,714											WOLFCAMP	0481P
3351	94,286											WOLFCAMP	0475P

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

MOORE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3360	82,857											WOLFCAMP	0490P
3418	88,572											WOLFCAMP	0484P
3433	94,286											WOLFCAMP	0474P
3437	88,572											WOLFCAMP	0473P
3461	85,714											GRANITE WASH	0489P
3465	75,385											GRANITE WASH	0490P
3469	82,857											GRANITE WASH	0488P
3490	94,286											GRANITE WASH	0486P
3490	58,182											GRANITE WASH	0487P
3540	88,572											WOLFCAMP	0483P
3580	92,857											WOLFCAMP	0478P
3669	95,714											WOLFCAMP	0485P
3818	98,572											WOLFCAMP	0467P
3851	82,857											GRANITE WASH	0491P
***** DEPTH RANGE 6001 - 7000 *****													
6162	57,273											LOWER MISSOURI	0492P

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

MORRIS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
39	1,050	129	134	50	***** DEPTH RANGE 143	584	1 - 1000 12	*****			WILCOX GROUP	269A	

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CHEMICAL ANALYSIS OF SALINE WATER

MOTLEY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	RFP NO.
76	5,650	1,070	527	173	815	3,020	76					QUARTERMASTER	104A
80	2,710	202			94	1,760	111					QUARTERMASTER	103A
					***** DEPTH RANGE 3001 - 4000 *****								
3149	55,455				CALCULATED FROM RW = 0.123 AT 75 DEG (F)							DOCKUM	0493P
3565	59,546				CALCULATED FROM RW = 0.114 AT 75 DEG (F)							WOLFCAMP	0495P
3635	118,750				CALCULATED FROM RW = 0.066 AT 75 DEG (F)							PENN GENERAL	735C
3650	42,333				CALCULATED FROM RW = 0.158 AT 75 DEG (F)							PENN GENERAL	736C
					***** DEPTH RANGE 4001 - 5000 *****								
4160	90,000				CALCULATED FROM RW = 0.080 AT 75 DEG (F)							L. WOLFCAMP	77-I
4167	23,448				CALCULATED FROM RW = 0.260 AT 75 DEG (F)							CISCO LS	0496P
4657	42,333				CALCULATED FROM RW = 0.158 AT 75 DEG (F)							CANYON LIME	0497P
4694	72,308				CALCULATED FROM RW = 0.097 AT 75 DEG (F)							WOLFCAMP	0498P
					***** DEPTH RANGE 6001 - 7000 *****								
6690	51,667				CALCULATED FROM RW = 0.130 AT 75 DEG (F)							LAYTON LIME	0499P

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

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CHEMICAL ANALYSIS OF SALINE WATER

NACOGDOCHES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1020	400											CARRIZO-WILCOX	5455P
1200	410											CARRIZO-WILCOX	5265P
1200	600											CARRIZO-WILCOX	5445P
1220	390											CARRIZO-WILCOX	5225P
1620	1,050											CARRIZO-WILCOX	5275P
1630	680											CARRIZO-WILCOX	5235P
1970	1,850											CARRIZO-WILCOX	5245P
***** DEPTH RANGE 2001 - 3000 *****													
2050	3,600											CARRIZO-WILCOX	5285P
2120	400											CARRIZO-WILCOX	5465P
2145	1,750											CARRIZO-WILCOX	5255P
2520	630											CARRIZO-WILCOX	5475P
***** DEPTH RANGE 4001 - 9000 *****													
8200	200,000											LOWER GLEN ROSE	7355P
***** DEPTH RANGE 9001 - 10000 *****													
9120	40,000											PETTET-TRAVIS PK	7145P

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

NAVARRO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
300	22,086	8,230	220	73	13,000		561	2		7.6	1.017	WOODBINE	774J
300	15,999	5,910	120	61	9,000		904	4		7.4	1.012	WOODBINE	779J
300	14,344	5,270	120	49	8,000		204	1		7.7	1.011	WOODBINE	780J
600	29,250				CALCULATED FROM RW = 0.216 AT 75 DEG (F)							NACATOCH	116B
636	30,067	11,550	100	45	18,100	32	180				1.024	NACATOCH	305H
538	30,691	10,640	920	220	18,400	23	448				1.025	NACATOCH	306H
700	16,758				CALCULATED FROM RW = 0.354 AT 75 DEG (F)							NACATOCH	104B
706	18,508	6,670	340	109	10,900	42	451				1.016	NACATOCH	51H
735	18,375	6,814	150	110	10,800	19	482				1.017	NACATOCH	303H
741	20,215	7,373	300	120	12,000	32	390				1.017	NACATOCH	304H
750	18,500				CALCULATED FROM RW = 0.325 AT 75 DEG (F)							NACATOCH	118B
809	17,602	6,400	300	100	10,600	43	159				1.016	NACATOCH	221H
824	18,614	6,836	250	70	10,600	568	290				1.017	NACATOCH	105H
850	17,438				CALCULATED FROM RW = 0.342 AT 75 DEG (F)							NACATOCH	108B
915	19,920	7,300	410	30	11,900	27	253				1.017	NACATOCH	222H
970	18,793	6,900	300	100	11,300	44	149				1.016	NACATOCH	223H
1000	34,200				CALCULATED FROM RW = 0.189 AT 75 DEG (F)							WOLFE-CITY	105B
1000	17,625				CALCULATED FROM RW = 0.339 AT 75 DEG (F)							NACATOCH	111B
1000	19,804				CALCULATED FROM RW = 0.305 AT 75 DEG (F)							NACATOCH	112B
***** DEPTH RANGE 1001 - 2000 *****													
1006	34,363	12,100	900	270	20,900	50	143				1.027	OZAN	59H
1035	33,893	11,900	900	290	20,600	38	165				1.027	OZAN	60H
1080	33,878	11,900	900	270	20,600	49	154				1.027	OZAN	61H
1184	1,600	594	4	1	131	441	779			7.8		WOODBINE SAND	230A
1200	20,989	7,430	280	122	12,000		757			7.2	1.015	NACATOCH	775J
1488	2,550	981	4	2	760	172	1,077			7.7		WOODBINE SAND	231A
1514	33,190	11,930	700	175	19,800	30	555				1.026	OZAN	289H
1600	33,800				CALCULATED FROM RW = 0.191 AT 75 DEG (F)							WOLFE CITY	113B
1642	30,442	10,646	850	230	18,400	48	268				1.026	OZAN	290H
1658	36,507	12,800	1,000	290	22,200	58	159				1.028	OZAN	291H
2000	35,250				CALCULATED FROM RW = 0.184 AT 75 DEG (F)							TAYLOR MARL	114B
***** DEPTH RANGE 2001 - 3000 *****													
2017	2,740	1,040	9	3	612	421	1,110			7.5		WOODBINE SAND	229A
2477	4,550	1,810	13	9	1,790	153	1,580					WOODBINE SAND	228A
2908	12,013	4,378	65	29	6,135	3	1,403				1.009	WOODBINE	292H
2925	21,086	7,755	256	101	12,340	6	628				1.016	WOODBINE	62H
2925	20,200	7,118	250	160	11,800	19	683				1.017	WOODBINE	64H
2944	9,305	3,303	70	21	4,397	19	1,495				1.008	WOODBINE	294H
2944	14,670	5,436	130	46	8,300	33	725				1.014	WOODBINE	307H

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NAVARRO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2954	21,379	8,000	190	95	12,400	32	702				1.018	WOODBINE	5H
2958	20,121	7,444	212	91	11,772	4	598				1.015	WOODBINE	64H
2961	19,829	5,847	100	48	8,600	50	1,183				1.014	WOODBINE	291H
2968	14,199	5,246	137	48	8,085		683				1.011	WOODBINE	308H
2968	19,150	9,654	124	37	8,652		683				1.012	WOODBINE	309H
3000	20,161				CALCULATED FROM RW = 0.300 AT 75 DEG (F)							WOODBINE	106H
3000	20,565				CALCULATED FROM RW = 0.299 AT 75 DEG (F)							WOODBINE	107H
3000	22,258				CALCULATED FROM RW = 0.274 AT 75 DEG (F)							WOODBINE	109H
3000	13,735				CALCULATED FROM RW = 0.430 AT 75 DEG (F)							WOODBINE	115H
3000	14,585				CALCULATED FROM RW = 0.405 AT 75 DEG (F)							WOODBINE	117B
***** DEPTH RANGE 3001 - 4000 *****													
3170	1,700											LOWER GLFN ROSE	7115P
3177	21,857	8,059	276	99	12,907	4	512				1.017	WOODBINE	65H
3200	18,379				CALCULATED FROM RW = 0.327 AT 75 DEG (F)							WOODBINE	102H
3300	19,649	5,820	140	49	9,000		660			7.6	1.011	WOODBINE	781J
3383	32,696	12,289	249	105	19,200	4	897				1.024	WOODBINE	154H
3384	35,059		256	93	20,200		920			7.2		WOODBINE	776J
3395	28,698	10,685	290	90	16,700	81	872				1.023	WOODBINE	153H
3400	27,875				CALCULATED FROM RW = 0.227 AT 75 DEG (F)							WOODBINE	110B
3650	3,500											PETTET-TRAVIS PK	6895P
***** DEPTH RANGE 4001 - 5000 *****													
4220	27,500											LOWER GLFN ROSE	7365P
4750	17,500											PETTET-TRAVIS PK	7425P
***** DEPTH RANGE 6001 - 7000 *****													
6460	258,595		25,900	4,060	164,000	258	9H			5.9		RODESSA	777J
6837	197,008	66,074	20,300	3,070	108,100	213	49				1.127	PETTET	70H
6840	160,000				CALCULATED FROM RW = 0.052 AT 75 DEG (F)							PETTET	104B

TEXAS WATER DEVELOPMENT BOARD
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OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

NEWTON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
310	24,000						1 = 1000					Z-1 ABOVE SEA LV 2615P	
3030	1,900						3001 = 4000					Z-3 2000-4000 FT 2625P	
3220	4,000											Z-3 2000-4000 FT 2635P	
5600	106,027	36,648	3,581	728	65,018		5001 = 6000 127			6.6		FRIO	1003J
6758	98,572						6001 = 7000 CALCULATED FROM RW = 0.074 AT 75 DEG (F)					HACKBERRY	292E
7200	78,001	28,090	1,390	497	47,170		7001 = 8000 195			6.9	1.056	FRIO	1002J
7205	52,222						CALCULATED FROM RW = 0.129 AT 75 DEG (F)					SPARTA	291E
7444	62,308						CALCULATED FROM RW = 0.110 AT 75 DEG (F)					NODOSARIA	293E
7448	62,308						CALCULATED FROM RW = 0.110 AT 75 DEG (F)					NODOSARIA	294E
7500	70,000						CALCULATED FROM RW = 0.100 AT 75 DEG (F)					COCKFIELD	295E

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NOLAN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S) PPM	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
244	1,340	107	177	104	130	640	1000	330				SAN ANGELO SS	52A
1600	50,200	9,245	686	588	17,240	6,100	1001	312		7.4	1.033	SAN ANGELO SD.	0119L
3730	91,200	26,700	4,000	1,020	49,700	1,400	3001	705		6.7	1.060	FLIPPEN LIME	0790K
3734	71,300	19,780	2,048	860	37,339	1,400		132		5.8	1.047	COOK SAND	0120L
3750	16,000		2,405	350	37,960	1,550		730		6.9	1.050	COOK SAND	1061J
3750	71,300	22,047	3,000	570	40,400	2,280		350		7.1	1.047	NOODLE CREEK	0790K
4040	47,297	30,830	4,686	1,389	58,509	1,530	4001	354				CISCO	0483K
4099	163,200	43,400	10,500	1,780	90,500	40		110		6.3	1.106	CISCO	0404K
4140	85,714				CALCULATED FROM RW = 0.083 AT 75 DEG (F)							PENN-CISCO	561C
4140	94,286				CALCULATED FROM RW = 0.077 AT 75 DEG (F)							CISCO	0402K
4515	52,778				CALCULATED FROM RW = 0.124 AT 75 DEG (F)							ELLENBURGER	1040C
4570	110,400	32,700	4,100	1,120	60,900	1,470		400		6.9	1.072	PALO PINTO	0415K
4620	101,760	29,590	5,298	2,889	62,055	1,646		268				CANYON REEF	0409K
4850	113,500	33,500	5,600	1,664	67,500	920		148		5.8	1.074	FRY SAND	0121L
5040	104,000	32,200	5,430	820	60,800	985	5001	215		6.8	1.068	FRY SAND	0417K
5042	195,000	49,600	15,800	1,650	109,000	145		164		6.8	1.125	STRAWN SAND	0422K
5075	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							PENN STRAWN	661C
5086	169,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							PENN STRAWN	662C
5086	193,903	54,690	16,960	1,750	119,845	59		24		5.6	1.142	STRAWN	1066J
5087	59,091				CALCULATED FROM RW = 0.119 AT 75 DEG (F)							PENN STRAWN	659C
5103	108,705	34,828	4,589	1,245	64,300	1,400		343		6.6	1.072	CANYON REEF	1070J
5144	126,300	30,890	9,650	1,365	67,900	500		755		6.0	1.082	GOEN LIME	0419K
5200	159,000				CALCULATED FROM RW = 0.053 AT 75 DEG (F)							PENN CANYON	402C
5200	124,375				CALCULATED FROM RW = 0.063 AT 75 DEG (F)							CANYON	0408K
5246	223,800	62,500	14,850	1,560	127,000	270		139		6.2	1.143	CANYON SAND	0406K
5246	189,400	48,800	13,750	1,940	105,500			202		6.6	1.119	CANYON SAND	0407K
5300	159,000				CALCULATED FROM RW = 0.053 AT 75 DEG (F)							PENN CANYON	603C
5400	153,000	45,700	7,140	1,370	86,600	850		52		5.7	1.100	STRAWN REEF	0424K
5400	136,708	39,077	10,792	1,866	84,274	664		35				STRAWN REEF	0425K
5400	142,600	41,800	7,300	1,270	80,000	750		194		6.7	1.093	CADD0	0433K
5406	189,400	46,200	15,300	1,990	100,100	680		155		6.4	1.119	GARDNER LIME	0420K
5421	137,500	38,870	6,920	1,450	75,500	950		280		7.2	1.089	GOEN LIME	0410K
5424	69,149	22,530	1,880	571	34,559	1,350		299		7.8	1.049	CADD0	1060J

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NOLAN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
5429	65,189	22,530	1,880	571	38,559	1,350				7.8	1.049	CADD0	1064J
5431	73,621	24,693	2,840	644	43,878	1,200				7.8	1.057	CADD0	1063J
5431	73,621	24,693	2,840	644	43,878	1,200				7.8	1.057	CADD0	1069J
5462	169,300	42,500	13,600	1,990	94,500	1,060				6.8	1.109	GARDNER SAND	0421K
5475	68,491	22,798	2,280	632	39,900	2,125				7.3	1.051	CADD0	1064J
5500	83,580	27,582	3,181	718	49,400	1,750				7.9	1.059	CADD0	1064J
5500	116,994	35,578	7,553	1,391	71,804	967						CADD0	0474K
5560	64,539	21,000	1,900	440	36,205	2,000				6.9	1.045	ELLENBURGER	0442K
5600	141,484	41,610	10,560	1,598	87,400	152				6.8	1.113	STRAWN	0474K
5600	146,496	42,000	12,080	1,525	90,400	215				6.3	1.117	STRAWN	0427K
5644	160,000				CALCULATED FROM RW = 0.052 AT 75 DEG (F)							PALO PINTO	0416K
5700	144,748	42,115	11,258	1,640	89,380	339				6.1	1.111	CANYON SAND	0405K
5800	60,700	15,300	4,160	950	33,500	235				7.2	1.040	STRAWN SAND	0400K
5800	134,019	39,405	10,168	1,439	82,840	85				6.4	1.103	CANYON SAND	0410K
5800	137,638	39,253	10,807	1,945	84,488	1,012				6.5	1.105	CANYON REEF	0411K
5850	209,400		15,920	2,283	123,800	101				6.7	1.134	PALO PINTO	0122L
5963	64,650	22,300	1,710	430	37,040	1,740				6.7	1.043	CAMBRIAN	0444K
5970	51,667				CALCULATED FROM RW = 0.130 AT 75 DEG (F)							CAMBRIAN	0445K
5989	174,340	51,045	13,574	1,767	107,750	206						CANYON SAND	1075J
5990	71,300	18,975	2,445	586	34,860	2,000		1,032		6.5	1.047	CAMBRIAN	0123L
6000	210,000				CALCULATED FROM RW = 0.042 AT 75 DEG (F)							CANYON REEF	0412K
6000	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							CANYON REEF	0410K
6000	69,800	20,800	2,130	445	35,000	1,810		495		7.1	1.046	ELLENBURGER	0440K
6000	53,994	18,470	1,996	247	31,150	1,585		940		6.8	1.046	ELLENBURGER	0441K
6000	71,300	18,960	2,918	768	37,160	1,080		204		6.3	1.047	ELLENBURGER	0124L
***** DEPTH RANGE 6001 - 7000 *****													
6050	132,700	37,800	7,450	1,160	74,300	735		130		6.1	1.086	SWASTIKA	0401K
6065	62,400	21,500	1,730	640	36,360	2,000		380		7.2	1.042	ELLENBURGER	0439K
6090	53,658	17,515	2,529	423	31,400	1,471		320		7.1	1.044	ELLENBURGER	0437K
6100	167,725	44,330	15,062	2,456	103,715	142		42		6.6	1.132	PENN. REEF	0436K
6100	71,300	21,645	1,813	528	38,063	1,700		920		7.1	1.047	ELLENBURGER	0126L
6140	66,380	21,900	1,840	640	37,320	1,740		570		7.0	1.043	CAMBRIAN	0445K
6150	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							STRAWN	0430K
6153	48,235				CALCULATED FROM RW = 0.139 AT 75 DEG (F)							PENN GENERAL	738C
6184	56,714	19,295	1,844	465	32,750	1,820		541	170	6.4	1.040	CAMBRIAN DOLOMIT	1071J
6300	166,051	46,570	15,330	2,851	101,100	110		90		5.8	1.139	STRAWN	0428K
6300	83,500	23,000	3,845	696	44,100	1,950		72		5.9	1.055	ELLENBURGER	0125L
6325	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							CANYON REEF	0413K
6375	160,955	45,930	13,580	1,663	99,600	55		127		6.5	1.127	STRAWN	0429K
6411	171,473	49,405	13,165	2,400	106,365	135				4.7	1.132	PENN REEF	1076J
6404	61,539				CALCULATED FROM RW = 0.111 AT 75 DEG (F)							ELLENBURGER	1041C
6521	57,399	18,829	2,008	559	33,507	1,379		512		7.1	1.045	ELLENBURGER	1067J
6605	66,700				37,969	2,195		618				ELLENBURGER	0127L
6773	154,751	46,674	10,242	1,962	95,664	134		75		6.2	1.119	STRAWN REEF	1074J
6800	150,083	43,945	10,892	2,047	92,840	238		81		6.0	1.116	STRAWN REEF	0423K
6850	161,074	48,040	11,118	2,055	99,515	171		175		6.1	1.123	ODON LIMF	0411K
6891	7,385				CALCULATED FROM RW = 0.765 AT 75 DEG (F)							PENN GENERAL	737C
6900	128,472	37,100	10,220	1,441	79,400	155		156		5.8	1.097	STRAWN REEF	1072J

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

NOLAN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 7001 - 8000 *****													
7050	116,875											CADDO	0435K
7080	52,778											ELLENBURGER	1039C
7080	53,117	17,989	1,897	348	30,381	1,740	762			6.8	1.038	ELLENBURGER	0129L
7194	128,596	40,795	7,093	1,318	79,060	282	48			5.9	1.093	STRAWN REEF	1073J
7200	57,207	19,595	1,773	446	32,930	1,877	586			7.1	1.039	ELLENBURGER	0443K
7208	47,353											ELLENBURGER	1040C
7228	140,200	44,309	5,728	922	80,500	620	116			6.6	1.091	CADDO	0437K
7360	66,600	22,100	1,738	420	36,100	2,420	713			7.4	1.044	ELLENBURGER	0439K

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

NUECES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
596	1,370	461	33	12	390	249	1000	395		7.6		GOLIAD SAND	405A
					***** DEPTH RANGE 3001 - 4000 *****								
					CALCULATED FROM RW = 0.113 AT 75 DEG (F)							OAKVILLE	296E
3234	60,000				40,380	78				6.7	1.047	OAKVILLE	694J
3236	70,000	18,500	2,373	441								FRIO	318E
3609	44,867				CALCULATED FROM RW = 0.151 AT 75 DEG (F)							4300 FT	618J
3636	69,158	23,500	1,575	345	41,843	198		1		7.2	1.047	FRIO	312E
3800	69,385				CALCULATED FROM RW = 0.106 AT 75 DEG (F)							CATAHOULA	1251J
3800	51,182	17,950	1,833	311	31,000	80				7.1	1.039	CATAHOULA	303E
3840	57,727				CALCULATED FROM RW = 0.118 AT 75 DEG (F)							2-3 2000-4000 FT	629SP
3850	41,000				CALCULATED FROM RW = 0.146 AT 75 DEG (F)							HALDWIN	297E
3876	46,177				41,311	132				6.6	1.048	3800 FT	794J
3885	74,300	20,750	2,999	564								HALDWIN	294E
3887	47,647				CALCULATED FROM RW = 0.141 AT 75 DEG (F)							HALDWIN	299E
3902	45,588				CALCULATED FROM RW = 0.148 AT 75 DEG (F)							HALDWIN	795J
3911	50,600	15,250	1,456	215	49,084	385	101			7.4	1.034	HALDWIN	300E
3926	45,588				CALCULATED FROM RW = 0.148 AT 75 DEG (F)							HALDWIN	615J
3984	74,872				43,750							MIOCENE	
					***** DEPTH RANGE 4001 - 5000 *****								
					CALCULATED FROM RW = 0.183 AT 75 DEG (F)							SANDERS	301E
4040	39,500				539	48,000	8	210	16			CATAHOULA	625J
4060	80,209	29,400	2,040	648	51,000	5	159	17				CATAHOULA	626J
4060	68,262	22,700	1,400	840	43,000	50	3,170					CATAHOULA	627J
4060	64,604	30,000	4,620	705	56,000	179	98	2				CATAHOULA	628J
4200	70,000				CALCULATED FROM RW = 0.100 AT 75 DEG (F)							CATAHOULA	302E
4200	65,060	22,648	2,200	427	39,554	442	231	1		7.3	1.048	MIOCENE	696J
4200	78,450				42,250							4000 GAS	697J
4200	77,462				48,500							MIOCENE	793J
4218	76,266				44,000							CODY-LOWEN	698J
4250	58,182				CALCULATED FROM RW = 0.117 AT 75 DEG (F)							FRIO	319E
4496	75,385	24,820	3,955	335	46,222	25				6.0	1.054	LONDON GIN	792J
4500	79,231				CALCULATED FROM RW = 0.088 AT 75 DEG (F)							FRIO	311E
4700	66,809	23,237	2,090	493	40,892	97						FRIO	107D
4800	76,923				CALCULATED FROM RW = 0.091 AT 75 DEG (F)							FRIO	320E
					***** DEPTH RANGE 5001 - 6000 *****								
					CALCULATED FROM RW = 0.136 AT 75 DEG (F)							FRIO	314E
5100	49,118				766	53,000	154	73	2			UPPER FRIO	624J
5300	86,321	27,841	4,480	672	50,000	34	326	9				CATAHOULA, U. FRIO	1253J
5300	84,511	29,950	1,520	43	52,274	109	1,122					FRIO	108D

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NUECES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIUS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
5788	53,000											Z-4 4000-6000 FT	630SP
5791	79,231											FRIO	304E
5795	80,000											FRIO	305E
5799	79,231											FRIO	306E
5976	55,940	19,481	2,148	91	34,050	30	140					FRIO	120
***** DEPTH RANGE 6001 - 7000 *****													
6230	118,000	34,375	7,959	644	68,748	14	51	7		6.2	1.078	6230 ANDERSON	695J
6575	80,556											FRIO	313E
6582	68,184											FRIO	307E
6600	15,742											FRIO	315E
6639	101,775	32,000	6,772	502	62,410	2	128	4		6.7	1.072	HINGLE	619J
6846	104,921	33,000	6,980	520	64,360	3	121	5		6.8	1.074	TALBERT	623J
6850	64,615											FRIO	308E
6880	69,908	25,716	1,026	241	41,700	20	805					FRIO	130
6730	77,692											FRIO	309E
6800	27,625											FRIO	316E
6800	24,483											FRIO	317E
6905	51,111											FRIO	321E
6920	95,205	27,500	7,348	317	58,322	2	150	12		6.3	1.068	HINGLE	620J
6923	96,801	30,500	7,078		59,218	2	168	3		6.8	1.068	MCALLEN	622J
6986	75,385											FRIO	310E
***** DEPTH RANGE 7001 - 8000 *****													
7578	84,055	25,000	7,544	142	51,417	5	254	5		6.6	1.059	HINGLE	621J
7749	68,000											Z-5 6000-8000 FT	631SP
7800	65,500											7800 FT	693J
8000	59,091											FRIO	322E
8000	60,000											FRIO	323E
***** DEPTH RANGE 8001 - 9000 *****													
8242	58,100											ZONE 14	617J
8400	16,606	6,942	65	10	53,848					7.8	1.014	8400 FT	630J
8433	58,900				48,36	20	1,732					ZONE 17	616J
8500	72,400				34,612							ZONES 8 + 11	614J
8565	60,000				44,702							Z-6 8000-10000 FT	632SP
***** DEPTH RANGE 9001 - 10000 *****													
9496	36,100	12,500	882	60	21,000	25	334	104		6.0	1.027	9500 FT	632J
9520	53,600	18,000	1,569	107	30,992	5	683	72		6.5	1.036	STEOMAN ISLAND	631J

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OCHILTREE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3366	112,000											WOLFCAMP	0500P
3544	97,143											WOLFCAMP	0501P
***** DEPTH RANGE 4001 - 5000 *****													
4002	133,333											WOLFCAMP	0499P
4350	115,000											WOLFCAMP	0502P
***** DEPTH RANGE 5001 - 6000 *****													
5242	124,375											DOUGLAS	0512P
5367	116,875											DOUGLAS	0511P
5464	80,000											TONKAWA	0514P
5470	94,286											TONKAWA	0515P
5565	109,000											DOUGLAS	0503P
5589	100,000											DOUGLAS	0507P
5680	97,143											DOUGLAS	0508P
5680	124,375											TONKAWA	0517P
5715	109,000											DOUGLAS	0506P
5721	98,572											DOUGLAS	0504P
5738	112,000											DOUGLAS	0505P
5838	63,846											TONKAWA	0513P
5900	124,375											DOUGLAS	0510P
***** DEPTH RANGE 6001 - 7000 *****													
6260	100,000											TONKAWA	0516P
6270	112,000											DOUGLAS	0509P
6650	106,000		5.120	4.37	65,000		86	18		5.7	1.068	MARMATON N	528J
6727	54,444											MARMATON	0518P
***** DEPTH RANGE 7001 - 8000 *****													
7314	30,000											MORROW, UPPER	0535P
7377	20,242											MORROW, UPPER	0536P
7513	59,546											MORROW, UPPER	0527P
7532	78,462											MORROW, UPPER	0525P
7563	73,846											MORROW, UPPER	0523P
7563	63,077											MORROW, UPPER	0534P
7665	21,371											MORROW, UPPER	0544P
7672	21,774											MORROW, UPPER	0534P
7690	21,936											MORROW, UPPER	0527P
7700	21,936											MORROW, UPPER	0526P
7825	80,323											MORROW, UPPER	0530P
7829	112,000											LOWER MORROW	0559P

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

OCHILTREE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
7950	10,714											MORROW, UPPER	0543P
7996	13,735											MORROW, UPPER	0520P
8000	20,965											MORROW, UPPER	0524P
***** DEPTH RANGE 7001 - 8000 *****													
8030	16,081											MORROW, UPPER	0531P
8041	7,529											MORROW, UPPER	0537P
8071	9,714											MORROW, UPPER	0539P
8074	6,607											MORROW, UPPER	0540P
8097	14,146											MORROW, UPPER	0529P
8129	7,778		208		44	4,600	76	180		8.0	1.003	LOWER MORROW	529J
8162	33,089											NOVI	0519P
8270	10,429											MORROW, UPPER	0521P
8435	11,011											LOWER MORROW	0546P
8455	20,242											LOWER MORROW	0548P
8515	19,478											LOWER MORROW	0555P
8715	19,750											LOWER MORROW	0551P
8756	10,371											MORROW, UPPER	0538P
8776	13,171											LOWER MORROW	0556P
8816	19,839											MORROW, UPPER	0532P
8852	21,000											LOWER MORROW	0547P
8871	8,276											LOWER MORROW	0558P
8872	7,240											MORROW, UPPER	0541P
8936	9,371											MORROW, UPPER	0533P
8943	12,107											LOWER MORROW	0553P
8957	6,444											MORROW, UPPER	0542P
8970	14,037											LOWER MORROW	0554P
***** DEPTH RANGE 9001 - 10000 *****													
9050	8,408											LOWER MORROW	0549P
9104	10,429											LOWER MORROW	0550P
9223	19,134											LOWER MORROW	0552P
9775	19,390											LOWER MORROW	0557P
***** DEPTH RANGE 10001 - 11000 *****													
10140	124,375											ELLENBURGER	0561P
10193	12,407											LOWER MORROW	0545P
***** DEPTH RANGE 11001 - 12000 *****													
11611	110,015											ELLENBURGER	0560P

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

OLDHAM COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.	
250	1,240	434	22	12	60	295	1 = 1000 806	*****		7.5		DOCKUM	128A	
496	1,010	371	4	4	60	280	599					OGALLALA FORM	382A	
4571	36,250						***** DEPTH RANGE 4001 - 5000 ***** CALCULATED FROM RM = 0.180 AT 75 DEG (F)						WOLFCAMP	0563P
4947	112,000						CALCULATED FROM RM = 0.069 AT 75 DEG (F)						WOLFCAMP	0562P
6111	136,667						***** DEPTH RANGE 6001 - 7000 ***** CALCULATED FROM RM = 0.058 AT 75 DEG (F)						VIRGIL	0564P
6253	120,625						CALCULATED FROM RM = 0.065 AT 75 DEG (F)						MISSOURI	0566P
6850	116,875						CALCULATED FROM RM = 0.067 AT 75 DEG (F)						MISSOURI	0565P
7127	63,077						***** DEPTH RANGE 7001 - 8000 ***** CALCULATED FROM RM = 0.109 AT 75 DEG (F)						DES MOINES	0567P
7187	120,625						CALCULATED FROM RM = 0.065 AT 75 DEG (F)						DES MOINES	0568P
8738	97,143						***** DEPTH RANGE 8001 - 9000 ***** CALCULATED FROM RM = 0.075 AT 75 DEG (F)						DES MOINES	0569P

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

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ORANGE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.	
***** DEPTH RANGE 1 - 1000 *****														
740	1,350	506	16	5	565	2	436					LISSIE FORM	417A	
941	1,830	692	22	9	965	2	267					ALTA LOMA SAND	441A	
***** DEPTH RANGE 1001 - 2000 *****														
1420	650											Z-2 0-2000 FT	268SP	
1780	21,000											Z-2 0-2000 FT	264SP	
1740	3,800											Z-2 0-2000 FT	270SP	
1840	6,500											Z-2 0-2000 FT	269SP	
***** DEPTH RANGE 3001 - 4000 *****														
3600	97,143											CALCULATED FROM RW = 0.075 AT 75 DEG (F)	MIocene	326E
***** DEPTH RANGE 6001 - 7000 *****														
6010	109,000											CALCULATED FROM RW = 0.070 AT 75 DEG (F)	FRIO	327E
6300	116,875											CALCULATED FROM RW = 0.067 AT 75 DEG (F)	FRIO	328E
7000	107,675	38,000	3,000	850	65,600		225			6.7	1.075	FRIO	1201J	
***** DEPTH RANGE 8001 - 9000 *****														
8024	126,250											CALCULATED FROM RW = 0.062 AT 75 DEG (F)	HACKBERRY	324E
8756	195,000											CALCULATED FROM RW = 0.045 AT 75 DEG (F)	HACKBERRY	325E
9000	30,000		170	103	15,246	37	697			7.4	1.020	NODOSARIA	1200J	

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PALO PINTO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
202	4,200	974	200	158	**** DEPTH RANGE 200	2,310	1 - 1000 606	****				PENNSYLVANIAN	154
1235	76,000	22,900	3,670	770	**** DEPTH RANGE 1001 - 2000	43,900	53	****		6.0	1.050	STRAWN SD.	0452K
1430	131,000	37,700	8,200	1,090		77,000	113			5.0	1.085	STRAWN	0450K
1500	50,410	16,040	2,635	664		31,205	16			7.3	1.037	STRAWN SD.	0454K
1540	71,960	20,354	5,737	1,377		45,388	63			7.2	1.053	STRAWN SD.	0452K
1590	97,800	29,300	5,750	1,000		58,500	173			6.5	1.064	STRAWN SD.	0451K
1660	88,100	24,450	5,000	1,010		49,500	134			5.2	1.058	STRAWN SD.	0448K
1769	100,850	30,620	6,042	1,560		62,450	17			6.2	1.082	STRAWN	0449K
1845	127,900	34,300	7,150	1,440		69,400	197			5.4	1.083	STRAWN SD.	0447K
3350	107,707	32,995	6,660	1,380	**** DEPTH RANGE 3001 - 4000	66,250	291	****		6.4	1.086	MARBLE FALLS	0459K
3810	137,820	40,750	10,381	1,703		85,813	334			7.0	1.096	MARBLE FALLS	0460K
3820	150,500	41,633	13,447	2,023		93,614	317			6.9	1.108	HIG SALINE	0455K
3860	131,460	38,208	11,072	1,631		82,976	208			5.9	1.093	HIG SALINE	0456K
4165	193,400	41,800	19,800	3,160	**** DEPTH RANGE 4001 - 5000	108,500	247	****		5.4	1.124	HIG SALINE	0457K
4320	158,820	44,840	13,697	1,872		98,579	174			6.5	1.112	HIG SALINE	0458K
4447	95,921	34,000	3,423	807		56,200	1,326			7.0	1.072	ELLENBURGER	0461K
4700	94,400	32,900	3,900	230		57,500	1,050			5.9	1.065	ELLENBURGER	0462K

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

PANOLA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
CALCULATED FROM RM = 0.137 AT 75 DEG (F)													
2500	48,824											GOODLAND	1198
2500	42,927	14,700	1,500	286	25,800	234	407				1.032	GOODLAND LS	249H
2500	54,692	18,400	2,200	409	33,000	236	447				1.040	GOODLAND LS	260H
2500	60,880	22,400	1,300	46	36,500	469	165				1.038	GOODLAND LS	261H
2500	59,719	21,300	1,400	400	36,200		415				1.044	GOODLAND LS	262H
***** DEPTH RANGE 3001 - 4000 *****													
CALCULATED FROM RM = 0.049 AT 75 DEG (F)													
3592	175,000											WICHITA-ALBANY	433C
3874	52,037	16,382	3,034	430	30,406	1,785					1.038	MORNINGSPOINT	7H
3907	51,420	14,398	1,464	919	30,406	1,753					1.037	MORNINGSPOINT	8H
***** DEPTH RANGE 5001 - 6000 *****													
5050	41,000											LOWER GLEN ROSE	569SP
***** DEPTH RANGE 6001 - 7000 *****													
6086	217,178	77,000	19,255	1,998	119,000	325					1.145	TRAVIS PEAK	31H
6097	226,335	80,055	20,210	2,171	123,645	254					1.151	TRAVIS PEAK	32H
6103	223,656	79,307	20,041	1,508	122,493	307					1.149	TRAVIS PEAK	34H
6104	226,506	80,200	20,234	1,870	123,900	302					1.151	TRAVIS PEAK	35H
6105	223,519	78,865	20,609	1,930	121,835	280					1.149	TRAVIS PEAK	33H
6106	233,807	83,500	19,426	1,809	128,800	272					1.155	TRAVIS PEAK	36H
6120	218,883	77,500	19,495	1,930	119,700	258					1.133	TRAVIS PEAK	37H
6140	223,728	79,300	19,754	1,870	122,500	309					1.149	TRAVIS PEAK	38H
6140	19,000											PETTET-TRAVIS PK	683SP

