Heavy Oil Resources of the United States

U.S. GEOLOGICAL SURVEY BULLETIN 1885

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By B.L. CRYSDALE and C.J. SCHENK

A summary of the locations, resources, and petrophysical properties of heavy oil reservoirs in the conterminous United States

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Abstract

Heavy crude oils (American Petroleum Institute gravity 11°–20°) represent a significant hydrocarbon resource in the United States. Locations, production, resources, and petrophysical properties of heavy oil reservoirs in the conterminous United States are summarized by State. Heavy oil reservoir characteristics and locations are generally well known; they are typically found in shallow, geologically young, sandstone reservoirs in large fields along the margins of sedimentary basins. This report identifies 1,130 reservoirs in 16 states; 61 percent of them are in California and Texas. Cumulative heavy crude oil production for the United States at the end of 1985 was more than 16 billion barrels. California produced 63 percent of this amount. The total estimated resource for heavy oil in the conterminous United States is about 45 billion barrels.

INTRODUCTION

This report presents a summary of the resources, locations, and petrophysical properties of heavy oil reservoirs in the United States (tables 2–17 and plate 1). Heavy crude oils are classified on the basis of viscosity and density. The generally accepted definition for heavy oil is that of Danyluk and others (1984)—crude oil with a gas-free viscosity of 100–10,000 centipoises (inclusive) at original reservoir temperature, or density of 934–1000 kg/m^3 (kilograms per cubic meter) at 15°C, at standard conditions. Meyer and others (1984) further define heavy crude oil as having an API (American Petroleum Institute) gravity greater than 10° and less than or equal to 20°. (Crude oil 10° or less is classified as bitumen.) Because viscosity and density data are commonly not available, the API gravity definition (11°–20°) will be the convention followed for the present report.

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Heavy oil reservoirs were discovered as early as 1859 (Dietzman and others, 1965), but the majority of the deposits have been found since 1950. The locations and reservoir characteristics of most heavy oil deposits are well known, and they offer one of the best short–term resources for the United States to deal with sudden interruptions of conventional oil supplies (Stosur and Lievens, 1984).

Interest in the development and production of heavy oil was limited for many years, due to problems in recovering the oil from reservoir rocks and the difficulty of transporting it through pipelines because of its high viscosity. Heavy oil generally has a high sulphur and metal content, which makes it more costly to process than light oil, with lower yields of usable liquid products (Stosur and Lievens, 1984). With a decrease in the growth rate of proven crude oil reserves, an increased demand for domestically produced crude oil, and technological refinement in thermal extraction methods, enhanced heavy–oil recovery techniques from known fields are now being given considerable attention.

Current thermal recovery processes are dominated by steam injection methods (steam drive and steam soak), which heat the oil and reduce its viscosity, thus improving oil mobility. Thermal recovery plants have been established in several locations, most near the large heavy oil fields in California.

Heavy oil resources are typically found in shallow, geologically young sandstone reservoirs in large fields along the margins of sedimentary basins (Nehring and others, 1983). The reservoirs are located in only 16 States, and 61 percent of these are in California and Texas. The present report identifies 1,130 reservoirs in 772 fields that have a combined cumulative production through 1985 of more than 16 billion barrels of heavy oil. California produced 63 percent of this amount, or 10.49 billion barrels. Wyoming is second, with 1.25 billion barrels, followed by Texas with 1.19, and Louisiana with 1.13.

About 10 percent of the total oil resource in the conterminous 48 States (approximately 45–46 billion barrels) consists of heavy oil (Nehring and others, 1983). At the end of 1980, California's heavy oil resources were estimated at 32–42 billion barrels (Guerard, 1982). Most of the California resources are in Tertiary–age deposits in the San Joaquin valley and the central and southern coastal regions. Texas contains many small deposits, also of Tertiary age, with reserves estimated at 1.5 billion barrels (Nehring and others, 1983). Deposits in the tri–State area of Kansas, Missouri, and Oklahoma are estimated to contain as much as 3 billion barrels of heavy oil (Interstate Oil Compact Commission, 1984). These resources are in Pennsylvanian sandstones whose reservoir characteristics vary widely (such as porosity and permeability, nonuniform thickness, and discontinuous, unpredictable extent of the deposits). A lack of data on individual reservoirs precludes them from being included in this report; their location is marked on plate 1, however. Heavy oil resources on the Alaska North Slope are generally poorly known (and not included in this report except to note their location) although Werner (1984) estimated the giant Kuparuk field to contain as much as 40 billion barrels, most of it heavy oil. Nehring and others (1983) also estimated that 1–3 billion barrels of heavy oil in–place are yet to be discovered, most of it in offshore California reservoirs.

Heavy oil deposits are generally found at shallow depths (1,000–4,000 feet), where reservoir temperatures are low and oil viscosity is high, although the depth range for all the reservoirs is from the surface to greater than 13,000 feet (Deitzman and others, 1965).

Heavy oil reservoirs summarized in tables 2 through 17 are listed alphabetically by State and by geologic basin within each State, where appropriate. Locations of these reservoirs are shown on the accompanying United States map (plate 1). Outlines of sedimentary basins in the conterminous United States (from Terra Graphics, 1977) are also illustrated on plate 1. Descriptions in the tables include the following information:

1. Name of the field, the reservoir within the field (if any), the county in which the field is located, and year of discovery;

2. Stratigraphic unit containing the oil (this may be a formation, member of a formation, or even a localized geographic name or driller's term); age of the unit (according to the American Association of Petroleum Geologists stratigraphic coding procedure; see table 1); and lithology of the host rock;

3. Acreage of the reservoir and API gravity of the oil (both average value and minimum-maximum range where known);

4. Depth to pay, pay thickness, and average thickness of the host formation (stratigraphic unit);

5. Porosity and permeability of the host formation;

6. Amount of original oil–in–place (in barrels), and cumulative crude oil production through the year given.

Data presented here are based on published and unpublished information available from various Federal, State, and local agencies; private sources (including a data base from Petroleum Information Corporation's Petroleum Data System); annual State volumes containing statistical information on production, reserves, and drilling; several UNITAR (United Nations Institute for Training and Research) conference volumes; and a report by the Interstate Oil Compact Commission on major tar sand and heavy oil deposits of the United States.

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Table 1. American Association of Petroleum Geologists stratigraphic coding procedure for geologic age of producing formation

Era	Period	Epoch or Provincial Series	Code
Cenozoic			100
	Quaternary		110
		Holocene	111
		Pleistocene	112
	Tertiary		120
		Pliocene	121
		Miocene	122
		Oligocene	123
		Eocene	124
		Paleocene	125
Mesozoic			200
	Cretaceous		210
		Late	211
		Gulfian	212
		Early	217
		Comanchean	218
		Coahuilan	219
	Jurassic		220
		Late	221
		Middle	224
		Early	227
	Triassic		230
		Late	231
		Middle	234
		Early	237
Paleozoic			300
	Permian		310
		Late	311
		Ochoan	312
		Guadalupian	313
		Early	317
		Leonardian	318
		Wolfcampian	319
	Pennsylvanian		320
		Late	321
		Virgilian	322
		Missourian	323
		Middle	324
		Des Moinesian	325
		Atokan	326
Paleozoic--Continued			
	Pennsylvanian--Continued		
		Early	327
		Morrowan	328
	Mississippian		330
		Late	331
		Chesterian	332
		Meramecian	331
		Early	337
		Osagean	338
		Kinderhookian	339
	Devonian		340
		Late	341
		Chautauquan	342
		Senecan	343
		Middle	344
		Erian	345
		Early	347
		Ulsterian	348
	Silurian		350
		Late	351
		Cayugan	352
		Middle	354
		Niagaran	355
		Early	357
		Alexandrian	358
	Ordovician		360
		Late	361
		Cincinnatian	362
		Middle	364
		Champlainian	365
		Early	367
		Canadian	368
	Cambrian		370
		Late	371
		Croixian	372
		Middle	374
		Albertan	375
		Early	377
		Waucoban	378
	Precambrian		400

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Tables 2–17

Abbreviations and symbols used in tables:

A reference number following the name of the field indicates that all data for that field were derived from the source(s) listed, unless otherwise specified by a separate reference number within the table. Leaders (---) indicate no data available; mD, millidarcy; bbls., barrels; disc., discovered; S.I., shut-in; ls, limestone; ss, sandstone; sh, shale; sts, siltstone; cgl, conglomerate; dol, dolomite; API gravity, in degrees.

Table 2. Summary of heavy oil deposits in Alabama

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Mid-Gulf Coast basin						
Carlton, South[1].....	---	Clarke, Baldwin...	1950	Tuscaloosa, Lower	212	ss
Gilbertown[1].....	Selma.....	Choctaw.....	1944	Selma.....	212	chalk
Gilbertown[1].....	Eutaw.....	Choctaw.....	1944	Eutaw.....	212	ss
Gilbertown, South[1]..	---	Choctaw.....	1967	Eutaw.....	212	ss
Langsdale, East[1]....	---	Choctaw.....	1967	Eutaw.....	212	ss
Melvin[2].....	---	Choctaw.....	1977	Smackover.....	220	ls
Tensaw Lake[1].....	---	Baldwin.....	1965	Paluxy.....	218	ss
Toxey[2].....	---	Choctaw.....	1967	Smackover.....	220	ls

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission (1984).

[3]The Alabama Oil and Gas Board (1985).

Alabama--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Mid-Gulf Coast basin--Continued									
---	15	5428	10	10	31	---	---	[3]5,757,489	1985
---	19	2559	10	15	29	---	---	[3]12,927,240 (field total).	1985
[2]160	19	[2]2578	---	25	29	---	---	(Included above).	
---	17	---	---	6	---	---	---	92,200	1979
[2]40	19	[2]3794	---	---	28	---	---	[3]241,201	1985
80-120	18	11176	---	---	---	---	---	[3]42,412	1985
---	16	---	5	5	---	---	---	[3]164,786	1985
---	19	10460	---	---	---	---	---	[3]1,625,367	1985

Table 3. Summary of heavy oil deposits in Arkansas

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Arkla basin						
Artesian[1]	Meakin	Calhoun	1952	Ozan	212	ss
Beck[2]	---	Miller	1964	Tuscaloosa	212	ss
Benjamin Lake[1]	Meakin	Union	1959	Ozan	212	ss
Berry Graves[1]	Graves	Union	1975	Ozan	212	ls
Big Branch[1]	Paluxy	Lafayette	1965	Paluxy	218	ss
Bodcaw[1]	Nacatoch	Nevada	1959	Nacatoch	212	ss
Bragg[1]	Nacatoch	Ouachita	1934	Nacatoch	212	ss
Buena Vista[1]	Nacatoch	Ouachita	1956	Nacatoch	212	ss
Calion[1]	Graves	Union	1952	Ozan	212	ss
Calion[1]	Meakin	Union	1957	Ozan	212	ss
Careyville Landing.[1]	Blossom	Bradley, Union	1962	Blossom(?)	212	ss
Careyville Landing.[1]	Cotton Valley	Bradley, Union	1960	Cotton Valley	221	ss/ls[2]
Careyville Landing.[1]	Travis Peak	Bradley, Union	1962	Travis Peak	218	ss
Careyville Landing.[2]	Hosston	Bradley, Union	1966	Hosston	218	ss
Champagnolle[2]	---	Union	1929	Graves	212	ss
Champagnolle[2]	---	Union	1946	Smackover	221	ls
Champagnolle Landing.[2]	Graves/Baker	Union	1958	Graves/Baker[2,5]	212	ss
Charivari Creek[1]	Nacatoch	Bradley	1963	Nacatoch	212	ss
Clear Creek[1]	Tokio	Lafayette	1956	Tokio	212	ss
Craig[2]	Tuscaloosa	Union	1967	Tuscaloosa	212	ss

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission (1984).

[3]Park and others (1969).

[4]No production since 1960.

[5]Drillers term.

Arkansas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Arkla basin--Continued									
430	14	[2]2651	9	9	25	235	4,236,145	670,266	1981
---	20	[2]2734	---	---	---	---	---	---	---
240	18	2548	7	7	25	---	2,031,360	282,794	1981
---	14	[2]2634	21	---	20	1500	---	43,650	1981
20	19	[3]3507	6	5	26	704	115,000	6,325	1981
---	14	930	[2]15(est.)	---	---	---	---	---	---
220	20	2025 [2]1356	13	13	225	---	275,080	[4]440,273	1981
75	[3]14.5	[3]1270	9	9	25	25	747,900	175,219	1981
[2]100	15	2491	[2]6	8	33	[2]2140	1,116,800	237,646	1981
10	20	[2]314	10	5	220	---	42,300	165	1981
160	18	[2]2740	7	7	30	358	1,650,000	89,097	1981
320	19	[2]3379	8	7	27	333	2,166,080	878,139	1981
40	17	[2]3238	2	7	37	1063	401,800	7,388	1981
40	20	[2]2901	7	---	37	1063	---	---	---
4475	20	2580	10	---	32	---	---	---	---
20	17	5640	2	---	35	---	---	---	---
1120	16	2652	4	7	25	4865	11,375,840	2,314,138	1981
60	19	[2]2397	6	23	29	65	1,794,150	273,124	1981
20	15	2432	6	8	35	---	226,720	6,015	1977
---	19	3173	8	---	---	---	---	---	---

Table 3. Summary of heavy oil deposits in Arkansas--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Arkla basin--Continued						
Crain City[1]	Baker	Union	1976	Ozan	212	ss
Cross Country Slough.[1]	Baker	Calhoun	1959	Baker[2,5]	212	ss
Cross Country Slough.[1]	Graves	Calhoun	1960	Graves[2]	212	ss
Cypress Creek[1]	Graves	Union	1960	Graves[2]	212	ss
ElDorado, East[1]	Old[5]	Union	1921	Nacatoch	212	ss
Falcon[1]	Hill[5]	Nevada, Lafayette	1966	Rodessa	218	ss
Falcon[1]	Nacatoch	Nevada, Lafayette	1938	Nacatoch	212	ss
Falcon[1]	Tuscaloosa	Nevada, Lafayette	1966	Tuscaloosa	212	ss
Fouke, North[1]	Basal Tuscaloosa	Miller	1951	Tuscaloosa	212	ss
Fouke, North[2]	Paluxy	Miller	1951	Paluxy	218	ss
Fouke, North[1]	Tokio	Miller	1953	Tokio	212	ss
Garland City, New[1]	Buckrange	Miller	1959	Ozan	212	ss
Garland City, New[1]	Paluxy	Miller	1951	Paluxy	218	ss
Garland City, New[1]	Tuscaloosa	Miller	1960	Tuscaloosa	212	ss
Gum Creek[1,2]	Nacatoch	Quachita	1941	Nacatoch/Blossom	212	ss
Gum Creek[1]	Tokio	Ouachita	1945	Tokio	212	ss
Hampton[1]	Meakin	Calhoun	1943	Ozan	212	ss
Hampton[1]	Nacatoch	Calhoun	1954	Nacatoch	212	ss
Irma[1]	Glen Rose	Nevada	---	Glen Rose	218	---
Irma[1]	Limestone	Nevada	1963	Smackover	221	ls
Irma [1]	Nacatoch	Nevada	1921	Nacatoch	212	ss
Irons[1]	Tokio	Lafayette	1958	Tokio	212	ss
Lake June[1]	Nacatoch	Lafayette	1966	Nacatoch	212	ss
Lake June[1]	Tokio	Lafayette	1966	Tokio	212	ss
Lenz[1]	Tuscaloosa	Miller	1960	Tuscaloosa	212	ss
Lewisville[1]	Tokio	Lafayette	1939	Tokio	212	ss
Lewisville Old Town[1]	Tokio	Lafayette	1959	Tokio	212	ss

