

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COMPLETED	DEPTH OF WELL (FT)	CASING DIAMETER (IN.)	WATER-BEARING UNIT	ALTITUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SURFACE DATUM (FT)	DATE OF MEASUREMENT			
*YX-46-31-402	Anderson Ranch	--	1945	164	6	A	2,657	101.2	Sept. 28, 1967	C,W	S	Owner's "Oil Well Mill." Drilled for rig-supply. Converted to livestock well.
* 501	do	--	--	105	5	A	2,650	84.3	Sept. 27, 1967	C,W	S	Owner's "County Well No. 1."
* 601	Lucille Smith	--	1955	322	16	A	--	99.72 101.65	Mar. 6, 1956 Sept. 12, 1967	N	N	Casing perforated 167-302 ft. Reported water is brackish. Current observation well. <sup>2/</sup>
* 602	N. T. Zachry	Barney Lee	1955	200	12	A	2,659	99.00 103.36	Mar. 6, 1956 Sept. 27, 1967	T,Ng	Irr	Historical observation well. Casing perforated 100-200 ft. Packed with 54 yards of gravel. Set 180 ft of 8-in. column pipe and 12 stages of 8-in. bowls. Pumped 240 gpm for 2 weeks and had 13.2 ft of drawdown in Sept. 1967. Irrigated 28 1/2 acres cotton, 18 acres of feed and 10 acres of grass in 1967. <sup>2/</sup>
* 603	Ward County Prec. No. 4	Star Drlg. Co.	1956	200	10	A	--	82.7	Sept. 11, 1967	T,E, 30	Irr	South well of two used to irrigate park lawns. Set 130 ft of 4-in. column pipe. Drawdown of 25 ft pumping 260 gpm for 2 hours 9-11-67. Reported water is too hard for swimming pool. Water is piped from Pyote city wells for that purpose.

See footnotes at end of table.

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* YX-46-31-604	Ward Co. Prec. No. 4	R. C. (Dick) Murray	1962	225	16	A	--	82.9	Sept. 11, 1967	T,Ng	Irr	Casing perforated 100-200 ft; 25 ft of blank casing on bottom. Set 185 ft of 6-in. column pipe. Drawdown of 12 ft pumping 445 gpm for 2 hours 9-11-67.
* 605	Lucille Smith	--	1937	138	6	A	2,658	92.2 92.5	Feb. 23, 1940 Oct. 2, 1967	C,W	S	Well W-35 in P. R. J. Inv.
606	Norman Zachry	--	1965	200	12	A	--	--	--	T,G	N	Unused irrigation well. Reported to have irrigated 80-90 acres of feed and cotton in 1966.
607	O. G. Lee, et al.	Barney Lee	1956	265	12	A	2,647	92.7	Sept. 27, 1967	T	N	Drilled to supply water for wetting grade during construction of Highway 115. Not used since.
* 701	John Wilson	T & P. Railroad	1882	97	120	A	2,640	62.94 66.05	Sept. 26, 1939 Oct. 14, 1967	N	N	Dug to 97 ft in Santa Rosa Sandstone. Supplied water for construction of railroad. Historical observation well. Well W-141 in P. R. J. Inv. <u>2/</u>

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								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-31-702	John Wilson	--	1910	154	5	A	2,662	99.1 101.1 106.3	Sept. 1939 Oct. 8, 1940 Nov. 13, 1967	C,W	D,S	Northwest well of two at ranch headquarters. Well W-142 in P. R. J. Inv. Open hole 100-154 ft. Owner reports ranch has 6 windmill wells in use. All are thought to tap Triassic rocks, and most pump only small quantities of water. Shell Oil Co. drilled 108 seismograph holes to depths of 200 ft on the ranch and only 2 holes had sufficient water to supply windmills.
703	do	--	1905	160	7	A	2,662	100.2 106.5	Oct. 8, 1940 Nov. 13, 1967	C,W	D,S	Southeast well at ranch headquarters. Open hole 100-160 ft.
* 704	do	Texaco Inc. (Seismograph Crew)	1948	160	6	A	2,665	103.5	Nov. 13, 1967	C,W	S	
* 705	Pat Wilson Well No. 1	Kenneth Slack, et al.	1940	5,052	--	--	2,665	--	--	--	--	Well W-140 in P. R. J. Inv. Drilled to 5052 ft as oil test. Water was sampled at 180 ft (Triassic) and 1060-1064 ft (Rustler). Reported no water sands in interval 180-912 ft. Water from interval above 180 ft contained 3350 mg/l dissolved solids. Water from Rustler Formation contained 7310 mg/l dissolved solids.

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								ABOVE (+) OR BELOW LAND SURFACE DATUM (FT)	DATE OF MEASUREMENT			
*YX-46-31-706	City of Barstow (Was T & P RR)	W. P. Geaslin	1928	200	10	A	2,664	--	--	C,G	N	Formerly used to supply locomotive boilers at Quito station. Casing: 10-in. to 110 ft; 8-in. 100 to 200 ft, perforated 100-160 ft. Reported maximum capacity was 30 gpm. <u>1/</u>
* 801	Dr. H. B. Johnson	--	1956	300	12	A	--	59.6	Nov. 13, 1967	T,G	Ind	Drilled for irrigation. Supplying water for construction of Interstate Highway 20 in 1967. Drawdown of 16 ft pumping 380 gpm for 22 hours in Nov., 1967.
901	do	--	1956	274	12	A	2,607	54.14 57.86	Dec. 7, 1957 Nov. 13, 1967	N	N	Unused irrigation well. Current observation well. Well YX-46-31-801 had been shut down 38 hours when water level was measured 11-13-67. <u>2/</u>
* 902	Anderson Ranch	--	1930	118	7	A	2,630	66.3	Sept. 27, 1967	C,W	S	Well W-134 in P. R. J. Inv. Called "Gyp Well."
32-201	Texas Elec. Serv. Co.	--	1939	150	6	A	2,686	115.2 116.5	Mar. 4, 1943 Sept. 5, 1967	C,W	N	Well W-47 in P. R. J. Inv. Drilled for rig supply. Converted to livestock well. Not in use in 1967.
202	do	Magnolia Petr. Co.	--	124	7	A	2,678	108.3	Sept. 5, 1967	N	N	Drilled for rig supply.
203	do	--	1955	745	2	A	2,675	110 R 115.0	Sept. 5, 1955 Sept. 5, 1967	N	N	Drilled as test hole B-1. Set 2 1/2-in. pipe in 10-in. hole to 280 ft. <u>1/</u>

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								ABOVE (+) OR BELOW LAND SURFACE DATUM (FT)	DATE OF MEASUREMENT			
*YX-46-32-204	Texas Elec. Serv. Co.	Layne-Texas Co.	1955	425	12	A	2,646	92 R 99.9	Aug. 1958 Sept. 26, 1967	T,E, 100	Ind	Company Well No. 6. Casing: 20-in. to 193 ft, cemented to wall of well; 12 3/4-in. to 425 ft, screened 215-415 ft. Underreamed to 30-in. 193-425 ft. Packed 70 yards of gravel between wall of well and 12-in. casing. Set 187 ft of 8-in. column pipe and 9 stages of 10-in. bowls. Pumping test by driller, Dec., 1957: drawdown of 38 ft pumping 1,000 gpm for 48 hours. Drawdown of 25 ft pumping 810 gpm for 1/2 hour 9-6-67. <u>1/</u>
205	do	do	1955	521	--	A	2,672	--	--	N	N	Drilled and logged to 521 ft as test hole B-4. Not completed as water well.
* 206	do	do	1955	1,010	--	A	2,646	--	--	N	N	Drilled and logged to 1,010 ft as test hole B-6. Water was sampled from intervals 324-364, 544-600, and 879-920 ft. Water levels were 90.1 ft in interval 324-364 ft, and 95.4 ft in interval 879-920 ft. Estimated base of fresh to slightly saline water to be at 740 ft. Top of Triassic (base of alluvium) at 917 ft.

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								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-32-207	Gulf Oil Corp.	--	1959	4,010	13	Pc	2,682	--	--	N	N	O'Brien water supply well No. 9. Casing: 20-in. to 539 ft, cemented with 500 sacks; 13 3/8 in. to 1,022 ft; and 9 5/8-in. 1,022-3,496 ft, cemented with 1,850 sacks. Open hole 3,496-4,010 ft in Capitan reef.
* 208	do	--	1959	4,109	13	Pc	2,692	20.2	June 7, 1967	T,E, 100	Ind	O'Brien water supply well No. 10. Casing: 20-in. to 520 ft, cemented with 550 sacks; 13 3/8-in. and 9 5/8-in. to 3,447 ft, cemented with 1,805 sacks. Open hole 3,447-4,109 ft.
* 209	do	--	--	4,400	13	Pc	--	--	--	T,E, 100	Ind	O'Brien water supply well No. A-4.
* 301	G. W. O'Brien Est. (Jack O'Brien)	--	1937	140	6	A	2,689	127.7	Nov. 6, 1967	C,W	S	
* 302	Gulf Oil Corp.	J. D. Cole	1954	365	8	A	2,658	107.6	June 7, 1967	S,E	Ind	O'Brien water supply well No. 23. Casing perforated 170-365 ft. Packed with 18 yards of gravel. Set 323 ft of 4-in. column pipe. Reported pumped 100 barrels in 20 minutes (210 gpm) when drilled. Reported water is used for all oil-field operations other than secondary recovery of oil. Wells tapping the Capitan reef are used for that purpose.

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								ABOVE (+) OR BELOW LAND SURFACE DATUM (FT)	DATE OF MEASUREMENT			
YX-46-32-303	Jack O'Brien	--	1936	130	8	A	2,643	69.9	Sept. 1, 1967	N	N	Drilled for domestic and livestock supply. Not used since 1952. Taps Gulf's fresh-water supply line for domestic use.
304	Gulf Oil Corp.	--	--	4,500	13	Pc	2,685	120.8	June 7, 1967	N	N	O'Brien water supply well No. 1. Open hole in Capitan reef.
305	do	--	1953	3,700	13	Pc	2,661	+242 R +178 R 11.3	Sept. 1953 Sept. 1957 June 8, 1967	N	N	O'Brien water supply well No. 1. Open hole 3,522-3,700 ft. Reported flowed 1,111 barrels per hour (778 gpm) in Sept. 1953. Flowed 12.7 million barrels through 8-24-57. Water was used for secondary recovery of oil.
* 306	do	--	--	3,950	13	Pc	2,667	+194 R +184 R 1.4	Feb. 19, 1957 June 28, 1957 June 7, 1967	T,E, 125	Ind	O'Brien water supply well No. 3. Reported flowed 10,450 barrels per day with 25 psi well-head pressure in Oct. 1955.
307	do	--	--	4,100	13	Pc	--	+162 R 78.38	June 28, 1957 June 7, 1967	N	N	O'Brien water supply well No. 4. Reported flowed 21,925 barrels per day (640 gpm) with 32 psi well-head pressure 6-13-57. 5 hour shut in pressure head was 70 psi. Specific capacity (5 hour recovery) was 7.3 gpm per ft.

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YX-46-32-308	Gulf Oil Corp.	--	--	4,500	13	Pc	--	+176 R +173 R	Feb. 20, 1957 June 28, 1957	N	N	O'Brien water supply well No. 5. Flowed 22,500 barrels per day (655 gpm) at 44 psi well-head pressure Feb. 19, 1957. Shut in for 24 hours. Pressure head was 76 psi (176 ft). Specific capacity was 8.9 gpm per ft.
309	do	--	--	4,100	13	Pc	2,689	+150 R 31.44	June 28, 1957 June 7, 1967	N	N	O'Brien water supply well No. 6. Reported flowed 26,889 barrels per day (780 gpm) with 32 psi well-head pressure. Shut in pressure head (5 hours) was 65 psi. Specific capacity was 10 gpm per ft.
* 310	do	--	--	4,450	13	Pc	2,689	+194 R	Feb. 19, 1957	T,E, 125	Ind	O'Brien water supply well No. 8.
* 311	do	--	1960	4,462	13	Pc	2,672	17.5	June 7, 1967	T,E, 100	Ind	O'Brien water supply well No. 11. Casing: 20-in. to 521 ft, cemented with 700 sacks; 13 3/8-in. and 9 5/8-in. to 3,439 ft, cemented with 1,770 sacks. Open hole 3,439 to 4,462 ft in Capitan reef.
312	do	--	1960	4,500	13	Pc	2,656	+21	June 8, 1967	N	N	O'Brien water supply well No. 12. Casing: 20-in. to 522 ft, cemented with 600 sacks; 13 3/8-in. to 1,003 ft, and 9 5/8-in. 1,003 to 3,445 ft, cemented with 500 sacks. Open hole 3,445 ft to 4,500 ft.

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								ABOVE (+) OR BELOW LAND SURFACE DATUM (FT)	DATE OF MEASUREMENT			
*YX-46-32-401	J. T. Flowers	Charlie Miller	1967	226	14	A	--	84.2	Sept. 11, 1967	T,Ng	Irr	Casing perforated 88-166 ft. Packed with 22 yards of gravel. Set 216 ft of 8-in. column pipe and 7 stages of 10-in. bowls. Drawdown of 17 ft pumping 285 gpm for 126 hours in Sept. 1967.
402	J. A. Pebsworth, Jr.	Barney Lee	1955	192	12	A	--	76.90 79.72	Mar. 6, 1956 Sept. 11, 1967	N	N	Historical observation well. Reported pumped 2 times in 1955 and 1956. Not used since. <u>2/</u>
* 403	Fitz Sitton	Star Drlg. Co.	1956	400	16	A	2,633	79.12 82.92	Mar. 6, 1956 Dec. 30, 1967	T,Ng	Irr	Current observation well. Reported drilled and cased to 400 ft. Packed with 900 yards of gravel. Set 156 ft of 8-in. column pipe. Drawdown of 29.7 ft pumping 500 gpm for 9 hours 9-15-67. Irrigated 14 acres of feed in 1967. <u>2/</u>
404	A. J. Staas	Powell Roberts	1955	200	12	A	--	78.9	Dec. 5, 1959	T	N	Unused irrigation well. Obstruction in casing at 73 ft in 1967.
* 405	J. A. Pebsworth, Jr.	--	1910	96	8	A	--	80.75 83.47	Mar. 6, 1956 Dec. 30, 1967	N	N	Current observation well. Formerly used to water stock and irrigate fruit trees. <u>2/</u>
* 406	Texas Elec. Serv. Co.	--	old	107	7	A	--	91.3	Sept. 5, 1967	N	N	Well W-239 in P. R. J. Inv.

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*YX-46-32-407	L. E. Garrett	Elmo Barnette	1955	303	14	A	--	114.8	Sept. 12, 1967	N	N	Drilled for irrigation. Not used since 1957. Water reported brackish--killed alfalfa. Bailed sample 9-12-67.
408	J. T. Flowers	Bill Sprouse	1966	200	12	A	--	79.9	Sept. 9, 1967	N	N	Drilled for irrigation. Perforated casing 100-200 ft. Reported would pump a maximum of 300 gpm. Abandoned and drilled well YX-46-32-401 to replace it.
* 409	John L. Smith	Sprouse Bros.	1963	185	10	A	--	86.2 85.8	Sept. 14, 1967 Nov. 16, 1967	T,E, 20	Irr	Casing perforated 145-175 ft. Set 140 ft of 4-in. column pipe. Had drawdown of 35.7 ft pumping 207 gpm for 40 minutes 11-16-67. Irrigated 30 acres of cotton in 1966. Irrigated 51 acres of grass in 1967.
410	Beverly Reynolds	Elmo Barnette	1955	300	--	A	--	115 R	1956	N	N	Reported drawdown of 55 ft pumping an estimated 950 gpm in 1956. Not used since 1961.
411	J. L. Jones	Sprouse Bros.	1964	200	14	A	--	--	--	N	N	Reported irrigated 135 acres of cotton in 1965. Not used since.

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*YX-46-32-501	Avary & Walker Wtr. Co.	Bill Purcell	1942	182	10	A	--	74 R	1942	T, E, 15	P	Pyote well No. 1. Drilled to supply Pyote Army Air Force Base (abandoned). Casing: 10 3/4-in. to 136 ft, cemented; 8-in. 111-174 ft, perforated, open hole 174-182 ft. Pumping test by Layne-Texas Co. in Jan. 1945: drawdown of 12 ft pumping 280 gpm for 4 days. Pumping 260 gpm 11-16-67. Water is piped to city of Pyote for municipal supply. <u>1/</u>
502	Texas Elec. Serv. Co.	W. E. (Bud) Tone	1955	148	12	A	--	88.90 88.98 93.02	Dec. 2, 1955 Dec. 5, 1956 Sept. 14, 1967	N	N	Formerly used for irrigation. Historical observation well.
503	do	--	--	160	16	A	--	92.31	Dec. 7, 1957	N	N	Historical observation well. Abandoned and plugged with concrete.
* 504	Texas State Highway Dept.	--	1937	152	5	A	--	104.98 112.64	Feb. 23, 1940 Sept. 6, 1967	N	N	Well W-107 in P. R. J. Inv. Current observation well. Formerly supplied roadside park. Casing perforated 126-165 ft. Open hole 187-195 ft. Sanded in to 152 ft in 1967. <u>2/</u>
505	Texas Elec. Serv. Co.	J. D. Cole	1951	248	16	A	--	95.31	Dec. 7, 1957	N	N	Historical observation well. Drilled for irrigation. Reported tested at 1,500 gpm and had 70 ft of drawdown. Abandoned and plugged.
506	do	--	1958	250	16	A	--	97.40 100.81	Dec. 5, 1959 Dec. 30, 1967	N	N	Formerly used for irrigation. Current observation well. <u>2/</u>

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YX-46-32-507	Texas Elec. Serv. Co.	--	old	110	6	A	--	107.92	Dec. 8, 1962	N	N	Historical observation well. Obstruction at 40 ft in 1967.
* 508	do	Layne-Texas Co.	1955	426	12	A	2,634	85 R 92.0	Dec. 14, 1955 1967	T,E, 60	Ind	Company well No. B-8. Drilled and logged to 426 ft. Set and cemented 20-in. casing to 162 ft. Underreamed hole to 30-in. diameter from 162 to 425 ft. Set 12 3/4-in. casing to 425 ft. Set shutter screens 182-230, 270-360 and 380-420 ft. (188 ft total). Gravel packed with 70 yards. Pumped 888 gpm for 1/2 hour and had 37 ft of draw-down 9-19-67. 1/
* 509	do	do	1955	385	12	A	2,647	101 R 105.4	Dec. 14, 1955 1967	T,E, 60	Ind	Company Well No. B-11. Drilled and logged to 390 ft. (Also drilled and logged a test hole to 436 ft, 60 ft east of well). Set and cemented 20-in. casing to 162 ft. Underreamed to 30-in 162-385 ft. Set 12 3/4-in. casing to 385 ft with shutter screens 200-380 ft. Packed 50 yards of gravel outside 12-in. casing. Set 195 ft of 8-in. column pipe and 6 stages of 10-in. bowls. Reported pumped 838 gpm for 24 hours and had 43.5 ft draw-down in Aug. 1958. Pumped 759 gpm for 1/2 hour and had 29 ft drawdown 9-19-67. 1/

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*YX-46-32-510	Texas Elec. Serv. Co.	Layne-Texas Co.	1948	259	10	A	2,652	107 R 114.6	1948 Sept. 26, 1967	T,E, 40	Ind	Company Well No. M-3. Drilled and logged to 299 ft. Plugged back to 259 ft. Set and cemented 18-in. casing to 192 ft. Underreamed to 30-in. 195-290 ft. Set 10 3/4-in. to 288 ft., perforated 192-259 ft. Gravel packed. Pumped 197 gpm for 30 minutes and had 27 ft of drawdown 9-26-67. <u>1/</u>
* 511	Avary & Walker Wtr. Co.	Bill Purcell	1942	235	10	A	--	--	--	N	N	Pyote well No. 2. Well W-321 in P. R. J. Inv. Formerly supplied Pyote Army Air Force Base. Reported pumped 190 gpm for 60 hours and had 36 ft drawdown in 1942. Well caved in beyond repair in Jan. 1945. <u>1/</u>
* 512	do	do	1942	235	10	A	--	71 R	1942	N	N	Pyote well No. 3. Well W-222 in P. R. J. Inv. Reported upper water sands were not cased off. Abandoned and plugged in 1945 because of high chloride and sulfate content in water. <u>1/</u>

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*YX-46-32-513	Avary & Walker Wtr. Co.	Bassett Drlg. Co.	1943	241	10	A	2,613	83.9	Nov. 16, 1967	T,E, 25	P	Pyote well No. 4. Drilled and logged to 241 ft as Pyote Army Airfield No. 4 well. C Casing: 10 3/4-in. to 174 to 241 ft; perforated 174-241 ft. Reported pumped 315 gpm and had 30 ft drawdown. Pumped 370 gpm and had 38 ft drawdown in 1945. Discharged 310 gpm from 4-in. bypass pipe 11-16-67. <u>1/</u>
* 514	do	Layne-Texas Co.	1945	240	10	A	--	84.8	do	T,E, 25	P	Pyote well No. 5. Set 18-in. casing to 159 ft, cemented with 200 sacks. Underreamed to 30-in. 159 to 240 ft. Set 10 3/4-in. casing to 240 ft with shutter screens 186-239 ft. Packed 25 yards of gravel between wall of well and 10-in. casing. Driller pumped 380 gpm for 8 hours and had drawdown of 85 ft 9-24-45. Pumped 328 gpm for 2 hours and had 70 ft drawdown 11-16-67. <u>1/</u>
* 515	do	--	1949	271	12	A	--	76 R	1952	T,E, 40	N	Pyote well No. 6. Well was not used in 1967. Reportedly pumps sand. May be used in future.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-32-601	Jack O'Brien	R & R Drlg. Co.	1938	235	6	A	--	118.6	Sept. 5, 1967	S,E, 20	Ind	Well W-50 in P. R. J. Inv. Formerly supplied Cabot Carbon Plant. Currently (1967) supplies southwestern explosives company plant. Reported to pump 225 gpm.
* 602	Humble Oil & Refg. Co.	Johnn Drlg. Co.	1962	4,460	13	Pc	2,632	+	June 8, 1967	N	Ind	Wickett water system No. 6. Well No. 2. Casing: 13 3/8-in. to 1,211 ft, cemented; 9 5/8-in. 1,211-3,304 ft; open hole 3,304-4,460 ft in Capitan reef. Reported flowed 71,120 barrels per day (2,080 gpm) under 8 psi well-head pressure when drilled.
* 603	City of Wickett	Burkholder Drlg. Co.	1963	306	12	A	2,652	120 R	1963	T,E	P	City well No. 1. Driller's log to 180 ft. Sample log 180 to 300 ft. Drilled 24-in. hole to 306 ft. Set 12 3/4-in. casing with packer at 126 ft and shutter screens 206-306 ft. Cemented casing from surface to 126 ft with 310 sacks. Packed annulus from 126-306 ft with 65 yards No. 10. gravel. Tested by Dixon Pump and Equip. Co. Pumped 1,500 gpm for 48 hours and had 90 ft of drawdown. Set 230 ft of 8-in. column pipe and 2 stage 10-in. bowls. Reported pumped 800 gpm in 1967. 1/

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COMPLETED	DEPTH OF WELL (FT)	CASING DIAMETER (IN.)	WATER-BEARING UNIT	ALTITUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SURFACE DATUM (FT)	DATE OF MEASUREMENT			
YX-46-32-604	City of Wickett	R. C. (Dick) Murray	1966	284	8	A	2,652	117.2	Sept. 1, 1961	T, E, 15	P	City No. 2 well. On stand-by status. Set and cemented 16-in. casing to 175 ft. Set 8 5/8-in. to 284 ft, perforated 178-284 ft. Gravel packed. Reported drawdown of 15 ft pumping 310 gpm for 134 hours. <u>1/</u>
* 605	Kent Distributors Inc.	--	1930	300	6	A	--	115.9	Sept. 1, 1967	S, E, 5	Ind	Formerly supplied Wickett Refinery which closed in 1961.
606	Texas Elec. Serv. Co.	Layne-Texas Co.	1948	302	10	A	2,644	104.1	Sept. 27, 1967	T	N	Company well No. M-6. Not in use in 1967. Casing: 18 5/8-in to 225 ft. 10 3/4-in to 302 ft. 223 to 302 ft. <u>1/</u>
* 607	do	do	1948	335	10	A	2,648	106 R	1948	T, E, 40	Ind	Company well No. M-4. Casing: 18 5/8-in. to 224 ft, cemented; 10 3/4-in. to 335 ft, perforated 248-320 ft. Reported pumped 264 gpm 9-19-67. <u>1/</u>
* 608	Bluford Thornton	--	--	180	6	A	--	--	--	C, W	S	Drilled for rig supply. Converted to livestock well.
* 609	Univ. of Texas Well 16-12-B 1	Atlantic Refining Co.	1942	2,911	7	PsR	2,634	+345 R +346 R	Nov. 1942 Nov. 1948	N	N	Oil well producing from the Seven Rivers Formation interval 2,907-2,911 ft. Flowing water and small quantity of oil 12-9-67. Oil is skimmed and water is pitted.

See footnotes at end of table.



Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COMPLETED	DEPTH OF WELL (FT)	CASING DIAMETER (IN.)	WATER-BEARING UNIT	ALTITUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SURFACE DATUM (FT)	DATE OF MEASUREMENT			
*YX-46-32-610	Gulf Oil Corp.	--	--	4,450	13	Pc	2,644	+217 R +201 R + 46	Feb. 1957 June 1957 June 8, 1967	N	N	O'Brien water supply well No. 2. Reported flowed 15,690 barrels per day at 25 psi well-head pressure in Oct. 1955. Shut-in pressure (24 hours) was 94 psi (217 ft of head) Feb. 19, 1957. Flowed 12,879 barrels per day at 46 psi Feb. 20, 1957. Specific capacity (24 hours) was 3.4 gpm/ft. Flowed 13,229 barrels per day (385 gpm) at 40 psi June 13, 1957. Shut-in pressure (5 hours) was 87 psi June 28, 1957. Specific capacity (5 hours) was 3.5 gpm/ft.
* 611	do	--	--	4,500	13	Pc	2,648	+196 R 3.74	June 1957 June 7, 1967	T,E, 100	Ind	O'Brien water supply well No. 7. Reported flowed 14,953 barrels per day (435 gpm) at 34 psi well-head pressure 6-13-57. Shut-in pressure (5 hours) was 85 psi (196 ft of head). Specific capacity (5 hour-recovery) was 3.8 gpm/ft.
* 612	do	--	1961	4,500	13	Pc	2,649	--	--	T,E, 100	Ind	O'Brien water supply well No. 13. Casing: 20-in. to 533 ft, cemented with 500 sacks; 13 3/8 and 9 5/8-in. to 3,450 ft, cemented with 900 sacks. Open hole 3,450 to 4,500 ft in Capitan reef.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
YX-46-32-613	Gulf Oil Corp.	--	1961	4,500	13	Pc	2,655	9.3	June 8, 1967	T,E, 100	Ind	O'Brien water supply well No. 14. Casing: 20-in. to 516 ft, cemented with 500 sacks; 13 3/8 and 9 5/8-in. to 3,444 ft, cemented with 1,500 sacks. Open hole 3,444-4,500 ft.
614	do	--	1961	4,500	13	Pc	2,651	--	--	N	N	O'Brien water supply well No. 15. Casing: 20-in. to 468 ft, cemented with 500 sacks; 13 3/8 and 9 5/8-in. to 3,460 ft, cemented with 2,100 sacks. Open hole 3,460-4,500 ft.
615	do	--	1962	4,500	13	Pc	2,645	+23	June 8, 1967	N	N	O'Brien water supply well No. 16. Casing: 20-in. to 516 ft, cemented with 475 sacks; 13 3/8 and 9 5/8-in. to 3,470 ft, cemented with 2,100 sacks. Open hole 3,470 to 4,500 ft.
* 701	J. R. Lamothe	Bille Purcel	1943	104	8	A	2,620	70.3	Sept. 9, 1967	N	N	Well W-238 in P. R. J. Inv. Formerly supplied water for wetting runways at the Pyote Air Force Base. Reported water was not potable.
* 702	Humble Oil & Refg. Co.	--	1966	200	6	A	--	--	--	T,G	Ind	State Univ. "D.G." water well No. 1. Casing: 11 1/2-in. to 17 ft; 6 5/8-in. to 200 ft, perforated 157-187 ft. Pumping a reported 50 gpm for rig supply 9-28-67.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-32-703	John McNeff	--	old	106	5	A	2,624	72.8	Mar. 12, 1942	N	N	Well W-133 in P. R. J. Inv. Reportedly supplied water for wagon yard and livestock. Destroyed.
* 801	Bluford Thornton	J. Miles	1939	127	6	A	2,606	78.3 80.4 81.2	June 20, 1940 June 11, 1962 Aug. 11, 1967	J,E, I	S	Well W-115 in P. R. J. Inv. Casing perforated 109-127 ft.
* 802	do	--	old	98	4	A	2,591	59.6 63.6	May 29, 1940 Aug. 11, 1967	C,W	S	Owner's "Old Place Well." Well W-113 in P. R. J. Inv.
* 803	do	J. Miles	1940	110	7	A	2,610	81.2 85.0	Mar. 1, 1943 Oct. 28, 1967	C,W	S	Well W-112 in P. R. J. Inv.
* 804	Texas State Hwy. Dept.	--	1965	207	10	A	--	76 R 77.2	Mar. 1965 Nov. 7, 1967	S,E	P	Supplies drinking water and irrigates trees and shrubs at roadside parks.
901	Humble Oil & Refg. Co.	Johnn Drlg. Co.	1962	4,421	13	Pc	2,610	+186 R + 70	July 11, 1962 June 8, 1967	N	Ind	Wickett water system No. 6, well No. 1. Set and cemented 13 3/8-in. casing to 1,284 ft. Set 9 5/8-in. 1,139 to 3,325 ft; open hole 3,325-4,421 ft in Capitan reef. Reported stabilized flowing pressure at 3,300 ft was 1,465 psi discharging 45,000 barrels per day (1,310 gpm) for 4 hours in July 1962. Pressure at 3,300 ft was 1,509 psi with well shut-in for 30 minutes. Production index (specific capacity) was 1,020 barrels per day per psi or 13 gpm per ft.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-32-902	Bluford Thornton	--	1947	120	6	A	2,608	78.4	Aug. 11, 1967	C,W	S	Discharging 3 gpm 8-11-67.
* 903	do	Jim Miles	1939	186	7	A	2,628	89.8	Sept. 6, 1967	C,W	S	Well W-108 in P. R. J. Inv. Discharging 3 gpm 9-6-67. Heavy coating of chemical precipitate on discharge pipe. Comparison of analyses of water sampled from the well in 1940 and 1967 indicates contamination has occurred during intervening time.
37-101	Dan Cooper	--	1955	300	--	A	2,574	16.60 19.01	Feb. 3, 1958 Dec. 1, 1967	T	N	Unused irrigation well. Current observation well. <u>2/</u>
102	Chester Armstrong	--	1908	103	--	A	--	4.11 5.40	Dec. 17, 1930 Dec. 28, 1942	N	N	Well W-188 in P. R. J. Inv. One of first wells used for irrigation in the Barstow area. Dug and cribbed to 12 ft. Drilled 12 to 103 ft. Historical observation well. Destroyed. <u>2/</u>
* 103	John & Paul Ivey	McMann	1932	48	6	A	2,580	14.08	Feb. 14, 1951	N	N	Well W-193 in P. R. J. Inv. Historical observation well. Obstruction in casing at 10 ft in 1967.
104	Dan Cooper	--	1955	300	--	A	2,574	13.86 15.42	Feb. 3, 1958 Dec. 20, 1967	N	N	Unused irrigation well. Historical observation well. <u>2/</u>