TEXAS WATER DEVELOPMENT BOARD

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

PARKER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE		1 = 1000	*****					
22	1,180	168	188	34	132	354	514			7.6		PALUXY SAND	167A
80	1,870	167	225	205	315	167	533			7.8		PALUXY SAND	166A
100	11,300	2,550	401	637	3,010	4,530	196			7.2		PENNSYLVANIAN	17A
103	7,360	2,730	87	46	4,320	5	293			7.2		PENNSYLVANIAN	16A
110	1,630	194	224	131	720	88	500			7.8		TRINITY GROUP	200A
432	2,320	841		3	418	774	507			8.9		PENNSYLVANIAN	14A

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

FARMER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
7222	54,444												
***** DEPTH RANGE 7001 - 8000 *****													
												Spraberry	471C
***** DEPTH RANGE 8001 - 9000 *****													
8145	124,375												
8326	134,667											HURGER	470C
												HURGER	469C

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

PECOS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (M25)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
200	1,000				480	584	1 - 1000	284		7.7		TRINITY GROUP	168A
200	1,000				1,460	457		150		7.6		TRINITY GROUP	169A
430	29,300	14,900	1,250	604	23,200	4,940		26				RUSTLER LS	93A
1150	2,871						1001 - 2000					RUSTLER	7C
1150	43,333						CALCULATED FROM RW = 1.890 AT 75 DEG (F)					QUEEN	70C
1373	1,990	194	342		83	292	CALCULATED FROM RW = 0.155 AT 75 DEG (F)	292				RUSTLER LS	95A
1415	1,990	9,450	835		359	13,300	5,100	252				RUSTLER LS	94A
148A	74,615						CALCULATED FROM RW = 0.094 AT 75 DEG (F)					SAN ANDRES	193C
1526	8,013						CALCULATED FROM RW = 0.100 AT 75 DEG (F)					YATES	28C
1550	2,210	184	327		83	303	960	141				RUSTLER LS	96A
1600	31,000						CALCULATED FROM RW = 0.205 AT 75 DEG (F)					YATES	27C
1620	2,686						CALCULATED FROM RW = 2.020 AT 75 DEG (F)					RUSTLER	8C
1700	8,619	2,746	88		223	3,840	1,335	894			1.004	PERMIAN	00090
1710	8,276						CALCULATED FROM RW = 0.680 AT 75 DEG (F)					SAN ANDRES	192C
1740	43,333						CALCULATED FROM RW = 0.155 AT 75 DEG (F)					QUEEN	69C
1800	11,270						CALCULATED FROM RW = 0.510 AT 75 DEG (F)					QUEEN	71C
1953	8,408						CALCULATED FROM RW = 0.670 AT 75 DEG (F)					SAN ANDRES	104C
2150	190,000						2001 - 3000					QUEEN	68C
2200	72,308						CALCULATED FROM RW = 0.046 AT 75 DEG (F)					YATES	29C
2910	40,000						CALCULATED FROM RW = 0.097 AT 75 DEG (F)					TUBB	789C
2925	76,154						CALCULATED FROM RW = 0.165 AT 75 DEG (F)					YATES	26C
2965	73,077						CALCULATED FROM RW = 0.092 AT 75 DEG (F)					TUBB	388C
3101	84,286						3001 - 4000					CLEARFORK	342C
3144	33,400						CALCULATED FROM RW = 0.084 AT 75 DEG (F)					TUBB	187C
3365	40,000						CALCULATED FROM RW = 0.143 AT 75 DEG (F)					SAN ANDRES	191C
3502	18,188						CALCULATED FROM RW = 0.165 AT 75 DEG (F)					GRAYBURG	121C
3606	34,000						CALCULATED FROM RW = 0.330 AT 75 DEG (F)					CLEARFORK	341C
3800	89,742	26,749	3,400	1,632	47,500	5,300	1,161		YES	7.3	1.060	PERMIAN 3800	796J
3945	8,882						CALCULATED FROM RW = 0.624 AT 75 DEG (F)					LEONARD	212C
4456	170,000						4001 - 5000					WICHITA-ALBANY	434C
4580	112,000						CALCULATED FROM RW = 0.050 AT 75 DEG (F)					CLEARFORK	344C
4596	28,750						CALCULATED FROM RW = 0.069 AT 75 DEG (F)					ELLENBURGEN	1041C
4852	180,000						CALCULATED FROM RW = 0.220 AT 75 DEG (F)					DELAWARE	90C

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

PECOS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 4001 - 5000 *****													
4880	130,000											SILURO-FUSSELMAN	854C
4930	26,458											WOLFCAMP	523C
***** DEPTH RANGE 5001 - 6000 *****													
5050	309,000											CONNELL	964C
5113	29,417											ELLENBURGER	1044C
5300	81,429											CLEARFORK	347C
5308	199,000											FUSSELMAN	903C
5326	49,000	12	564	199	18	2,090	225					RUSTLER LS	92A
5349	160,000											DELAWARE	93C
5420	179,000											DEVONIAN	813C
5442	97,143											MCKEE	940C
5442	104,000											WADDELL	951C
5449	130,000											DELAWARE	91C
5471	116,875											MCKEE	941C
5682	67,692											FUSSELMAN	904C
5690	126,250											SILURO-FUSSELMAN	859C
5691	143,333											MCKEE	939C
5883	119,000											DELAWARE	92C
5904	143,333											WICHITA-ALBANY	435C
5915	159,000											DEVONIAN	814C
5960	103,000											WADDELL	954C
5980	20,565											WADDELL	952C
5980	17,563											WADDELL	953C
***** DEPTH RANGE 6001 - 7000 *****													
6390	32,000											WOLFCAMP	525C
6400	56,816											DEVONIAN	815C
6718	56,384											PENN-CISCO	563C
6785	70,769											PENN-CISCO	562C
6907	63,846											PENN-CISCO	564C
***** DEPTH RANGE 7001 - 8000 *****													
7113	91,429											PENN CANYON	604C
7500	170,000											DEVONIAN	812C
7565	76,154											PENN STRAWN	663C
7586	94,000											PENN STRAWN	664C
7940	140,000											PENN STRAWN	666C
***** DEPTH RANGE 8001 - 9000 *****													
8015	59,091											ELLENBURGER	1045C
8200	128,125											PENN STRAWN	664C
8542	170,000											MCKEE	942C
***** DEPTH RANGE 9001 - 10000 *****													
9925	63,646											ELLENBURGER	1046C
9919	47,647											WOLFCAMP	524C

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

PECOS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE							1 - 1000	*****					
81	5,460	891	648	218	1,430	2,110	256					EDWARDS-TRINITY CENOZOIC ALLUV. RUSTLER FORM. CENOZOIC ALLUV. RUSTLER FORM.	
173	9,760	2,250	595	404	3,330	3,050	209						
452	7,300	1,820	388	259	2,320	2,350	320						
557	4,690	868	538	98	1,110	1,840	180			7.3			
725	86,800	30,100	1,560	1,130	48,200	5,770	28						
***** DEPTH RANGE							1001 - 2000	*****					
1316	27,200	8,240	928	622	12,600	4,670	187					YATES FORMATION YATES FORMATION YATES FORMATION RUSTLER FORM. RUSTLER FORM. RUSTLER FORM.	
1317	6,950	1,300	596	276	1,250	3,390	206			7.8			
1425	8,730	2,520	309	263	3,540	1,790	574			7.8			
1500	3,510	203	542	211	197	2,240	145			7.2			
1600	3,730	224	628	209	205	2,320	255			7.0			
1680	3,690	262	581	210	190	2,280	296						
***** DEPTH RANGE							2001 - 3000	*****					
2550	5,080	564	732	237	930	2,570	50					SAN ANDRES FORM. SAN ANDRES FORM. SAN ANDRES FORM. SAN ANDRES FORM. SAN ANDRES FORM. SAN ANDRES FORM. SAN ANDRES FORM. SAN ANDRES FORM.	
2600	5,050	555	722	253	920	2,400	356			7.0			
2600	5,360	698	730	245	1,100	2,370	400						
2600	5,530	752	718	253	1,200	2,480	234						
2668	5,060	584	728	235	910	2,450	267			7.3			
2855	5,540	542	750	196	987	2,740	329			8.0			
3000	5,720	770	772	253	1,310	2,510	224						
***** DEPTH RANGE							3001 - 4000	*****					
4000	3,690	336	602	193	550	1,830	281			7.1		CAPTAN REEF	

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

POLK COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
320	2,060	656	141	13	970	2	542	1				CTHULA+ OKVLF SS	354A
350	1,100	406	33	3	470	2	156	3				CTHULA+ OKVLF SS	353A
***** DEPTH RANGE 1001 - 2000 *****													
1860	700											Z-3 0-2000 FT	0265P
***** DEPTH RANGE 2001 - 3000 *****													
2250	15,500											Z-3 2000-4000 FT	0255P
2350	9,500											Z-3 2000-4000 FT	1575P
2575	3,400											Z-3 2000-4000 FT	1515P
2580	14,100											Z-3 2000-4000 FT	1545P
2625	2,800											Z-3 2000-4000 FT	0205P
2860	25,000											Z-3 2000-4000 FT	0215P
2970	13,500											Z-3 2000-4000 FT	1525P
***** DEPTH RANGE 5001 - 6000 *****													
5350	80,800											Z-4 4000-6000 FT	0695P
***** DEPTH RANGE 6001 - 7000 *****													
6280	100,000											Z-5 6000-8000 FT	0705P
6724	162,229	53,475	4,988	1,659	99,471		376	54		6.3	1.116	WILCOX A	645J
***** DEPTH RANGE 7001 - 8000 *****													
7400	143,166	48,250	5,750	990	87,130		690			6.3	1.104	WILCOX	644J
7400	191,475	60,850	10,600	1,630	117,400		232			5.7	1.138	WILCOX	791J
7790	274,158	84,896	16,524	3,108	169,334	11	60	215		5.3	1.186	WILCOX	646J
***** DEPTH RANGE 8001 - 9000 *****													
8730	140,000											CARRIZO-WILCOX	0715P
***** DEPTH RANGE 9001 - 10000 *****													
9580	170,000											CARRIZO-WILCOX	0725P
***** DEPTH RANGE 10001 - 11000 *****													
10980	50,000											CARRIZO-WILCOX	0735P

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

RANDALL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
2420	115,000											SAN ANDRES	0570P
						***** DEPTH RANGE 2001 - 3000 ***** CALCULATED FROM RW = 0.068 AT 75 DEG (F)							
5334	46,471											WOLFCAMP DOLOMIT	0571P
5364	70,000											WOLFCAMP DOLOMIT	0572P
						***** DEPTH RANGE 5001 - 6000 ***** CALCULATED FROM RW = 0.145 AT 75 DEG (F)							
						CALCULATED FROM RW = 0.100 AT 75 DEG (F)							

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

REAGAN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
400	1,840	289	156	103	144	985	262	4		7.7		TRINITY GROUP	174A
440	2,480	547	149	93	760	704	292			7.7		TRINITY GROUP	173A
535	1,940	306	167	108	244	947	274	7		7.4		TRINITY GROUP	175A
***** DEPTH RANGE 1001 - 2000 *****													
1700	6,720	3,967	72	24	4,783	467	2,214				1.005	PERMIAN	00020
***** DEPTH RANGE 2001 - 3000 *****													
2100	170,828	64,100	1,227	851	100,400	4,250				7.4	1.141	SAN ANDRES GRAYBURG	0066M
2185	180,000											SAN ANDRES GRAYBURG	122C
2306	68,462											SAN ANDRES GRAYBURG	197C
2403	111,623	40,273	1,846	672	04,000	3,750	1,080				1.097	QUEENS	0042M
2600	243,101	79,348	1,600	1,032	121,000	10,000	73				1.135	SAN ANDRES	0044M
3000	94,286											SAN ANDRES	195C
3000	90,000											SAN ANDRES	196C
***** DEPTH RANGE 3001 - 4000 *****													
3100	92,349	33,350	1,300	836	56,500		219				1.065	CLEARFORK	0045M
***** DEPTH RANGE 4001 - 5000 *****													
4117	26,750											SAN ANDRES	19HC
***** DEPTH RANGE 5001 - 6000 *****													
5200	114,549	37,490	5,200	912	70,000	220	268	475		5.9	1.080	UNKNOWN SPRABERRY	0036M
5250	70,402											SPRABERRY	473C
***** DEPTH RANGE 6001 - 7000 *****													
6194	123,944	46,160	2,359	570	75,290		360	36		7.0	1.086	SPRABERRY	0019M
6194	81,749	32,470	2,399	595	55,950		188	84		6.5	1.065	SPRABERRY	0020M
6194	100,372	36,790								6.5	1.069	SPRABERRY	0021M
6194	100,372	36,790	1,790	360	60,710		470	112		6.5	1.069	CLEARFORK	0022M
6194	131,837	47,530	2,985	657	80,350		256	36		6.8	1.092	SPRABERRY	0023M
6194	126,859	47,800	1,460	335	77,200	18	46			4.6	1.095	SPRABERRY	0026M
6194	129,144	48,400	1,825	333	78,500		61					SPRABERRY	0027M
6194	139,436	51,200	2,900	590	84,520	27	407	84		6.4	1.096	SPRABERRY	0037M
6194	93,700		2,040	389	59,200		256	68		6.9	1.075	SPRABERRY	0059M
6194	100,971	38,700	749	226	61,300						1.074	SPRABERRY	0060M
6194	130,800		2,280	389	78,800		194	10		7.1	1.085	SPRABERRY	0061M
6194			5,150	1,230	76,500	175	158	50		6.4	1.080	WOLFCAMP - DEAN	0062M
6194	129,553	44,900	2,980	729	74,900		244			5.7	1.095	SPRABERRY	0063M
6194	134,428	49,200	2,500	470	81,450		290	28		6.9	1.092	SPRABERRY	0065M

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

REAGAN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 6001 - 7000 *****													
6194	123,333	43,930	3,775	695	74,250	900	203	20		6.7	1.087	SPRABERRY	0077M
6206	87,417	32,522	1,200	264	52,500	340	390				1.064	SPRABERRY	0046M
6344	60,769											SPRABERRY	475C
6785			2,000	384	78,000		732	9		6.0	1.090	SPRABERRY	0054M
6923	96,945	35,500	1,670	880	58,600	213	82			7.3	1.081	SPRABERRY	0024M
6960	120,027	43,800	2,010	673	72,900	248	396			6.9	1.094	SPRABERRY	0039M
7000			3,300	1,140	85,000	118	73	60		4.6	1.088	DEAN	0039M
7000			5,600	1,200	102,960	890	290			6.8	1.125	WOLFCAMP	0040M
7000			2,120	317	77,980		500	32		7.3	1.085	DEAN=WOLFCAMP	0041M
***** DEPTH RANGE 7001 - 8000 *****													
7013	136,067											SPRABERRY	472C
7150	131,333											SPRABERRY	474C
7245	104,577	38,985	1,120	528	62,500		444			6.8	1.070	U SPRABERRY	0025M
***** DEPTH RANGE 8001 - 9000 *****													
8117	11,811											WOLFCAMP	526C
8405	48,480	14,900	849	364	24,700	48	397			7.8		ELLENBURGER	6A
***** DEPTH RANGE 9001 - 10000 *****													
9161	109,000											ELLENBURGER	1047C
9172	141,000	22,900	18,400	8,290	92,100	1,020	25					ELLENBURGER	6A
9205	99,255	23,080	9,130	3,831	62,170	1,038					1.078	ELLENBURGER	00060
9205	98,515	21,747	9,533	4,239	61,956	1,040					1.076	ELLENBURGER	01220
9215	58,182											MONTOYA	924C
9238	113,867	39,560	3,480	792	69,000	725	20	290			1.073	ELLENBURGER	0043M
9456	90,000											ELLENBURGER	1049C
9505	76,923											SILURO=FUSSELMAN	860C
9505	90,000											SILURO=FUSSELMAN	861C
9600	71,539											SILURO=FUSSELMAN	862C
9600	115,000											FUSSELMAN	905C
9914	62,308											ELLENBURGER	1048C
***** DEPTH RANGE 10001 - 11000 *****													
10095	58,636											ELLENBURGER	1050C

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CHEMICAL ANALYSIS OF SALINE WATER

RED RIVER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE			1 = 1000 *****					
408	1,030	413	3	1	325	2	544					NACATOCH SAND	253A
602	1,030	384	5	1	204	201	407			8.4		BLOSSOM SAND	247A
820	9,000											EAGLE FORD	6915P
					***** DEPTH RANGE 3001 - 4000 *****								
3070	9,100											LOWER GLEN ROSE	7475P
3800	30,000											PETTET-TRAVIS PK	6895P

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

REEVES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
1	2,200	448	190	80	618	651	286					EDWARDS LS	220A
1	2,100	437	189	80	609	635	284					EDWARDS LS	221A
135	6,210	1,180	614	232	1,840	2,210	195			7.2		ALLUVIUM	448A
195	6,110	861	896	253	2,250	1,780	147					RUSTLER LS	87A
225	5,840	738	856	190	1,518	1,910	152			7.1		ALLUVIUM	449A
***** DEPTH RANGE 1001 - 2000 *****													
1405	3,540	5	605	216	24	2,180	130					RUSTLER LS	89A
1525	3,200	46	599	218	37	2,230	143					RUSTLER LS	89A
***** DEPTH RANGE 2001 - 3000 *****													
2110			3,250	1,080	36,000	1,300	61			7.5	1.042	DELAWARE	1165J
2257	100,013	30,205	5,866	1,599	60,550	1,643	50			7.4	1.070	DELAWARE	1156J
2357	102,292	31,088	5,937	1,654	62,260	1,309	47			7.3	1.070	DELAWARE	1157J
2457	77,532	23,810	4,129	1,336	47,045	1,072	190			8.1	1.055	DELAWARE	1158J
2543	67,692				CALCULATED FROM RW = 0.103 AT 75 DEG (F)							DELAWARE	94C
2665			5,400	1,110	56,000	750	110			7.4	1.063	DELAWARE	1166J
2724	94,286				CALCULATED FROM RW = 0.077 AT 75 DEG (F)							DELAWARE	96C
2730	95,649	29,300	5,400	1,470	58,400	1,079				3.5	1.076	DELAWARE SD.	1155J
2834	112,000				CALCULATED FROM RW = 0.069 AT 75 DEG (F)							DELAWARE	95C
2869	147,012	36,960	13,490	3,415	91,400	620	23			6.2		DELAWARE SD.	1164J
***** DEPTH RANGE 4001 - 5000 *****													
4484	98,572				CALCULATED FROM RW = 0.074 AT 75 DEG (F)							DELAWARE SAND	1256J
4600	30,532	86,033	2,624	1,023	138,675	2,142	35			6.1	1.175	DELAWARE	1167J
4932	270,180	65,637	32,560	3,305	168,315	307	56			6.9		DELAWARE SD.	1169J
4932	184,167		21,167	7,440	110,500	300	430	46		7.1	1.146	DELAWARE	1172J
***** DEPTH RANGE 5001 - 6000 *****													
5050	0,482	59,725	13,087	3,376	124,565	699	1	33		5.3	1.156	DELAWARE	1170J
5300	60,000	90,800	7,680	1,950	159,000	566	33					DELAWARE MT Gp	30A
5724	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							DELAWARE	97C
***** DEPTH RANGE 7001 - 8000 *****													
7508	73,846				CALCULATED FROM RW = 0.095 AT 75 DEG (F)							DEVONIAN	816C
7820	56,818				CALCULATED FROM RW = 0.120 AT 75 DEG (F)							MONTOYA	925C
***** DEPTH RANGE 9001 - 10000 *****													
9827	11,541				CALCULATED FROM RW = 0.500 AT 75 DEG (F)							ELLENBURGER	1052C
9922	12,107				CALCULATED FROM RW = 0.480 AT 75 DEG (F)							ELLENBURGER	1053C
***** DEPTH RANGE 10001 - 11000 *****													
10338	8,408				CALCULATED FROM RW = 0.070 AT 75 DEG (F)							ELLENBURGER	1051C

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REEVES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 13001 - 14000 *****													
14000	2,291	759	69	30	1,37 ^H	11		4		3.9	1.004	ELLENBURGER	1159J
14000	21,104	7,206	704	143	12,78 ₃	4	176	88		9.7	1.017	ELLENBURGER	1160J
14000	1,753				CALCULATED FROM RW = 3.000 AT 75 DEG (F)							ELLENBURGER	1161J
14000	2,679	1,012	20	10	1,005	30		2		3.1	1.004	ELLENBURGER	1162J
14000	598	145	24	26	376			25		3.4	1.003	ELLENBURGER	1163J
14000			7,600	1,200	51,000	1,150	1,150	620		6.4	1.060	ELLENBURGER	1168J

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

REEVES COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE		1 - 1000 *****						
500	3,890	431	585	144	338	2,360	67					CENOZOIC ALLUV.	
580	4,270	803	408	184	1,440	1,230	269					CENOZOIC ALLUV.	

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CHEMICAL ANALYSIS OF SALINE WATER

REFUGIO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1250	11,000											Z-2 0-2000 FT	218SP
1760	4,000											Z-2 0-2000 FT	138SP
1920	73,777	26,100	2,280	220	44,900	2	127			7.1	1.051	FRIO SANDS D.P.H	701J
1931	71,558	25,164	2,400	208	43,600	1	185			7.0	1.050	FQ40, FT1A	701J
1931	73,614	25,982	2,400	208	44,900	1	123			7.0	1.050	FQ40, FQ3R, FT1A	702J
***** DEPTH RANGE 2001 - 3000 *****													
2170	27,000											Z-3 2000-4000 FT	219SP
***** DEPTH RANGE 3001 - 4000 *****													
3000	12,500											Z-3 2000-4000 FT	139SP
***** DEPTH RANGE 4001 - 5000 *****													
4140	59,000											Z-4 4000-6000 FT	220SP
4417	73,846											GRETA	332E
4414	74,615											GRETA	333E
4488	69,709	24,812	2,022	253	42,500		122					FRIO	140
4690	68,000											Z-4 4000-6000 FT	001SP
4720	70,167	24,402	2,345	410	42,900		110					FRIO	140
***** DEPTH RANGE 5001 - 6000 *****													
5004	69,305	25,900	1,034	115	42,000		296					FRIO	170
5015	69,133	25,217	1,454	218	42,000		244					FRIO	170
5150	105,358	35,289	3,267	1,015	61,298	4,089					1.076	HOLT	00720
5459	73,098	27,758	626	195	44,000		519					FRIO	190
5500	75,000	24,350	4,250	302	46,000	3	95			6.9	1.050	FRIO	01540
5501	66,154											FRIO	334E
5670	71,539											FRIO	335E
5835	77,755	26,745	2,972	347	47,400	1	290			7.2	1.056	H26, FT1A, FQ31N	700J
5863	71,539											FRIO	336E
5900	71,558	25,164	2,400	208	43,600	1	185			7.0	1.050	WOODSHORO	704J
5908	65,385											FRIO	337E
5950	56,818											FRIO	329E
5950	60,000											FRIO	330E
***** DEPTH RANGE 6001 - 7000 *****													
6217	67,258	22,056	2,419	383	39,400						1.053	FRIO	01110
6220	66,374	22,723	2,419	485	40,747						1.053	FRIO	01130
6420	71,000											Z-5 6000-8000 FT	221SP
6670	56,000											Z-5 6000-8000 FT	002SP
***** DEPTH RANGE 7001 - 8000 *****													
7498	23,448											FRIO	331E

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ROBERTS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3504	120,625											BROWN DOLOMITE	0584P
3544	116,875											BROWN DOLOMITE	0584P
3552	126,250											BROWN DOLOMITE	0584P
3642	98,572											BROWN DOLOMITE	0577P
3808	160,000											BROWN DOLOMITE	0588P
3822	136,667											BROWN DOLOMITE	0587P
3959	184,240	22,830	25,792	14,160	121,360	329	110			6.5	1.132	WOLFCAMP	531J
3970	140,000											BROWN DOLOMITE	0579P
***** DEPTH RANGE 4001 - 5000 *****													
4011	258,875	30,710	38,850	18,673	170,300	335	0			4.8	1.183	WOLFCAMP DOLOMITE	530J
4049	100,000											BROWN DOLOMITE	0582P
4073	97,143											BROWN DOLOMITE	0578P
4092	124,375											BROWN DOLOMITE	0590P
4092	130,000											BROWN DOLOMITE	0592P
4094	136,667											BROWN DOLOMITE	0591P
4101	126,250											BROWN DOLOMITE	0583P
4105	109,000											BROWN DOLOMITE	0589P
4110	146,667											BROWN DOLOMITE	0576P
4110	180,000											BROWN DOLOMITE	0584P
4111	120,625											BROWN DOLOMITE	0574P
4129	112,000											BROWN DOLOMITE	0581P
4134	146,667											BROWN DOLOMITE	0575P
4144	115,000											BROWN DOLOMITE	0593P
4218	106,000											BROWN DOLOMITE	0580P
4543	100,000											BROWN DOLOMITE	0571P
***** DEPTH RANGE 5001 - 6000 *****													
5738	130,000											DOUGLAS	0598P
***** DEPTH RANGE 6001 - 7000 *****													
6257	112,000											LECOMPTON	0595P
6413	98,572											LKC	0590P
6435	109,000											PENN (DOUGLAS)	0596P
6600	73,077											DOUGLAS	0597P
***** DEPTH RANGE 7001 - 8000 *****													
7221	112,000											PENN WASH	0601P
7407	97,143											PENN WASH	0602P
7743	116,875											PENN WASH	0604P
***** DEPTH RANGE 8001 - 9000 *****													
8534	120,625											PENN WASH	0603P

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ROBERTS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
8585	90,000											DES MOINES	0600P
<p>***** DEPTH RANGE 8001 - 9000 ***** CALCULATED FROM RW = 0.080 AT 75 DEG (F)</p>													
4885			293	119	1,408		448			6.9	1.002	MORROW	532J
<p>***** DEPTH RANGE 9001 - 10000 ***** CALCULATED FROM RW = 0.070 AT 75 DEG (F)</p>													
10250	109,000											DES MOINES WASH	0605P
<p>***** DEPTH RANGE 10001 - 11000 ***** CALCULATED FROM RW = 0.087 AT 75 DEG (F)</p>													
11025	80,000											OSAGE	0608P
11129	4,786											LOWER MORROW	0606P
11263	7,529											LOWER MORROW	0607P
<p>***** DEPTH RANGE 11001 - 12000 ***** CALCULATED FROM RW = 0.570 AT 75 DEG (F)</p>													

TEXAS WATER DEVELOPMENT BOARD

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ROBERTSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
							2001 = 3000						
2134	31,364	11,600	340	130	18,100	8	1,186				1.024	NACATOCH	25H
2180	29,675	10,972	300	130	17,200	30	1,043				1.023	NACATOCH	26H
2197	24,472	8,978	200	100	13,500	35	1,659				1.020	NACATOCH	27H
2200	27,875											NACATOCH (GIRS)	120H
							CALCULATED FROM RW = 0.227 AT 75 DEG (F)						
							7001 = 9000						
7520	150,000											PETTET-TRAVIS PK	6R4SP
							8001 = 4000						
8500	14,000											LOWER GLEN ROSE	732SP

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ROCKWALL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1840	3,840	1,530	10		1,730	43	1,085					WOODBINE SAND	241A
4690	6,500											LOWER GLEN ROSE	726SP
5750	7,300											PETTET-TRAVIS PK	743SP

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RUNNELS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
120	1,390	133	204	85	***** DEPTH RANGE 201	584	1 - 1000 312	***** 15		7.4		WICHITA + CLR FK	36A
1150	73,762	21,900	4,515	1,420	***** DEPTH RANGE 45,900	6	1001 - 2000 21	*****		6.0	1.055	SAND	409G
1150	73,762	21,900	4,515	1,420	45,900	6	21			6.0	1.055	SHALLOW SAND	0463K
2000	91,017	28,300	5,000	1,318	56,300	7	92			6.7	1.070	SAN ANGELO	994J
2240	65,080	22,000	2,033	942	***** DEPTH RANGE 36,524	4,676	2001 - 3000 561	*****		6.9	1.049	COLEMAN JUNCT.	0465K
2314	78,561	27,225	2,188	959	44,100	3,990	99			7.3	1.061	SERRATT SAND	410G
2323	69,589	23,500	2,290	885	42,600	65	249			6.7	1.055	SERRATT SAND	411G
2323	83,500	27,900	3,550	990	50,200	30	270			7.0	1.055	SERRATT SAND	0474K
2323	69,589	23,500	2,290	885	42,600	65	249			6.7	1.055	SERRATT	0475K
2400	80,500	23,350	4,320	920	47,200	37	103			7.2	1.053	GARDNER SAND	0514K
2425	77,010	21,800	6,610	764	47,000	546	290				1.058	SERRATT SAND	412G
2425	77,010	21,800	6,610	764	47,000	546	290				1.058	SERRATT	0475K
2433	69,687	21,600	4,050	856	42,900	126	155				1.051	SERRATT SAND	413G
2433	69,687	21,600	4,050	856	42,900	126	155				1.051	SERRATT	0477K
2465	100,800	29,200	4,300	1,200	56,840		264			6.3	1.066	SERRATT	0129L
2474	84,477	27,700	3,360	1,212	52,000	6	199			6.6	1.068	SERRATT SAND	963J
2474	83,038	27,000	3,510	1,187	51,300	11	30			5.7	1.066	SERRATT SAND	964J
2490	118,040	36,300	4,235	1,040	66,430		120			6.1	1.075	MCMILLAN SAND	0471K
2533	97,800	28,900	3,620	1,160	54,200		140			6.6	1.064	MCMILLAN SAND	0472K
2540	108,800	30,100	6,750	1,425	62,000		248			6.8	1.071	KING SAND	0130L
2587	83,333	27,000	3,430	1,255	51,100	365	183			6.5	1.064	MCMILLAN SAND	959J
2587	107,875	27,800	11,500	1,360	67,200	15				3.7	1.086	MCMILLAN SAND	960J
2615	86,036	29,000	3,080	794	51,100	1,660	402				1.058	SERRATT SAND	414G
2676	115,200	32,150	5,350	1,670	63,900		110			6.4	1.075	BRECKENRIDGE	0466K
2743	101,787	31,754	4,320	2,018	62,950	17	113			7.0	1.072	BRECKENRIDGE	409J
2745	101,685	31,212	5,360	1,602	62,950	17	113			7.3	1.073	BRECKENRIDGE	409J
2760	129,500	33,300	6,690	1,550	67,500		100			6.5	1.084	KING SAND	0468K
2763	97,423	29,929	5,280	1,604	60,277	20	98			6.3	1.074	KING SAND	405J
2771	97,686	29,366	5,000	1,993	63,900	164	122			7.2	1.073	KING SAND	402J
2800	89,706	28,200	2,985	1,190	51,700	560	400			6.7	1.059	BRECKENRIDGE	0467K
2800	105,500		5,160	1,457	61,900	43	83			7.5		GUNSIGHT	0122L
2810	104,000	25,715	6,028	1,148	54,800	610	160			6.9	1.068	KING SAND	0131L
2820	100,800		1,460	1,450	55,900					6.2	1.066	KING SAND	434J
2820	104,000		4,530	1,270	57,900					6.2	1.068	KING SAND	435J
2820	99,400		1,460	1,510	56,400					6.3	1.065	KING SAND	436J
2820	124,800	31,660	7,880	2,087	70,360		680			6.6	1.081	KING SAND	0133L
2838	93,077	28,140	4,680	1,871	57,600	33	113			7.0	1.072	KING SAND	404J

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

RUNNELS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2863	96,409	29,393	5,500	1,322	59,400	18	118			7.2	1.073	KING SAND	403J
2868	104,102	31,946	4,480	2,500	64,550	13	122			7.4	1.078	CISCO REEF	406J
2876	103,410	31,138	9,840	1,700	63,900	10	84			7.2	1.075	KING SAND	401J
2903	107,306	32,688	4,880	2,333	66,500	3	940			7.4	1.077	CISCO REEF	407J
2930	112,000	32,600	5,730	1,480	64,500		290			7.0	1.073	CISCO REEF	047RK
2995	118,300		7,150	990	65,390	96	296			6.3	1.077	CANYON REEF	411J
3000	110,400	31,800	4,980	1,330	61,000		130			6.9	1.072	KING SAND	0469K
***** DEPTH RANGE 3001 - 4000 *****													
3100	113,354	27,290	10,690	3,640	71,300	313	121					HUNGER SAND	0473K
3226	90,000											HOME CREEK	0481K
3330	143,349	39,700	12,900	1,625	88,800	241	83			5.8	1.115	CAPPS LIME	415J
3330	124,585	33,900	11,400	1,645	77,200	254	120			6.4	1.101	CAPPS LIME	416J
3342	130,240	34,800	12,600	1,737	80,800	188	115			6.4	1.104	PALO PINTO LIME	414J
3352	135,900	34,319	8,439	2,296	75,650	520	200			6.9	1.088	HOME CREEK	0134L
3374	128,320	33,220	7,100	1,485	68,100	100	135			6.5	1.081	CANYON SAND	0483K
3400	104,000	32,100	6,350	1,230	61,000		180			6.7	1.068	HOME CREEK	0480K
3400	121,500	33,370	7,250	1,380	68,100	420	280			6.8	1.079	CROSS CUT SAND	0482K
3449	110,400	33,000	6,000	1,530	65,700	34	100			7.0	1.072	HOME CREEK LM	0479K
3470	119,537	34,100	9,220	1,813	74,100	137	167			5.8	1.095	PALO PINTO	0484K
3500	88,238	26,799	4,840	1,336	52,540	1,566	161			4.5	1.065	PALO PINTO	0486K
3500	119,200	30,575	5,086	1,582	61,250	380	960			6.3	1.075	PALO PINTO	0136L
3551	198,300	48,280	11,760	2,646	104,580	360	340			7.7	1.127	MORRIS SAND	0135L
3666	195,000	48,000	14,800	2,460	107,000	740	25			6.3	1.125	MORRIS SO.	0491K
3720	120,000	31,600	8,435	1,445	68,710	290	192			6.7	1.078	PALO PINTO	0137L
3740	96,100	31,300	2,490	1,000	54,900	380	535			7.1	1.063	CAPPS	0484K
3740	73,077											UPPER CAPPS	0495K
3754	109,010	33,870	5,150	2,160	67,100	609	121			6.6	1.089	FRY SAND	961J
3754	123,243	29,120	15,350	1,561	76,450	636	126			5.2	1.101	FRY SAND	962J
3800	80,500	25,390	3,250	870	46,600	1,025	225			7.1	1.053	IVAN SAND	0470K
3827	153,300	36,300	8,424	2,370	79,000	275	132			6.3	1.099	PALO PINTO	0138L
3833	182,200		25,150	1,980	98,800	450	725			6.8	1.117	GARDNER LIME	439J
3838	137,029	39,400	11,300	1,393	84,200	672	64			5.5	1.109	GARDNER SAND	440J
3839	110,892	30,784	9,692	1,410	68,400	521	85			6.1	1.077	PALO PINTO	0489K
3844	113,825	37,699	5,278	848	69,900	8	92			6.8	1.079	FRY SAND	0503K
3845	217,300	61,508	9,665	3,087	121,000	550	200			6.9	1.138	GARDNER	0145L
3910	118,750											CAPPS	0492K
3910	241,400	64,500	16,570	2,430	135,500	437	40			5.7	1.154	GARDNER	0510K
3914	82,739	23,803	6,190	1,255	50,650	728	111			8.9	1.066	STRAWN	415G
3914	82,739	23,803	6,190	1,255	50,650	728	111			8.9	1.066	STRAWN	0527K
3938	137,500		8,917	2,100	73,800	48	220			6.6	1.089	PALO PINTO LIME	420J
3938	134,300		8,870	1,680	72,400	98	236			6.2	1.087	PALO PINTO LIME	424J
3938	143,900		9,740	2,020	77,600	125	252			6.3	1.093	PALO PINTO LIME	425J
3938	143,900		9,640	1,475	76,000	44	300			6.0	1.093	PALO PINTO LIME	426J
3938	145,500		10,600	1,734	76,800	96	264			6.8	1.094	PALO PINTO LIME	427J
3938	110,400		6,000	1,530	65,700	34				7.0		HOME CREEK	428J
3938	142,300		8,920	1,590	75,600	114	196			6.4	1.092	PALO PINTO LIME	429J
3938	134,100		9,158	2,080	75,000	80	224			6.2	1.090	PALO PINTO LIME	430J
3938	143,900		9,640	1,475	76,000	44	300			6.0	1.093	PALO PINTO LIME	431J