Arkansas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Arkla basin--Continued									
---	15	[2]2642	24	9	33	1982	---	54,834	1981
400	16	2569	6	5	34	1835	2,982,000	986,526	1981
20	16	2596	6	4	34	---	178,920	9,702	1981
10	16	[2]2755	10	5	25	---	63,480	76,494	1981
3088	20	2149	26	6	25	---	21,233,088	11,899,543	1981
40	15	[2]2384	[2]11	10.5	25	---	407,400	100,821	1981
380	14	[2]1180	12	12	25	---	5,225,760	964,937	1981
10	17	[2]2296	28	9	25	---	94,590	6,658	1981
800	20	3334	5	10	29	260	9,832,000	130,181	1978
360	17	3556	41	---	30	354	---	1,381,000	1977
20	16	[2]3120	25	5	25	---	106,800	16,405	1981
120	18	2410	27	7	34	418	1,252,440	124,997	1981
150	13	3306	6	10	28	---	1,870,500	198,932	1981
20	19	[2]2980	7	7	[2]29	---	516,180	11,052	1981
280	17	1590	15	17	30	419	---	2,002,820	1981
[2]280	17	2470	14	14	25	[2]798	---	451,115	1981
160	14	2514	16	24	25	---	4,197,120	783,870	1981
10	16	[2]2286	18	18	20	[2]1500	165,060	164	1981
---	20	2815	---	15	---	---	---	43,038	1981
---	20	4800	5	5	18	---	---	1,229,922	1981
[2]2166	14	1192	27	13	35	1500	62,162,100	10,755,336	1981
10	16	2381	8	10	28	---	119,700	2,911	1981
---	17	[2]1545	---	---	---	---	---	---	---
40	19	[2]2552	[2]8	7.5	25	35	320,400	115,611	1981
20	20	[2]2750	[2]3	6	29	---	294,960	21,687	1981
120	19	2300	11	9	31	2285	2,068,200	499,166	1981
20	19	[2]2460	[2]3	7	30	---	101,580	9,532	1980

Table 3. Summary of heavy oil deposits in Arkansas--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Arkla basin--Continued						
Lewisville, West[1]...	Tokio.....	Lafayette.....	1947	Tokio.....	212	ss
Lewisville, West[2]...	Tuscaloosa.....	Lafayette.....	1954	Tascaloosa.....	212	ss
Lick Creek[1].....	Blossom.....	Union, Bradley...	1965	Brownstown.....	212	ss
Lick Creek[1].....	Meakin.....	Union, Bradley...	1957	Ozan.....	212	ss
Lick Creek[1].....	Nacatoch.....	Union, Bradley...	1960	Nacatoch.....	212	ss
Lick Creek[2].....	Travis Peak.....	Union, Bradley...	1966	Travis Peak.....	218	ss
Lloyd Creek[1].....	Nacatoch.....	Calhoun.....	1968	Nacatoch.....	212	ss
Locust Bayou[2].....	Meakin.....	Calhoun.....	1947	Ozan.....	212	ss
Mayton[1].....	Paluxy.....	Miller.....	1967	Paluxy.....	218	ss
McKinney Bayou[2].....	Paluxy.....	Miller.....	1955	Paluxy.....	218	ss
McKinney Bayou[1].....	Tuscaloosa.....	Miller.....	1955	Tuscaloosa.....	212	ss
McNatt[1].....	Paluxy.....	Nevada.....	1976	Paluxy.....	218	---
Meriwether Lake[1]....	Paluxy/ Tuscaloosa.	Lafayette.....	1957	Paluxy/ Tuscaloosa.	218/ 212	ss
Midway[1].....	Tokio.....	Lafayette.....	1973	Tokio.....	212	ss
Midway[2].....	Smackover.....	Lafayette.....	1967	Smackover.....	221	ls
Midway[1].....	Tuscaloosa.....	Lafayette.....	1973	Tuscaloosa.....	212	ss
Midway, East[1].....	Tokio.....	Lafayette.....	1958	Tokio.....	212	ss
Moro Bay[1].....	Cotton Valley...	Calhoun.....	1952	Cotton Valley.....	221	ss
Mt. Pleasant[1].....	Tokio.....	Lafayette.....	1969	Tokio.....	212	ss
Mud Lake[1].....	Graves/Baker....	Calhoun.....	1959	Ozan.....	212	ss
New London, North[1]..	Limestone.....	Union.....	1966	Smackover.....	221	ls
Nichols, Hill[1].....	---	Nevada.....	1966	Rodessa.....	218	ss
Olin Forest, North[1].	Cotton Valley...	Union.....	1966	Cotton Valley.....	221	ss/ls[2]
Pace City[1].....	Graves.....	Ouachita.....	1967	Ozan.....	212	ss
Pace City[2].....	Tokio.....	Ouachita.....	1956	Tokio.....	212	ss
Pace City, East[1]....	Travis Peak.....	Ouachita.....	1954	Travis Peak.....	218	ss
Pace City, East[2]....	Graves.....	Ouchita.....	1952	Graves.....	212	ss
Patmos[1].....	Tuscaloosa.....	Hempstead.....	1970	Tuscaloosa.....	212	ss

Arkansas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Arkla basin--Continued									
[2]267	19	[2]2480	12	12	31	480	4,623,000	2,047,939	1981
20	19	[2]2850	14	---	20	---	---	24,000	1977
40	14	[2]2675	7	7	29	---	379,960	67,248	1981
1120	18	2548	10	12	29	1192	18,883,200	8,497,851	1981
20	17	2270	20	20	25	---	352,800	16,552	1981
20	15	[2]2928	15	---	24	---	---	48,000	1977
---	17	[2]2342	4	3	36	---	---	43,201	1981
100	15	1990	12	10	18	---	1,075,000	308,193	1981
---	18	[2]3620	16	12	26	---	1,762,000	306,038	1981
40	20	3060	12	---	18	---	---	1,585,000	1981
40	20	---	---	8	18	---	223,360	50,756	1981
---	20	[2]2666	22	3	25	90	---	2,273	1981
20	20	2713	4	4	25	---	---	9,786	1981
---	12	[2]2106	6	6	28	1236	---	17,954	1981
---	18	[2]6507	---	---	---	---	---	---	---
---	12	[2]2390	214	6	23	880	---	2,276	1981
10	18	[2]2185	7	6	25	---	---	182,757	1981
20	20	3462	26	10	18	---	165,600	27,131	1981
---	15	2156	3	6	25	---	---	1,235	1981
[2]560	16	[2]2566	4	6	34	---	---	1,117,801	1981
120	12	6046	7	7	20	---	629,160	328,789	1981
20	18	[2]2800	22	4	15	---	42,640	370	1981
20	17	[2]4807	5	6	26	---	126,480	42,009	1981
---	18	[2]2350	4	4	20	---	---	4,890	1981
[2]10	19	[2]2578	9	---	30	---	---	---	---
20	18	[2]2817	5	5	25	---	10,500	19,087	1981
[2]280	19	[2]488	8	---	20	---	---	741,000	1977
[2]40	18	2227	8	20	30	---	---	507	1981

Table 3. Summary of heavy oil deposits in Arkansas-Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Arkla basin--Continued						
Pigeon Hill[1].....	Cotton Valley...	Union, Bradley...	1953	Cotton Valley.....	221	ss/ls[2]
Pigeon Hill[1].....	Hosston.....	Union, Bradley...	1955	Hosston.....	219	ss
Ramsey Creek[1].....	Sligo.....	Union.....	[2]1951	Sligo.....	219	ls
Ritchie[1].....	Baker.....	Union.....	1963	Ozan.....	212	ss
River Bend[1].....	Meakin.....	Union.....	1959	Ozan.....	212	ss
River Bend Blossom[2]	Meakin.....	Union.....	1959	Meakin.....	212	ss
Sandy Bend[1].....	Nacatoch.....	Union.....	1948	Nacatoch.....	212	ss
Seminary Church[1]....	---	Ouachita.....	1971	Tokio.....	212	ss
Shiloh[1].....	Paluxy.....	Lafayette.....	1963	Paluxy.....	218	ss
Shiloh[1].....	Tokio.....	Lafayette.....	1964	Tokio.....	212	ss
Shiloh[1].....	Tuscaloosa.....	Lafayette.....	1966	Tuscaloosa.....	212	ss
Short[1].....	Blossom.....	Union.....	1969	Blossom.....	212	ss
Smackover[1].....	Blossom.....	Ouachita, Union..	1925	Blossom.....	212	ss
Smackover[1].....	Graves.....	Ouachita, Union..	1925	Ozan.....	212	ss
Smackover[1].....	Nacatoch.....	Ouachita, Union..	1922	Nacatoch.....	212	ss
Smackover[1].....	Tokio.....	Ouachita, Union..	1954	Tokio.....	212	ss
Spirit Lake[1].....	Buckrange.....	Lafayette, Miller	1948	Ozan.....	212	ss
Stamps[1].....	Tokio.....	Lafayette.....	1955	Tokio.....	212	ss
Stamps[1].....	Tuscaloosa.....	Lafayette.....	1955	Tuscaloosa.....	212	ss
Stamps, East[1].....	Tokio.....	Lafayette.....	1954	Tokio.....	212	ss
Stamps, North[2].....	Tokio.....	Lafayette.....	1952	Tokio.....	212	ss
Stamps, Northwest[1]..	Tokio.....	Lafayette.....	1956	Tokio.....	212	ss
Stamps, Northeast[2]..	Tokio.....	Lafayette.....	1955	Tokio.....	323	ss
Stamps, West[1].....	Paluxy.....	Lafayette.....	1956	Glen Rose.....	218	ss
Stamps, West[2].....	Paluxy/Glen Rose	Lafayette.....	1956	Paluxy/Glen Rose..	218	ss
Stamps, West[1].....	Tokio.....	Lafayette.....	1960	Tokio/Paluxy.....	212	ss

Arkansas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Arkla basin--Continued									
120	15	4287	[2]11	13	23	---	1,623,960	186,668	1981
20	18	2923	4	8	23	---	166,560	3,876	1981
240	18	[2]2929	3	3	25	---	---	6,291	1981
320	16	[2]2604	22	7	31	2754	3,250,240	965,553	1981
[2]20	17	2569	10	10	230	---	---	338	1981
[2]20	16	2725	6	---	30	---	---	---	---
5330	19	2257	225	35	25	---	25,000,000	11,466,450	1981
---	18	2540	12	10	25	---	---	88,319	1981
---	14	2910	8	8	---	---	---	95,078	1981
90	14	[2]2698	12	12	25	---	768,960	407,600	1981
60	19	[2]2974	[2]3	9	20	---	514,620	30,292	1981
---	20	[2]2858	1	7	35	500	---	6,640	1981
43,970 (field).	19	2583	2	16	20	[2]2000	(Included below.)		
43,970 (field).	19	2501	20	16	20	1000	772,464,960	520,975,730	1981
43,970 (field).	19	2000	19	16	20	2000	(Included above.)		
43,970 (field).	19	---	---	16	20	[2]2000	(Included above.)		
10	19	2650	11	11	25	---	126,060	3,663	1977
760	16	[2]2350	12	12	33	939	10,241,760	1,934,343	1981
[2]240	20	2599	[2]7	10	25	812	---	271,343	1981
[2]110	19	2490	3	3	31	---	---	199,380	1981
---	14	2341	4	---	---	---	---	314,000	1977
[2]100	15	2295	6	6	28	---	---	377,311	1981
---	15	2464	8	---	---	---	---	371,000	1977
---	17	[2]2935	14	14	25	208	---	66,475	1981
---	17	3308	14	---	---	---	---	17,000	1977
[2]40	18	[2]2568	14	13	30	208	---	102,642	1981

Table 3. Summary of heavy oil deposits in Arkansas--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Arkla basin--Continued						
Stephens[1]	Nacatoch	Columbia, Ouachita[2]	1971	Nacatoch	212	ss
Stephens[1]	Tokio	Ouachita, Columbia	1965	Tokio	212	ss
Stephens, Curry Area.[1,2]	Nacatoch	Ouachita, Columbia	1966	Nacatoch	212	ss
Stephens, Curry Area.[1,2]	Tokio	Ouachita, Columbia	1941	Tokio	212	ss
Stowe Lake[1]	Graves	Union	1969	Graves	212	ss
Troy, Old[1]	Old	Nevada	1936	Nacatoch/Tokio	212	ss
Troy, East[1]	Nacatoch	Ouachita	1956	---	212	ss
Troy, North[1]	Nacatoch	Nevada	1936	Nacatoch	212	ss
Troy, North[1]	Rodessa	Nevada	1977	Rodessa	218	---
Wesgum[1]	Tokio/Rodessa/ Pine.	Ouachita	1953	Tokio	212	ss
Wesson[1]	Nacatoch	Ouachita	1945	Nacatoch	212	ss
Wesson[1]	Tokio	Ouachita	1946	Tokio	212	ss
Wesson, North[1]	Nacatoch	Ouachita	1966	Nacatoch	212	ss
Willisville[1]	Nacatoch	Nevada	1951	Nacatoch	212	ss
Willisville, Southwest.[1]	Blossom	Nevada	1970	Blossom	212	ss
Willisville, Southwest.[1]	Nacatoch	Nevada	1956	Nacatoch	212	ss
Willisville, Southwest.[1]	Tokio	Nevada	---	Tokio	212	ss
Willisville, West[1]	Nacatoch	Nevada	1957	Nacatoch	212	ss
Willisville, West[1]	Tokio	Nevada	1955	Tokio	212	ss
Wilmington[1]	Graves	Union	1943	Graves	212	ss
Wilmington[1]	Travis Peak	Union	1958	Travis Peak	219	ss
Winchester[1]	Meakin	Union	1956	Meakin	212	ss
Woodley[1]	Nacatoch	Union	1922	Nacatoch	212	ss

Arkansas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Arkla basin--Continued									
[2]10	14	1402	7	8	20	---	---	328,839	1981
---	17	[2]2260	15	15	25	---	---	759,450	1981
---	19	1334	4	4	20	---	---	33,523	1981
[2]20	14	2350	14	14	---	---	---	44,414	1981
---	16	[2]2765	1	7	25	---	---	944	1981
2997	18	1220	18	13	40	3000	27,250,000	8,804,104	1978
220	15	1309	3	3	25	---	---	97,474	1981
60	15	[2]1723	6	6	25	---	---	17,498	1981
---	20	---	---	---	21	50	---	96,563	1981
---	19	---	---	8	25	---	---	90,439	1981
2280	15	1500	---	6	30	---	---	1,037,566	1981
290	19	2340	11	11	30	---	---	330,161	1981
280	15	[2]1324	5	5	30	---	---	9,480	1981
280	15	1192	6	6	35	2000	---	227,854	1981
240	18	[2]1983	10	10	28	500	---	173,588	1981
[2]460	14	1140	13	13	35	---	---	3,389,271	1981
[2]10	15	[2]2070	8	8	30	---	---	11,251	1981
[2]80	15	1140	13	22	26	---	---	401,590	1981
[2]50	19	2138	10	10	30	---	---	231,208	1981
[2]60	17	2765	16	16	25	---	---	202,971	1981
[2]40	18	3440	6	6	26	496	---	26,382	1981
[2]360	20	2638	12	12	28	709	---	983,269	1981
[2]744	20	[2]2062	210	12	255	---	---	371,188	1981

