

WELLS WITHIN 1/2 MILE WHICH PENETRATE ZONE OF INTEREST

Well and Operator	Unit	Location	Type	Interval	Casing				Spud Date	Compl. Date	TD/PBD	Pool Name
					Size	Depth	No. Sx	TOC				
Warren Unit No. 70 Conoco, Inc.	P	660' FSL & 660' FEL Sec.22-T20S-R38E	OPS	5979'-6256'	8-5/8" 5-1/2"	1500' 6380'	718 2814	Circ. Circ.	7/18/80	9/10/80	6400'/6323'	Blinebry Oil and Gas
Linda Federal No. 3 Adobe Resources Corp.	E	1980' FNL & 660' FWL Sec.23-T20S-R38E	OTS	5938'-6176'	9-5/8" 7"	1592' 7053'	750 900	Circ. 2780'	12/13/77	3/8/78	7200'/6375'	Blinebry Oil and Gas
Kyte No. 1 Stevens & Tull	J	1980' FSL & 1980' FEL Sec.23-T20S-R38E	OPU	5905'-6230'	8-5/8" 5-1/2"	1667' 7922'	700 1850	Circ. Circ.	6/12/90	8/25/90	7931'/6570'	Blinebry Oil and Gas
Linda Federal No. 1 Adobe Resources Corp.	K	1980' FSL & 1980' FWL Sec.23-T20S-R38E	OPU OPU	5920'-6174' 6603'-6726'	12-3/4" 7-5/8" 5-1/2"	510' 2134' 7010'	220 900 400	Circ. Circ. 4600'	9/27/77	11/27/77	7010'/6952'	Blinebry Oil and Gas Warren Tubb Oil (Dual)
Linda Federal No. 2 Adobe Resources Corp.	L	1980' FSL & 660' FWL Sec.23-T20S-R38E	OPU	5926'-6239'	9-5/8" 7"	1591' 7060'	800 900	Circ. 2800'	1/30/78	3/30/78	7060'/6419'	Blinebry Oil and Gas
Llano Federal No. 1 Adobe Oil & Gas Corp.	M	660' FSL & 660' FWL Sec.23-T20S-R38E	P&A		9-5/8"	1566'	800	Circ.	2/20/78	2/26/78	3233'	
Llano Federal No. 1-Y Adobe Resources Corp.	M	660' FSL & 723' FWL Sec.23-T20S-R38E	OPU	5920'-6177'	9-5/8" 7"	1572' 6855'	800 900	Circ. 2850'	2/26/78	4/26/78	6855'/6450'	Blinebry Oil and Gas
Turner Federal No. 1 Gulf Oil Corp.	N	660' FSL & 1980' FWL Sec.23-T20S-R38E	P&A		8-5/8"	323'	150	Circ.	6/27/72	7/15/72	4472'	
Linda Federal No. 5 Adobe Resources Corp.	N	660' FSL & 2030' FWL Sec.23-T20S-R38E	OPU	6595'-6727'	8-5/8" 5-1/2"	1578' 6852'	800 900	Circ. 2380'	8/10/78	9/24/78	6855'/6794'	Warren Tubb Oil