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
YX-46-37-105	Floyd Lukins	C. C. & H. Drig. Co.	1947	220	18	A	2,578	14.25 22.9	Jan. 8, 1950 June 29, 1967	T,Ng	Irr	Casing perforated 120- 220 ft. Set 100 ft of 8-in. column pipe and 2 stages of 10-in. bowls. Reported dis- charge 1,000 gpm. <u>2/</u>
106	Dan Cooper	--	1955	300	--	A	2,577	23.4 21.3	June 21, 1967 Oct. 20, 1967	T	N	--
107	Chester Armstrong	--	1908	163	10	A	--	5.0 12.3	Aug. 31, 1939 Oct. 29, 1946	N	N	Well W-190 in P. R. J. Inv. Reported pumped 1,100 gpm in 1946. De- stroyed.
* 108	Ward County Irrigation Dist. No. 1, Well 7	--	1946	183	16	A	--	13.9	Sept. 30, 1946	N	N	<u>1/</u>
* 109	Chester Armstrong	C. C. & H. Drig. Co.	1949	125	16	A	2,600	26.4 29.6	July 20, 1950 Oct. 26, 1967	T,G	Irr	Casing perforated 20- 125 ft. Irrigating 35 acres of feed in 1967. <u>1/</u>
* 110	Rayburn Allgood	do	1946	125	20	A	2,588	17.7 20.2	Dec. 16, 1946 Oct. 26, 1967	T,E, 25	Irr	Casing: 20-in. to 52 ft; 16-in. 52 to 113 ft, perforated. Set 60 ft of 10-in. column pipe. Pumping 940 gpm 10-26-67. Water level rose 14 ft with well shut down 14 hours. The combined discharge of wells YX-46-37-110, 111, 202, and 207 mea- sured in concrete-lined canal was 4,135 gpm in Oct. 1967. Irrigated 378 acres of alfalfa and feed with 4 wells and Red Bluff Reservoir water in 1967. <u>1/</u>

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALT- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-37-111	Rayburn Allgood	C. C. & H. Drlg. Co.	1951	160	16	A	2,586	18.6	Oct. 19, 1967	T,E, 40	Irr	Casing perforated 20- 160 ft. Set 70 ft of 10-in. column pipe.
112	John & Paul Ivey	--	--	--	16	A	2,584	19.0	Oct. 21, 1967	N	N	Unused irrigation well.
113	do	--	--	--	16	A	2,584	18.4	do	N	N	Do.
114	Dan Cooper	--	--	--	16	A	2,582	18.1	do	N	N	Do.
115	do	--	--	--	16	A	2,581	17.3	do	N	N	Do.
* 201	Ward Co. Irr. Dist. No. 1, Well 5	Coleman & Williams	1946	112	16	A	2,585	13.19 15.38	Sept. 30, 1946 Dec. 19, 1967	N	N	Current observation well. Casing perforated 16-100 ft. Open hole 104-112 ft. Reported not used since 1954. <u>1/ 2/</u>
* 202	Rayburn Allgood	do	1946	91	16	A	2,587	14.3 19.2	Jan. 31, 1947 Oct. 20, 1967	T,E, 25	Irr	Old Ward County Irri- gation District well No. 6. Casing perfor- ated 36-91 ft. Set 60 ft of 10-in. column pipe. <u>1/</u>
* 203	Ward Co. Irr. Dist. No. 1, Well 2	do	1942	97	16	A	2,584	15.1	Feb. 12, 1959	N	N	Historical observation well. Formerly used for irrigation. Aban- doned in Aug. 1950. Casing perforated 41- 97 ft. <u>1/</u>
* 204	Ward Co. Irr. Dist. No. 1, Well 1	do	1946	71	16	A	2,584	10.85 13.30	Sept. 30, 1946 Oct. 23, 1967	N	N	Casing perforated 17- 67 ft. Reported pumped 1,330 gpm in 1946. <u>1/ 2/</u>

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-37-205	Geo. Dinwiddie	Coleman & Williams	1945	71	20	A	2,584	14.67 20.01	Dec. 4, 1946 Feb. 12, 1949	T,E, 30	Irr	Historical observation well. Casing perforated 17-71 ft. Set 85 ft of 8-in. column pipe. Irrigated 200 acres of alfalfa and grain with 2 wells and canal water in 1967. Pumping 1,090 gpm 10-23-67. <u>1/</u>
* 206	R. S. (Bob) Hayes	C. C. & H. Drlg. Co.	1946	110	20	A	2,575	13.83 16.76	Dec. 28, 1946 Dec. 24, 1967	T,Ng	Irr	Historical observation well. Casing perforated 54-110 ft. Pumped 1,190 gpm and had 30.3 ft of drawdown in Apr. 1947. Pumping 1,080 gpm 3-28-68. Irrigated 80 acres of alfalfa with two wells and canal water. <u>2/</u>
* 207	Rayburn Allgood	--	1908?	80	12	A	2,587	5.97 15.32	Dec. 17, 1930 Oct. 29, 1946	T,E, 30	Irr	Well W-191 in P. R. J. Inv. Historical observation well. Reported pumped 1,400 gpm for 102 hours and had 14.3 ft of drawdown in Apr. 1940. Has bee hive in casing in 1967. <u>2/</u>
* 208	Ward Co. Irr. Dist. No. 1, Well 4	C. C. & H. Drlg. Co.	1945	172	16	A	2,587	12.08 15.87	Dec. 4, 1946 Oct. 23, 1967	N	N	Casing perforated 17-168 ft. <u>2/</u>
209	A. R. Aves	C. Simmonds	old	100	12	A	--	7.62	Dec. 29, 1942	N	N	Well W-202 in P. R. J. Inv. Historical observation well. Destroyed in 1946.
210	R. S. (Bob) Hayes	--	--	--	--	A	2,576	17.7	Oct. 24, 1967	T,Ng	Irr	
211	R. W. Burkholder	--	--	200	16	A	2,574	18.25 16.97	Dec. 2, 1959 Dec. 1, 1967	T,Ng	Irr	Current observation well. <u>2/</u>

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
YX-46-37-212	O. H. Sullivan	Lang Buchanan	1940	80	10	A	2,582	13.2 16.7 16.9	Feb. 28, 1940 Oct. 29, 1946 Oct. 23, 1967	J,E, 1/3	D	Well W-198 in P. R. J. Inv. Casing perforated 20-36 and 48-76 ft. Formerly used for irrigation. Pumped 730 gpm for 4 hours and had 14 ft of drawdown in Apr. 1940. Reported water is used for lawns and commode--not suitable for drinking. <u>1/</u>
213	Ward Co. Irr. Dist. No. 1, Well 3	--	1929	58	16	A	2,586	4.52 15.20	Dec. 17, 1930 Oct. 23, 1967	N	N	Casing perforated to total depth. Drawdown of 16.1 ft pumping 1,200 gpm for 7 days in 1940. Drawdown of 11.2 ft pumping 790 gpm in Apr. 1947. Not pumped since 1960. <u>1/ 2/</u>
* 214	R. W. Burkholder	C. Simmonds	1928	115	8	A	2,575	7.15 16.85	Dec. 17, 1930 Oct. 24, 1967	N	N	Well W-214 in P. R. J. Inv. Historical observation well. Casing perforated 10-100 ft; open hole 100-115 ft. <u>2/</u>
* 215	Geo. Dinwiddie	Coleman Drlg. Co.	1965	103	16	A	2,583	--	--	T,E, 30	Irr	Casing perforated 53-103 ft. Discharging 1,050 gpm with pumping level at 50.2 ft 10-15-67.
216	O. H. Sullivan	C. C. & H. Drlg. Co.	1946	90	14	A	2,582	15.9 14.9	Oct. 29, 1946 Oct. 23, 1967	T,E, 15	N	Casing perforated 22-90 ft. <u>1/</u>
217	Geo. Dinwiddie	Austin Jones & Joe Willey	1946	138	16	A	2,583	14.4 17.0	Jan. 31, 1947 Oct. 23, 1967	N	N	Casing perforated 30-138 ft. <u>1/</u>
218	W. L. (Dub) Fuller	--	1952	117	20	A	2,584	19.3	Oct. 25, 1967	T,E, 30	N	Casing perforated 57-117 ft. Reported not pumped since 1957.

See footnotes at end of table.



Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
YX-46-37-219	W. L. (Dub) Fuller	--	1952	121	20	A	2,584	19.1	Oct. 25, 1967	T,E, 30	N	Casing perforated 60- 121 ft. Not pumped since 1957.
220	H. R. Hudson	--	--	90	14	A	2,582	16.4	Oct. 23, 1967	T,E, 20	N	Casing perforated 55- 90 ft.
221	do	--	1948	90	16	A	2,582	16.6	do	T,E, 30	N	do
* 222	W. H. McGinty	Joe Willey	1946	110	14	A	--	14.8	Dec. 16, 1946	T,E, 30	N	Casing perforated 52- 106 ft. <u>1/</u>
* 223	R. W. Burkholder	C. C. & H. Drlg. Co.	1946	110	20	A	2,580	13.5 17.0	Oct. 28, 1946 Oct. 24, 1967	T,Ng	Irr	Casing perforated 30- 106 ft. Drawdown of 28.8 ft pumping 1,125 gpm for 1 hour 4-26- 47. <u>1/</u>
224	do	do	1947	200	20	A	2,578	16.5 17.9	June 26, 1957 Oct. 24, 1967	T,Ng	Irr	Casing perforated 60- 200 ft.
225	Paul Durkel	Schooler Drlg. Co.	1947	133	20	A	2,569	13.0	Oct. 20, 1967	T,G	N	Casing perforated 53- 133 ft. Set 80 ft of 8- in. column pipe and 4 stages of 12-in. bowls. Discharged 985 gpm 8- 19-50. Not in use in 1967.
* 226	E. W. Sweatt Est.	Tom Simmons	1945	110	20	A	2,584	18.5 20.8	Oct. 28, 1946 Mar. 3, 1948	T,E, 30	N	Casing perforated 65- 110 ft.
301	Ward Cty. Park Dept.	--	1956	90	14	A	2,566	10.9	Oct. 24, 1967	T,E, 15	Irr	Irrigates park lawns in Barstow.
* 302	W. G. Burkholder	Austin Jones	1947	100	18	A	2,575	14.55 19.43	Jan. 31, 1947 Oct. 25, 1967	N	N	Historical observation well. Casing perforated 50-100 ft. Reported not pumped since 1956. <u>2/</u>
303	Snyder Nat'l Bank	--	1940	65	6	A	2,572	7.11 5.66	Feb. 8, 1940 Dec. 29, 1942	N	N	Well W-228 in P. R. J. Inv. Historical obser- vation well. <u>2/</u>

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-37-304	George E. Briggs	Coleman Drlg. Co.	1965	81	10	A	2,566	--	--	T,E, 5	Irr	Casing perforated 30-81 ft. Discharged 330 gpm 10-25-67.
* 305	Allgood, Avary, and Cummings	Jim Miles	1930	80	16	A	2,572	5.41 15.83	Dec. 17, 1930 Nov. 9, 1967	T,Ng	Irr	Historical observation well. Well W-208 in P. R. J. Inv. Dug to 16 ft and cribbed 5 ft in diameter. Drilled and cased with 9 5/8-in. pipe to 80 ft. Supplied dairy and irrigated alfalfa and cantaloupes in 1933. Pulled 9 5/8-in. casing, Reamed hole to 18-in. and set 16-in. casing to 1947. Pumped 1,450 gpm for 4 1/2 hours and had 19.6 ft of drawdown 10-25-67. Irrigated 62 acres of alfalfa and 20 acres of bermuda grass. <u>2/</u>
306	Paul Durkel	--	1940	11	8	A	2,571	9.98 7.67	Mar. 7, 1940 Dec. 29, 1942	N	N	Drilled at test hole for recording water levels during P. R. J. Inv. Destroyed. <u>2/</u>
307	Geo. E. Briggs	Simmons Bros.	1924	85	8	A	2,570	6.53 13.02	Dec. 17, 1930 Oct. 24, 1967	N	N	Well W-205 in P. R. J. Inv. Historical observation well. <u>2/</u>
* 308	M. W. Nichols	Jim Miles	1930	85	10	A	2,567	2.03 8.92	Dec. 17, 1930 Dec. 29, 1942	Cf,G	N	Well W-211 in P. R. J. Inv. Casing perforated 11-85 ft. Reported pumped 1,150 gpm in 1946. Not used since 1954. <u>2/</u>
* 309	Barstow Ind. School Dist.	C. C. & H. Drlg. Co.	1950	83	14	A	2,564	11.9	May 11, 1967	T,E, 7 1/2	Irr	Irrigates school lawns. Pumping 330 gpm 5-11-67.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
YX-46-37-310	J. H. Reed	C. C. & H Drlg. Co.	1947	112	16	A	2,576	18.6	Oct. 25, 1967	T, E, 50	N	Casing perforated 20- 112 ft.
311	do	do	1947	149	16	A	2,576	18.8	do	T, E, 50	N	Casing perforated 66- 149 ft.
* 312	John G. Burkholder	Burkholder Drlg. Co.	1963	90	16	A	2,566	12.5	Nov. 9, 1967	T, E, 15	Irr	Casing perforated 40- 90 ft. Irrigating 5 acres of grass in 1967.
* 313	E. W. Sweatt Est.	Grogan	old	103	20	A	2,580	17.20 22.76	Oct. 29, 1946 Oct. 26, 1967	J, E, 1	D	Well W-200 in P. R. J. Inv. Drilled for irri- gation. Pumped 1,270 gpm for 3 hours and had 11 ft of drawdown 6-8-40. Converted to domestic well. Water is used for all pur- poses other than drink- ing.2/
314	do	Tom Simmons	1945	77	20	A	2,580	16.8 23.1	Oct. 29, 1946 Oct. 26, 1967	T, E, 50	N	Casing perforated 40- 77 ft. Reported pumped 1,675 gpm and had 13.5 ft of drawdown 4-18-47.
* 315	Cox & Evans	Joe Wiley	1946	125	16	A	2,564	8.2 10.7	Nov. 14, 1969 Oct. 26, 1967	T, E, 50	N	Casing perforated 60- 125 ft. Set 60 ft of 10-in. column pipe. Discharged 1,490 gpm 8-17-50. Not pumped in 1967.
316	John Wilson	--	1948	128	16	A	2,566	11.9	Oct. 26, 1967	T, E, 40	N	Casing perforated 78- 128 ft. Set 60 ft of 10-in. column pipe and two stages of 10-in. bowls. Not pumped since 1965.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
YX-46-37-317	J. A. Davis	Walker	1961	200	16	A	2,575	22.0	May 10, 1967	T, Ng	Irr	Set 85 ft of 8-in column pipe and 1 stage 10-in, bowl. Irrigated 34 acres of grass in 1967
318	W. L. Fuller	L. B. Coleman	1965	86	12	A	2,566	15.3 13.4	May 11, 1967 Oct. 24, 1967	N	N	Casing perforated 46-86 ft.1/
319	Lloyd Smith	do	1964	89	16	A	2,565	14.9 12.3	May 11, 1967 Oct. 24, 1967	T, Ng	N	Casing perforated 89 ft.1/
320	Forrest Walker	--	1955	110	16	A	2,566	14.3	May 11, 1967	T, Ng	Irr	Irrigated 10 acres of alfalfa in 1967.
* 321	George Briggs	C. C. & H Drlg. Co.	1946	107	20	A	2,570	15.2 12.5	May 11, 1967 Oct. 24, 1967	T, E, 40	N	Casing perforated 51-107 ft. Reported draw-down of 30 ft pumping 1,505 gpm for 7 days in 1946.
322	M. I. Vida Farms Inc.	do	1947	216	16	A	2,582	22.5	Oct. 26, 1967	T	N	Casing perforated 20-80 and 70-216 ft.
323	Bob Allgood	do	1950	90	16	A	2,563	11.8 8.5	June 26, 1967 Oct. 24, 1967	T, Ng	Irr	Casing perforated 20-90 ft. Irrigated 24 acres of grass with well and canal water in 1967.
* 324	Barstow School Dist.	A. C. Pump Co.	1963	105	12	A	2,564	11.1	Oct. 24, 1967	T, E, 15	Irr	Irrigates school lawns. Drawdown of 4.9 ft pumping 740 gpm for 4 hours 11-15-67.
325	Sally Preston	Joe Wiley	--	119	16	A	2,568	--	--	T	N	Casing perforated 41-110 ft.
326	Geo. Briggs	C. C. & H. Drlg. Drlg. Co	1947	100	16	A	2,568	14.2	Oct. 24, 1967	T, E, 50	N	Casing perforated 30-100 ft. Not pumped since 1952.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-37-327	W. E. (Bill) Hollis	Shine Avary	1957	140	16	A	2,573	19.8	Oct. 25, 1967	T,Ng	N	Irrigated 9 acres of alfalfa in 1967.
328	Shine Avary	--	--	--	16	A	2,564	11.6	do	T,Ng	Irr	
329	do	--	--	--	16	A	2,563	11.2	do	T,Ng	Irr	
330	B. D. Dearing	--	--	--	16	A	2,569	12.4	Oct. 26, 1967	T,G	N	
331	City of Barstow	Commonwealth	1908	1,100	8	A	--	--	--	--	--	Well W-213 in P. R. J. Inv. Drilled and log- ged to 1,100 ft. Re- ported water was tested at depths of 212, 410, 642, 955, 1,030 and 1,082 ft. None of the water was suitable for domestic use, and the quality of water became progressively worse with depth. <u>1/</u>
* 401	Dan Cooper	Pioneer Canal Co.	1900±	278	6	A	2,573	2.34 22.82	Aug. 31, 1939 Feb. 12, 1959	N	N	Well W-195 in P. R. J. Inv. Historical obser- vation well. Destroyed. <u>2/</u>
* 402	W. E. Chapman	F. C. Wheeler	1963	242	16	A	2,568	15.9	Oct. 20, 1967	T,Ng	Irr	Casing perforated 182- 242 ft. Set 185 ft of 10-in. column pipe. Wells YX-46-37-402 and 403 were pumping a combined 1,200 gpm 6- 23-67. Reported irri- gated 19 acres cotton, 15 acres sweet sue, 220 acres alfalfa, and 264 acres bermuda with 4 wells and canal water in 1967.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COMPLETED	DEPTH OF WELL (FT)	CASING DIAMETER (IN.)	WATER-BEARING UNIT	ALTITUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SURFACE DATUM (FT)	DATE OF MEASUREMENT			
*YX-46-37-403	W. E. Chapman	F. C. Wheeler	1964	217	16	A	2,568	24.6	Oct. 20, 1967	T,Ng	Irr	Casing perforated 157-217 ft. Set 185 ft of 10-in. column pipe and 12-in. bowls.
* 404	A. J. Carpenter	Pierce Bros.	1949	300	16	A	2,572	17.39 18.70	Aug. 29, 1949 Oct. 20, 1967	T	N	Unused irrigation well. Casing perforated 17-280 ft. <u>1/ 2/</u>
* 501	W. E. Chapman	--	1961	190	16	A	2,572	--	--	T,Ng	Irr	Casing perforated 15-190 ft. Set 145 ft of 10-in. column pipe. Pumping 670 gpm 6-24-67.
* 502	do	--	1961	190	16	A	2,571	14.0	Oct. 20, 1967	T,Ng	Irr	Casing perforated 15-190 ft. Set 150 ft of 10-in. column pipe and 1 stage 14-in. bowl. Pumping 290 gpm 6-22-67.
503	James P. (Tiny) Goode	--	1958	100	16	A	2,570	14.0	do	T,G	N	Casing perforated 14-100 ft. Reported has irrigated 80 acres of grass but has not been pumped for 2 years.
* 504	Hilton Supply Co.	Walker	1960	97	16	A	2,562	12.7	Nov. 9, 1967	T,G	Irr	Casing perforated 47-97 ft. Set 70 ft of 8-in. column pipe. Reported pumps 1,000 gpm and irrigates 80 acres of grass. Also waters livestock.
601	Texas State Highway Dept.	H. Cartis	1949	155	8	A	2,565	11.46	Dec. 9, 1962	N	N	Historical observation well. Destroyed.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
YX-46-37-602	M. I. Vida Farms, Inc.	E. K. Taylor	1928	80	8	A	2,563	13.82	Mar. 3, 1950	N	N	Well W-216 in P. R. J. Inv. Historical obser- vation well. Reported to have irrigated 'cotton cane, and truck' in the 1940's. Destroyed.
* 603	L. G. Sheppard	Rayford Guffey	1948	150	18	A	2,563	9.9	Oct. 27, 1967	T,Ng	Irr	Casing perforated 50- 150 ft. Set 38 ft of 8- in. column pipe and 3 stages of 10-in. bowls. Irrigated 12 acres of bermuda grass in 1966. 1/
* 604	W. E. Knowles	Blount Bros. Drig. Co.	1963	95	16	A	2,562	9.7	do	T,E, 50	Irr	Casing perforated 35- 95 ft. Set 40 ft of 10-in. column pipe and one 12-in. bowl. Draw- down of 6.7 ft pumping 1,160 gpm for 3 hours 11-15-67.
605	Jack Wright	Coleman	1962	80	16	A	2,562	8.8	Oct. 24, 1967	T,Ng	Irr	Casing perforated 50- 80 ft. Reported pumps 1,100 gpm.
606	Hilton Supply Co.	Walker	1960	94	16	A	2,566	11.8	Oct. 20, 1967	T,Ng	Irr	Casing perforated 44- 94 ft. Set 80 ft of 10- in. column pipe. Reported discharges 1,500 gpm. Irrigated 40 acres of alfalfa in 1967.
607	do	--	1956	285	16	A	2,564	11.4	Nov. 9, 1967	N	N	Not pumped since 1964.
608	Mrs. Burch Carson	Burkholder Drig. Co.	1957	110	16	A	2,563	--	--	N	N	Unused irrigation well.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
YX-46-37-609	W. N. Yates	Coleman	1961	60	16	A	2,563	13.2	Oct. 26, 1967	N	N	Casing perforated 30-60 ft. Reported not used since 1964, but may be used in future.
* 610	do	--	--	21	6	A	2,563	8.9 15.3	Oct. 31, 1939 Oct. 26, 1967	N	N	Well W-215 in P. R. J. Inv. Formerly used for livestock supply.
* 611	Bill Allgood	Shine Avary	1953	100	16	A	2,561	14.5	Oct. 26, 1967	T,Ng	Irr	Casing perforated 50-95 ft. Pumping 1,500 gpm 3-31-68.
612	B. & B. Sand & Gravel Co.	--	--	30	--	A	2,556	8	do	Cf,E, 25	Ind	Gravel pit. Irrigation drainage ditch empties into pit at north end and drains pit at south end. Water is pumped from pit to wash sand and gravel and to irrigate 20 acres of bermuda grass. Water that drains from the pit flows into the Pecos River 3 miles southeast of Barstow.
38-101	Robert Miller	Coleman Drlg. Co.	1953	100	--	A	2,573	21.5	do	T	N	
* 102	C. E. Swafford	Tom Simmons	old	117	8	A	2,653	94.28 100.34	Sept. 26, 1939 Oct. 26, 1967	N	N	Well W-158 in P. R. J. Inv. Historical observation well. Formerly used for irrigation of truck farm. Reported discharge of 51 gpm would exhaust well in 1939. Well taps Santa Rosa Sandstone.2/
* 103	W. L. Fuller	Lang Buchanan	--	85	6	A	2,573	15.4	Apr. 2, 1940	N	N	Well W-209 in P. R. J. Inv. Filled to above water level in 1967.

See footnotes at end of table.



Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-38-104	W. L. Fuller	Lang Buchanan	1940	110	12	A	2,574	14.90 22.41	May 20, 1940 Dec. 1, 1967	N	N	Well W-210 in P. R. J. Inv. Current obser- vation well. Casing: 12 1/2-in. to 83 ft, perforated 23-83 ft; 8-in. 83 to 100 ft, perforated. Reported drawdown of 23 ft pump- ing about 1,000 gpm for 4 hours in May, 1940. Not used since 1957. <u>2/</u>
* 105	C. E. Swafford	Tom Simmons	1935	108	8	A	2,655	96.01 101.87	Sept. 26, 1939 Oct. 26, 1967	C,E	D	Well W-159 in P. R. J. Inv. Historical obser- vation well. Supplies cafe. Water is not used for drinking. <u>2/</u>
* 106	Avary & Allgood	Schooler	1947	180	16	A	2,675	19.8	Oct. 25, 1967	T,Ng	Irr	Set 20-in. casing to 48 ft; 16-in. to 180 ft, perforated 20-180 ft. Set 130 ft of 10-in. column pipe and 3 stages of 14-in. bowls.
* 201	City of Barstow Well No. 1	Jim Miles	1930	137	8	A	2,655	95.1 95.8 101.2	Dec. 5, 1940 Nov. 1, 1946 Nov. 14, 1967	T,E, 7 1/2	N	Drilled to 117 ft. Deepened to 137 ft in 1955. Taps Santa Rosa Sandstone. Reported pumped 55 gpm in 1948. Well has not been used since July, 1966 when cities of Pecos and Barstow pipe line was completed.
202	City of Barstow Well No. 2	C. C. & H. Drlg. Co.	1948	120	8	A	--	--	--	T,E, 10	N	Cased to 15 ft. Open hole 15-120 ft in Santa Rosa Sandstone. Set 110 ft of 4-in. column pipe and 24 stages of 4-in. bowls. Reported dis- charged 72 gpm in Oct. 1948.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
YX-46-38-203	John H. Wilson	--	old	232	7	A	2,689	115.0 116.2	Nov. 8, 1940 Nov. 13, 1967	C,W	N	Called "old rock house well." Well W-156 in P. R. J. Inv. Open hole 20-232 ft. Owner reports this was one of the first wells to be drilled in Ward County. Oldtimers recall that it was drilled with a horse-powered rig by a sheep outfit in the middle 1800's. Well taps Santa Rosa Sandstone. Not used since 1963.
* 401	Robert & Ed Miller	--	1930	13	--	A	2,561	11.5	Dec. 29, 1942	N	N	Well W-217 in P. R. J. Inv. Historical observation well. Dug to 13 ft. Destroyed.
402	C. B. Reed, et al.	--	old	25	8	A	2,565	16.4	Mar. 26, 1941	N	N	Well W-220 in P. R. J. Inv. Dry in 1967.
* 403	Texas State Hwy. Dept.	--	1967	100	10	A	2,557	11.8	Sept. 27, 1967	T,Ng	Ind	Supplied water for construction of Interstate Highway 20 in 1967.
404	Robert Miller	Coleman Drlg. Co.	1953	100	16	A	2,573	21.8	Oct. 26, 1967	T,G	N	
* 405	R. & E. Miller	C. Simmonds	1936	38	6	A	2,564	13.8 19.6	Aug. 30, 1939 Nov. 14, 1967	C,W	N	Well W-218 in P. R. J. Inv. Reported water is unfit for domestic supply.
406	Chas. Miller Est.	--	old	47	6	A	2,575	24.1 28.5	June 21, 1940 Nov. 14, 1967	N	N	Well W-219 in P. R. J. Inv.
* 501	L. M. Watson, Jr.	L. Schooler	1947	233	16	A	2,558	11.3	Nov. 14, 1967	N	N	Reported no water sands were found below 100 ft; mostly red clay.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
YX-46-38-502	L. M. Watson, Jr.	Joe Willey	1947	80	16	A	2,568	18.68 22.51	Jan. 23, 1950 Dec. 1, 1967	N	N	Current observation well. Casing perforated to 80 ft. <u>27</u>
503	do	--	old	6	36	A	2,558	11.06	Dec. 29, 1942	N	N	Well W-221 in P. R. J. Inv. Historical obser- vation well. Dug to 17 ft. Filled to 6 ft in 1967.
* 504	do	B. W. Helm	1939	15	30	A	2,567	11.7	Aug. 30, 1939	N	N	Well W-222 in P. R. J. Inv. Dug and cribbed to 15 ft. Filled to above water level in 1967.
* 505	Chas. Miller Est.	--	old	40	6	A	2,550	13.0 16.4	Dec. 12, 1939 Nov. 14, 1967	N	N	Called "E. A. Leffing Well." Well W-223 in P. R. J. Inv.
* 601	C. M. Haughton Well No. 2	Dominion Oil Co. (Arthur Pitts)	1923	4,670	--	Pr	2,550	+	--	N	N	Well W-230 in P. R. J. Inv. Drilled as oil test. Reported flowed 1,800 gpm from four horizons 700 to 1,200 ft deep in 1923. Flowed 206 gpm 12-19-40, 36 gpm 3-5-64 and 49 gpm 4-19-67. No casing is visible. May have been pulled when well was abandoned.
* 39-101	J. E. Fitzpatric Well No. 1	T. N. Carr, et al.	1938	5,208	--	A?	2,638	79.5	Mar. 12, 1942	N	N	Abandoned oil test. Casing was pulled. Bailed water sample 10- 5-40. Hole filled to 10 ft in 1967.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-39-102	G. Q. Avary, Sr. & Jr.	Coleman & Huckabee	1959	222	8	A	2,647	92.6 99.5	Apr. 1, 1959 Nov. 11, 1967	C,W	S	Open hole 10-222 ft. Reported weak supply--well pumps off in strong wind. Water enters well from crevice in red sandstone (Santa Rosa).
103	do	Earl Ligon	1900	160	5	A	2,660	107.4	Nov. 11, 1967	N	N	Well W-147 in P. R. J. Inv. Well No. 1 at ranch headquarters. Cased to 3 ft, open hole 3 to 160 ft in Santa Rosa Sandstone.
* 104	do	do	1915	164	5	A	2,659	106.1	do	C,W	S	Well No. 2 at ranch headquarters. Open hole 10 to 164 ft.
105	do	Coleman & Huckabee	1950	165	20	A	2,660	104.6 107.2	Mar. 3, 1959 Nov. 11, 1967	T,G	Ind	Well No. 3 at ranch headquarters. Open hole 10-165 ft. Driller reported: surface sand to 2 ft, white lime (caliche) 2-20 ft, red rock and red sand rock (Santa Rosa) 20-165 ft. Water is sold for drilling oil tests and for recovery of salt from the Salado Formation. 1/
* 201	do	Owner	1952	102	8	A	2,622	69.5 70.4	Mar. 31, 1948 Nov. 11, 1967	C,W	S	Owner's "Draw" well.
* 202	do	Tom Simmons	1938	157	5	A	2,675	137.4 136.8	Sept. 28, 1939 Nov. 7, 1967	C,W	S	Well W-129 in P. R. J. Inv. Pumping a dribble 11-10-67; reported 3 gpm is maximum.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
YX-46-39-203	G. Q. Avary, Sr. & Jr.	Coleman & Huckabee	1960	270	--	A	2,602	63.4	Nov. 11, 1967	T,G	Ind	Drilled for irrigation. Never cased. Used for rig supply in 1967.
* 204	do	Uvalde Const. Co.	1942	360	6	A	2,603	62.2 63.5	Mar. 31, 1959 Nov. 11, 1967	C,W	S	Replaced well W-130 in P. R. J. Inv. which re- placed a well that was dug in about 1880 at this location.
* 205	Jim Sample	Jack Haley	1964	142	7	A	2,625	88.2	Nov. 10, 1967	S,E, 5	D	Casing perforated 102- 142 ft. Set 127 ft of 2 1/2-in. column pipe. Drawdown of 14.2 ft pumping 100 gpm for 2 hours 11-10-67. Well supplies trailer house, fills fish pond, and irrigates garden. The quality of water is exceptionally good for this area.
* 206	G. Q. Avary, Sr. & Jr.	--	1910	97	6	A	2,626	90.8 89.8	Sept. 28, 1939 Apr. 1, 1959	C,W	S	Well W-128 in P. R. J. Inv. Called "Perrin Well." Chester Rainbow who ranches the Herring spread says this was a site for an old ranch house. Cowboys from adjoining ranches would ride to this well for drinking water because of its good quality.
301	Dr. H. B. Johnson	--	1956	300	16	A	2,615	57.2 60.7	Dec. 5, 1959 Nov. 7, 1967	N	N	Unused irrigation well.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
YX-46-39-302	McGill-Smith Well No. 1	Owner	1955	1,087	12	A?	2,615	54.9 62.6	Dec. 2, 1955 Nov. 7, 1967	N	N	Oil test. Driller re- ported: first water at 60 ft; water at 140 ft in sand and gravel. Set 12 3/4-in. casing to 296 ft. Set 10-in. to 500 ft. Top of redbeds (Triassic) at 500 ft.
* 303	J. Duncan	--	1932	86	7	A	2,605	62.5 60.6	Sept. 28, 1939 Nov. 10, 1967	C,W	S	Well W-131 in P. R. J. Inv. Open hole 10-86 ft. Water reported slightly gypsy.
304	E. H. & D. B. Bedell	--	--	--	20	A	2,611	69.9	Nov. 10, 1967	T,G	Irr	Irrigated 15 to 20 acres of grass in 1967.
* 501	Mrs. Helen Belo	J. Miles	1939	150	10	A	2,556	56.5	do	C,W	N	Well W-232 in P. R. J. Inv. Driller reported: soil and caliche to 20 ft, red sandrock (Santa Rosa Sandstone) 20 to 150 ft. Reported weak well but good water.
* 601	R. M. Lasater	--	old	82	8	A	2,594	72.0 71.2	Nov. 20, 1939 Nov. 10, 1967	N	N	Well W-126 in P. R. J. Inv.
* 602	Mrs. Anna Herring	Continental Oil	1959	120	6	A	--	--	--	C,W	S	Drilled for rig supply converted to livestock well. Reported best water on ranch.
* 603	do	do	1959	119	6	A	2,578	63.0	Nov. 10, 1967	C,W	S	Drilled for rig supply. Converted to livestock well.
* 604	do	J. Miles	1939	95	8	A	2,596	76.0 75.1	Nov. 20, 1939 Nov. 10, 1967	C,W	S	Well W-124 in P. R. J. Inv. Southeast well of two at ranch head- quarters.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-39-605	Mrs. Anna Herring	--	1907	86	5	A	2,597	77.7 75.7	Nov. 20, 1939 Nov. 10, 1967	C,W	S	Well W-125 in P. R. J. Inv. Northwest well at ranch headquarters. Water reported gypsy. Drinking water is piped from city of Pecos water line. Hauled water from Pyote prior to its completion in 1966.
* 606	Permian Brine Co.	Owner	1963	260	6	A	2,579	63.8	Nov. 10, 1967	S,E, 1 1/2	Ind	Sandy soil at surface. Reported loose sand and clay stringers to 255 ft, redbed and gravel stringers 255-260 ft, hard rock (Santa Rosa Sandstone) at 260 ft. Set blank casing to 260 ft. Filled casing with gravel to 255 ft. Bailed 66 gpm. Water is used for drilling oil tests and is injected into the Salado Formation for recovery of brine.
607	R. M. Lasater	--	--	98	6	A	2,584	68.7	do	N	N	Unused livestock well.
701	W. F. Means	Redman	1940	103	6	A	2,555	53.8 52.3	Oct. 5, 1940 Nov. 11, 1967	N	N	Well W-231 in P. R. J. Inv. Open hole 73-103. Reported water is poor quality--livestock won't drink it.
* 801	R. M. Lasater	Everts	1938	368	6	A	2,566	60.6	Nov. 10, 1967	N	N	Well W-234 in P. R. J. Inv. Reported good water but weak well. No water in shale from 70 to 368 ft.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-39-802	R. M. Lasater	--	1908	100	6	A	2,551	53.8	Nov. 10, 1967	N	N	Well W-235 in P. R. J. Inv. Reported good water but weak well.
901	Troy Eiland	--	--	42	6	A	2,498	9.8	Nov. 11, 1967	C,W	N	Casing perforated to total depth. Well is on the bank of a slough near the Pecos River.
40-101	D. H. Brewster, Jr.	J. C. Clanton	1956	310	14	A	2,584	53.0	June 2, 1967	N	N	Drilled for irrigation. Made a feed crop in 1956. Not used since. Casing perforated 60-310.
* 102	J. Duncan	--	1950	110	5	A	--	--	--	C,W	S	Drilled by county for highway construction. Converted to livestock well. Pumping 5 gpm 6-2-67.
* 103	Bluford Thornton	--	--	79	6	A	2,588	61.0	June 4, 1967	C,W	S	
* 201	do	--	old	106	6	A	2,578	55.3 55.4	June 18, 1962 June 2, 1967	C,W	S	Well W-116 in P. R. J. Inv. Owner's "Hog Well."
* 202	do	--	1945	66	6	A	2,571	49.0 52.0	June 18, 1962 June 17, 1967	C,W	S	Well is in a depression and was under water following heavy rains in June 1967.

See footnotes at end of table.



Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
YX-46-40-203	Marnell & Stewart	Burkholder Drlg. Co.	1962	350	14	A	2,622	98.2 100.4	June 15, 1962 Aug. 11, 1967	N	N	City of Pecos test hole No. 4. Drilled and sam- ple-logged to 547 ft. Set 24-in. conductor casing to 3 ft. Set 14- in. to 525 ft with screens 135-150, 343- 373, 416-436, 479-489 and 510-525 ft. Pro- gressively plugged back to depths 547, 424, and 350 ft. Water sampled at each interval.
* 204	Lloyd James	Owner	1958	255	10	A	2,626	105.2	Aug. 11, 1967	T	N	Well was drilled for irrigation but report- edly was never used because of sand problem. City of Pecos test hole No. 2 which was drilled and sam- ple-logged to 536 ft is about 500 ft north of this well. <sup>1/</sup>
205	Humble Oil & Refg. Co.	--	1966	203	6	A	2,616	93.1	do	N	N	Drilled for rig supply. Casing perforated 160- 190 ft.
* 301	Bluford Thornton	--	1948	180	6	A	2,610	93.0 98.6	Sept. 8, 1961 Aug. 17, 1967	C,W	S	
* 302	do	E. T. (Gene) Watkins	1942	175	8	A	2,621	113.6	June 2, 1967	C,W	S	Formerly used for oil- field lease supply (Pan American Petr., Spencer water well No. 1). Casing perforated 173- 175 ft. Set 136 ft of 2 1/2-in. column pipe.
* 303	M. E. Spencer Well No. 5	Pan American Petr. Co.	--	2,905	--	Psr	--	--	--	--	--	Oil well. Sample of water was bled from separator 2-3-51.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-40-304	W. Lochaboy, Jr.	E. T. (Gene) Watkins	1958	238	12	A	2,628	122.72 127.30	Sept. 8, 1961 Dec. 14, 1967	T,G	Irr	Casing perforated 100- 235 ft. Set 190 ft of 8-in. column pipe. Owner estimates well has been pumped 450 hours since Jan. 1965. Not used prior to 1965. 2/
* 305	City of Pecos	Burkholder Drig. Co.	1963	250	14	A	2,618	116 R	Apr. 17, 1967	T,E, 100	P	City well No. 1 (old No. 9). Screened 97- 246 ft. Gravel packed. Pumping test by driller, May 14, 1963: drawdowns of 30, 45, 50, and 68 ft pumping 825, 1,040, 1,230 and 1,569 gpm for 2 hours at each rate. Drawdown of 34 ft pumping an average of 884 gpm for 57 per cent of the time (576 hours) in Apr. and May 1967--spe- cific capacity 26 gpm/ft.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-40-306	City of Pecos	Burkholder Drilg. Co.	1963	210	14	A	2,633	125 R	Apr. 10, 1967	T,E, 100	P	City well No. 2 (old No. 10). Screened 97-237 ft. Set 208 ft of 8-in. column pipe. Gravel packed. Pumping test by driller, May 13, 1963: drawdowns of 35.5, 44.2, 50, 60, 65, 69, and 75 ft pumping 825, 1,000, 1,120, 1,230, 1,336, 1,438, and 1,569 gpm for 2 hours at each rate. Drawdown of 40 ft pump- ing 865 gpm for 58 per cent of the time during 42 days in Apr. and May, 1967--specific capacity 22 gpm per foot.
* 307	do	F. C. Wheeler	1962	316	14	A	2,633	123 R	Apr. 17, 1967	T,E, 100	P	City well No. 3 (test well No. 6). Drilled and logged to 510 ft. Plugged back to 316 ft. Screened 127-227 ft, slotted 227-309 ft. Gravel packed. Slots were too large, allow- ing sand to enter well --installed a desander. Pumping test by Ed Reed & Assoc. July 13, 1962: drawdown of 19.8 ft pumping 350 gpm for 4 hours. Drawdown of 36.5 ft pumping 992 gpm for 2 hours in May 1963 (27 gpm per foot specific capacity). Reported well has been developed.--no longer pumping sand or taking gravel in 1967. 1/

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-40-308	City of Pecos	F. C. Wheeler	1962	256	14	A	2,628	125 R	Apr. 10, 1967	T,E, 100	P	City well No. 4 (test well No. 8). Screened 126-251 ft. Gravel packed. Reported draw-downs of 46.3, 53.6, 61.6, 68.6, 74.8, and 78.3 ft pumping 825, 992, 1,120, 1,230, 1,336, and 1,438 gpm for 2 hours at each rate in Aug. 1962. Drawdown of 33 ft pump- ing an average of 766 gpm for 59 percent of the time in Apr. and May 1967. <u>1/</u>
* 401	Anna L. Herring	--	--	80	6	A	2,554	50.8	June 2, 1967	C,W	S	Pumping 3.7 gpm 6-2-67.
* 402	do	Bert Everts	1939	131	6	A	2,536	33.1	do	C,W	N	Well W-123 in P. R. J. Inv. Reported water is salty. Piping water from city of Pecos line to this location in 1967.
* 501	W. H. Jackson	do	1938	84	6	A	2,553	55.0 54.8	Nov. 17, 1939 Dec. 12, 1967	C,W	S	Well W-242 in P. R. J. Inv. Called "Rock Tank Well." Reported weak supply.
* 502	Transwestern Pipeline Co.	Dixon Pump & Equip. Co.	1966	242	5	A	2,555	50 R	Sept. 26, 1966	T,E, 5	N	Casing: 14-in. to 180 ft, cemented; 10 3/4-in. to 242 ft, perforated 202-232 ft; 5 1/2-in. to 242 ft, screened 202-232 ft. Pumped 1 week for plant supply. Reported water was brackish--too much salt for plant's dis- tillation system. Hauling distilled water from plant in Pecos in 1967. <u>1/</u>

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-40-503	Guy B. Hilton	--	1964	210	15	A	2,538	48 R	Apr. 1967	T,Ng	Irr	Set 130 ft of 10-in. column pipe. Pumping level was 86.9 ft with well discharging 870 gpm 8-11-67. Reported has pumped nearly continuously for 4 months. Irrigating 32 acres of cotton and 150 acres of feed with 3 wells in 1967.
* 504	do	--	1964	230	15	A	2,562	--	--	T,Ng	Irr	Pumping 780 gpm 8-11-67.
505	do	--	1964	230	15	A	2,555	68.0	Aug. 11, 1967	T,Ng	Irr	Well not in use in 1967.
* 601	Bluford Thornton	--	Before 1900	66	6	A	2,556	58.8 61.6 62.6	Oct. 10, 1939 July 12, 1962 Aug. 11, 1967	C,W	S	Called "Blair Well." Well W-122 in P. R. J. Inv.
* 602	Paul Walker	Owner	1963	260	12	A	2,524	48.0	Aug. 15, 1967	T,G	Irr	Waters 20 head of cattle and irrigates 20-40 acres of grass.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COMPLETED	DEPTH OF WELL (FT)	CASING DIAMETER (IN.)	WATER-BEARING UNIT	ALTITUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SURFACE DATUM (FT)	DATE OF MEASUREMENT			
*YX-46-40-701	Troy Eiland	Owens Oil Co.	1931	1,100	6	Pr	2,493	+	June 1, 1967	S,E, 3/4	D,S	Well W-237 in P. R. J. Inv. Drilled and logged to 5,005 ft as oil test, W. H. Johnson No. 1. Reported top of Rustler anhydrite at 900 ft, top of dolomite at 1,025 ft. Plugged back to 1,100 ft. Left open hole 20-1,100 ft. Reported flowed 140 gpm in June 1931; 40 gpm, Mar. 1959; and 15 gpm Aug. 1961. Flowing 8 gpm 6-1-67 (well YX-46-40-703 was pumping). Flowing 29 gpm 12-12-67. Water is used for domestic and livestock supply but is not used for drinking. <u>1/</u>
* 702	do	Bill Tipton	1948	1,080	13	Pr	1,948	+	do	T,G	Irr	Cased to 31 ft. Open hole 31-1,080 ft. Reported top of Triassic (base of alluvium) at about 30 ft. Top of Rustler anhydrite at 888 ft. Main producing zone at 1,024 ft. Flowing 200 gpm in 1948 (reported), 150 gpm in Mar. 1959. (estimated) 7 gpm 6-1-67 and 47 gpm 12-12-67 (measured). Drawdown of 147 ft pum pumping 250 gpm for 83 hours in June 1967. Irrigating 171 acres of alfalfa and cotton from 2 wells and Big valley canal (Pecos River water) in 1967. <u>1/</u>

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*YX-46-40-703	Troy Eiland	Bill Tipton	1948	1,125	13	Pr	2,506	+	Dec. 12, 1967	T,G	Irr	Open hole 30-1,125 ft. Flowing 150 gpm 3-4-59 (estimated), 53 gpm 12-12-67 (measured). Pumping level 270 ft below land surface 6-1-67 with well pumping 650 gpm for 41 hours.
704	Mrs. Helen Belo	--	old	94	8	A	2,590	76.1	June 2, 1967	C,W	N	
705	A. G. Riley Est.	--	--	1,300	8	Pr	2,507	+2	June 1, 1967	N	N	Called "Riley Well." Flowing 16 gpm out of pipe .8 ft above land surface 12-12-67. Formerly used for irrigation.
* 706	Troy Eiland	Howell & Parker	1948	1,200	8	Pr	--	+	do	N	N	Called "Kugle Well." Used for irrigation until 1954. Estimated flowing 30 gpm 6-1-67.
* 801	do	Arthur Pitts Oil Co.	1920	1,680	10	Pr	2,481	+	do	N	N	Called "Valley Well." Drilled as oil test. Fitz Sitton at Pyote recalls that the well nearly flooded out the area when drilled. Well was flowing an estimated 2 ft (about 900 gpm) in 1932. Water was used to irrigate several acres of alfalfa in 1939. Well was flowing about 1/4 gpm out of a 2 1/2-in. nipple 4 ft above ground level 12-12-67.
802	do	John Woodfin	1960	40	6	A	2,489	22.7	Dec. 12, 1967	C,W	N	Casing perforated 20-40 ft. Water reported salty.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COMPLETED	DEPTH OF WELL (FT)	CASING DIAMETER (IN.)	WATER-BEARING UNIT	ALTITUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SURFACE DATUM (FT)	DATE OF MEASUREMENT			
*YX-46-40-901	Troy Eiland	--	1945	110	8	A	2,539	77.4	June 1, 1967	C,W	N	Casing perforated 90-110 ft.
Crane County												
*HH-45-26-301	J. H. Edwards & Sons	E. T. (Gene) Watkins	1948	90	6	A	--	66.5	May 11, 1967	C,W	S	Well D-19 in Crane County report. Drilled to test Rustler Formation for irrigation. Reported perforated casing in shallow sands (Allurosa aquifer) and left hole open below 100 ft. "Top water was strong 125 gpm; bottom water (Rustler) was salty."
34-603	T. C. Barnsley	Jones	old	466	6	A,Pr	--	51.5 53.7	Nov. 1, 1954 June 25, 1967	N	N	
* 39-901	Jess M. Wristen	Jim Miles	1967	55	6	A	2,465	39.9	July 20, 1967	C,W	S	Casing perforated 35-55 ft. Reported water is brackish.
Winkler County												
*ZP-45-17-401	Sealy-Smith Fdn. (Jess Anthony)	Frank Anthony	1956	300	6	A	2,676	32.7 33.9	Oct. 8, 1956 May 17, 1967	C,W	D	Well H-81 in Winkler County report. Reported water sand at 72 ft, redbeds (Triassic) at 90 ft. No water from 90 to 300 ft.

See footnotes at end of table.



Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*ZP-45-17-802	Shell Oil Co.	Dixon Pump & Equipment Co.	1967	950	8	Pr	2,685	195.2	May 17, 1967	N	N	Sealy-Smith water well No. 3. Casing: 13 3/8-in. to 133 ft; 8 5/8-in. to 850 ft; open hole 850-950 ft in Rustler Formation. Development tests by driller 2-15-67: drawdown of 17 ft pumping 220 gpm for 1 hour. Drawdown of 8 ft pumping 150 gpm. Bailed water sample 5-17-67. <u>1/</u>
901	do	--	--	40	7	A	2,710	28.95 29.94	Oct. 8, 1956 Nov. 29, 1967	N	N	Well W-75 in Winkler County report. Current observation well. Formerly used for rig supply. <u>2/</u>
908	Sealy-Smith Foundation	Shell Oil Co.	1948	10	--	A	2,716	5.7 8.1	July 4, 1957 May 17, 1967	N	S	Pit bulldozed in dune sand. Well H-71 in Winkler County report.
911	Shell Oil Co.	Owner	1962	860	6	Pr	--	--	--	S,E, 50	Ind	Sealy-Smith water well No. 2. Open hole 773-860 ft in Rustler Formation. Reported pumped 9,000 barrels per day (262 gpm) with the pumping level at 300 ft. Water reported to be corrosive. Used for secondary recovery of oil.
* 18-702	Sealy-Smith Fnd.	Shell Oil Co.	1949	10	--	A	2,734	5	July 4, 1957	N	N	Pit bulldozed in dune sand. Filled with sand to above water table in 1967.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
*ZP-45-22-801	L. W. Anderson Rch.	Lang Buchanan	1940	151	6	A	2,783	109.5 109.0 107.6	Aug. 21, 1940 Apr. 1, 1957 Oct. 2, 1967	C,W	S	Called "China Well." Well F-43 in Winkler County report. Open hole 3-151 ft. <u>1/</u>
* 23-601	Jack Baugus	Hamblin	1956	400	12	A	2,709	113.6 113.8 116.4	Oct. 7, 1956 Feb. 26, 1957 Sept. 14, 1967	T,Ng	Irr	Well G-161 in Winkler County report. Casing perforated 320-400 ft. Set 180 ft of 8-in. column pipe. Reported to have pumped 1,230 gpm for 48 hours during a development test. Pumping 425 gpm 9-14- 67. <u>1/</u>
* 602	do	do	1956	223	12	A	--	110.2	Feb. 26, 1957	T,Ng	Irr	Well G-162 in Winkler County report. Casing perforated 163-223 ft.
603	do	do	1956	400	12	A	--	110.18 117.30	Feb. 26, 1957 Nov. 29, 1967	T	Irr	Well G-163 in Winkler County report. Casing perforated 320-400 ft. Reported drawdown of 69 ft pumping 1,040 gpm for 12 hours in 1956. Current obser- vation well. <u>2/</u>
* 701	Anderson Ranch	--	1938	160	6	A	2,732	78.4 80.7	Sept. 4, 1956 Dec. 16, 1967	C,W	S	Called "Division Well." Well W-23 in P. R. J. Inv. Well F-44 in Winkler County report.
* 801	Phillips Petr. Co.	J. D. Cole	1955	200	10	A	2,760	162.5 164.4	Sept. 21, 1956 Sept. 14, 1967	N	N	Drilled for rig supply. Not used since. Well F-46 in Winkler County report.
901	Mobil Oil Co.	--	--	159	8	A	--	112.5	Sept. 14, 1967	N	N	Unused rig-supply well.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
ZP-46-23-903	R. J. Milligan	--	1930	144	6	A	2,692	105.14 106.47	Mar. 6, 1956 Sept. 12, 1967	N	N	Well W-39 in P. R. J. Inv. Well G-164 in Winkler County report. Historical observation well. Obstruction in casing at 109 ft in 1967. <u>2/</u>
* 24-707	Fay and Lula Hogg	Layne-Texas Co.	1957	433	--	A	2,700	110 R	May 1957	N	N	Drilled and logged as test hole 9-A for city of Monahans. <u>1/</u>
708	City of Monahans	do	1957	402	--	A	2,704	117 R	do	N	N	Drilled and logged at test hole 8. <u>1/</u>
815	Gulf Oil Corp.	--	1962	4,400	13	Pc	2,729	--	--	T,E, 100	Ind	O'Brien water supply well No. A-11. Casing: 20-in. to 515 ft, cemented with 550 sacks; 13 3/8 and 9 5/8-in. to 3,526 ft, cemented with 2,200 sacks; open hole 3,526-4,400 ft in Capitan reef.
816	do	--	1962	4,400	13	Pc	2,715	--	--	T,E, 125	Ind	O'Brien water supply well No. A-12. Casing: 20-in. to 515 ft, cemented with 450 sacks; 13 3/8-in. and 9 5/8-in. to 3,496 ft, cemented with 1,900 sacks, open hole 3,496-4,400 ft.

See footnotes at end of table.

Table 6.--Records of Wells and Test Holes in Ward County and Adjacent Areas--Continued

WELL	OWNER	DRILLER	DATE COM- PLET- ED	DEPTH OF WELL (FT)	CASING DIAM- ETER (IN.)	WATER- BEAR- ING UNIT	ALTI- TUDE OF LAND SURFACE (FT)	WATER LEVEL		METHOD OF LIFT	USE OF WATER	REMARKS
								ABOVE (+) OR BELOW LAND SUR- FACE DATUM (FT)	DATE OF MEASURE- MENT			
ZP-46-24-817	Gulf Oil Corp.	--	1962	4,500	13	Pc	2,685	--	--	T,E, 125	Ind	O'Brien water supply well. No. A-13. Cas- ing: 20-in. to 522 ft, cemented with 500 sacks; 13 3/8 and 9 5/8-in. to 3,541 ft, cemented with 200 sacks; open hole 3,541-4,500 ft.

\* Chemical analyses of water given in Table 8.

1/ Log of well in files of Texas Water Development Board.

2/ Additional water-level measurements in Table 7.