Table 4. Summary of heavy oil deposits in California

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Coastal basin						
Arroyo Grande[1].....	Oak Park Area/ Martin Elberta.[3]	San Luis Obispo..	1935	Pismo.....	121/ 122	ss
Arroyo Grande[1].....	Tiber Area/ Dollie.[5]	San Luis Obispo..	1911	Pismo/Dollie.[5]	121/122	ss
King City[1].....	3-1-32/ Doud-Kent Bashham.[3]	Monterey.....	1959	Thorup[3]/Monterey.[2]	122	ss
Lopez Canyon[1].....	Ida-B[3].....	San Luis Obispo..	1963	Point Sal.....	122	ss
McCool Ranch[1].....	Miocene/ Lombardi.[3]	Monterey.....	1964	Lombardi/Monterey[2]	122	ss
Monroe Swell[1].....	Beedy.....	Monterey.....	1949	Monterey.....	122	---
Monroe Swell[1].....	Doud.....	Monterey.....	1959	Monterey.....	122	ss
Paris Valley[1].....	Main Area/basal Ansberry.[3]	Monterey.....	1948	Ansberry/ Monterey.[2]	122	ss
Quinado Canyon[1].....	Miocene/ Gamboa-Kelly.	Monterey.....	1963	Monterey[2].....	122	ss
San Ardo[1].....	Main Area/ Aurignac.	Monterey.....	1948	Aurignac/Monterey[2]	122	ss
San Ardo[1].....	Main Area/ Lombardi.	Monterey.....	1947	Lombardi/Monterey[2]	122	ss
San Ardo[3].....	North Area/ Lombardi.	Monterey.....	---	Lombardi.....	122	ss
Los Angeles basin						
Alondra[3].....	Miocene.....	Los Angeles.....	1946	---	122	---
Belmont[1,2] (Offshore)[3].	Old Area/ Upper.	Orange.....	1956	Repetto/ Puente.	121/122	ss

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission (1984).

[3]California Oil Producers Conservation Committee (1986).

[4]Abandoned.

[5]Drillers term.

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Coastal basin--Continued									
[2]90 (area).	[3]17; 13-21	[2]2823	---	50	30	---	---	[3]630,737	1985
[2]320 (area).	13; [3]13-21	[2]1245	---	300	36	---	---	[3]5,994,281	1985
[2]110	16; 16-17	2135	91	91	32	---	---	[3]1,982,324	1985
[2]10	[3]15	[2]2932	37	37	---	---	---	2,148	[3]1985
[2]70	11; 10-12	[3]2170	40	40	33	---	---	[3]136,721	1985
---	16	[3]2435	---	150	---	---	---	370	[3]1985
[2]50 (field).	[3]17; 16-19	[3]2950	---	180	29	---	---	[3]354,254	1985
[2]30	12	[2]1179	89	89	36	---	---	129,168	[3]1985
[2]10	19	[3]2197	162	162	---	---	---	9,654	[3]1985
[2]3500	[3]13; 11-14	2335	2100	100	31	[2]2000	---	[3]178,923,310	1985
[2]4200	11; 10-13	2133	[2]115	200	39	5000	---	[3]212,185,488	1985
---	12	---	---	---	---	---	---	271,191	1985
Los Angeles basin--Continued									
---	19	9,226	---	---	---	---	---	[3]2,151,858	1985
335	[3]19; 19-20	4,196	320	320	33	965	---	[3]15,541,812	1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Los Angeles basin--Continued						
Beta Offshore[1].....	Federal/Miocene Delmontian (A-G)[3].	Orange.....	1981	---	122	---
Beverly Hills[3].....	West Area/ Pliocene.	Los Angeles.....	1900	---	121	---
Brea-Olinda[1,2].....	Olinda Area.....	Los Angeles.....	1897	Repetto/Puente....	121/122	ss
Cascade[3].....	Pliocene.....	---	1954	---	121	---
Coyote East[3].....	Anaheim.....	Orange.....	1917	---	---	---
Coyote East[3].....	Hualde.....	Orange.....	1917	---	---	---
El Segundo[1,2].....	Main Area/ West Area.	Los Angeles	1935/ 1966	Puente/ Schist.	122/ 210	ss
Gaffey[1].....	Harbor City.....	Los Angeles.....	1955	Pico/ Repetto.[2]	121	ss
Huntington Beach[1,2]	Huntington Ave Area/Jones.	Orange.....	1955	Modelo/ Puente.	122	ss
Huntington Beach[3]...	Huntington Ave Area/Main.	Orange.....	1954	---	---	ss
Huntington Beach[1,2]	Huntington Ave. Area/Others.	Orange.....	1953	Repetto.....	121	ss
Huntington Beach[3]...	North Area/ Fault zone.	Orange.....	1947	---	---	ss
Huntington Beach[1]...	North Area/ Main C.	Orange.....	1958	---	---	ss
Huntington Beach[1]...	North Area/ Tar Bolsa	Orange.....	1920	Pico/ Repetto.	121	ss
Huntington Beach[1]...	South Area/ Offshore/Jones.	Orange.....	1942	Puente.....	122	ss
Huntington Beach[1]...	South Area/ Onshore/A37.	Orange	1942	Modelo/Repetto[2]...	122	ss
Huntington Beach[1]...	South Area/ Onshore/Jones.	Orange.....	1926	Modelo/Puente[2]....	122	ss
Huntington Beach[1,2]	South Area/ Onshore/Tar Zone.	Orange.....	1926	Pico/Repetto/ Puente.	121/122	ss

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Los Angeles basin--Continued									
---	16; 13-19	[2]6073	---	---	---	---	---	[3]20,013,542	1985
---	17; 16-18	3289	---	---	---	---	---	[3]4,849,892	1985
705	18; 14-26	3235	400	---	[1]38 [2]29	842	---	[3]305,775,739 (Field total)	1984
---	19; 13-24	2905	---	---	---	---	---	21,649,282	1985
---	19; 17-25	4117	---	---	---	---	---	[3]71,712,668	1985
---	18; 13-24	3232	---	---	---	---	---	[3]5,028,672	1985
80 (area).	[3]20; 16-27	[3]7065 [3]8296	408	408	22	---	---	[3]14,014,165	1985
[2]20	[2]15; 312-18	[3]1944	---	100	---	---	---	18,112	1984
2345	[3]16; 12-21	3912	163	163	30	---	---	[3]9,308,749	1984
---	18	5258	---	---	---	---	---	[3]978,303	1985
2923 (field).	[3]15; 12-17	3482	133	---	27	---	---	[3]1,048,604	1985
---	20; 17-25	3831	---	---	---	---	---	3,094,466	1985
---	20; 20-22	4660	---	---	---	---	---	700,614	1985
[2]1200	[3]19; 12-22	[2]2867	[2]250	500	26	1100	---	[3]364,866,533	1985
[2]2345 (field).	16; 13-20	[3]4149	---	350	29	400	---	[3]164,047,847	1985
[2]2923 (field).	[3]17; 13-23	[3]3799	---	---	31	---	---	[3]29,536,805	1985
[2]2923 (field).	16; 13-23	[3]3307	---	[2]425	32	1274	---	[3]14,194,645	1985
370	14; 11-19	[3]2351	150	---	[1]26 [2]38	2300	---	[3]31,890,986	1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Los Angeles basin--Continued						
Hyperion[1,2].....	Shale & schist conglomerate.	Los Angeles.....	1944	Puente/Franciscan/ Catalina.	122/210	ss
Inglewood[1,4].....	Miocene undifferentiated.	Los Angeles.....	1961	Puente[2].....	122	ss
Inglewood[3].....	Rindge.....	Los Angeles.....	1925	---	122	ss
Inglewood[3].....	Sentous.....	Los Angeles.....	1940	---	122	ss
Inglewood[1].....	Vickers.....	Los Angeles.....	1924	Pico/Repetto/ Puente[2].	121/122	ss
Kraemer[1].....	---	Orange.....	1918	Modelo/Puente.....	122	ss
Los Angeles City[1]...	---	Los Angeles.....	1890	Puente.....	122	ss
Montebello[1].....	East Area.....	Los Angeles.....	1923	Modelo/Puente[2]....	122	ss
Newport[1,2,4].....	Cagney Area.....	Orange.....	1947	Modelo/Puente[2]....	122	ss
Newport[1,2,4].....	Mesa Area.....	Orange.....	1922	Puente.....	122	ss
Newport[1,4].....	Old Beach Area..	Orange.....	1922	Puente.....	122	ss
Newport West[1].....	Aldrich Area-C..	Orange.....	1945	Modelo/Puente[2]....	122	ss
Newport West[1].....	Aldrich Area....	Orange.....	1946	Puente.....	122	ss
Newport West[1].....	Anaheim Sugar...	Orange.....	1946	Puente.....	122	ss
Newport West[1,2].....	Main Area.....	Orange.....	1923	Modelo/Puente.....	122	ss
Newport West[1].....	Offshore Area...	Orange.....	1953	Puente[2].....	122	ss
Newport West[1].....	Surf Area/ East Block.	Orange.....	1952	Modelo/Puente[2]....	122	ss
North Whittier Heights.[1,4]	---	Los Angeles.....	1944	Puente.....	122	ss
Olive[1].....	Dinkler[2].....	Orange.....	1953	Repetto[2].....	121	ss

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Los Angeles basin--Continued									
40	17; 16-18	[3]6969	80	---	23	---	---	[3]610,084	1985
[2]1113 (field).	19	11,013	---	---	---	---	---	[3]3,408	1985
---	20; 12-31	3353	---	---	---	---	---	34,420,832	1985
---	20; 18-26	8240	---	---	---	---	---	[3]9,493,871	1985
[2]1070	19; 12-24	[3]2154	[2]312	---	44	00	---	[3]230,075,644	1985
[2]70	19; 18-21	[3]2674	[2]300	---	[2]20	---	---	[3]3,643,295	1985
[2]129	14; 12-16	[2]1771	2185	---	34	---	---	[3]22,073,822	1985
[2]905 (field).	[3]20	[3]4767	---	---	28	---	---	[3]293,384	1985
25	11; 9-11	[3]1402	---	---	---	---	---	[3]27,151	1985
25	11	500	10	10	---	---	---	34,000	1982
[2]40	12	[3]1580	---	300	---	---	---	[2]120,000	1982
[2]575 (field).	19; 13-25	[3]2065	---	---	[3]26	800	---	[3]3,493,681	1985
[2]575 (field).	19; 13-26	[3]3033	---	[2]100	29	---	---	[3]730,927	1985
[2]575 (field).	18; [3]16-22	[3]5366	---	[2]250	25	---	---	[3]10,067,674	1985
625	15; 12-18	1630	275	---	37	1000	---	[3]36,725,996	1985
[2]80 (field).	19; 15-20	[3]4839	---	165	28	---	---	[3]4,595,738	1985
[2]80	[3]16; 15-17	[2]4142	---	---	25	---	---	[3]1,490,987	1985
[2]40	15; 15-16	[2]1486	[2]290	---	---	---	---	[3]84,036	1985
[2]50	14; 14-15	[3]5507	151	151	22	40	---	[3]2,190,014	1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Los Angeles basin--Continued						
Placerita[1,2].....	York/Kraft/ Juanita Area.	Los Angeles.....	1920	Pico/Repetto/..... Saugus.	232	ss
Playa Del Rey[1].....	Del Rey Hills Area.	Los Angeles.....	1934	Puente.....	122	ss/ sh[2]
Prado-Corona[1].....	---	Riverside.....	1966	Puente.....	122	ss
Richfield[1,2].....	East Area.....	Orange.....	1919	Puente.....	122	ss
Salt Lake[1].....	Pliocene/Miocene	Los Angeles.....	1902	Repetto/Puente....	121/122	ss
Sansinena[1].....	Central Area/ Miocene C-D.	Los Angeles.....	1955	Puente[2].....	122	ss
Sansinena[1].....	Naranjal Area/ Pliocene.	Los Angeles.....	1957	Repetto[2].....	121	ss
Sansinena[1].....	West Area-6-A/ Block C-D	Los Angeles.....	1953	Puente[2].....	122	ss
Sansinena[1].....	West Area/Curtis Block C-D.	Los Angeles.....	1952	Puente[2].....	122	ss
Sansinena[1].....	West Area/New England Block.	Los Angeles.....	1950	Puente[2].....	122	ss
Sansinena[1].....	Other Areas/ Pliocene.	Los Angeles.....	1940	Repetto[2].....	121	ss
Talbert[1].....	---	Orange.....	1947	Puente.....	122	ss
Torrance[1,2].....	Main.....	Los Angeles.....	1922	Repetto/Puente....	121/122	ss
Venice Beach[1].....	Onshore/ Offshore[3].	Los Angeles.....	1967	Puente[2].....	122	schist, cgl
Walnut[1].....	1st/2nd[2].....	Los Angeles.....	1948	Puente.....	122	ss
Whittier[1,2].....	Central/Main....	Los Angeles.....	1896	Repetto[2].....	121	ss
Whittier[1,2].....	Rideout Heights	Los Angeles.....	1901	Repetto/Puente....	122	ss
Wilmington[1,2].....	East Area/ Fault block 90-N-Ranger.	Los Angeles.....	1967	Repetto/Puente....	121/122	ss