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

RUNNELS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
393H	145,500		10,600	1,734	76,800	44	300			6.8	1.094	PALO PINTO LIME	417J
393H	131,000	36,100	8,900	2,090	76,600	150	111			7.1	1.085	PALO PINTO	0489K
395H	79,350	26,100	2,300	570	45,800	500	471			7.5	1.055	CAMBRIAN	0540K
395H	86,000	30,000	2,685	710	52,500	300	445			6.5	1.061	CAMBRIAN	0541K
396H	94,874	31,993	3,189	1,002	56,100	2,270	320			6.6	1.065	JENNINGS LIME	967J
397H	142,300		8,920	1,590	75,600	114	196			6.4	1.092	PALO PINTO LIME	966J
397H	99,400	24,750	6,576	1,312	54,200	700	220			6.7	1.065	PALO PINTO	0179L
397H	126,000	36,400	7,000	1,850	73,750	170	30			6.8	1.100	PALO PINTO	0487K
400H	99,445	30,720	5,282	1,704	61,600	4	135			6.8	1.078	STRAWN	416G
400H	99,445	30,720	5,282	1,704	61,600	4	135			6.8	1.078	STRAWN	0532K
***** DEPTH RANGE 4001 - 5000 *****													
4002	101,945	33,900	4,000	1,413	62,500	199	333			6.9	1.069	CAPPS LIME	958J
4010	111,029	26,350	4,020	5,570	70,500	591	38			5.0	1.089	JENNINGS SAND	965J
4033	77,692												
CALCULATED FROM RW = 0.090 AT 75 DEG (F)													
4108	96,728	32,800	2,723	1,464	59,500	26	215			7.3	1.076	CADDO	417G
4108	96,728	32,800	2,723	1,464	59,500	26	215			7.3	1.076	CADDO	0521K
4115	143,829	39,170	13,281	1,842	88,650	786	104					GARDNER	0514K
4161	92,800		3,240	1,100	50,900	875				6.4	1.061	GARDNER	410J
4162	107,436	32,800	5,850	1,950	66,000	622	214			6.4	1.091	JENNINGS LIME	969J
4162	112,778	35,750	4,730	2,194	69,400	507	197			6.8	1.089	JENNINGS SAND	970J
4162	141,617	38,100	13,420	1,895	87,400	645	157			6.1	1.117	JENNINGS SAND	971J
4178			19,360	12,640	177,840	80				6.7		GARDNER	417J
4178	117,300	46,690	6,958	3,087	94,903	78	348			7.2	1.114	GARDNER SD.	0147L
4184	128,977	30,500	14,700	2,680	80,300	705	192			6.5	1.106	GARDNER LIME	969J
4184	122,112	35,500	8,150	2,300	75,000	1,057	105			6.9	1.098	GARDNER LIME	972J
4200	211,000	47,200	18,300	2,620	112,500	425	25			5.2	1.135	GARDNER	0519K
4200	132,800	38,000	10,700	1,500	81,000	450	107			6.7	1.093	GARDNER SAND	0520K
4224	93,313	33,319	1,379	1,126	56,700	27	762			7.1	1.064	GOEN LIME	0508K
4229	146,510	39,650	13,480	2,065	90,200	1,060	55			4.6	1.120	L GARDNER SAND	439J
4239	238,200	54,200	20,200	3,130	128,000	175	100			6.1	1.152	GARDNER	0513K
4300	151,700		7,078	3,235	89,600	134	39			6.8		FRY	0140L
4340	100,800	32,600	2,390	1,520	58,300	430	520			7.4	1.066	FRY SAND	0501K
4375	143,333											GARDNER	0509K
CALCULATED FROM RW = 0.096 AT 75 DEG (F)													
4381	140,700		9,540	1,705	74,400	82	332			6.0	1.091	PALO PINTO LIME	414J
4381	134,300		8,580	1,730	76,000	56	204					PALO PINTO LIME	419J
4381	131,000		8,670	1,390	74,400	38	340			6.5	1.085	PALO PINTO LIME	421J
4381	142,300		9,640	2,310	75,600	84	288			6.6	1.092	PALO PINTO LIME	422J
4381	140,700		10,220	2,170	76,000	105	148			5.9	1.091	PALO PINTO	423J
4393	75,700	44,700	11,139	2,340	96,960	740	272			6.3	1.113	GARDNER	0146L
4400	86,905	29,600	2,040	1,465	53,000	390	410			6.8	1.068	FRY SAND	0504K
4400	116,840	33,500	7,875	2,266	71,500	770	129					CADDO	0522K
4405	116,418	34,010	6,300	1,727	71,500	777	104			6.0	1.091	CADDO	419G
4406	84,520	26,100	1,380	1,330	50,080		120			5.7	1.073	GOEN LIME	0505K
4408	102,575	32,000	5,350	1,603	63,070	462	90			5.8	1.082	FRY SAND	0500K
4421	73,077											GOEN LIME	0507K
CALCULATED FROM RW = 0.096 AT 75 DEG (F)													
4444	100,800		1,460	1,450	55,900					6.2	1.066	GOEN LIMESTONE	411J
4444	94,400		1,460	1,510	56,400					6.3	1.065	GOEN LIMESTONE	413J
4444	100,800		1,460	1,450	55,900					6.2	1.066	GOEN LIMESTONE	417J

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

HUNNELS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 4001 - 5000 *****													
4473	79,100	23,700	2,837	672	44,100	340		400		7.3	1.052	GOEN LIMF	0141L
4492	101,095	31,337	3,997	2,458	61,000	1,890		413		6.5	1.069	PALE PINTO	0489K
4500	182,939	48,650	17,450	2,740	113,300	384		415		4.0	1.147	GRAY SAND	093J
4500	117,808	35,404	7,253	1,800	71,363	1,525		353		5.9	1.081	CAPPS LIME	0496K
4500	124,800	32,800	5,100	2,140	65,500	280		369		6.6	1.081	CAPPS LIME	0497K
4500	116,789	34,298	7,613	2,049	71,363	1,170		214		6.3	1.081	STRAWN	0528K
4500	114,419	34,513	6,371	2,197	70,477	310		360		5.8	1.078	STRAWN	0529K
4500	117,124	35,329	7,092	1,787	71,363	920		360		6.2	1.082	STRAWN	0530K
4500	114,081	34,904	6,051	2,110	70,034	620		281		6.3	1.075	STRAWN SAND	0531K
4500	80,500	26,900	2,040	1,130	47,700	425		515		6.8	1.053	CAMBRIAN	0532K
4500	65,200		1,368	340	38,650	925		480		7.8	1.043	ELLENBURGER	0154L
4516	110,400	30,000	5,830	1,270	59,000	1,475		199		6.7	1.072	FRY SAND	0502K
4516	71,300	21,200	3,340	1,360	42,500			100		7.3	1.047	CADDO	0523K
4517	127,401	37,478	9,118	1,720	79,000	12		73		5.8	1.089	GARDNER	0518K
4532	131,840	42,200	9,100	2,560	79,650	90		190		6.7	1.085	GARDNER LIME	0517K
4550	120,000	41,400	6,114	1,658	69,430	680		220		6.6	1.078	FRY SAND	0142L
4560	100,000											L. GARDNER	0515K
4580	121,500	33,170	7,200	1,980	68,800	710		177		6.5	1.079	CAPPS	0499K
4645	77,257	27,720	1,107	970	47,420	4		31		6.4	1.059	GOEN LIMF	0506K
4660	100,072	32,746	4,075	1,287	60,500	1,150		314		6.4	1.070	CAPPS	0493K
4774	161,300	39,975	9,555	2,146	89,640			208		6.0	1.104	GARDNER SD.	0144L
4910	113,500	30,500	6,554	1,586	64,110	1,000		308		6.8	1.091	JENNINGS SD.	0143L
4968	127,900	34,600	6,800	1,240	68,500	1,400		310		6.9	1.083	MORRIS SD.	0490K
5000	81,100	28,250	2,490	490	49,000	174		508		6.7	1.058	CAMBRIAN	0538K
***** DEPTH RANGE 5001 - 6000 *****													
5090	133,511	34,200	14,600	1,480	82,500	685		46		4.6	1.110	OOM LIME	0526K
5200	91,200	26,300	3,594	921	50,120	290		504		6.7	1.060	GOEN LIMF	0149L
5300	112,000	38,400	4,806	1,404	62,720	1,170		292		6.8	1.073	GOEN LIMF	0148L
5315	153,000	38,650	12,300	2,045	86,500	900		188		6.9	1.100	GARDNER	0511K
5315	185,400	45,100	14,300	2,210	101,500	250		135		6.3	1.119	GARDNER	0512K
5400	77,500	26,500	2,140	370	44,800	560		665		6.8	1.051	ELLENBURGER	0533K
5400	113,500	34,300	4,795	790	64,500	1,360		315		6.9	1.074	CAMBRIAN	0150L
5400	83,500	28,700	2,700	650	50,600	340		249		6.3	1.055	CAMBRIAN	0151L
5456	135,613	36,338	13,396	1,429	83,100	960		390		6.1	1.093	OOM LIME	0525K
5490	131,250	38,820	10,028	1,752	81,913	946		238		7.8	1.093	OOM LIME	0524K
5500	86,500	26,800	2,240	300	45,700	495		385		6.8	1.057	CAMBRIAN	0535K
5500	81,000	26,800	2,200	590	46,200	760		420		6.4		CAMBRIAN	0536K
5500	74,500	27,300	2,320	630	43,800	1,610		450		6.5	1.049	CAMBRIAN	0537K
6000	84,600	28,600	1,600	487	48,000	362		443		7.3	1.056	CAMBRIAN	0538K
6000	69,800		1,630	340	39,340	805	1,000			7.6	1.046	CAMBRIAN	0152L
6000	79,100		2,080	535	45,800	630		584		6.9		CAMBRIAN	0153L

TEXAS WATER DEVELOPMENT BOARD

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

RUSK COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2983	50,321	18,900	600	120	30,500		201				1.043	NACATOCCH	286H
2985	54,387	19,600	1,302	138	32,500		847				1.041	NACATOCCH	287H
2985	54,818	19,900	1,314	126	32,600		878				1.042	NACATOCCH	288H
3000	45,588											NACATOCCH	129H
CALCULATED FROM RW = 0.148 AT 75 DEG (F)													
***** DEPTH RANGE 3001 - 4000 *****													
CALCULATED FROM RW = 0.126 AT 75 DEG (F)													
3600	53,889											WOODRINE	120H
3649	45,722	16,800	800	190	27,700		232				1.036	WOODRINE	124H
3650	47,338	16,900	1,060	279	28,200		388				1.036	WOODRINE	79H
3658	64,917	23,686	1,162	308	39,005	311	464				1.045	WOODRINE	100H
3660	65,538	23,731	1,342	307	39,351	307	500				1.046	WOODRINE	101H
3694	43,326	16,000	800	78	26,200		456				1.031	WOODRINE	125H
3700	48,529											WOODRINE	121H
3700	56,818											WOODRINE	122H
3700	52,222											WOODRINE	123H
3700	45,000											WOODRINE	124H
3700	62,408	22,694	1,300	203	37,320	338	553				1.045	WOODRINE	77H
3700	63,404	23,015	1,330	1,330	37,920	383	529				1.047	WOODRINE	78H
3700	60,578	21,960	1,152	307	36,168	405	580				1.042	WOODRINE	90H
3700	61,532	22,438	1,082	305	36,877	354	476				1.042	WOODRINE	93H
3700	67,468	25,464	1,232	324	40,423	352	573				1.047	WOODRINE	94H
3700	58,205	21,000	1,443	145	34,700	434	482				1.046	WOODRINE	95H
3700	45,240	16,200	1,302	61	26,900	351	476				1.040	WOODRINE	96H
3700	57,420	21,000	1,262	98	34,400	141	514				1.042	WOODRINE	97H
3700	50,935	16,800	1,342	158	31,900	326	404				1.045	WOODRINE	98H
3700	57,999	21,100	1,443	72	35,000	49	335				1.046	WOODRINE	99H
3700	56,610	20,500	1,400	31	33,300	611	768				1.043	WOODRINE	102H
3700	48,188	17,600	1,300	60	28,400	322	506				1.038	WOODRINE	103H
3700	43,645	15,600	1,300	53	26,200	139	353				1.038	WOODRINE	104H
3738	50,422	17,451	1,140	297	29,760	420	454				1.038	WOODRINE	80H
3738	53,644	19,349	1,040	288	31,740	422	405				1.040	WOODRINE	81H
3738	54,069	19,627	930	306	32,160	198	448				1.078	WOODRINE	82H
3738	54,309	20,111	1,050	247	32,880	382	639				1.040	WOODRINE	83H
3738	55,571	20,100	1,030	297	33,000	454	640				1.039	WOODRINE	84H
3738	55,637	20,100	1,100	303	33,200	334	608				1.040	WOODRINE	85H
3738	55,678	20,421	960	188	33,120	250	739				1.041	WOODRINE	86H
3738	55,637	20,100	1,100	303	33,200	334	608				1.040	WOODRINE	85H
3738	58,678	20,421	960	188	33,120	250	739				1.041	WOODRINE	86H
3738	57,189	20,600	1,270	231	34,200	312	576				1.040	WOODRINE	87H
3738	57,598	21,343	920	104	34,200	416	610				1.041	WOODRINE	88H
3738	57,742	20,793	1,230	273	34,320	420	706				1.043	WOODRINE	89H

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

HUSK COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3738	58,270	21,500	830	291	35,000	289	360				1.038	WOODBINE	90H
3738	57,884	20,926	1,110	330	34,680	147	691				1.042	WOODBINE	91H
3756	49,796	16,660	2,000	440	30,100	230	366				1.040	WOODBINE	92H
3763	49,191	18,300	800	20	29,100	278	653				1.036	WOODBINE	10H
3765	55,214	20,000	1,344	113	33,300		457				1.042	WOODBINE	344H
3770	39,167	13,700	1,200	175	23,000	458	634				1.040	WOODBINE	11H
3800	56,366			CALCULATED FROM HW = 0.121 AT 75 DEG (F)									
3800	57,896	20,900	1,200	330	35,100		366				1.046	WOODBINE	345H
3850	50,950	18,400	1,100	200	30,500	213	537				1.041	WOODBINE	280H
3856	45,121	16,700	740	120	27,100	180	281				1.034	WOODBINE	281H
3882	49,281	17,500	1,200	300	29,800		481				1.043	WOODBINE	282H
3882	52,681	18,500	1,840	70	31,900	170	201				1.043	WOODBINE	283H
3900	50,969	18,400	1,215	154	30,500	267	433				1.041	WOODBINE	284H
***** DEPTH RANGE 4001 - 5000 *****													
4384	48,253	17,600	920	235	29,100	319	79				1.039	WOODBINE	285H
***** DEPTH RANGE 6001 - 7000 *****													
6400	150,000											LOWER GLEN ROSE	745P
6680	130,000											LOWER GLEN ROSE	6725P
7000	215,110	60,300	20,750	1,602	131,000	213	40	106		5.3	1.140	TRAVIS PFAK	01130
***** DEPTH RANGE 7001 - 8000 *****													
7250	180,000			CALCULATED FROM HW = 0.064 AT 75 DEG (F)									
7266	195,838	50,900	20,700	2,300	121,400	574					1.133	PETTET	144H
7266	212,246	57,600	20,900	2,000	131,500	246					1.154	TRAVIS PFAK	145H
7458	223,200	62,500	20,300	2,100	134,300						1.162	TRAVIS PFAK	224H
7500	195,000			CALCULATED FROM HW = 0.045 AT 75 DEG (F)									
7750	226,078	61,137	22,500	2,110	140,000	282	49				1.157	TRAVIS PFAK	127H
7800	185,000			CALCULATED FROM HW = 0.047 AT 75 DEG (F)									
***** DEPTH RANGE 9001 - 10000 *****													
9244	294,297	114,200	1,000	91	177,000	1,980	26	28		5.3	1.174	COTTON VALLEY	01720

TEXAS WATER DEVELOPMENT BOARD
SALINE WATER RESOURCES SURVEY

JUL 1971

OF THE
STATE OF TEXAS
CHEMICAL ANALYSIS OF SALINE WATER
SABINE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
631	1,240	514	2	1	***** DEPTH RANGE 191 3		1 - 1000 ***** 1,040				SPARTA SAND	716A	

TEXAS WATER DEVELOPMENT BOARD
SALINE WATER RESOURCES SURVEY

JUL 1971

OF THE
STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER
SAN AUGUSTINE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
7360	93,000											LOWER OLFN ROSE	709SP
8500	50,000											PETTY-TRAVIS PK 761SP	

TEXAS WATER DEVELOPMENT BOARD
SALINE WATER RESOURCES SURVEY

JUL 1971

OF THE
STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

SAN JACINTO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1940	700												
***** DEPTH RANGE 1001 - 2000 *****													
2130	2,000												
2545	8,100												
2765	10,000												
2915	15,500												
2930	12,000												
***** DEPTH RANGE 2001 - 3000 *****													
3320	25,000												
3880	36,000												
***** DEPTH RANGE 3001 - 4000 *****													
5440	36,000												
5960	82,000												
***** DEPTH RANGE 5001 - 6000 *****													
7430	80,000												
7960	58,211	19,759	1,950	635	35,600		290	17		7.4	1,039	CARRIZO-WILCOX YEGUA	0845P 631J
***** DEPTH RANGE 6001 - 9000 *****													
8400	90,000												
***** DEPTH RANGE 10001 - 11000 *****													
10100	70,000												

TEXAS WATER DEVELOPMENT BOARD
SALINE WATER RESOURCES SURVEY

JUL 1971

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

SAN PATRICIO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE 1 - 1000 *****								
126	2,700	829	119	50	1,310	50	494			7.7		BEAUMONT CLAY	421A
200	1,470	531	21	8	570	113	380			7.7		BEAUMONT CLAY	422A
216	1,330	490	17	8	508	66	416			7.8		BEAUMONT CLAY	423A
319	1,000	347	27	9	378	43	337					GOLIAD SAND	406A
936	2,090	804	13	3	1,060		363					GOLIAD SAND	407A
940	2,990	992	18	4	1,340		411					GOLIAD SAND	408A
					***** DEPTH RANGE 1001 - 2000 *****								
1830	28,000											7-2 0-2000 FT	2485P
					***** DEPTH RANGE 2001 - 3000 *****								
2508	15,900	4,790	824	127	9,468		66	4		6.9	1.013	2500 FT GAS SAND	476J
2510	9,200											2-3 2000-4000 FT	2495P
					***** DEPTH RANGE 3001 - 4000 *****								
3900	75,980	26,823	2,286	347	46,400	1	123			7.0	1.054	TAFT	668J
3975	70,000				CALCULATED FROM RW = 0.100 AT 75 DEG (F)							CATAMOULA	754E
3990	70,000				CALCULATED FROM RW = 0.100 AT 75 DEG (F)							CATAMOULA	755E
4000	84,116				46,510							SAND	669J
					***** DEPTH RANGE 4001 - 5000 *****								
4010	70,000				CALCULATED FROM RW = 0.100 AT 75 DEG (F)							CATAMOULA	756E
4350	90,000				CALCULATED FROM RW = 0.080 AT 75 DEG (F)							CATAMOULA	757E
4600	81,735	28,301	2,858	452	50,000	1	123			6.9	1.058	4600 FT SAND	671J
4627	77,692				CALCULATED FROM RW = 0.090 AT 75 DEG (F)							FRIO	745E
4800	78,462				CALCULATED FROM RW = 0.089 AT 75 DEG (F)							FRIO	741E
4839	90,700	24,000	2,174	668	53,367	7	376	148		6.3	1.061	4800 FT SAND	680J
4880	64,745	21,275	3,086	521	39,800	1	67			6.9	1.046	WHITE POINT SAND	472J
4880	89,200	30,500	2,287	480	52,481	2	412	54		6.6	1.098	4900 FT GAS SAND	674J
5000	84,331	29,061	3,200	382	51,600	1	87			6.9	1.060	5000 FT SAND	670J
					***** DEPTH RANGE 5001 - 6000 *****								
5229	81,890				43,510							FRIO	661J
5331	75,385				CALCULATED FROM RW = 0.093 AT 75 DEG (F)							FRIO	758E
5411	41,850	14,125	681	135	23,971	14	300	118		7.6	1.029	GAS SAND (5400)	662J
5531	55,455				CALCULATED FROM RW = 0.123 AT 75 DEG (F)							FRIO	750E
5600	84,286				CALCULATED FROM RW = 0.084 AT 75 DEG (F)							FRIO	742E
5600	62,308				CALCULATED FROM RW = 0.110 AT 75 DEG (F)							FRIO	746E
5600	84,921				46,705							5600 STRAWN	1257J
5602	82,700	3,625	2,763	391	49,733	1	106	12		6.9	1.056	5600 BRIGHAM	479J
5615	73,077				CALCULATED FROM RW = 0.096 AT 75 DEG (F)							FRIO	351E

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SAN PATRICIO COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 5000 *****													
5634	73,077												
CALCULATED FROM RW = 0.096 AT 75 DEG (F)													
5608	84,727	29,282	2,925	589	51,783		148					FRIO	752E
5747	84,520				43,452							FRIO	740
5789	64,615											NEEP SAND	677J
5789	51,667											FRIO	734E
5800	76,800	25,000	2,782	437	46,853	4	117	11		6.9	1.054	FRIO	739E
5800	69,231											NEEP SAND	679J
5920	51,667											FRIO	753E
6000	81,429											FRIO	740E
CALCULATED FROM RW = 0.086 AT 75 DEG (F)													
***** DEPTH RANGE 6001 - 7000 *****													
6019	75,385												
CALCULATED FROM RW = 0.093 AT 75 DEG (F)													
6200	80,000											FRIO	747E
6369	73,800	23,000	3,503	131	43,439	4	100	96		6.2	1.050	FRIO	743E
6500	84,286											CONNER SAND	677J
6622	72,200	23,000	4,032	253	44,502	3	194	10		6.8	1.051	FRIO	744E
CALCULATED FROM RW = 0.084 AT 75 DEG (F)													
***** DEPTH RANGE 7001 - 8000 *****													
7015	80,900	26,000	3,162	449	48,137	3	84	17					
7110	71,200				43,574							6100 WEST SAND	664J
7793	47,059									6.7	1.054	FRIO 7100 FT	664J
CALCULATED FROM RW = 0.143 AT 75 DEG (F)													
***** DEPTH RANGE 8001 - 9000 *****													
8100	60,782	19,172	3,430	638	37,415			127					
8300	33,500	12,250	501	99	20,242	49		464				LOWER FRIO	01140
8559	27,500									7.4	1.024	PACHAL SAND	674J
CALCULATED FROM RW = 0.230 AT 75 DEG (F)													
***** DEPTH RANGE 9001 - 10000 *****													
9277	34,750											FRIO	740E
CALCULATED FROM RW = 0.170 AT 75 DEG (F)													

TEXAS WATER DEVELOPMENT BOARD
 SALINE WATER RESOURCES SURVEY

JUL 1971

OF THE
 STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

SAN SABA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
560	6,310	2,270	96	71	3,740	42	1 - 1000	180		7.9	ELLENBURGER	2A	

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

SCHLEICHER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
2455	88,372											PENN GENERAL	742C
***** DEPTH RANGE 2001 - 3000 ***** CALCULATED FROM RW = 0.001 AT 75 DEG (F)													
3571	104,761	30,693	7,680	1,264	64,704	32	127			6.5	1.079	CANYON SAND PENN CANYON WOLFCAMP	0071M 607C 527C
3901	59,909												
3967	136,667												
***** DEPTH RANGE 3001 - 4000 ***** CALCULATED FROM RW = 0.122 AT 75 DEG (F) CALCULATED FROM RW = 0.058 AT 75 DEG (F)													
4100	120,625												
***** DEPTH RANGE 4001 - 5000 ***** CALCULATED FROM RW = 0.065 AT 75 DEG (F)													
4411	120,000	36,600	4,180	1,970	69,200	315	450			6.3	1.078	PENN CANYON STRAWN LIME	600C 0545K
4479		30,400	14,980	2,985	81,850	122	153			3.8	1.076	STRAWN STRAWN LIME	214J 470C
4534	76,154												
4690	167,700	43,200	12,700	1,910	94,300		180			6.4	1.108	PENN STRAWN LOWER HARKEY	470C 0543K
***** DEPTH RANGE 4001 - 5000 ***** CALCULATED FROM RW = 0.092 AT 75 DEG (F)													
***** DEPTH RANGE 5001 - 6000 ***** CALCULATED FROM RW = 0.050 AT 75 DEG (F)													
5219	170,000												
5250	94,500	31,900	2,760	730	54,500	1,210	385			6.9	1.062	PENN CANYON STRAWN	605C 0549K
5281	92,857												
5380	77,692												
5490	72,970	24,582	2,760	462	42,992	1,200	517			7.7	1.055	PENN STRAWN PENN GENERAL PENN REEF	667C 741C 0075M
5615	59,000												
5635	78,462												
5635	91,346	31,964	2,680	559	54,515	1,230	390			7.1	1.058	PENN REEF	0030M
5641	89,578	32,183	2,080	379	53,185	1,300	451			6.9	1.057	PENN REEF	0024M
5641	89,578	32,183	2,080	379	53,185	1,300	451						
5652	140,609	43,912	6,284	1,474	86,400	452	87	68		5.7	1.096	PENN REEF STRAWN	0071M 0031M
5655	78,462												
5675	99,412	20,346	1,989	448	35,216	1,016	397			7.5	1.040	PENN GENERAL	740C
5750	80,700	27,330	3,707	211	48,226	1,224	281			6.6	1.058	DES MOINES STRAWN	0155L 0546K
5750	88,102	31,569	2,094	379	52,299	1,262	488			7.3	1.057	PENN REEF	0028M
5750	88,102	31,569	2,094	388	52,299	1,262	488						
5760	94,108	29,000	3,380	635	51,000	1,750	440			7.0	1.063	PENN REEF STRAWN LIME	0032M 0547K
5808	91,111												
***** DEPTH RANGE 5001 - 6000 ***** CALCULATED FROM RW = 0.049 AT 75 DEG (F)													
***** DEPTH RANGE 6001 - 7000 ***** CALCULATED FROM RW = 0.054 AT 75 DEG (F)													
6180	122,900												
6300	66,740	23,360	2,365	507	40,247	1,491	514			7.0	1.049	ELLENBURGER STRAWN REEF	1046C 0548K
***** DEPTH RANGE 6001 - 7000 ***** CALCULATED FROM RW = 0.078 AT 75 DEG (F)													
7230	97,143												
7286	73,600		2,550	540	44,175	1,020	470	65		7.0	1.054	ELLENBURGER STRAWN	1054C 0034M

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

SCHLEICHER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
							***** DEPTH RANGE 7001 - 8000 *****						
7521	143,333						CALCULATED FROM RW = 0.096 AT 75 DEG (F)					PENN STRAWN	669C
7780	134,508	39,602	8,480	2,624	83,679	1,149	73			9.7	1,099	ELLENBURGER	0072M
							***** DEPTH RANGE 8001 - 9000 *****						
8406	74,615						CALCULATED FROM RW = 0.094 AT 75 DEG (F)					MONTOYA	926C
8420	59,909						CALCULATED FROM RW = 0.122 AT 75 DEG (F)					ELLENBURGER	1057C

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

SCURRY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
111	4,580	420	506	298	382	2,660	361						
120	3,990	188	502	322	680	1,620	388					DOCKUM	119A
125	1,410	600	7	6	407	305	426			8.2		DOCKUM	118A
142	5,880	1,990	84	43	1,840	1,700	411					OGALLALA FORM	144A
												DOCKUM	117A
***** DEPTH RANGE 1001 - 2000 *****													
161n	63,000	19,964	2,476	617	35,400	1,940	293			7.2		ELLENBURGER	10A
175n	259,000	76,000	9,650	3,000	142,000	1,000	290			5.7	1.165	SAN ANDRES LM	0550K
175o	281,400	82,000	13,250	5,560	157,700	750	196			6.9	1.179	SAN ANDRES	0551K
***** DEPTH RANGE 2001 - 3000 *****													
225n	90,000											WOLFCAMP	528C
238n	87,143											SAN ANGELO	274C
238o	107,206	31,600	6,130	2,405	65,200	1,216	655			7.3	1.085	SAN ANDRES	282G
2485	82,000	22,050	4,185	736	44,100	1,600	186			6.3	1.054	GLORIETA	0156L
2499	76,923											CLEARFORK	746C
2499	85,655	29,120	2,329	1,016	48,380	4,838	172			7.2	1.059	CLEARFORK	283G
2500	45,588											GLORIETA	246C
2650	71,300	20,600	2,240	645	36,400	1,550	220			7.7	1.047	GLORIETA	0553K
2650	97,800	31,700	3,180	1,160	55,200	3,350	215			6.9	1.064	GLORIETA	0554K
2650	105,500	32,200	3,980	1,735	59,400	2,950	290			6.6	1.069	GLORIETA	0555K
2650	71,921	23,765	2,300	826	40,810	3,985	160			7.6	1.050	GLORIETA	0552K
2800	66,154											SAN ANGELO	275C
2975	118,750											CLEARFORK	348C
2990	126,250											CLEARFORK	345C
2990	117,122	38,200	4,600	1,750	70,900	1,480	192			6.8	1.094	CLEARFORK	284G
2994	142,300	41,355	3,636	1,804	76,125	3,150	1,280			6.8	1.092	CLEARFORK	0160L
3000	131,000	42,800	3,650	1,285	72,500	4,200	905			6.6	1.085	CLEARFORK	0557K
***** DEPTH RANGE 3001 - 4000 *****													
3010	136,667											CLEARFORK	747C
3010	124,654	39,900	5,200	2,110	75,600	1,520	264			8.1	1.099	CLEARFORK	2850
3100	44,500	26,520	4,656	2,456	60,900	1,350	320			6.1	1.062	SAN ANDRES	0157L
3320	107,200	29,400	4,310	1,850	56,200	2,670	970			6.5	1.070	CLEARFORK	0556K
3433	140,000											WOLFCAMP	529C
***** DEPTH RANGE 4001 - 5000 *****													
4303	116,545	38,800	4,650	1,250	70,500	1,180	145					CANYON REEF	28F
4306	86,401	22,285	2,335	637	38,294	2,562	288					CANYON REEF	24F
4367	81,938	28,600	2,740	782	49,800	1,700	316					CANYON REEF	12F
4373	72,443	24,200	2,600	759	42,300	2,130	444					CANYON REEF	22F

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

SCURRY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 4001 - 6000 *****													
4375	141,287	46,850	5,671	1,584	66,300	691	191					CANYON REEF	23F
4378	68,140	22,707	2,467	700	39,400	2,341	525					CANYON REEF	1F
4378	122,535	38,209	7,787	848	73,900	1,600	191					CANYON REEF	10F
4379	85,187	28,200	3,150	1,030	50,900	1,760	97					CANYON REEF	39F
4381	63,815	21,246	2,368	630	36,814	2,379	378					CANYON REEF	12F
4390	70,167	23,430	2,461	715	40,899	2,278	284					CANYON REEF	21F
4397	74,225	24,700	2,820	736	43,200	2,370	199					CANYON REEF	11F
4399	145,738	48,500	5,690	1,610	88,300	1,450	184					CANYON REEF	18F
4399	86,534	28,428	4,403	871	53,130	1,302	340					CANYON REEF	22F
4401	63,021	21,031	2,468	460	35,900	2,030	532					CANYON REEF	4F
4402	61,698	20,409	2,342	625	35,529	2,421	332					CANYON REEF	20F
4403	45,000				CALCULATED FROM RW = 0.150 AT 75 DEG (F)							PENN-CISCO	567C
4404	117,685	38,400	5,210	1,370	71,500	1,040	165					CANYON REEF	27F
4407	70,546	19,845	6,169	491	42,000		289					CANYON REEF	3F
4409	137,427	45,500	5,350	1,340	83,700	793	244					CANYON REEF	2F
4410	138,434	46,484	5,200	1,340	84,000	1,150	180					CANYON REEF	14F
4411	79,382	25,389	4,028	787	47,104	1,768	300					CANYON REEF	71F
4411	145,526	44,400	9,470	1,590	89,400	513	153					CANYON REEF	43F
4414	92,785	30,035	4,200	1,120	56,000	1,250	180					CANYON REEF	13F
4415	61,377	20,380	2,265	634	35,295	2,283	520					CANYON REEF	32F
4418	193,960	61,400	10,300	2,340	119,000	777	143					CANYON REEF	42F
4419	77,190	25,175	2,533	771	45,672	1,587	452					CANYON REEF	30F
4420	78,366	26,400	2,730	737	45,800	2,370	329					CANYON REEF	73F
4422	59,157	19,515	2,182	674	33,858	2,336	592					CANYON REEF	37F
4430	74,577	25,287	2,353	761	43,439	2,334	403					CANYON REEF	36F
4432	114,436	36,300	5,490	1,470	70,500	215	58					CANYON REEF	41F
4444	66,889	22,381	2,257	412	38,500	2,175	664					CANYON REEF	9F
4444	98,788	33,600	3,300	915	58,800	1,720	453					CANYON REEF	32F
4445	75,240	25,077	2,867	727	44,100	2,175	294					CANYON REEF	6F
4451	197,727	60,000	12,000	2,590	122,100	300	137					CANYON REEF	7F
4454	90,601	29,843	3,701	1,075	54,919	905	218					CANYON REEF	26F
4468	135,557	45,428	5,456	1,138	81,800	1,520	215					CANYON REEF	4F
4468	86,715	29,650	2,820	756	51,520	1,439	530					CANYON REEF	14F
4472	133,711	42,460	7,225	1,408	81,600	868	150					CANYON REEF	17F
4478	144,005	45,701	7,214	1,933	88,295	642	220					CANYON REEF	14F
4487	180,405	54,124	11,881	2,494	111,335	538	34					CANYON REEF	25F
4489	114,543	38,285	4,280	1,240	69,000	1,500	230					CANYON REEF	15F
4489	54,729	17,912	2,189	555	30,411	2,559	703					CANYON REEF	48F
4498	126,237	38,288	7,880	1,715	77,303	600	451					CANYON REEF	44F
4499	89,327	24,189	7,821	978	55,367	484	488					CANYON REEF	45F
4516	179,100	57,900	9,180	1,630	109,600	652	158					CANYON REEF	34F
4519	62,779	20,745	2,393	668	36,229	2,214	530					CANYON REEF	40F
4544	56,954	18,722	2,590	327	32,300	2,320	595					CANYON REEF	4F
4586	82,857				CALCULATED FROM RW = 0.085 AT 75 DEG (F)							WOLFCAMP	530C
4630	93,550	31,632	3,601	759	56,408	480	170					STRAWN	53F
4690	118,750				CALCULATED FROM RW = 0.066 AT 75 DEG (F)							WICHITA-ALBANY	436C
4914	161,891	48,304	10,848	2,284	100,035	372	48					STRAWN	47F
4945	151,840	45,843	9,902	1,978	93,617	440	60					STRAWN	46F
***** DEPTH RANGE 7001 - 8000 *****													
5004	182,664	55,100	12,000	2,370	112,800	326	68					STRAWN	52F