Table 7.—Water Levels in Wells in Ward County and Adjacent Areas

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
<b>Ward County</b>		Dec. 6, 1956	53.01	Dec. 8, 1962	51.12
<b>Well YX-45-17-801</b>		Dec. 6, 1957	45.73	Dec. 4, 1963	53.01
Owner: Sealy-Smith Foundation		May 16, 1967	57.90	Dec. 3, 1964	53.65
Mar. 6, 1956	40.34	<b>Well YX-45-33-101</b>		Dec. 6, 1965	52.80
Dec. 6, 1956	40.95	Owner: Standard Oil Company of Texas		Dec. 8, 1966	55.23
Dec. 7, 1957	40.70	June 23, 1948	79.16	July 21, 1967	52.63
Dec. 5, 1959	41.40	Dec. 7, 1949	79.16	Dec. 30, 1967	52.94
Jan. 18, 1961	40.88	Dec. 2, 1950	79.35	<b>Well YX-45-33-502</b>	
Dec. 7, 1961	41.24	Jan. 31, 1952	79.51	Owner: Richardson Oils	
Dec. 7, 1962	41.30	Feb. 7, 1953	80.16	Jan. 3, 1949	68.27
Dec. 5, 1963	41.16	Jan. 24, 1954	80.92	Dec. 7, 1949	68.38
Dec. 3, 1964	41.68	Jan. 10, 1955	82.06	Dec. 2, 1950	68.98
Dec. 6, 1965	42.07	Jan. 4, 1956	82.83	Jan. 31, 1952	71.02
Dec. 8, 1966	43.35	Jan. 26, 1957	83.13	Feb. 7, 1953	71.65
Apr. 6, 1967	41.65	Feb. 7, 1958	83.52	Jan. 24, 1954	72.22
Dec. 30, 1967	41.62	Dec. 6, 1959	83.65	Jan. 10, 1955	72.92
<b>Well YX-45-25-901</b>		Jan. 18, 1961	83.87	Jan. 4, 1956	73.46
Owner: W. B. Morris		Dec. 6, 1961	83.98	Feb. 7, 1958	74.30
Feb. 9, 1955	39.49	Dec. 8, 1962	82.50	Jan. 18, 1961	74.94
Dec. 4, 1955	38.66	Dec. 4, 1963	84.45	Dec. 6, 1961	74.97
Mar. 5, 1956	38.13	Dec. 3, 1964	84.59	Dec. 8, 1962	75.05
Dec. 6, 1956	38.34	Dec. 6, 1965	84.87	Dec. 4, 1963	76.10
Dec. 6, 1957	37.54	Dec. 8, 1966	84.94	Dec. 3, 1964	70.48
Dec. 5, 1959	37.61	Dec. 30, 1967	84.99	Dec. 6, 1965	75.48
Jan. 18, 1961	37.49	<b>Well YX-45-33-501</b>		Dec. 8, 1966	75.42
Dec. 7, 1961	38.25	Owner: D. B. Durgin		July 21, 1967	75.78
Dec. 8, 1962	38.75	Jan. 3, 1949	46.88	Dec. 30, 1967	75.74
Dec. 4, 1963	39.26	Dec. 7, 1949	46.95	<b>Well YX-45-33-504</b>	
Dec. 3, 1964	39.69	Dec. 2, 1950	47.15	Owner: Standard Oil Co. of Texas	
Dec. 6, 1965	40.29	Jan. 31, 1952	47.28	June 23, 1948	60.95
Dec. 8, 1966	40.00	Jan. 24, 1954	48.09	Dec. 2, 1948	61.75
Dec. 30, 1967	40.66	Jan. 10, 1955	48.38	Oct. 2, 1949	61.74
<b>Well YX-45-26-701</b>		Jan. 4, 1956	48.69	Oct. 3, 1950	61.72
Owner: Lewis Rochester & J. E. Perkins		Jan. 26, 1957	48.80	Jan. 31, 1952	66.01
Feb. 9, 1955	44.22	Feb. 7, 1958	49.66	July 21, 1967	68.85
Dec. 4, 1955	43.09	Dec. 6, 1959	50.37		
Mar. 5, 1956	47.79	Jan. 18, 1961	50.93		
		Dec. 6, 1961	50.71		

Table 7.—Water Levels in Wells in Ward County and Adjacent Areas—Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
<b>Well YX-45-33-505</b>		<b>Well YX-45-33-905</b>		Dec. 3, 1964	72.19
Owner: Standard Oil Company of Texas		Owner: Cities Service, et al.		Dec. 6, 1965	72.28
June 23, 1948	61.95	Apr. 29, 1940	38.06	May 13, 1967	71.95
Dec. 2, 1948	62.41	Dec. 2, 1948	40.70	Dec. 30, 1967	71.34
Dec. 7, 1949	62.92	Dec. 7, 1949	40.75	<b>Well YX-45-42-501</b>	
Oct. 3, 1950	62.90	Dec. 2, 1950	41.68	Owner: Chas. W. Potts	
July 21, 1967	70.10	Jan. 2, 1951	41.75	1938	9
<b>Well YX-45-33-506</b>		Apr. 22, 1967	50.33	May 19, 1967	25.13
Owner: Standard Oil Company of Texas		<b>Well YX-45-34-401</b>		July 19, 1967	24.00
June 23, 1948	58.83	Owner: Jack Richardson		Aug. 16, 1967	24.00
Dec. 7, 1949	60.18	Feb. 9, 1955	44.68	Oct. 1, 1967	23.20
Oct. 3, 1950	60.31	Dec. 4, 1955	49.18	Nov. 6, 1967	22.54
July 31, 1967	67.67	Dec. 6, 1956	47.87	<b>Well YX-45-42-502</b>	
<b>Well YX-45-33-803</b>		Dec. 6, 1957	45.98	Owner: R. Lindsey	
Owner: Standard Oil Company of Texas		Dec. 5, 1959	45.59	Feb. 2, 1940	10.70
Mar. 2, 1949	58.69	June 25, 1967	45.43	Mar. 20, 1940	11.48
Dec. 7, 1949	58.68	Oct. 21, 1967	48.66	Apr. 2, 1940	11.39
Nov. 2, 1950	58.83	<b>Well YX-45-34-402</b>		May 15, 1940	8.51
Jan. 31, 1952	60.36	Owner: Texas State Highway Department		Aug. 29, 1940	9.60
Feb. 7, 1953	61.10	Dec. 4, 1955	55.13	Oct. 2, 1940	10.26
Jan. 24, 1954	62.02	Mar. 5, 1956	56.80	Dec. 6, 1940	11.12
Jan. 10, 1955	62.77	Dec. 6, 1956	54.79	Mar. 27, 1941	12.96
Jan. 4, 1956	63.55	Dec. 5, 1959	56.09	May 15, 1941	9.93
Jan. 26, 1957	63.69	Jan. 18, 1961	54.70	Dec. 29, 1942	9.60
Feb. 7, 1958	63.68	Dec. 6, 1961	58.08	<b>Well YX-45-42-504</b>	
Dec. 6, 1959	64.00	Dec. 8, 1962	54.39	Owner: R. D. Morris	
Jan. 18, 1961	64.20	Dec. 4, 1963	57.06	Apr. 26, 1967	21.60
Dec. 6, 1961	64.72	Dec. 6, 1965	55.38	July 19, 1967	20.40
Dec. 8, 1962	65.14	Dec. 8, 1966	58.63	Aug. 16, 1967	19.87
Dec. 4, 1963	66.84	<b>Well YX-45-34-405</b>		Oct. 1, 1967	18.37
Dec. 3, 1964	69.25	Owner: Geo. R. Bentley		Nov. 6, 1967	18.31
Dec. 6, 1965	69.62	Mar. 5, 1956	70.49	<b>Well YX-45-42-506</b>	
Dec. 8, 1966	67.64	Dec. 6, 1956	71.25	Owner: J. D. Witcher	
July 21, 1967	67.33	Dec. 6, 1957	71.49	Apr. 27, 1967	21.42
		Jan. 18, 1961	72.68	July 19, 1967	19.41
		Dec. 6, 1961	71.83	Aug. 16, 1967	19.37
		Dec. 8, 1962	72.64	Oct. 1, 1967	17.89
		Dec. 4, 1963	74.16	Nov. 6, 1967	17.83

**Table 7.—Water Levels in Wells in Ward County and Adjacent Areas—Continued**

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
<b>Well YX-45-42-507</b>		<b>Well YX-46-23-902</b>		<b>Well YX-46-24-803</b>	
Owner: Eddie Mosley		Owner: R. B. Leck		Owner: Texas Electric Service Co.	
Apr. 27, 1967	19.28	Dec. 5, 1959	108.25	Mar. 6, 1956	130.49
July 19, 1967	17.79	Jan. 18, 1961	107.75	Dec. 7, 1957	130.75
Aug. 16, 1967	16.92	Dec. 6, 1961	108.59	Dec. 5, 1959	131.84
Oct. 1, 1967	16.34	Dec. 8, 1962	108.70	Jan. 18, 1961	132.13
Nov. 6, 1967	16.14	Dec. 4, 1963	108.10	Dec. 6, 1961	133.00
<b>Well YX-45-42-508</b>		Dec. 3, 1964	108.52	Aug. 31, 1967	136.70
Owner: John R. Williams		Dec. 6, 1965	108.69	<b>Well YX-46-24-902</b>	
Apr. 27, 1967	18.56	Dec. 9, 1966	108.34	Owner: G. W. O'Brien Estate	
July 19, 1967	17.00	Sept. 13, 1967	111.22	Mar. 6, 1956	112.57
Aug. 16, 1967	15.90	Dec. 30, 1967	108.92	Oct. 15, 1956	112.68
Oct. 1, 1967	15.73	<b>Well YX-46-23-904</b>		Dec. 6, 1956	112.73
Nov. 6, 1967	15.57	Owner: R. B. Leck		Dec. 7, 1957	112.86
<b>Well YX-45-42-509</b>		Oct. 7, 1956	107.24	Dec. 5, 1959	112.40
Owner: L. E. Wilcox		Dec. 7, 1957	106.85	Jan. 18, 1961	114.35
July 19, 1967	20.13	Dec. 5, 1959	106.44	Dec. 6, 1961	112.00
Aug. 16, 1967	20.95	Sept. 12, 1967	109.30	Dec. 8, 1962	112.24
Oct. 1, 1967	17.93	<b>Well YX-46-24-701</b>		Dec. 5, 1963	112.05
Nov. 6, 1967	19.08	Owner: City of Monahans		Dec. 3, 1964	112.30
<b>Well YX-45-42-512</b>		June 7, 1957	117.43	Dec. 6, 1965	112.34
Owner: Carpenter Farms		Dec. 5, 1959	119.20	Dec. 8, 1966	112.10
May 9, 1967	19.35	Aug. 31, 1967	126.71	Aug. 31, 1967	111.88
July 19, 1967	18.70	Dec. 14, 1967	123.89	Dec. 30, 1967	111.71
Aug. 16, 1967	18.80	<b>Well YX-46-24-802</b>		<b>Well YX-46-29-402</b>	
Oct. 1, 1967	17.85	Owner: G. W. O'Brien Estate		Owner: Burkholder Bros.	
Nov. 6, 1967	17.69	Mar. 6, 1956	135.95	Nov. 6, 1939	29.79
<b>Well YX-45-42-601</b>		Dec. 6, 1956	136.10	Dec. 5, 1940	29.50
Owner: Hal Eudaly, Jr.		Dec. 7, 1957	136.84	Mar. 25, 1941	29.12
May 9, 1967	19.18	Dec. 5, 1959	136.57	Aug. 8, 1949	32.23
Aug. 16, 1967	19.02	Jan. 18, 1961	135.95	Mar. 23, 1950	32.95
Nov. 6, 1967	18.65	Dec. 6, 1961	136.76	Oct. 17, 1967	37.94
		Dec. 8, 1962	137.56	<b>Well YX-46-29-503</b>	
		Dec. 5, 1963	140.07	Owner: C. L. Monroe Est.	
		Dec. 6, 1965	138.10	Nov. 6, 1939	59.40
		Aug. 31, 1967	138.30	Dec. 5, 1940	57.28
		Dec. 30, 1967	137.87	Mar. 25, 1941	57.18
				May 13, 1941	57.04
				Aug. 11, 1941	56.99

**Table 7.—Water Levels in Wells in Ward County and Adjacent Areas—Continued**

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
<b>Well YX-46-29-503—Continued</b>		<b>Well YX-46-29-702</b>		Aug. 14, 1942	6.82
Mar. 12, 1942	56.23	Owner: W.C.I.D. No. 1		Dec. 25, 1942	12.77
Aug. 14, 1942	56.41	Sept. 30, 1946	13.73	Oct. 18, 1967	17.98
Dec. 28, 1942	56.50	Dec. 4, 1946	16.77	<b>Well YX-46-29-705</b>	
Aug. 8, 1949	59.10	Jan. 29, 1947	14.94	Owner: M. I. Vida Farms, Inc.	
Jan. 24, 1950	59.93	Feb. 8, 1949	18.50	Oct. 28, 1946	15.01
Mar. 23, 1950	59.54	Jan. 23, 1950	21.59	Dec. 4, 1946	16.00
Oct. 17, 1967	63.32	Mar. 3, 1950	20.61	Jan. 29, 1947	17.07
<b>Well YX-46-29-701</b>		Feb. 14, 1951	16.90	Mar. 3, 1948	20.08
Owner: M. I. Vida Farms, Inc.		Jan. 29, 1952	18.74	Feb. 8, 1949	21.44
Sept. 8, 1941	4.69	Feb. 4, 1953	21.92	Jan. 23, 1950	22.64
Nov. 2, 1946	10.44	Jan. 23, 1954	24.77	Mar. 3, 1950	23.63
Dec. 4, 1946	11.21	Jan. 8, 1955	24.13	Oct. 18, 1967	20.70
Jan. 29, 1947	12.19	Jan. 5, 1956	20.26	<b>Well YX-46-29-706</b>	
Mar. 3, 1948	14.87	Jan. 26, 1957	21.71	Owner: W.C.I.D. No. 1	
Feb. 8, 1949	16.80	Feb. 3, 1958	22.73	Sept. 30, 1946	11.36
Jan. 23, 1950	18.28	Feb. 12, 1959	20.03	Dec. 4, 1946	13.42
Mar. 3, 1950	18.82	Jan. 19, 1961	17.99	Jan. 29, 1947	12.67
Feb. 14, 1951	15.50	Dec. 7, 1961	17.52	Feb. 8, 1949	16.67
Jan. 29, 1952	20.35	Dec. 4, 1963	25.45	Jan. 23, 1950	19.57
Feb. 4, 1953	20.62	Dec. 3, 1964	29.34	Mar. 3, 1950	18.50
Jan. 23, 1954	23.74	Dec. 6, 1965	27.48	Feb. 3, 1958	20.72
Jan. 8, 1955	22.43	Dec. 10, 1966	27.82	Feb. 12, 1959	18.56
Jan. 5, 1956	18.09	Apr. 25, 1967	25.23	Oct. 18, 1967	16.80
Jan. 26, 1957	19.40	Oct. 18, 1967	19.78	<b>Well YX-46-29-708</b>	
Feb. 3, 1958	22.55	Dec. 1, 1967	20.48	Owner: W.C.I.D. No. 1	
Feb. 12, 1959	18.24	<b>Well YX-46-29-704</b>		Sept. 30, 1946	9.24
Jan. 19, 1961	16.86	Owner: M. I. Vida Farms, Inc.		Dec. 4, 1946	10.92
Dec. 7, 1961	15.32	Sept. 19, 1939	7.90	Jan. 29, 1947	10.94
Dec. 9, 1962	20.85	Oct. 19, 1939	6.92	Feb. 8, 1949	15.20
Dec. 4, 1963	25.58	Jan. 8, 1940	11.71	Jan. 23, 1950	18.86
Dec. 3, 1964	32.10	Apr. 30, 1940	10.65	Mar. 3, 1950	17.32
Dec. 6, 1965	27.93	Mar. 26, 1941	17.70	Apr. 25, 1967	20.35
Dec. 10, 1966	28.63	May 14, 1941	13.00	Oct. 18, 1967	14.19
Apr. 25, 1967	25.43	Aug. 11, 1941	8.28	<b>Well YX-46-29-801</b>	
Oct. 18, 1967	15.66	Sept. 5, 1941	7.84	Owner: R. Burkholder	
		Oct. 2, 1941	9.00	Nov. 25, 1946	17.70
		Mar. 12, 1942	11.22	Dec. 4, 1946	17.40



**Table 7.—Water Levels in Wells in Ward County and Adjacent Areas—Continued**

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
<b>Well YX-46-29-801—Continued</b>		<b>Well YX-46-31-601</b>		Dec. 7, 1961	50.80
Jan. 29, 1947	16.64	Owner: Lucille Smith		Dec. 8, 1962	49.89
Jan. 24, 1950	19.26	Mar. 6, 1956	99.72	Dec. 3, 1964	49.93
Mar. 3, 1950	19.29	Dec. 6, 1956	105.93	Dec. 6, 1965	50.15
Feb. 14, 1951	19.81	Dec. 7, 1957	103.35	Dec. 9, 1966	50.03
Jan. 28, 1952	21.85	Dec. 5, 1959	102.55	Nov. 13, 1967	57.86
Feb. 4, 1953	22.39	Jan. 1961	100.43	<b>Well YX-46-32-402</b>	
Jan. 23, 1954	22.36	Dec. 6, 1961	101.28	Owner: J. A. Pebsworth, Jr.	
Jan. 8, 1955	23.23	Dec. 8, 1962	100.20	Mar. 6, 1956	76.90
Jan. 5, 1956	23.42	Dec. 4, 1963	101.15	Dec. 6, 1956	77.67
Jan. 26, 1957	22.63	Dec. 3, 1964	101.08	Dec. 7, 1957	77.85
Feb. 3, 1958	23.61	Dec. 6, 1965	101.24	Dec. 5, 1959	77.84
Jan. 19, 1961	22.17	Dec. 9, 1966	101.45	Sept. 11, 1967	79.72
Dec. 7, 1961	22.80	Sept. 12, 1967	101.65	<b>Well YX-46-32-403</b>	
Dec. 9, 1962	22.95	<b>Well YX-46-31-602</b>		Owner: Fitz Sitton	
Dec. 4, 1963	23.66	Owner: N. T. Zachry		Mar. 6, 1956	79.12
Dec. 3, 1964	24.43	Mar. 6, 1956	99.00	Dec. 6, 1956	79.95
Dec. 6, 1965	24.35	Dec. 6, 1956	103.4	Dec. 7, 1957	81.75
Dec. 10, 1966	24.75	Dec. 7, 1957	100.82	Dec. 5, 1959	81.46
Apr. 26, 1967	24.79	Dec. 5, 1959	100.20	Jan. 18, 1961	80.24
Oct. 18, 1967	24.98	Jan. 18, 1961	99.60	Dec. 6, 1961	80.58
Dec. 1, 1967	25.34	Dec. 6, 1961	99.32	Dec. 8, 1962	80.56
<b>Well YX-46-31-302</b>		Dec. 8, 1962	99.92	Dec. 4, 1963	81.46
Owner: M. A. Williford		Dec. 4, 1963	100.55	Dec. 3, 1964	81.38
Mar. 6, 1956	104.95	Sept. 27, 1967	103.36	Dec. 6, 1965	81.53
Dec. 6, 1956	106.36	<b>Well YX-46-31-701</b>		Dec. 9, 1966	81.58
Dec. 7, 1957	106.53	Owner: John Wilson		Sept. 9, 1967	82.84
Dec. 5, 1959	105.91	Sept. 26, 1939	62.94	Dec. 30, 1967	82.92
Jan. 18, 1961	105.23	Mar. 11, 1940	66.43	<b>Well YX-46-32-405</b>	
Dec. 6, 1961	106.74	Oct. 8, 1940	63.81	Owner: J. A. Pebsworth, Jr.	
Dec. 8, 1962	105.20	Dec. 27, 1941	57.98	Mar. 6, 1956	80.75
Dec. 4, 1963	106.43	Oct. 28, 1942	63.06	Dec. 6, 1956	81.59
Dec. 3, 1964	105.63	Nov. 14, 1967	66.05	Dec. 7, 1957	82.28
Dec. 6, 1965	106.00	<b>Well YX-46-31-901</b>		Dec. 5, 1959	81.97
Dec. 9, 1966	105.69	Owner: Dr. H. B. Johnson		Jan. 18, 1961	81.94
Sept. 12, 1967	105.95	Dec. 7, 1957	54.14	Dec. 6, 1961	82.06
Oct. 30, 1967	105.94	Dec. 5, 1959	50.74	Dec. 8, 1962	82.19
		Jan. 18, 1961	50.90	Dec. 4, 1963	82.61

**Table 7.—Water Levels in Wells in Ward County and Adjacent Areas—Continued**

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
<b>Well YX-46-32-405—Continued</b>		<b>Well YX-46-37-101</b>		Jan. 29, 1947	13.02
Dec. 3, 1964	83.04	Owner: Dan Cooper		Feb. 8, 1949	15.76
Dec. 6, 1965	83.20	Feb. 3, 1958	16.60	Jan. 23, 1950	19.15
Dec. 9, 1966	83.33	Dec. 12, 1959	15.64	Mar. 3, 1950	17.86
Sept. 9, 1967	83.77	Jan. 19, 1961	13.07	Feb. 4, 1953	19.05
Dec. 30, 1967	83.47	Dec. 7, 1961	12.81	Jan. 23, 1954	22.20
<b>Well YX-46-32-504</b>		Dec. 9, 1962	14.83	Jan. 11, 1955	16.46
Owner: Texas State Highway Department		Dec. 4, 1963	17.94	Jan. 5, 1956	14.00
Feb. 23, 1940	104.98	Dec. 6, 1965	18.46	Jan. 26, 1957	14.10
Jan. 31, 1952	106.42	Dec. 10, 1966	18.62	Feb. 3, 1958	15.05
Feb. 7, 1953	107.08	June 21, 1967	20.25	Feb. 12, 1959	15.92
Jan. 24, 1954	107.74	Oct. 20, 1967	16.08	Jan. 19, 1961	14.01
Jan. 10, 1955	107.94	Dec. 1, 1967	19.01	Dec. 7, 1961	13.01
Jan. 4, 1956	107.84	<b>Well YX-46-37-102</b>		Dec. 4, 1963	20.72
Jan. 26, 1957	107.65	Owner: C. Armstrong		Dec. 3, 1964	31.90
Feb. 7, 1958	108.53	Dec. 17, 1930	4.11	Dec. 6, 1965	31.88
Dec. 5, 1959	109.67	Dec. 31, 1931	4.45	Dec. 19, 1967	15.38
Jan. 18, 1961	109.54	Feb. 2, 1932	5.12	<b>Well YX-46-37-204</b>	
Dec. 6, 1961	109.80	Dec. 9, 1939	6.02	Owner: W.C.I.D. No. 1	
Dec. 8, 1962	109.80	June 3, 1940	6.38	Sept. 30, 1946	10.85
Dec. 4, 1963	110.40	Dec. 5, 1940	7.73	Dec. 4, 1946	12.22
Dec. 3, 1964	111.32	Mar. 25, 1941	8.70	Jan. 29, 1947	12.47
Dec. 6, 1965	110.77	Dec. 28, 1942	5.40	Feb. 8, 1949	15.66
Dec. 8, 1966	112.00	<b>Well YX-46-37-104</b>		Jan. 23, 1950	18.26
Sept. 6, 1967	112.64	Owner: Dan Cooper		Mar. 3, 1950	17.64
<b>Well YX-46-32-506</b>		Feb. 3, 1958	13.86	Aug. 17, 1950	10.54
Owner: Texas Electric Service Co.		Feb. 12, 1959	12.72	Feb. 14, 1951	11.76
Dec. 5, 1959	97.40	June 21, 1967	17.6	Feb. 4, 1953	19.06
Jan. 18, 1961	97.10	Dec. 20, 1967	15.42	Jan. 23, 1954	21.21
Dec. 6, 1961	97.73	<b>Well YX-46-37-105</b>		Jan. 11, 1955	21.18
Dec. 8, 1962	97.98	Owner: Floyd Lukins		Jan. 5, 1956	11.42
Dec. 4, 1963	99.35	Jan. 8, 1950	14.25	Jan. 26, 1957	16.07
Dec. 3, 1964	99.43	July 10, 1950	15.50	Feb. 3, 1958	17.10
Dec. 6, 1965	99.69	Feb. 14, 1951	11.98	Feb. 12, 1959	17.89
Dec. 8, 1966	100.39	June 29, 1967	22.9	Jan. 1961	14.53
Sept. 14, 1967	101.07	<b>Well YX-46-37-201</b>		Dec. 7, 1961	12.95
Dec. 30, 1967	100.81	Owner: W.C.I.D. No. 1		Oct. 23, 1967	13.30
		Sept. 30, 1946	13.19		
		Dec. 4, 1946	15.32		

**Table 7.—Water Levels in Wells in Ward County and Adjacent Areas—Continued**

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
<b>Well YX-46-37-206</b>		Jan. 23, 1954	22.35	Feb. 14, 1951	14.56
Owner: R. S. (Bob) Hayes		Jan. 11, 1955	19.32	Jan. 4, 1956	16.94
Dec. 28, 1946	13.83	Jan. 5, 1956	10.62	May 10, 1967	19.15
Dec. 4, 1946	14.41	Oct. 23, 1967	15.87	Oct. 25, 1967	19.43
Dec. 9, 1947	14.71	<b>Well YX-46-37-211</b>		<b>Well YX-46-37-303</b>	
Mar. 3, 1948	15.37	Owner: R. W. Burkholder		Owner: Snyder National Bank	
Feb. 8, 1949	15.51	Dec. 2, 1959	18.25	Feb. 8, 1940	7.11
Dec. 3, 1950	16.68	Jan. 19, 1961	16.10	Oct. 19, 1940	5.44
Mar. 3, 1950	17.21	Dec. 7, 1961	14.07	Mar. 1, 1941	8.19
Feb. 14, 1951	14.68	Dec. 9, 1962	18.52	July 21, 1941	3.16
Jan. 29, 1952	16.96	Dec. 4, 1963	18.30	Jan. 1, 1942	5.45
Feb. 4, 1953	20.67	Dec. 3, 1964	22.27	July 21, 1942	2.50
Jan. 23, 1954	34.18	Dec. 6, 1965	22.07	Dec. 29, 1942	5.66
Jan. 8, 1955	22.72	Dec. 10, 1966	19.00	<b>Well YX-46-37-305</b>	
Jan. 4, 1956	15.23	Oct. 24, 1967	14.84	Owner: Allgood, Avary, and Cummings	
Jan. 26, 1957	17.88	Dec. 1, 1967	16.97	Dec. 17, 1930	5.41
Feb. 3, 1958	17.35	<b>Well YX-46-37-213</b>		Dec. 31, 1931	8.59
Feb. 12, 1959	17.79	Owner: W.C.I.D. No. 1		Dec. 9, 1939	9.71
Dec. 24, 1967	16.76	Dec. 17, 1930	4.52	Dec. 5, 1940	10.18
<b>Well YX-46-37-207</b>		May 6, 1931	1.30	Mar. 26, 1941	12.70
Owner: R. Allgood		Dec. 9, 1939	5.91	Dec. 29, 1942	9.61
Dec. 17, 1930	5.97	Dec. 5, 1940	8.04	Nov. 1, 1946	12.13
Dec. 31, 1931	3.98	Dec. 28, 1942	5.63	May 10, 1967	16.03
May 2, 1932	3.12	Jan. 31, 1947	12.28	Nov. 9, 1967	15.83
Dec. 9, 1939	7.21	Oct. 23, 1967	15.20	<b>Well YX-46-37-306</b>	
Apr. 10, 1940	8.33	<b>Well YX-46-37-214</b>		Owner: Paul Durkel	
Dec. 5, 1940	9.87	Owner: R. W. Burkholder		Mar. 7, 1940	9.98
Mar. 25, 1941	10.71	Dec. 17, 1930	7.15	Dec. 1, 1940	9.20
Dec. 21, 1942	7.76	May 6, 1931	4.88	July 2, 1941	3.86
Oct. 29, 1946	15.32	Dec. 21, 1931	9.10	Dec. 16, 1941	6.27
<b>Well YX-46-37-208</b>		June 6, 1932	4.32	June 16, 1942	2.20
Owner: W.C.I.D. No. 1		Nov. 1, 1946	15.54	Dec. 29, 1942	7.67
Dec. 4, 1946	12.08	Oct. 24, 1967	16.85	<b>Well YX-46-37-307</b>	
Jan. 29, 1947	13.32	<b>Well YX-46-37-302</b>		Owner: Geo. E. Briggs	
Feb. 8, 1949	16.28	Owner: W. G. Burkholder		Dec. 17, 1930	6.53
Jan. 23, 1950	18.49	Jan. 31, 1947	14.55	May 6, 1931	5.15
Feb. 14, 1951	13.06	Mar. 3, 1948	15.22	Dec. 31, 1931	8.23
Feb. 4, 1953	20.00	Feb. 8, 1949	15.29	June 1, 1932	5.87

Table 7.—Water Levels in Wells in Ward County and Adjacent Areas—Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
<b>Well YX-46-37-307—Continued</b>		<b>Well YX-46-37-404</b>		Feb. 3, 1958	20.17
Dec. 9, 1939	10.46	Owner: A. J. Carpenter		Feb. 12, 1959	20.87
Dec. 1, 1940	13.54	Aug. 29, 1949	17.39	Jan. 18, 1961	19.84
July 2, 1941	8.07	Sept. 23, 1949	13.08	Dec. 7, 1961	19.26
Oct. 2, 1941	11.62	Jan. 18, 1950	8.31	Dec. 9, 1962	21.94
May 16, 1942	4.00	Oct. 20, 1967	18.70	Dec. 4, 1963	23.69
Dec. 29, 1942	9.00	<b>Well YX-46-38-102</b>		Dec. 3, 1964	25.75
Oct. 24, 1967	13.02	Owner: C. E. Swafford		Dec. 6, 1965	25.61
<b>Well YX-46-37-308</b>		Sept. 26, 1939	94.28	Dec. 10, 1966	21.88
Owner: M. W. Nichols		Aug. 8, 1949	96.67	Nov. 9, 1967	19.16
Dec. 17, 1930	2.03	Jan. 23, 1950	96.94	Dec. 1, 1967	22.14
Dec. 31, 1931	9.90	Mar. 23, 1950	97.03	<b>Well YX-46-38-105</b>	
Feb. 2, 1932	9.92	Feb. 14, 1951	96.77	Owner: C. E. Swafford	
Dec. 9, 1939	9.21	Jan. 28, 1952	97.30	Sept. 26, 1939	96.01
Jan. 9, 1940	9.93	Feb. 4, 1953	98.27	Dec. 27, 1941	94.28
Aug. 5, 1940	9.36	Jan. 24, 1954	99.35	Dec. 28, 1942	94.62
Mar. 26, 1941	11.22	Jan. 9, 1955	100.10	Oct. 26, 1967	101.87
Dec. 29, 1942	8.92	Jan. 4, 1956	99.98	<b>Well YX-46-38-502</b>	
<b>Well YX-46-37-313</b>		Jan. 26, 1957	100.10	Owner L. M. Watson, Jr.	
Owner: E. W. Sweatt Estate		Feb. 3, 1958	100.21	Jan. 23, 1950	18.68
Oct. 29, 1946	17.20	Feb. 12, 1959	100.24	Mar. 1, 1950	18.87
Aug. 29, 1949	11.06	Oct. 26, 1967	100.34	Feb. 14, 1951	18.39
May 10, 1967	24.75	<b>Well YX-46-38-104</b>		Jan. 29, 1952	18.60
Oct. 26, 1967	22.76	Owner: W. L. Fuller		Feb. 4, 1953	19.81
<b>Well YX-46-37-401</b>		May 20, 1940	14.90	Jan. 23, 1954	22.30
Owner: Dan Cooper		June 5, 1940	14.81	Jan. 10, 1955	23.20
Aug. 31, 1939	2.34	Nov. 2, 1946	15.74	Jan. 5, 1956	22.46
Dec. 9, 1939	1.54	Dec. 4, 1946	15.98	Jan. 26, 1957	22.76
Dec. 5, 1940	2.54	Jan. 30, 1947	16.96	Feb. 3, 1958	22.49
Jan. 18, 1950	8.33	Mar. 3, 1948	17.35	Feb. 12, 1959	21.35
Feb. 14, 1951	9.27	Feb. 8, 1949	17.61	Jan. 18, 1961	21.68
Jan. 29, 1952	13.54	Jan. 18, 1950	18.46	Dec. 7, 1961	21.48
Feb. 4, 1953	19.66	Mar. 3, 1950	18.91	Dec. 9, 1962	21.93
Jan. 23, 1954	24.40	Feb. 14, 1951	16.09	Dec. 4, 1963	21.56
Jan. 8, 1955	25.86	Jan. 29, 1952	19.14	Dec. 3, 1964	22.10
Jan. 5, 1956	22.75	Jan. 23, 1954	24.34	Dec. 6, 1965	22.13
Jan. 26, 1957	18.65	Jan. 9, 1955	22.29	Dec. 10, 1966	22.80
Feb. 3, 1958	22.42	Jan. 5, 1956	16.39	Nov. 14, 1967	21.75
Feb. 12, 1959	22.82	Jan. 26, 1957	19.51	Dec. 1, 1967	22.51