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Los Angeles basin--Continued									
640 (field).	15; [3]11-23	1527	300	---	33	2500	---	[3]45,513,532	1985
[2]248	20; 17-24	[3]6352	[2]200	---	24	---	---	[3]13,430,497	1985
[2]215	16; 16-17	[3]2562	75	75	[2]36	[2]174	---	[3]935,086	1985
1160	18; 15-25	3860	290	---	31	1000	---	[3]183,714,798 (field).	1985
[2]905	18; 12-22	[3]3568	---	---	39	---	---	[3]50,927,517	1985
[2]30	20; 18-22	[3]4002	238	238	29	---	---	[3]840,166	1985
---	[3]17	3310	---	---	33	---	---	[3]1,887,076 (field). [3]42,770 (Pliocene).	1985 1985
---	18; [3]16-19	[2]3887	---	---	31	---	---	[3]1,805,521	1985
---	[3]20; 16-22	[3]5402	---	---	35	---	---	[3]1,467,161	1985
---	20; 18-24	[3]2905	---	[2]1080	35 [2]45	---	---	[3]434,959	1985
[2]20	[3]17; 15-25	[3]2528	---	[2]300	39	---	---	[3]227,144	1985
[2]35	18; 18-19	[3]5743	---	---	---	---	---	[3]129,859	1985
3435	18; 12-25	[3]3737	100	150	[1]26 [2]34	[1]425 [2]300	---	[3]177,696,465	1985
---	20	[3]6870	---	97	[2]45	---	---	[3]3,446,821	1984
[2]40	16; 15-17	[3]1503	---	350	---	---	---	[7]100,479	1985
500	19; 14-33	2706	375	---	30	116	---	[3]43,713,543	1985
100	20; 14-25	2174	150	150	28	---	---	[3]4,561,289	1985
1115	19; 15-21	2740	500	---	34	1280	---	[3]57,248,870	1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Los Angeles basin--Continued						
Wilmington[3].....	East Area/ Fault block 90-N Lower terminal.	Los Angeles.....	---	---	122	ss
Wilmington[1].....	East Area/ Fault block 90-N Upper terminal.	Los Angeles.....	---	Miocene.....	122	[3]ss
Wilmington[1,2].....	East Area/ Fault block 90-S Ranger.	Los Angeles.....	1967	Repetto/Puente....	121/122	ss
Wilmington[1,2].....	East Area/ Fault block 90-S Upper terminal.	Los Angeles.....	1967	Puente.....	122	ss
Wilmington[1,2].....	East Area/ Fault block 90-S Lower terminal.	Los Angeles.....	1967	Puente.....	122	ss
Wilmington[1].....	East Area/ Fault Block 99 Ranger.	Los Angeles.....	1967	Repetto/Puente[2]...	[2]121/122	ss
Wilmington[1].....	East Area/ Fault block 99 Upper terminal.	Los Angeles	1967	Puente[2].....	122	ss
Wilmington[1].....	East Area/ Fault block 99 Lower terminal.	Los Angeles	1967	Puente[2].....	122	ss
Wilmington[1].....	East Area/ Fault block 99 Tar.	Los Angeles.....	1968	Repetto[2].....	121	ss
Wilmington[1,2].....	East Area/ Fault block V Tar.	Los Angeles.....	1967	Repetto.....	121	ss
Wilmington[1,2].....	East Area/ Fault block VI Ranger.	Los Angeles.....	1965	Repetto/Puente....	121/122	ss
Wilmington[1].....	East Area/ Fault block VI Upper terminal.	Los Angeles.....	1965	Puente.....	122	ss
Wilmington[1].....	East Area/ Fault block VI Lower terminal.	Los Angeles.....	1966	Puente[2].....	122	ss
Wilmington[1,2].....	East Area/ Fault block VII. Ranger.	Los Angeles.....	1967	Repetto/Puente....	121/122	ss

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Los Angeles basin--Continued									
---	18; 18-22	---	---	---	---	---	---	[3]3,352,846	1985
---	18; 14-20	---	---	---	---	---	---	[3]2,087,366	1985
520	17; 13-20	2660	475	---	34	1100	---	[3]46,600,112	1985
270 (Incl. Lower Term).	[3]17; 14-22	3170	630	---	31	850	---	[3]12,531,990	1985
270 (Incl. Upper Term).	[3]19 16-20	3170	630	---	31	850	---	[3]9,404,327	1985
---	18; 14-26	2913	701	---	---	---	---	15,848,826	1970
---	20; 19-22	---	490	---	---	---	---	241,837	1970
---	20; 20-21	4380	1026	---	---	---	---	2,034,140	1970
---	18; 18-20	2584	1005	---	---	---	---	79,591	1970
213	13; 13-14	[3]3090	1339 [2]90	339	37	1500	---	[3]33,047,942	1984
2376	17; 14-20	[3]4521	300	---	[1]29 [2]33	1200	---	[3]230,918,417	1985
1040	[3]18; 16-19	[3]4441	350	---	[1]29 [2]37	[1]800 [2]1400	---	[3]45,819,981	1984
---	17; [3]16-19	[2]4990	---	[2]360	---	---	---	[3]789,015	1984
1020	[3]17; 14-26	[3]4296	786 [2]300	786	33	900	---	[3]112,898,194	1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Los Angeles basin--Continued						
Wilmington[1].....	East Area/ Fault block VII Upper terminal.	Los Angeles.....	1978	Puente[2].....	[2]122	ss
Wilmington[1,2].....	East Area/ Fault block VIII A-Ranger.	Los Angeles.....	---	Repetto/Puente....	121/122	ss
Wilmington[1].....	East Area/ Fault block VIII A-Upper terminal.	Los Angeles.....	---	Repetto/Puente....	121/122	---
Wilmington[1].....	East Area/ Fault block VIII A-Lower.	Los Angeles.....	---	Miocene.....	122	---
Wilmington[1,2].....	East Area/Fault block VIII-B Ranger.	Los Angeles.....	1967	Repetto/Puente....	121/122	---
Wilmington[1,2].....	Harbor Area/ Fault block IV Ranger.	Los Angeles.....	1937	Repetto/Puente....	121/122	ss
Wilmington[1,2].....	Harbor Area/ Fault block IV Tar.	Los Angeles.....	1943	Repetto.....	121	ss
Wilmington[1,2].....	Harbor Area/ Fault block IV Upper terminal.	Los Angeles.....	1939	Puente.....	122	ss
Wilmington[1,2].....	Harbor Area/ Fault block V Ranger.	Los Angeles.....	1938	Repetto/Puente....	121/122	ss
Wilmington[1,2].....	Harbor Area/ Fault block V Tar.	Los Angeles.....	1951	Repetto.....	121	---
Wilmington[1,2].....	Harbor Area/ Fault block V-A Upper terminal.	Los Angeles.....	1938	Puente.....	122	ss
Wilmington[3].....	Harbor Area/ Fault block V-B Upper terminal.	Los Angeles.....	1944	Repetto/Puente....	121/122	ss
Wilmington[1,2].....	Harbor Area/ Fault block VI Ranger.	Los Angeles.....	1946	Repetto/Puente....	121/122	ss
Wilmington[3].....	Harbor Area/ Fault block VI Lower terminal.	Los Angeles.....	1948	Puente.....	122	ss

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Los Angeles basin--Continued									
---	[3]20	[3]4766	---	---	---	---	---	[3]490,916	1985
449	16; 13-19	2520	525	---	33	700	---	[3]24,073,852	1984
---	[3]16; 12-19	---	---	---	---	---	---	[3]5,137,187	1985
---	[3]18; 17-19	---	---	---	---	---	---	[3]2,752,842	1985
128	[3]18; [3]16-20	2630	320	---	33	1000	---	[3]1,577,328	1985
856	[3]16; 12-17	[3]3325	177	152	[1]37 [2]31	[1]1550 [2]400	9,420,000,000	[3]75,840,283	1985
630	15; 14-18	[3]2625	123	---	[1]36 [2]33	[1]1500 [2]500	---	[3]18,116,874	1985
708	19; 13-25	3528	356	---	[1]34 [2]28	[1]775 [2]500	---	264,221,077	1981
2,000	[3]14; 12-19	[3]3399	177	---	[1]37 [2]31	400	---	[3]168,535,310	1985
859	14; 12-15	[3]2744	123	---	33	500	---	[3]33,047,942	1985
72	19; 17-24	3738	356	---	35	500	---	[3]2,855,239	1985
---	20; 15-23	---	---	---	---	---	---	[3]69,403,690	1985
740	17; 14-20	[3]3720	115	---	31	[1]1540 [2]600	---	[3]44,696,145	1985
---	19; 18-21	4599	---	---	---	---	---	16,807,706	1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Los Angeles basin--Continued						
Wilmington[1].....	Harbor Area/ Fault block VI Upper terminal.	Los Angeles.....	1948	Puente.....	122	ss
Wilmington[3].....	Harbor Area/ Fault block VI U.P.	Los Angeles.....	1954	Puente.....	122	ss
Wilmington[1,2].....	Terminal Area/ Fault block I Tar-Ranger.	Los Angeles.....	1936	Repetto/Puente....	121/122	ss
Wilmington[1,2].....	Terminal Area/ Fault block II-A Ranger.	Los Angeles.....	1937	Repetto/Puente....	121/122	ss
Wilmington[1].....	Terminal Area/ Fault block-II-A Upper terminal.	Los Angeles.....	1937	Puente.....	122	ss
Wilmington[1]	Terminal Area/ Fault block II-A Tar.	Los Angeles.....	1937	Repetto.....	121	ss
Wilmington[1].....	Terminal Area/ Fault block II-B Ranger.	Los Angeles.....	1937	Repetto/Puente....	121/122	ss
Wilmington[1].....	Terminal Area/ Fault block II-B Tar.	Los Angeles.....	1937	Repetto.....	121	ss
Wilmington[1].....	Terminal Area/ Fault block III. Ranger.	Los Angeles.....	1937	Repetto/Puente....	121/122	ss
Wilmington[1].....	Terminal Area/ Fault block III Tar.	Los Angeles.....	1937	Repetto.....	121	ss
Wilmington[1].....	Town Lot Area/ Fault block I Tar/Ranger/ Terminal.	Los Angeles.....	1934	Repetto/Puente....	121/122	ss
Wilmington[3].....	Town Lot Area/ Fault block I Ford.	Los Angeles.....	1937	Repetto/Puente....	121/122	ss
Wilmington[1].....	Town Lot Area/ Fault block II-A Ranger.	Los Angeles.....	1937	Repetto/Puente....	121/122	ss

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Los Angeles basin--Continued									
---	19; 17-20	[3]4035	[2]312	---	30	[2]500	---	[3]53,268,114	1985
---	20; 19-20	5334	---	---	---	---	---	[3]2,654,986	1985
600	17; 13-25	[3]3436	460	---	[1]33 [2]27	400	---	[3]85,473,228	1985
210	17; 13-22	[3]3108	150	---	[1]37 [2]31	[1]175 [2]400	---	[3]26,625,621	1985
[2]488	20; 14-26	[3]3679	[2]300	280	35	700	---	[3]83,617,711	1985
[2]180	14; 13-16	[2]2690	[2]118	---	34	1600	---	[3]22,431,527	1985
---	[3]20; 18-23	[3]3194	[2]150	99	37 [2]31	1600 [2]400	---	[3]10,380,228	1985
---	[3]16; 15-21	[2]2760	---	[2]120	34	1600	---	[3]4,802,007	1985
[2]500	[3]20; 14-23	[3]3123	[2]138	---	36	1600	---	[3]56,432,511	1985
[2]224	15; 14-21	[2]2685	290	---	35	1600	---	[3]19,686,036	1985
[2]2095	15; 12-20	[3]3626	[2]250	---	33	1600 [2]400	---	[3]148,170,220	1985
---	17; 15-28	[3]5308	---	---	---	---	---	12,458,280	1985
[2]235	[3]15; 12-16	[3]3300	[2]150	---	35	[2]400	---	[3]14,975,215	1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Los Angeles basin--Continued						
Wilmington[1].....	Town Lot Area/ Fault block II-A Tar.	Los Angeles.....	1937	Repetto.....	121	ss
Wilmington[1,2].....	Town Lot Area/ Fault block II-A Upper terminal.	Los Angeles.....	1937	Puente.....	122	ss
Wilmington[1].....	Town Lot Area/ Fault block II-B Ranger.	Los Angeles.....	1936	Repetto/Puente....	121/122	ss
Wilmington[1].....	Town Lot Area/ Fault block III Ranger.	Los Angeles.....	1937	Repetto/Puetto....	121/122	ss
Yorba Linda[1,2].....	Main (Smith)....	Orange.....	1930	Repetto.....	121	ss
Yorba Linda[1].....	Miocene Contact	Orange.....	1955	Puente[2].....	122	ss
Yorba Linda[1].....	Shallow.....	Orange.....	1937	La Habra.....	112	cgl
Yorba Linda[1].....	Shell.....	Orange.....	1937	Repetto.....	121	ss
Northern Coast Range Province						
Petaluma[1].....	Pliocene.....	Sonoma.....	1926	Petaluma.....	121	ss
Sargent[1].....	Pliocene/Miocene	Santa Clara.....	1886	Purisima/ Monterey/ Sisquoc[2].	121/122	ss
Santa Cruz basin						
La Honda, South Area.[1,2]	Burns/Miocene[2]..	San Mateo.....	1959	Purisma.....	122	ss
Santa Maria Basin						
Barham Ranch[1].....	Monterey/Sisquoc	Santa Barbara....	1943	Monterey/Sisquoc..	121/122	sts/ss[2]
Casmalia[1].....	Arellanes.....	Santa Barbara....	1946	Lospe.....	[3]123	ss
Cat Canyon, East[1,2]	Old Area.....	Santa Barbara....	1908	Sisquoc.....	121	ss
Cat Canyon, East[1]...	Sisquoc[2] (incl. Bradley Canyon).	Santa Barbara....	1943	Sisquoc/Bradley/ Monterey.	121/122	ss

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Los Angeles basin--Continued									
---	[3]15; 12-15	[2]2880	---	[2]120	41	---	---	[3]1,135,002	1985
104	[3]14; 12-15	3575	300	---	32	700	---	[3]2,398,782	1985
---	15; 14-18	[2]3402	---	---	35	---	---	[3]2,286,288	1985
[2]200	[3]14; 13-15	[3]3427	[2]150	---	35	[2]400	---	[3]13,636,433	1985
200	15; 13-17	[2]132	70	---	45 [2]30	1000	---	[3]9,690,403	1985
[2]630	[3]14; 13-16	[3]3081	---	---	35	---	---	[3]292,268	1985
[2]620	[3]13; 12-14	[3]709	---	---	[2]30	[2]600	---	[3]64,642,812	1985
[2]90	[3]14; 13-20	[2]1733	---	---	44	---	---	[3]5,368,980	1985
Northern Coast Range Province--Continued									
---	20	---	---	25	---	---	---	[3]11,356	1985
[2]70 (field).	17; [3]11-19	[2]915	[2]305	305	40	---	---	[3]874,506	1985
Santa Cruz basin--Continued									
50 (area).	[3]17	[3]1535	25	120	34	---	---	[3]483,250	1985
Santa Maria basin--Continued									
[2]60	14; 13-15	[3]3434	---	1200	27	---	---	[3]230,068	1985
[2]2090	20	[2]4748	---	150	26	---	---	[3]239,291	1985
1680	11; 6-17	3001	400	220	29	1900	---	[3]32,466,448	1985
---	15	4000	120	---	29	---	---	152,000	1969