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					Size	Depth	No. Sx	TOC				
Sims Federal No. 1 Conoco, Inc.	O	660' FSL & 2130' FEL Sec.23-T20S-R38E	OPU	5994'-6269' 6589'-6748'	9-5/8" 7"	1554' 6800'	600 3000	Circ. Circ.	3/4/82	10/19/83	6800'/6765'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 64 Conoco, Inc.	A	660' FNL & 660' FEL Sec.26-T20S-R38E	OPU	6012'-6143' 6637'-6804'	9-5/8" 7"	1522' 6882'	600 2087	Circ. Circ.	4/11/79	2/28/81	6882'/6836'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 56 Conoco, Inc.	B	660' FNL & 1980' FEL Sec.26-T20S-R38E	OPU	6029'-6205' 6603'-6749'	9-5/8" 7"	1430' 6850'	600 1700	Circ. 1640'	12/27/78	9/10/84	6850'/6812'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 53 Conoco, Inc.	C	660' FNL & 1980' FWL Sec.26-T20S-R38E	OPU	5934'-6205' 6552'-6706'	9-5/8" 7"	1560' 6825'	600 2145	Circ. Circ.	10/23/78	12/24/86	6825'/6784'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 57 Conoco, Inc.	D	660' FNL & 660' FWL Sec.26-T20S-R38E	OPU	5933'-6198' 6660'-6726'	9-5/8" 7"	1550' 6820'	600 1850	Circ. Circ.	2/3/79	4/24/85	6820'/6779'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 54 Conoco, Inc.	E	1980' FNL & 660' FWL Sec.26-T20S-R38E	OPU	5927'-6190' 6551'-6714'	9-5/8" 7"	1530' 6303'	650 2235	Circ. Circ.	11/10/78	5/31/85	6803'/6767'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 48 Conoco, Inc.	F	2030' FNL & 1980' FWL Sec.26-T20S-R38E	OPU	5885'-6078' 6553'-6699'	9-5/8" 7"	1562' 7065'	630 2425	Circ. Circ.	7/7/78	5/23/85	7070'/6900'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 55 Conoco, Inc.	G	1980' FNL & 1980' FEL Sec.26-T20S-R38E	OPU	5976'-6200' 6515'-6770'	9-5/8" 7"	1520' 6900'	600 2250	Circ. Circ.	12/8/78	3/22/85	6900'/6850'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 58 Conoco, Inc.	I	1980' FSL & 660' FEL Sec.26-T20S-R38E	OPU	6028'-6303'	9-5/8" 7"	1552' 6830'	600 1850	Circ. Circ.	2/19/79	4/19/80	6830'/6540'	Blinebry Oil and Gas
Warren Unit No. 49 Conoco, Inc.	J	1980' FSL & 1980' FEL Sec.26-T20S-R38E	OPU	5983'-6103' 6592'-6730'	9-5/8" 7"	1548' 6857'	630 2000	Circ. Circ.	7/28/78	10/16/84	7000'/6765'	Blinebry Oil and Gas Warren Tubb Oil (DHC)

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Well and Operator	Unit	Location	Type	Interval	Casing				Spud Date	Compl. Date	TD/PBD	Pool Name
					Size	Depth	No. Sx	TOC				
Warren Unit No. 46 Conoco, Inc.	K	1980' FSL & 1980' FWL Sec.26-T20S-R38E	OPU	5953'-6081' 6557'-6702'	9-5/8" 7"	1456' 6815'	625 2080	Circ. Circ.	3/14/78	1/26/88	6825'/6740'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 59 Conoco, Inc.	L	1980' FSL & 660' FWL Sec.26-T20S-R38E	OPU	5937'-6165' 6547'-6724'	9-5/8" 7"	1510' 6850'	600 1250	Circ. Circ.	3/24/79	5/13/87	6850'/6815'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 44 Conoco, Inc.	M	660' FSL & 660' FWL Sec.26-T20S-R38E	OPU	5956'-6076' 6620'-6716'	9-5/8" 7"	1553' 7000'	650 1500	Circ. 400'	2/13/77	1/2/85	7000'/6952'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 45 Conoco, Inc.	N	660' FSL & 1980' FWL Sec.26-T20S-R38E	OPU	5952'-6068' 6614'-6706'	9-5/8" 7"	1522' 6895'	625 2025	Circ. Circ.	7/21/77	11/7/84	6995'/6787'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 68 Conoco, Inc.	A	660' FNL & 660' FEL Sec.27-T20S-R38E	OPU	6021'-6232' 6669'-6773'	9-5/8" 7"	1600' 6850'	600 2087	Circ. Circ.	2/9/80	1/4/85	6850'/6798'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 36 Conoco, Inc.	D	660' FNL & 660' FWL Sec.27-T20S-R38E	OPU	5885'-6098' 6530'-6682'	9-5/8" 7"	1540' 7074'	600 1100	Circ. 2650'	10/16/75	9/25/84	7075'/7030'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 9 Conoco, Inc.	E	1980' FNL & 660' FWL Sec.27-T20S-R38E	OPU	5871'-6321'	13-3/8" 9-5/8" 5-1/2"	269' 3050' 7775'	250 1365 943	Circ. 1150' 3622'	3/21/51	2/29/88	9392'/6344'	Blinebry Oil and Gas
Warren Unit No. 33 Conoco, Inc.	F	1980' FNL & 1980' FWL Sec.27-T20S-R38E	OPU	5900'-6093' 6510'-6705'	9-5/8" 7"	1504' 7050'	1020 1225	Circ. 2570'	7/12/75	11/6/86	7050'/7020'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 40 Conoco, Inc.	G	1980' FNL & 1980' FEL Sec.27-T20S-R38E	OPU	5912'-6034' 6513'-6693'	9-5/8" 7"	1538' 7070'	550 1250	Circ. 2550'	1/27/76	6/4/85	7070'/7027'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 42 Conoco, Inc.	I	1980' FSL & 660' FEL Sec.27-T20S-R38E	OPU OFL	5919'-6040' 6578'-6674'	9-5/8" 7"	1524' 7090'	675 1675	Circ. 1850'	11/1/76	12/31/76	7090'/7043'	Blinebry Oil and Gas Warren Tubb Gas (Dual)