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

SQUIRY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
5030	135,900	44,300	4,950	540	73,440	1,290	180			5.9	1.088	FULLER SAND	0158L
5034	121,500	35,900	4,400	1,400	67,800	1,860	240			7.1	1.079	CISCO SAND	0561K
5100	56,634	18,300	2,440	592	31,800	2,780	722					STRAWN	54F
5260	50,556				CALCULATED FROM RW = 0.132 AT 75 DEG (F)							WOLFCAMP	531C
5310	102,515	58,565	8,240	2,660	112,500	450	117			6.8	1.126	WOLFCAMP	0560K
5350	98,572				CALCULATED FROM RW = 0.074 AT 75 DEG (F)							PENN-CISCO	565C
5360	126,033	35,870	9,510	2,110	77,630	800	100					STRAWN	756F
5470	109,067	54,810	9,845	490	102,000	1,900	121					WOLFCAMP	0559K
5870	177,452	56,020	10,240	1,645	108,800	630	630					WOLFCAMP	0558K
***** DEPTH RANGE 6001 - 7000 *****													
6070	130,000				CALCULATED FROM RW = 0.070 AT 75 DEG (F)							PENN-CISCO	568C
6177	86,500	24,200	3,400	1,075	47,320	1,500	260			7.4	1.057	CISCO SAND	0159L
6140	199,800	52,000	12,400	2,400	111,000		130			6.4	1.120	CANYON SAND	0562K
6334	142,300	43,200	7,030	800	80,000	655	145			6.2	1.092	CANYON REEF	0569K
6330	136,607				CALCULATED FROM RW = 0.058 AT 75 DEG (F)							PENN-CISCO	565C
6570	68,200	23,245	2,250	700	40,500	1,000	432			7.4	1.048	CANYON REEF	0566K
6570	69,130	22,783	2,673	801	40,527	2,031	315			6.8	1.043	CANYON REEF	0567K
6600	124,273	38,128	7,018	1,560	76,207	847	15			6.8	1.092	CANYON REEF	0568K
6600	53,457	17,171	2,340	587	20,944	2,731	676			6.6	1.036	STRAWN SAND	0573K
6605	71,234	23,600	2,750	709	41,100	2,630	445					CANYON REEF	0571K
6643	58,772	15,690	5,593	715	30,530	1,717	527			7.7	1.048	CANYON	296G
6600	195,000				CALCULATED FROM RW = 0.045 AT 75 DEG (F)							PENN GENERAL	744C
6690	222,100	61,000	13,900	1,910	120,000		60			5.0	1.142	CANYON SAND	0563K
6690	115,489	32,848	25,410	410	96,000	817				4.5	1.105	CANYON LIMB	0161L
6770	75,717	25,800	2,400	653	44,200	2,080	524			7.0	1.058	CANYON	287G
6770	68,125	20,990	4,049	749	40,120	2,115	102			5.7	1.052	CANYON	288G
6780	103,986	34,400	4,520	891	62,700	1,040	335			6.8	1.078	CANYON	290G
6797	92,051	29,780	4,530	808	54,650	1,890	387			6.5	1.071	CANYON	290G
6790	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							PENN CANYON	611C
6810	70,709				CALCULATED FROM RW = 0.099 AT 75 DEG (F)							PENN CANYON	612C
6823	83,928	28,100	3,077	860	49,750	1,990	146				1.066	CANYON	291G
6824	86,715	29,650	2,820	756	51,520	1,430	530			7.2	1.067	CANYON	292G
6824	59,488	19,705	2,222	643	34,470	1,900	640			7.6	1.045	CANYON	293G
6834	101,999	34,650	3,585	869	61,000	1,567	320			7.2	1.081	CANYON	294G
6846	62,409	19,540	2,914	749	37,200	1,580	480			7.3	1.049	CANYON	295G
6850	151,427	43,400	12,300	1,870	93,900	150	307			6.3	1.120	CANYON	296G
6856	64,223	20,280	2,893	1,028	37,800	1,590	526			7.4	1.048	CANYON	297G
6860	56,665	18,500	2,280	590	31,800	2,770	725					CANYON REEF	0570K
6869	151,164	45,820	10,805	1,717	94,600	93	129			6.6	1.119	CANYON	298G
6869	127,745	37,700	4,200	1,540	74,300	830	167			7.3	1.098	CANYON	299G
6870	160,299	48,600	10,850	1,600	90,900	227	122			5.7	1.120	CANYON	300G
6875	51,640	16,500	3,053	500	31,420	1,540	305			6.8	1.044	CANYON	301G
6910	114,738	30,700	10,080	2,195	71,200	563				3.4	1.094	CANYON	302G
6920	177,956	57,100	8,615	2,079	109,000	517	145			5.1	1.145	CANYON	303G
6909	71,842	20,910	5,705	906	43,495	122	223			7.0	1.053	CANYON	304G
6961	150,042	47,007	8,200	1,990	92,100	515	230			6.7	1.120	CANYON	305G
6970	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							PENN GENERAL	743C
***** DEPTH RANGE 7001 - 8000 *****													
7001	121,943	38,100	8,790	1,540	74,600	723	190			6.4	1.096	CANYON	307G

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

SCURRY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 7001 - 8000 *****													
7006	84,286											PENN CANYON	609C
7014	129,478	40,300	2,310	1,520	40,420	742	186			6.6	1.100	CANYON	304B
7030	220,500	63,200	11,020	1,960	124,610	180	80			5.9	1.141	STRAWN	0162L
7130	104,398	37,830	2,239	423	62,409	1,371	122			7.0	1.070	CANYON REEF	0564K
7150	151,602	45,430	10,296	1,903	93,260	606	104			6.8	1.105	CANYON REEF	0564K
7160	133,333											PENN CANYON	610C
7300	161,891	48,304	10,848	2,284	100,035	372	44			5.7	1.125	STRAWN LINE	0574K
7335	82,000	24,700	2,730	625	42,200	2,980	830			6.5	1.054	ELLENBURGER	0580K
7434	150,000											PENN STRAWN	674C
7520	96,060	31,990	3,779	966	57,445	1,647	232			7.2	1.064	STRAWN	0572K
7570	76,567	25,300	3,020	860	45,500	1,555	332			7.1	1.060	STRAWN	309B
7588	120,629											PENN STRAWN	674C
7590	59,041											ELLENBURGER	1059C
7664	170,000											PENN STRAWN	672C
7716	116,875											PENN STRAWN	671C
7785	47,647											ELLENBURGER	1058C
7800	62,200	20,100	2,085	535	34,600	1,800	675			6.8	1.041	STRAWN REEF	0574K
***** DEPTH RANGE 8001 - 9000 *****													
8100	67,500	22,470	2,308	750	38,100	3,640	222			7.8	1.047	ELLENBURGER	0577K
8100	51,093	17,180	1,760	483	29,280	2,190	400			7.4	1.034	ELLENBURGER	0578K
8157	82,000	24,400	3,995	845	47,825	1,200	280			6.8	1.054	MISSISSIPPIAN	0163L
8180	131,000	36,590	8,750	1,381	75,800	850	295			6.4	1.045	MISS. CHERT	0576K
8200	97,143											ELLENBURGER	1060C
8260	61,021	20,000	2,385	783	35,870	1,660	323			8.4	1.049	MISSISSIPPI	310B
8268	55,909											MISSISSIPPIAN	775C
8305	50,200	13,350	1,925	470	25,500	1,340	280			7.1	1.031	ELLENBURGER	0164L
8350	49,100	16,240	1,924	519	24,364	1,951	220			7.5	1.030	ELLENBURGER	0579K
8370	41,000											ELLENBURGER	1061C
8370	44,322	14,300	1,916	501	25,320	1,545	740			8.2	1.035	ELLENBURGER	311B

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

SHACKELFORD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.	
710	118,300	31,625	5,978	1,470	64,740	420	24			6.6	1.077	TANNEHILL	0165L	
800	150,005	59,110	8,960	4,032	78,500	150	9			7.3	1.090	FRYE	0581K	
970		34,308	8,820	1,988	73,374	812	54			6.1	1.093	TANNEHILL	0583K	
1000	129,400	33,000	7,500	1,840	69,400	380	29			6.0	1.084	U. TANNEHILL	0582K	
***** DEPTH RANGE 1001 - 2000 *****														
1250	96,100	28,000	6,280	2,066	59,500	210	54			6.6	1.068	TANNEHILL	0584K	
1250	101,855	29,527	6,480	2,204	63,500	150	54			6.7	1.075	TANNEHILL	0585K	
1250	123,100		4,100	2,300	73,500	14	112			6.8	1.080	FLIPPEN	0167L	
1300	116,332	37,000	5,930	1,481	71,820	14	87			6.4	1.098	TANNEHILL	0586K	
1307	129,500	35,000	6,700	1,295	69,400		110			7.2	1.084	COOK SAND	0590K	
1400	119,771	39,291	3,161	1,800	71,297	145	77			1.096		COOK	344G	
1400	118,750				CALCULATED FROM RW = 0.066 AT 75 DEG (F)								WOLFCAMP	467I
1400	119,771	39,290	3,161	1,800	71,297	145	77					COOK SAND	0600K	
1400	126,300				81,000		124			6.4	1.081	HOPE	0168L	
1409	126,300	35,700	6,180	1,310	70,500	360	90			6.5	1.082	HOPE SAND	0602K	
1431	113,749	33,090	6,775	2,703	70,050	1,131				1.091		TANNEHILL	0607K	
1450	99,400	30,200	4,100	1,630	56,000	1,050	110			7.2	1.065	COOK LIMF	0601K	
1469	92,732	29,500	4,400	1,450	57,300	7	75			6.5	1.075	COOK SAND	0595K	
1481	93,749	29,780	4,500	1,395	58,000		74			6.0	1.074	COOK SAND	0596K	
1500	102,195	31,936	5,080	1,704	63,000	475	29			6.2	1.072	KING SAND	0604K	
1500	115,000	35,000	6,700	1,800	71,500	6	105			6.6	1.080	KING SAND	0605K	
1500	129,300	36,110	5,480	1,640	71,400	1,200	200			6.6	1.082	HLUFF CREEK	0169L	
1545	94,119	27,673	6,963	1,130	58,101	210	42			5.9	1.074	COOK SAND	0597K	
1550	103,500	32,500	4,960	1,776	64,000	300	59			5.8	1.073	HLUFF CREEK	0588K	
1550	134,300	39,200	6,400	1,410	75,500		50			6.0	1.087	HLUFF CREEK	0589K	
1550	109,100	31,119	6,400	2,064	65,500	50	49			6.3	1.075	COOK SAND	0594K	
1560	132,700	39,500	6,070	1,620	74,300		40			6.6	1.086	FLIPPEN LIME	0593K	
1560	92,400	28,900	3,350	884	53,000		152			6.4	1.061	FLIPPEN	0594K	
1600	104,249	32,770	5,698	1,300	64,400	22	59			5.8	1.081	HLUFF CREEK	345G	
1600	103,000				CALCULATED FROM RW = 0.072 AT 75 DEG (F)								WOLFCAMP	466I
1600	89,315	28,400	4,650	1,093	54,900	170	96			6.7	1.067	HLUFF CREEK	0590K	
1600	104,249	32,770	5,698	1,300	64,400	22	59			6.8	1.081	HLUFF CREEK	0592K	
1750	137,500		8,160	1,600	80,800		83			6.8		CISCO SAND	0170L	
1899	103,508	31,280	5,750	2,038	64,200	163	77			6.8	1.080	KING SAND	0603K	
2000	10,443	3,641	233	106	6,158	24	281			7.6	1.007	MORAN	346G	
2000	9,847				CALCULATED FROM RW = 0.065 AT 75 DEG (F)								WOLF-CAMP	468I
2000	143,100	40,700	8,100	1,410	81,930	265	93			6.3	1.093	SWASTIKA	0171L	
***** DEPTH RANGE 2001 - 3000 *****														
2067	109,000				CALCULATED FROM RW = 0.070 AT 75 DEG (F)								STRAWN	0617K

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

SHACKELFORD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2165	130,700	37,400	9,120	2,620	81,500	50	94			6.6	1.093	MORAN	0609K
2175	182,200	43,400	13,365	1,935	94,000	410	170			6.1	1.117	MORRIS SAND	0172L
2200	170,900	48,250	11,750	1,860	100,000	375	150			6.4	1.110	MORAN	0610K
2467	175,894	47,500	17,820	1,929	111,300	119	120			6.3	1.143	STRAWN	3470
2467	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							STRAWN	4651
2467	178,694	47,500	17,820	1,829	111,300	119	120			6.3	1.143	STRAWN	0614K
2474	124,800	32,600	6,430	1,360	65,400	160	95			5.5	1.081	HUFF CREEK	0501K
2800	71,300		3,900	610	42,400		165			6.6	1.047	COOK SAND	0166L
2800	42,800		3,050	1,200	53,100		93			6.4	1.061	KING SAND	0173L
3000	101,100	29,400	6,690	1,994	63,000	23	88			6.4	1.074	SWASTIKA	0607K
3000	133,333				CALCULATED FROM RW = 0.059 AT 75 DEG (F)							STRAWN	0616K
***** DEPTH RANGE 3001 - 4000 *****													
3200	126,300	34,500	6,020	1,470	68,000	290	80			6.4	1.082	SWASTIKA	0606K
3200	126,000	37,540	7,280	2,544	78,500	63	73			6.6	1.090	SWASTIKA	0608K
3250	104,595	33,149	5,019	1,532	63,354	1,296	231				1.080	PALO PINTO	00950
3400	76,000	33,160	3,350	960	44,000	354	160			7.3	1.050	FRY SAND	0612K
3400	58,000	16,950	3,360	1,392	37,000	350	64			6.5	1.044	FRY	0613K
3640	156,924	41,065	14,845	2,906	97,942	166					1.122	CADD0 LIME	00350
3660	249,500	60,900	22,800	2,840	143,000	20	65			5.5	1.159	GARDNER	0614K
3800	171,103	48,100	16,800	1,500	104,300	242	161			5.5	1.139	LAKE SAND	0620K
3846	171,265	46,939	16,394	1,655	106,047	143	87			5.8	1.141	LAKE SAND	0621K
3900	148,200	53,400	12,800	1,460	109,000	58	41			5.5	1.127	LAKE SAND	0618K
3900	220,600	60,500	14,250	1,635	123,000	107	45			5.2	1.141	LAKE SAND	0619K
4000	198,300	52,600	16,850	1,980	115,690	260	264			6.6	1.127	LAKE SAND	0174L
***** DEPTH RANGE 4001 - 5000 *****													
4207	71,941	24,280	3,020	382	43,090	767	402			7.6	1.054	ELLENBURGER	3480
4207	71,539				CALCULATED FROM RW = 0.098 AT 75 DEG (F)							ELLENBURGER	4561
4207	71,941	24,280	3,020	382	43,090	767	402			7.6	1.054	ELLENBURGER	0623K
4376	75,554	25,500	2,960	551	45,300	943	300			7.3	1.060	ELLENBURGER	3490
4376	74,615				CALCULATED FROM RW = 0.094 AT 75 DEG (F)							ELLENBURGER	4571
4376	75,554	25,500	2,960	551	45,300	943	300			7.3	1.060	ELLENBURGER	0624K
4452	88,956	26,600	5,460	1,396	52,700	2,140	060			6.3	1.074	ELLENBURGER	3500
4452	87,143				CALCULATED FROM RW = 0.082 AT 75 DEG (F)							ELLENBURGER	4601
4500	80,451	26,210	3,504	551	48,200	1,720	266			7.1	1.064	ELLENBURGER	3510
4500	77,692				CALCULATED FROM RW = 0.090 AT 75 DEG (F)							ELLENBURGER	4501
4500	185,400	48,900	10,900	4,240	107,000	165	157			6.4	1.119	PALO PINTO	0611K
4500	115,225	35,200	7,020	1,570	70,730	548	157			6.6	1.089	MISSISSIPPIAN	0622K
4500	80,451	26,210	3,504	551	48,200	1,720	266			7.1	1.064	ELLENBURGER	0625K
4536	76,885	25,850	2,865	691	45,800	1,174	505			7.3	1.056	ELLENBURGER	3520
4536	75,385				CALCULATED FROM RW = 0.093 AT 75 DEG (F)							ELLENBURGER	4581
4536	76,885	25,850	2,865	691	45,800	1,174	505			7.3	1.056	ELLENBURGER	0626K
4538	86,668	22,250	9,500	1,303	52,284	1,050	274				1.067	ELLENBURGER	3530
4538	80,781	28,920	2,005	346	48,400	1,020	90				1.062	ELLENBURGER	3540
4538	78,462				CALCULATED FROM RW = 0.089 AT 75 DEG (F)							ELLENBURGER	4631
4538	84,286				CALCULATED FROM RW = 0.084 AT 75 DEG (F)							ELLENBURGER	4641
4538	80,781	28,920	2,005	346	48,400	1,020	90				1.062	ELLENBURGER	0627K
4560	72,900	22,010	2,450	441	39,840	630	323			4.9	1.048	MISSISSIPPIAN	0174L

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

SHACKELFORD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIUS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.	
***** DEPTH RANGE 4001 - 5000 *****														
4600	79,727	27,700	2,630	380	47,400	1,300	309				1.061	ELLENBURGER	3550	
4600	80,021	20,850	8,470	746	48,478	1,060	417				1.056	ELLENBURGER	3560	
4600	77,692											ELLENBURGER	4611	
4600	77,692											ELLENBURGER	4621	
4695	72,900	22,285	1,764	706	39,840	1,080	280			8.3	1.048	ELLENBURGER	0177L	
***** DEPTH RANGE 5001 - 6000 *****														
5043	82,966	26,520	3,772	1,055	49,997	1,120	384				6.5	1.065	ELLENBURGER	062AK
5100	131,000	32,500	8,050	1,012	69,100	460	240				6.5	1.085	MISSISSIPPIAN	0175L
5500	88,100	26,500	3,150	535	46,800	1,340	300				6.7	1.058	CAMBRIAN	0629K

T E X A S W A T E R D E V E L O P M E N T B O A R D

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SALINE WATER RESOURCES SURVEY

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CHEMICAL ANALYSIS OF SALINE WATER

SHELBY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1250	410											CARRIZO=WILCOX	520SP
1425	630											CARRIZO=WILCOX	570SP
1500	37,500											NACATOCH	131H
1500	1,150											CARRIZO=WILCOX	531SP
CALCULATED FROM HW = 0.175 AT 75 DEG (F)													
***** DEPTH RANGE 3001 - 4000 *****													
3600	81,429											FREDERICKSHURG	134H
3600	82,626	27,619	3,326	785	50,529	170	201			1.057		FREDERICKSHURG	330H
CALCULATED FROM HW = 0.086 AT 75 DEG (F)													
***** DEPTH RANGE 5001 - 6000 *****													
5370	151,000											LOWER GLFN ROSE	674SP
5400	143,333											HACON	172H
5550	179,000											MODESSA	137H
CALCULATED FROM HW = 0.056 AT 75 DEG (F)													
CALCULATED FROM HW = 0.049 AT 75 DEG (F)													
***** DEPTH RANGE 6001 - 7000 *****													
6400	179,000											LOWER GLFN ROSE	670SP
6550	84,000											PETTET=TRAVIS PK	713SP
***** DEPTH RANGE 7001 - 8000 *****													
7450	130,000											PETTET=TRAVIS PK	675SP

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

SHERMAN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
2000	110,520	36,312	4,117	1,198	61,680	7,195	18			4.5		RED CAVE	981J
2000	105,712	33,019	4,867	1,839	61,695	4,266	30			4.5		RED CAVE	982J
2000	177,450		4,872	1,053	106,590	2,290	80	17		5.8	1.119	RED CAVE	983J
2000	132,323	51,130		97	80,110	319				5.0		RED CAVE	984J
2000	53,281	14,697	3,924	1,101	30,490	3,069				6.0		RED CAVE	985J
2000	127,016	39,859	5,631	2,259	76,453	4,790	24					RED CAVE	986J
2000	147,220	56,340	1,162	190	89,320	208				4.0		RED CAVE	987J
2000	92,286	29,371	4,224	1,211	52,840	4,616	24					RED CAVE	988J
2000	140,687	54,730	463	263	85,070	161				4.0		RED CAVE	989J
2000	194,393	62,652	7,423	3,616	118,700	1,984	18			4.0		RED CAVE	990J
***** DEPTH RANGE 2001 - 3000 *****													
2700	112,009	38,510	2,170	1,844	66,210	3,219	56				1.087	DOLOMITE	574J
2751	94,286				CALCULATED FROM RW = 0.077 AT 75 DEG (F)							HERINGTON	0619P
2793	70,769				CALCULATED FROM RW = 0.099 AT 75 DEG (F)							BROWN DOLOMITE	0622P
2805	95,714				CALCULATED FROM RW = 0.076 AT 75 DEG (F)							KRIDER	0623P
2849	124,375				CALCULATED FROM RW = 0.063 AT 75 DEG (F)							WINFIELD	0607P
2887	115,000				CALCULATED FROM RW = 0.068 AT 75 DEG (F)							HERINGTON KRIDER	0624P
2924	109,000				CALCULATED FROM RW = 0.070 AT 75 DEG (F)							HUGOTON	0612P
2949	92,857				CALCULATED FROM RW = 0.078 AT 75 DEG (F)							BROWN DOLOMITE	0614P
2990	95,714				CALCULATED FROM RW = 0.076 AT 75 DEG (F)							WINFIELD	0610P
2990	109,000				CALCULATED FROM RW = 0.070 AT 75 DEG (F)							BROWN DOLOMITE	0618P
2995	146,411	53,719	1,402	695	78,012	12,449	134			7.5	1.100	CHASE	977J
2997	100,485	33,621	3,178	1,365	58,860	3,618	43			4.7	1.068	BROWN DOLOMITE	570J
3000	104,841	36,130	3,009	1,136	64,160	246						BROWN DOLOMITE	574J
3000	194,790	56,465	15,647	1,929	119,500	1,209				4.0		BROWN DOLOMITE	576J
***** DEPTH RANGE 3001 - 4000 *****													
3032	157,527	58,301	1,322	604	84,537	12,596	167			7.5	1.106	CHASE	978J
3032	120,625				CALCULATED FROM RW = 0.065 AT 75 DEG (F)							HUGOTON	0611P
3100	163,339	59,624	2,164	1,117	94,678	5,598	128			7.5	1.109	CHASE	979J
3100	180,095	69,310	1,128	162	109,200	295				5.0		CHASE	980J
3100	130,000				CALCULATED FROM RW = 0.060 AT 75 DEG (F)							HUGOTON	0613P
3100	136,667				CALCULATED FROM RW = 0.058 AT 75 DEG (F)							BROWN DOLOMITE	0621P
3199	106,000				CALCULATED FROM RW = 0.071 AT 75 DEG (F)							HERINGTON	0620P
3272	120,625				CALCULATED FROM RW = 0.065 AT 75 DEG (F)							BROWN DOLOMITE	0617P
3397					CALCULATED FROM RW = 0.078 AT 75 DEG (F)							MASSIVE	0627P
3398	92,857				CALCULATED FROM RW = 0.250 AT 75 DEG (F)							MASSIVE	0628P
3527	24,319				CALCULATED FROM RW = 0.062 AT 75 DEG (F)							VIRGIL	0630P
3538	126,250				CALCULATED FROM RW = 0.069 AT 75 DEG (F)							WOLFCAMP	0615P
3550	112,000				CALCULATED FROM RW = 0.069 AT 75 DEG (F)							VIRGIL	0629P

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

SHERMAN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3550	112,000											VIRGIL	0633P
3552	74,231											VIRGIL	0631P
3589	74,231											VIRGIL	0637P
3643	160,000											WOLFCAMP	0616P
3910	46,000											VIRGIL	0626P
3966	44,286											VIRGIL	0625P

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

SMITH COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
2600	26,450											NACATOCH	141H
***** DEPTH RANGE 2001 - 3000 ***** CALCULATED FROM RW = 0.235 AT 75 DEG (F)													
3952	71,545	25,900	1,600	230	43,000	231	634				1.052	WOODBINE	116H
3961	72,289	26,200	1,500	315	43,500	201	573				1.052	WOODBINE	117H
4000	70,769											WOODBINE	137H
***** DEPTH RANGE 3001 - 4000 ***** CALCULATED FROM RW = 0.099 AT 75 DEG (F)													
***** DEPTH RANGE 4001 - 5000 *****													
4760	69,000											EAGLE FORD	702SP
4900	102,000											EAGLE FORD	695SP
***** DEPTH RANGE 5001 - 6000 ***** CALCULATED FROM RW = 0.072 AT 75 DEG (F)													
5070	91,000											EAGLE FORD	701SP
5600	103,000											WOODBINE	143H
5750	115,000											PALUXY	719SP
***** DEPTH RANGE 6001 - 7000 *****													
6970	112,013	38,700	4,200	440	68,000	355	318				1.079	PALUXY	326H
***** DEPTH RANGE 7001 - 8000 *****													
7189	110,575	37,348	4,450	670	67,400	196	311				1.078	PALUXY	147H
7200	109,000											PALUXY	139B
7200	106,000											PALUXY	144B
7207	106,760	37,225	4,055	670	64,015	575	220			6.9	1.081	PALUXY	1203J
7225	116,852	39,230	5,150	700	71,400	192	180				1.082	PALUXY	327H
7341	101,365	34,440	4,017	653	61,825	240	190			6.6	1.072	PALUXY	952J
7346	93,041	31,900	3,400	600	56,300	864	177				1.072	PALUXY	230H
7400	97,143											PALUXY	142B
7408	105,342	35,300	4,200	875	63,800	148	317				1.074	PALUXY	231H
7408	87,941	29,700	3,500	640	53,200	621	280				1.070	PALUXY	232H
7459	109,624	36,800	4,360	933	66,500	726	305				1.079	PALUXY	19H
7460	109,000											PALUXY	135B
7549	100,000											GLEN ROSF	138B
7560	98,572											PALUXY	136B
7567	110,552	38,972	3,382	491	67,000	600	107				1.080	PALUXY	328H
7573	99,629	33,800	4,300	450	60,700	340	49				1.076	PALUXY	20H
7700	112,000											PALUXY	146B
7708	146,347	52,205	19,890	2,166	121,800	214	72			6.1	1.153	WODESSA + PETTIT	1202J
***** DEPTH RANGE 8001 - 9000 ***** CALCULATED FROM RW = 0.053 AT 75 DEG (F)													
8050	155,000											PETTIT	140B

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

STEPHENS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3358	155,661	44,208	10,480	3,630	97,200	53	98			6.8	1.126	CADDO	0638K
3400	155,232	43,908	10,300	3,800	97,100	55	77			6.3	1.123	CADDO	0636K
3517	155,441	44,490	10,170	3,610	97,000	57	114			6.7	1.123	CADDO	3658
3517	156,000				CALCULATED FROM RM = 0.054 AT 75 DEG (F)							BEND	487I
3517	155,441	44,490	10,170	3,810	97,000	57	114			6.7	1.123	CADDO	0635K
3572	155,232	43,908	10,300	3,800	97,100	55	77			6.3	1.123	CADDO	3590
3572	156,000				CALCULATED FROM RM = 0.054 AT 75 DEG (F)							BEND	492I
3594	143,333				CALCULATED FROM RM = 0.056 AT 75 DEG (F)							BEND	496I
3675	141,440	40,550	12,020	1,223	87,100	417	130			6.5	1.113	BOND	3660
3675	136,667				CALCULATED FROM RM = 0.058 AT 75 DEG (F)							BOND	486I
3675	141,440	40,550	12,020	1,223	87,100	417	130			6.5	1.113	BOND SAND	0639K
3740	171,940	47,656	19,300	2,110	106,650	190	72			5.9	1.139	MARBLE FALLS	3678
3740	165,000				CALCULATED FROM RM = 0.051 AT 75 DEG (F)							BEND	483I
3772	97,800	28,800	4,268	960	55,370	340	264			6.4	1.044	MISSISSIPPIAN	0179L
3794	128,783	38,250	8,650	1,913	79,600	261	109			6.4	1.103	MARBLE FALLS	3680
3794	128,250				CALCULATED FROM RM = 0.062 AT 75 DEG (F)							BEND	484I
3794	114,783	38,250	8,650	1,913	70,000	261	104			6.4	1.103	MARBLE FALLS	0643K
3795	208,837	32,720	9,422	1,505	72,000	15	115			6.3	1.092	MARBLE FALLS	3698
3795	118,750				CALCULATED FROM RM = 0.066 AT 75 DEG (F)							BEND	482I
3795	119,837	32,720	9,422	1,505	72,000	15	115			6.3	1.092	MARBLE FALLS	0642K
3800	191,182	56,488	18,280	1,693	117,588	154	87				1.135	MARBLE FALLS	3700
3800	180,000				CALCULATED FROM RM = 0.048 AT 75 DEG (F)							BEND	485I
3800	128,783	38,250	8,650	1,913	79,600	261	109					DUFFER	0645K
3850	142,300	37,000	9,214	2,436	82,120	350	216			6.4	1.092	MISSISSIPPIAN	0190L
3914	126,300	34,100	6,704	768	71,368	350	160			5.7	1.082	MISSISSIPPIAN	0181L
4000	153,711	45,472	11,900	1,290	94,700	142	207			6.4	1.124	MARBLE FALLS	0644K
***** DEPTH RANGE 4001 - 5000 *****													
4004	158,288	47,187	11,950	1,310	97,500	131	207			6.3	1.126	ILES CONG.	1087J
4056	222,100	55,500	14,400	2,180	118,000	270	180			6.1	1.142	MARBLE FALLS	0640K
4056	179,272	52,100	14,200	1,890	110,800	168	168			6.1	1.135	MARBLE FALLS	0641K
4060	169,141	47,152	14,119	2,075	103,592	203					1.132	RANGER LINE	00660
4100	184,730	49,333	15,780	3,984	115,537	96					1.194	MARBLE FALLS	00820
4143	104,329	32,700	5,925	1,125	63,300	1,078	201			6.7	1.064	MISSISSIPPI	3710
4143	103,000				CALCULATED FROM RM = 0.072 AT 75 DEG (F)							ELLENBURGER	481I
4143	104,329	32,700	5,925	1,125	63,300	1,078	201			6.7	1.064	MISSISSIPPI	0647K
4205	73,950	25,279	2,584	561	44,171	1,156	217			6.6	1.055	ELLENBURGER	0650K
4224	75,274	24,198	2,231	564	45,300	720	241			7.4	1.056	ELLENBURGER	0652K
4230	91,852	29,459	4,488	1,110	55,900	820	188			6.8	1.075	MISSISSIPPI	1720
4230	90,000				CALCULATED FROM RM = 0.080 AT 75 DEG (F)							ELLENBURGER	480I
4275	63,000		1,700	700	4,600	800					1.066	MISS. CHAPPEL	LM 1046J
4278	82,133	26,967	3,709	727	49,103	1,353	274			6.6	1.055	ELLENBURGER	0182L
4286	89,810	30,000	3,960	560	54,000	1,046	264				1.069	ELLENBURGER	3760
4286	87,143				CALCULATED FROM RM = 0.082 AT 75 DEG (F)							ELLENBURGER	472I
4300	81,434	27,350	3,470	524	49,100	858	332			6.8	1.063	ELLENBURGER	3770
4300	80,143	27,000	3,150	633	48,200	867	293			7.6	1.061	ELLENBURGER	3780
4300	77,860	25,800	3,155	709	46,400	738	278			7.6	1.057	ELLENBURGER	3790
4300	76,154				CALCULATED FROM RM = 0.092 AT 75 DEG (F)							ELLENBURGER	469I
4300	77,692				CALCULATED FROM RM = 0.090 AT 75 DEG (F)							ELLENBURGER	470I

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

STEPHENS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
						***** DEPTH RANGE 4001 - 5000 *****							
4300	74,231					CALCULATED FROM RW = 0.088 AT 75 DEG (F)						ELLENBURGER	471I
4300	86,123	27,000	3,150	633	48,200	867	293			7.6	1.061	ELLENBURGER	0651K
4310	91,852	29,400	4,458	1,110	55,900	820	158			6.8	1.073	MISSISSIPPI	0646K
4352	94,964	28,910	1,605	530	35,900	763	256			6.8	1.048	ELLENBURGER	3500
4352	60,800					CALCULATED FROM RW = 0.113 AT 75 DEG (F)						ELLENBURGER	474I
4352	84,964	26,910	1,605	530	35,900	763	256			6.8	1.048	ELLENBURGER	0653K
4391	124,804	38,800	7,500	1,491	76,500	606	147			6.4	1.096	MISSISSIPPI	3730
4391	124,375					CALCULATED FROM RW = 0.063 AT 75 DEG (F)						ELLENBURGER	478I
4400	97,919	31,300	5,026	1,069	59,700	742	88			6.5	1.079	MISSISSIPPI	3740
4400	72,804	24,400	2,780	491	42,800	1,175	358			7.5	1.056	ELLENBURGER	3810
4400	72,308					CALCULATED FROM RW = 0.097 AT 75 DEG (F)						ELLENBURGER	473I
4400	89,714					CALCULATED FROM RW = 0.076 AT 75 DEG (F)						ELLENBURGER	479I
4400	94,500	31,450	3,180	395	53,800	1,925	140			6.9	1.062	MISSISSIPPI	0649K
4434	92,600	27,000	3,340	605	48,000	1,300	430			6.9	1.061	MISSISSIPPI	0648K
4440	45,294					CALCULATED FROM RW = 0.149 AT 75 DEG (F)						ELLENBURGER	476I
4449	80,976	22,000	7,294	1,149	49,324	1,052	157				1.064	ELLENBURGER	LIME 00050
4449	80,976	22,000	7,294	1,149	49,324	1,052	157					ELLENBURGER	LIME 01000
4585	47,602					CALCULATED FROM RW = 0.103 AT 75 DEG (F)						ELLENBURGER	475I
4600	103,386	28,610	4,588	1,010	63,500	600	81			6.7	1.080	MISSISSIPPI	3750
4600	163,600					CALCULATED FROM RW = 0.072 AT 75 DEG (F)						ELLENBURGER	477I

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

STERLING COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1087	82,738	28,610	1,878	1,079	48,900	1,731	540			7.3	1.063	SAN ANDRES	8190
1087	80,000				CALCULATED FROM RW = 0.087 AT 75 DEG (F)							7801	
1087	82,738	28,610	1,878	1,079	48,900	1,731	540			7.3	1.063	SAN ANDRES	0654K
1113	84,191	29,880	2,522	1,380	52,450	2,361	018			6.6	1.067	SAN ANDRES	4200
1113	81,143				CALCULATED FROM RW = 0.082 AT 75 DEG (F)							7791	
1113	84,191	29,880	2,522	1,380	52,450	2,361	018			6.6	1.067	SAN ANDRES	0655K
***** DEPTH RANGE 4001 - 5000 *****													
4225	123,036	40,653	2,887	2,713	72,910	3,967	464			7.1	1.097	PERMIAN	4216
4225	123,500				CALCULATED FROM RW = 0.084 AT 75 DEG (F)							7781	
4225	123,036	40,653	2,887	2,713	72,910	3,967	464			7.1	1.097	WOLFCAMP	0656K
4250	80,067	18,100	935	161	20,400	1,795	676			7.3	1.039	WICHITA-ALBANY	0656K
4400	39,275	13,980	1,188	285	21,440	1,910	400			6.4	1.028	ELLENBURGER	0658K
4872	116,147	36,429	5,869	1,695	69,980	1,499	695			6.2	1.086	MISSISSIPPI	0658K
4872	116,875				CALCULATED FROM RW = 0.067 AT 75 DEG (F)							4220	
4872	116,147	36,429	5,869	1,695	69,980	1,499	695			6.2	1.086	WOLFCAMP	7771
					CALCULATED FROM RW = 0.067 AT 75 DEG (F)							0657K	
***** DEPTH RANGE 8001 - 9000 *****													
8602	64,310	19,620	3,600	413	34,400	2,240	37			5.5	1.050	MISSISSIPPIAN	0075H
8015	49,412				CALCULATED FROM RW = 0.135 AT 75 DEG (F)							1062C	
8015	50,067	16,100	935	161	28,400	1,795	676			7.3	1.039	ELLENBURGER	4230
8015	49,412				CALCULATED FROM RW = 0.135 AT 75 DEG (F)							7761	
8677	79,666	16,500	10,800	1,945	50,000	360	41			5.5	1.065	ELLENBURGER	0073M
8677	71,285	21,600	4,600	852	43,300	780	193			6.2	1.050	FUSSELMAN	0074M
8660	51,300	18,280	1,600	296	30,600	1,350	625			6.6	1.035	FUSSELMAN	0659K
9000	31,700	18,560	1,700	256	31,600	1,390	780			6.5	1.038	ELLENBURGER	0661K
9000	34,200	14,400	1,900	375	31,700	1,640	720			7.0	1.039	ELLENBURGER	0662K