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Santa Maria basin--Continued						
Cat Canyon, East[1]...	Sisquoc Area/ Thomas.	Santa Barbara....	1954	Sisquoc[2].....	121/122	ss
Cat Canyon, East[1,2]	Sisquoc/others..	Santa Barbara....	1958	Lower Pliocene....	121	ss
Cat Canyon, West[1,2]	Los Flores.....	Santa Barbara....	1938	Monterey.....	122	sts/ss
Cat Canyon, West[1]...	Pliocene/New Area-Central.	Santa Barbara....	1956	Pliocene.....	121	ss
Cat Canyon, West[1,2]	Pliocene/ Old Area.	Santa Barbara....	1908	Sisquoc.....	121/122	ss
Cuyama Group[1].....	Russell Ranch/ Main Area-138-5 Sloan.	San Luis Obispo..	1955	Santa Margarita, upper.	122	ss
Elwood South[3] (Offshore).	Sisquoc/Monterey/ Monterey-Rincon.	Santa Barbara....	1966	Sisquoc/Monterey..	121/122	ss
Gato Ridge[1,3].....	Tognazzini.....	Santa Barbara....	1914	Sisquoc/Monterey..	121/122	sts
Guadalupe[1].....	Sisquoc/Monterey	Santa Barbara....	1948	Sisquoc/Monterey..	121/122	ss
Hondo Offshore[1].....	Federal-OCS.....	Santa Barbara....	1981	Monterey/ Vaqueros[3]/Sespe.	122/123	ss
Lompoc[1,2].....	Main Area[3]/ Monterey Area.	Santa Barbara....	1903	Monterey.....	121/122	sts/sh
Lompoc[3].....	Northwest Area/ Monterey.	Santa Barbara....	1983	Monterey.....	121/122	---
Mesa[1].....	Main Area[2]/ Vaqueros.	Santa Barbara....	1929	Vaqueros.....	122	ss
Santa Maria Valley.[1,2]	Bradley Area/ Basal Sisquoc.	Santa Barbara....	1972	Sisquoc.....	121/122	ss
Santa Maria Valley.[1,2]	Bradley Area/ Monterey.	Santa Barbara....	1973	Monterey.....	121/122	ss
Santa Maria Valley.[1,2]	Main Area.....	Santa Barbara....	1934	Monterey.....	122	sts/ss
Santa Maria Valley.[1,3]	Southeast Area/ Monterey.	Santa Barbara....	1973	Monterey.....	121/122	---
Santa Maria Valley.[1,3]	West Area.....	Santa Barbara....	1953	Foxen[2]/ Sisquoc/Monterey.	121/122	ss
Sisquoc Ranch[3,4]....	Monterey.....	Santa Barbara....	1980	Monterey.....	121/122	---

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Santa Maria basin--Continued									
[2]1970 (area).	[3]15; 11-17	[2]4812	---	500	26	---	---	[3]1,854,724	1985
1120	12; 9-15	3200	126	---	32	1410	---	[3]49,198,851	1984
2780 (area).	14; 11-22	6052	114	---	25	300	---	[3]89,584,035	1985
[2]590	12; 8-14	2740	49	---	30	[2]1200	---	[3]9,170,818	1985
2930	15; 14-20	3043	254	600 [2]30	21	1200	---	[3]47,195,087	1985
[2]1140 (field).	13	[2]1934	268	---	---	---	---	[3]1,778,419	1985
---	18; 15-30	6289	---	---	---	---	---	[3]33,105,381	1985
[2]690	12; 10-17	3627	---	300	28	---	---	40,041,461	1985
[2]1990	11; 8-14	[2]2832	[2]90	200	30	---	---	[3]35,392,168	1985
---	18; 15-32	[2]13,450	---	---	---	---	---	[3]58,690,114	1985
2110	19; 15-26	2799	500	500	30	---	---	[3]43,407,746	1985
---	19; 17-31	---	---	---	---	---	---	[3]217,536	1985
[2]200	17; 17-18	[2]2041	---	50	---	---	---	[3]3,714,879	1985
500 (area).	14; 10-20	5560	226	---	---	---	---	[3]18,618,279	1985
500 (area).	11; 10-20	5610	---	---	---	---	---	[3]722,661	1985
4020	14; 6-20	4711	500	500	26	300	---	[3]153,383,292	1985
---	16	5322	---	---	---	---	---	[3]26,458	1985
[2]110 (area).	11; 9-13	3922	---	---	---	---	---	1,953,552	1985
---	16	2008	---	---	---	---	---	[3]5,554	1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
San Joaquin basin						
Ant Hill[1,2]	Olcese	Kern	1944	Olcese	122	ss
Antelope Hills[1]	Hopkins Area/ Eocene.	Kern	1944	Kreyenhagen[2]	124	ss
Antelope Hills[3]	West Block/ Tulare.	Kern	1971	Tulare	112	---
Antelope Hills[1]	Williams Area East Block/Agua.	Kern	1943	Temblor[2]	122	ss
Antelope Hills[1]	Williams Area East Block/ Button.	Kern	1944	Temblor	122	ss
Antelope Hills[1]	Williams Area/ Upper.	Kern	1966	Tulare	112	ss
Antelope Hills[1]	Williams Area/ West Block/ Button.	Kern	1942	Monterey/Temblor	122	ss
Antelope Hills, North.[1]	Miocene/Eocene	Kern	1950	Temblor/Kreyenhagen	122/124	ss
Asphalto[1]	Etchegoin	Kern	1923	Etchegoin	121	ss
Belridge, South[1]	Tulare/ Dratomite.	Kern	1911	Tulare/Etchegoin	121/122	ss
Chico-Martinez[1]	---	Kern	1927	McDonald/ Etchegoin.[2]	122/121	ss
Cienaga Canyon[3]	---	Kern	1978	---	---	---
Coalinga[3]	Eastside Area/ Temblor.	Fresno	1887	Temblor	122	ss
Coalinga[1,2]	Westside Area/ Temblor.	Fresno	1900	Temblor	122	ss
Cymric[1]	1-y Area/ Reef Ridge.	Kern	1952	Reef Ridge/ Monterey[2].	122	ss
Cymric[1]	McKittrick Front Area/ Reef Ridge.	Kern	1917	McClure/Monterey[2]	122	ss
Cymric[1]	McKittrick Front Area/ Tulare.	Kern	1909	Tulare	112	ss

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
San Jaoquin basin									
285	13; [3]13-15	2286	[1]40 [2]100	40	34	---	---	[3]6,548,668	1985
[2]70	17; 16-18	[3]2425	---	---	---	---	---	[3]446,758	1985
---	[3]15	880	---	---	---	---	---	[3]18,803	1985
[2]145	[3]16; 15-23	2492	160	---	[2]33	---	---	[3]4,435,902	1985
[2]410	18; [3]15-22	[2]2335	---	---	[2]33	---	---	[3]2,692,984	1985
[2]20	12; 12-13	[3]1430	25	25	---	---	---	[3]44,835	1985
[2]265	16; 15-18	2376	[2]150	---	[2]33	---	---	[3]7,435,273	1985
280	15; [3]14-16	[3]2469	30	---	33	---	---	[3]3,930,319	1985
[2]830 (field).	18	[3]3091	[2]15	---	---	---	---	[3]112,232	1985
[2]8610	17; 12-31	[3]1074	[2]100	---	37	[2]3000	---	[3]489,463,121	1985
[2]270	13; 12-14	[3]984	---	35	---	---	---	[3]442,954	1985
---	19; 19-20	2340	---	---	---	---	---	[3]182,104	1985
---	18; 12-33	5812	---	---	---	---	---	[3]428,410,064	1985
6400	15; 12-22	1852	50	---	[1]35 [2]32	[1]1100 [2]259	---	[3]289,946,258	1985
[2]90	[3]14; 12-16	[2]1418	---	310	52	150	---	[3]1,196,348	1985
[2]160	[3]16; 14-18	[3]2270	[2]125	150	31	1000	---	[3]7,038,003	1985
[2]1380	[3]16; 11-17	[2]1266	---	125	37	200	---	[3]42,028,786	1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
San Joaquin basin--Continued						
Cymric[1].....	Salt Creek Main Area/ Carneros unit.	Kern.....	1946	Carneros/Temblor[2]	122	ss
Cymric[1].....	Salt Creek Main Area/ Carneros west.	Kern.....	1946	Carneros/Temblor[2]	122	ss
Cymric[1].....	Salt Creek Main Area/ Etchegoin.	Kern.....	1946	Etchegoin.....	121	ss
Cymric[1].....	Salt Creek West Area.	Kern.....	1946	Miocene.....	122	ss
Cymric[1].....	Sheep Springs Area/Etchegoin "54-21".	Kern.....	1945	Etchegoin.....	121	ss
Cymric[3].....	Welport Area/ Etchegoin (Fitzgerald).	Kern.....	1945	Etchegoin.....	121	ss
Cymric[1].....	Welport Area/ Tulare.	Kern.....	1916	Tulare.....	112	ss
Deer Creek[1].....	---	Tulare.....	1930	Santa Margarita...	122	ss
Dyer Creek[1].....	---	Kern.....	1941	Vedder.....	122	ss
Edison[1].....	Edison Groves Area/D-L-K (incl. Chanac).	Kern.....	1953	Chanac.....	122	ss
Edison[1].....	Edison Groves Area/Shields Arms.	Kern.....	1950	Olcese.....	122	ss
Edison[1].....	Main Area/ Fractured schist.	Kern.....	[2]1945	Basement.....	---	---
Edison[1,2].....	Main Area/Upper	Kern.....	1931	Kern River/Chanac	121/122	ss
Edison[1].....	Portals-Fairfax Area/ Wicker/Nozu.	Kern.....	1928	Fruitvale/ Round Mountain.	122	ss
Edison[1].....	Race Track Hill Area/ Portals/Berry.	Kern.....	1947	Chanac/ Santa Margarita.	122	ss
Edison[1,2].....	West Area/Chanac/ Santa Margarita.	Kern.....	1934	Chanac/ Santa Margarita.	122	sts/ss

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
San Joaquin basin--Continued									
[2]310	19; [3]17-21	[3]2798	---	150	34	1250	---	[3]25,388,005	1985
[2]450 (area).	16; [3]14-20	[2]1774	150	150	---	---	---	[3]2,238,720	1985
[2]450 (area).	13; 13-14	2105	---	---	---	---	---	[3]96,304	1985
---	12-13	---	---	---	---	---	---	[3]243,897	1985
[2]170	17; 14-18	[2]2450	---	75	35	2300	---	[3]4,356,812	1985
---	17; 11-30	3641	---	---	---	---	---	2,705,556	1985
[2]1670 (area).	[3]13; 10-19	[3]1185	[2]125	350	37	200	---	[3]52,906,737	1985
[2]100	[3]16; 13-17	[3]861	---	50	---	---	---	[3]1,795,529	1985
[2]20	17	2347	---	75	---	---	---	[3]41,360	1985
[2]300	[3]15; 12-16	[2]1223	---	65	---	---	---	[3]2,271,979	1985
[2]390 (area).	13; 13-14	[3]3574	---	100	---	---	---	[3]1,408,094	1985
[2]1950 (area).	[3]18; 15-25	[3]2612	---	---	---	---	---	[3]43,595,411	1985
1500	[3]16; 15-19	[3]1825	80	--- [2]27	[1]30 [2]1500	[1]2000	---	[3]28,146,976	1985
[2]490	18; 15-20	[3]4402	---	---	35	2500	---	[3]4,344,032	1985
[2]1310 (area).	15; 14-17	[2]1293	150	150	---	---	---	[3]4,953,442	1985
1125	20; 17-24	3846	100	100	25	2000	---	[3]24,465,400	1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
San Joaquin basin--Continued						
Fresno Group[3].....	Raisin City/ Eocene.	Fresno.....	1943	---	124	---
Fresno Group[1,3].....	Raisin City/ Miocene tar.	Fresno.....	1946	Zilch[2].....	122	ss
Fruitvale[1].....	Calloway Area/ Chanac.	Kern.....	1957	Chanac.....	122	ss
Fruitvale[1,4].....	Greenacres Area/ Billington.	Kern.....	1953	Etchegoin/ Chanac.	121/122	ss
Fruitvale[1,4].....	Greenacres Area/ Plank.	Kern.....	1953	Chanac.....	122	ss
Fruitvale[1,2].....	Main Area/ Chanac/Kernco.	Kern.....	1928	Etchegoin/ Chanac.	121/122	ss
Gonyer Anticline[1]...	---	Kern.....	1956	Luisian/Temblor[2]..	122	ss
Griswold Hills[1].....	Ashurst Area....	San Benito.....	1958	Domengine/Yokut...	124	ss
Hanford[1].....	---	Kings.....	1950	Zilch[2].....	122	ss
Hollister[1,4].....	Lomerias Area...	San Benito.....	1950	Sisquoc/ Franciscan.	121/ [2]220	ss
Jasmin[1,2].....	Cantleberry/ Vedder.	Kern.....	1964	Vedder.....	122	ss
Jasmin[1,4].....	Pyramid Hill....	Kern.....	1964	Jewett.....	122	ss
Kern Bluff[1].....	Miocene.....	Kern.....	1944	Santa Margarita ..	122	ss
Kern Front[1,2].....	Main/Law[3].....	Kern.....	1914	Etchegoin/Chanac..	121/122	ss
Kern River[1,2].....	Pliocene.....	Kern.....	1899	Kern River.....	121	ss
Kreyenhagen[1].....	---	Fresno.....	1949	Temblor.....	122	ss
Los Lobos[1].....	Etchegoin "18-21"	Kern.....	1952	Etchegoin.....	121	ss
Los Lobos[1].....	Monterey (Antelope).	Kern.....	1980	Monterey.....	122	sh
Lost Hills[3].....	"G-1".....	Kern.....	1952	---	---	---

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
San Joaquin basin--Continued									
---	17; 15-28	6381	---	---	---	---	---	[3]4,319,407	1985
[2]1125	17; 16-21	4796	20	20	232	---	---	[3]11,005,446	1985
[2]150 (area).	18; 18-19	[3]4210	155	155	26	1500	---	[3]2,070,509	1985
[2]20 (area).	20; 19-21	[3]4417	60	60	---	---	---	[3]41,430	[3]1985
[2]20 (area).	19	4690	30	30	---	---	---	[3]1,266	[3]1985
2680	[3]18; 14-26	[3]4008	89	675	30	1250	---	[3]110,954,706	1985
[2]10	14	[3]1746	---	450	---	---	---	[3]4,459	1985
---	20	1175	35	35	---	---	---	[3]64,611	1985
[2]10	20	[2]5250	---	8	---	---	---	[3]3,929	[3]1985
[2]20	20	2083	---	60	---	---	---	[3]6,521	1985
410	[3]13; 12-16	2937	---	---	34	---	---	[3]3,056,818	1985
[2]275 (field).	14	[2]1896	59	59	---	---	---	[3]1,025	[3]1985
[2]610	15; 14-16	[2]1082	85	85	[2]29	---	---	[3]11,699,304	1985
5540	14; 12-17	2168	84	80	34	1260	---	[3]167,750,828	1985
9435	13; 11-16 [3]10-40	1077	220	130	35	4000	---	[3]1,067,738,339	1985
[2]60	15	[3]522	100	100	---	---	---	[3]31,676	1985
[2]90 (field).	16; 15-17	[3]7826	---	15	---	2790	---	[3]1,583,138	1985
[2]90 (field).	11; 10-12	[2]3502	---	---	---	---	---	[3]16,049	1985
---	16; 12-32	2695	---	---	---	---	---	2,631,780	1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lithology
San Joaquin basin--Continued						
Lost Hills[1,2]	Main	Kern	1910	Tulare/Etchegoin Monterey/Temblor.	121/122	ss
Lost Hills[1]	Williamson	Kern	1936	Etchegoin	121	ss
McDonald Anticline.[1]	Bacon Hills Area	Kern	1947	Oceanic	---	ss
McKittrick[1,2]	Main Area/Upper	Kern	1887	Tulare/Monterey	112/122	ss
McKittrick[1]	Northeast Area/Upper.	Kern	1944	Amicola/Tulare[2]/ Monterey.	112/122	ss
Midway-Sunset[1]	Ethel D	Kern	1950	McLure/Monterey.[2]	122	ss
Midway-Sunset[3]	Gibson	Kern	1936	---	---	---
Midway-Sunset[3]	Lakeview	Kern	1910	---	---	---
Midway-Sunset[1]	Leutholtz	Kern	1945	Antelope/Monterey[2]	122	ss
Midway-Sunset[3]	Maricopa Flat	Kern	1928	---	---	---
Midway-Sunset[1]	Metson	Kern	1953	Monterey	122	ss
Midway-Sunset[1]	Etchegoin/ Monterey.	Kern	1963	Etchegoin/Monterey	121/122	sts/ss
Midway-Sunset[3]	Pacific	Kern	1947	---	---	---
Midway-Sunset[1]	Quality	Kern	1936	McLure//Monterey[2]	122	ss
Midway-Sunset[1]	Republic	Kern	1928	McLure/Monterey[2]	122	ss
Midway-Sunset[3]	Miocene undifferentiated.	Kern	1948	---	---	---
Midway-Sunset[1,2]	Others	Kern	1901	Pleistocene/ Pliocene.	112/121	ss
Mount Poso[1]	Baker Area/ Vedder.	Kern	1935	Vedder	122	ss