**Table 7.—Water Levels in Wells in Ward County and Adjacent Areas—Continued**

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
<b>Well YX-46-40-304</b>		Dec. 8, 1962	28.56	Dec. 8, 1962	118.37
Owner: W. Lochaboy, Jr.		Dec. 5, 1963	28.85	Dec. 4, 1963	110.11
Sept. 8, 1961	122.72	Dec. 3, 1964	28.89	Dec. 3, 1964	110.62
June 4, 1967	127.13	Dec. 6, 1965	30.09	Dec. 6, 1965	110.75
Aug. 11, 1967	129.05	Dec. 8, 1966	29.55	Dec. 9, 1966	110.50
Dec. 14, 1967	127.30	May 17, 1967	29.22	Nov. 29, 1967	117.30
<b>Winkler County</b>		Sept. 2, 1967	29.75	<b>Well ZP-46-23-903</b>	
<b>Well ZP-45-17-901</b>		Nov. 29, 1967	29.94	Owner: R. J. Milligan	
Owner: Shell Oil Company		<b>Well ZP-46-23-603</b>		Mar. 6, 1956	105.14
		Owner: Jack Baugus		Oct. 7, 1956	105.63
Oct. 8, 1956	28.95	Feb. 26, 1957	110.18	Dec. 6, 1956	105.53
Jan. 4, 1958	29.09	Feb. 1, 1960	117.73	Dec. 7, 1957	106.06
Dec. 2, 1960	28.95	Dec. 8, 1961	116.40	Sept. 14, 1967	106.47
Dec. 7, 1961	28.35				

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE	
																							°C	°F
YX-45-17-701	403	Apr. 28, 1967	A	14	--	91	20	138	4.9	196	280	114	1.1	0.2	0.21	760	310	49	3.4	0.00	1,200	7.2	22	72
	702	do	A	--	--	--	--	--	--	200	202	47	--	--	--	--	272	--	--	.00	840	7.4	21	70
	801	May 16, 1940	A	--	--	160	23	* 124	--	212	423	106	--	.3	--	941	494	35	--	--	1,420	--	--	--
	801	Apr. 28, 1967	A	--	--	--	--	--	--	264	103	30	--	--	--	--	262	--	--	.00	683	7.3	21	70
	902	Nov. 2, 1951	A	32	0.07	--	--	--	--	104	--	198	--	--	--	--	274	--	--	--	866	7.7	--	--
	902	Sept. 19, 1966	A	52	.44	16	197	* 93	--	305	243	390	--	--	--	1,140	850	--	--	--	2,250	6.9	--	--
	903	do	A	48	.09	24	75	* 56	--	171	50	213	--	--	--	502	370	--	--	--	960	7.4	--	--
	904	do	A	42	.09	16	148	* 41	--	98	10	460	--	--	--	765	650	--	--	--	1,400	7.7	--	--
	905	do	A	34	.20	8	107	* 66	--	110	13	354	--	--	--	636	460	--	--	--	1,160	7.9	--	--
	906	Nov. 2, 1951	A	36	2.3	--	--	--	--	154	--	26	--	--	--	--	146	--	--	--	403	7.4	--	--
	906	Sept. 19, 1966	A	42	.04	20	41	* 56	--	134	30	142	--	--	--	397	220	--	--	--	565	7.5	--	--
18-701	10	Apr. 26, 1957	A	4.2	--	53	7.5	* 11	--	96	77	18	--	1.2	--	219	162	12	.4	--	373	7.0	--	--
	801	May 14, 1967	A	37	1.1	36	7.6	6.4	2.4	114	14	5.0	.4	24	.06	189	121	10	.3	.00	275	7.1	21	70
	901	Mar. 22, 1940	A	--	--	163	51	* 166	--	160	643	126	--	--	--	1,229	616	37	--	--	1,750	--	--	--
	901	May 18, 1967	A	--	--	--	--	--	--	130	780	140	--	--	--	--	690	--	--	.00	1,990	7.3	21	70
25-101	485	Apr. 28, 1967	A	--	--	--	--	--	--	204	226	90	--	--	--	--	250	--	--	.00	1,030	7.4	--	--
	103	May 3, 1940	A	--	--	90	31	* 79	--	189	226	94	--	2.5	--	616	352	33	--	--	1,020	--	--	--
	201	Apr. 29, 1941	A	--	--	42	5.2	* 16	--	130	24	19	.8	.0	--	171	126	21	--	--	347	--	--	--
	201	Apr. 28, 1967	A	40	--	62	7.2	20	1.9	130	70	33	.8	.0	--	299	184	19	.6	.00	455	7.6	--	--
	202	Feb. 25, 1943	A	--	--	38	4.1	* 8.4	--	134	14	4.0	--	.0	--	134	112	--	--	--	--	--	--	--
	203	Sept. 26, 1967	A	60	--	58	13	25	3.5	134	87	38	.7	2.5	--	354	198	21	.8	.00	508	7.4	21	70
	301	Apr. 28, 1967	A	--	--	--	--	--	--	118	87	2,680	--	--	--	--	660	--	--	.00	8,300	7.0	21	70
	302	do	A	17	--	104	19	318	4.8	200	454	280	1.8	16	--	1,310	338	67	7.5	.00	2,060	7.5	21	70
	304	Apr. 29, 1941	A	38	--	68	11	* 16	--	118	53	67	.7	2.2	--	314	215	14	--	--	534	--	--	--
	304	Apr. 13, 1967	A	39	.02	94	14	48	2.7	136	118	98	.7	39	.10	521	292	26	1.2	.00	823	6.9	--	--
	305	Aug. 18, 1967	A	--	--	--	--	--	--	124	54	178	--	--	--	--	296	--	--	.00	876	7.5	--	--
	306	Dec. 18, 1967	A	--	--	--	--	--	--	133	28	13	--	--	--	--	141	--	--	.00	314	7.4	--	--

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE		
																							°C	°F	
b YX-45-25-308	150	Feb. 28, 1944	A	34	0.2	58	5	* 19	--	134	37	41	0.6	3.1	--	230	165	--	--	--	--	--	--	--	--
	308	Apr. 28, 1967	A	34	--	75	7.0	86	4.2	182	146	76	1.2	.8	.17	519	216	46	2.5	0.00	811	7.2	19	66	
c/	312	Sept. 16, 1964	A	--	.36	165	23	* 127	--	176	310	225	--	--	--	937	504	--	--	--	--	7.5	--	--	
c/	313	Sept. 15, 1964	A	--	.16	229	26	* 159	--	195	425	302	--	--	--	1,240	680	--	--	--	--	7.3	--	--	
b	313	Jun. 1, 1967	A	--	.04	274	34	* 222	--	200	620	337	1.2	26	--	1,610	830	--	--	--	--	7.4	--	--	
b/	314	Dec. 6, 1956	A	--	.30	65	12	* 75	--	170	89	91	1.8	6.0	--	424	215	--	--	--	751	7.9	--	--	
b/	315	Jun. 22, 1956	A	--	.02	46	8	* 43	--	171	40	46	1.6	2.4	--	272	148	--	--	--	--	7.8	--	--	
S	315	Sept. 15, 1964	A	15	.16	83	11	* 62	--	161	121	93	--	--	--	464	254	--	--	--	--	7.6	--	--	
b/	315	Dec. 28, 1966	A	--	--	201	25	* 124	--	190	312	280	1.1	12	--	1,050	610	--	--	--	2,070	7.4	--	--	
b/	315	Jun. 1, 1967	A	--	.04	206	26	* 139	--	189	357	289	1.2	15	--	1,130	620	--	--	--	--	7.6	--	--	
b/	315	Jan. 28, 1968	A	--	--	248	35	* 235	--	207	570	367	1.1	14	--	1,570	760	--	--	--	--	7.5	--	--	
b/	316	Jan. 5, 1956	A	43	.3	22	5	* 71	--	195	38	21	1.8	1.3	--	300	76	--	--	--	--	--	--	--	
c/	316	Sept. 15, 1964	A	16	.24	93	13	* 48	--	139	126	104	--	--	--	469	284	--	--	--	--	7.7	--	--	
b/	316	Jun. 1, 1967	A	--	.16	105	19	* 50	--	131	188	114	1.0	2.0	--	544	343	--	--	--	--	7.5	--	--	
b/	316	Jan. 28, 1968	A	--	.04	149	19	* 75	--	145	244	170	1.3	--	--	730	451	--	--	--	--	7.6	--	--	
	317	Mar. 30, 1951	Pr	18	.9	1,010	638	13,100	19	116	5,050	19,800	1.7	--	4.4	39,700	5,140	85	--	--	52,000	7.4	23	73	
	317	Apr. 28, 1967	A	--	--	--	--	--	--	244	436	186	--	--	--	512	--	--	--	.00	1,760	7.3	21	70	
	318	Feb. 25, 1943	A	--	--	55	9.7	* 97	--	206	118	65	--	5.6	--	452	178	--	--	--	--	--	--	--	
c/	322	Sept. 16, 1964	A	--	.16	113	7	* 108	--	176	180	154	--	--	--	648	312	--	--	--	--	7.7	--	--	
	323	May 17, 1967	A	--	--	--	--	--	--	128	112	121	--	--	--	328	--	--	--	--	834	6.9	21	70	
	324	Apr. 29, 1941	A	36	--	57	9.1	* 40	--	145	68	50	1.0	3.5	--	336	180	32	--	--	576	--	--	--	
	325	Aug. 17, 1967	A	46	--	214	34	85	4.2	140	348	275	.8	14	--	1,090	674	21	1.4	.00	1,670	7.3	--	--	
	402	Aug. 30, 1967	A	22	--	96	34	201	5.1	208	185	330	1.5	3.0	--	980	380	53	4.5	.00	1,670	7.6	23	73	
	403	Aug. 18, 1967	A	--	--	--	--	--	--	178	227	136	--	--	--	362	--	--	--	.00	1,130	7.6	23	73	
	404	Feb. 25, 1943	A	--	--	103	30	* 86	--	175	254	112	--	3.0	--	674	380	--	--	--	--	--	--	--	
	405	Sept. 8, 1967	A	15	--	50	21	180	4.3	180	140	225	1.8	.5	--	727	212	64	5.4	.00	1,230	7.9	23	73	
	501	May 13, 1967	A	30	--	35	6.0	81	3.0	208	54	39	2.5	1.0	.15	354	112	60	3.3	1.17	566	7.4	21	70	
	502	do	A	--	--	--	--	--	--	159	35	30	--	--	--	150	--	--	--	.00	436	7.1	21	70	
	505	May 15, 1941	A	--	--	139	49	* 171	--	145	673	72	--	.0	--	1,180	548	40	--	--	1,660	--	--	--	
	505	Mar. 29, 1968	A	62	--	272	78	398	34	180	1,480	144	--	1.4	.69	2,560	1,000	45	5.5	.00	3,180	7.2	21	70	

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM-ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH		TEMPERATURE	
																						°C	°F	°C	°F
YX-45-25-506	90	Mar. 29, 1968	A	45	--	120	36	97	24	170	448	58	2.3	4.7	--	919	448	31	2.0	0.00	1,270	7.4	21	70	
b	507	250	Jun. 1, 1967	A	--	.04	180	60	*	161	--	156	660	174	1.2	14	--	1,330	700	--	--	--	8.0	--	--
b	508	275	do	A	--	.04	208	64	*	223	--	194	820	168	1.5	21	--	1,600	780	--	--	--	7.9	--	--
	509	300	Sept. 27, 1967	A	--	--	--	--	--	--	250	114	30	--	--	--	122	--	--	1.66	701	7.8	--	--	
	510	150	do	A	--	--	--	--	--	--	119	75	13	--	--	--	87	--	--	.21	394	7.5	--	--	
	511	266	Sept. 26, 1967	A	55	--	66	19	78	7.3	159	126	116	1.2	.2	--	547	242	40	2.2	.00	849	7.5	21	70
by	603	140	Jun. 12, 1956	A	--	.16	48	7.0	*	53	--	165	68	57	2.0	2	--	319	150	--	--	--	7.7	--	--
cj	603	140	Sept. 15, 1964	A	15	--	82	13	*	60	--	163	121	93	--	--	--	467	258	--	--	--	7.6	--	--
by	603	140	Jun. 1, 1967	A	--	--	67	9	*	67	--	176	91	72	1.8	8	--	403	203	--	--	--	7.6	--	--
by	603	140	Jan. 28, 1968	A	--	.28	66	9	*	52	--	150	74	81	1.4	3.5	--	361	204	--	--	--	7.7	--	--
by	604	156	May 25, 1956	A	--	--	24	4	*	59	--	177	31	25	2.2	1.4	--	234	78	--	--	--	7.9	--	--
cj	604	156	Sept. 15, 1964	A	16	.12	67	11	*	51	--	176	78	70	--	--	--	379	216	--	--	--	7.7	--	--
by	604	156	Jun. 1, 1967	A	--	.04	102	18	*	63	--	170	176	107	1.5	4.0	--	556	330	--	--	--	7.6	--	--
by	604	156	Jan. 28, 1968	A	--	.12	84	12	*	124	--	215	193	111	2.5	5.0	--	638	262	--	--	--	7.7	--	--
b	605	154	Jun. 1, 1956	A	--	.02	25	5	*	62	--	189	31	36	2.6	1.3	--	256	85	--	--	--	8.1	--	--
cj	605	154	Sept. 15, 1964	A	13	--	71	17	*	78	--	185	138	90	--	--	--	500	248	--	--	--	7.6	--	--
by	605	154	Jun. 1, 1967	A	--	.04	106	19	*	99	--	165	228	121	1.8	16	--	673	343	--	--	--	7.7	--	--
by	605	154	Jan. 28, 1968	A	--	.04	180	28	*	144	--	160	379	242	1.4	16	--	1,070	560	--	--	--	7.6	--	--
	606	171	May 15, 1967	A	--	--	--	--	--	--	320	138	34	--	--	--	95	--	--	3.34	896	7.5	--	--	
	607	102	Apr. 29, 1941	A	28	--	28	5.2	*	46	--	166	31	12	1.8	1.5	--	235	91	52	--	392	--	--	--
	607	102	May 18, 1967	A	--	--	--	--	--	--	184	180	142	--	--	--	284	--	--	.00	1,110	7.1	21	70	
	701	190	Mar. 29, 1968	A	44	--	97	24	103	3.6	192	315	54	2.6	1.8	--	739	340	39	2.4	.00	1,070	7.5	22	72
	702	79	May 29, 1940	A	--	--	112	33	*	12	--	332	38	32	--	105	--	496	415	6	--	843	--	--	--
	702	79	Aug. 30, 1967	A	--	--	--	--	--	--	314	29	31	--	89	--	--	376	--	--	.00	781	7.3	--	--
	704	260	May 3, 1940	A	--	--	72	22	*	83	--	203	168	76	--	2.2	--	523	270	40	--	876	--	--	--
	704	260	Aug. 30, 1967	A	35	.01	67	18	80	3.8	202	166	66	1.8	2.2	.16	539	241	41	2.2	.00	824	7.5	22	72
	706	280	do	A	--	--	--	--	--	--	190	157	56	--	--	--	252	--	--	.00	769	7.9	22	72	
dj	707	220	Oct. 31, 1960	A	28	.44	62	16	*	84	--	207	149	56	--	--	498	--	--	--	--	--	--	--	--
	707	220	Aug. 30, 1967	A	--	--	--	--	--	--	204	106	58	--	--	--	213	--	--	.00	725	7.6	22	72	
	801	186	Apr. 23, 1941	A	--	--	--	--	--	--	--	355	--	--	--	--	2,340	--	--	--	3,250	--	--	--	

See footnotes at end of table.



Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM-ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE	
																							°C	°F
YX-45-25-802	180	July 24, 1967	A	--	--	--	--	--	--	192	2,210	440	--	--	--	--	1,650	--	--	0.00	5,300	7.8	--	--
803	90	Mar. 29, 1968	A	56	--	592	110	244	63	92	2,120	173	--	15	--	3,420	1,930	21	2.4	.00	3,650	7.0	21	70
903	100	May 11, 1967	A	48	--	58	15	101	3.8	206	162	62	2.7	3.2	0.19	557	206	51	3.1	.00	848	7.2	21	70
904	76	Apr. 23, 1941	A	--	--	65	12	* 62	--	289	48	40	--	3.0	--	372	212	39	--	--	665	--	--	--
905	167	do	A	--	--	72	19	* 247	--	279	407	100	--	2.5	--	985	258	68	--	--	1,520	--	--	--
906	220	May 11, 1967	A	--	--	--	--	--	--	266	339	140	--	--	--	--	160	--	--	1.16	1,530	7.5	21	70
907	126	do	A	5.1	--	69	19	109	3.7	237	178	73	2.9	2.5	.18	625	250	48	3.0	.00	957	7.1	21	70
908	250	Jun. 21, 1967	A	--	--	--	--	--	--	187	1,030	282	--	--	--	--	940	--	--	.00	2,870	7.6	23	73
909	100	do	A	--	--	--	--	--	--	150	1,900	31,500	--	--	--	--	4,900	--	--	.00	75,500	7.2	--	--
911	100	Dec. 9, 1967	A	31	--	1,340	345	25,300	196	196	2,810	41,000	--	--	--	71,100	4,760	92	--	--	96,600	7.3	21	70
912	1,750	do	Ps	4.7	3.9	1,000	1,410	121,000	780	122	6,860	191,000	--	--	16	22,000	8,290	97	--	--	241,000	6.6	--	--
913	200	do	A	52	--	130	45	224	8.3	286	434	195	2.3	49	--	1,280	510	48	4.3	.00	1,880	7.2	--	--
26-102	90	May 14, 1967	A	--	--	--	--	--	--	74	41	40	--	--	--	--	147	--	--	.00	359	6.8	21	70
103	150	May 15, 1967	A	--	--	--	--	--	--	174	60	44	--	--	--	--	215	--	--	.00	554	7.0	--	--
201	72	May 16, 1940	A	--	--	36	9.6	* 14	--	132	19	8.0	--	25	--	177	129	19	--	--	301	--	--	--
202	80	May 18, 1967	A	--	--	--	--	--	--	120	51	37	--	94	--	--	220	--	--	.00	547	6.9	21	70
401	130	May 15, 1967	A	32	--	44	7.8	39	2.1	179	47	20	1.4	1.2	--	282	142	37	1.4	.10	447	7.2	21	70
501	80	do	A	39	--	73	16	49	3.7	240	86	34	1.6	23	--	443	248	30	1.4	.00	684	7.1	21	70
502	124	do	A	41	--	150	40	122	4.7	168	508	94	2.5	5.7	--	1,050	538	33	2.3	.00	1,480	7.0	21	70
701	213	May 16, 1967	A	41	--	82	19	201	4.6	248	282	152	2.2	3.0	.35	909	282	60	5.2	.00	1,400	7.3	22	72
702	933	May 12, 1967	Pr	--	--	--	--	--	--	418	1,950	8,400	--	--	--	--	6,950	--	--	--	26,600	8.4	21	70
703	150	May 11, 1967	A	--	--	--	--	--	--	262	107	29	--	--	--	--	172	--	--	.85	752	7.2	21	70
801	95	do	A	--	--	--	--	--	--	196	1,240	160	--	--	--	--	1,100	--	--	.00	2,760	7.1	21	70
901	165	do	A	--	--	--	--	--	--	216	436	395	--	--	--	--	558	--	--	.00	2,310	7.0	21	70
33-102	175	May 17, 1940	A	--	--	78	23	* 71	--	124	197	96	--	20	--	528	289	35	--	--	1,040	--	--	--
c/ 103	157	Nov. 11, 1966	A	--	1.6	62	24	* 127	--	212	160	137	--	--	--	612	252	--	--	--	--	7.9	--	--
103	157	Jul. 24, 1967	A	--	--	--	--	--	--	214	157	99	--	--	--	--	260	--	--	.00	952	7.6	22	72
104	360	Jul. 26, 1967	A	--	--	--	--	--	--	196	165	186	--	--	--	--	368	--	--	.00	1,190	7.5	22	72
105	250	Jul. 27, 1967	A	--	--	--	--	--	--	197	163	980	--	--	--	--	1,000	--	--	.00	3,500	7.2	22	72
106	303	Jul. 25, 1967	A	--	--	--	--	--	--	204	155	71	--	--	--	--	238	--	--	.00	844	7.4	22	72

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM-ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE	
																							°C	°F
YX-45-33-107	250	Dec. 11, 1967	A	--	--	--	--	--	--	204	179	258	--	--	--	--	470	--	--	0.00	1,430	7.9	--	--
108	125	Dec. 12, 1967	A	40	1.2	117	38	302	6.6	254	261	435	2.5	4.5	0.29	1,330	448	59	6.2	.00	2,200	7.5	--	--
☞	201	Nov. 28, 1959	A	--	--	157	59	* 131	--	131	615	110	--	--	--	1,140	--	--	--	--	--	7.0	--	--
☞	202	Mar. 16, 1965	A	--	.60	91	26	--	--	210	300	75	--	--	--	--	332	--	--	--	--	7.7	--	--
203	319	Jul. 18, 1967	A	--	--	--	--	--	--	196	336	700	--	--	--	--	890	--	--	.00	2,940	7.5	22	72
205	300	do	A	--	--	--	--	--	--	144	357	88	--	--	--	--	332	--	--	.00	1,190	7.7	22	72
206	340	Jul. 24, 1967	A	--	--	--	--	--	--	164	166	59	--	--	--	--	232	--	--	.00	795	7.1	23	73
☞	207	Nov. 11, 1966	A	--	--	122	45	* 87	--	187	390	179	--	--	--	915	490	--	--	--	--	7.3	--	--
☞	208	do	A	--	.19	120	44	* 145	--	183	387	173	--	--	--	959	482	--	--	--	--	7.3	--	--
☞	209	Jun. 1, 1967	A	--	.04	47	26	--	--	219	147	56	--	--	--	--	224	--	--	--	--	7.3	--	--
212	300	Aug. 28, 1967	A	--	--	--	--	--	--	258	286	154	--	--	--	--	70	--	--	2.8	1,450	8.0	--	--
214	330	do	A	--	--	--	--	--	--	182	500	555	--	--	--	--	705	--	--	.00	2,750	7.4	22	72
301	259	Jun. 24, 1967	A	--	--	--	--	--	--	292	256	158	--	--	--	--	64	--	--	3.51	1,480	8.0	21	70
302	117	Apr. 23, 1941	A	--	--	475	142	* 301	--	164	2,020	110	--	36	--	3,170	1,770	27	--	--	3,580	--	21	70
☞	303	Mar. 6, 1963	A	--	.28	--	--	--	--	--	--	210	--	--	--	--	--	--	--	--	--	7.3	--	--
303	411	Jul. 18, 1967	A	38	.16	330	92	282	36	170	1,410	195	--	7.6	.44	2,480	1,200	33	3.6	.00	3,070	7.4	23	73
☞	304	Mar. 6, 1963	A	--	.12	141	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.3	--	--
☞	305	do	A	--	.16	152	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.3	--	--
401	250	Jun. 23, 1967	A	--	--	--	--	--	--	224	--	280	--	--	--	--	262	--	--	.00	1,620	7.5	22	72
402	168	Aug. 18, 1967	A	--	--	--	--	--	--	254	736	2,080	--	--	--	--	600	--	--	.00	7,640	7.5	23	73
501	71	Apr. 2, 1941	A	--	--	172	32	* 135	--	280	259	154	--	41	--	1,030	561	34	--	--	1,680	--	--	--
501	71	Apr. 2, 1949	A	60	--	164	36	* 127	--	272	333	155	--	55	.58	1,060	558	33	--	--	1,570	--	--	--
504	157	Sept. 27, 1948	A	52	--	83	24	* 60	--	200	155	77	--	1.2	--	551	306	30	--	--	918	--	--	--
505	157	Jul. 21, 1967	A	--	--	--	--	--	--	206	182	85	--	--	--	--	276	--	--	.00	941	8.0	--	--
507	230	Jun. 22, 1967	A	29	.01	70	22	325	5.3	234	224	398	2.4	3.5	.27	1,190	265	72	8.7	.00	2,020	7.7	22	72
509	155	Jul. 21, 1967	A	--	--	--	--	--	--	200	320	104	--	--	--	--	360	--	--	.00	1,240	7.6	21	70
511	190	do	A	--	--	--	--	--	--	186	292	1,140	--	--	--	--	960	--	--	.00	4,160	7.4	22	72
☞	513	Dec. 5, 1966	A	--	.08	90	34	--	--	205	367	74	--	--	--	--	364	--	--	--	--	7.5	--	--
☞	514	do	A	--	.46	175	47	--	--	212	180	428	--	--	--	--	630	--	--	--	--	7.3	--	--
514	223	Jul. 21, 1967	A	--	--	--	--	--	--	204	192	570	--	--	--	--	632	--	--	.00	2,400	7.5	22	72

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM-ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE	
																							°C	°F
YX-45-33-515	311	Aug. 9, 1967	A	--	--	--	--	--	--	214	184	305	--	--	--	--	--	316	--	0.00	1,630	7.4	22	72
602	79	Jul. 19, 1967	A	--	--	--	--	--	--	198	568	125	--	--	--	--	--	480	--	.00	1,740	7.6	21	70
603	203	Jul. 24, 1967	A	--	--	--	--	--	--	180	560	10,500	--	--	--	--	--	2,120	--	--	29,900	7.0	--	--
604	135	Jul. 27, 1967	A	--	--	--	--	--	--	192	416	505	--	--	--	--	--	484	--	.00	2,750	7.6	23	73
605	94	May 1, 1940	A	--	--	95	31	204	--	199	361	190	--	1.2	--	980	--	365	55	--	1,570	--	--	--
605	94	Jul. 19, 1967	A	--	--	--	--	--	--	100	348	860	--	--	--	--	--	840	--	.00	3,360	7.0	22	72
606	82	do	A	--	--	--	--	--	--	--	--	840	--	--	--	--	--	--	--	--	2,850	--	--	--
607	75	Apr. 2, 1941	A	--	--	115	35	206	--	254	355	210	--	5.0	--	1,050	431	51	--	--	1,680	--	--	--
609	252	Feb. 12, 1958	A	8.0	--	108	25	241	--	240	375	220	--	--	--	1,100	--	--	--	--	--	--	--	--
609	252	Dec. 9, 1967	A	--	--	--	--	--	--	212	364	338	--	--	--	--	520	--	--	.00	2,170	7.4	--	--
701	156	Jun. 4, 1967	A	40	--	107	40	531	--	260	382	690	--	2.0	--	1,920	432	73	11	.00	3,210	7.6	--	--
704	200	Jun. 2, 1967	A	--	--	--	--	--	--	250	324	750	--	--	--	--	490	--	--	.00	3,240	7.2	--	--
706	300	Jun. 21, 1967	A	--	--	--	--	--	--	256	--	1,480	--	--	--	--	1,040	--	--	.00	5,910	7.3	22	72
707	210	Jun. 22, 1967	A	36	--	126	40	615	8.2	264	396	860	--	2.5	.38	2,210	479	73	12	.00	3,660	7.7	22	72
708	110	do	A	--	--	--	--	--	--	244	492	1,000	--	--	--	--	800	--	--	.00	4,160	7.6	--	--
709	62	Apr. 2, 1940	A	--	--	102	33	358	--	228	281	487	--	2.0	--	1,380	390	67	--	--	2,460	--	--	--
709	62	Aug. 9, 1967	A	--	--	--	--	--	--	232	308	660	--	--	--	--	485	--	--	.00	2,890	7.7	22	72
711	93	do	A	--	--	--	--	--	--	252	232	112	--	--	--	--	302	--	--	.00	1,170	7.5	22	72
712	127	Aug. 8, 1967	A	--	--	--	--	--	--	248	466	1,580	--	--	--	--	740	--	--	.00	5,790	7.5	--	--
713	2,583	Jan. 15, 1962	Prs	--	--	361	143	833	--	1,120	799	850	--	--	--	4,110	1,490	--	--	--	--	6.9	--	--
713	2,583	Dec. 11, 1967	Prs	13	--	395	168	646	45	1,070	885	1,020	--	.5	--	3,700	1,680	45	6.8	.00	5,280	7.2	--	--
801	130	Jul. 21, 1967	A	--	--	--	--	--	--	188	424	650	--	--	--	--	1,030	--	--	.00	2,910	7.5	--	--
802	220	Aug. 13, 1967	A	33	--	103	27	307	5.6	232	358	348	1.7	3.5	.32	1,300	368	64	7.0	.00	2,100	7.6	21	70
805	116	Dec. 11, 1967	A	--	--	--	--	--	--	202	234	342	--	--	--	--	565	--	--	.00	1,760	7.4	21	70
811	220	do	A	50	--	1,080	690	5,580	116	286	1,170	11,800	--	--	--	20,600	5,530	68	--	--	32,700	6.8	--	--
812	140	Jun. 1, 1964	A	--	0.06	96	31	405	--	229	262	550	2.2	2.0	--	1,470	366	--	--	--	3,010	7.5	--	--
812	140	Jan. 22, 1965	A	--	--	86	28	366	--	233	261	475	2.5	2.0	--	1,340	330	--	--	--	2,670	7.7	--	--
812	140	Feb. 17, 1966	A	--	.06	92	27	361	--	228	227	476	2.3	1.5	--	1,300	342	--	--	--	2,660	7.6	--	--
812	140	Jan. 17, 1967	A	--	--	84	33	350	--	235	248	472	2.6	1.5	--	1,310	334	--	--	--	--	7.6	--	--
814	107	Jun. 2, 1950	A	--	--	--	--	--	--	--	338	332	--	--	--	--	--	--	--	--	2,030	--	21	70