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STATE OF TEXAS

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STONEWALL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
1	10,000	2,400	903	201	4,730	1,590	215			7.1		QUARTERMASTER	100A
1	40,300	11,700	2,740	620	23,300	1,800	134			6.9		QUARTERMASTER	101A
32	1,000				1,270	3,800	50					SAN ANGELO SS	57A
165	4,520	409	812	104	1,410	1,620	52	15		6.9		BLAINE GYPSUM	64A
190	4,250	486	598	199	560	2,310	186					SAN ANGELO SS	56A
***** DEPTH RANGE 2001 - 3000 *****													
2107	60,000				CALCULATED FROM RW = 0.087 AT 75 DEG (F)					7.2	1.062	KING	0665K
2440	94,800	27,500	4,500	700	51,700	950	270			7.0	1.062	TANNEHILL	0664K
2600	60,785	26,300	3,750	816	48,500	1,190	229					WOLFCAMP	0663K
***** DEPTH RANGE 3001 - 4000 *****													
3182	108,800	29,100	8,090	1,200	83,004	1,410	204			4.9	1.071	TANNEHILL SAND	0183L
3300	59,546				CALCULATED FROM RW = 0.114 AT 75 DEG (F)							CISCO LIME	0666K
3307	62,308				CALCULATED FROM RW = 0.110 AT 75 DEG (F)							PENN-CISCO	571C
3400	126,566	39,380	7,710	1,762	78,850	862	22			5.2	1.101	SWASTIKA	3126
3400	126,250				CALCULATED FROM RW = 0.062 AT 75 DEG (F)							CISCO	515I
3400	126,566	39,380	7,710	1,762	78,850	862	22			5.2	1.101	SWASTIKA	0667K
3438	146,900	41,600	7,200	2,000	81,800	1,150	85			6.3	1.095	SWASTIKA	0669K
3524	92,857				CALCULATED FROM RW = 0.078 AT 75 DEG (F)							PENN-CISCO	570C
3600	126,625				CALCULATED FROM RW = 0.065 AT 75 DEG (F)							PENN-CISCO	572C
3687	136,467				CALCULATED FROM RW = 0.058 AT 75 DEG (F)							PENN-CISCO	569C
3719	126,000	40,000	4,300	2,200	78,500	1,100	180			6.7	1.091	SWASTIKA	0668K
***** DEPTH RANGE 4001 - 5000 *****													
4200	143,333				CALCULATED FROM RW = 0.056 AT 75 DEG (F)							CANYON	0477K
4400	74,497	48,900	10,000	1,400	110,000	1,000	370					CANYON SAND	59J
4600	152,484	43,400	12,304	2,023	94,324	361	49			5.0	1.119	CANYON SAND	0670K
4690	146,467				CALCULATED FROM RW = 0.055 AT 75 DEG (F)							CANYON REEF	0674K
4800	141,655	40,495	11,447	1,735	87,240	879	59			7.0	1.105	CANYON SAND	0672K
4800	141,660	48,600	13,820	2,340	105,900	295	122			4.7	1.123	CANYON REEF	0678K
4824	180,600				CALCULATED FROM RW = 0.058 AT 75 DEG (F)					5.8	1.116	CANYON SAND	60J
4825	131,000	35,000	8,800	1,010	71,300	1,500	310			7.0	1.085	OPOM LIME	0690K
4915	170,151	49,140	13,849	1,720	104,877	520	45			6.7	1.132	4900 CANYON SAND	63J
4930	209,400	54,700	15,000	2,100	117,000		220			6.8	1.134	CANYON SAND	0671K
5000	106,000				CALCULATED FROM RW = 0.071 AT 75 DEG (F)							CANYON REEF	0673K
***** DEPTH RANGE 5001 - 6000 *****													
5020	145,000				CALCULATED FROM RW = 0.047 AT 75 DEG (F)							PENN STRAWN	675C
5100	136,467				CALCULATED FROM RW = 0.058 AT 75 DEG (F)							CANYON REEF	0675K
5100	100,000				CALCULATED FROM RW = 0.073 AT 75 DEG (F)							CANYON REEF	0676K

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STONEWALL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
3100	215,700	54,400	17,150	2,250	119,300	175	155			6.1	1.138	STRAWN SAND	0681K
3100	236,500	66,000	17,700	2,460	131,000	145	125			5.5	1.151	STRAWN SAND	0682K
3172	140,000				CALCULATED FROM RW = 0.057 AT 75 DEG (F)							PENN STRAWN	676C
3172	186,963	46,350	17,400	3,660	113,200	52	96			5.8	1.148	STRAWN	314G
3172	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							STRAWN	513I
3172	180,963	46,350	17,400	3,660	113,200	52	96			5.8	1.148	STRAWN	0683K
3176	111,720	22,175	17,293	1,483	69,650	1,119					1.087	PENN	00870
3200	200,000				CALCULATED FROM RW = 0.044 AT 75 DEG (F)							PENN CANYON	615C
3200	189,880	53,820	17,735	1,000	118,436	258	48			5.3	1.135	STRAWN	0680K
3200	195,000	52,185	19,396	2,187	120,980	241	31			6.0	1.151	STRAWN	0685K
3200	193,400	48,800	13,000	1,870	103,500	455	145			7.4	1.124	STRAWN	0686K
3330	236,200	66,000	21,000	2,530	137,000	115	130			5.1	1.152	L. STRAWN SD.	0687K
3347	234,900				134,000					5.9	1.150	STRAWN SAND	61J
3347	246,300				140,500					6.0	1.157	STRAWN SAND	62J
3370	146,360	39,800	12,800	2,460	91,000	105	195			6.6	1.107	DES MOINES	0184L
3400	220,500	37,800	16,100	1,940	123,000	165	170			6.5	1.141	STRAWN	0684K
3428	189,400	43,700	17,000	2,210	103,000	800	270			6.3	1.119	STRAWN LIME	0688K
3443	226,500	59,100	14,100	1,830	126,760	45	376			7.3	1.141	STRAWN SAND	0185L
3462	173,210	45,475	17,859	1,924	106,630	462	60			6.4	1.136	CADDO LIME	64J
3500	194,355	51,960	19,730	2,197	129,350	509	21			5.9	1.144	CADDO LIME	0689K
3506	143,333				CALCULATED FROM RW = 0.056 AT 75 DEG (F)							PENN CANYON	616C
3506	160,665	49,300	9,810	1,976	98,400	821	358			6.3	1.127	CANYON	313G
3506	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							CANYON	514I
3506	160,665	49,300	9,810	1,976	98,400	821	358			6.3	1.127	CANYON	0679K
3508	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							PENN STRAWN	677C
3500	113,500	31,165	6,144	1,538	64,330	1,250	176			6.3	1.074	ELLENBURGER	0186L
3500	201,400	47,500	18,100	2,490	111,163	110	144			5.0	1.129	BEND CONGLOM.	0187L
3550	92,800	25,390	3,912	703	48,305	1,250	720			6.4	1.061	ELLENBURGER	0188L
3573	180,600	45,470	8,620	3,516	97,440	410	280			6.6	1.116	CONGLOMERATE	0191L
3590	44,419	21,455	2,525	569	37,600	1,867	423			7.0	1.045	ELLENBURGER	0697K
3590	68,300	21,900	2,340	535	37,600	2,200	485			7.6	1.045	ELLENBURGER	0698K
3590	94,400	19,295	5,950	3,380	50,800	1,500	390			7.5	1.045	ELLENBURGER	0190L
3590	74,900	23,200	2,620	695	40,700	2,050	405			7.1	1.049	ELLENBURGER	0190L
3590	127,330	35,400	11,460	1,220	78,815	480	84			5.7	1.089	U. BEND CONGL.	0691K
3670	131,790	39,400	12,840	1,500	87,450	490	70			5.8	1.100	L. CONGL.	0692K
3800	124,400	37,000	9,920	695	75,884	821	183			6.3	1.087	BEND CONGL.	0693K
4000	114,700	33,600	9,719	1,631	73,048	739	232			6.0	1.084	BEND CONGL.	0694K
4000	71,300	21,600	2,350	486	37,000	2,150	540			7.8	1.047	CAMBRIAN	0700K
4000	139,100	37,300	9,678	1,408	79,380	600	148			6.1	1.090	PUMPHREY CONGL.	0192L
***** DEPTH RANGE 6001 - 7000 *****													
6001	66,000	21,850	3,240	584	37,300	2,275	540			7.1	1.045	CAMBRIAN	0702K
6032	104,000		3,870	665	57,400	1,550				6.8	1.068	BEND CONGL.	44J
6032	97,800		3,270	605	52,800	1,600				6.9	1.064	BEND CONGL.	45J
6032	123,100		5,680	965	65,500	1,275				6.8	1.090	BEND CONGL.	46J
6032	104,000		3,870	665	57,400	1,550				6.8	1.068	BEND CONGL.	47J
6032	97,800		3,270	605	52,800	1,550				6.9	1.064	BEND CONGL.	48J
6032	123,100		5,680	965	65,500	1,275				6.8	1.080	BEND CONGL.	49J
6032	115,200		4,680	845	59,400	1,450				6.8	1.075	BEND CONGL.	50J

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STONEMALL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 6001 - 7000 *****													
6032	121,200		5,588	1,120	64,500	1,000				6.8	1.079	BEND CONGL.	51J
6032	135,900		7,640	1,330	75,100	900				6.8	1.088	BEND CONGL.	52J
6032	102,800		3,970	815	56,900	1,350				6.8	1.067	BEND CONGL.	53J
6032	106,800		4,020	845	55,400	1,300				6.8	1.066	BEND CONGL.	54J
6032	96,100		3,370	610	52,000	1,550				6.8	1.063	BEND CONGL.	55J
6032	132,700		7,490	1,170	72,000	870				6.3	1.086	BEND CONGL.	56J
6032	94,100		4,060	615	54,100	1,450				6.4	1.063	BEND CONGL.	57J
6032	102,800		4,160	890	57,200	1,450				6.6	1.067	BEND CONGL.	58J
6038	41,950	20,360	2,280	912	37,500	900	534			6.7	1.047	CAMBRIAN	0701K
4150	39,500				CALCULATED FROM RW = 0.167 AT 75 DEG (F)							ELLENBURGER	0699K
4165	100,800	32,500	4,450	1,020	62,180	970	180			6.2	1.066	CONGLOMERATE	0193L
6250	39,500				CALCULATED FROM RW = 0.167 AT 75 DEG (F)							ELLENBURGER	1063C
6328	79,709	18,980	4,960	1,984	47,800	2,060	337			6.2	1.067	ELLENBURGER	3159
6328	78,462				CALCULATED FROM RW = 0.089 AT 75 DEG (F)							ELLENBURGER	512I
6345	39,000				CALCULATED FROM RW = 0.169 AT 75 DEG (F)							ELLENBURGER	1065C
6350	78,445	24,060	4,910	815	46,807	1,952	305			6.8	1.057	ELLENBURGER	0695K
6350	80,500	24,500	2,520	630	42,000	1,350	800			6.9	1.053	ELLENBURGER	0696K
6528	43,333				CALCULATED FROM RW = 0.155 AT 75 DEG (F)							ELLENBURGER	1064C
6528	73,077				CALCULATED FROM RW = 0.096 AT 75 DEG (F)							ELLENBURGER	1066C

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

SUTTON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1956 1968	45,862 43,333											PENN CANYON PENN CANYON	620C 617C
2532 2567 2568 2689	27,292 34,444 37,727 27,083											WOLFCAMP PENN CANYON PENN CANYON LEONARD	592C 619C 618C 213C
3197	47,353											PENN STRAWN	678C
4216 4292	38,280 39,091											WOLFCAMP PENN STRAWN	531C 679C
5383 5552	74,615 8,421											PENN GENERAL PENN GENERAL	745C 745C
8167 8289	150,000 120,625											ELLENBURGER PENN STRAWN	1047C 680C
8915	99,091											ELLENBURGER	1070C
9900	28,750											ELLENBURGER	1168C
10425	98,714											ELLENBURGER	1069C

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CHEMICAL ANALYSIS OF SALINE WATER

SWISHER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
7289	114,600											PENN SAND	0634P

***** DEPTH RANGE 7001 - 8000 *****
CALCULATED FROM RM = 0.068 AT 75 DEG (F)

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

TARRANT COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE								
51	1,910	214	726	119	258	1,960	418			8.9		WOODBINE SAND	236A
330	1,200	499	18	2	250	106	000			8.6		TRAVIS PEAK	139A
340	1,040	413	6	2	129	91	742			8.7		TRINITY GROUP	201A

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TAYLOR COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
60	2,610	209	464	90	161	1,419	245	21		7.2		WICHITA + CLR FK	38A
100	1,130	100	190	49	56	545	288	16		7.2		WICHITA + CLR FK	17A
***** DEPTH RANGE 1001 - 2000 *****													
1650	68,300	22,400	2,180	685	38,100	2,850	215			7.5	1.045	DOTHAN SAND	0703K
1850	79,100	24,600	2,400	780	42,600	2,430	98			8.2	1.052	DOTHAN SAND	0704K
1935	97,400	31,500	3,320	840	57,000		48			6.5	1.064	COOK SAND	0723K
1959	74,000		8,120	802	45,800	247	73			6.6	1.050	CAPP'S LIME	924J
2000	84,200		4,200	1,820	52,600		122			7.3	1.060	FLIPPEN SAND	931J
2000	100,800		42,500		56,200					6.4	1.066	FLIPPEN SAND	933J
2000	107,200		5,927	1,568	60,360	12	224			6.6	1.070	FLIPPEN SAND	934J
2000	102,800		5,150	1,070	58,200					6.7	1.067	FLIPPEN SAND	935J
***** DEPTH RANGE 2001 - 3000 *****													
2050	76,000		2,420	650	36,400	2,075	290			7.5	1.050	DOTHAN LIME	940J
2083	88,100	28,300	3,980	1,040	51,600		160			6.5	1.058	FLIPPEN LIME	0710K
2100	59,800		3,950	885	51,210	325	425			6.1	1.040	TANNEHILL SAND	941J
2100	88,100	25,900	4,070	955	49,700	280	110			6.8	1.058	FLIPPEN SAND	0711K
2100	76,000	23,600	3,440	636	43,500	930	258			7.9	1.050	FLIPPEN SAND	0712K
2124					57,000		50			6.6	1.041	FLIPPEN SAND	926J
2150	92,663	30,211	4,336	961	57,108	6	49			6.1	1.064	FLIPPEN	0714K
2200	107,200		4,940	1,180	62,640					6.1	1.070	COOK SAND	949J
2200	173,500		5,827	1,170	64,660					6.0	1.074	COOK SAND	950J
2200	45,800	27,300	4,418	997	53,000		117			7.2	1.062	FLIPPEN	0717K
2200	87,400	27,900	4,500	1,040	54,000		110			6.9	1.062	FLIPPEN	0718K
2200	94,600	30,100	4,868	1,156	58,500		120			7.2	1.067	FLIPPEN	0719K
2230	113,400	31,700	6,090	1,400	63,500	205	225			7.3	1.074	FLIPPEN	0715K
2230	94,656	28,950	5,446	1,361	58,400	260	239			6.4	1.072	FLIPPEN	0716K
2233	94,656	28,950	5,446	1,361	58,400	260	239			6.4	1.072	FLIPPEN	403G
2233	92,857				CALCULATED FROM HW = 0.078 AT 75 DEG (F)							WOLFCAMP	521I
2240	81,550	26,300	3,940	960	50,200	30	120			6.7	1.065	FLIPPEN	0713K
2300	90,000	28,500	4,700	1,120	55,500		200			6.8	1.065	COOK SAND	0724K
2350	80,500	23,475	2,450	823	43,644	85	252			7.1	1.053	COOK SAND	0190L
2350	54,900		1,630	920	32,100	1,500	200			7.4	1.036	COOK SAND	929J
2371	90,000	29,000	4,390	1,070	55,500	7	171			6.8	1.041	COOK SAND	0725K
2465	91,761	29,220	3,350	1,090	56,500	373	324			7.3	1.072	GUNSIGHT	406G
2465	91,429				CALCULATED FROM HW = 0.079 AT 75 DEG (F)							CISCO	518I
2465	91,761	29,220	3,350	1,090	56,500	373	324			7.3	1.072	GUNSIGHT	0726K
2465	110,200	33,200	3,500	1,410	62,500	165	233			7.8	1.072	GUNSIGHT	0727K
2480	80,031	24,000	5,310	1,045	49,000	375	301			6.4	1.065	FLIPPEN	404G
2480	78,462				CALCULATED FROM HW = 0.089 AT 75 DEG (F)							WOLFCAMP	520I

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

TAYLOR COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2490	54,148	17,425	2,248	864	32,853	442	316			7.1	1.041	COOK SAND	0721K
2515	61,000	19,000	2,200	477	33,700	1,063	126			7.5	1.040	NOODLE CK, LM	0705K
2600	69,000	20,600	3,060	640	37,800	1,425	233			7.4	1.046	NOODLE CREEK	0706K
2600	85,425	24,600	6,595	1,043	52,610	381	146			5.3	1.071	FLIPPEN	0704K
2650	84,400	23,800	4,300	1,130	47,200	595	114			6.2	1.055	SADDLE CREEK	0708K
2700	167,220	49,335	11,480	2,624	103,660	81	20				1.115	MC MILLAN	0729K
2710	85,425	24,600	6,595	1,043	52,610	381	146			5.3	1.071	FLIPPEN	4050
2710	84,286											WOLFCAMP	5191
2710	88,100		4,390	560	48,700	555	90			6.1	1.058	TANNEHILL SAND	924J
2740	86,500	28,100	2,780	554	48,000	2,090	490			7.7	1.057	TANNEHILL	0707K
2760	106,672	33,330	6,720	1,345	65,100	40	137					IVEY SAND	0194L
2875	92,800	26,700	5,600	990	53,000	910	140			7.6	1.061	COOK LIME	0728K
2900	86,500	26,500	5,086	690	52,500	390	270			6.7	1.057	FLIPPEN	0125L
2910	120,000	31,200	3,886	1,770	61,000		124			6.6	1.078	CISCO REEF	0196L
2920	99,188	31,790	4,830	1,108	59,300	1,748	412			6.6	1.075	PALO PINTO	4070
2920	97,143											CANYON	5171
2920	99,188	31,790	4,830	1,108	59,300	1,748	412			6.6	1.075	PALO PINTO	0730K
2951	80,321	26,470	3,349	905	49,200	60	324			6.7	1.055	FLIPPEN SAND	930J
3000	104,000	28,500	5,600	1,180	54,880	410	600			5.4	1.068	HOPE	0197L
3000	139,900	36,300	7,800	940	73,500		295			7.4	1.088	MC MILLAN SAND	0194L
***** DEPTH RANGE 3001 - 4000 *****													
3250	92,800	27,600	3,520	1,120	54,800	1,380	735			6.6	1.061	PALO PINTO	0730K
3494	79,241	26,292	2,229	1,529	43,600	211	425			6.5	1.056	CANYON REEF	927J
3940	225,300	53,600	20,000	2,490	126,500	150	180			6.4	1.144	GARDNER SAND	0744K
4000	226,900	52,200	19,500	2,430	123,000	108	150			6.6	1.145	GARDNER SAND	0744K
***** DEPTH RANGE 4001 - 5000 *****													
4034	176,200	50,000	8,300	1,770	97,000		14			5.4	1.113	SERRATT SAND	0728K
4100	116,389	31,934	11,145	1,067	71,677	389	177			5.5	1.091	STRAWN	0749K
4100	116,400	17,550	12,740	882	51,294	580	440			5.7	1.076	CROSS CUT	0200L
4150	146,000		13,100	1,460	89,800	674	61			6.4	1.100	MORRIS SAND	923J
4190	158,100	39,100	12,650	1,960	88,300	240	110			6.1	1.102	HAY SAND	0726K
4199	183,800		8,830		100,800	142				6.4	1.118	GARDNER	920J
4250	136,251	39,923	4,410	2,181	84,163	407	167			6.9	1.105	STRAWN	0749K
4275	121,500	33,400	7,200	1,250	66,800	1,300	220			6.2	1.079	CROSS CUT	0731K
4300	180,600		4,555	3,234	99,600	590	172			6.7	1.116	MORRIS SAND	925J
4300	187,000		14,800	2,200	101,000	600				4.1	1.170	FRY SAND	942J
4300	94,500		7,410	1,360	54,600	1,900				6.2	1.062	FRY SAND	943J
4300	219,700		12,555	5,040	121,740	290	128			5.9	1.138	GARDNER LIME	944J
4300	159,400	38,600	14,700	1,810	90,500	690	112			6.7	1.104	MORRIS SAND	0734K
4300	196,700	47,800	18,156	1,120	107,800	500	264			6.0	1.126	GARDNER LIME	0703L
4300	219,700	53,700	12,555	5,040	121,740	290	128			5.9	1.138	GARDNER LIME	0704L
4300	180,600	56,550	9,555	3,234	99,600	590	172			6.7	1.116	MORRIS SAND	0705L
4342	164,500	43,000	10,500	2,400	91,500	390	220			6.0	1.106	MORRIS SAND	0733K
4379	99,570	29,578	5,500	1,288	59,000	9	195			5.9	1.078	CROSS CUT	922J
4433	137,500	36,400	8,030	1,340	74,300	975	240			7.0	1.089	FRY SAND	0740K
4450	124,400	35,500	4,200	2,430	64,200	30	265			7.5	1.081	UPPER FRY	0737K
4460	147,000	24,000	17,800	1,748	105,000	400	122			5.0	1.120	CAPPS	0735K

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

TAYLOR COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 4001 - 5000 *****													
4460	193,400	51,300	15,350	2,220	114,180	510	220			6.7	1.124	GARDNER SAND	0207L
4468	107,200	27,500	5,680	1,200	54,600	1,700	335			6.5	1.070	UPPER FRY	0736K
4541	172,500		12,300	1,910	92,400	670	160			5.9	1.111	FRY SAND	919J
4541	177,600	43,100	14,650	2,130	98,000	740	123			6.7	1.114	JENNINGS SD.	0747K
4581	191,800		17,000	1,650	111,163	240	144			6.4	1.123	GRAY SAND	946J
4600	120,000		4,610	1,176	71,800	1,600				6.4	1.078	FRY SAND	918J
4600	198,300		15,810	1,960	109,570	320	108			5.6	1.127	GRAY SAND	949J
4602	102,022	29,673	8,750	532	62,200	775				8.7	1.072	GOEN	921J
4610	170,900	43,000	15,000	1,930	98,200	400	110			6.0	1.110	GRAY SAND	0747K
4624	124,800	33,235	4,932	3,116	70,300	390	560			6.0	1.091	CAPPS LIME	0208L
4650	135,900	32,960	10,960	1,840	76,125	1,100	420			6.8	1.088	CAPPS LIME	0206L
4650	174,200	42,460	14,040	2,690	97,450	810	144			6.3	1.112	GARDNER SAND	0209L
4680	120,000	33,600	6,520	1,015	65,700	595	130			6.5	1.078	LOWER FRY	0739K
4700	131,000	37,200	6,520	1,330	72,700		190			6.8	1.095	LOWER FRY	0738K
4730	134,300	38,455	7,168	1,535	77,600		152			6.1	1.087	UPPER CAPPS LIME	0210L
4739	142,300	36,800	10,740	1,842	82,300	560	160			6.3	1.092	FRY SAND	0211L
4739	198,300	37,000	15,618	3,346	116,450	310	244			6.6	1.121	GRAY SAND	0212L
4800	201,400		16,600	3,050	110,000	350				6.8	1.129	GARDNER LIME	919J
4800	193,900		15,145	1,680	108,700	280	288			6.7	1.124	GARDNER LIME	947J
4803	127,900	29,200	9,200	1,535	71,460	860	220			6.5	1.083	LOWER FRY SAND	0213L
4898	172,500	43,400	13,990	2,120	97,500	450	184			6.5	1.111	GOEN LIME	0741K
4898	188,600	43,790	16,820	2,375	103,600	475	349			5.9	1.121	GRAY SAND	0214L
5000	153,300	42,300	10,120	1,330	87,970	820	860			6.3	1.099	JENNINGS SAND	0201L
5000	146,900	37,500	9,450	2,900	84,000	210	112			6.2	1.095	DOG BEND	0202L
***** DEPTH RANGE 5001 - 6000 *****													
5210	131,000	32,400	9,900	1,725	71,700	1,100	155			6.1	1.095	GRAY SAND	0745K
5375	69,192	24,341	1,816	491	41,445	570	529			6.9	1.052	CAMBRIAN	0752K
5385	71,210	18,100	5,970	2,046	42,400	1,924	370			6.4	1.058	ELLENBURGER	408G
5385	72,308											ELLENBURGER	516I
5385	71,210	18,100	5,970	2,046	42,800	1,924	370			6.4	1.058	ELLENBURGER	0750K
5400	78,950	27,650	2,060	720	48,500	110	529			6.8	1.058	CAMBRIAN	0753K
5475	61,572	21,706	1,484	463	36,485	783	651			6.9	1.047	HICKORY SAND	0754K
5490	91,200	25,700	4,290	788	49,600	560	220			5.9	1.060	ELLENBURGER	0751K

CALCULATED FROM HW = 0.097 AT 75 DEG (F)

T E X A S W A T E R D E V E L O P M E N T B O A R D

JUL 1971

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

TERRELL COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE 8001 - 9000 *****								
9000	88,800		990		53,280	710	730	700		9.7	1.073	ELLENBURGER	117HJ
9000	180,384	68,400	1,760	321	108,000	1,489	494				1.138	DEVONIAN	1179J
					***** DEPTH RANGE 10001 - 11000 *****								
10218	136,667				CALCULATED FROM RW = 0.058 AT 75 DEG (F)							ELLENBURGER	1071C

SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

TERRY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
120	1,160	198	70	101	320	301	270					ORALLALA FORM	164A
142	1,120	188	75	95	254	373	288					ORALLALA FORM	167A
***** DEPTH RANGE 1 - 1000 *****													
1130	51,670	14,700	2,000	2,900	33,800		1001 - 2000			7.8	1.045	FUSSELMAN	911J
***** DEPTH RANGE 4001 - 5000 *****													
4929	130,000											SAN ANDRES	193C
4935	19,348											SAN ANDRES	201C
***** DEPTH RANGE 5001 - 6000 *****													
5024	189,000											SAN ANDRES	203C
5034	164,144	22,190	11,413	5,318	117,460	763					1.141	PERMIAN	00830
5500	215,000											CLEARFORK	349C
5530	180,000											WOLFCAMP	575C
5888	131,333											SAN ANDRES	202C
5894	187,085	50,531	17,200	2,880	115,000	1,000		473		5.0	1.136	GLORIFTA	903J
5846	189,695	49,933	16,480	4,032	118,000	840		610		5.0	1.138	GLORIETA	904J
5922	201,150	51,100	19,680	4,080	125,000	864		420		4.5	1.140	GLORIFTA	902J
5940	33,549			10,820	182,615	1,085				6.8	1.115	GLORIFTA	469J
6000	222,238	70,886	11,440	2,424	135,500	1,480		508		6.9	1.155	GLORIFTA	913J
***** DEPTH RANGE 6001 - 7000 *****													
6072	170,000											GLORIETA	249C
6088	160,000											GLORIETA	247C
7000	170,000											CLEARFORK	350C
***** DEPTH RANGE 7001 - 8000 *****													
7430	130,000											LOWER CLEARFORK	413C
7460	130,000											CLEARFORK	352C
7590	190,000											CLEARFORK	351C
***** DEPTH RANGE 8001 - 9000 *****													
8132	66,154											PENN GENERAL	748C
8555	160,000											WOLFCAMP	574C
***** DEPTH RANGE 9001 - 10000 *****													
9330	251,296	88,941	7,640	1,008	153,500	90		117		6.1	1.160	CANYON REEF	911J
9712	244,934	83,202	8,720	2,286	150,235	166		137		5.9	1.164	WOLFCAMP	914J
9927	210,000											WOLFCAMP	576C
9940	7,048											PENN CANYON	621C

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

TERRY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	RFB NO.
9964	69,385											PENN GENERAL	747C
***** DEPTH RANGE 9001 - 10000 *****													
													CALCULATED FROM RW = 0.106 AT 75 DEG (F)
10032	276,369	95,848	9,680	1,470	169,025	215				5.8	1.172	CISCO REEF WOLF CAMP	912J 547C
10122	175,000												CALCULATED FROM RW = 0.049 AT 75 DEG (F)
***** DEPTH RANGE 11001 - 12000 *****													
11264	200,000											PENN HEND	640C
11320	63,110	21,440	2,040	688	37,000	1,680	142					FUSSELMAN	909J
11450	35,500											SILURO-FUSSELMAN	864C
11504	46,177											SILURO-FUSSELMAN	861C
11707	49,000											FUSSELMAN	905C
***** DEPTH RANGE 12001 - 13000 *****													
12280	56,818											DEVONIAN	919C
12430	325,000											FUSSELMAN	907C
12694	46,765											DEVONIAN	917C
12704	36,500											SILURO-FUSSELMAN	861C
***** DEPTH RANGE 13001 - 14000 *****													
13114	42,333											DEVONIAN	914C
13425	10,143											SILURO-FUSSELMAN	864C
13495	37,500											FUSSELMAN	908C

TEXAS WATER DEVELOPMENT BOARD

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SALINE WATER RESOURCES SURVEY

OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

THROCKMORTON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	RFF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1050	137,500	39,119	7,448	1,294	78,025	60	160			7.9	1.049	KING SAND	0715L
1275	116,416	35,604	9,960	2,352	72,500		56			6.4	1.082	HLUFF CREEK	0756K
1312	121,329	37,513	6,160	2,156	75,500		76			6.7	1.087	COOK SAND	0758K
***** DEPTH RANGE 2001 - 3000 *****													
2320	160,123	45,000	15,000	760	98,700	144	114			5.7	1.128	CANYON SAND	0757K
2600	158,064	40,900	13,750	1,587	98,500	185	142			6.2	1.132	STRAWN	2050
2600	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							STRAWN	531
2600	158,064	40,900	13,750	1,587	98,500	185	142			6.2	1.132	STRAWN	0758K
***** DEPTH RANGE 3001 - 4000 *****													
3065	158,976	47,050	10,960	2,290	98,517	11	148			6.7	1.130	STRAWN	0759K
3800	147,872	43,160	11,280	1,748	91,500	68	116			6.2	1.121	STRAWN	0760K
3900	86,045	27,250	4,550	920	51,600	1,332	393			7.1	1.066	CADDO	2060
3900	84,286				CALCULATED FROM RW = 0.084 AT 75 DEG (F)							END	511
3900	152,195	42,980	10,680	3,418	95,070	12	35			9.6	1.126	CADDO	0763K
3900	137,390	39,870	8,742	2,988	85,600	72	118			6.5	1.110	CADDO	0764K
3950	183,112	51,267	16,650	1,690	113,300	70	135			6.3	1.147	STRAWN	0761K
3950	179,028	50,603	12,803	3,790	111,800	4	23			5.8	1.148	CADDO	0765K
***** DEPTH RANGE 4001 - 5000 *****													
4025	74,238	24,500	3,500	543	44,500	97	184			6.6	1.059	MISSISSIPPI	2070
4025	80,041	26,500	3,410	724	48,300	754	353			7.5	1.062	MISSISSIPPI	2080
4025	78,452				CALCULATED FROM RW = 0.089 AT 75 DEG (F)							ELLENBURGER	529I
4025	73,846				CALCULATED FROM RW = 0.095 AT 75 DEG (F)							ELLENBURGER	530I
4025	80,041	26,500	3,410	724	48,300	754	353			7.5	1.062	MISSISSIPPI	0769K
4175	174,202	47,600	13,740	3,790	108,700	33	334			6.1	1.147	CADDO	0760K
4416	81,629	23,950	6,370	688	49,100	1,120	201				1.059	MISSISSIPPI	2096
4416	79,231				CALCULATED FROM RW = 0.088 AT 75 DEG (F)							ELLENBURGER	524I
4500	79,137	24,550	3,800	446	44,900	1,040	401			6.5	1.056	MISSISSIPPI	2100
4500	70,773	23,550	2,930	583	42,000	1,310	400			6.9	1.053	MISSISSIPPI	2110
4500	79,531	24,650	4,030	751	48,900	1,050	150			7.3	1.066	MISSISSIPPI	2120
4500	77,642				CALCULATED FROM RW = 0.040 AT 75 DEG (F)							ELLENBURGER	524I
4500	70,000				CALCULATED FROM RW = 0.100 AT 75 DEG (F)							ELLENBURGER	526I
4500	74,615				CALCULATED FROM RW = 0.044 AT 75 DEG (F)							ELLENBURGER	527I
4510	79,511	4,650	4,030	751	48,900	1,050	150					MISSISSIPPI	0771K
4514	77,965	24,750	4,080	815	47,300	694	322			7.1	1.061	MISSISSIPPI	2130
4514	75,923				CALCULATED FROM RW = 0.081 AT 75 DEG (F)							ELLENBURGER	524I
4514	77,975	24,750	4,080	815	47,300	694	332			7.3	1.061	MISSISSIPPI	0772K
4550	254,200	62,800	21,300	2,310	146,370		252			6.1	1.162	CADDO LINE	0214L
4550	158,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							CADDO	0762K

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THROCKMORTON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIUS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPLCIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 4001 - 5000 *****													
4590	230,100	50,020	18,093	4,102	124,500	170	80			6.9	1.147	LOWER CADD0	0217L
4600	73,954	24,670	3,092	704	44,400	680	404			6.5	1.059	MISSISSIPPI	0770K
4600	71,445	23,994	3,045	427	42,844	781	354			7.1	1.055	MISSISSIPPI	0771K
4652	91,820	29,074	5,330	721	55,800	783	112			6.2	1.072	HEND CONGL.	0747K
4714	87,038	28,333	4,601	519	52,720	732	133			6.9	1.065	HEND CONGL.	0768K
4739	76,387	24,827	3,320	669	46,150	1,229	192			7.4	1.061	MISSISSIPPI	214G
4739	75,385				CALCULATED FROM RW = 0.093 AT 75 DEG (F)							ELLENBURGER	523I
4800	91,532	30,300	3,800	846	55,000	1,137	355	94		7.5	1.065	MISSISSIPPI	01460
4800	91,532	30,300	3,800	846	55,000	1,137	355	94				MISSISSIPPI	01480
***** DEPTH RANGE 5001 - 6000 *****													
5097	99,010	30,350	6,370	1,032	59,600	1,280	178			6.3	1.080	MISSISSIPPI	214G
5097	97,143				CALCULATED FROM RW = 0.079 AT 75 DEG (F)							ELLENBURGER	523I
5200	84,919	22,600	7,950	1,390	52,950	15	14				1.066	CONGLOMERATE	00360

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OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