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					Size	Depth	No. Sx	TOC				
Warren Unit No. 37 Conoco, Inc.	J	1980' FSL & 1980' FEL Sec.27-T20S-R38E	OPU	5875'-6080' 6625'-6696'	9-5/8" 7"	1550' 7060'	1025 1450	Circ. 2450'	11/6/75	4/30/85	7060'/6995'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 30 Conoco, Inc.	K	1980' FSL & 1980' FWL Sec.27-T20S-R38E	OPU OPL	5792'-6168' 6553'-6616'	9-5/8" 7"	1445' 7000'	600 700	Circ. 2800'	4/27/74	5/9/77	7000'/6690'	Blinebry Oil and Gas Warren Tubb Oil (Dual)
Warren Unit No. 26 Conoco, Inc.	M	660' FSL & 660' FWL Sec.27-T20S-R38E	OTS GFL	5786'-6202' 6346'-6586'	13-3/8" 9-5/8" 7"	257' 3132' 6679'	300 2000 240	Circ. 900' 4200'	4/28/58	5/19/89	6800'/6590'	Blinebry Oil and Gas Warren Tubb Gas (Dual)
Warren Unit No. 41 Conoco, Inc.	N	660' FSL & 1980' FWL Sec.27-T20S-R38E	OFL OPU	5834'-6165' 6530'-6645'	9-5/8" 7"	1500' 6910'	625 1200	Circ. 2500'	2/19/76	4/24/84	7001'/6868'	Blinebry Oil and Gas Warren Tubb Oil (Dual)
Warren Unit No. 31 Conoco, Inc.	O	660' FSL & 1980' FEL Sec.27-T20S-R38E	OPU	5807'-6205' 6577'-6666'	9-5/8" 7"	1500' 7050'	480 700	Circ. 1600'	8/30/74	11/16/84	7050'/6700'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 32 Conoco, Inc.	P	660' FSL & 660' FEL Sec.27-T20S-R38E	OPU	5953'-6069' 6624'-6719'	9-5/8" 7"	1480' 6825'	660 1200	Circ. 2600'	6/17/75	10/26/84	6825'/6741'	Blinebry Oil and Gas Warren Tubb Oil (DHC)
Warren Unit No. 96 Conoco, Inc.	I	2130' FSL & 813' FEL Sec.28-T20S-R38E	OFL OFL	6049'-6195' 6749'-6824'	13-3/8" 7"	1592' 6980'	1460 3260	Circ. 575'	9/19/90	11/25/90	7000'/6892'	Blinebry Oil and Gas Warren Drinkard (Dual)
Warren Unit No. 8 Conoco, Inc.	J	1980' FSL & 1980' FEL Sec.28-T20S-R38E	GFO GFL	5755'-6210' 6360'-6590'	13-3/8" 9-5/8" 7"	262' 2850' 6921'	250 750 500	Circ. 1000' 5325'	11/3/49	7/6/89	9072'/6692'	Blinebry Oil and Gas Warren Tubb Gas (Dual)
Warren Unit No. 35 Conoco, Inc.	K	1880' FSL & 1980' FWL Sec.28-T20S-R38E	GFO GFL	5791'-5971' 6341'-6580'	9-5/8" 7"	1495' 7000'	600 1585	Circ. Surf.	9/23/75	2/6/76	7090'/6630'	Blinebry Oil and Gas Warren Tubb Gas (Dual)