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DIS-SOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM-ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE	
																							°C	°F
ly YX-45-33-815	240	Aug. 26, 1963	A	--	--	82	24	* 263	--	224	306	269	1.7	--	--	1,060	305	--	--	--	2,070	7.5	--	--
816	123	Mar. 29, 1940	A	--	--	88	28	* 148	--	234	237	270	--	3.0	--	891	499	39	--	--	1,650	--	--	--
816	123	Aug. 8, 1967	A	30	0.15	136	41	301	6.4	232	408	400	1.8	3.8	0.35	1,440	508	56	5.8	0.00	2,300	7.8	--	--
817	25	Mar. 29, 1940	A	--	--	--	--	--	--	--	--	297	--	--	--	--	--	--	--	--	1,930	--	--	--
cy 821	208	May 30, 1958	A	14	.16	160	48	--	--	176	335	510	--	--	--	--	596	--	--	--	--	7.3	--	--
821	208	Aug. 2, 1967	A	--	--	--	--	--	--	220	280	638	--	--	--	--	570	--	--	.00	2,760	7.6	--	--
822	135	Jun. 1962	A	--	--	690	210	* 660	--	180	350	2,500	--	--	--	4,500	--	--	--	--	--	7.7	--	--
822	135	Dec. 11, 1967	A	--	--	--	--	--	--	190	527	3,520	--	--	--	--	3,100	--	--	.00	10,800	7.2	--	--
901	95	May 15, 1940	A	18	.11	94	40	367	9.6	240	324	463	1.7	1.0	--	1,440	399	67	--	--	2,410	--	--	--
ly 901	95	Oct. 18, 1940	A	22	.28	93	35	* 371	--	256	320	454	1.4	2.4	--	1,420	376	--	--	--	--	7.0	--	--
ly 901	95	Aug. 26, 1949	A	31	.52	109	33	* 345	--	268	309	437	2.0	--	--	1,400	408	--	--	--	--	7.0	--	--
ly 901	95	Mar. 19, 1954	A	30	.24	86	35	* 349	--	244	324	412	1.6	--	--	1,360	359	--	--	--	--	7.5	--	--
ly 901	95	Apr. 17, 1961	A	--	4.5	360	162	* 880	--	205	390	1,980	.8	--	--	3,880	1,580	--	--	--	8,050	7.0	--	--
ly 902	95	Aug. 26, 1949	A	40	.5	118	35	* 350	--	250	360	440	2.0	--	--	1,470	439	--	--	--	--	--	--	--
ly 902	95	Jan. 30, 1950	A	27	.12	98	37	* 354	--	256	332	433	1.4	.9	--	1,410	397	--	--	--	--	7.5	--	--
ly 902	95	Mar. 19, 1954	A	38	.12	108	40	* 340	--	244	364	422	1.4	.4	--	1,430	434	--	--	--	--	7.5	--	--
ly 902	95	Apr. 17, 1961	A	--	.14	120	52	* 385	--	244	320	556	1.2	1.9	--	1,560	515	--	--	--	3,050	7.4	--	--
ly 902	95	Feb. 28, 1966	A	--	--	970	328	* 2,320	--	183	2,980	4,030	3.5	15	--	10,700	3,780	--	--	--	22,000	7.6	--	--
ly 903	137	Apr. 17, 1961	A	--	.04	100	43	* 405	--	235	295	540	1.2	1.4	--	1,500	430	--	--	--	2,950	7.3	--	--
cy 906	982	Jun. 22, 1953	Pr	13	.02	1,350	692	--	--	70	3,580	28,000	--	--	--	--	6,210	--	--	--	--	7.5	--	--
cy 906	982	Jun. 30, 1955	Pr	10	.36	1,370	1,040	--	--	90	5,900	28,700	--	--	--	--	7,710	--	--	--	--	7.8	--	--
906	982	Jul. 19, 1967	Pr	--	--	--	--	--	--	74	6,000	39,500	--	--	--	--	10,000	--	--	--	95,400	6.8	--	--
907	90	Apr. 26, 1967	A	--	--	--	--	--	--	252	328	360	--	--	--	--	420	--	--	.00	2,070	7.4	22	72
ly 908	135	Jun. 1, 1964	A	--	.04	81	29	* 273	--	232	279	320	2.1	2.0	--	1,100	322	--	--	--	2,180	7.8	--	--
ly 908	135	Jan. 22, 1965	A	--	.22	73	29	* 316	--	253	278	355	2.3	3.0	--	1,180	300	--	--	--	2,300	8.0	--	--
909	31	Apr. 29, 1940	A	--	--	96	39	* 349	--	246	323	440	--	1.0	--	1,370	400	65	--	--	2,310	--	--	--
911	128	Dec. 11, 1967	A	11	--	103	42	499	9.0	138	150	900	--	.2	--	1,780	430	71	10	.00	3,190	7.0	--	--
cy 912	1,033	Mar. 6, 1958	Pr	4.5	.72	1,840	1,420	--	--	85	6,050	58,600	--	--	--	--	10,400	--	--	--	--	7.9	--	--
34-101	79	Jun. 25, 1967	A	--	--	--	--	--	--	261	166	61	--	--	--	--	198	--	--	.32	928	8.2	--	--
102	122	do	A	--	--	--	--	--	--	298	280	130	--	--	--	--	134	--	--	2.20	1,380	8.1	--	--

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM-ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE °F	
YX-45-34-302	75	Jun. 8, 1967	A	--	--	--	--	--	--	278	572	275	--	--	--	--	880	--	--	0.00	2,260	7.4	22	72
401	100	Nov. 2, 1954	A	62	--	90	29	398	--	223	704	198	4.0	3.8	--	1,600	344	72	--	--	2,330	7.7	--	--
402	155	May 13, 1967	A	45	--	178	52	313	7.9	258	636	325	2.4	2.8	--	1,690	658	50	5.3	.00	2,520	7.1	21	70
403	86	Apr. 23, 1941	A	--	--	32	19,700	* 79,500	--	114	127,000	86,200	--	--	--	313,000	--	58	--	--	130,000	--	--	--
406	85	do	A	--	--	416	2,340	* 11,100	--	286	17,000	11,900	--	--	--	42,900	--	69	--	--	46,800	--	--	--
407	110	Oct. 1, 1967	A	7.8	0.23	450	15,200	51,400	4,120	274	81,700	70,000	--	--	10	223,000	63,500	62	--	.00	135,000	6.7	21	70
501	70	Jun. 25, 1967	A	--	--	--	--	--	--	146	2,100	370	--	--	--	--	1,470	--	--	.00	4,560	7.6	--	--
502	86	Apr. 23, 1941	A	--	--	--	--	--	--	--	--	154	--	--	--	1,760	--	--	--	--	2,150	--	--	--
505	400	Jun. 20, 1967	A	61	--	150	41	582	7.3	216	1,030	410	--	5.6	.56	2,390	542	70	11	.00	3,420	7.6	21	70
602	100	Jun. 21, 1961	A	--	--	--	--	--	--	212	790	170	--	--	--	--	690	--	--	--	2,250	7.2	21	70
604	102	Jun. 29, 1967	A	--	--	--	--	--	--	166	433	130	--	--	--	--	480	--	--	--	1,470	7.3	--	--
701	102	Jun. 28, 1967	A	--	--	--	--	--	--	216	1,620	1,030	--	--	--	--	1,600	--	--	.00	5,740	7.7	--	--
702	136	Apr. 22, 1940	A	--	--	58	18	* 187	--	273	180	152	--	--	--	732	219	65	--	--	1,300	--	--	--
702	136	Jul. 20, 1967	A	--	--	--	--	--	--	276	182	165	--	--	--	--	230	--	--	.00	1,290	7.7	22	72
801	100	Jun. 21, 1961	A	--	--	--	--	--	--	155	1,330	2,240	--	--	--	--	1,830	33	--	--	8,400	7.2	--	--
802	89	Mar. 20, 1940	A	--	--	437	130	* 360	--	140	1,740	340	--	--	--	3,080	1,630	33	--	--	3,850	--	24	75
802	89	Jun. 28, 1967	A	--	--	--	--	--	--	140	1,800	380	--	--	--	--	1,580	--	--	.00	4,090	7.4	22	72
901	55	Jul. 20, 1967	A	--	--	--	--	--	--	234	1,820	1,720	--	--	--	--	1,800	--	--	.00	7,940	7.6	21	70
41-101	2,566	Mar. 31, 1968	Par	15	.01	470	180	600	29	376	1,630	880	--	.4	.41	3,990	1,910	40	6.0	.00	5,190	7.6	--	--
202	301	Aug. 7, 1967	A	--	--	--	--	--	--	224	3,090	7,400	--	--	--	--	3,360	--	--	.00	24,100	7.3	21	70
203	55	do	A	--	--	--	--	--	--	248	3,020	5,000	--	--	--	--	3,600	--	--	.00	18,100	7.4	22	72
301	62	Jul. 20, 1967	A	--	--	--	--	--	--	17	810	2,160	--	--	--	--	1,030	--	--	.00	7,640	7.7	--	--
42-101	58	Jun. 27, 1940	A	--	--	751	292	* 1,920	--	249	2,620	3,060	--	8.0	--	8,780	3,080	58	--	--	12,500	--	--	--
102	125	Mar 29, 1940	A	40	.18	138	47	375	22	241	504	440	2.3	.7	--	1,690	538	61	--	--	2,680	--	22	72
102	125	Apr. 26, 1967	A	44	.12	176	56	435	7.4	238	572	605	--	6.7	.50	2,020	670	58	7.3	.00	3,160	7.2	--	--
103	146	Apr. 22, 1940	A	--	--	221	88	* 889	--	212	507	1,520	--	--	--	3,330	913	68	--	--	5,630	--	22	72
104	50	Mar. 27, 1941	A	--	--	348	158	* 1,190	--	430	1,360	1,650	--	1.0	--	4,920	1,520	63	--	--	7,400	--	--	--
105	70	Jul. 20, 1967	A	--	--	--	--	--	--	200	2,550	5,000	--	--	--	--	3,720	--	--	--	17,600	7.2	--	--
106	50	Aug. 16, 1967	A	--	--	--	--	--	--	300	2,420	2,950	--	--	--	--	2,800	--	--	.00	12,200	7.3	21	70
401	14	Mar. 5, 1940	A	--	--	720	234	* 1,260	--	187	2,440	2,000	--	--	--	6,750	2,760	50	--	--	9,190	--	--	--

See footnotes at end of table.

Table 8. --Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON CAL-CLUM (Fe) CLUM (Ca)	MAGNE-STUM (Mg)	SODIUM (Na)	POTAS-SIUM (K)	BICAR-BONATE (HCO <sub>3</sub> )	SUL-FATE (SO <sub>4</sub> )	CHLO-RIDE (Cl)	FLUO-RIDE (F)	NITRATE (NO )	BORON (B)	DIS-SOLVED SOLIDS	HARD-NESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM-ADSORP-TION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	PH	TEM-PERATURE °C	TEM-PERATURE °F	
YX-45-42-505	62	Apr. 27, 1967	A	30	--	855	2,540	24	196	2,740	4,250	--	--	0.95	10,900	3,580	60	18	--	15,800	7.1	21	70	
506	63	Apr. 29, 1967	A	28	--	880	2,500	24	194	2,740	4,300	--	--	.94	10,900	3,670	60	18	--	15,900	6.9	21	70	
507	67	do	A	28	--	880	2,450	21	196	2,890	4,150	--	--	.92	10,900	3,710	59	17	0.00	15,600	7.2	21	70	
509	64	Apr. 27, 1967	A	27	--	800	1,920	29	152	2,640	3,150	--	--	.62	8,940	3,230	56	15	--	12,900	6.8	21	70	
510	60	do	A	33	--	880	2,600	24	196	2,790	4,450	--	--	1.03	11,200	3,670	60	19	--	16,300	7.1	21	70	
511	57	May 9, 1967	A	--	--	--	--	--	166	2,340	3,750	--	--	--	--	3,840	--	--	--	14,100	6.7	21	70	
603	1,695	May 15, 1940	Pr?	--	--	1,420	20,800	--	67	6,100	33,100	--	--	--	62,500	7,800	85	--	79,800	--	--	--	--	
801	4,362	Aug. 6, 1943	Pc	--	--	766	641	--	391	2,410	1,030	--	0.4	--	5,280	2,890	--	--	6,440	--	7.4	--	30	
802	491	Feb. 4, 1958	Pr	8.5	0.34	1,700	981	--	129	5,450	40,800	--	--	30	74,300	8,280	--	--	--	--	--	--	--	
46-21-701	105	Dec. 28, 1939	A	--	--	612	1,040	--	198	2,040	1,680	--	--	--	5,680	2,400	48	--	--	7,850	--	--	--	
51	286	Feb. 3, 1966	A	--	.30	731	--	--	119	1,090	1,000	--	--	--	--	2,550	--	--	--	--	--	7.1	--	--
51	228	Mar. 3, 1966	A	--	.15	233	--	--	149	702	82	--	--	--	--	800	--	--	--	--	--	7.3	--	--
801	128	Mar. 19, 1941	A	--	--	627	64	64	164	1,600	58	--	21	--	2,500	1,760	7	--	--	2,850	--	--	--	--
802	97	Oct. 25, 1939	A	--	--	115	17	17	207	227	64	--	--	--	569	460	7	--	--	912	--	--	--	--
802	97	Oct. 4, 1967	A	--	--	--	--	--	208	234	72	--	--	--	--	475	--	--	.00	953	7.8	--	--	--
23-803	176	Aug. 22, 1940	A	--	--	148	50	400	144	611	488	--	4.2	--	1,770	--	60	--	--	2,870	--	--	--	--
803	176	Sept. 28, 1967	A	--	--	--	--	--	264	52	28	--	--	--	--	312	--	--	.00	673	7.6	21	70	
902	225	Sept. 13, 1967	A	--	--	--	--	--	--	--	780	--	--	--	--	--	--	--	--	3,360	--	--	--	--
904	300	Oct. 21, 1956	A	48	--	211	400	400	186	531	780	2.6	3.2	--	2,170	945	48	5.7	--	3,470	7.5	--	--	
904	300	Sept. 13, 1967	A	45	--	210	355	15	184	520	760	--	4.0	.38	2,100	944	45	5.0	.00	3,300	7.3	22	72	
905	125	Aug. 23, 1940	A	--	--	60	109	--	215	91	146	--	1.5	--	535	--	50	--	--	982	--	--	--	--
905	125	Sept. 12, 1967	A	36	--	36	136	7.0	217	89	143	3.0	3.5	--	582	176	61	4.5	.03	971	7.7	--	--	
24-702	395	Sept. 16, 1964	A	--	.16	48	62	--	193	68	64	--	--	--	348	186	--	--	--	--	7.8	--	--	--
702	395	Jun. 1, 1967	A	--	.04	52	49	--	179	88	42	2.1	7.0	--	344	197	--	--	--	--	7.8	--	--	--
702	395	Jan. 28, 1968	A	--	--	56	47	--	179	85	40	2.1	2.5	--	335	198	--	--	--	--	7.7	--	--	--
51	385	Sept. 16, 1964	A	--	.48	49	64	--	193	70	63	--	--	--	357	185	--	--	--	--	7.6	--	--	--
703	385	Jun. 1, 1967	A	--	.04	45	43	--	168	72	44	2.1	6.0	--	313	187	--	--	--	616	7.7	--	--	--
703	385	Jan. 28, 1968	A	--	--	52	59	--	179	78	60	2.3	3.5	--	358	191	--	--	--	--	7.9	--	--	--
704	392	Oct. 25, 1961	A	--	.14	56	75	--	174	77	81	2.3	5.3	--	399	205	--	--	--	--	7.8	--	--	--
51	392	Sept. 16, 1964	A	--	.20	60	69	--	185	56	120	--	--	--	415	228	--	--	--	--	7.5	--	--	--

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas.--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	IRON CALCIUM (Ca)	MAGNESIUM (Mg.)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DIS-SOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM-ABSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE °C		
BYX-46-24-704	392	Jun. 1, 1967	A	--	0.04	60	16	* 61	--	179	83	79	2.3	4.0	--	393	218	--	--	--	--	7.4	--		
by	704	Jan. 28, 1968	A	--	.32	57	17	* 62	--	177	83	81	2.2	2.0	--	391	214	--	--	--	--	--	7.6	--	
by	705	Dec. 28, 1966	A	--	--	58	14	* 54	--	173	79	67	2.2	3.5	--	367	206	--	--	--	--	708	7.9	--	
by	705	Jun. 1, 1967	A	--	.04	47	13	* 34	--	162	66	29	2.1	6.0	--	277	173	--	--	--	--	525	7.8	--	
by	705	Jan. 28, 1968	A	--	--	48	13	* 35	--	162	62	31	2.1	3.5	--	275	173	--	--	--	--	--	7.9	--	
706	142	Feb. 23, 1940	A	--	--	--	--	--	--	--	--	32	--	--	--	--	--	--	--	--	--	537	--	21	70
706	142	Aug. 31, 1967	A	37	--	42	15	31	3.6	176	62	16	2.1	.00	--	296	766	28	1.0	0.00	461	7.8	22	72	
801	217	Mar. 4, 1943	A	--	--	48	15	* 16	--	152	39	34	--	4.2	--	231	182	--	--	--	--	--	--	--	--
802	149	Feb. 23, 1940	A	--	--	70	16	* 32	--	200	86	40	--	--	--	344	240	22	--	--	--	598	--	--	--
802	149	Aug. 31, 1967	A	52	--	69	13	35	2.5	188	86	37	2.1	5.0	--	394	226	25	1.0	.00	587	7.6	22	72	
804	225	Dec. 14, 1967	A	20	.04	44	12	109	2.8	176	67	133	1.6	.00	--	477	160	59	3.7	.00	826	7.1	--	--	
901	300	Mar. 4, 1943	A	--	--	95	24	* 96	--	209	302	51	--	.5	--	662	336	--	--	--	--	--	--	--	--
903	180	Aug. 31, 1967	A	15	--	91	18	71	4.2	206	242	36	.8	.00	--	579	301	34	1.8	.00	863	7.7	21	70	
29-101	103	Oct. 17, 1967	A	34	--	448	106	634	6.6	184	1,280	1,030	--	4.5	--	3,630	1,550	47	7.0	.00	5,060	7.2	--	--	
102	45	do	A	--	--	--	--	--	--	05	374	4,700	--	--	--	--	4,040	--	--	.00	13,300	4.3	--	--	
103	60	Apr. 19, 1967	A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9,520	--	--	--	--
201	92	Jun. 22, 1961	A	--	--	--	--	--	--	192	400	175	--	--	--	--	710	--	--	--	1,530	7.3	22	72	
201	92	Apr. 19, 1967	A	--	--	--	--	--	--	276	189	144	--	--	--	--	510	--	--	.00	1,320	7.2	--	--	
202	86	Oct. 25, 1939	A	--	--	202	49	* 46	--	214	364	178	--	--	--	946	706	12	--	--	1,510	--	--	--	
202	86	Oct. 23, 1967	A	47	--	199	32	25	5.3	270	190	139	.9	72	--	843	628	8	.4	.00	1,260	7.3	--	--	
203	68	Oct. 25, 1939	A	--	--	417	98	* 498	--	202	1,140	830	--	--	--	3,090	1,440	43	--	--	4,490	--	--	--	
203	68	Apr. 19, 1967	A	--	--	--	--	--	--	150	1,330	1,020	--	--	--	--	1,670	--	--	.00	5,130	7.2	--	--	
301	144	Oct. 26, 1939	A	--	--	108	51	* 116	--	168	475	71	--	--	--	905	479	35	--	--	1,390	--	--	--	
301	144	Apr. 20, 1967	A	--	--	--	--	--	--	170	467	70	--	--	--	--	470	--	--	.00	1,370	7.5	--	--	
302	176	Apr. 15, 1941	A	--	--	--	--	--	--	--	--	38	--	--	--	892	--	--	--	--	1,240	--	--	--	--
302	176	Oct. 23, 1967	A	--	--	--	--	--	--	188	304	29	--	--	--	--	338	--	--	.00	924	7.2	--	--	
401	60	Apr. 20, 1967	A	--	--	--	--	--	--	220	1,340	1,200	--	--	--	--	1,960	--	--	.00	5,700	7.2	--	--	
402	40	Dec. 3, 1939	A	--	--	263	67	* 1,070	--	223	1,530	1,060	--	--	--	4,100	944	71	--	--	5,660	--	--	--	
501	75	Apr. 21, 1967	A	--	--	--	--	--	--	212	1,300	1,100	--	--	--	--	1,580	--	--	.00	5,420	7.2	--	--	
601	100	May 14, 1941	A	--	--	601	149	* 181	--	135	672	1,200	--	3.5	--	2,870	2,110	16	--	--	4,610	--	--	--	

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE °C	TEMPERATURE °F	
YX-46-29-601	100	Oct. 23, 1967	A	--	--	--	--	--	--	137	716	1,150	--	--	--	--	1,990	--	--	0.00	4,450	7.1	22	72	
602	48	Oct. 17, 1967	A	--	--	--	--	--	--	160	891	13,000	--	--	--	--	7,040	--	--	.00	33,800	7.1	--	--	
701	33	May 4, 1940	A	--	--	746	269	* 1,270	--	259	2,460	2,090	--	--	--	6,960	2,970	48	--	--	9,560	--	--	--	
701	115	May 7, 1940	A	--	--	486	143	* 1,220	--	213	1,800	1,700	--	--	--	5,450	1,800	59	--	--	--	7,840	--	--	
701	115	May 17, 1940	A	--	--	476	135	* 1,240	--	191	1,800	1,700	--	4.5	--	5,440	1,740	61	--	--	--	7,930	--	--	
702	186	Feb. 1949	A	25	--	556	197	* 1,000	--	216	1,840	1,620	--	3.5	0.49	5,350	2,200	50	--	--	--	7,740	--	--	
704	54	Sept. 19, 1939	A	--	--	--	--	--	--	--	--	2,800	--	--	--	--	--	--	--	--	--	12,000	--	--	
705	152	Apr. 23, 1947	A	--	--	736	228	* 1,260	--	192	2,310	2,100	--	--	--	6,730	2,770	--	--	--	--	9,120	--	--	
706	162	Feb. 1949	A	24	--	650	234	* 1,200	--	216	2,180	1,950	--	3.5	.40	6,350	2,580	50	--	--	--	9,050	--	--	
708	195	do	A	23	--	660	205	* 1,370	--	216	2,300	2,050	--	--	.69	6,770	2,490	54	--	--	--	9,490	--	--	
709	59	Sept. 19, 1939	A	--	--	856	782	* 4,580	--	366	4,390	7,400	--	--	--	18,200	5,350	65	--	--	--	25,300	--	--	
712	165	Apr. 26, 1947	A	--	--	732	192	* 931	--	170	2,070	1,660	--	7.0	--	5,680	2,620	--	--	--	--	7,640	--	--	
718	20	Aug. 22, 1940	A	--	--	--	--	--	--	--	--	3,550	--	--	--	11,000	--	--	--	--	--	14,200	--	--	
718	50	do	A	--	--	--	--	--	--	--	--	2,310	--	--	--	7,490	--	--	--	--	--	9,900	--	--	
718	50	do	A	--	--	816	263	1,500	8.6	196	2,520	2,580	--	--	--	7,800	3,120	51	12	.00	10,900	7.4	--	--	
718	50	Oct. 18, 1967	A	18	--	740	235	* 964	--	229	2,200	1,730	--	--	--	5,980	2,820	43	--	--	--	8,290	--	--	
721	18	Sept. 19, 1939	A	--	--	692	281	* 1,590	--	117	2,530	2,550	--	21	.91	7,760	2,880	55	--	--	--	10,800	7.8	--	
802	162	Jul. 1950	A	34	--	704	231	* 1,330	--	196	2,500	2,010	--	--	--	6,870	2,710	--	--	--	--	9,440	--	--	
804	153	Oct. 28, 1946	A	--	--	--	--	--	--	150	--	1,690	--	--	--	--	--	--	--	--	--	7,250	--	--	--
805	73	Oct. 23, 1939	A	--	--	700	165	920	12	134	1,460	1,980	--	3.0	--	5,320	2,420	45	8.1	.00	7,580	6.8	21	70	
805	73	Oct. 23, 1967	A	17	--	--	--	--	--	192	1,660	1,910	--	--	--	--	2,360	--	--	--	.00	7,970	7.5	--	--
902	57	Apr. 22, 1967	A	--	--	--	--	--	--	170	2,220	7,280	--	--	--	15,000	4,110	67	26	.00	21,800	7.6	21	70	
903	190	Oct. 17, 1967	A	31	--	1,100	332	3,880	28	170	2,480	166	--	--	--	--	2,160	--	--	--	.00	4,090	7.4	--	--
30-101	235	Oct. 3, 1967	A	--	--	--	--	--	--	40	--	6.0	--	--	--	232	--	--	--	--	--	534	--	21	70
201	104	Aug. 21, 1940	A	--	--	--	--	--	--	312	10	3.2	--	--	--	--	268	--	--	--	.00	523	7.7	22	72
201	104	Oct. 2, 1967	A	--	--	--	--	--	--	207	92	46	--	--	--	371	294	13	--	--	--	673	--	--	--
301	98	Aug. 22, 1940	A	--	--	75	26	* 20	--	207	90	37	--	--	--	--	--	--	--	--	--	667	7.6	--	--
301	98	Jun. 22, 1961	A	--	--	--	--	--	--	210	87	46	2.0	--	--	428	280	20	.8	.00	652	8.0	--	--	
301	98	Sept. 28, 1967	A	42	--	76	22	32	2.9	207	93	47	--	7.8	--	372	--	10	--	--	679	--	--	--	
302	163	Aug. 22, 1940	A	--	--	81	25	* 16	--	74	1,690	290	--	--	--	2,840	1,770	21	--	--	3,480	--	--	--	
401	121	Oct. 26, 1939	A	--	--	454	155	* 211	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

See footnotes at end of table.



Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE	
																							°C	°F
YX-46-30-401	121	Jun. 22, 1961	A	--	0.48	--	--	--	--	76	1,640	345	--	--	--	--	1,640	--	--	--	3,540	7.0	--	--
402	188	Aug. 21, 1940	A	--	--	321	87	* 150	--	118	1,160	116	--	15	--	1,910	--	--	--	--	2,410	--	22	72
403	180	Oct. 3, 1967	A	34	--	64	26	69	2.6	204	141	58	1.6	15	--	511	266	36	1.8	0.00	785	7.8	22	72
501	141	do	A	--	--	--	--	--	--	226	49	44	--	--	--	--	304	--	--	0.00	639	7.7	22	72
701	113	Dec. 14, 1967	A	--	--	--	--	--	--	36	960	2,500	--	--	--	--	3,940	--	--	0.00	8,030	5.8	--	72
702	172	Nov. 14, 1967	A	--	--	--	--	--	--	116	782	128	--	--	--	--	950	--	--	0.00	1,800	7.3	--	--
801	161	Sept. 26, 1939	A	--	--	--	--	--	--	--	--	34	--	--	--	--	--	--	--	--	700	--	--	--
801	161	Dec. 14, 1967	A	--	--	--	--	--	--	296	83	26	--	--	--	--	314	--	--	0.00	704	7.9	--	--
802	220	Sept. 26, 1939	A	--	--	--	--	--	--	--	--	322	--	--	--	--	--	--	--	--	4,360	--	--	--
901	5,088	Dec. 14, 1967	?	10	--	56	7.6	36	6.2	200	30	39	.5	2.0	--	285	171	30	1.2	0.00	488	7.1	--	--
31-101	147	Aug. 22, 1940	A	--	--	235	47	* 42	--	150	578	99	--	7.7	--	1,080	--	10	--	--	1,530	--	--	--
101	147	Sept. 28, 1967	A	--	--	--	--	--	--	152	578	99	--	--	--	--	785	--	--	0.00	1,510	7.6	--	--
304	300	Sept. 12, 1967	A	41	--	335	148	690	17	194	695	1,500	--	2.5	0.31	3,520	1,440	51	7.9	0.00	5,570	7.4	--	--
305	96	Aug. 22, 1940	A	--	--	328	126	* 730	--	220	906	1,280	--	4.0	--	3,480	--	54	--	--	5,420	--	--	--
305	96	Sept. 27, 1967	A	--	--	--	--	--	--	176	920	1,320	--	--	--	--	1,360	--	--	0.00	5,400	7.8	21	70
306	153	Feb. 23, 1940	A	--	--	190	83	* 477	--	218	525	800	--	--	--	2,180	815	--	--	--	3,560	--	--	--
306	153	Oct. 2, 1967	A	50	--	190	75	446	9.2	214	500	780	--	4.8	--	2,180	782	56	7.2	0.00	3,410	7.8	--	--
401	130	Aug. 15, 1940	A	--	--	286	54	* 213	--	150	407	600	--	7.0	--	1,640	--	33	--	--	2,730	--	--	--
401	130	Mar. 28, 1968	A	--	--	--	--	--	--	148	436	740	--	--	--	--	1,060	--	--	0.00	3,060	7.1	21	70
402	164	do	A	--	--	--	--	--	--	178	273	370	--	--	--	--	640	--	--	0.00	1,900	7.4	21	70
501	105	do	A	--	--	--	--	--	--	150	724	800	--	--	--	--	985	--	--	0.00	3,740	7.3	21	70
601	322	Jan. 26, 1956	A	31	--	321	140	568	19	191	668	1,300	--	.04	.33	3,140	1,380	47	6.7	--	5,050	7.4	--	--
602	200	Sept. 11, 1967	A	47	--	215	90	500	12	212	590	880	--	2.8	.34	2,440	906	54	7.2	0.00	3,830	7.6	22	72
603	200	do	A	--	--	--	--	--	--	--	--	1,320	--	--	--	--	--	--	--	--	5,160	--	--	--
604	225	Oct. 2, 1967	A	--	--	--	--	--	--	176	740	1,210	--	--	--	--	1,400	--	--	0.00	4,880	7.4	22	72
605	138	Feb. 23, 1940	A	--	--	--	--	--	--	--	--	770	--	--	--	--	--	--	--	--	3,490	--	--	--
605	138	Mar. 26, 1968	A	--	--	--	--	--	--	210	504	770	--	--	--	--	760	--	--	0.00	3,410	7.6	--	--
701	97	Jul. 12, 1940	A	--	--	105	12	* 1.4	--	271	60	6.0	2.8	24	--	368	--	--	--	--	570	--	--	--
702	154	Sept. 27, 1939	A	--	--	--	--	--	--	--	--	47	--	--	--	--	--	--	--	--	603	--	--	--
702	154	Dec. 14, 1967	A	28	1.2	54	19	47	2.9	264	65	14	1.5	15	.20	377	212	32	1.4	.08	595	7.7	--	--