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
San Joaquin basin--Continued									
4000	[3]19; 12-38	1928	63	300	34	1250	---	[3]136,442,813	1985
[2]3950 (field).	[3]14; 12-16	[2]1725	---	---	37	600	---	[3]6,606,677	1985
[2]550 (field).	[3]13	[3]1550	---	---	---	---	---	[3]183,213	1985
1430	14; 11-17	1190	265	600	36	1000	---	[3]176,356,497	1985
[2]1920	[3]12; 9-25	[3]1184	420	285	35	3000	---	[3]25,602,109	1985
---	[3]16; 14-19	[2]3200	---	---	---	---	---	[3]6,530,763	1985
---	18; 14-20	2622	---	---	---	---	---	3,464,484	1985
---	18; 18-23	3109	---	---	---	---	---	51,001,907	1985
---	18; [3]15-24	[2]3384	350	350	---	---	---	[3]17,735,479	1985
---	19; 13-27	3039	---	---	---	---	---	21,952,312	1985
---	11; 11-12	[2]1218	---	400	---	---	---	[3]10,518,294	1985
[2]320	15; [3]13-18	[3]2281	113	113	[2]33	---	---	[3]6,138,278	1985
---	20; 19-24	3866	---	---	---	---	---	2,326,858	1985
---	15; [3]12-19	[2]2102	---	186	---	---	---	[3]17,539,558	1985
---	18; 15-23	[3]2667	[2]150	125	31	927	---	[3]24,462,854	1985
---	19; 16-19	3716	---	---	---	---	---	1,478,641	1985
24,370	16; 11-29	1687	125	---	32	1250	---	[3]1,515,500,442	1985
[2]80	15	[2]1750	---	25	35	1500	---	[3]3,828,227	1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
San Joaquin basin--Continued						
Mount Poso[1].....	Dominion Area/ Vedder.	Kern.....	1926	Vedder.....	122	ss
Mount Poso[1].....	Dorsey Area/ Vedder.	Kern.....	1928	Vedder.....	122	ss
Mount Poso[1].....	Granite Canyon Area/Vedder.	Kern.....	1936	Vedder.....	122	ss
Mount Poso[1].....	Mount Poso Area/Gill.	Kern.....	1954	Vedder.....	122	ss
Mount Poso[1].....	Mount Poso Area/Vedder.	Kern.....	1926	Vedder.....	122	ss
Mount Poso[1,4].....	Mount Poso West Area[3]/ Blackbird.	Kern.....	1956	Vedder.....	122	ss
Mount Poso[1].....	Mount Poso West Area/ Section "18"	Kern.....	1943	Vedder.....	122	ss
Mount Poso[1].....	West Mount Poso Area.	Kern.....	1940	Vedder.....	122	ss
Pleito[1].....	Creek Area.....	Kern.....	1951	Chanac/Santa Margarita.	121/122	sts/ ss
Poso Creek[1,2].....	Enas Area.....	Kern.....	1929	Etchegoin/Chanac..	121/122	ss
Poso Creek[1].....	McVan Area.....	Kern.....	1932	Etchegoin/Chanac..	121/122	ss
Poso Creek[1].....	Premier Area/ Main.	Kern.....	1919	Etchegoin/Chanac..	121/122	ss
Poso Creek[1].....	Premier Area/ Northwest.	Kern.....	1956	Etchegoin.....	121/122	ss
Poso Creek[1,4].....	Premier Area/ West.	Kern.....	1946	Chanac.....	122	ss
Poso Creek[1].....	West Poso Area..	Kern.....	1964	Basal Chanac.....	122	ss
Pyramid Hills[1].....	Alferitz/ Main Area.	Kings.....	1931	Monterey[2]/ Temblor.	122	ss
Pyramid Hills[1,3]....	Blackwells Corner/Agua.	Kings.....	1941	Temblor[1].....	122	ss
Pyramid Hills[1].....	Dagany Area.....	Kings.....	1954	Kreyenhagen.....	124	ss

--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
San Joaquin basin--Continued									
[2]665	15; 13-16	[2]1583	---	47	33	2000	---	[3]7,688,977	1985
[2]375	15; [3]14-16	[2]1542	---	25	234	---	---	[3]5,390,921	1985
[2]80	[3]14; 13-16	[3]1388	---	30	35	1500	---	[3]965,338	1985
[2]2225 (area).	14	2137	---	50	---	---	---	[3]19,851	1985
[2]222	16; 12-17	[2]1806	[2]292	500	35	1500	---	[3]219,613,719	1985
[2]195 (area).	17	[2]2616	16	10	---	---	---	[3]1,663	[3]1985
[2]195 (area).	16; 15-17	2377	32	32	35	1500	---	[3]3,504,607	1985
---	16;	2299	---	50	---	---	---	[3]7,493	[3]1985
[2]150	[3]16; 14-18	[3]4189	[2]150	---	28	50	---	[3]1,776,561	1985
[2]165	12; 12-13	[2]2115	[2]150	---	30	1700	---	[3]1,430,882	1985
280	[3]13; 12-14	1213	---	40	34	1200	---	[3]6,427,320	1985
[2]3285	13; 11-15	[3]2709	[2]240	390	30	1700	---	[3]68,060,125	1985
[2]3270	12; 12-13	[3]2417	100	100	34	1200	---	[3]308,340	1985
---	15	3143	250	250	---	---	---	[3]3,660	[3]1985
[2]3270 (area).	15; 14-15	2862	36	36	---	---	---	[3]345,071	1985
[2]400 (field).	[3]19; 15-27	[2]1726	---	275	---	---	---	[3]3,043,380	1985
[2]140	14; 13-15	1330	90	90	[2]33	---	---	[3]949,081	1985
[2]100	16; 16-17	[3]810	---	125	---	---	---	[3]1,287,968	1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
San Joaquin basin--Continued						
Pyramid Hills[1,3]....	Devils Den/Main	Kings.....	1910	Temblor/ Kreyenhagen.	122/124	ss
Pyramid Hills[1].....	Norris Area.....	Kings.....	1955	Kreyenhagen.....	124	ss
Pyramid Hills[1].....	West Slope Area	Kings.....	1940	Kreyenhagen.....	124	ss
Pyramid Hills[1,3]....	Welcome Valley/ Tumey.	Kings.....	1952	Tumey.....	123	sh
Railroad Gap[1].....	Amnicola.....	Kern.....	1965	Tulare[2].....	112	ss
Rosedale Ranch[1].....	Etchegoin.....	Kern.....	1965	Etchegoin.....	121	ss
Rosedale Ranch[1,2]...	Lerdo.....	Kern.....	1953	Etchegoin.....	121	ss
Round Mountain[1].....	Alma Area.....	Kern.....	1947	Vedder.....	122	ss
Round Mountain[1].....	Coffee Canyon Area.	Kern.....	1927	Jewett/Vedder.....	122	ss
Round Mountain[1].....	Pyramid Area....	Kern.....	1937	Vedder/Walker.....	122	ss
Round Mountain[3].....	Round Mountain Area/Jewett.	Kern.....	1928	Jewett.....	122	ss
Round Mountain[1,2]...	Round Mountain Area/Vedder.	Kern.....	1927	Vedder.....	122	ss
Round Mountain[1].....	Sharktooth Area	Kern.....	1943	Vedder.....	122	ss
Tejon Group[1].....	Comanche Point[3]	Kern.....	1945	Santa Margarita...	122	ss
Tejon Grapevine[1]....	Central Area/ "S.P."	Kern.....	1944	Chanac/ Santa Margarita.	122	ss
Tejon Grapevine[1]....	Central Area/ Transition.	Kern.....	1954	Transition	[2]122	ss
Tejon Grapevine[1]....	Eastern Area....	Kern.....	1935	Chanac/ Santa Margarita.	122	ss
Tejon Grapevine[1]....	Southeast Area/ Reserve.	Kern.....	1963	Fruitvale[2].....	122	ss
Tejon Grapevine[1]....	Western Area/"S"	Kern.....	1945	Chanac/ Santa Margarita.	122	ss

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
San Joaquin basin--Continued									
[2]240	18; 17-20	---	[2]200	430	---	---	---	[3]616,076	1985
[2]135	16; 14-18	[3]884	---	120	---	---	---	[3]989,623	1985
[2]255	[3]16; 14-19	[3]965	---	122	---	---	---	[3]2,422,188	1985
[2]110	13; [1]11-13	[3]273	---	100	---	---	---	[3]41,749	1985
[2]480 (field).	12; 12-13	[3]1162	79	79	---	---	---	[3]1,347,760	1985
[2]660 (field).	13; 12-15	[3]3620	108	108	---	---	---	[3]809,101	1985
600	18; 15-21	4324	70	---	27	[1]400 [2]500	---	[3]6,988,381	1985
[2]50	13; 12-14	[3]2767	---	15	35	---	---	[3]676,935	1985
[2]435	[3]17; 15-19	[3]1609	[2]180	180	35	---	---	[3]20,033,883	1985
[2]290	16; 16-17	[2]1610	---	40	35	---	---	[3]6,350,115	1985
---	20; 14-22	1791	---	---	---	---	---	[3]9,211,918	1984
990	[3]14; 13-17	1946	80	80	35	11,600	---	[3]53,394,436	1985
[2]245	13; 12-16	2615	25	25	35	---	---	[3]5,221,718	1985
[2]50	14; 13-14	[1]405 [2]650	---	100	34	1300	---	[3]237,008	1985
[2]495 (area).	18; 15-22	[3]2927	105	105	---	2100	---	[3]2,720,104	1985
[2]495 (area).	[3]17; 16-18	[3]2791	---	85	29	1300	---	[3]554,186	1985
[2]195	18; 17-19	[3]2310	---	150	---	---	---	[3]1,673,042	1985
[2]140	[3]20; 17-23	[3]1911	75	75	32	665	---	[3]2,055,094	1985
[2]540 (area).	15; 14-18	2651	55	55	29	2000	---	[3]11,279,758	1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
San Joaquin basin--Continued						
Tejon Grapevine[1]....	Western Area/"V"	Kern.....	1957	Round Mountain....	122	ss
Tejon Grapevine[1]....	Western Area/ Reserve.	Kern.....	1949	Fruitvale.....	122	ss
Temblor Ranch[1].....	Main/Hidden Valley Area/ (Phacoides).[2]	Kern.....	1900	Temblor.....	122	ss
Terra Bella[1,2].....	---	Tulare.....	1930	Santa Margarita	122	ss
Union Avenue[1].....	---	Kern.....	1941	Chanac/Santa Margarita.	122	ss
Wheeler Ridge[1].....	Northeast Area/ FA-"2"-Miocene.	Kern.....	1955	Fruitvale.....	122	ss
Wheeler Ridge[1,4]....	Northeast Area/ Hagood Miocene.	Kern.....	1955	Fruitvale.....	122	ss
Wheeler Ridge[1].....	Windgap Area/ L-36 Reserve.	Kern.....	1959	Fruitvale[2].....	122	ss
White Wolf[1].....	---	Kern.....	1960	Reef Ridge/Kern River/Chanac.[2]	122	ss
Ventura basin						
Aliso Canyon[1].....	Main Area/Aliso	Los Angeles.....	1950	Pico.....	121	ss
Aliso Canyon[1].....	Main Area/ Aliso West.	Los Angeles.....	1950	Pico.....	121	ss
Aliso Canyon[3].....	Main Area/ Faulted Sesnon.	Los Angeles.....	1944	Pico.....	121	ss
Aliso Canyon[1].....	Main Area/ West Porter.	Los Angeles.....	1950	Pico.....	121	ss
Aliso Canyon[1].....	Oat Mountain Area/Eocene.	Los Angeles.....	1979	Eocene.....	124	---
Aliso Canyon[1,4].....	Oat Mountain Area/Wigdal.	Los Angeles.....	1946	Llajas.....	124	ss
Aliso Canyon[1].....	Oat Mountain Area/Sesnon/ Widgal.	Los Angeles.....	1955	Modelo[2].....	122	ss
Conejo[1].....	Miocene volcanics.	Ventura.....	1892	---	122	---

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
San Joaquin basin--Continued									
[2]540 (area).	19; 19-20	5370	50	60	---	---	---	[3]1,709,751	1985
[2]540 (area).	18;	[3]4756	---	125	31	454	---	[3]123,031	[3]1985
[2]90	[3]18; 18-19	[3]928	---	60	---	---	---	[3]1,175,774	1985
45	16	860	---	---	---	---	---	18,000	1982
[2]50	15; 15-16	[3]5135	---	400	26	380	---	[3]1,435,637	1985
[2]100 (area).	17; 17-18	[3]3899	---	.187	31	200	---	[3]1,284,518	1985
---	17	[3]5173	73	73	---	---	---	---	---
[2]310	20; 10-25	[3]5792	175	531	29	855	---	[3]13,995,644	1985
[2]90	14; 12-17	[2]2290	203	---	22	---	---	[3]1,079,381	1985
Ventura basin--Continued									
[2]200	[3]18; 16-21	[2]4379	100	100	27	---	---	[3]5,742,544	1985
[2]1060	[3]20	[2]5179	120	120	---	---	---	[3]168,213	1985
---	16	7437	---	---	---	---	---	[3]199,317	1985
[2]1060 (area).	[3]16; 12-19	[2]5860	---	[2]150	---	---	---	[3]151,068	1985
---	19; 18-19	10,195	---	---	---	---	---	394,012	1985
[2]40 (area).	19	9370	---	---	---	---	---	89,009	1985
[2]40 area).	16; 16-17	[2]7650	80	---	23	---	---	[3]908,351	1985
[2]90	[3]16; 14-16	[3]74	---	---	---	---	---	[3]106,901	[3]1985