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Well and Operator	Unit	Location	Type	Interval	Casing				Spud Date	Compl. Date	TD/PBD	Pool Name
					Size	Depth	No. Sx	TOC				
Warren No. 1 Marland Production Co.	N	330' FSL & 2310' FWL Sec.28-T20S-R38E	P&A		15"	669'			10/25/28	3/17/29	4213'	
					12"	800'						
					8"	2922'						
Warren Unit No. 95 Conoco, Inc.	P	660' FSL & 660' FEL Sec.28-T20S-R38E	OPU OFL	6042'-6170' 6570'-6792'	13-3/8"	1445'	1200	Circ.	9/23/89	1/11/90	7448'/6865'	Blinebry Oil and Gas Warren Drinkard (Dual)
					7"	7448'	2770	Circ.				
Tidewater State No. 1 Mudge, E.W. Jr.	A	660' FNL & 660' FEL Sec.32-T20S-R38E	P&A		13-3/8"	262'	200		2/1/51	4/2/51	9355'	
					8-5/8"	2931'	100					
Peter "A" State No. 1 Me-Tex Supply Company	I	1980' FSL & 660' FEL Sec.32-T20S-R38E	OPU	5875'-6112'	8-5/8"	1405'	725	Circ.	2/20/81	6/28/81	7091'/6222'	Blinebry Oil and Gas
					5-1/2"	7091'	2050	Circ.				
DeKalb State No. 1 John H. Hendrix	P	660' FSL & 660' FEL Sec.32-T20S-R38E	P&A	5810'-5934'	13-3/8"	265'	250	Circ.	6/6/54	3/17/74	5935'	Blinebry Oil and Gas
					8-5/8"	2900'	200					
					5-1/2"	5935'	200					
Warren Unit No. 29 Continental Oil Co.	A	660' FNL & 660' FEL Sec.33-T20S-R38E	P&A	2877'-3468'	8-5/8"	1428'	450	Circ.	7/22/64	2/8/65	4250'	
					5-1/2"	4250'	250	2640'				
Warren Unit No. 21 Conoco, Inc.	B	660' FNL & 1980' FEL Sec.33-T20S-R38E	OPU	5816'-6093'	13-3/8"	274'	300	Circ.	11/13/56	5/11/82	6700'/6175'	Blinebry Oil and Gas
					9-5/8" 7"	3049' 6699'	1500 400	1225' 4825'				
Warren Unit No. 84 Conoco, Inc.	C	660' FNL & 1920' FWL Sec.33-T20S-R38E	OPU	5792'-6078'	8-5/8"	1447'	696	Circ.	8/9/81	11/19/81	6170'/6123'	Blinebry Oil and Gas
					5-1/2"	6170'	2350	Circ.				
Warren Unit No. 91 Conoco, Inc.	F	1650' FNL & 2310' FWL Sec.33-T20S-R38E	OPU	5835'-6285'	8-5/8" 5-1/2"	1430' 6314'	710 1735	Circ. Circ.	1/12/82	6/5/90	6314'/6295'	Blinebry Oil and Gas