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE			
																							°C	°F		
YX-46-31-704	160	Dec. 14, 1967	A	--	--	--	--	--	--	46	1,140	378	--	--	--	--	915	--	--	0.00	3,120	7.1	--	--		
	705	180	Sept. 25, 1940	A	--	--	365	126	* 431	--	49	1,780	335	--	0.2	--	3,060	--	40	--	--	3,840	--	--	--	
	705	1,060-1,064	Oct. 10, 1940	Pr	--	--	672	210	* 1,430	--	82	2,860	1,850	--	.5	--	7,060	--	55	--	--	9,420	--	--	--	
	706	200	Feb. 16, 1940	A	--	--	74	30	* 56	--	240	108	74	--	20	--	482	308	28	--	--	867	--	21	70	
	801	300	Nov. 13, 1967	A	83	--	600	158	202	25	125	2,110	207	--	22	--	3,470	2,150	17	1.9	.00	3,580	7.2	--	--	
	902	118	Aug. 15, 1940	A	--	--	400	155	* 677	--	152	1,200	1,180	--	81	--	3,770	--	47	--	--	5,690	--	--	--	
	902	118	Mar. 28, 1968	A	--	--	--	--	--	--	182	926	1,260	--	--	--	1,360	--	--	--	.00	5,400	6.9	--	--	
	32-204	425	Sept. 26, 1967	A	38	--	47	23	70	5.7	188	85	88	2.6	4.9	--	456	212	41	2.1	.00	740	7.5	21	70	
ly	206	324-364	Oct. 7, 1955	A	20	--	--	--	--	--	168	118	60	--	--	--	182	--	--	--	--	--	8.1	--	--	
ly	206	879-920	Oct. 15, 1955	A	25	--	--	--	--	--	176	1,050	3,280	--	--	--	1,100	--	--	--	--	--	7.8	--	--	
ly	206	544-600	Oct. 29, 1955	A	15	--	--	--	--	--	174	470	520	--	--	--	328	--	--	--	--	--	8.3	--	--	
ly	208	4,109	Oct. 21, 1965	Pc	--	--	744	261	* 1,350	--	517	2,160	2,260	--	--	--	7,030	2,930	--	--	--	--	6.7	--	--	
	301	140	Jun. 7, 1967	A	--	--	--	--	--	--	160	196	91	--	--	--	365	--	--	--	.00	923	7.2	24	75	
	302	365	do	A	--	--	--	--	--	--	178	105	69	--	--	--	216	--	--	--	.00	717	7.6	24	75	
ly	306	3,950	Oct. 21, 1965	Pc	--	0.72	1,170	366	* 5,110	--	554	2,560	8,800	--	--	--	18,300	4,430	--	--	--	--	6.7	--	--	
ly	310	4,450	do	Pc	--	.80	761	250	* 1,300	--	517	2,110	2,200	--	--	--	6,900	2,930	--	--	--	--	6.7	--	--	
ly	401	226	Sept. 9, 1967	A	51	--	360	143	810	15	184	790	1,620	--	2.0	0.42	3,880	1,490	54	9.2	.00	6,040	7.5	22	72	
	403	400	Sept. 11, 1967	A	44	.00	345	142	598	16	178	800	1,280	--	4.5	--	3,320	1,440	47	6.9	.00	5,120	7.3	21	70	
	405	96	Feb. 23, 1940	A	--	--	332	128	* 571	--	188	836	1,120	--	--	--	3,080	1,360	48	--	--	4,800	--	--	--	
	406	107	Mar. 3, 1943	A	--	--	44	21	* 72	--	228	89	48	--	6.9	--	393	196	--	--	--	--	--	--	--	
	407	303	Sept. 12, 1967	A	--	--	--	--	--	--	--	--	1,320	--	--	--	--	--	--	--	--	--	4,600	--	--	--
	409	185	Nov. 16, 1967	A	42	--	338	132	604	13	192	776	1,270	--	1.0	.45	3,270	1,390	48	7.1	.00	4,890	7.2	21	70	
	501	182	Dec. 14, 1942	A	49	.31	56	18	* 70	--	204	111	55	2.7	3.4	--	468	214	--	--	--	--	7.5	13	54	
	501	182	Mar. 1, 1943	A	44	.96	49	17	* 51	--	196	71	39	2.5	10	--	380	192	--	--	--	--	7.7	--	--	
	501	182	Mar. 9, 1948	A	50	.04	52	21	* 107	--	218	128	89	3.0	5.3	--	563	216	52	--	--	897	7.5	20	68	
	501	182	Sept. 7, 1949	A	54	--	54	19	* 113	--	231	124	92	2.8	4.8	--	577	213	54	--	--	913	8.0	--	--	
	501	182	Oct. 10, 1950	A	48	.18	54	17	* 115	--	235	116	92	3.2	3.2	--	564	204	55	--	--	893	8.1	--	--	
	501	182	Oct. 10, 1951	A	51	.09	58	19	* 110	--	232	124	94	2.4	4.0	--	576	222	52	--	--	949	7.5	--	--	

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH		TEMPERATURE	
																						°C	°F		
YX-46-32-501	182	Oct. 24, 1952	A	52	0.02	54	20	* 106	--	232	119	87	2.0	4.7	--	559	216	51	--	--	877	7.7	21	70	
501	182	Jun. 11, 1953	A	50	.02	59	20	* 108	--	234	123	93	3.6	5.1	--	577	229	51	--	--	944	7.4	21	70	
501	182	Jan. 17, 1958	A	45	.10	52	16	* 109	--	238	109	81	2.8	4.0	--	536	196	55	3.4	--	840	7.7	18	64	
501	182	Sept. 9, 1958	A	50	.16	64	19	* 123	--	240	136	110	2.8	4.5	--	627	238	53	3.4	--	1,020	7.5	--	--	
501	182	Aug. 21, 1959	A	49	.03	61	19	* 122	--	237	134	106	3.0	6.1	--	617	230	54	3.5	--	952	7.1	22	72	
501	182	Aug. 28, 1961	A	46	.06	60	20	* 121	--	236	131	109	2.9	4.7	--	611	232	53	3.4	--	968	6.9	21	70	
501	182	Nov. 27, 1961	A	46	.45	57	18	* 119	--	231	122	103	3.1	4.8	--	587	216	54	3.5	--	933	6.9	20	68	
501	182	Sept. 17, 1962	A	47	.06	52	17	* 118	--	236	111	96	3.2	4.0	--	564	200	56	3.6	--	922	7.1	--	--	
501	182	Nov. 16, 1967	A	46	--	59	19	118	4.2	240	134	102	3.0	3.2	--	606	225	53	3.4	0.00	910	7.5	21	70	
504	152	May 3, 1940	A	--	--	100	46	* 354	--	398	185	488	--	1.2	--	1,370	439	64	--	--	2,210	--	--	--	
508	425	Sept. 27, 1967	A	39	--	51	22	118	5.6	204	102	141	2.8	4.4	--	586	218	53	3.5	.00	962	7.5	22	72	
509	385	do	A	40	--	82	31	155	4.9	204	141	255	2.0	4.1	--	815	332	50	3.7	.00	1,370	7.4	22	72	
510	259	Sept. 26, 1967	A	41	.04	84	30	205	5.6	208	155	315	2.3	4.2	--	944	333	57	4.9	.00	1,580	7.5	22	72	
511	235	Mar. 1, 1943	A	48	.02	58	19	* 66	--	197	105	58	2.1	9.0	--	462	222	--	--	--	--	7.6	--	--	
512	235	Dec. 14, 1942	A	43	1.2	46	21	* 91	--	224	101	73	2.7	1.1	--	489	202	--	--	--	--	7.4	--	--	
512	235	Mar. 1, 1943	A	39	.05	69	33	* 230	--	231	167	307	2.0	5.3	--	966	308	--	--	--	--	7.7	--	--	
513	241	Mar. 9, 1948	A	50	.04	62	23	* 74	--	197	130	71	2.8	5.4	--	515	249	39	--	--	801	7.5	20	68	
513	241	Sept. 7, 1949	A	52	.00	61	19	* 88	--	214	129	72	2.4	5.0	--	534	230	45	--	--	831	7.8	--	--	
513	241	Oct. 10, 1950	A	47	.00	68	21	* 90	--	213	138	88	2.4	4.8	--	564	256	43	--	--	882	7.8	21	70	
513	241	Oct. 10, 1951	A	51	.04	67	22	* 84	--	212	131	85	2.0	5.0	--	551	258	41	--	--	886	7.5	21	70	
513	241	Oct. 24, 1952	A	50	.17	66	23	* 89	--	219	138	85	2.0	5.0	--	566	259	43	--	--	877	7.6	21	70	
513	141	Jun. 11, 1953	A	50	.03	65	21	* 92	--	217	135	83	2.8	5.5	--	561	248	44	--	--	898	7.4	--	--	
513	241	Jan. 17, 1958	A	46	.09	68	20	* 96	--	222	138	88	2.4	5.9	--	573	252	45	2.7	--	889	7.7	18	64	
513	241	Sept. 10, 1958	A	50	.08	68	20	* 98	--	223	136	91	2.4	6.0	--	581	252	46	2.7	--	909	7.8	--	--	
513	241	Aug. 21, 1959	A	48	.02	62	19	* 101	--	218	126	93	2.8	5.4	--	564	232	49	2.9	--	874	7.1	22	72	
513	241	Aug. 28, 1961	A	46	.20	72	21	* 103	--	216	147	106	2.6	5.2	--	609	266	46	2.8	--	952	6.9	21	70	
513	241	Nov. 27, 1961	A	46	.17	68	21	* 91	--	202	124	105	2.6	5.0	--	562	256	44	2.5	--	896	7.0	21	70	
513	241	Sept. 17, 1962	A	49	.08	73	22	* 103	--	216	148	110	2.5	5.8	--	619	272	45	2.7	--	1,000	6.9	21	70	
513	241	Nov. 16, 1967	A	47	--	82	23	104	4.0	218	162	122	2.6	4.0	--	658	299	43	2.6	.00	991	7.5	21	70	
514	240	Mar. 9, 1948	A	50	.04	60	21	* 72	--	198	120	67	2.6	5.0	--	497	236	40	--	--	815	8.1	20	68	

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE		
																							°C	°F	
YX-46-32-514	240	Sept. 7, 1949	A	50	0.00	60	19	* 84	--	210	126	68	2.4	5.1	--	518	228	44	--	--	815	7.7	--	--	
514	240	Oct. 10, 1950	A	47	.00	58	18	* 79	--	208	113	66	2.4	4.0	--	489	218	44	--	--	771	7.4	--	--	
514	240	Oct. 10, 1951	A	50	.04	58	19	* 78	--	207	110	69	2.4	5.0	--	493	222	43	--	--	793	7.6	21	70	
514	240	Oct. 24, 1952	A	51	.08	55	19	* 77	--	209	110	62	2.0	4.3	--	483	215	44	--	--	744	7.8	21	70	
514	240	Jun. 11, 1953	A	49	.03	57	18	* 83	--	208	114	67	3.2	4.8	--	498	216	45	--	--	785	7.5	21	70	
514	240	Jan. 17, 1958	A	44	.27	50	18	* 78	--	205	107	69	2.4	4.7	--	482	218	44	2.3	--	754	7.8	18	64	
514	240	Sept. 10, 1958	A	49	.04	63	18	* 87	--	210	118	82	2.4	4.8	--	527	231	45	2.5	--	831	7.7	--	--	
514	240	Sept. 21, 1959	A	47	.09	65	19	* 88	--	207	123	87	2.7	4.9	--	539	240	44	2.5	--	827	7.1	21	70	
514	240	Aug. 28, 1961	A	45	.03	70	20	* 89	--	200	123	105	2.6	4.8	--	557	256	43	2.4	--	899	6.9	21	70	
514	240	Nov. 27, 1961	A	48	.69	73	22	* 105	--	219	149	110	2.6	5.9	--	624	272	46	2.8	--	974	6.9	20	68	
514	240	Sept. 17, 1962	A	47	.00	70	21	* 91	--	202	126	108	2.8	4.0	--	569	261	43	2.4	--	936	7.1	21	70	
514	240	Nov. 16, 1967	A	47	--	78	23	97	3.9	208	152	118	2.6	3.8	--	627	289	42	2.5	0.00	950	7.5	21	70	
515	271	Jan. 17, 1958	A	39	.21	55	24	* 164	--	221	132	188	2.4	3.5	--	717	236	60	4.7	--	1,190	7.8	18	64	
515	271	Sept. 10, 1958	A	41	.28	56	25	* 180	--	224	138	211	2.4	3.5	--	767	242	62	5.1	--	1,290	7.7	--	--	
601	235	Feb. 25, 1943	A	--	--	68	20	* 59	--	206	135	47	--	4.3	--	435	252	--	--	--	--	--	--	--	
601	235	Sept. 5, 1967	A	40	--	71	18	64	4.3	210	149	47	2.0	2.5	--	501	251	35	1.8	.00	763	7.7	--	--	
<i>S, V</i>	602	4,460	Jul. 13, 1962	Pc	--	.56	1,110	358	* 4,900	--	600	2,830	8,130	--	--	--	17,600	4,240	--	--	--	--	6.9	--	--
<i>b</i>	603	306	Jun. 1, 1966	A	--	.24	69	18	* 62	--	179	145	57	1.7	3.0	--	444	249	--	--	--	852	7.7	--	--
	603	306	Sept. 1, 1967	A	35	.09	70	18	62	3.7	188	136	60	2.0	3.2	0.11	482	248	35	1.7	.00	753	7.7	22	72
	605	300	do	A	--	--	--	--	--	--	--	50	--	--	--	--	--	--	--	--	--	752	--	--	--
	607	335	Sept. 27, 1967	A	27	--	80	28	210	5.5	208	206	276	1.9	3.5	--	940	314	59	5.1	.00	1,550	7.5	22	72
	608	180	Dec. 9, 1967	A	--	--	--	--	--	--	188	200	105	--	--	--	284	--	--	--	.00	991	7.4	--	--
<i>g</i>	609	2,911	Jun. 11, 1951	Psr	--	1.0	530	210	--	--	367	1,630	798	--	--	--	4,400	--	--	--	--	--	--	--	--
<i>S, V</i>	611	4,500	Oct. 21, 1965	Pc	--	.68	1,350	361	* 6,240	--	593	2,780	10,700	--	--	--	21,700	4,860	--	--	--	--	6.7	--	--
	701	104	Mar. 16, 1943	A	--	--	822	432	* 1,370	--	176	1,720	3,450	--	3.5	--	7,880	3,830	--	--	--	--	--	--	--
	702	200	Sept. 28, 1967	A	46	--	368	157	573	15	156	730	1,370	--	3.0	--	3,340	1,560	44	6.3	.00	5,170	7.6	22	72
	703	106	Feb. 23, 1940	A	--	--	--	--	--	--	--	--	1,070	--	--	--	--	--	--	--	--	3,970	--	--	--
	801	127	May 29, 1940	A	--	--	55	26	* 265	--	251	170	308	--	4.0	--	952	244	70	--	--	1,170	--	--	--
<i>b</i>	801	127	Jun. 11, 1962	A	--	--	67	38	* 194	--	237	310	180	2.5	--	--	908	325	--	--	--	--	--	--	--
	801	127	Aug. 11, 1967	A	--	--	--	--	--	--	252	226	147	--	--	--	284	--	--	--	.00	1,280	7.6	--	--

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO )	BORON (B)	DIS-SOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM-ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE	
																							°C	°F
YX-46-32-802	98	May 29, 1940	A	--	--	201	61	* 190	--	212	778	118	--	18	--	1,470	752	35	--	--	2,070	--	--	--
802	98	Aug. 11, 1967	A	--	--	--	--	--	--	222	1,040	174	--	--	--	--	1,150	--	--	0.00	2,550	7.4	22	72
803	110	Mar. 1, 1943	A	--	--	352	144	* 762	--	179	823	1,500	--	0.5	--	3,670	1,470	53	--	--	--	--	--	--
803	110	Mar. 28, 1968	A	--	--	--	--	--	--	180	934	1,720	--	--	--	--	1,720	--	--	.00	6,490	7.0	--	--
804	207	Nov. 17, 1967	A	--	--	--	--	--	--	238	146	182	--	--	--	--	256	--	--	.00	1,170	7.8	--	--
901	4,421	Jun. 8, 1967	Pc	14	--	1,090	306	3,220	47	438	2,630	5,550	--	--	--	13,100	3,980	63	22	--	18,800	6.8	32	90
902	120	Aug. 11, 1967	A	--	--	--	--	--	--	228	134	112	--	--	--	--	244	--	--	.00	977	7.7	22	72
903	186	May 29, 1940	A	--	--	--	--	--	--	--	--	370	--	--	--	--	--	--	--	--	1,900	--	--	--
903	186	Sept. 6, 1967	A	48	--	528	211	532	12	254	1,940	840	--	4.2	--	4,440	2,190	34	4.9	.00	5,380	7.2	22	72
37-103	48	Aug. 31, 1939	A	--	--	548	204	* 877	--	108	1,570	1,700	--	--	--	4,950	2,210	46	--	--	7,360	--	--	--
108	183	Dec. 4, 1946	A	--	--	582	181	* 1,340	--	171	2,000	2,050	--	--	--	6,240	2,200	57	--	--	8,950	--	--	--
108	183	Feb. 1949	A	25	--	610	204	* 1,470	--	216	2,130	2,250	--	--	0.49	6,800	2,360	58	--	--	9,880	--	--	--
110	125	Dec. 16, 1946	A	--	--	--	--	--	--	109	2,420	2,330	--	--	--	--	--	--	--	--	10,300	--	--	--
110	125	Oct. 19, 1967	A	19	--	660	198	1,330	21	192	2,100	2,170	--	--	.52	6,590	2,460	54	12	.00	8,980	7.2	21	70
111	160	Oct. 27, 1967	A	--	--	--	--	--	--	180	1,950	2,360	--	--	--	--	2,520	--	--	.00	9,290	7.3	21	70
201	112	Feb. 1949	A	20	--	704	178	* 1,130	--	156	2,190	1,800	--	.5	.41	6,100	2,490	50	--	--	8,470	--	--	--
202	91	Apr. 12, 1946	A	--	--	714	197	* 1,030	--	166	2,200	1,700	--	3.8	--	5,930	2,590	--	--	--	--	--	--	--
202	91	Sept. 25, 1946	A	--	--	714	216	* 1,200	--	180	2,290	1,950	--	--	--	6,460	2,670	50	--	--	--	--	--	--
202	91	Feb. 1949	A	23	--	694	215	* 1,210	--	188	2,210	1,980	--	1.0	.64	6,430	2,620	50	--	--	9,000	--	--	--
203	97	do	A	30	--	824	229	* 1,530	--	162	2,320	2,680	--	--	.66	7,690	3,000	53	--	--	10,900	--	--	--
204	71	do	A	28	--	899	252	* 1,880	--	160	2,340	3,400	--	--	.80	8,870	3,280	55	--	--	12,900	--	--	--
205	71	Oct. 29, 1946	A	--	--	800	266	* 1,430	--	202	2,490	2,440	--	--	--	7,530	3,090	50	--	--	10,400	--	--	--
205	71	Oct. 23, 1967	A	19	--	622	182	1,620	24	174	2,160	2,500	--	--	.55	7,210	2,300	60	15	.00	9,880	7.3	21	70
206	110	Nov. 1, 1946	A	--	--	700	182	* 952	--	162	2,170	1,540	--	2.5	--	5,630	2,500	--	--	--	7,660	--	--	--
206	110	Jun. 7, 1967	A	20	--	815	205	* 2,190	--	168	2,680	3,350	--	--	--	9,350	2,880	62	18	--	13,200	7.0	--	--
207	80	Apr. 15, 1940	A	--	--	636	188	* 994	--	176	2,160	1,510	--	5.0	--	5,580	2,360	48	--	--	7,520	--	--	--
207	80	Aug. 4, 1961	A	21	--	670	189	* 1,670	--	178	2,540	2,340	--	--	--	7,520	2,450	60	15	--	9,680	6.8	22	82
207	80	Oct. 19, 1967	A	20	--	664	194	1,540	19	210	2,080	2,430	--	--	.72	7,050	2,450	57	14	.00	9,730	7.2	--	--
208	172	Feb. 1949	A	20	--	664	212	* 1,320	--	156	2,190	2,120	--	--	.59	6,600	2,530	53	--	--	9,540	--	--	--
212	80	Feb. 21, 1940	A	--	--	752	249	* 1,350	--	210	2,490	2,180	--	--	--	7,130	2,900	--	--	--	10,100	--	--	--

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM-ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE	
																							°C	°F
YX-46-37-212	80	Apr. 4, 1940	A	--	--	676	257	* 1,280	--	237	2,510	1,920	--	12	--	6,770	2,740	50	--	--	9,240	--	--	--
	212	Apr. 18, 1947	A	--	--	843	332	* 1,680	--	226	2,690	2,920	--	--	--	8,570	3,470	--	--	--	11,600	--	--	--
	212	Oct. 23, 1967	A	23	--	712	260	2,260	24	280	3,260	3,050	--	--	--	9,730	2,850	63	18	0.00	12,900	7.3	--	--
	213	Sept. 7, 1940	A	--	--	778	411	* 2,290	--	259	3,060	3,690	--	3.6	--	10,900	--	58	--	--	14,600	--	--	--
	213	Feb. 1949	A	35	--	820	435	* 2,300	--	264	3,110	3,830	--	--	0.96	10,700	3,840	57	--	--	14,900	--	--	--
	214	Oct. 21, 1930	A	14	0.04	763	204	* 1,090	--	116	2,250	1,920	--	.4	--	6,320	2,740	47	--	--	--	--	18	64
	215	Oct. 23, 1967	A	--	--	--	--	--	--	220	2,630	2,850	--	--	--	3,120	--	--	--	.00	11,600	7.4	21	70
	222	Jul. 1946	A	28	--	748	272	* 1,400	--	96	2,510	2,350	--	26	.76	7,380	2,980	50	--	--	10,300	7.7	--	--
	223	Sept. 26, 1946	A	--	--	728	211	* 1,140	--	164	2,260	1,900	--	--	--	6,320	2,680	48	--	--	--	--	--	--
	226	Apr. 23, 1947	A	--	--	782	207	* 1,300	--	170	2,340	2,170	--	--	--	6,880	2,800	--	--	--	9,340	--	--	--
	302	Apr. 26, 1947	A	--	--	764	253	* 1,260	--	230	2,390	2,140	--	--	--	6,920	2,950	48	--	--	9,420	--	--	--
	303	Apr. 24, 1940	A	--	--	830	372	* 2,600	--	108	2,970	4,300	--	--	--	11,100	--	61	--	--	15,600	--	--	--
	303	Jul. 11, 1940	A	--	--	748	307	1,910	84	169	2,580	3,240	--	--	--	8,950	--	56	--	--	12,900	--	--	--
	304	Oct. 25, 1967	A	--	--	--	--	--	--	176	2,560	2,780	--	--	--	3,160	--	--	--	.00	11,300	7.4	21	70
	305	Sept. 21, 1933	A	--	--	695	221	* 1,040	--	232	2,250	1,680	--	2.9	--	6,000	2,640	46	--	--	--	--	18	64
	305	Oct. 26, 1967	A	31	--	824	245	1,920	24	210	2,540	3,180	--	--	.59	8,870	3,060	57	15	.00	12,300	7.3	--	--
	308	Nov. 1, 1946	A	--	--	772	165	* 1,400	--	216	2,420	2,100	--	--	--	6,960	2,600	--	--	--	9,530	--	--	--
	309	Oct. 24, 1967	A	21	--	824	220	1,590	18	182	2,380	2,700	--	--	--	7,840	2,960	54	13	.00	10,900	7.2	21	70
	312	Nov. 9, 1967	A	--	--	--	--	--	--	244	3,010	4,350	--	--	--	3,960	--	--	--	.00	16,100	7.2	--	--
	313	Dec. 3, 1940	A	--	--	750	214	* 1,070	--	192	2,310	1,770	--	23	--	6,240	2,750	46	--	--	8,460	--	--	--
	313	May 10, 1967	A	22	--	725	208	1,620	23	150	2,180	2,700	--	--	--	7,550	2,660	57	14	.00	10,700	6.8	--	--
	315	Nov. 26, 1946	A	--	--	644	211	* 1,040	--	146	2,290	1,580	--	12	--	5,850	2,470	48	--	--	7,930	--	--	--
	321	Sept. 6, 1946	A	--	--	684	209	* 1,030	--	158	2,240	1,650	--	10	--	5,900	2,570	46	--	--	--	--	--	--
	321	Aug. 28, 1950	A	29	--	738	236	* 1,260	--	103	2,400	2,100	--	6.5	.74	6,820	2,810	49	--	--	9,350	7.9	--	--
	324	Oct. 24, 1967	A	--	--	--	--	--	--	198	2,700	3,050	--	--	--	3,400	--	--	--	.00	12,000	7.3	21	70
	401	Jan. 8, 1940	A	--	--	--	--	--	--	--	--	710	--	--	--	--	--	--	--	--	3,460	7.2	--	--
	401	Oct. 15, 1950	A	26	--	288	94	* 384	--	226	777	670	--	.5	--	2,350	1,100	43	--	--	5,430	7.3	21	70
	402	Jun. 22, 1967	A	--	--	--	--	--	--	172	1,340	1,080	--	--	--	1,440	--	--	--	.00	6,290	7.2	21	70
	403	do	A	--	--	--	--	--	--	194	1,340	1,380	--	--	--	1,660	--	--	--	.00	5,190	7.1	--	--
	404	Sept. 9, 1949	A	40	--	344	86	* 777	--	198	1,140	1,100	--	2.5	--	3,590	1,210	58	--	--	--	--	--	--

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM-ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH		TEMPERATURE	
																						°C	°F	°C	°F
YX-46-37-501	190	Jun. 22, 1967	A	--	--	--	--	--	--	166	2,040	2,400	--	--	--	--	2,400	--	--	0.00	9,680	7.2	21	70	
	502	do	A	30	--	640	182	1,030	22	186	1,830	1,780	--	7.5	0.57	5,610	2,350	49	9.2	.00	7,820	7.4	22	72	
	504	Nov. 9, 1967	A	36	--	475	174	924	18	224	1,490	1,600	--	1.0	.48	4,830	1,900	51	9.2	.00	6,590	7.2	--	--	
	603	Aug. 28, 1950	A	20	--	644	252	* 1,420	--	110	2,500	2,150	--	1.5	.46	7,040	2,640	54	--	--	9,430	7.5	--	--	
	604	Nov. 15, 1967	A	21	--	1,010	368	2,050	18	198	2,790	3,820	--	--	.77	10,200	4,030	52	14	.00	14,400	7.0	21	70	
	610	Oct. 31, 1939	A	--	--	--	--	--	--	--	--	1,710	--	--	--	--	--	--	--	--	8,460	--	--	--	
	611	Mar. 31, 1968	A	25	--	795	280	1,970	23	208	2,820	3,120	--	--	.77	9,140	3,140	58	--	--	12,600	7.1	21	70	
38-102	117	Dec. 17, 1939	A	--	--	356	92	* 166	--	132	810	480	--	--	--	1,970	1,270	22	--	--	2,940	--	--	--	
	103	Mar. 29, 1940	A	--	--	660	184	* 1,020	--	162	2,230	1,540	--	5.0	--	5,720	2,400	48	--	--	7,700	--	--	--	
	104	May 20, 1940	A	--	--	--	--	--	--	--	--	1,860	--	--	--	--	--	--	--	--	8,560	--	--	--	
	105	Oct. 26, 1967	A	--	--	--	--	--	--	118	794	900	--	--	--	--	1,680	--	--	.00	3,920	7.0	21	70	
	106	Aug. 28, 1950	A	48	--	840	302	* 2,130	--	113	2,500	3,730	--	6.0	.90	9,620	3,340	58	--	--	13,800	7.6	--	--	
	201	Oct. 25, 1930	A	26	0.04	94	29	34	4.3	256	175	35	--	.9	--	524	354	18	--	--	--	--	--	--	
	201	May 24, 1940	A	28	.12	149	51	76	6.2	216	428	83	1.2	6.4	--	935	582	23	--	--	1,320	--	--	--	
	401	Jul. 11, 1940	A	--	--	944	321	* 1,540	--	302	3,090	2,520	--	--	--	8,560	--	48	--	--	11,600	--	--	--	
	403	Oct. 26, 1967	A	--	--	--	--	--	--	200	2,680	2,750	--	--	--	--	3,120	--	--	.00	11,400	7.3	21	70	
	405	Aug. 30, 1939	A	--	--	--	--	--	--	--	--	1,380	--	--	--	--	--	--	--	--	7,420	--	--	--	
	501	Jul. 11, 1949	A	--	--	--	--	--	--	--	--	4,800	--	--	.82	--	--	--	--	--	15,400	--	--	--	
	504	Aug. 30, 1939	A	--	--	--	--	--	--	--	--	1,650	--	--	--	--	--	--	--	--	8,450	--	--	--	
	505	Dec. 12, 1939	A	--	--	--	--	--	--	--	--	3,810	--	--	--	--	--	--	--	--	11,600	--	--	--	
	601	Feb. 4, 1926	Pr	18	.49	1,020	406	3,380	96	133	3,150	5,980	--	--	--	14,100	4,230	64	--	--	--	--	--	--	
	601	Dec. 19, 1940	Pr	--	--	939	380	* 3,420	--	47	3,190	5,670	--	--	--	13,600	3,900	66	--	--	19,500	--	--	--	
	601	Mar. 5, 1964	Pr	--	--	--	--	--	--	88	--	6,900	--	--	--	--	4,300	--	--	--	20,500	6.9	23	73	
39-101	5,208	Oct. 5, 1940	?	--	--	90	18	* 421	--	183	171	627	--	.8	--	1,420	--	75	--	--	2,590	--	--	--	
	102	Mar. 31, 1968	A	--	--	--	--	--	--	42	1,150	158	--	--	--	--	795	--	--	.00	2,500	6.9	--	--	
	104	Dec. 12, 1967	A	43	.01	135	29	62	4.2	232	104	195	1.0	15	--	702	456	23	1.3	.00	1,180	7.4	--	--	
	201	do	A	--	--	--	--	--	--	208	197	218	--	--	--	--	448	--	--	.00	1,350	7.7	--	--	
	202	Nov. 10, 1967	A	--	--	--	--	--	--	166	1,300	202	--	--	--	--	1,220	--	--	.00	2,150	7.0	--	--	
	204	Nov. 11, 1967	A	--	--	--	--	--	--	139	1,050	1,110	--	--	--	--	1,380	--	--	.00	4,890	7.2	--	--	
	205	Nov. 7, 1967	A	47	--	335	62	345	6.4	144	704	720	--	11	--	2,300	1,090	41	4.6	.00	3,270	7.2	--	--	