TITUS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
900	25,208											NACATOKH	150H
***** DEPTH RANGE 1 - 1000 *****													
CALCULATED FROM RW = 0.241 AT 75 DEG (F)													
2240	38,250											BLOSSOM	151H
2500	44,000											SUB-CLARKSVILLE	152H
2998	50,159	18,448	771	255	30,450	1	234				1.036	EAGLE FORD	157H
***** DEPTH RANGE 2001 - 3000 *****													
CALCULATED FROM RW = 0.172 AT 75 DEG (F)													
CALCULATED FROM RW = 0.153 AT 75 DEG (F)													
***** DEPTH RANGE 3001 - 4000 *****													
CALCULATED FROM RW = 0.116 AT 75 DEG (F)													
3135	13,000											7-3 2000-4000 FT	0305P
3200	58,636											WOODRINE	153H
3476	55,000		1,496	686	35,690	35	171			7.1	1.037	FIRST WOODRINE	199J
3525	62,162	23,519	468	229	37,600	3	343				1.045	WOODRINE	168H
3561	59,678	21,776	1,063	331	36,400	6	102				1.043	WOODRINE	169H
3618	62,165	22,584	1,169	355	37,850	1	205				1.045	WOODRINE	170H
3831	63,480	23,010	1,222	375	38,650	1	222				1.046	WOODRINE	171H
***** DEPTH RANGE 4001 - 5000 *****													
4204	18,722	6,712	287	27	9,110	2,044	542				1.014	PALUXY	157H
4241	19,343	6,762	420	97	10,000	1,600	464			7.5	1.016	PALUXY	194J
4300	16,565											PALUXY	154H
CALCULATED FROM RW = 0.358 AT 75 DEG (F)													
4304	19,905	6,800	600	50	9,800	2,302	353				1.019	PALUXY	152H
4347	20,368	7,000	810	64	12,200	62	232				1.022	PALUXY	151H
CALCULATED FROM RW = 0.283 AT 75 DEG (F)													
4400	21,532											PALUXY	149H
4500	17,688											PALUXY	148H
CALCULATED FROM RW = 0.338 AT 75 DEG (F)													
4514	18,159	6,200	650	42	9,820	1,210	237				1.017	PALUXY	263H
4552	17,625	6,100	640	20	9,930	874	61				1.017	PALUXY	264H
4556	20,451	6,836	605	110	10,000	2,550	290				1.015	PALUXY	265H
4565	20,450	6,836	865	110	10,000	2,550	290			7.1	1.014	PALUXY	197J
***** DEPTH RANGE 6001 - 7000 *****													
6940	100,000											PEYTER TRAVIS PK	7455P

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TOM GREEN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
103	3,020	250	408	192	185	1,930	100	5				WICHITA + CLR FK	33A
122	92,400	16,000	2,460	1,050	29,500	3,180	405					SAN ANGELO SS	49A
134	9,300	431	904	340	1,990	1,470	108	11				WICHITA + CLR FK	32A
180	1,870	189	254	101	126	1,060	237	23		8.0		WICHITA + CLR FK	35A
218	2,960	246	494	162	185	1,760	295	21		7.8		WICHITA + CLR FK	34A
***** DEPTH RANGE 1001 - 2000 *****													
1045	71,539											SAN ANDRES	303C
1076	46,334	16,050	849	796	27,420	864	355			7.2	1.036	CLEARFORK	0099N
1085	49,167	15,750	746	733	27,400	10	548			7.5	1.038	CLEARFORK	0090M
***** DEPTH RANGE 2001 - 3000 *****													
2058	48,529											WOLFCAMP	539C
2660	59,909											PERMIAN LIME	0774K
***** DEPTH RANGE 3001 - 4000 *****													
3370	84,286											WOLFCAMP	539C
3678	83,872	25,500	5,820	579	50,100	1,153	720			6.4	1.067	LOWER STRAWN	0076M
3887	109,000											PENN CANYON	624C
3901	57,727											PENN CANYON	623C
***** DEPTH RANGE 4001 - 5000 *****													
4520	83,500	28,400	2,550	615	48,400	1,150	605			6.6	1.055	STRAWN REEF	0780K
4535	149,900		11,360	1,700	89,600	90	123			6.9		CANYON SAND	0084L
4540	113,900	29,950	8,850	1,380	65,800	225	138			6.2	1.074	STRAWN LIME	0777K
4544	98,572											PENN CANYON	622C
4771	77,692											PENN STRAWN	481C
4816	82,000		2,860	619	45,150	365	430			7.4		STRAWN REEF	0084L
4830	91,429											ELLENBURGER	1074C
4873	73,077											PENN GENERAL	749C
4930	78,601	27,531	2,000	632	46,363	1,714	399			4.5	1.060	STRAWN REEF	0781K
4961	63,846											PENN STRAWN	684C
5000	81,429											ELLENBURGER	1072C
***** DEPTH RANGE 5001 - 6000 *****													
5130	113,500	33,300	4,970	740	60,500	950	470			6.4	1.074	PALO PINO	0776K
5250	72,214	24,900	2,320	483	42,552	1,310	641			6.8	1.057	STRAWN REEF	0778K
5250	84,091	28,640	2,880	616	50,358	1,041	360			7.1	1.059	STRAWN REEF	0779K
5502	79,244	26,800	2,920	629	47,400	979	516			6.7	1.062	STRAWN	0081M
5502	79,244	26,800	2,920	629	47,400	979	516			6.7	1.062	STRAWN	0005M
5600	89,399	26,500	3,100	2,900	55,000	1,960	335			6.5	1.060	STRAWN	0003M

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TOM GREEN COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
56 00	119,880	37,500	6,000	1,800	73,000	1,240	340			6.5	1.065	STRAWN	0004M
56 00	119,880	37,500	6,000	1,800	73,000	1,240	340			6.5	1.065	STRAWN	0007M
56 00	89,415	26,500	3,100	2,900	55,000	1,560	355			6.5	1.060	STRAWN	0009M
56 00	89,415	26,500	3,100	2,900	55,000	1,560	355			6.5	1.060	STRAWN	0091M
56 00	79,244	26,800	2,920	629	47,400	979	516			6.7	1.062	STRAWN LINE	0092M
56 00	118,880	37,500	6,000	1,800	73,000	1,240	340			6.5	1.065	STRAWN	0093M
56 00	80,672	29,100	2,180	720	46,900	1,243	529			7.5	1.061	STRAWN	0094M
56 40	80,672	29,100	2,180	720	46,900	1,243	529			7.5	1.061	STRAWN REEF	0002M
56 60	80,672	29,100	2,180	720	46,900	1,243	529			7.5	1.061	STRAWN REEF	0006M
56 90	79,385				CALCULATED FROM RW = 0.093 AT 75 DEG (F)							PENN STRAWN	682C
56 90	76,154				CALCULATED FROM RW = 0.092 AT 75 DEG (F)							PENN STRAWN	683C
57 87	69,385				CALCULATED FROM RW = 0.106 AT 75 DEG (F)							PENN GENERAL	750C
***** DEPTH RANGE 6001 - 7000 *****													
64 00	151,700	38,700	9,850	2,020	82,600	730	140			6.1	1.098	CADDO LIME	0782K
65 00	88,100	29,400	3,020	570	51,300	950	340			6.9	1.058	ELLENBURGER	0783K
69 40	84,444				CALCULATED FROM RW = 0.125 AT 75 DEG (F)							ELLENBURGER	1773C
67 51	88,572				CALCULATED FROM RW = 0.081 AT 75 DEG (F)							ELLENBURGER	1075C

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TRAVIS COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE		1 = 1000 *****						
390	3,400	1,310	272	206	1,450	2,010	268			7.6		EDWARDS LS	213A
400	1,090	119	140	94	458	93	292			7.4		EDWARDS LS	215A
422	2,120	24	459	121	27	1,310	394					TRAVIS PEAK	133A
451	10,200	2,680	519	316	3,830	2,750	189			6.9		EDWARDS LS	214A
926	1,110	294	42	22	62	523	270			7.7		TRINITY GROUP	181A
940	2,020	69	298	214	33	1,240	400			7.7		GLEN ROSE LS	155A
968	3,420	1,170	93	42	1,290	998	902			7.9		TRAVIS PEAK	134A
977	1,520	110	168	149	43	877	352					TRAVIS PEAK	132A
					***** DEPTH RANGE		3001 = 4000 *****						
3001	1,910	513	91	26	270	739	396			7.5		TRINITY GROUP	180A

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TRINITY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE 1001 - 2000 *****								
1970	6,400											Z-2 0-2000 FT	571SP
1630	450											Z-2 0-2000 FT	568SP
1900	9,000											CARRIZO-WILCOX	572SP
					***** DEPTH RANGE 2001 - 3000 *****								
2350	7,400											Z-2 0-2000 FT	570SP
					***** DEPTH RANGE 3001 - 4000 *****								
3650	23,000											CARRIZO-WILCOX	083SP
					***** DEPTH RANGE 5001 - 6000 *****								
5275	7,200											CARRIZO-WILCOX	5735P
					***** DEPTH RANGE 6001 - 7000 *****								
6310	8,000											CARRIZO-WILCOX	569SP

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TYLER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
750	1,450											7-2 0-2000 FT	1435P
800	4,600											7-2 0-2000 FT	1445P
949	700											7-2 0-2000 FT	1485P
***** DEPTH RANGE 1001 - 2000 *****													
1105	7,000											7-2 0-2000 FT	1495P
1330	20,000											7-2 0-2000 FT	1505P
1870	1,800											7-2 0-2000 FT	2655P
1980	5,000											7-2 0-2000 FT	2665P
***** DEPTH RANGE 2001 - 3000 *****													
2245	1,100											7-3 2000-4000 FT	2715P
2335	1,400											7-3 2000-4000 FT	2725P
2425	9,000											7-3 2000-4000 FT	1405P
2540	16,000											7-3 2000-4000 FT	1415P
2600	47,000											7-3 2000-4000 FT	1425P
2635	3,900											7-3 2000-4000 FT	2735P
***** DEPTH RANGE 4001 - 5000 *****													
4800	80,000											COCKFIELD	384E
4800	75,385											COCKFIELD	385E
4860	80,000											COCKFIELD	386E
4860	84,286											COCKFIELD	387E
***** DEPTH RANGE 6001 - 7000 *****													
6457	130,000											COCKFIELD	389E
6913	143,333											WILCOX	390E
***** DEPTH RANGE 7001 - 8000 *****													
7020	128,500											WILCOX	391E
7140	159,000											WILCOX	392E
7364	69,385											COCKFIELD	394E
***** DEPTH RANGE 8001 - 9000 *****													
8780	91,210	16,780	14,800	740	56,240	450	240			5.6	1.062	WILCOX	770J
8780	111,511	41,540	7,650	1,100	80,795		292			6.5	1.097	WILCOX	771J
8805	130,000											WILCOX	393E
***** DEPTH RANGE 9001 - 10000 *****													
9955	58,818											WILCOX	394E

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UPSHUR COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3700	59,546				CALCULATED FROM RW = 0.11% AT 75 DEG (F)							WOODBINE	155B
3700	61,550	22,100	1,720	85	37,150		495				1.048	WOODBINE	70H
3700	57,356	20,607	1,140	361	34,200	452	596				1.041	WOODBINE	71H
***** DEPTH RANGE 4001 - 5000 *****													
4050	1,700											WOODBINE SAND	661SP
***** DEPTH RANGE 5001 - 6000 *****													
5150	130,000											PALUXY	704SP
5960	130,000											PALUXY	720SP
***** DEPTH RANGE 6001 - 7000 *****													
6860	165,000											LOWER GLEN ROSE	709SP
***** DEPTH RANGE 8001 - 9000 *****													
8750	250,000											PETTET-TRAVIS PK	716SP
***** DEPTH RANGE 10001 - 11000 *****													
11000	277,954	64,469	35,150	4,200	174,000		135	21		5.7	1.190	COTTON VALLEY	01680
11000	183,847	45,011	23,000	1,450	114,300	1	85	5		5.5	1.125	COTTON VALLEY	01700
***** DEPTH RANGE 11001 - 12000 *****													
11800	310,423	62,800	47,500	4,804	195,000	2	279	38		5.8	1.220	COTTON VALLEY	01710

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UPTON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE 1 - 1000 *****								
150	2,420	248	280	161	202	1,370	187			7.5		TRINITY GROUP	170A
160	1,230	142	150	78	108	545	336			7.2		TRINITY GROUP	171A
170	1,020	276	150	117	165	914	112			7.2		TRINITY GROUP	172A
					***** DEPTH RANGE 1001 - 2000 *****								
1309	13,441				CALCULATED FROM RW = 0.440 AT 75 DEG (F)							SANTA ROSA	4C
					***** DEPTH RANGE 2001 - 3000 *****								
2226	62,308				CALCULATED FROM RW = 0.110 AT 75 DEG (F)							SAN ANDRES	200C
					***** DEPTH RANGE 3001 - 4000 *****								
3900	24,741				CALCULATED FROM RW = 0.245 AT 75 DEG (F)							CLEARFORK	350C
					***** DEPTH RANGE 5001 - 6000 *****								
5250	78,462				CALCULATED FROM RW = 0.089 AT 75 DEG (F)							SPRABERRY	479C
5330	97,143				CALCULATED FROM RW = 0.075 AT 75 DEG (F)							DEVONIAN	820C
5801	52,778				CALCULATED FROM RW = 0.128 AT 75 DEG (F)							DEVONIAN	821C
					***** DEPTH RANGE 6001 - 7000 *****								
6290	9,214				CALCULATED FROM RW = 0.610 AT 75 DEG (F)							DEVONIAN	823C
6464	8,311				CALCULATED FROM RW = 1.071 AT 75 DEG (F)							LEONARD	216C
6594	122,500				CALCULATED FROM RW = 0.064 AT 75 DEG (F)							SPRABERRY	476C
6612	85,714				CALCULATED FROM RW = 0.083 AT 75 DEG (F)							LEONARD	215C
6615	29,250				CALCULATED FROM RW = 0.216 AT 75 DEG (F)							LEONARD	214C
					***** DEPTH RANGE 7001 - 8000 *****								
7049	32,000				CALCULATED FROM RW = 0.200 AT 75 DEG (F)							PENN GENERAL	751C
7080	133,333				CALCULATED FROM RW = 0.059 AT 75 DEG (F)							FUSSELMAN	910C
7100	85,714				CALCULATED FROM RW = 0.083 AT 75 DEG (F)							SILURO-FUSSELMAN	888C
7565	159,000				CALCULATED FROM RW = 0.053 AT 75 DEG (F)							SPRABERRY	477C
					***** DEPTH RANGE 8001 - 9000 *****								
8262	9,789				CALCULATED FROM RW = 0.980 AT 75 DEG (F)							WOLFCAMP	542C
8350	109,000				CALCULATED FROM RW = 0.070 AT 75 DEG (F)							SPRABERRY	478C
8835	20,569				CALCULATED FROM RW = 0.293 AT 75 DEG (F)							ELLENBURGER	1078C
8750	29,875				CALCULATED FROM RW = 0.211 AT 75 DEG (F)							WOLFCAMP	541C
8750	33,168	10,480	1,304	447	16,950	3,230	757			5.5	1.028	WOLFCAMP	446C
8949	176,875				CALCULATED FROM RW = 0.067 AT 75 DEG (F)							WOLFCAMP	540C
					***** DEPTH RANGE 9001 - 10000 *****								
9359	78,462				CALCULATED FROM RW = 0.089 AT 75 DEG (F)							SILURO-FUSSELMAN	870C

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UPTON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
9582	146,667											WOLF CAMP	543C
***** DEPTH RANGE 9001 -10000 *****													
CALCULATED FROM RW = 0.059 AT 75 DEG (F)													
10500	68,462											ELLENBURGER	1079C
10700	165,000											DEVONIAN	822C
***** DEPTH RANGE 10001 -11000 *****													
CALCULATED FROM RW = 0.102 AT 75 DEG (F)													
***** DEPTH RANGE 11001 -12000 *****													
11044	120,625											FUSSELMAN	911C
11174	195,000											SILURO-FUSSELMAN	867C
11276	124,333	41,100	5,280	1,260	75,700	781	212			8.3	1.097	SILURIAN	447G
11315	120,398	40,100	5,430	735	73,200	766	167			8.3	1.096	SILURIAN	448G
11354	143,333											ELLENBURGER	1076C
11624	122,931	42,900	5,020	144	74,200	814	224			8.2	1.097	SILURIAN	449G
11640	179,000											FUSSELMAN	909C
11725	138,190	40,900	9,920	1,930	84,800	1,023	17			4.3	1.114	ELLENBURGER	450G
***** DEPTH RANGE 12001 -13000 *****													
CALCULATED FROM RW = 0.047 AT 75 DEG (F)													
12450	169,000											SILURO-FUSSELMAN	869C
***** DEPTH RANGE 13001 -14000 *****													
CALCULATED FROM RW = 0.080 AT 75 DEG (F)													
13153	130,000											ELLENBURGER	1077C

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SALINE WATER RESOURCES SURVEY

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CHEMICAL ANALYSIS OF SALINE WATER

UPTON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
							1 - 1000						
125	4,800	780	456	243	1,170	2,030	163			7.3	SANTA ROSA		
683	6,170	2,050	127	48	2,090	1,700	312			7.1	SANTA ROSA		
							1001 - 2000						
1100	15,000	5,250	319	87	7,400	1,750	390	4		6.8	SANTA ROSA		
1177	10,400	3,620	154	77	4,330	2,060	394	1		7.2	SANTA ROSA		
							5001 - 6000						
5120	69,600	23,600	2,080	728	36,000	6,800	744			6.8	SAN ANDRES LS		

TEXAS WATER DEVELOPMENT BOARD

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

UVALDE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
664	1,660	491	70	2	***** DEPTH RANGE 225	784	1 - 1000 *****			9.2		EDWARDS LS	205A
1822	6,444				***** DEPTH RANGE 1001 - 2000 *****		1001 - 2000 *****					GRAYBURG	124C
2054	12,321				CALCULATED FROM RW = 0.880 AT 75 DEG (F)		***** DEPTH RANGE 2001 - 3000 *****					GRAYBURG	123C
2074	201,000				CALCULATED FROM RW = 0.474 AT 75 DEG (F)		***** DEPTH RANGE 2001 - 3000 *****					GRAYBURG	126C
2111	148,667				CALCULATED FROM RW = 0.043 AT 75 DEG (F)		***** DEPTH RANGE 2001 - 3000 *****					GRAYBURG	125C
					CALCULATED FROM RW = 0.059 AT 75 DEG (F)								

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STATE OF TEXAS

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VAL VERDE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
5502	190,000											WOLFCAMP	544C

***** DEPTH RANGE 5001 - 5000 *****
CALCULATED FROM RM = 0.046 AT 75 DEG (F)

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STATE OF TEXAS

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VAN ZANDT COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1246	21,210											NACATOCH	161B
1246	22,396	8,216	275	105	12,841		1,199					NACATOCH	374H
1250	9,123	3,013	320	73	5,000	180	537			7.8	1.014	NACATOCH	764J
1300	22,386											NACATOCH	162B
1900	19,900											NACATOCH	157B
***** DEPTH RANGE 2001 - 3000 *****													
2777	69,254	25,700	1,160	384	42,000	10					1.050	WOODBINE	385H
2794	71,919	26,200	1,360	437	43,872	50					1.051	WOODBINE	379H
2799	71,518	25,900	1,140	444	44,000	34					1.052	WOODBINE	387H
2800	70,843	26,200	1,080	432	43,100	31					1.052	WOODBINE	386H
2820	70,515	25,800	1,240	414	43,247	14					1.050	WOODBINE	380H
2828	73,487	26,400	1,260	384	45,400	23					1.052	WOODBINE	388H
2842	71,767	26,100	1,120	432	44,100	15					1.052	WOODBINE	389H
2852	69,942	25,700	1,100	444	42,700	10					1.051	WOODBINE	390H
2866	69,372	25,100	1,475	350	42,200	174	73				1.052	WOODBINE	376H
2868	69,082	26,400	1,191	446	41,023	22					1.049	WOODBINE	391H
2876	62,585	22,600	1,180	420	37,900	174	311				1.050	WOODBINE	377H
2898	73,831	27,491	825	368	44,600	11	536				1.053	WOODBINE	378H
2900	71,539											WOODBINE	153B
2902	66,708	24,186	1,673	120	40,423	105	201				1.048	WOODBINE	375H
2912	75,001	27,800	1,388	445	45,300	68					1.056	WOODBINE	382H
2930	74,784	27,800	1,360	437	45,120	67					1.053	WOODBINE	383H
2939	62,710	23,800	1,142	345	37,410	22					1.039	WOODBINE	384H
***** DEPTH RANGE 3001 - 4000 *****													
3390	22,000											EAGLE FORD	700SP
3720	13,000											EAGLE FORD	694SP
***** DEPTH RANGE 4001 - 5000 *****													
4630	48,000											EAGLE FORD	694SP
4610	39,000											EAGLE FORD	692SP
4700	60,000											WOODBINE	148B
CALCULATED FROM RW = 0.087 AT 75 DEG (F)													
***** DEPTH RANGE 6001 - 7000 *****													
6340	85,714											PALUXY	149B
CALCULATED FROM RW = 0.083 AT 75 DEG (F)													
***** DEPTH RANGE 7001 - 8000 *****													
7710	138,000											LOWER BLEN ROSE	704SP
***** DEPTH RANGE 8001 - 9000 *****													
8950	199,000											TRAVIS PEAK	156B
CALCULATED FROM RW = 0.045 AT 75 DEG (F)													

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

VAN ZANDT COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE #001 - 4000 *****								
					CALCULATED FROM RW = 0.053 AT 75 DEG (F)								
8550	155,000												
8561	261,970	64,549	31,300	2,850	163,100		171				1.183	TRAVIS PEAK	1408
8880	110,000											TRAVIS PEAK	1154
												PETTET-TRAVIS PK	7515P

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VICTORIA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1640	1,200											Z-2 0-2000 FT	007SP
1795	10,500											Z-2 0-2000 FT	0065P
***** DEPTH RANGE 2001 - 3000 *****													
2130	4,800											Z-3 2000-4000 FT	1025P
2150	10,421				7,344							FRIO	727J
2445	11,000											Z-3 2000-4000 FT	2365P
2940	11,000											Z-3 2000-4000 FT	1035P
***** DEPTH RANGE 3001 - 4000 *****													
3500	92,721	10,640	1,590	221	33,889	76	305			6.5	1.035	MIOCENE + FRIO	724J
3500	47,697	19,840	1,020	204	45,404	61	286			6.9	1.043	FRIO + MIOCENE	725J
3600	18,620				10,150							FRIO	728J
3710	149,000											Z-3 2000-4000 FT	0045P
3860	34,000											Z-3 2000-4000 FT	2105P
***** DEPTH RANGE 4001 - 5000 *****													
4100	68,014	23,900	2,200	273	41,500		141	45		6.8	1.050	CAYANOULA	01750
4426	39,000											FRIO	396E
4640	60,194											GRETA	395E
4700	87,273											GRETA	397E
4766	60,769											GRETA	402E
4960	32,000											Z-4 4000-6000 FT	2115P
***** DEPTH RANGE 5001 - 6000 *****													
5435	30,500											Z-4 4000-6000 FT	2375P
5617	47,106	23,880	1,980	224	40,910	11	103			6.9	1.046	KNOFF 5580	723J
***** DEPTH RANGE 6001 - 7000 *****													
6050	56,818											FRIO	399E
6375	62,308											FRIO	399E
6890	38,750											FRIO	400E
6940	54,373	19,540	1,425	168	32,980	25	239			7.2	1.039	FRIO	721J
***** DEPTH RANGE 7001 - 8000 *****													
7070	65,000											Z-5 6000-8000 FT	2125P
7947	97,030	20,499	1,165	145	30,527	5	293			7.7	1.039	FRIO	722J
***** DEPTH RANGE 8001 - 9000 *****													
8164	97,143											WILCOX	401E
***** DEPTH RANGE 9001 - 10000 *****													
9110	80,000											CARRIZO-WILCOX	0095P

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WALKER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
135	2,150	376	268	32	372	296	1 - 1000	64				CTHULA+ OKVLE SS	352A
395	1,140	327	77	7	348	293	164					JACKSON GROUP	333A
					***** DEPTH RANGE 1001 - 2000 *****								
1570	1,700				***** DEPTH RANGE 2001 - 3000 *****							Z-2 0-2000 FT	0385P
					***** DEPTH RANGE 3001 - 4000 *****								
2180	55,000											Z-2 0-2000 FT	3775P
2520	10,200											Z-3 2000-4000 FT	3765P
2750	22,500											Z-3 2000-4000 FT	0375P
2800	1,250	470	17	2	435	1	522					JACKSON GROUP	334A
					***** DEPTH RANGE 4001 - 5000 *****								
4870	70,000											CARRIZO-WILCOX	3755P
					***** DEPTH RANGE 5001 - 6000 *****								
5015	42,000											CARRIZO-WILCOX	3785P

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WALLER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2099	7,000											Z-2 0-2000 FT	0665P
2180	6,000											Z-2 0-2000 FT	0655P
2540	13,000											Z-3 2000-4000 FT	0645P
2790	12,500											Z-3 2000-4000 FT	3395P
***** DEPTH RANGE 3001 - 4000 *****													
3140	26,000											Z-3 2000-4000 FT	0635P
3345	31,900											Z-3 2000-4000 FT	3385P
***** DEPTH RANGE 4001 - 5000 *****													
4400	39,900											Z-4 4000-6000 FT	2745P
***** DEPTH RANGE 5001 - 6000 *****													
5350	40,000											Z-4 4000-6000 FT	3405P
5420	75,000											Z-4 4000-6000 FT	0675P
***** DEPTH RANGE 6001 - 9000 *****													
6380	56,000											CARRIZO-WILCOX	0685P
6700	75,000											CARRIZO-WILCOX	3375P
***** DEPTH RANGE 11001 - 12000 *****													
11060	60,000											CARRIZO-WILCOX	2795P

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SALINE WATER RESOURCES SURVEY

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CHEMICAL ANALYSIS OF SALINE WATER

WARD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
110	3,670	762	352	144	1,500	823	179					ALLUVIUM	451A
115	6,320	1,090	763	204	1,920	2,250	116					ALLUVIUM	450A
491	74,300	25,300	1,700	981	40,800	5,450	129	1		7.4		RUSTLER	100
912			1,840	1,420	58,600	6,050	85	1		7.9		RUSTLER	70
933					8,400	1,950	418	1		8.4		RUSTLER	30
965	5,010	12,800	984	622	19,300	4,920	113			7.4		RUSTLER LS	90A
965	39,700	13,100	1,010	638	19,800	5,050	116	1		7.4		RUSTLER	10
982			1,350	692	28,000	3,580	70	1		7.5		RUSTLER	60
982			1,370	1,040	28,700	5,900	90	1		7.8		RUSTLER	70
982					39,500	6,000	74	1		6.8		RUSTLER	80
***** DEPTH RANGE 1001 - 2000 *****													
1044	7,060	1,430	672	210	1,850	2,860	82	1				RUSTLER	130
1040					310	2,610	104	1				RUSTLER	230
1125	4,640	666	580	161	510	2,650	105	1		7.1		RUSTLER	240
1200					292	2,640	103	1		7.0		RUSTLER	250
1375	210,000				CALCULATED FROM RW = 0.042 AT 75 DEG (F)							RUSTLER	90
1680	4,210	311	596	271	338	2,620	93	1				RUSTLER	260
1680	4,320	342	603	277	350	2,700	101	1				RUSTLER	270
1680					322	2,600	22	1		7.2		RUSTLER	280
1695	62,500	20,800	1,420	1,040	33,100	6,100	67	1				RUSTLER	110
1750	322,000	121,000	1,000	1,410	191,000	6,860	122	1		6.6		SALADO	20
***** DEPTH RANGE 2001 - 3000 *****													
2240	185,000				CALCULATED FROM RW = 0.047 AT 75 DEG (F)							YATES	310
2479	56,818				CALCULATED FROM RW = 0.120 AT 75 DEG (F)							QUEEN	75C
2479	56,818				CALCULATED FROM RW = 0.120 AT 75 DEG (F)							QUEEN	75C
2566	1,990	600	470	180	880	1,630	176	1		7.6		SALADO RUSTLER	100
2543	4,110	833	361	143	850	799	1,120	1		6.9		SANTA ROSA	40
2583	3,700	646	395	168	1,020	885	1,070	1		7.2		SANTA ROSA	50
2625	54,444				CALCULATED FROM RW = 0.125 AT 75 DEG (F)							QUEEN	75C
2648	71,077				CALCULATED FROM RW = 0.096 AT 75 DEG (F)							QUEEN	75C
2799	8,474				CALCULATED FROM RW = 1.040 AT 75 DEG (F)							YATES	310
2800	36,250				CALCULATED FROM RW = 0.180 AT 75 DEG (F)							YATES	310
2905	66,923				CALCULATED FROM RW = 0.104 AT 75 DEG (F)							PENN GENERAL	75C
2905		1,120	1,190	217	2,130	2,000		1		6.6		SALADO RUSTLER	200
2916	7,163				CALCULATED FROM RW = 0.788 AT 75 DEG (F)							YATES	310
3000	2,743				CALCULATED FROM RW = 1.480 AT 75 DEG (F)							SEVEN RIVERS	450
***** DEPTH RANGE 3001 - 4000 *****													
3045	35,000				CALCULATED FROM RW = 0.185 AT 75 DEG (F)							GRAYBURG	120C

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WARD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3048	20,161						3001 = 4000						
3347	175,000						CALCULATED FROM RW = 0.300 AT 75 DEG (F)					GRAYBURG	127C
3611	4,240						CALCULATED FROM RW = 0.049 AT 75 DEG (F)					PENN GENERAL	757C
3950	18,300	5,110	1,170	366	8,800	2,560	CALCULATED FROM RW = 1.320 AT 75 DEG (F)	554	1	YES	6.7	SEVEN RIVERS CHINLF	46C 154
***** DEPTH RANGE 4001 - 5000 *****													
4109	7,030	1,350	744	261	2,260	2,160	4001 = 5000	517	1	YES	6.7	CHINLF	140
4224	130,000						CALCULATED FROM RW = 0.060 AT 75 DEG (F)					CLEARFORK	354C
4362	9,280	641	766	237	1,030	2,410	CALCULATED FROM RW = 0.076 AT 75 DEG (F)	391	1			CHINLF	120
4365	95,714											TUBB	390C
4421	13,100	3,220	1,090	306	5,550	2,630		438	1		6.8	CHINLF	180
4450	6,900	1,300	761	250	2,200	2,110		517	1	YES	6.7	CHINLF	140
4460	17,600	4,400	1,100	358	8,130	2,830		600	1	YES	6.9	CHINLF	170
4670	14,100	3,380	1,020	406	5,980	3,150		133	1			RUSTLER	190
4670	13,600	3,420	939	380	5,670	3,140		47	1			RUSTLER	200
4670					6,900			88	1		6.9	RUSTLER	210
4900	150,000						CALCULATED FROM RW = 0.054 AT 75 DEG (F)					SAN ANGELO	276C
4911	146,667						CALCULATED FROM RW = 0.055 AT 75 DEG (F)					CLEARFORK	355C
***** DEPTH RANGE 5001 - 6000 *****													
5060	200,000						5001 = 6000					SAN ANGELO	277C
5136	175,000						CALCULATED FROM RW = 0.044 AT 75 DEG (F)					DELAWARE	90C
5280	146,667						CALCULATED FROM RW = 0.049 AT 75 DEG (F)					SAN ANGELO	278C
5332	200,000						CALCULATED FROM RW = 0.044 AT 75 DEG (F)					SAN ANGELO	279C
5500	180,000						CALCULATED FROM RW = 0.048 AT 75 DEG (F)					CLEARFORK	356C
5640	133,333						CALCULATED FROM RW = 0.059 AT 75 DEG (F)					TUBB	391C
5725	143,333						CALCULATED FROM RW = 0.056 AT 75 DEG (F)					TUBB	390C
5856	79,231						CALCULATED FROM RW = 0.088 AT 75 DEG (F)					TUBB	393C
***** DEPTH RANGE 6001 - 7000 *****													
6235	120,625						6001 = 7000					SPRABERRY	480C
6302	280,000						CALCULATED FROM RW = 0.065 AT 75 DEG (F)					DELAWARE	99C
6326	100,000						CALCULATED FROM RW = 0.028 AT 75 DEG (F)					DELAWARE	101C
6840	6,370						CALCULATED FROM RW = 0.073 AT 75 DEG (F)					DELAWARE	100C
6990	95,714						CALCULATED FROM RW = 0.890 AT 75 DEG (F)					WOLFCAMP	545C
***** DEPTH RANGE 7001 - 8000 *****													
7256	112,000						7001 = 8000					DEVONIAN	825C
7604	39,250						CALCULATED FROM RW = 0.069 AT 75 DEG (F)					DEVONIAN	826C
7790	122,500						CALCULATED FROM RW = 0.168 AT 75 DEG (F)					WADDELL	956C
7906	126,250						CALCULATED FROM RW = 0.064 AT 75 DEG (F)					WADDELL	955C
***** DEPTH RANGE 8001 - 9000 *****													
8225	370,000						8001 = 9000					ELLENBURGER	1081C
8242	62,308						CALCULATED FROM RW = 0.010 AT 75 DEG (F)					ELLENBURGER	1090C
8336	165,000						CALCULATED FROM RW = 0.110 AT 75 DEG (F)					SILURO-FUSSELMAN	871C
8393	165,000						CALCULATED FROM RW = 0.051 AT 75 DEG (F)					SILURO-FUSSELMAN	872C
***** DEPTH RANGE 10001 - 11000 *****													
10305	91,429						10001 = 11000					ELLENBURGER	1082C
							CALCULATED FROM RW = 0.079 AT 75 DEG (F)						

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WARD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
10605	70,769											ELLENBURGER	1083C

***** DEPTH RANGE 10001 - 11000 *****
 CALCULATED FROM RW = 0.000 AT 75 DEG (F)

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WARD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
					***** DEPTH RANGE 1 - 1000 *****								
115	5,690	1,238	476	135	1,700	1,802	191					CENOZOIC ALLUV.	
120	7,808	1,323	678	465	2,613	2,522	207					CENOZOIC ALLUV.	
					***** DEPTH RANGE 1001 - 2000 *****								
1125	4,270	3,480	6,000	2,420	3,650	26,200	990					RUSTLER	

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CHEMICAL ANALYSIS OF SALINE WATER

WASHINGTON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1277	19,753	7,290	71	43	10,300	4	2,045			7.7	1.010	CLAY CREEK	914J
1334	18,479	6,800	49	40	9,405	14	2,175			8.1	1.010	CLAY CREEK	916J
1354	19,043	7,130	82	49	10,395	7	1,250			7.6	1.010	CLAY CREEK	915J
1800	24,531	9,000	170	116	13,500	5	1,740			7.6	1.015	CLAY CREEK	917J
***** DEPTH RANGE 1001 - 2000 *****													
3780	6,200											Z-3 2000-4000 FT	2765P
***** DEPTH RANGE 3001 - 4000 *****													
4311	21,114	7,800	130	27	11,300		1,851	6		7.6	1.020	N-3-F	01940
4340	12,400											Z-4 4000-6000 FT	277SP
4890	8,500											CARRIZO-WILCOX	279SP
***** DEPTH RANGE 4001 - 5000 *****													
7700	14,500											CARRIZO-WILCOX	2805P
***** DEPTH RANGE 5001 - 6000 *****													
8140	50,000											CARRIZO-WILCOX	2785P

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WEBB COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
125	1,000				***** DEPTH RANGE 950		1 - 1000	*****		7.8		GOLIAD SAND	199A
144	3,870	1,350	7	4	538	1,630	167					UPPER CLAIBORNE	317A
340	8,000						598					Z-1 ABOVE SEA LV	260SP
					***** DEPTH RANGE 1001 - 2000		*****						
1010	19,000											Z-2 0-2000 FT	416SP
1130	4,900											CARRIZO-WILCOX	641SP
1340	10,000											Z-2 0-2000 FT	418SP
1400	1,000				1,330	418	822			8.4		QUEEN CITY SAND	298A
1870	10,500											Z-2 0-2000 FT	417SP
1945	1,000				1,260	8	1,559			8.3		CARRIZO SAND	278A
					***** DEPTH RANGE 2001 - 3000		*****						
2375	6,250											Z-2 0-2000 FT	652SP
2442	1,000				1,650	4	1,600			8.1		WILCOX GROUP	254A
					***** DEPTH RANGE 3001 - 4000		*****						
3630	8,200											CARRIZO-WILCOX	642SP
3860	2,800											Z-3 2000-4000 FT	653SP
					***** DEPTH RANGE 5001 - 6000		*****						
5102	38,250				CALCULATED FROM RW = 0.172 AT 75 DEG (F)							WILCOX	403E
					***** DEPTH RANGE 6001 - 7000		*****						
6020	9,000											Z-4 4000-6000 FT	654SP
6880	29,000											Z-5 6000-8000 FT	655SP