WELLS WITHIN 1/2 MILE WHICH PENETRATE ZONE OF INTEREST

Well and Operator	Unit	Location	Type	Interval	Casing				Spud Date	Compl. Date	TD/PBD	Pool Name
					Size	Depth	No. Sx	TOC				
Warren Unit No. 80 Conoco, Inc.	G	1980' FNL & 1980' FEL Sec.33-T20S-R38E	IWA	5815'-6043'	8-5/8" 5-1/2"	1480' 6170'	709 2010	Circ. Circ.	4/2/80	1/12/83	6173'/6128'	Blinebry Oil and Gas
Warren Unit No. 19 Conoco, Inc.	H	1980' FNL & 660' FEL Sec.33-T20S-R38E	OPU	5784'-5942'	13-3/8" 9-5/8" 7"	271' 3048' 5984'	400 1225 511	Circ. 750' 2935'	10/2/55	10/31/55	6087'	Blinebry Oil and Gas
Warren Unit No. 17 Conoco, Inc.	I	1980' FSL & 660' FEL Sec.33-T20S-R38E	IWA	5800'-5968'	10-3/4" 7-5/8" 5-1/2"	289' 3049' 6011'	250 1045 730	Circ. 800' Circ.	4/30/55	9/24/82	6082'	Blinebry Oil and Gas
Warren Unit No. 76 Conoco, Inc.	J	1980' FSL & 1980' FEL Sec.33-T20S-R38E	OPU	5815'-6080'	8-5/8" 5-1/2"	1425' 6150'	700 1693	Circ. Circ.	6/10/79	7/21/79	6150'/6095'	Blinebry Oil and Gas
Warren Unit No. 93 Conoco, Inc.	N	660' FSL & 1980' FWL Sec.33-T20S-R38E	OPU	5792'-6170'	9-5/8" 7"	1400' 6995'	525 1192	Circ. 2050'	2/7/82	6/24/82	7000'/6400'	Blinebry Oil and Gas
Warren Unit No. 16 Conoco, Inc.	O	660' FSL & 1980' FEL Sec.33-T20S-R38E	IWA	5778'-6008'	10-3/4" 7-5/8" 5-1/2"	274' 3049' 6049'	250 1111 541	Circ. 250' Circ.	3/29/55	12/7/82	6050'/6048'	Blinebry Oil and Gas
Warren Unit No. 15 Conoco, Inc.	P	660' FSL & 660' FEL Sec.33-T20S-R38E	OPU	5749'-6010'	10-3/4" 7-5/8" 5-1/2"	249' 3049' 6048'	250 1150 680	Circ. Circ. Circ.	2/22/55	10/24/86	6050'/6045'	Blinebry Oil and Gas
Warren Unit No. 39 Conoco, Inc.	B	660' FNL & 1980' FEL Sec.34-T20S-R38E	OTS	5875'-5973'	9-5/8" 7"	1525' 7025'	700 1225	Circ. 2530'	1/7/76	3/2/78	7025'/6275'	Blinebry Oil and Gas
Warren Unit No. 34 Conoco, Inc.	C	660' FNL & 1980' FWL Sec.34-T20S-R38E	OPU	5814'-5888' 6386'-6650'	9-5/8" 7"	1470' 6975'	600 1225	Circ. 2425'	8/1/75	4/8/87	6975'/6880'	Blinebry Oil and Gas Warren Tubb Oil (DHC)