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE		
																							°C	°F	
YX-46-39-206	97	Nov. 7, 1967	A	--	--	--	--	--	--	234	448	157	--	--	--	--	670	--	--	0.00	1,560	7.9	--	--	
	303	Mar. 1, 1943	A	--	--	410	57	* 126	--	181	863	238	--	27	--	1,900	1,260	--	--	.00	--	--	--	--	
	501	Nov. 28, 1939	A	--	--	56	30	* 56	--	317	79	30	--	--	--	409	263	31	--	--	744	--	--	--	
	601	do	A	--	--	512	135	* 739	--	200	1,840	965	--	--	--	4,290	1,830	47	--	--	5,820	--	--	--	
	602	Dec. 12, 1967	A	--	--	--	--	--	--	160	1,260	575	--	--	--	--	1,230	--	--	.00	3,880	7.3	--	--	
	603	do	A	--	--	--	--	--	--	154	1,120	242	--	--	--	--	1,130	--	--	.00	2,700	7.2	--	--	
	604	Nov. 20, 1939	A	--	--	262	77	* 347	--	256	1,080	280	--	--	--	2,170	970	44	--	--	2,990	--	--	--	
	604	Nov. 10, 1967	A	30	--	320	82	318	8.1	206	1,160	328	1.9	1.5	--	2,350	1,140	38	4.1	.00	2,940	7.2	--	--	
	605	Nov. 20, 1939	A	--	--	--	--	--	--	--	--	286	--	--	--	--	--	--	--	--	2,870	--	--	--	
	606	Nov. 10, 1967	A	--	--	--	--	--	--	142	2,280	1,290	--	--	--	--	1,620	--	--	.00	6,920	7.5	--	--	
	801	Nov. 28, 1939	A	--	--	--	--	--	--	--	--	53	--	--	--	--	--	--	--	--	823	--	--	--	
	802	do	A	--	--	--	--	--	--	--	--	37	--	--	--	--	--	--	--	--	699	--	--	--	
	40-102	Jun. 2, 1967	A	--	--	--	--	--	--	172	1,050	700	--	--	--	--	1,580	--	--	.00	3,990	7.2	20	68	
	103	Jun. 4, 1967	A	--	--	--	--	--	--	115	1,300	530	--	--	--	--	1,820	--	--	.00	3,640	7.0	21	70	
	201	Sept. 28, 1939	A	--	--	330	154	* 584	--	150	773	1,280	--	--	--	3,190	1,460	47	--	--	5,180	--	--	--	
y	201	Jun. 18, 1962	A	--	--	450	180	* 740	--	354	1,160	1,240	3.1	--	--	3,950	1,880	--	--	--	---	--	--	--	
	201	Aug. 16, 1967	A	--	--	--	--	--	--	396	1,060	1,060	--	--	--	--	1,620	--	--	.00	5,140	7.4	21	70	
y	202	Jun. 18, 1962	A	--	--	98	10	* 4	--	322	16	9	.4	--	--	295	285	--	--	--	---	--	--	--	
	202	Aug. 16, 1967	A	--	--	--	--	--	--	358	12	4.0	--	--	--	--	308	--	--	.00	583	7.2	21	70	
y	203	Jun. 9, 1962	A	--	--	244	125	* 660	--	185	693	1,130	--	--	--	2,940	1,130	--	--	--	---	--	--	--	
j	203	Jun. 12, 1962	A	--	--	--	--	--	--	--	611	828	--	--	--	--	850	--	--	--	---	--	--	--	
j	203	Jun. 15, 1962	A	--	--	--	--	--	--	--	324	--	--	--	--	--	530	--	--	--	---	--	--	--	
y	204	Jun. 23, 1962	A	--	--	65	36	* 268	--	237	190	343	2.9	--	--	1,020	310	--	--	--	---	--	--	--	
y	301	Sept. 8, 1961	A	--	--	70	24	* 122	--	259	144	122	1.2	--	--	610	275	--	--	--	---	--	--	--	
	301	Jun. 3, 1967	A	--	--	--	--	--	--	290	92	100	--	--	--	--	290	--	--	.00	957	7.1	23	73	
	302	Jun. 2, 1967	A	--	--	--	--	--	--	238	316	630	--	--	--	--	345	--	--	.00	2,900	7.5	--	--	
j	303	Feb. 3, 1951	Psr	--	--	1,150	217	* 1,120	--	--	2,090	2,130	--	--	--	--	--	--	--	--	---	--	6.6	--	--
b	304	Sept. 8, 1961	A	--	--	56	23	* 200	--	229	250	150	3.5	--	--	796	235	--	--	--	---	--	--	--	
y	305	Aug. 27, 1963	A	--	0.1	60	35	* 277	--	229	273	309	3.3	2.0	--	1,070	292	--	--	--	2,060	7.7	--	--	
y	305	Aug. 12, 1964	A	--	--	66	29	* 278	--	227	257	310	3.9	5.0	--	1,060	285	--	--	--	2,130	7.7	--	--	

See footnotes at end of table.



Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DIS-SOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM-ABSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE		
																							°C	°F	
by YX-46-40-305	250	Sept. 17, 1965	A	--	--	67	30	* 273	--	229	266	304	3.5	4.0	--	1,060	293	--	--	--	2,110	7.5	--	--	
	305	250	Aug. 17, 1967	A	35	0.01	70	31	287	7.0	236	275	325	3.5	5.2	0.36	1,160	302	67	7.2	0.00	1,880	7.6	22	72
by	306	240	Apr. 22, 1963	A	--	.16	61	30	* 230	--	221	268	217	.7	4.0	--	920	275	--	--	--	1,780	7.7	--	--
by	306	240	Aug. 12, 1964	A	--	--	62	62	* 234	--	222	270	229	4.1	6.5	--	945	278	--	--	--	1,900	7.8	--	--
by	306	240	Sept. 17, 1965	A	--	--	66	32	* 238	--	221	279	248	3.5	5.5	--	981	298	--	--	--	1,940	7.7	--	--
cy	307	220	Jul. 2, 1962	A	--	--	46	29	--	--	244	329	133	--	--	--	232	--	--	--	--	--	--	--	
cy	307	314	Jul. 5, 1962	A	--	--	62	34	--	--	224	342	334	--	--	--	292	--	--	--	--	--	--	--	
by	307	316	May 26, 1963	A	--	.06	50	27	* 192	--	226	238	148	3.4	2.5	--	772	234	--	--	--	1,430	7.5	--	--
by	307	316	Jun. 25, 1964	A	--	--	61	30	* 263	--	232	273	258	3.7	3.5	--	1,010	277	--	--	--	2,010	7.7	--	--
by	307	316	Sept. 17, 1965	A	--	--	63	31	* 242	--	232	262	254	3.1	5.0	--	974	283	--	--	--	1,950	7.8	--	--
	307	316	Aug. 17, 1967	A	38	.01	64	31	256	7.0	238	277	262	3.9	5.4	.36	1,060	287	65	6.6	.00	1,710	7.7	22	72
by	308	256	Aug. 22, 1962	A	--	.04	43	23	* 201	--	240	259	133	4.0	5.0	--	786	201	--	--	--	1,440	--	--	--
by	308	256	Nov. 19, 1963	A	--	--	46	22	* 206	--	245	254	141	4.9	3.5	--	797	208	--	--	--	1,550	7.9	--	--
by	308	256	Jun. 24, 1964	A	--	--	49	23	* 214	--	239	267	147	4.3	4.0	--	826	216	--	--	--	1,590	7.9	--	--
by	308	256	Sept. 17, 1965	A	--	--	52	22	* 221	--	242	269	153	4.0	5.5	--	846	222	--	--	--	1,610	7.9	--	--
	308	256	Aug. 17, 1967	A	41	.00	52	23	228	5.8	252	274	161	3.9	4.8	.31	918	224	68	6.6	.00	1,430	7.8	22	72
	401	80	Jun. 2, 1967	A	--	--	--	--	--	--	226	1,590	840	--	--	--	1,560	--	--	--	--	5,200	7.2	22	72
	402	131	Nov. 14, 1939	A	--	--	360	217	* 1,880	--	179	1,240	3,150	--	--	--	6,930	1,790	70	--	--	11,000	--	--	--
	402	131	Jun. 2, 1967	A	--	--	--	--	--	--	126	244	2,610	--	--	--	410	--	--	.00	.00	8,350	7.0	21	70
	501	84	Nov. 28, 1939	A	--	--	78	31	* 273	--	265	333	250	--	--	--	1,100	322	65	--	.00	1,890	--	--	--
	501	84	Jun. 2, 1967	A	--	--	--	--	--	--	318	145	77	--	--	--	250	--	--	.21	.00	1,040	7.6	23	73
	502	242	Aug. 10, 1967	A	--	--	--	--	--	--	152	768	1,620	--	--	--	760	--	--	.00	.00	6,220	7.5	--	--
	503	210	Aug. 11, 1967	A	43	--	170	83	485	14	252	528	780	--	3.2	.51	2,230	766	57	7.6	.00	3,560	7.4	21	70
	504	230	do	A	39	--	252	117	812	20	194	738	1,430	--	4.0	.67	3,510	1,110	61	11	.00	5,620	7.4	--	--
	601	66	Oct. 28, 1939	A	--	--	--	--	--	--	290	--	715	--	--	--	--	--	--	--	--	3,960	--	--	--
	601	66	Jun. 2, 1967	A	--	--	--	--	--	--	286	1,040	900	--	--	--	1,140	--	--	.00	.00	4,780	7.3	--	--
	602	260	Sept. 27, 1967	A	30	--	189	94	1,180	19	312	910	1,570	--	3.5	--	4,150	858	74	17	.00	6,390	8.0	--	--
	701	1,100	Aug. 25, 1939	Pr	--	--	--	--	--	--	--	--	348	--	--	--	--	--	--	--	--	4,930	--	--	--
	701	1,100	Aug. 16, 1961	Pr	--	--	--	--	--	--	88	2,640	330	--	--	--	2,520	--	--	--	--	4,660	6.6	21	70

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION	WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM-ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH		TEMPERATURE	
																						°C	°F		
YX-46-40-702	1,080	Jun. 1, 1967	Pr	--	--	--	--	--	--	104	2,610	310	--	--	--	--	2,740	--	--	0.00	4,620	--	27	81	
703	1,125	do	Pr	19	--	580	163	* 666	--	105	2,650	510	--	0.9	--	4,640	2,120	41	6.3	.00	5,190	7.1	27	81	
706	1,200	do	Pr	--	--	--	--	--	--	103	2,640	292	--	--	--	--	2,600	--	--	.00	4,590	7.0	26	79	
801	1,680	Dec. 18, 1932	Pr	26	0.17	596	271	* 311	--	93	2,620	338	--	.6	--	4,210	2,600	--	--	--	--	--	--	--	
801	1,680	Aug. 25, 1939	Pr	--	--	603	277	* 342	--	101	2,700	350	--	--	--	4,320	2,640	22	--	--	4,980	--	--	--	
801	1,680	Jun. 1, 1967	Pr	--	--	--	--	--	--	22	2,600	322	--	--	--	--	2,740	--	--	.00	4,630	7.2	--	--	
901	110	do	A	--	--	--	--	--	--	142	452	1,110	--	--	--	--	570	--	--	.00	4,390	6.7	22	72	
Crane County																									
HH-45-26-301	90	May 11, 1967	A	--	--	--	--	--	--	214	142	21	--	--	--	--	216	--	--	0.00	707	7.2	--	--	
901	55	Jul. 20, 1967	A	--	--	--	--	--	--	234	1,820	720	--	--	--	--	1,800	--	--	.00	7,940	7.6	--	--	
Winkler County																									
ZP-45-17-401	300	Oct. 8, 1956	A	40	--	198	24	* 137	--	210	390	220	0.8	1.2	--	1,110	592	34	2.5	--	1,640	7.7	--	--	
401	300	May 17, 1967	A	--	--	--	--	--	--	204	376	222	--	--	--	--	606	--	--	0.00	1,640	7.0	21	70	
802	950	do	Pr	2.3	--	1,140	665	14,500	113	0.5	5,040	23,000	--	--	--	44,500	5,560	84	--	--	62,700	4.4	22	72	
18-702	10	Oct. 9, 1956	A	19	--	38	8.9	* 31	--	20	87	64	.4	.8	--	259	132	34	1.2	--	429	6.7	--	--	
46-22-801	151	Aug. 21, 1940	A	--	--	56	23	* 12	--	252	34	8.0	--	8.2	--	265	--	10	--	--	497	--	23	73	
801	151	Sept. 20, 1956	A	50	--	51	19	* 21	--	243	25	10	1.6	10	--	309	205	18	0.6	--	464	7.4	--	--	
801	151	Oct. 2, 1967	A	--	--	--	--	--	--	--	--	9.1	--	--	--	--	--	--	--	--	400	--	--	--	
23-601	400	Sept. 19, 1967	A	--	--	--	--	--	--	--	--	720	--	--	--	--	--	--	--	--	2,820	--	22	72	
602	223	Jan. 25, 1957	A	42	--	211	93	331	14	153	474	740	1.8	4.5	0.31	1,990	910	44	4.8	--	3,290	7.8	--	--	
603	400	Mar. 14, 1957	A	35	--	75	40	367	10	220	258	492	2.6	3.0	.37	1,390	352	69	8.5	--	2,310	7.6	--	--	
701	160	Mar. 22, 1940	A	--	--	64	23	* 42	--	248	84	30	--	16	--	381	--	26	--	--	689	--	--	--	
701	160	Sept. 14, 1967	A	--	--	--	--	--	--	--	--	26	--	--	--	--	--	--	--	--	673	--	--	--	
801	200	Sept. 21, 1956	A	44	--	50	19	* 122	--	227	157	75	2.2	7.7	--	596	203	57	3.7	--	916	7.7	--	--	
903	109	Aug. 22, 1940	A	--	--	244	114	* 373	--	150	528	815	--	2.8	--	2,120	--	41	--	--	3,540	--	--	--	

See footnotes at end of table.

Table 8.--Chemical Analyses of Water From Wells in Ward County and Adjacent Areas--Continued

WELL	DEPTH OR PRODUCING INTERVAL (FT)	DATE OF COLLECTION		WATER-BEARING UNIT	SILICA (SiO <sub>2</sub> )	IRON (Fe)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (NO <sub>3</sub> )	BORON (B)	DISSOLVED SOLIDS	HARDNESS AS CaCO <sub>3</sub>	PERCENT SODIUM	SODIUM ADSORPTION RATIO (SAR)	RESIDUAL SODIUM CARBONATE (RSC)	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	pH	TEMPERATURE		
																								°C	°F	
ly ZP-46-24-707	185-205	May	1957	A	--	--	--	--	--	--	--	--	80	--	--	--	--	171	--	--	--	--	--	--	--	--
ly 707	285-305	do		A	--	--	--	--	--	--	--	--	75	--	--	--	--	175	--	--	--	--	--	--	--	
ly 707	412-433	do		A	--	--	--	--	--	--	--	--	1,140	--	--	--	--	410	--	--	--	--	--	--	--	

\* Sodium and potassium calculated as sodium (Na).  
Analysis made by the following:

Contains the following:

- g/ El Paso Natural Gas Company
- ly Texas State Department of Health
- c/ Martin Water Laboratories (Treat-Rite Chemical Company)
- d/ Microbiology Service Laboratory
- e/ Humble Oil & Refining Company
- f/ Cities Service Oil Company
- g/ Atlantic Refining Company
- h/ Layne-Texas Company
- i/ Southwest Laboratories
- j/ Pan American Petroleum Corporation

- ly 3.4 mg/l total acidity as H<sup>+</sup>
- ly 550 mg/l dissolved hydrogen sulfide (H<sub>2</sub>S)
- my 0.06 mg/l Mn
- ny 0.02 mg/l Mn
- oy 0.06 mg/l Mn
- py 0.06 mg/l Mn
- q/ 11 mg/l total acidity as H<sup>+</sup>
- ry 425 mg/l dissolved hydrogen sulfide (H<sub>2</sub>S)
- sy 500 mg/l dissolved hydrogen sulfide (H<sub>2</sub>S)
- ty 375 mg/l dissolved hydrogen sulfide (H<sub>2</sub>S)
- uy 340 mg/l dissolved hydrogen sulfide (H<sub>2</sub>S)
- vy 600 mg/l dissolved hydrogen sulfide (H<sub>2</sub>S)

Table 9.--Chemical Analyses of Oil-Field Brine and Industrial Waste Water Disposed of in Earthen Pits in Ward County and Adjacent Areas

(All pits were unlined except number 6. One pit (number 33) in Winkler County was sampled)

PIT NUMBER SHOWN ON FIGURE 23	ANALYSIS NUMBER	OWNER AND LEASE	PRODUCING HORIZON	DATE OF COLLECTION	RATE OF DISCHARGE INTO PIT (GPM)	SILICA (SiO <sub>2</sub> )	CALCIUM (Ca)	CONSTITUENTS IN MILLIGRAMS PER LITER (MG/L)							HARDNESS AS CaCO <sub>3</sub>	pH	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	REMARKS
								MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	DISSOLVED SOLIDS				
1	YX-45-17-7A	Nortex Oil Co. Texas-Sealy Smith	Yates Sandstone, Permian	Apr. 28, 1967	not measured	--	--	--	--	--	28	1,980	43,000	--	20,800	8.4	94,200	Carbonate 232 mg/l.
2	8A	Kern County Land Co., Sealy-Smith Fdm.	Pennsylvanian	May 17, 1967	12	9.4	5,000	975	33,600	196	93	1,050	63,500	104,000	165,000	6.0	133,000	--
3	25-3A	L & G Brine and Water Sales, Inc.	--	Apr. 28, 1967	0	--	--	--	--	--	128	774	35,000	--	1,460	6.9	84,000	Pit stores water washed from brine transport trucks and overflow from brine storage tanks.
4	4A	Gulf Oil Corp. G. W. O'Brien	--	Aug. 18, 1967	not measured	--	--	--	--	--	500	3,190	17,500	--	8,800	7.6	46,700	Sampled from tank truck dumping water into caliche pit.
5	4B	Humble Oil & Refining Co., State Univ. "C. J."	Yates Sandstone, Permian	Dec. 11, 1967	0	--	--	--	--	--	160	3,930	52,400	--	23,400	6.8	113,000	
6	9A	Montex Chemical Co.	--	Dec. 9, 1967	0	9.7	1,390	133	12,800	90	32	2,420	21,000	37,900	4,020	7.0	55,000	Asphalt lined pit at brine plant.
7	26-5A	Gulf Oil Corp. C. W. Edwards, et al.	"Tubb Sand," Permian	do	0	--	--	--	--	--	170	2,470	69,200	--	189,000	8.3	140,000	Carbonate 14 mg/l.
8	8A	C. L. Norsworthy, Jr., Jack Edwards "M"	"Tubb Sand," Permian	May 15, 1967	.6	--	--	--	--	--	268	2,960	66,200	--	16,800	6.6	138,000	
9	9A	Texaco, Inc. Texaco, et al.-joint A. V. Winters Fee	Devonian	May 11, 1967	not measured	6.5	19,500	3,500	45,400	964	232	695	117,000	187,000	62,900	6.1	190,000	
10	9B	Edwin L. Cox, Chambers & Kennedy, Edwards "C"	do	Dec. 9, 1967	2	--	--	--	--	--	252	749	122,000	--	65,000	6.2	202,000	
11	33-1A	Petroleum Corp. of Texas, Trebol Univ. "C"	Yates Sandstone, Permian	July 25, 1967	34	15	940	772	6,800	137	600	523	14,400	24,200	5,520	7.4	37,600	
12	1F	Sinclair Oil & Gas Co., Hathaway	do	July 27, 1967	10	--	--	--	--	--	520	556	27,200	--	12,000	7.2	65,800	
13	1G	Petroleum Corp. of Texas, Trebol Univ. "C"	do	Aug. 15, 1967	22	--	--	--	--	--	--	1,590	82,500	--	--	--	163,000	

Table 9.--Chemical Analyses of Oil-Field Brine and Industrial Waste Water Disposed of in Earthen Pits in Ward County and Adjacent Areas--Continued

PIT NUMBER SHOWN ON FIGURE 23	ANALYSIS NUMBER	OWNER AND LEASE	PRODUCING HORIZON	DATE OF COLLECTION	RATE OF DISCHARGE INTO PIT (GPM)	SILICA (SiO <sub>2</sub> )	CALCIUM (Ca)	CONSTITUENTS IN MILLIGRAMS PER LITER (MG/L)							HARDNESS AS CaCO <sub>3</sub>	pH	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	REMARKS
								MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	DISSOLVED SOLIDS				
14	YX-45-33-1H	Texaco, Inc., State "C" & "E"	Yates Sandstone, Permian	Dec. 11, 1967	0	--	--	--	--	--	144	1,000	22,000	--	9,160	7.0	54,400	
15	2A	Humble Oil & Refining Co. Louis Richter	do	July 18, 1967	7	--	--	--	--	--	236	1,000	12,200	--	5,400	6.7	33,300	
16	2B	Harlan Production Co., W. L. Martin	do	July 27, 1967	8	--	--	--	--	--	296	1,450	87,000	--	35,000	6.5	163,000	
17	2C	Harlan Production Co., J. F. Hathaway	do	Aug. 28, 1967	14	--	--	--	--	--	376	266	21,500	--	9,000	7.1	53,200	
18	3A	Paul De Cleve Oil Co., I. Fred	Pennsylvanian	June 24, 1967	2	--	--	--	--	--	61	597	92,000	--	25,500	4.9	171,000	
19	4A	Pan American Petroleum Co. Byrd	Yates Sandstone, Permian	Aug. 18, 1967	1/4 to 4	--	--	--	--	--	--	2,350	44,800	--	--	--	99,100	
20	5A	Tidewater Oil Co. W. D. Johnson	do	Aug. 9, 1967	60	12	1,720	1,440	11,000	365	384	357	24,000	39,300	10,200	7.0	59,300	Pit disposal discontinued and pits destroyed when re-visited Dec. 6, 1967.
21	7A	Sunset International Petroleum Corp., Combs	do	Dec. 11, 1967	3	26	2,060	1,140	13,400	220	784	3,460	25,000	45,700	9,830	7.1	63,900	
22	34-3A	McCulloch Oil Co. Tubb	Ellenburger Ordovician	Dec. 9, 1967	2	--	--	--	--	--	1,280	2,930	40,800	--	9,600	7.8	94,500	
23	7A	Sohio Petroleum Co., Wristen Bros. "B"	Queen Formation, Permian	June 28, 1967	5	--	--	--	--	--	1,390	2,730	38,000	--	12,600	8.3	87,400	Carbonate 79 mg/l. Seven holes, 4- to 6- feet in diameter blasted in pit bottom.
24	8A	Sohio Petroleum Co., Wristen Bros. "E"	do	do	1	--	--	--	--	--	224	--	8,400	--	7,600	7.2	32,500	
25	8B	Sohio Petroleum Co., Wristen Bros. "A"	do	Dec. 11, 1967	40	13	1,710	875	21,200	156	125	4,100	36,000	64,100	7,870	7.1	86,000	
26	41-6A	Adobe Oil Co. Payton Unit, Tract 10	Yates Sandstone, Permian	do	2	--	--	--	--	--	1,300	2,370	45,600	--	11,100	7.3	103,000	
27	6B	Luce, W. P. & Ice, Chas. O. J. O. Brictson	do	do	6	--	--	--	--	--	874	4,210	58,600	--	11,000	7.3	125,000	

Table 9.--Chemical Analyses of Oil-Field Brine and Industrial Waste Water Disposed of in Earthen Pits in Ward County and Adjacent Areas--Continued

PIT NUMBER SHOWN ON FIGURE 23	ANALYSIS NUMBER	OWNER AND LEASE	PRODUCING HORIZON	DATE OF COLLECTION	RATE OF DISCHARGE INTO PIT (GPM)	SILICA (SiO <sub>2</sub> )	CALCIUM (Ca)	CONSTITUENTS IN MILLIGRAMS PER LITER (MG/L)							HARDNESS AS CaCO <sub>3</sub>	S.P.	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	REMARKS
								MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	BICARBONATE (HCO <sub>3</sub> )	SULFATE (SO <sub>4</sub> )	CHLORIDE (Cl)	DISSOLVED SOLIDS				
28	YX-45-41-6C	Adobe Oil Co. Payton Unit, Tract 6	Yates Sandstone, Permian	Dec. 11, 1967	3	--	--	--	--	--	790	6,390	58,800	--	12,400	7.2	124,000	
29	42-1A	Frank Waters Oil Co., Case	Queen Formation, Permian	do	1	--	--	--	--	--	97	745	43,800	--	11,700	7.4	98,200	Water is discharged on ground.
30	4A	H. H. Hawley Oil Co., H. H. Hawley Fee	Yates Sandstone, Permian	May 9, 1967	0.4	--	--	--	--	--	47	807	172,000	--	66,500	5.0	224,000	
31	4B	Luce, W. P. & Ice, Chas. O. R. G. Blair	do	Dec. 11, 1967	9	4.1	1,240	1,620	119,000	318	78	5,740	190,000	318,000	9,760	6.7	241,000	
32	8A	Signal Oil & Gas Co., J. C. Reynolds	do	May 9, 1967	4	--	--	--	--	--	532	4,290	67,500	--	18,000	7.1	139,000	
33	ZP-46-24-8A	Kewanee Oil Co. Geo. Sealy Estate	Permian	Sept. 5, 1967	0	--	--	--	--	--	--	--	3,400	--	--	--	12,500	Reported pit disposal discontinued July 1962.
34	YX-46-24-8B	Saxet Oil Co. Geo. Sealy Estate	Seven Rivers Formation, Permian	Dec. 7, 1966	not measured	--	--	--	--	--	--	1,620	3,080	9,200	--	7.0	15,300	Analysis from files of city of Monahans.
35	29-6A	Landa Oil Co. J. E. Echols	Delaware Mountain Group, Permian	Oct. 17, 1967	1	--	--	--	--	--	28	273	123,000	--	51,600	5.9	196,000	
36	30-4A	Atlantic Refining Co., Marrow	do	Oct. 27, 1967	24	--	--	--	--	--	46	658	102,000	--	53,200	6.1	175,000	
37	31-1A	Mobil Oil Co. Univ. "B"	do	Sept. 28, 1967	1	--	--	--	--	--	16	242	156,000	--	84,000	5.6	211,000	
38	4A	Texas Oil & Gas Corp., Univ. "A"	do	do	1	--	--	--	--	--	16	216	138,000	--	45,000	6.0	209,000	
39	32-2A	White Eagle International Inc., G. W. O'Brian, et al.	Yates Sandstone, Permian	June 7, 1967	22	--	--	--	--	--	658	2,660	18,000	--	7,620	7.4	47,900	
40	2B	Mobil Oil Co., Geo. Sealy Estate "44"	do	Sept. 5, 1967	2	--	--	--	--	--	--	--	24,500	--	--	--	67,000	
41	2C	Mobil Oil Co., Geo. Sealy Estate "45"	do	do	9	--	--	--	--	--	228	2,780	28,000	--	8,150	7.5	68,700	

Table 9.--Chemical Analyses of Oil-Field Brine and Industrial Waste Water Disposed of in Earthen Pits in Ward County and Adjacent Areas--Continued

PIT NUMBER SHOWN ON FIGURE	ANALYSIS NUMBER	OWNER AND LEASE	PRODUCING HORIZON	DATE OF COLLECTION	RATE OF DISCHARGE INTO PIT (GPM)	SILICA (SiO <sub>2</sub> )	CALCIUM (Ca)	CONSTITUENTS IN MILLIGRAMS PER LITER (MG/L)				HARDNESS AS CaCO <sub>3</sub>	PH	SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)	REMARKS		
								MAGNESIUM (%)	SODIUM (Na)	POTASSIUM (K)	FERRIC (Fe)						
42	XX-46-32-3A	White Eagle International Inc., G. W. O'Brien, et al. "B"	Yates Sandstone, Permian	June 7, 1967	< 0.5	--	--	--	318	3,960	18,800	--	7,380	7.5	50,800		
43	5A	Mobil Oil Co., Geo. Sealy Estate "A"	Yates Sandstone(?), Permian	Sept. 6, 1967	15	23	670	202	301	15	316	2,340	365	4,070	2,500	7.4	4,510
44	6A	Atlantic Refining Co., Univ. 16-12 "B"	Seven Rivers Formation, Permian	do	16	21	585	209	452	21	674	1,880	730	4,230	2,320	7.4	5,280
45	6B	Atlantic Refining Co., Univ. 16-12 "C"	do	Sept. 10, 1967	56	--	--	--	--	--	740	--	--	--	--	--	5,370
46	38-8A	Continental Oil Co., J. A. Stumpf	Delaware Mountain Group, Permian	Sept. 27, 1967	1	4.2	21,100	3,500	67,500	1,080	23	82	155,000	248,000	67,200	5.8	215,000
47	39-6A	B. B. M. Drilling Co., Epsie Fry	do	Nov. 10, 1967	3	--	--	--	--	--	122	605	156,000	--	57,500	6.7	233,000