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WHARTON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1900	5,100											7-2 0-2000 FT	341SP
1910	5,900											7-2 0-2000 FT	207SP
***** DEPTH RANGE 2001 - 3000 *****													
2050	10,000											7-3 2000-4000 FT	342SP
2990	13,500											7-3 2000-4000 FT	099SP
***** DEPTH RANGE 3001 - 4000 *****													
3100	11,000											7-3 2000-4000 FT	122SP
3900	13,000											7-3 2000-4000 FT	208SP
***** DEPTH RANGE 4001 - 5000 *****													
4116	70,000											FRIO	421E
4450	47,000											7-4 4000-6000 FT	343SP
4490	20,500											7-4 4000-6000 FT	090SP
4666	76,560				41,602							FRIO	450J
4710	45,000											7-4 4000-6000 FT	209SP
4761	77,320				41,602							FRIO	449J
4777	77,540				42,307							FRIO	448J
4801	77,642											FRIO	417E
4900	48,000											7-4 4000-6000 FT	123SP
4980	77,642											FRIO	418E
4990	75,385											FRIO	415E
5000	73,846											FRIO	416E
5000	62,300											FRIO	419E
***** DEPTH RANGE 5001 - 6000 *****													
5051	92,897											FRIO	420E
5150	68,154											FRIO	408E
5380	70,000											FRIO	409E
5400	70,000											FRIO	410E
5400	63,308											FRIO	411E
5438	62,308											FRIO	412E
5448	76,923											MARG.	413E
5488	77,642											MARG.	413E
5495	85,714											MARG.	422E
5500	47,270	23,100	2,600	220	41,000		290					FRIO	300
5535	86,128	30,583	2,352	376	52,000		817					FRIO	280
5550	91,518	31,900	1,744	620	53,600	1	378	10		6.5		FRIO	444J
5550	102,700	31,000	1,827	475	52,400	9	495	10		6.3		FRIO	445J
5550	92,500	32,900	1,911	549	53,600	5	371	20		5.6		FRIO	446J

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

WHARTON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
5550	42,000	31,600	1,624	584	52,900	2	754	55		6.4		FRIO	447J
5565	64,341	21,183	3,059	470	39,450		140	35		6.7	1.058	SECOND FRIO	441J
5772	82,573	27,531	3,431	770	50,654		135			6.8	1.060	MARG SAND	442J
5772	80,500		2,320	650	49,250		180			6.9	1.056	MARG SAND	443J
***** DEPTH RANGE 6001 - 7000 *****													
6190	38,000											Z-5 6000-8000 FT	344SP
6300	85,377	29,497	3,500	395	52,000		380					FRIO	451J
6314	53,726	19,957	870	109	32,400		390					FRIO	290
***** DEPTH RANGE 7001 - 8000 *****													
7053	44,286											FRIO	404E
7552	98,572											FRIO	405E
***** DEPTH RANGE 8001 - 9000 *****													
8238	97,143											FRIO	406E
8330	97,143											FRIO	407E

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WHEELER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1968	189,000											BROWN DOLOMITE	0637P
***** DEPTH RANGE 1001 - 2000 ***** CALCULATED FROM RW = 0.047 AT 75 DEG (F)													
2007	124,375											ARKOSIC DOLOMITE	0639P
2119	116,875											BROWN DOLOMITE	0636P
2151	112,000											ARKOSIC DOLOMITE	0638P
2166	115,000											ARKOSIC DOLOMITE	0642P
2233	106,000											GRANITE WASH	0649P
2315	116,875											GRANITE WASH	0648P
2367	109,000											GRANITE WASH	0644P
2399	106,000											GRANITE WASH	0643P
2406	109,000											GRANITE WASH	0646P
2412	106,000											GRANITE WASH	0645P
2488	124,375											GRANITE WASH	0647P
2600			12,100	3,430	115,000	1,090	64	23		6.7	1.160	DOLOMITE	79J
2600	183,000		9,190	3,020	90,100	1,010	49	1				BROWN DOLOMITE	80J
2994	116,875											ARKOSIC DOLOMITE	0640P
***** DEPTH RANGE 3001 - 4000 ***** CALCULATED FROM RW = 0.067 AT 75 DEG (F)													
3014	116,875											ARKOSIC DOLOMITE	0641P
***** DEPTH RANGE 4001 - 5000 ***** CALCULATED FROM RW = 0.060 AT 75 DEG (F)													
4769	130,000											BROWN DOLOMITE	0635P
***** DEPTH RANGE 6001 - 7000 ***** CALCULATED FROM RW = 0.068 AT 75 DEG (F)													
6562	119,000											GRANITE WASH	0651P
6946	133,333											GRANITE WASH	0650P
***** DEPTH RANGE 7001 - 8000 *****													
7444	217,486	64,574	14,440	3,420	135,000	10	12			5.4	1.156	MISSOURIAN	78J

SALINE WATER RESOURCES SURVEY

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WICHITA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
700	160,408	47,880	11,000	2,111	99,950	504	43			6.2	1.124	CISCO	190
700	160,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							CISCO	570I
					***** DEPTH RANGE 1001 - 2000 *****								
1050	195,000				CALCULATED FROM RW = 0.045 AT 75 DEG (F)							CISCO	581I
1084	160,000				CALCULATED FROM RW = 0.052 AT 75 DEG (F)							CISCO	567I
1100	116,623	34,010	8,319	1,818	72,430	28	18			6.6	1.088	GUNSIGHT	286
1100	136,667				CALCULATED FROM RW = 0.058 AT 75 DEG (F)							CISCO	557I
1100	118,750				CALCULATED FROM RW = 0.066 AT 75 DEG (F)							CISCO	582I
1160	136,667				CALCULATED FROM RW = 0.058 AT 75 DEG (F)							CISCO	597I
1200	160,330	47,420	11,320	2,131	99,000	433	26			6.0	1.126	CISCO	206
1200	180,000				CALCULATED FROM RW = 0.068 AT 75 DEG (F)							CISCO	571I
1300	151,718	44,500	10,949	2,090	94,000	164	19			5.7	1.121	CISCO	216
1300	146,179	43,320	9,510	2,336	90,550	451	12			5.2	1.118	GUNSIGHT	296
1300	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							CISCO	561I
1300	175,000				CALCULATED FROM RW = 0.049 AT 75 DEG (F)							CISCO	572I
1300	146,667				CALCULATED FROM RW = 0.055 AT 75 DEG (F)							CISCO	594I
1360	135,239	41,550	8,510	1,411	82,800	846	122			4.4	1.103	CISCO	226
1360	160,000				CALCULATED FROM RW = 0.052 AT 75 DEG (F)							CISCO	577I
1376	154,076	46,300	10,760	1,663	95,200	107	46			7.6	1.120	CISCO	236
1376	175,000				CALCULATED FROM RW = 0.049 AT 75 DEG (F)							CISCO	578I
1425	133,333				CALCULATED FROM RW = 0.059 AT 75 DEG (F)							CISCO	580I
1450	163,388	48,220	11,749	2,193	100,900	312	18			5.8	1.130	CISCO	246
1450	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							CISCO	573I
1450	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							CISCO	574I
1450	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							CISCO	584I
1450	202,322	58,420	16,440	2,090	125,000	360	12	13				CISCO SAND	30J
1500	209,154	60,079	19,120	2,406	126,000	500	49	25		5.4	1.143	CISCO SAND	31J
1500	167,441	49,360	10,765	3,070	103,833	359	67	52		6.4	1.114	CISCO SAND	19J
1500	154,961	47,337	8,751	2,567	95,261	869	174	13		6.6	1.114	GUNSIGHT SAND	19J
1540	171,746	51,000	11,770	2,380	106,500	46				5.9	1.124	CISCO SAND	33J
1575	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							CISCO	593I
1575	171,070	50,899	10,960	2,867	106,000	320	24	20			1.123	CISCO SAND	32J
1600	146,352	43,200	10,420	1,960	90,000	172				3.7	1.116	CISCO	256
1600	150,267	44,410	10,640	2,029	93,130	52	5			6.6	1.117	GUNSIGHT	306
1600	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							CISCO	558I
1600	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							CISCO	565I
1600	136,667				CALCULATED FROM RW = 0.058 AT 75 DEG (F)							CISCO	569I
1600	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							CISCO	576I
1600	146,667				CALCULATED FROM RW = 0.055 AT 75 DEG (F)							CISCO	590I
1600	205,055	62,031	12,920	2,940	127,000	140	24	24				CISCO SAND	29J

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

WICHITA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1001 - 2000 *****													
1600	191,203		19,082	4,854	120,324	112	94			5.5	1.150	CISCO SAND	41J
1616	160,000											CISCO	563I
1650	147,214	42,570	11,115	1,981	91,250	262	36				1.115	GUNSIGHT	310
1650	157,876	49,670	11,513	2,216	97,480	380	15			7.3	1.126	GUNSIGHT	320
1650	170,000											CISCO	559I
1650	180,000											CISCO	560I
1650	150,000											CISCO	591I
1700	169,000											CISCO	561I
1700	180,000											CISCO	579I
1700	180,000											CISCO	581I
1700	175,000											CISCO	585I
1700	185,000											CISCO	586I
1700	195,000											CISCO	586I
1700	193,313	56,311	14,345	2,624	119,700	211	53	34		5.9	1.131	GUNSIGHT SAND	37J
1700	191,169	54,397	14,029	3,522	114,524	345	124	93		6.4	1.131	GUNSIGHT SAND	40J
1784	140,000											CISCO	566I
1800	171,484	51,900	11,650	1,875	105,950	88	21			5.4	1.137	GUNSIGHT	330
1800	190,000											CISCO	554I
1800	136,667											CISCO	556I
1800	169,000											CISCO	568I
1811	140,000											CISCO	555I
1811	140,000											CISCO	567I
1850	180,000											CISCO	581I
1850	140,000											CISCO	596I
1885	174,885	51,700	12,700	2,100	108,200	151	34			5.7	1.142	CISCO	260
1885	190,000											CISCO	575I
1900	185,000											CISCO	595I
1920	190,000											CISCO	592I
1950	169,310	50,250	12,030	2,100	104,600	247	83			6.1	1.134	CISCO	270
1950	190,000											CISCO	587I
***** DEPTH RANGE 2001 - 3000 *****													
2214	124,032	36,230	10,345	1,385	74,800	855	17			4.3	1.095	CANYON	340
2214	143,333											CANYON	549I
2340	120,625											ELLENBURGER	535I
2350	126,250											CANYON	548I
2400	159,000											CISCO	589I
2502	129,388	39,100	8,630	1,485	79,000	960	213			6.8	1.099	CANYON	350
2502	150,000											CANYON	550I
2750	133,333											CANYON	551I
2800	170,593	50,500	11,700	2,421	105,800	64	108			6.2	1.125	CANYON SAND	1020J
2900	159,000											CANYON	553I
2964	167,310	46,730	13,951	2,472	104,100	42	15			6.6	1.133	CANYON	360
2964	189,000											CANYON	552I
***** DEPTH RANGE 3001 - 4000 *****													
3640	148,312	45,400	9,350	1,709	91,700	94	59			6.0	1.120	KNA	26J
3690	183,970	52,079	14,418	3,017	114,201	210	49			6.1	1.131	DES MOINES SAND	28J
3800	170,000											STRAWN	546I
3800	183,693	54,510	12,240	2,867	114,000	27	44					STRAWN SAND	1019J

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WICHITA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3900	165,000											STRAWN	545I
3920	185,000											STRAWN	547I
3925	174,449	48,580	14,550	2,680	108,350	176	113			5.9	1.139	STRAWN	37G
3925	173,768	47,800	15,018	2,690	107,950	176	137			5.8	1.141	STRAWN	38G
3925	190,000											STRAWN	541I
3925	185,000											STRAWN	544I
3945	165,159	42,230	18,055	1,941	102,204	713	16				1.138	STRAWN	05540
***** DEPTH RANGE 4001 - 5000 *****													
4200	210,000											STRAWN	547I
4400	197,647	55,250	17,260	2,319	122,550	255	13			6.8	1.160	ELLENBURGER	40G
4400	200,000											ELLENBURGER	533I
4400	190,000											ELLENBURGER	538I
4652	33,425	9,490	2,170	580	20,280	400	205			7.3	1.024	DES MOINES SAND	27J
4700	198,424	54,600	17,775	2,650	123,150	241	8			6.5	1.160	ELLENBURGER	41G
4700	200,000											ELLENBURGER	534I
4700	130,000											ELLENBURGER	537I
***** DEPTH RANGE 5001 - 6000 *****													
5150	175,000											BEND	540I
5156	176,632	50,050	14,565	2,293	109,700	24				3.5	1.146	BEND	39G
5156	190,000											BEND	541I
5360	190,000											ELLENBURGER	536I
***** DEPTH RANGE 6001 - 7000 *****													
6050	146,667											MISSISSIPPI	539I
6250	229,920	65,205	19,250	2,570	142,300	340	50	5		5.9	1.155	ELLENBURGER	01550

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

WILBARGER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
22	2,080	526	90	105	610	418	546					ALLUVIUM	460A
92	2,940	666	332	73	1,680	45	170			7.5		ALLUVIUM	461A
***** DEPTH RANGE 1 - 1000 *****													
1460	190,000												
1465	198,634	60,370	12,410	2,734	122,700	241	179			6.7	1.158	CISCO	640I
1465	205,000											CISCO	46
1700	185,000											CISCO	639I
1700	190,000											CISCO	636I
1840	190,000											CISCO	641I
1900	190,000											CISCO	635I
1950	195,000											CISCO	631I
1950	195,000											CISCO	630I
***** DEPTH RANGE 1001 - 2000 *****													
CALCULATED FROM RW = 0.046 AT 75 DEG (F)													
***** DEPTH RANGE 2001 - 3000 *****													
CALCULATED FROM RW = 0.046 AT 75 DEG (F)													
2275	190,000												
2650	180,000												
2825	180,000												
2888	179,247	52,830	13,330	1,996	110,750	314	27			4.4	1.144	CISCO	628I
2888	195,000											CANYON	56
2890	175,000											CISCO	634I
3000	174,347	50,500	13,295	2,279	107,900	334	39			6.6	1.138	CISCO	633I
3000	190,000											CANYON	78
3000	190,000											CANYON	627I
***** DEPTH RANGE 3001 - 4000 *****													
3200	168,510	49,420	12,840	1,850	103,950	394	56			5.7	1.139	CANYON	80
3200	170,000											CANYON	622I
3200	185,000											CANYON	623I
3300	185,000											CISCO	637I
3305	195,923	55,795	16,450	2,174	121,350	137	17			4.1	1.157	CISCO	66
3305	200,000											CISCO	638I
3530	185,000											STRAWN	620I
3650	215,000											HEND	615I
3700	190,000											CANYON	624I
3750	195,994	54,100	17,400	2,600	121,650	233	11			6.6	1.159	STRAWN	96
3750	180,000											STRAWN	616I
3750	200,000											STRAWN	617I
3800	197,603	55,550	16,995	2,381	122,400	269	8			4.1	1.161	ELLENBURGER	166
3800	200,000											ELLENBURGER	698I
3800	190,000											ELLENBURGER	605I
4000	203,022	55,700	18,275	2,765	126,150	117	15			6.6	1.167	CADDO	116
4000	205,000											HEND	609I

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WILBARGER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO ₄) PPM	BICARBONATE (HCO ₃) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H ₂ S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
4000	140,000											HEND	6111
<p>***** DEPTH RANGE 3001 - 4000 ***** CALCULATED FROM RW = 0.046 AT 75 DEG (F)</p>													
4200	203,257	53,450	20,009	3,040	126,600	117	25			4.5	1.168	CADD0	120
4200	205,000											HEND	6101
4200	185,000											HEND	6121
4478	215,500	55,800	22,390	2,987	134,200	115				3.5	1.177	HEND	130
4478	205,000											HEND	6141
4480	195,000											HEND	6131
4500	180,000											ELLENBURGER	6041
4525	190,000											CANYON	6211
4735	170,000											CANYON	6291
4770	195,000											CANYON	6251
4900	200,000											ELLENBURGER	6021
4993	195,180	55,610	16,130	2,351	120,800	276	13			6.9	1.159	ELLENBURGER	176
4993	200,000											ELLENBURGER	5991
<p>***** DEPTH RANGE 5001 - 6000 ***** CALCULATED FROM RW = 0.050 AT 75 DEG (F)</p>													
5200	169,213	51,500	11,000	1,961	104,350	402				3.2	1.136	STRAWN	100
5200	170,000											STRAWN	6181
5200	190,000											STRAWN	6191
6000	200,274	57,300	15,908	2,644	124,200	124	101			6.5	1.162	MISS. LIME	140
6000	205,000											MISSISSIPPI	6021
<p>***** DEPTH RANGE 6001 - 7000 ***** CALCULATED FROM RW = 0.047 AT 75 DEG (F)</p>													
6150	185,000											MISSISSIPPI	6061
6300	204,809	59,450	16,620	1,914	126,700	69	56			6.3	1.164	MISS. CONGL.	150
6300	205,000											ELLENBURGER	6011
6300	205,000											MISSISSIPPI	6071
6450	185,000											ELLENBURGER	6031
6453	201,430	56,070	17,225	2,836	125,000	247	52			6.0	1.165	ELLENBURGER	180
6451	205,000											ELLENBURGER	6001
6684	231,630	62,000	19,900	4,100	144,000	470	180			6.7	1.161	ELLENBURGER	42J
6684	225,165	62,360	17,900	4,320	140,000	500	85			6.0	1.159	ELLENBURGER	43J

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OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

WILLACY COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
1196	8,320	771	26	8	570	830	166			7.9		GOLIAD SAND	388A
1935	1,836	1,076	104	28	685	1,580	103					GOLIAD SAND	387A
					***** DEPTH RANGE 1001 - 2000 *****								
3855	47,000											Z-3 2000-4000 FT	656SP
3900	49,757	16,610	970	163	27,500	269	336	9		7.8	1.030	UPPER FRIO	01530
					***** DEPTH RANGE 3001 - 4000 *****								
4875	47,000											Z-4 4000-6000 FT	657SP
					***** DEPTH RANGE 4001 - 5000 *****								
5200	124,375				***** DEPTH RANGE 5001 - 6000 ***** CALCULATED FROM RW = 0.063 AT 75 DEG (F)							FRIO	423E
					***** DEPTH RANGE 6001 - 7000 *****								
6590	60,000											Z-5 6000-8000 FT	658SP
					***** DEPTH RANGE 7001 - 8000 ***** CALCULATED FROM RW = 0.070 AT 75 DEG (F)							FRIO	424E
					***** DEPTH RANGE 8001 - 10000 *****								
9525	52,500											Z-6 8000-10000 FT	659SP

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

WILLIAMSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
790	1,520	534	17	12	***** DEPTH RANGE 300	384	1 - 1000 495	*****		7.7		EDWARDS LS	216A
1320	1,610	632	17	15	***** DEPTH RANGE 360	542	1001 - 2000 432	*****		8.5		TRINITY GROUP	182A
3260	1,330	462	17	0	***** DEPTH RANGE 182	421	3001 - 4000 452	*****		7.8		TRINITY GROUP	193A

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

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WILSON COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
							1 - 1000						
30	1,130	151	112	32	180	604						CARRIZO SAND	289A
263	1,040	122	143	58	202	400	194			8.0		QUEEN CITY SAND	300A
614	1,240	452	0	2	202	163	644	2				UPPER CLAIBORNE	320A
							1001 - 2000						
1869	11,468						CALCULATED FROM RW = 0.360 AT 75 DEG (F)					NAVARRO	425E
							2001 - 3000						
2520	1,340						CALCULATED FROM RW = 0.270 AT 75 DEG (F)					CARRIZO-WILCOX	6075P
2543	21,586						CALCULATED FROM RW = 0.270 AT 75 DEG (F)					NAVARRO	426E
							5001 - 6000						
5800	30,000						CALCULATED FROM RW = 0.210 AT 75 DEG (F)					TAYLOR	427E

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SALINE WATER RESOURCES SURVEY

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STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

WINKLER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
NON-NUMERIC IN FIELD TO BE EDITED													
SOURCE LINE NUMBER	UU487												
28,017	9,899	240	744	11,000	1,132	5,002				7.6		YATES	130J
950	44,500	14,500	1,140	665	23,000	5,040		1		4.4		RUSTLER	290
***** DEPTH RANGE 1001 - 2000 *****													
CALCULATED FROM RW = 0.168 AT 75 DEG (F)													
CALCULATED FROM RW = 0.052 AT 75 DEG (F)													
1041	39,250											RUSTLER	100
1100	160,000											RUSTLER	110
***** DEPTH RANGE 2001 - 3000 *****													
2300	34,284	9,552	520	1,368	14,000	2,256	6,588			7.7		YATES	109J
2300	43,874	3,491	360	304	4,000	1,250	3,050			7.9		YATES	110J
2300	18,371	5,297	320	528	7,000	1,200	4,026			7.8		YATES	111J
2300	13,738	5,778	400	360	7,000	1,375	4,026			7.5		YATES	112J
2300	28,017	9,899	240	744	11,000	1,132	5,002			7.6		YATES	113J
2300	30,929	9,057	560	912	13,000	1,300	6,100			7.7		YATES	115J
2300	40,065	13,216	440	648	18,000	3,125	4,636			7.5		YATES	116J
2300	28,111	7,661	800	888	11,000	2,150	5,612			7.8		YATES	117J
2300	17,726	5,065	200	528	6,000	1,175	4,768			7.4		YATES	118J
2300	17,877	5,023	320	624	7,000	1,250	3,660			7.5		YATES	119J
2300	59,292	16,762	1,040	2,688	29,000	4,800	5,002			7.2		YATES	120J
2300	30,929	9,057	560	912	13,000	1,300	6,100			7.7		YATES	121J
2300	40,065	13,216	440	648	18,000	3,125	4,636			7.5		YATES	122J
2300	28,111	7,661	800	888	11,000	2,150	5,612			7.8		YATES	123J
2300	17,736	5,065	200	528	6,000	1,175	4,768			7.4		YATES	124J
2300	17,877	5,023	320	624	7,000	1,250	3,660			7.5		YATES	125J
2300	13,294	3,912	80	326	4,000	950	4,026	2		8.1		YATES	126J
2300	19,305	5,778	400	360	7,000	1,375	4,392			7.5		YATES	130J
2300	13,294	3,912	80	326	4,000	950	4,026	2		8.1		YATES	133J
2300	34,284	9,552	520	1,368	14,000	2,256	6,588			7.7		YATES	134J
2300	12,455	3,491	360	304	4,000	1,250	3,050			7.9		YATES	135J
2300	18,371	5,297	320	528	7,000	1,200	4,026			7.8		YATES	136J
2300	19,305	5,778	400	360	7,000	1,375	4,392			7.5		YATES	137J
2300	13,294	3,912	80	326	4,000	950	4,026		YES	9.1		YATES	108J
2300	59,287	16,762	1,040	2,683	29,000	4,800	5,002		YES	7.2		YATES	114J
2477	5,263											SEVEN RIVERS	47C
2560	5,837											SEVEN RIVERS	49C
2614	11,703											YATES	35C
2795	18,646											YATES	76C
2800	45,195	12,400	3,000	4,600	19,000	5,225	964	6		7.8	1.021	YATES	102J
2800			392	134	583	129		1		7.5	1.003	YATES	103J
2800			136	14,613	63,466	4,417				8.2	1.051	YATES	104J
2800			62	5,919	34,137	1,978				8.3	1.028	YATES	105J

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WINFLEA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 2001 - 3000 *****													
2800			1,740	13,160	170,820	6,111				7.5	1.106	YATES	107J
2800	34,264	9,552	540	1,368	14,000	2,256	6,588			7.7		YATES	127J
2800	12,455	3,491	364	304	4,000	1,250	3,050			7.9		YATES	128J
2800	16,371	5,297	320	528	7,000	1,200	4,026			7.8		YATES	129J
2800	27,517	9,399	240	744	11,000	1,132	5,002			7.6		YATES	131J
2800			1,740	13,160	170,820	6,111				7.5	1.106	YATES	132J
2800			392	138	583	129		1		7.5		YATES	140J
2800			136	16,613	63,466	4,417				8.2		YATES	141J
2800			62	5,919	34,137	1,978				8.3		YATES	142J
2800			3,740	13,160	170,820	6,111			YES	7.5	1.106	YATES	106J
2800	77,810	26,500	2,400	2,600	41,000	4,510	792	8	YES	7.8	1.045	YATES	101J
2845	12,429				CALCULATED FROM RW = 0.471 AT 75 DEG (F)							SEVEN RIVERS	48C
3000	33,546	9,674	421	1,652	15,844	4,654	343	3				QUEEN	178J
3000	6,148				CALCULATED FROM RW = 0.920 AT 75 DEG (F)							GLORIETA	250C
***** DEPTH RANGE 3001 - 4000 *****													
3046	9,343				CALCULATED FROM RW = 0.001 AT 75 DEG (F)							YATES	14C
3100	11,641	3,084	960	384	5,000	2,125	488		YES	7.6		QUEEN	139J
3120	9,071				CALCULATED FROM RW = 0.620 AT 75 DEG (F)							SEVEN RIVERS	50C
3180	51,667				CALCULATED FROM RW = 0.130 AT 75 DEG (F)							GRAYBURG	130C
3200	50,556				CALCULATED FROM RW = 0.132 AT 75 DEG (F)							QUEEN	78C
3200	34,031	10,380	1,712	486	18,216	2,332	905	3		7.6	1.027	YATES	190J
3200	141,202	42,577	4,289	4,933	83,468	5,436	286	4		7.0	1.096	YATES	191J
3200			2,778	6,222	51,480	2,472				7.3	1.043	YATES	192J
3200			2,778	6,222	51,480	2,472				7.3	1.043	YATES	93J
3200			2,778	6,222	51,480	2,472			YES	7.3	1.043	YATES	89J
3204	38,250				CALCULATED FROM RW = 0.172 AT 75 DEG (F)							QUEEN	76C
3229	190,000				CALCULATED FROM RW = 0.046 AT 75 DEG (F)							YATES	37C
3248	23,448				CALCULATED FROM RW = 0.260 AT 75 DEG (F)							QUEEN	77C
3300			420	13,271	51,480	6,420				7.6	1.052	QUEEN-COLBY SAND	144J
3300			1,606	4,694	18,954	4,301				7.5	1.022	COLBY	146J
3300	73,756		1,188	1,927	39,771	6,017				7.2	1.052	COLBY SAND	156J
3300		18,181	1,100	2,008	35,500		573			7.5		COLBY SAND	164J
3300	126,799	39,990	1,000	5,355	79,520		330			7.5	1.080	COLBY SAND	165J
3300	47,463		784	1,174	26,294	3,090	537	26		7.3	1.035	COLBY SAND	166J
3300			2,778	6,222	51,480	2,472				7.3	1.043	COLBY SAND	167J
3300			10,800	825	34,600	6,350	201			7.4		COLBY	168J
3300			6,800	2,820	40,100	8,200	610	1		7.5		COLBY	169J
3300			9,600	1,260	36,000	6,450	256			7.6		COLBY	170J
3300	66,600	17,695	2,059	3,579	36,095	6,760	395			7.5	1.047	COLBY SAND	179J
3300			420	12,271	51,480	6,420			YES	7.6	1.052	COLBY	143J
3300			2,464	11,036	44,460	7,255			YES	7.5	1.045	COLBY	145J
3300			420	12,271	51,480	6,420			YES	7.6	1.052	COLBY	147J
3300	47,483	13,731	400	2,400	25,500	4,520	932		YES	7.6	1.035	COLBY	149J
3300	57,864		1,030	1,233	30,534	5,730		1	YES	7.1	1.046	COLBY SAND	154J
3300			1,298	5,852	28,665	4,755			YES	7.2		QUEEN	176J
3300			1,034	8,466	43,875	5,235			YES	7.4		QUEEN	177J
3439	8,961				CALCULATED FROM RW = 0.628 AT 75 DEG (F)							GRAYBURG	120C
3488	7,048				CALCULATED FROM RW = 0.800 AT 75 DEG (F)							GRAYBURG	131C

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WINKLER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3550	138,667											QUEEN	79C
***** DEPTH RANGE 4001 - 5000 *****													
4790	169,000											SAN ANGELO	205C
4800	130,000											SAN ANGELO	281C
4800	160,000											HOLT	296C
4816	90,000											HOLT	296C
4820	120,625											HOLT	296C
4840	130,000											HOLT	295C
4950	140,000											SAN ANGELO	282C
4995	133,333											SAN ANGELO	280C
***** DEPTH RANGE 5001 - 6000 *****													
5049	185,000											GLORIETA	251C
5050	159,000											CLEARFORK	357C
5051	199,000											DELAWARE	104C
5114	143,333											CLEARFORK	340C
5120	100,750	30,981	5,560	1,416	59,500	2,400	893			6.5	1.075	HOLT	157J
5124	120,625											GLORIETA	252C
5130	122,500											GLORIETA	249C
5200	140,000											CLEARFORK	358C
***** DEPTH RANGE 6001 - 7000 *****													
6062	209,000											DELAWARE	102C
6062	205,000											DELAWARE	103C
6069	90,000											SAN ANGELO	283C
6200	146,667											TUBB	394C
6292	209,000											TUBB	397C
6300	200,000											CLEARFORK	359C
6470	48,946	14,300	2,600	730	27,700	1,250	366			7.3	1.036	TUBB	152J
6505	116,875											TUBB	395C
6711	73,077											TUBB	396C
6954	77,692											FLENNRURGER	1086C
***** DEPTH RANGE 7001 - 8000 *****													
7470	146,667											DEVONIAN	829C
7535	88,572											WOLFCAMP	547C
7600	94,286											WOLFCAMP	548C
7880	126,250											DELAWARE	105C
7899	111,058	33,075	6,800	1,895	66,654	2,344	285					SILURIAN	171J
7904	170,000											WOLFCAMP	546C
***** DEPTH RANGE 8001 - 9000 *****													
8040	12,212	2,326	1,600	200	5,780	1,510	787			7.0	1.009	DEVONIAN	158J
8040	123,977	36,400	8,340	1,980	75,400	1,130	727			7.0	1.101	DEVONIAN	161J
8040	148,372	35,486	18,362	1,812	91,770	814	124			5.1	1.106	DEVONIAN	162J
8040	121,333		6,136	1,876	72,400	2,400	640			7.6	1.084	DEVONIAN	163J
8247	109,000											SILURIAN	720C
8307	3,645		427	1,013	2,060					4.7		STRAWN DEFTRITUS	180J

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WINKLER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 8001 - 9000 *****													
8336	183,810	42,079	24,248	2,416	114,181	463	427			5.7	1.131	FUSSELMAN	185J
8370	179,000											SILURO-FUSSELMAN	874C
8900			28,879	11,125	250,380	686				6.3		SILURIAN	160J
8900	194,072		30,939	10,235	119,515	639			YES	7.1	1.153	SILURIAN	153J
8900	194,039		29,498	10,727	214,567	492			YES	6.8	1.156	SILURIAN	154J
8900			33,000	12,000	255,060	644			YES	6.8		SILURIAN	159J
8640	69,793	22,806	3,200	408	41,500	1,100	585			7.1	1.052	DEVONIAN	151J
8770	70,000											FUSSELMAN	914C
***** DEPTH RANGE 9001 - 10000 *****													
9001	128,129											MONTOYA	930C
9200	112,000											DEVONIAN	828C
9380	120,625											SILURO-FUSSELMAN	876C
9447	110,720	37,313	3,802	1,594	66,977	750	284			6.7	1.375	DEVONIAN	186J
9450	77,692											FUSSELMAN	912C
9600	189,000											DEVONIAN	827C
9621	87,143											SILURO-FUSSELMAN	873C
9720	205,000											WADDELL	958C
***** DEPTH RANGE 10001 - 11000 *****													
10026	19,174	3,134	1,194	38	5,319	2,274	195			6.5	1.013	FUSSELMAN	184J
10080	107,478	44,863	10,333	2,416	103,543	679	244			5.7	1.117	MONTOYA	183J
10241	130,000											SILURO-FUSSELMAN	874C
10440	136,667											MONTOYA	928C
10460	41,667											MONTOYA	927C
10462	160,000											FUSSELMAN	913C
10940	140,000											MONTOYA	924C
10950	221,017	67,351	14,360	2,424	136,000	648	234			6.3	1.140	ELLENBURGER	187J
10900	96,000											ELLENBURGER	1085C
***** DEPTH RANGE 11001 - 12000 *****													
11998	146,667											ELLENBURGER	1084C
11623	118,875											DEVONIAN	828C
11704	190,000											WADDELL	957C
11990	84,419	27,761	3,520	960	51,500	210	468			6.9	1.058	ELLENBURGER	182J
***** DEPTH RANGE 12001 - 13000 *****													
12024	133,333											FUSSELMAN	915C
12647	90,000											WOLFCAMP	549C
***** DEPTH RANGE 13001 - 14000 *****													
13175	103,000											ELLENBURGER	1087C

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OF THE

STATE OF TEXAS

CHEMICAL ANALYSIS OF SALINE WATER

WINKLER COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
184	4,990	1,420	139	118	1,000	2,110	1 - 1000 356	*****		7.6		CENOZOIC ALLUV.	
1234	157,000	57,400	1,380	1,400	84,700	7,140	1001 - 2000 56	*****		8.5		RUSTLER	

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CHEMICAL ANALYSIS OF SALINE WATER

WISE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
58	1,400	166	230	98	61	781	536	1 - 1000				PENNSYLVANIAN	134
1050	139,997	40,250	10,920	2,163	87,080		24	1001 - 2000		9.8	1.068	CADDO	951J
2235	89,908	29,200	4,080	1,124	55,900		84	2001 - 3000			1.073	CADDO LIME	60230
3300	88,942	27,520	4,070	1,374	54,700		94	3001 - 4000		7.1	1.068	STRAWN	187G
3300	88,972						384					STRAWN	658I
3300	90,000											STRAWN	660I
3350	91,610	26,110	7,030	1,380	56,190		886			9.7	1.072	STRAWN	188G
3350	96,000											STRAWN	659I
3550	93,129	28,910	9,260	1,235	57,100		186			6.2	1.073	CADDO REEF	191G
3550	80,000											HEND	654I
3645	82,107	26,320	3,810	1,097	50,350		190			7.1	1.069	UPPER CADDO	190G
3645	80,000											HEND	657I
3650	90,001	29,330	3,797	1,400	55,050		37			7.2	1.071	CADDO	189G
3650	88,572											HEND	656I
3710	82,897											HEND	650I
3849	89,072	27,300	3,863	1,202	52,190		90			7.2	1.066	CADDO, LOWER	192G
3849	84,246											HEND	652I
3860	86,974	27,450	4,350	1,200	53,420		84			7.2	1.067	CADDO, LOWER	193G
3860	89,714											HEND	653I
3900	87,429	27,700	4,080	1,402	53,900		67				1.068	CADDO LIME	00200
3900	87,292	27,900	4,190	1,410	53,900		82				1.069	CADDO LIME	00210
3900	87,997	27,400	4,950	1,407	54,200		210				1.070	CADDO LIME	00220
3900	83,703	28,800	4,810	1,408	51,700		78				1.066	CADDO	00300
3942	86,490	28,200	3,979	1,270	53,300		65				1.069	CADDO LIME	00240
3950	87,143											HEND	651I
3953	86,524	26,470	4,740	1,520	53,430		71			7.7	1.070	CADDO	194G
3953	89,714											HEND	655I
5205	110,979	39,250	8,942	1,097	68,580		22			5.6	1.088	CONGL.	194G
5205	112,000											HEND	648I
5250	123,476	36,400	8,970	1,539	76,500		19			5.0	1.098	CONGL.	197G
5250	124,379											HEND	649I
5252	121,247	39,200	7,160	902	75,050		78			6.3	1.100	CONGL.	194G
5252	122,000											HEND	647I