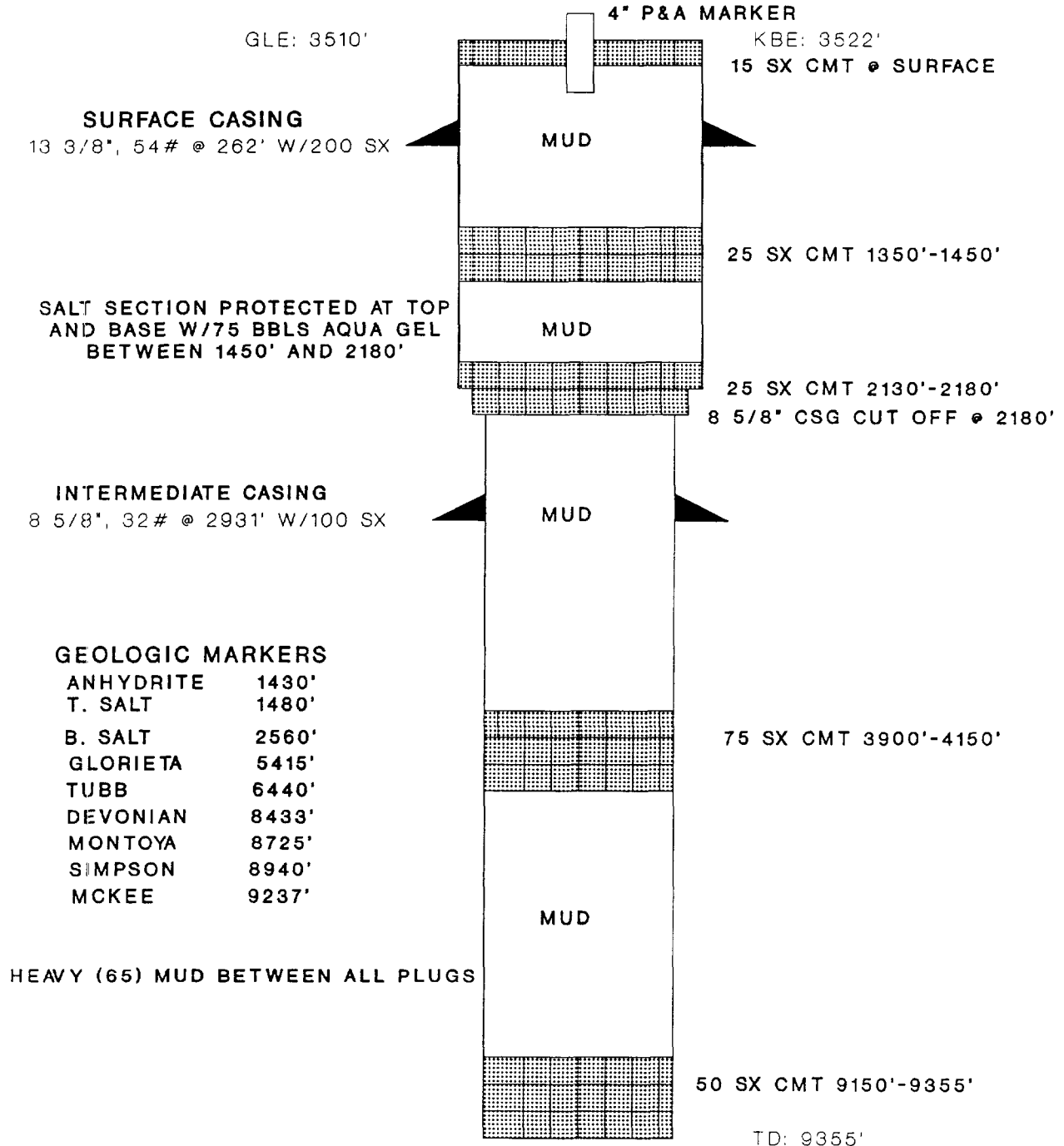
WELLS WITHIN 1/2 MILE WHICH PENETRATE ZONE OF INTEREST

Well and Operator	Unit	Location	Type	Interval	Casing				Spud Date	Compl. Date	TD/PBD	Pool Name
					Size	Depth	No. Sx	TOC				
Warren Unit No. 20 Conoco, Inc.	E	1980' FNL & 660' FWL Sec.34-T20S-R38E	IWA	5890'-6020'	13-3/8"	240'	250	Circ.	11/3/55	12/15/84	6028'	Blinebry Oil and Gas
					9-5/8"	3031'	1238	800'				
					7"	6028'	504	2400'				
					5"	6028'	81	5347'				
Warren Unit No. 38 Conoco, Inc.	F	1980' FNL & 1980' FWL Sec.34-T20S-R38E	OPU	5805'-5947'	9-5/8"	1500'	600	Circ.	12/12/75	5/24/78	7045'/6399'	Blinebry Oil and Gas
					7"	7040'	900	2600'				
Warren Unit No. 75 Conoco, Inc.	K	1980' FSL & 1980' FWL Sec.34-T20S-R38E	IWA	5812'-6023'	8-5/8"	1500'	730	Circ.	5/13/79	1/6/83	6130'/6076'	Blinebry Oil and Gas
					5-1/2"	6130'	1286	Circ.				
Warren Unit No. 18 Conoco, Inc.	L	1980' FSL & 660' FWL Sec.34-T20S-R38E	OPU	5796'-5999'	13-3/8"	263'	250	Circ.	8/30/55	9/30/55	6008'/6000'	Blinebry Oil and Gas
					9-5/8"	3049'	1054	1450'				
					7"	6007'	540	2890'				
Warren Unit No. 14 Conoco, Inc.	M	660' FSL & 660' FWL Sec.34-T20S-R38E	IWA	5778'-6006'	10-3/4"	256'	250	Circ.	12/26/54	12/3/82	6020'/6012'	Blinebry Oil and Gas
					7-5/8"	3051'	1150	1290'				
					5-1/2"	6019'	336	3350'				
Warren Unit No. 12 Conoco, Inc.	N	660' FSL & 1980' FWL Sec.34-T20S-R38E	OPU	5814'-6072'	10-3/4"	252'	250	Circ.	9/11/54	10/14/54	6198'/6090'	Blinebry Oil and Gas
					7-5/8"	3049'	1120	600'				
					5-1/2"	6197'	415	2885'				
Warren Unit No. 13 Conoco, Inc.	O	660' FSL & 1980' FEL Sec.34-T20S-R38E	IWA	5882'-6002'	10-3/4"	284'	250	Circ.	10/31/54	12/1/82	6050'/6048'	Blinebry Oil and Gas
					7-5/8"	3087'	1255	30'				
					5-1/2"	6049'	466	3355'				
Warren Unit No. 11 Conoco, Inc.	A	660' FNL & 660' FEL Sec.35-T20S-R38E	OPU	6026'-6301' 6821'-7056'	13-3/8"	255'	250	Circ.	7/6/54	2/18/75	9587'/7066'	Blinebry Oil and Gas Warren Drinkard (DHC)
					9-5/8"	3099'	1990	350'				
					7"	7749'	1518	Circ.				