Table 4. Summary of heavy oil deposits in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Ventura basin--Continued						
Del Valle[1,4].....	Kinler Area/ Del Valle.	Los Angeles.....	1950	Modelo[2].....	122	ss
Hasley Canyon[1,2]....	Val Verde.....	Los Angeles.....	1944	Modelo.....	121	ss
Hueneme[3].....	Federal-OCS.....	Ventura.....	1982	Sespe.....	123	ss
Las Posas[1].....	Sespe/Eocene....	Ventura.....	1967	Sespe.....	124	ss
Montalvo West[1].....	Offshore Area/ Colonia.[3]	Ventura.....	1951	Sespe.....	123	ss
Montalvo West[3].....	Onshore Area/ Colonia.	Ventura.....	1951	Sespe.....	123	ss
Montalvo West[1].....	Onshore Area/ Fleischer.[3]	Ventura.....	1957	Sespe.....	123	ss
Moorpark, West[1].....	Sespe.....	Ventura.....	[3]1955	Sespe[2].....	123	ss
Newhall Group[1,2,3]..	Elsmere.....	Los Angeles.....	1889	Pico.....	121	---
Newhall Group[1,2,3]..	Townsite.....	Los Angeles.....	1948	Modelo.....	122	ss
Newhall Group[1,2,3]..	Towsley Canyon..	Los Angeles.....	1893	Modelo.....	122	ss
Newhall Group[1,2,3]..	Tunnel.....	Los Angeles.....	1900	Pico/Mint Canyon/Modelo.	122	ss
Newhall Group[1,2,3]..	Whitney Canyon..	Los Angeles.....	1893	Pico/Towsley.....	121/122	ss
Newhall Group[1,2,3,4]	Wiley Canyon....	Los Angeles.....	1883	Modelo/Towsley....	122	ss
Oakridge[1].....	Miocene.....	Ventura.....	1952	Monterey/Topanga..	122	ss
Ojai Group[1,3].....	Sisar/ Silverthread/ Others.	Ventura.....	1867	Sespe/Saugus/ Monterey.	123 121/122	ss
Ojai Group[1,3].....	Sulphur/Mountain	Ventura.....	1927	Monterey.....	122	ss
Piru Group[1,3].....	Hopper Canyon/ North Area.	Ventura.....	1884	Miocene.....	122	---
Piru Group[1,3].....	Piru/Warring Canyon Area.	Ventura.....	1901, [2]1921	Modelo.....	122	ss

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Ventura basin--Continued									
[2]40	19; 19-20	[2]7137	250	250	---	---	---	238,079	198
30	13	5063	---	100	26	---	---	[3]1,251,510	1985
---	14;	5500	---	---	---	---	---	[3]4,457,671	1985
[2]10	[3]19; 19-20	[3]7746	317	317	---	---	---	[3]336,172	1985
[2]1860 (field).	15; [3]10-16	11,810	---	---	21	---	---	[3]5,678,853	1985
---	17; 15-31	11,979	---	---	---	---	---	26,998,106	1985
[2]1860 (field).	15; 15-16	[3]10,606	29 [2]15	15	22	---	---	[3]227,568	[3]1985
[2]10	15	[3]4380	---	---	---	---	---	[3]130,428	1985
90 (area).	18	780	100	100	---	---	---	1,061,000	1981
50 (area).	20; 19-20	2735	82	---	32	---	---	[3]67,512	1985
30 (area).	20; 16-24	1482	120	120	---	---	---	[3]11,534	1985
140	19; 16-21	1581	70	200	35	---	---	[3]2,179,953	1985
120 (area).	14; 13-14	921	150	150	37	---	---	[3]345,552	1985
45 (area).	12	1200	---	---	---	---	---	510,000	1982
[2]425	[3]19; 16-25	2852	[2]90	125	30	[2]135	---	[3]13,567,170	1985
[2]190	17; 11-30	2059	[2]40	350	38	---	---	[3]4,713,640	1985
[2]60	16; 15-16	[2]1861	[2]450	450	32	---	---	[3]344,890	1985
---	14	1500	---	---	---	---	---	[3]100,000	1985
[2]20	18	530	[2]200	200	---	---	---	[3]13,967	1985

Table 4. Summary of heavy oils in California--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Ventura basin--Continued						
Ramona[3]	Kern-Del Valle	Ventura	1943	---	---	---
Sespe Canyon Group.[1,3]	Foot of the Hill	Ventura	1891	Sespe	123	ss
Sespe Canyon Group.[1,3]	Sections 23 & 26	Ventura	1901	Coldwater	124	---
Simi[1]	Old Area/ Sespe-Eocene Alamos Canyon.	Ventura	1901	Sespe/Llajas	123/124	---
Somis[1,4]	---	Ventura	1955	Sespe	123	ss
South Mountain[3]	Main Area/ Sespe.	Ventura	1916	Sespe	123	ss
Summerland[1,2,4]	Onshore Main	Santa Barbara	1894	Vaqueros/Casitas	122/112	ss
Tapia Canyon[1,2]	Yule	Los Angeles	1957	Saugus	121	ss
Tapo Canyon South.	Sespe	Ventura	1954	Sespe	123	ss
Tapo Ridge[1,2]	Lower Sespe	Ventura	1974	Lower Sespe	123	ss
Torrey Canyon[3]	Lower Sespe	Ventura	1952	Sespe	123	ss
West Mountain[1]	Sespe	Ventura	1945	Sespe	123	ss

California--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Ventura basin--Continued									
---	19; 16-25	4265	---	---	---	---	---	[3]19,885,556	1985
[2]70	20	[2]1949	[2]395	395	33	---	---	[3]33,987	1985 (only)
---	13	1010	---	220	---	---	---	---	---
[2]120	19; [3]16-29	[2]1204	---	---	37	---	---	[3]3,608,573	1985
[2]10	16	[3]4125	525	---	---	---	---	[3]2,088	[3]1985
---	20; 16-33	5319	---	---	---	---	---	[3]101,368,448	1985
260	18; 17-19	[3]1,228	100	100	---	---	---	[3]3,321,573	1985
150	16; 14-18	1129	70	100	23	---	---	[3]390,868	1985
[2]70	[3]18; 17-21	[3]2376	[2]180	400	25	400	---	[3]785,929	1985
10	17	2047	56	56	---	---	---	[3]51,361	1985
---	20; 17-26	9780	---	---	---	---	---	12,739,924	1985
[2]310	[3]18; 13-21	[3]5131	---	---	26	---	---	[3]3,749,490	1985

Table 5. Summary of heavy oil deposits in Colorado

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Denver basin						
Armstrong[1]	O sand	Logan	[2]1950	Dakota O	217	ss
Cope[2]	J sand	Washington	1962	Dakota J	217	ss
De Nova[1]	J sand	Washington	[2]1956	Dakota J	217	ss
Jamboree[2]	D sand	Adams	1970	Dakota O	217	ss
Justice[1]	J sand	Washington	[2]1966	Dakota J	217	ss
Mount Hope East[2]	O sand	Logan	1966	Dakota O	217	ss
Padroni, West[2]	O sand	Logan	[2]1952	Dakota O	217	ss
Padroni, West[2]	M sand	Logan	1951	Dakota M	217	ss
Rush Willade[1]	J sand	Washington	1961	Dakota J	217	ss
Stallion[1]	J sand	Washington	[2]1966	Dakota J	217	ss
Tow Creek[2]	Niobrara[3]	Routt	1959	Niobrara	211	ls
Walker[1]	O sand	Logan	---	Dakota O	217	ss

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission (1984).

[3]Colorado Oil and Gas Conservation Commission (1984).

Table 6. Summary of heavy oil deposits in Illinois

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Illinois basin						
Carlinville, North[1]	Pottsville	Macoupin	1941	Pottsville	328	ss
Omaha[1]	---	Gallatin	1940	Pennsylvanian	320	ss

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission, (1984).

[3]Van Den Berg and others (1986).

Colorado--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Denver basin--Continued									
[2]40	17	[2]5797	---	11	18	---	---	[3]43,862	1984
40	20	3591	5	---	19	---	---	[3]187,437	1984
[2]80	20	3672	10	10	[2]19	---	---	[3]109,736	1984
80	16	7766	16	---	---	---	---	[3]314,906	1984
[2]200	20	[2]4009	2	2	---	---	---	[3]260,246	1984
40	16	5259	13	---	---	---	---	[3]83,139	1984
[2]640	16	[2]5108	28	20	20	150	---	[3]3,402,194	1984
640	15	3310	10	---	---	---	---	---	1984
400	20	3938	6	---	---	---	---	[3]4,754,647	1984
240	20	[2]3918	5	5	---	---	---	[3]57,838	1984
160	16	1096	10	---	---	---	---	[3]2,956,537	1984
---	18	---	---	8	---	---	---	[3]33,643	1984

Illinois--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Illinois basin--Continued									
[2]100	20	437	10	10	18	100	---	[3]1,900	1984
[2]350	19	[2]580	10	10	19	100	---	[3]6,629,800 (field).	1984

Table 7. Summary of heavy oil deposits in Kansas

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Nemaha anticline-Cherokee basin						
Atyeo-Pixlee[1].....	Bartlesville....	Chase, Lyon, Greenwood.	[3]1923	Bartlesville.....	325	ss
Jefferson-Sycamore..	---	Montgomery.....	1903	Marmaton.....	325	sh
Nemaha anticline						
Comisky, Northeast.[1,3]	---	Morris.....	[3]1956	Viola.....	364	chert/dol
Degraff, North[1].....	---	Butler.....	1979	Pennsylvanian....	[3]320	cgl
Cherokee basin						
Iola Consolidated[1]..	---	Allen.....	1937	Bartlesville.....	325	ss
Longton[1].....	---	Elk.....	[3]1902	Mississippian....	330	ls
Central Kansas uplift						
Chris[1].....	---	Ellis.....	1958	Lansing/ Kansas City.	323	---
Cochran[1].....	---	Ellis.....	[3]1953	Lansing/ Kansas City.	323	ls
Crocker[1].....	---	Graham.....	[3]1951	Arbuckle.....	371	---
Dunes, S.W.[1].....	---	Pawnee.....	1953	Lansing/ Kansas City.	323	---
Leinmillera[1].....	Arbuckle.....	Ellis.....	1960	Arbuckle.....	370	---
Lynd, South[1].....	---	Rooks.....	1966	Arbuckle.....	371	dol[2]
Pritchard, Southeast.[1]	---	Stafford, Barton	1952	Arbuckle.....	371	dol[2]
Pundsack, North[1]....	---	Stafford.....	[3]1950	Lansing/ Kansas City.	323	ls[2]
Smith-Denning, West.[1]	---	Graham.....	1951	Arbuckle.....	371	dol[2]
Solomon[1].....	Arbuckle.....	Ellis.....	[2]1936	Arbuckle.....	371	dol

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission (1984).

[3]Beene (1985).

[4]Also called Toronto.

Kansas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Nemaha anticline-Cherokee basin--Continued									
[4]320	20	[3]2250	---	20	---	---	---	[3]498,203 (field).	1985
[3]6280	15	800	15	---	---	---	---	[3]8,747,530	1985
Nemaha anticline--Continued									
[3]560	19	[3]2929	---	3	---	---	---	[3]439,856	1985
[3]1040	15	[3]2473	4	4	---	---	---	[3]766,353	1985
Cherokee basin--Continued									
[4]2270	20	[3]975	[2]30	20	[2]25	---	---	[3]4,950,720	1985
[4]160	12	---	---	---	---	---	---	[3]188,249 (field).	1985
Central Kansas uplift--Continued									
[3]120	19	[3]3042	[2]3	3	---	---	---	[3]245,314	1985
[3]150	18	3328	[2]10	10	---	---	---	[3]224,449	1985
[3]40	19	3913	10	10	---	---	---	[3]23,814	1985
[3]40	20	3728	8	8	---	---	---	[3]44,925	1985
80	20	[3]3695	13	13	---	---	---	[3]145,084 (field).	1985
[3]80	20	3760	8	5	---	---	---	[3]100,455	1985
[4]160	17	[3]3544	[2]18	[2]18	---	---	---	[3]600,852 (field).	1985
[3]80	20	[2]3494	[3]8	[3]8	---	---	---	[3]216,450 (field).	1983
[2]4	20	3882	1	1	---	---	---	22,686	1980
---	19	[3]3629	3	3	---	---	---	[3]11,565,588 (field).	1985

Table 7. Summary of heavy oil deposits in Kansas--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Central Kansas uplift--Continued						
Solomon[1]	Wabaunsee	Ellis	[3]1936	Wabaunsee	322	ls
Solomon[1]	Topeka	Ellis	[2]1936	Topeka	322	ls
Solomon, Northeast[1]	---	Ellis	1947	Arbuckle	371	dol[2]
Solomon, South[1]	---	Ellis	[3]1957	Arbuckle	371	dol
Solomon, Southeast[1]	---	Ellis	[3]1957	Arbuckle	370	dol
Williams[1]	Arbuckle	Rooks	1953	Arbuckle	370	dol[2]
Williams[1]	Shawnee	Rooks	[3]1953	Shawnee[4]	322	ls
Forest City basin						
Paxico[1]	---	Wabaunsee	1965	Hunton	350	dol[2]
Wilmington[1]	Viola	Wabaunsee	1959	Viola	364	chert/dol
Woodbury[1]	---	Wabaunsee	[3]1951	Viola	364	dol/ls[3]
Sedgwick basin						
Stroud, North[1,3]	---	Reno	[2]1959	Hunton	350	dol
Hardtner[1,3]	Mississippian	Barber	1954	Mississippian	330	ls
Nashville[3]	---	Kingman[2]	1964	Indian Cave	---	ss

Kansas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	year
Central Kansas uplift--Continued									
4	19	[3]3013	---	4	---	---	---	(Included above.)	
[2]4480 (field).	19	[3]2990	---	---	---	---	---	(Included above.)	
[2]1200	20	3637	6	10	---	---	---	466,423	1972
[3]80	20	3652	3	3	---	---	---	[3]235,832	1985
[3]40	18	3682	4	4	---	---	---	[3]223,812	1985
[3]320 (field).	19	3736	6	6	---	---	---	[3]940,096 (field).	1985
[2]320 (field).	19	3386	6	6	---	---	---	(Included above.)	
Forest City basin--Continued									
[2]20	19	[2]2411	2	2	---	---	---	[2]1,000	1977
[3]320 (field).	20	[3]2996	---	6	18	1018	---	[3]392,143 (field).	1985
[3]200	20	3328	5	5	---	---	---	[3]304,200	1985
Sedgwick basin--Continued									
[3]80	20	[3]3850	[2]2	[2]4	---	---	---	[3]10,895	1985
4840 (area).	15	4782	6	6	15	---	---	[4]3,062,153	1985
[2]160	15	2510	15	---	---	---	---	3,880	1985

Table 8. Summary of heavy oil deposits in Louisiana

Field	Reservoir	Parish	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Arkla basin						
Bayou Middle Fork[1]..	---	Claibourne.....	1970	Sligo.....	218	ls
Bellevue[1].....	---	Bossier, Webster	1921	Nacatoch.....	212	ss
Birds Creek[1].....	---	Catahoula.....	1967	Sparta.....	124	ss
Caddo Pine Island[1]..	---	Caddo.....	1906	Nacatoch.....	212	ss
California Bayou[1]...	---	Catahoula.....	1965	Sparta.....	124	ss
Crossroads[1].....	---	Winn.....	1954	Wilcox.....	124	ss
Crossroads, South[1]..	---	Winn.....	1967	---	---	---
Curry[1].....	---	Winn.....	1957	Wilcox.....	124	ss
Hog Pen Lake[1].....	---	Concordia.....	1964	Sparta[2].....	[2]124	ss
Manifest[1].....	Sparta.....	Catahoula.....	1942	Sparta.....	124	ss
Mill Creek[1].....	---	Grant.....	1954	Sparta.....	124	ss
Minden.....	Rodessa.....	Webster.....	[2]1959	Rodessa.....	218	ss/ls[2]
Minden[1].....	Glen Rose.....	Webster.....	1964	Glen Rose.....	218	ss
Nebo-Hemphill[1].....	Cockfield.....	La Salle.....	1940	Cockfield.....	124	ss
Nebo-Hemphill[1].....	Sparta.....	La Salle.....	1964	Sparta.....	[2]124	ss
Rogers[1].....	Sparta.....	La Salle.....	1957	Sparta.....	124	ss
White Sulphur Springs.[1]	---	La Salle.....	1927	Cockfield.....	124	ss[2]
Gulf Coast basin						
Anse La Butte[1].....	---	Lafayette, St. Martin.	1970	Oligocene.....	123	ss
Bayou Mallet, South.[1]	---	Acadia.....	1965	Frio.....	123	---
Cameron Meadows[1]....	---	Cameron.....	1931	Pleistocene/ Pliocene.	112/121	ss

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission (1984).