TEXAS WATER DEVELOPMENT BOARD - SALINE WATER RESOURCES SURVEY OF THE STATE OF TEXAS

WISE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPK	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULPHATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 5001 - 6000 *****													
5300	138,990	40.790	10.197	1.700	85,930	216	77			6.5	1.111	BEND	194G
5300	140,000											BEND	645I
5300	133,333											BEND	646I
***** DEPTH RANGE 7001 - 8000 *****													
7250	140,000											ELLENBURGER	644I
7273	140,248	42.670	9.750	350	92,900	415	163			6.8	1.122	ELLENBURGER	199G
7273	140,000											ELLENBURGER	642I
7275	189,028	51.960	10.472	2.130	114,266	356	219			6.1	1.148	ELLENBURGER	200G
7275	175,000											ELLENBURGER	643I

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SALINE WATER RESOURCES SURVEY

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CHEMICAL ANALYSIS OF SALINE WATER

ROOPE COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FF) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
2200	31,600												
2243	29,869	11,170	364	95	18,825		215				1.022	NACATOCH	175H
2300	30,000												202H
2300	30,230	11,320	355	97	18,250		208				1.022	NACATOCH	176H
													196H
***** DEPTH RANGE 2001 - 3000 *****													
CALCULATED FROM RW = 0.402 AT 75 DEG (F)													
***** DEPTH RANGE 4001 - 5000 *****													
4023	71,531	25,500	2,000	230	43,300	123	374				1.057	EAGLE FORD	143H
4058	80,105	29,100	1,700	350	48,900		55				1.057	EAGLE FORD	184H
4053	82,622	30,575	1,223	366	50,049		379				1.060	EAGLE FORD	186H
4054	81,097	29,400	1,500	500	48,900	370	427				1.060	EAGLE FORD	185H
4094	70,279	25,800	1,400	140	42,500		439				1.054	EAGLE FORD	46H
4100	69,231												165H
4100	76,923												171H
4100	100	7	3	1	23		33			4.7	1.002	SUB-CLARKSVILLE	054J
4113	70,047	25,700	1,185	484	42,900		374				1.053	EAGLE FORD	47H
4123	69,692	25,335	1,200	338	41,600	30	1,129				1.052	EAGLE FORD	2H
4127	61,153	18,800	1,200	140	40,800		213				1.049	EAGLE FORD	1H
4184	87,167	31,100	1,700	400	53,200	123	444				1.059	EAGLE FORD	420H
4190	78,378	27,700	2,400	330	47,900		48				1.053	EAGLE FORD	421H
4200	67,692												164H
4200	68,462												195H
4209	80,395	29,400	2,000	16	48,900		79				1.053	EAGLE FORD	422H
4215	70,792	24,200	1,800	600	44,000	64	128				1.052	EAGLE FORD	3H
4242	84,539	31,415	1,474	205	51,287	21	137				1.061	EAGLE FORD	294H
4300	77,692												187H
4350	100,000												183H
4354	76,067	28,000	1,400	200	45,400	944	73				1.059	EAGLE FORD	198H
4369	78,283	29,000	1,200	230	47,200		853				1.059	EAGLE FORD	199H
4375	76,200	28,075	1,283	261	45,980	41	560				1.055	EAGLE FORD	197H
4376	78,230	27,800	1,150	330	45,700		250				1.057	EAGLE FORD	200H
4383	75,168	28,239	891	159	45,133		746				1.054	EAGLE FORD	296H
4400	75,385												179H
4408	75,539	27,880	1,243	241	45,514	51	510				1.054	EAGLE FORD	201H
4487	82,659	30,147	1,540	340	47,600	19	1,013				1.057	EAGLE FORD	114H
4500	76,923												164H
4510	76,154												141H
4513	75,626	27,000	1,700	500	45,700		76				1.057	EAGLE FORD	218H
4534	74,421	26,500	1,400	450	45,000		171				1.057	EAGLE FORD	219H
4542	75,900	28,900	1,800	400	44,300		500				1.054	EAGLE FORD	220H
4625	100,860	35,668	2,850	530	61,200	206	405				1.070	WOODRINE	117H
4665	73,618	26,852	1,300	330	44,000	44	1,042						256H

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WOOD COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORINE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 4001 - 5000 *****													
4694	74,149	27,216	1,200	300	44,300	3-	1,198					EAGLE FORD	247H
4700	66,923											SUB-CLARKSVILLE	120H
4724	74,157	27,752	612	364	44,200	14	1,217				1.054	EAGLE FORD	255H
4743	79,627	29,300	1,500	230	44,200		1,197				1.062	EAGLE FORD	269H
4750	78,462											SUB-CLARKSVILLE	122H
4750	85,759	31,418	1,490	302	50,750	1,000	799				1.060	EAGLE FORD	266H
4750	82,795	30,406	1,421	322	49,850	40	750				1.060	EAGLE FORD	267H
4750	78,134	28,012	1,302	312	47,000	40	780				1.060	EAGLE FORD	267H
4762	64,050	22,100	2,000	740	39,700		110				1.054	EAGLE FORD	270H
4765	74,830	27,448	1,200	320	44,700	40	1,122				1.051	EAGLE FORD	267H
4767	91,997	33,730	1,600	360	55,300	37	970				1.060	EAGLE FORD	267H
4774	75,914	27,704	1,470	300	45,820	60	500				1.055	EAGLE FORD	267H
4775	78,375	28,766	1,195	305	47,410	55	444				1.056	EAGLE FORD	264H
4784	86,329	31,545	1,600	340	51,400	41	1,025				1.060	EAGLE FORD	264H
4784	56,392	18,900	2,000	700	34,700		42				1.059	EAGLE FORD	274H
4790	77,692											SUB-CLARKSVILLE	124H
4800	98,572											WOODBINE	173H
4800	77,692											SUB-CLARKSVILLE	124H
4800	99,470	35,333	2,750	460	60,300	157	570				1.071	WOODBINE	174H
4800	78,160	27,700	1,400	660	47,500		500				1.058	EAGLE FORD	270H
4819	99,294	35,243	2,750	480	60,300	191	240				1.069	WOODBINE	174H
4860	89,425	32,546	1,750	380	53,900	7	342				1.063	EAGLE FORD	267H
4900	95,714											WOODBINE	172H
4900	79,231											SUB-CLARKSVILLE	172H
5000	60,000											SUB-CLARKSVILLE	167H
***** DEPTH RANGE 5001 - 6000 *****													
5004	84,097	30,300	1,700	560	51,000		537				1.062	EAGLE FORD	27H
5200	49,241	33,900	3,600	760	00,700	193	94				1.072	WOODBINE	271H
5331	45,735	32,400	3,500	660	58,500		275				1.067	WOODBINE	275H
5363	101,415	35,700	4,100	500	62,000		110				1.073	WOODBINE	292H
5374	86,514	27,002	5,742	354	51,750	800	869				1.064	WOODBINE	274H
5400	95,714											WOODBINE	177H
5400	82,857											WOODBINE	144H
5400	40,000											WOODBINE	146H
5400	84,286											SUB-CLARKSVILLE	125H
5401	95,997	35,100	2,116	194	58,150	47	390				1.067	EAGLE FORD	37H
5500	95,714											WOODBINE	148H
5507	78,884	28,300	1,700	540	47,900		444				1.058	EAGLE FORD	371H
5541	92,380	31,500	1,500	640	56,300	263	177				1.071	WOODBINE	27H
5554	45,863	32,700	3,400	600	58,500		603				1.070	EAGLE FORD	37H
5554	49,047	34,100	3,500	640	60,300	373	134				1.073	WOODBINE	71H
5600	85,714											SUB-CLARKSVILLE	121H
5600	96,014	34,500	2,170	384	58,060		595				1.069	EAGLE FORD	334H
5660	98,572											WOODBINE	172H
5675	91,826	30,300	700	43	60,300	306	177				1.073	WOODBINE	364H
***** DEPTH RANGE 6001 - 7000 *****													
6234	138,518	40,331	10,914	1,435	45,340	424	102				1.096	PALUXY	251J

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***** DEPTH RANGE 6001 - 7000 *****													
6247	135,301	42,107	9,116	726	82,654	580	116				1.098	PALUXY	294H
6257	132,828	41,774	8,525	732	81,237	645	115				1.096	PALUXY	297H
6265	133,866	41,565	9,100	720	81,787	610	84				1.097	PALUXY	294H
6300	124,375				CALCULATED FROM RW = 0.063 AT 75 DEG (F)							PALUXY	149B
6331	121,456	37,200	8,720	895	74,500		111				1.088	PALUXY	47H
6336	139,102	44,000	7,300	738	82,900	530	34				1.098	PALUXY	187H
6351	126,154	38,800	8,900	680	77,100	497	177				1.088	PALUXY	48H
6352	114,314	33,100	9,500	950	70,000	685	79				1.094	PALUXY	189H
6357	117,772	35,768	8,239	968	72,047	476	274				1.083	PALUXY	188H
6361	139,681	42,403	8,986	712	83,795	594	187				1.098	PALUXY	385H
6374	122,970	37,900	8,080	1,030	75,300	477	183				1.088	PALUXY	50H
6378	130,138	38,500	9,600	1,400	79,800	649	184				1.096	PALUXY	190H
6382	127,449	37,540	9,825	1,182	78,313	434	158				1.092	PALUXY	191H
6382	129,421	38,298	9,825	1,200	79,540	434	120				1.094	PALUXY	192H
6400	119,000				CALCULATED FROM RW = 0.068 AT 75 DEG (F)							PALUXY	165H
6400	122,500				CALCULATED FROM RW = 0.064 AT 75 DEG (F)							PALUXY	173H
***** DEPTH RANGE 7001 - 8000 *****													
7682	129,292	41,300	8,300	300	74,900	492					1.094	PALUXY	377H
7850	200,000				CALCULATED FROM RW = 0.044 AT 75 DEG (F)							RODESSA	143B
7854	283,034	86,500	32,400	2,200	161,400	634					1.188	RODESSA	414H
***** DEPTH RANGE 8001 - 9000 *****													
8260	190,000				CALCULATED FROM RW = 0.046 AT 75 DEG (F)							RODESSA	194B
8270	224,635	53,777	28,286	2,327	140,067	172	6				1.160	RODESSA	412H
8273	208,567	49,229	25,000	3,038	129,074	151	74				1.150	RODESSA	413H
8273	230,451	67,300	20,000	1,000	141,800	351					1.167	RODESSA	414H
8300	5,765	1,405	657	48	3,444	21	56			4.6	1.006	CATHEY	954J
8500	195,000				CALCULATED FROM RW = 0.045 AT 75 DEG (F)							RODESSA	174B
***** DEPTH RANGE 9001 - 10000 *****													
9960	228,635	70,900	15,300	1,500	140,100	835					1.158	JAMES LIMESTONE	373H
***** DEPTH RANGE 10001 - 11000 *****													
10290	250,000											PETTY-TRAVIS PK	676SP

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129	114	179	114	111	102	779	241			7.7		GALLALA FORM	365A	
***** DEPTH RANGE 1 = 1000 *****														
1240	56,818											SILURIAN	421C	
***** DEPTH RANGE 1001 = 2000 *****														
CALCULATED FROM RW = 0.120 AT 75 DEG (F)														
4900	269,119	64,513	24,263	9,589	170,300	454				3.7	1.184	LOWER CLEARFORK	457J	
4900	176,000		3,200	1,310	10,000	3,490		580		7.5	1.125	SAN ANDRES	468J	
4900	76,480	25,900	2,130	1,110	45,800	1,034		502		7.1	1.062	SAN ANDRES	474J	
***** DEPTH RANGE 4001 = 5000 *****														
5040	97,143											SAN ANDRES	481C	
CALCULATED FROM RW = 0.075 AT 75 DEG (F)														
5100	105,877		2,000	1,023	61,400	3,625		500				SAN ANDRES	475J	
5100	79,643	26,550	2,400	1,020	45,200	3,400		1,073		5.8	1.044	SAN ANDRES	476J	
5110	326,715	106,000	1,699	12,800	198,500	6,840		780		5.7	1.260	SAN ANDRES	480J	
5150	62,308											SAN ANDRES	479C	
CALCULATED FROM RW = 0.110 AT 75 DEG (F)														
5200	200,000											SAN ANDRES	487C	
5260	173,633	62,300	4,620	451	104,000	1,600		662		7.1	1.124	SAN ANDRES	483G	
CALCULATED FROM RW = 0.048 AT 75 DEG (F)														
5300	180,000											SAN ANDRES	486C	
5300	25,589	7,860	1,300	219	12,800	2,740		610				SAN ANDRES	465J	
5300	220,375	82,800	2,200	696	131,500	2,730		449		YES	6.5	1.154	SAN ANDRES	459J
5301	229,722		2,920	875	137,200	3,109		268			6.0	1.145	SAN ANDRES	460J
5301	229,786		2,500	851	138,000	1,788		49			6.6	1.145	SAN ANDRES	461J
5301	269,333		7,300	1,470	161,600	930		392			6.6	1.164	SAN ANDRES	471J
5301	270,333		6,580	780	162,200	2,350		173			6.9	1.150	SAN ANDRES	472J
5301	270,333		6,380	910	162,200	1,160		400			6.7	1.150	SAN ANDRES	473J
5301	269,333		7,300	1,470	161,600	930		382			6.6	1.164	SAN ANDRES	474J
5301	231,166		5,620	2,400	138,700	950		446			6.2	1.167	SAN ANDRES	475J
5350	201,844	62,500	10,716	2,232	139,819	1,234		139				SAN ANDRES	467J	
5350	170,952	45,450	10,500	6,530	101,300	1,900		512				SAN ANDRES	477J	
5400	159,047	50,500	5,100	3,940	96,800	2,160		537			1.120	SAN ANDRES	467J	
5544	47,958		1,490	294	27,200	1,840		512		YES	6.9	SAN ANDRES	462J	
5600	117,650	410,000	30,000	1,020	68,000	3,400		1,230		YES	7.0	1.070	SAN ANDRES	465J
5650	112,354	41,000	2,680	364	62,500	5,200		610			6.3	1.075	GLORIFIA	366J
5705	169,170	55,686	6,889	1,979	102,200	2,160		260			6.7	1.117	GLORIFIA LIMB	456J
5900	200,025	73,000	3,840	877	120,300	1,586		422			7.1	1.160	GLORIFIA	446G
5940	176,407	45,400	17,400	3,135	108,400	1,220		452			5.9	1.140	CLEARFORK	494J
***** DEPTH RANGE 6001 = 7000 *****														
6006	190,000											GLORIFIA	454C	
CALCULATED FROM RW = 0.046 AT 75 DEG (F)														
6100	199,000											GLORIFIA	453C	
CALCULATED FROM RW = 0.045 AT 75 DEG (F)														

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***** DEPTH RANGE 6001 - 7000 *****													
6110	165,000											GLORIETA	254C
6140	74,615											SAN ANGELO	284C
6542	73,846											GLORIETA	256C
6573	47,879	12,328	5,360	288	28,000	1,766	137			5.8	1.036	UPPER CLEARFORK	484J
6600	179,000											UPPER CLEARFORK	373C
6650	116,875											UPPER CLEARFORK	374C
6700	189,000											UPPER CLEARFORK	372C
6700	197,308	50,000	18,190	4,930	122,250	1,280	694			6.0	1.150	UPPER CLEARFORK	487J
6700	108,878	24,750	14,800	6,800	82,400	1,600	403				1.102	UPPER CLEARFORK	488J
6700	194,756	49,400	18,200	4,690	120,900	1,200	366			6.1	1.144	UPPER CLEARFORK	489J
6700	255,416	59,864	30,000	5,152	160,000		136	266		7.0	1.170	CLEARFORK	493J
6761	210,074	35,351	28,480	10,464	135,500	259	688			5.8	1.160	UPPER CLEARFORK	485J
6900	210,000											UPPER CLEARFORK	371C
6900			13,200	4,120	93,600	500	550	200	YES	6.8	1.110	UPPER CLEARFORK	458J
7000			8,360	2,500	78,800	1,000				6.3		CLEARFORK	478J
***** DEPTH RANGE 7001 - 8000 *****													
7336	185,000											LOWER CLEARFORK	414C
7650	215,000											LOWER CLEARFORK	415C
7800			72,400	24,400	173,000	365	305	4		6.3	1.194	CLEARFORK	479J
7800	160,335	51,200	10,240	100	95,200	3,000	445	150		6.6	1.110	CLEARFORK	483J
7800	88,966	27,129	3,448	2,320	51,765	3,205	1,003	1		6.5		CLEARFORK	490J
7800	4,973	3,409	84	73	4,900	724	625	23		7.4		CLEARFORK	491J
7900	206,440	52,348	18,960	5,112	128,500	1,120	400			6.2	1.142	CLEARFORK	496J
***** DEPTH RANGE 8001 - 9000 *****													
8100	239,450	51,825	26,400	7,025	147,150	600	250			6.0	1.195	ARO	492J
8136	259,860	93,195	7,360	485	156,400	2,200	220			6.3	1.172	WICHITA-ALBANY	482J
8400	85,990	18,810	9,240	3,040	52,400	2,500			YES	5.2	1.064	WICHITA-ALBANY	351J
8448			16,400	20,400	114,000	2,890	426	77		7.3	1.119	WOLFCAMP	354J
8448	117,310	20,670	13,550	6,920	74,200	1,950	420			7.0	1.092	WOLFCAMP	359J
8454			3,800	2,540	42,000		1,010			6.8	1.054	WICHITA-ALBANY	451J
8556	69,174	23,505	2,326	586	40,100	2,540	137	2		7.3	1.049	WOLFCAMP (LIME)	455J
8557	50,818											WOLFCAMP	552C
8680	90,020	23,600	7,680	1,945	53,200	3,000	495	100		5.7	1.063	WOLFCAMP	452J
8738					36,200				YES	6.2	1.047	WOLFCAMP	357J
8780	57,273											PENN GENERAL	750C
8957	156,757	50,489	7,722	1,640	95,200	1,460	246	26		6.3	1.108	WOLFCAMP LIME	466J
***** DEPTH RANGE 9001 - 10000 *****													
9120	116,875											WOLFCAMP	550C
9400	41,965	13,570	5,600	2,845	37,200	1,920	530			6.0		DEVONIAN	454J
9588	81,429											WOLFCAMP	551C
9975	236,994	76,141	12,285	2,295	145,500	495	278		YES	6.0	1.161	WOLFCAMP	464J
***** DEPTH RANGE 10001 - 11000 *****													
10644	40,000											DEVONIAN	432C
10199	109,000											PENN GENERAL	756C
10880	228,763	86,411	2,500	302	135,100	4,290	160	89		6.6	1.145	MISSISSIPPI	01440

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10944	94,286											PENN GENERAL	755C
					***** DEPTH RANGE 10001 - 11000 *****								
					CALCULATED FROM HW = 0.077 AT 75 DEG (F)								
11038	179,835	21,865	10,500	4,998	71,200	1,300	1,100	30		6.1	1.084	WOLFCAMP	755J
11692	51,416	17,650	1,827	234	30,050	1,054	500			6.5	1.040	SILURO-DEVONIAN	875J
11880	52,778											DEVONIAN	833C
					***** DEPTH RANGE 11001 - 12000 *****								
					CALCULATED FROM HW = 0.128 AT 75 DEG (F)								
12176	59,546											DEVONIAN	833C
12260	56,818											SILURO-FUSSELMAN	877C
					***** DEPTH RANGE 12001 - 13000 *****								
					CALCULATED FROM HW = 0.120 AT 75 DEG (F)								
13108	44,667											DEVONIAN	831C
					***** DEPTH RANGE 13001 - 14000 *****								
					CALCULATED FROM HW = 0.151 AT 75 DEG (F)								

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AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 1 - 1000 *****													
330	74,858	22,817	4,440	989	46,000	1	31	48		6.1	1.050	CISCO	01870
550	14,804											CISCO	7611
650	100,000											CISCO	7621
700	18,134											CISCO	7641
750	120,625											CISCO	7641
750	23,448											CISCO	7701
770	23,190											CISCO	7491
850	37,500											CISCO	7471
860	102,787	31,100	4,400	1,550	63,650	4	23			5.7	1.078	CISCO	1320
860	121,500											CISCO	7651
860	103,000											CISCO	7661
860	102,787	31,100	4,400	1,550	63,650	4	23			5.7	1.078	CISCO	0784K
900	48,459	13,080	3,400	635	28,000	4	261	79		6.7	1.040	CISCO	01950
930	130,000											CISCO	7721
980	128,125											CISCO	7581
1000	128,125											CISCO	7711
***** DEPTH RANGE 1001 - 2000 *****													
1010	112,000											CISCO	7631
1050	130,000											CISCO	7671
1070	124,375											CISCO	7591
1235	119,000											CISCO	7601
1700	117,200	31,500	9,970	1,887	73,740	40	63			4.9	1.099	STRAWN	1330
1700	118,750											STRAWN	7311
1700	117,200	31,500	9,970	1,887	73,740	40	63			4.9	1.099	STRAWN	0789K
1800	144,661	42,918	10,470	1,519	89,420	14	128			5.2	1.114	STRAWN SAND	1222J
***** DEPTH RANGE 2001 - 3000 *****													
2035	122,500											STRAWN	7341
2200	180,100		11,520	2,235	88,900	20	108			6.4	1.097	STRAWN	0219L
2273	119,406	34,440	9,290	1,521	74,100	9	46			5.8	1.098	STRAWN	1340
2273	120,625											STRAWN	7321
2300	136,667											STRAWN	7491
2345	154,041	43,420	12,300	2,430	95,400	10	81			6.4	1.124	STRAWN	1350
2345	146,667											STRAWN	7271
2345	154,041	43,420	12,300	2,430	95,400	10	81			6.4	1.124	STRAWN	0788K
2370	119,366	34,440	8,290	1,521	74,100	9	46			5.8	1.098	STRAWN	0790K
2380	82,518	25,520	6,131	1,343	49,300	113	111			6.8	1.064	STRAWN	1360
2380	126,425	37,300	9,300	1,487	78,320	4	14			4.3	1.098	STRAWN	1370
2380	81,429											STRAWN	7281
2380	126,250											STRAWN	7361

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***** DEPTH RANGE 2001 - 3000 *****													
2340	126,425	37,300	9,300	1,487	78,320	4	14			4.3	1.098	STRAWN	0741K
2390	126,250											STRAWN	715I
2400	121,900		7,840	1,800	79,800		98			6.5	1.079	STRAWN	0218L
2500	135,111	38,910	9,875	1,786	84,220	309	11			6.4	1.107	STRAWN	138G
2500	133,333											STRAWN	751I
2500	130,000											STRAWN	752I
2500	135,111	38,910	9,875	1,786	84,220	309	11			6.4	1.107	STRAWN	0800K
2540	94,400	43,260	12,425	1,966	94,400	4	36			5.5	1.123	STRAWN	139G
2590	155,091	43,260	12,425	1,966	94,400	4	36			5.5	1.123	STRAWN	079-K
2590	125,277	39,518	6,465	1,471	76,500	708	115			6.5	1.085	STRAWN	140G
2600	124,375											STRAWN	729I
2750	134,926	37,110	12,090	1,698	83,220	7	101			7.3	1.109	STRAWN	141G
2750	133,333											STRAWN	723I
2750	130,000											STRAWN	724I
2750	134,926	37,110	12,090	1,698	83,220	7	101			7.3	1.109	STRAWN	0100K
2760	150,634	44,300	11,210	1,796	93,200	14	114			5.2	1.122	STRAWN	142G
2760	150,000											STRAWN	725I
2760	146,667											STRAWN	726I
2760	150,634	44,300	11,210	1,796	93,200	14	114			5.2	1.122	STRAWN	0780K
2770	130,000											STRAWN	741I
2775	129,244	36,000	10,785	2,021	80,400	18	20			6.5	1.102	STRAWN	143G
2775	128,125											STRAWN	742I
2775	129,244	36,000	10,785	2,021	80,400	18	20			6.5	1.102	STRAWN	0794K
2850	140,000											STRAWN	731I
2910	146,667											STRAWN	753I
2912	143,740	40,690	12,080	1,757	89,200	9	4			4.9	1.115	STRAWN	144G
2912	140,000											STRAWN	754I
2912	143,740	40,690	12,080	1,757	89,200	9	4			4.9	1.115	STRAWN	0802K
2920	142,980	42,670	10,215	1,569	88,400	14	112			5.1	1.113	STRAWN	145G
2920	136,667											STRAWN	743I
2920	142,980	42,670	10,215	1,569	88,400	14	112			5.1	1.113	STRAWN	0795K
2930	144,629	42,830	10,475	1,706	89,500	14	104			4.8	1.114	STRAWN	0796K
2934	144,629	42,830	10,475	1,706	89,500	14	104			4.8	1.114	STRAWN	146G
2934	140,000											STRAWN	744I
2950	150,000											STRAWN	719I
2950	146,667											STRAWN	740I
***** DEPTH RANGE 3001 - 4000 *****													
3018	144,661	42,910	10,670	1,519	89,420	14	128			5.2	1.114	STRAWN	147G
3018	140,000											STRAWN	745I
3100	160,426	44,950	13,305	2,368	99,800	14	9			6.6	1.129	STRAWN	148G
3100	155,000											STRAWN	730I
3100	160,426	44,950	13,305	2,368	99,800	14	9			6.6	1.129	STRAWN	0787K
3137	68,922	43,900	13,450	1,775	96,600	7	130			6.0	1.128	STRAWN	149G
3237	150,000											STRAWN	718I
3237	155,862	43,900	13,450	1,775	96,600	7	130			6.0	1.128	STRAWN	0792K
3160	155,000											STRAWN	748I
3309	133,333											STRAWN	756I
3370	133,629	38,750	10,080	1,840	82,430	7	22			4.3	1.105	STRAWN	0797K

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						***** DEPTH RANGE 3001 - 4000 *****							
3373	133,629	38,750	10,080	1,840	82,930	7	22			4.3	1.105	STRAWN	150G
3373	130,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							STRAWN	746I
3407	153,401	46,095	10,685	1,711	94,800	7	103			5.2	1.121	STRAWN	151G
3407	146,667				CALCULATED FROM RW = 0.055 AT 75 DEG (F)							STRAWN	747I
3460	136,667				CALCULATED FROM RW = 0.058 AT 75 DEG (F)							REND	684I
3466	140,280	41,300	9,709	2,185	87,000	13	73			6.2	1.117	CADDO	152G
3466	136,667				CALCULATED FROM RW = 0.058 AT 75 DEG (F)							REND	704I
3466	140,280	41,300	9,709	2,185	87,000	13	73			6.2	1.117	CADDO	0806K
3470	133,333				CALCULATED FROM RW = 0.059 AT 75 DEG (F)							REND	690I
3476	137,888	35,720	12,350	3,260	86,270	45	243			6.8	1.113	CADDO	153G
3476	136,667				CALCULATED FROM RW = 0.058 AT 75 DEG (F)							REND	714I
3476	137,825	35,720	12,350	3,260	86,207	45	243			6.8	1.113	CADDO	0814K
3520	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							STRAWN	750I
3520	176,909	53,000	12,100	2,190	109,600	19					1.140	CADDO	0815K
3521	176,909	53,000	12,100	2,190	109,600	19				2.6	1.140	CADDO	154G
3521	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							REND	716I
3521	178,504		7,220	7,862	117,860	400	54	70		5.2	1.100	STRAWN	1223J
3537	158,492	47,495	10,920	1,878	98,000	14	185			6.8	1.125	CADDO	155G
3537	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							REND	709I
3537	158,492	47,495	10,920	1,878	98,000	14	185			6.8	1.125	CADDO	0807K
3550	143,429	40,150	10,225	3,330	89,700	7	17			6.3	1.118	REND	0823K
3560	170,000				CALCULATED FROM RW = 0.050 AT 75 DEG (F)							STRAWN	737I
3567	157,531	47,590	11,170	1,881	96,800	14	76			4.7	1.123	CADDO	156G
3567	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							REND	710I
3597	157,531	47,590	11,170	1,881	96,800	14	76			4.7	1.123	CADDO	0808K
3630	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							REND	697I
3640	158,904	46,000	12,300	1,940	98,500	10	154				1.111	CADDO	157G
3640	158,000				CALCULATED FROM RW = 0.053 AT 75 DEG (F)							REND	699I
3640	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							REND	717I
3640	117,504	4,600	12,300	1,940	98,500	10	154				1.111	CADDO	0816K
3670	140,000				CALCULATED FROM RW = 0.057 AT 75 DEG (F)							STRAWN	754I
3705	153,401	46,095	10,685	1,711	94,800	7	103			5.2	1.121	STRAWN	0798K
3750	167,700	50,700	11,100	2,040	103,300		91			6.8	1.108	LOWER STRAWN	0799K
3750	172,980	51,800	9,100	4,055	108,000		25	50		5.4	1.120	CADDO	01770
3750	184,396	54,103	11,250	3,965	115,000	42	34	50		7.0	1.125	CADDO	01780
3760	165,000				CALCULATED FROM RW = 0.051 AT 75 DEG (F)							REND	696I
3763	161,460	45,795	12,045	3,009	100,600	5	6			4.9	1.131	CADDO	158G
3763	155,000				CALCULATED FROM RW = 0.053 AT 75 DEG (F)							REND	721I
3763	161,460	45,795	12,045	3,009	100,600	5	6			4.9	1.131	CADDO	0820K
3775	143,429	40,150	10,225	3,330	89,700	7	17			6.3	1.118	REND	174G
3800	180,000				CALCULATED FROM RW = 0.048 AT 75 DEG (F)							REND	692I
3800	179,000	35,900	10,650	4,030	102,700		100			7.0	1.115	CADDO	0821K
3825	146,667				CALCULATED FROM RW = 0.055 AT 75 DEG (F)							REND	691I
3825	140,000				CALCULATED FROM RW = 0.047 AT 75 DEG (F)							REND	680I
3860	160,000				CALCULATED FROM RW = 0.052 AT 75 DEG (F)							REND	687I
3860	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							REND	691I
3860	154,190	39,600	13,445	4,131	97,000	14				3.5	1.125	CADDO	159G
3860	150,000				CALCULATED FROM RW = 0.054 AT 75 DEG (F)							REND	711I
3900	135,831	40,550	8,490	2,342	84,300	54	95			6.3	1.113	CADDO	160G

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AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
***** DEPTH RANGE 3001 - 4000 *****													
3900	133,333												722I
3900	135,831	40,550	8,490	2,302	84,300	54	90			6.3	1.113	CADDO	0822K
3900	167,515	49,400	12,900	2,000	103,000	80	135				1.126	STRAWN	00520
3900	172,910	50,300	13,300	2,100	107,000	80	130				1.130	STRAWN	00530
3900	166,789	49,495	11,275	2,495	103,000	7	117			6.4	1.130	CADDO	1610
3950	160,000												712I
3950	166,789	49,495	11,275	2,495	103,000	7	117			6.4	1.130	CADDO	0812K
4000	165,635	46,880	11,925	3,430	103,350	7	43			7.2	1.136	CADDO	1620
4000	104,446	33,100	5,650	1,163	63,900	504	179			7.7	1.074	HEND	1750
4000	159,305	45,170	12,835	2,304	98,950	16	30			6.8	1.126	HEND	1760
4000	98,572												681I
4000	103,000												HEND
4000	150,000												HEND
4000	155,000												HEND
4000	155,000												HEND
4000	155,000												HEND
4000	205,000												HEND
4000	133,333												HEND
4000	160,000												HEND
4000	165,635	46,880	11,925	3,430	103,350	7	43			7.2	1.136	CADDO	0803K
4000	159,305	45,170	12,835	2,304	98,950	16	30			6.8	1.126	HEND	0824K
***** DEPTH RANGE 4001 - 5000 *****													
4005	146,801	44,000	10,195	1,700	90,845	60					1.114	CADDO	1640
4005	140,000												HEND
4005	146,800	44,000	10,195	1,700	90,845	60					1.114	CADDO	0813K
4075	158,964	45,540	11,140	3,150	99,100	5	29			6.4	1.134	CADDO	1630
4075	155,000												HEND
4075	158,964	45,540	11,140	3,150	99,100	5	29			6.4	1.134	CADDO	0817K
4100	170,000												HEND
4100	160,020	47,500	13,890	2,249	104,300	62	19			6.7	1.136	CADDO	0819K
4100	168,020	47,500	13,890	2,249	104,300	62	19			6.7	1.136	CADDO	1660
4100	162,120	46,000	11,240	3,185	101,500	12	133				1.115	CADDO	1650
4100	155,000												HEND
4100	150,000												CADDO
4206	119,714	37,900	6,700	1,142	73,180	680	112			7.0	1.094	CADDO	1670
4206	120,625												HEND
4210	128,125												HEND
4277	170,096	49,580	12,050	2,770	105,600	24	64			6.5	1.137	CADDO	1680
4277	160,000												HEND
4277	170,096	49,580	12,050	2,770	105,600	24	64			6.5	1.137	CADDO	0809K
4277	170,900	42,100	14,700	2,070	104,000	7	60			6.7		STRAWN	0801K
4300	180,118	47,395	16,500	3,315	112,600	204	104			5.8	1.149	HEND	1770
4300	106,783	33,000	6,525	1,179	65,200	696	183			7.5	1.092	MISSISSIPPIAN	1780
4300	124,375												MISSISSIPPI
4300	106,000												MISSISSIPPI
4300	170,000												HEND
4300	160,000												HEND
4300	180,118	47,395	16,500	3,315	112,600	204	104			5.8	1.149	HEND	0824K
4300	106,783	33,000	6,525	1,179	65,200	696	183			7.5	1.092	MISSISSIPPI	0813K

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YOUNG COUNTY

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						***** DEPTH RANGE 4001 - 5000 ***** CALCULATED FROM PW = 0.065 AT 75 DEG (F)							
4974	120,625											MISSISSIPPI	477I
4974	116,374	36,950	6,340	1,203	71,200	530	151			6.9	1.087	MISSISSIPPI	0835K
4974	119,338	37,790	6,735	1,148	73,000	529	130			6.7	1.089	MISSISSIPPI	0836K
						***** DEPTH RANGE 5001 - 6000 *****							
5016	113,595	37,150	6,250	423	69,000	602	170			6.8	1.090	MISSISSIPPI	01450

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CHEMICAL ANALYSIS OF SALINE WATER

ZAPATA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
339	22,068				***** DEPTH RANGE 1 - 1000 ***** 10,000							JACKSON	1245J
1600	12,320				***** DEPTH RANGE 1001 - 2000 ***** 6,730							GLEN SAND	1187J
1900	16,191				8,960							MIRANDO	1199J
2000	10,602				5,000							MIRANDO	1190J
2000	14,360				7,500							MIRANDO	1191J
2000	27,074				15,500							MIRANDO	1192J
2000	13,254				5,750							MIRANDO	1193J
2000	10,662				6,250							MIRANDO	1194J
2000	15,726				7,000							MIRANDO	1195J
2000	11,798				6,750							MIRANDO	1196J
2000	10,402				4,750							MIRANDO	1197J
2000	10,602				5,000							MIRANDO	1249J
2000	14,360				7,500							MIRANDO	1250J
5235	26,161				***** DEPTH RANGE 5001 - 6000 ***** CALCULATED FROM RW = 0.300 AT 75 DEG (F)							WILCOX	428E
8159	21,774				***** DEPTH RANGE 8001 - 9000 ***** CALCULATED FROM RW = 0.280 AT 75 DEG (F)							WILCOX	429E
9516	14,695				***** DEPTH RANGE 9001 - 10000 ***** CALCULATED FROM RW = 0.402 AT 75 DEG (F)							WILCOX	430E

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CHEMICAL ANALYSIS OF SALINE WATER

ZAVALA COUNTY

AVERAGE DEPTH FEET	TOTAL SOLIDS PPM	SODIUM (NA) PPM	CALCIUM (CA) PPM	MAGNESIUM (MG) PPM	CHLORIDE (CL) PPM	SULFATE (SO4) PPM	BICARBONATE (HCO3) PPM	IRON (FE) PPM	HYDROGEN SULFIDE (H2S)	PH	SPECIFIC GRAVITY	GEOLOGICAL FORMATION	REF. NO.
74	3,180	604	387	89	***** DEPTH RANGE 1,080	842	1 - 1000 298	*****		7.8	INDIO FORM	272A	