P&A WELLBORE DIAGRAM

TIDEWATER STATE NO. 1

E. W. MUDGE, JR



BY: T. C. ADUDELL

DATE: 12/18/90

NORTH BLINEBRY WATERFLOOD EXPANSION PROJECT

Typical Producer to Waterflood Injector Conversion

Procedure

1. MIRU. Install BOPE.
2. POOH and lay down production equipment.
3. Pick up and RIH w/bit, scraper and workstring and clean out to TD.
4. Add additional Blinebry and/or Tubb perforation as required.
5. Acid breakdown perforations.
6. Sand frac or acid frac new perforations as required.

Note: Blinebry and Tubb zones will be isolated and stimulated separately.
7. Swab back load.
8. Pick up and RIH with plastic coated injection tubing with Guiberson injection regulator/packers to isolate Tubb and Blinebry injection.
9. Flange up injection wellhead.
10. RDMO pulling unit.

WATERFLOOD INJECTION WATER

Unichem International

707 North Leech

P.O.Box 1499

Hobbs, New Mexico 88240

Company : CONOCO
Date : 12-10-1990
Location: Warren McKee - IPD (on 12-7-90)

Specific Gravity:	Sample 1
Total Dissolved Solids:	1.037
pH:	51594
IONIC STRENGTH:	7.30
	0.923

<u>CATIONS:</u>		<u>me/liter</u>	<u>mg/liter</u>
Calcium	(Ca ⁺²)	40.0	800
Magnesium	(Mg ⁺²)	16.0	194
Sodium	(Na ⁺¹)	823	18900
Iron (total)	(Fe ⁺²)	0.043	1.20
Barium	(Ba ⁺²)	0.004	0.300
Manganese	(Mn ⁺²)	0.003	0.090

<u>ANIONS:</u>			
Bicarbonate	(HCO ₃ ⁻¹)	5.20	317
Carbonate	(CO ₃ ⁻²)	0	0
Hydroxide	(OH ⁻¹)	0	0
Sulfate	(SO ₄ ⁻²)	28.1	1350
Chloride	(Cl ⁻¹)	846	30000

SCALING INDEX (positive value indicates scale)

	<u>Temperature</u>	<u>Calcium</u>	<u>Calcium</u>
		<u>Carbonate</u>	<u>Sulfate</u>
86°F	30°C	-0.03	-49

BLINEBRY/TUBB PRODUCED WATER

Unichem International

707 North Leech

P.O.Box 1499

Hobbs, New Mexico 88240

Company : CONOCO
Date : 12-10-1990
Location: Warren Unit - #53 (on 12-7-90)

	<u>Sample 1</u>
Specific Gravity:	1.083
Total Dissolved Solids:	116560
pH:	6.90
IONIC STRENGTH:	2.703

<u>CATIONS:</u>		<u>me/liter</u>	<u>mg/liter</u>
Calcium	(Ca ⁺²)	348	6960
Magnesium	(Mg ⁺²)	752	9140
Sodium	(Na ⁺¹)	1040	24000
Iron (total)	(Fe ⁺²)	1.25	35.0
Barium	(Ba ⁺²)	0.001	0.100
Manganese	(Mn ⁺²)	0.031	0.860

<u>ANIONS:</u>			
Bicarbonate	(HCO ₃ ⁻¹)	3.20	195
Carbonate	(CO ₃ ⁻²)	0	0
Hydroxide	(OH ⁻¹)	0	0
Sulfate	(SO ₄ ⁻²)	26.0	1250
Chloride	(Cl ⁻¹)	2120	75000

SCALING INDEX (positive value indicates scale)

	<u>Temperature</u>	<u>Calcium</u>	<u>Calcium</u>
		<u>Carbonate</u>	<u>Sulfate</u>
86°F	30°C	0.58	-7.8

COMPATIBILITY TEST OF PRODUCED AND INJECTION WATERS

Unichem International

707 North Leech

P.O.Box 1499

Hobbs, New Mexico 88240

Company : CONOCO
 Date : 12-10-1990
 Sample 1: 25% Warren McKee IPD - 75% Warren Unit #53
 Sample 2: 50% Warren McKee IPD - 50% Warren Unit #53
 Sample 3: 75% Warren McKee IPD - 50% Warren Unit #53

	<u>Sample 1</u>	<u>Sample 2</u>	<u>Sample 3</u>
Specific Gravity:	1.072	1.060	1.048
Total Dissolved Solids:	100318	84077	67835
pH:	7.00	7.10	7.20
IONIC STRENGTH:	2.258	1.813	1.368

<u>CATIONS:</u>		<u>me/liter</u>	<u>mg/liter</u>	<u>me/liter</u>	<u>mg/liter</u>	<u>me/liter</u>	<u>mg/liter</u>
Calcium	(Ca ⁺²)	271	5420	194	3880	117	2340
Magnesium	(Mg ⁺²)	568	6900	384	4670	200	2430
Sodium	(Na ⁺¹)	989	22700	934	21500	879	20200
Iron (total)	(Fe ⁺²)	0.951	26.5	0.648	18.1	0.346	9.65
Barium	(Ba ⁺²)	0.002	0.150	0.003	0.200	0.004	0.250
Manganese	(Mn ⁺²)	0.024	0.667	0.017	0.475	0.010	0.283

<u>ANIONS:</u>		<u>me/liter</u>	<u>mg/liter</u>	<u>me/liter</u>	<u>mg/liter</u>	<u>me/liter</u>	<u>mg/liter</u>
Bicarbonate	(HCO ₃ ⁻¹)	3.70	226	4.20	256	4.70	287
Carbonate	(CO ₃ ⁻²)	0	0	0	0	0	0
Hydroxide	(OH ⁻¹)	0	0	0	0	0	0
Sulfate	(SO ₄ ⁻²)	26.5	1280	27.1	1300	27.6	1330
Chloride	(Cl ⁻¹)	1800	63800	1480	52500	1160	41300

<u>DISSOLVED GASES</u>		<u>me/liter</u>	<u>mg/liter</u>	<u>me/liter</u>	<u>mg/liter</u>	<u>me/liter</u>	<u>mg/liter</u>
Carbon Dioxide	(CO ₂)	0	0	0	0	0	0
Hydrogen Sulfide	(H ₂ S)	0	0	0	0	0	0
Oxygen	(O ₂)	0	0	0	0	0	0

		<u>SCALING INDEX (positive value indicates scale)</u>					
		<u>Calcium</u>	<u>Calcium</u>	<u>Calcium</u>	<u>Calcium</u>	<u>Calcium</u>	<u>Calcium</u>
<u>Temperature</u>		<u>Carbonate</u>	<u>Sulfate</u>	<u>Carbonate</u>	<u>Sulfate</u>	<u>Carbonate</u>	<u>Sulfate</u>
86°F	30°C	0.49	-14	0.40	-22	0.34	-33

Calcium Carbonate	Calcium Sulfate
-0.46	-15

<u>Temperature</u>		<u>Calcium Carbonate</u>	<u>Calcium Sulfate</u>
86°F	30°C	0.95	-3.7