[3]Louisiana Department of Natural Resources (1984).

Louisiana--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Arkla basin--Continued									
[2]960	16	[2]5214	4	4	---	---	---	[3]8,440,034	1984
[2]900	18	[2]335	27	27	38	600	---	[3]35,580,350	1984
[2]40	20	[2]1850	5	5	---	---	---	[3]433	1984
[2]100,480	20	1767	214	40	[2]36	[2]500	---	[3]345,807,259	1984
---	16	---	5	5	---	---	---	[3]1,385,882	1984
[2]3180	20	1482	4	4	---	---	---	[3]1,669,649	1984
---	20	---	---	4	---	---	---	[3]14,680	1984
[2]1740	20; 20-21	1416	4	4	---	---	---	[3]186,552	1984
[2]40	14	[2]5262	5	5	---	---	---	4,478	1984
[2]280	20	1810	10	10	---	---	---	170,347	1984
[2]40	18	1805	---	4	---	---	---	18,321	1984
[2]5540	13	6462	16	16	23	---	---	[3]3,801,377	1984
---	17	[2]7224	6	6	---	---	---	(Included above.)	
[2]9140	19	1420	15	15	15	---	---	[3]79,035,931	1984
[2]9140	20	[2]1711	3	3	---	---	---	(Included above.)	
[2]1180	20	1867	8	8	---	---	---	[3]3,558,848	1984
[2]400	20	794	9	9	---	---	---	[3]22,054	1984
Gulf Coast basin									
[2]5890	14	[1]8026 [2]12,098	4	---	---	---	---	[3]71,076,510	1981
---	20	9496	15	15	---	---	---	[3]12,423,238	1981
[2]1320	20	1338	30	30	---	---	---	[3]20,905,233	1981

Table 8. Summary of heavy oil deposits in Lousiana--Continued

Field	Reservoir	Parish	Year disc.	Stratigraphic Unit	Geol. age	Lith-ology
Gulf Coast basin--Continued						
Lake Barre[1].....	---	Terrebonne.....	1964	Miocene.....	122	---
Lake Washington[1]....	---	Plaquemines.....	1967	Miocene.....	122	ss[2]
Starks[1].....	Caprock.....	Calcasieu.....	1927	Caprock.....	212	ss[2]
Starks[1].....	Pliocene and Upper Miocene.	Calcasieu.....	1927	Pliocene and Upper Miocene.	121/122	ss
Sulphur Mines[1].....	---	Calcasieu.....	1926	Upper Miocene.....	122	---
White Castle[2].....	---	Iberville.....	1974	Miocene.....	122	ss

Table 9. Summary of heavy oil deposits in Michigan

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Michigan basin						
Dorr[1].....	---	Allegan.....	1956	Salina.....	352	dol
Hopkins, West[1].....	---	Allegan.....	1956	Salina.....	352	dol
Pennfield 29-1S-7W Pool A.[1]	Salina.....	Calhoun.....	1976	Salina[3].....	352	dol
Zeeland[1].....	---	Ottawa.....	1958	Salina.....	352	dol

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission, (1984).

[3]Michigan Department of Natural Resources (1984).

Louisiana--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Gulf Coast basin--Continued									
[2]15,600	18	18,144	52	52	---	---	---	[3]199,871,353	1984
[2]15,480	182	1210	400	---	---	---	---	[3]232,685,439	1984
[2]2210	20	525	50	50	---	---	---	[3]9,367,567 (field).	1984
[2]2210	20	742	447	447	---	---	---	(Included above.)	
---	18	---	---	20	---	---	---	31,055,780	1984
57	16	1200	175	---	38	3000	---	[3]76,852,507	1981

Michigan--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Michigan basin--Continued									
[3]620	17	[2]2922	7	7	---	---	---	[3]341,613	1982
[3]20	[3]18	2755	7	7	---	---	---	[3]1,893	1982
[2]80	18	[2]2681	113	113	---	---	---	[3]59,005	1982
[3]300	20 [3]20.5	[3]2792	[3]5	---	---	---	---	[3]28,254	1982

Table 10. Summary of heavy oil deposits in Mississippi

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Mid-Gulf Coast basin						
Avera[1]	Eutaw	Greene	1965	Eutaw	212	ss[2]
Avera[3]	Paluxy	Greene	1985	Paluxy	218	ss
Baxterville[2]	Lower Tuscaloosa, Massive.	Lamar, Marion	1971	Lower Tuscaloosa.	212	ss
Baxterville[2,4]	Lower Tuscaloosa, New.	Lamar, Marion	1971	Lower Tuscaloosa.	212	ss
Baxterville[2]	Lower Tuscaloosa, Old.	Lamar, Marion	1944	Lower Tuscaloosa.	212	ss
Baxterville, Southeast.[1]	8600 lower Tuscaloosa.	Lamar	[3]1968	Lower Tuscaloosa.	[2]122	ss
Baxterville, Southeast.[1]	8650 lower Tuscaloosa.	Lamar	[2]1971	Lower Tuscaloosa.	212	ss
Baxterville, Southeast.[1]	8700 lower Tuscaloosa.	Lamar	[3]1971	Lower Tuscaloosa.	212	ss[2]
Baxterville, Southeast.[1]	Lower Tuscaloosa, Massive.	Lamar	[2]1971	Lower Tuscaloosa.	212	ss[2]
Baxterville, Southeast.[1,2]	Lower Tuscaloosa Oil.	Lamar, Marion	1973	Lower Tuscaloosa.	212	ss
Bolton, 8124[1,2,5]	---	Hinds	1958	Washita/ Fredericksburg.	218	ss
Bryan[2]	Paluxy oil[3]	Jones, Jasper	[3]1966	Paluxy	218	ss
Camp Shelby[2]	Paluxy oil[3]	Perry	[3]1972	Paluxy	218	ss
Carmichael[1]	Eutaw	Clarke	1960	Eutaw	212	ss

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission (1984).

[3]Mississippi State Oil and Gas Board (1985).

[4]Consolidated with Lower Tuscaloosa, Old, before 1971.

[5]Abandoned 1960.

[6]Abandoned 1964.

[7]Abandoned 1969.

[8]Abandoned 1962.

[9]Drillers term.

Mississippi--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Mid-Gulf Coast basin--Continued									
---	20	[2]6879	216	16	20	---	---	[3]154,027	1984
---	18	---	---	---	---	---	---	1,204	1985
3080	15; 15-18	8750	57	---	24	1474	---	[3]52,887,123	1985
---	15	8600	---	---	---	---	---	[3]34,816,926	1985
4280	16; 14-20	8690	57	---	23	680	---	[3]131,528,125	1985
---	17	[2]8740	---	15	26	---	---	[3]21,850	1985
---	17	[2]8656	225	25	25	---	---	[3]1,514,407	1985
---	17	[2]8688	[2]25	25	23	---	---	[3]1,600,045	1985
---	17	[2]8741	[2]20	20	25	---	---	[3]4,761,675	1985
440	17; 15-19	8507	37	37	22	680	---	[3]291,541	1985
40	15	8124	91	91	19	---	---	664,112	1985
---	[3]13	8718	10	---	---	---	---	[3]82,782	1985
---	18	13,309	---	---	---	---	---	[3]183,276	1985
[2]600	17	[2]3773	29	7	30	1270	---	[3]596,199	1985

Table 10. Summary of heavy oil deposits in Mississippi--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Mid-Gulf Coast basin--Continued						
Chaparral[3]	Eutaw	---	1953	Eutaw	212	---
Clara, West[1]	Washita/ Fredericksburg.[3]	Wayne	1970	Washita/ Fredericksburg.	[2]218	ss
Cypress Creek, North[3].	Eutaw	---	1984	Eutaw	212	---
Eucutta, East[3]	Eutaw	Wayne	1943	Eutaw	212	---
Eucutta, East[1]	Lower Tuscaloosa.	Wayne	1963	Lower Tuscaloosa.	212	ss
Eucutta, East[1]	Upper Tuscaloosa.	Wayne	1962	Upper Tuscaloosa.	212	ss
Eucutta, East[3]	Tuscaloosa	Wayne	1981	Tuscaloosa	212	ss
Eucutta, East[3]	Christmas oil	Wayne	1983	Christmas[9]	212	ss
Flat Branch[1]	---	Greene	1980	Upper Tuscaloosa.	212	ss
Gitano[1]	Eutaw	Jones	1967	Eutaw	212	ss
Gitano[3]	Christmas oil	Jones	1981	Christmas[9]	212	ss
Gitano[3]	Tuscaloosa	Jones	1985	Tuscaloosa	212	ss
Glazier[1,2]	Upper Tuscaloosa.	Perry	1951	Upper Tuscaloosa.	212	ss
Heidelberg, West[2]	Christmas oil[3]	Jasper	[3]1971	Christmas[9]	212	ss
Heidelberg,West[3]	Eutaw	---	1944	Eutaw	212	ss
Junction City[1]	Selma chalk	Clarke	1962	Selma chalk	212	ls[2]
Junction City[2,3]	Eutaw oil	Clarke	1958	Eutaw	212	ss
Langsdale[1]	Eutaw	Clarke	[3]1944	Eutaw	212	ss
Langsdale, West[1,2]	Selma chalk	Clarke	1960	Selma chalk	212	ls
Martinville[1]	9930 Washita/ Fredericksburg.	Simpson	1977	Washita/ Fredericksburg.	218	ss
Mize[1]	Washita/ Fredericksburg.	Smith	1964	Washita/ Fredericksburg.	218	ss[2]
Ovett[1]	Washita/ Fredericksburg.	Jones	1969	Washita/ Fredericksburg.	218	ss[2]

Mississippi--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Mid-Gulf Coast basin--Continued									
---	19-22	---	---	---	---	---	---	275,596	1985
---	20	[2]9445	[2]11	10	---	---	---	5,785	1985
---	19	---	---	---	---	---	---	31,446	1984
---	17-29	---	---	---	---	---	---	45,270,285	1985
[2]40	20-22	[2]6305	[2]11	11	25	290	---	[3]209,132	1985
---	17	---	---	8	27	---	---	[3]77,121	1985
---	18-20	---	---	---	---	---	---	54,894	1985
40	19-20	4938	---	---	30	---	---	55,191	1985
---	20	---	---	18	25	---	---	[3]825,157	1985
---	16	[2]6878	[2]36	36	28	1525	---	[3]44,428	1985
---	12; 11-13	---	---	30	---	---	---	[3]18,101	1985
---	19	---	---	---	---	---	---	16,732	1985
240	14	7056	80	80	24	200	---	[3]702,821	1985
---	19; 18-20	---	---	146	129	[1]1100	---	[3]5,191,528	1985
---	14-31	---	---	---	---	---	---	31,047,375	1985
[2]120	18	[2]2950	---	11	30	---	---	[3]299,607	1985
1320	16; 14-17	3710	25	---	30	1090	---	[3]5,094,731	1985
[2]1320	19	[2]3659	[2]22	27	32	200	15,000,000	[3]5,381,858	1985
400	18	3421	40	30	---	---	---	[3]373,259	1985
---	20	---	---	24	16	---	---	[3]226,011	1985
---	16	[2]9000	[2]25	25	22	200	---	[3]1,123,908	1985
---	11	[2]9639	[2]50	50	22	---	---	63,634	[3]1985

Table 10. Summary of heavy oil deposits in Mississippi--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Mid-Gulf Coast basin--Continued						
Pistol Ridge[3]	11560 Paluxy	---	1959	Paluxy	218	ss
Quitman[1,2]	Eutaw	Clarke	1945	Eutaw	212	ss
Reedy Creek[1]	Eutaw	Jones	1961	Eutaw	212	ss[2]
Reedy Creek[1]	Upper Tuscaloosa.	Jones	1961	Upper Tuscaloosa.	212	ss[2]
Reedy Creek[1]	6200	Jones	1961	Tuscaloosa	212	ss
Reedy Creek[1]	7100	Jones	1972	Tuscaloosa	212	ss
Reedy Creek[1,6]	7150	Jones	1961	Tuscaloosa	212	ss
Reedy Creek[1]	7200	Jones	1960	Tuscaloosa	212	ss
Reedy Creek[1,8]	7300	Jones	1960	Tuscaloosa	212	ss
Reedy Creek[1]	9400	Jones	1960	Paluxy	218	ss
Reedy Creek[1,8]	Paluxy	Jones	1959	Paluxy	218	ss
Sandersville[2]	Eutaw[3]	Jones	[3]1955	Eutaw	212	ss
Sandersville[1]	Lower Eutaw[3]	Jones	1974	Lower Eutaw	212	ss[2]
Sand Hill, North[1]	Tuscaloosa	Greene	1963	Tuscaloosa	212	ss
Shelby[1,2]	---	Perry	1972	Paluxy	218	ss
Soso[3]	12799 Hosston	Jasper, Jones, Smith.	1966	Hosston	217	---
Soso[1,2]	Mooringsport	Jasper, Jones, Smith.	1957	Mooringsport	218	ss
Soso[1,2]	9227 Paluxy	Jasper, Jones, Smith.	1961	Paluxy	218	ss
Soso[1,2]	9417 Paluxy oil pool.	Jasper, Jones, Smith.	1955	Paluxy	218	ss
Soso[1,2]	7554 Tuscaloosa	Jasper,Jones, Smith.	1957	Tuscaloosa	212	ss
Soso, South[1]	Lower Tuscaloosa.	Jones	1970	Lower Tuscaloosa.	212	ss
Summerland[2]	Upper Washita/Fredericksburg oil.	Jones, Covington.	[3]1961	Upper Washita/ Fredericksburg.	218	ss

Mississippi--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Mid-Gulf Coast basin--Continued									
---	13	---	---	---	---	---	---	31,428	1985
80	14	3715	2	2	33	915	---	[3]223,323	1985
---	13	[2]6191	[2]10	10	---	---	---	[3]581,390	1985
---	13	[2]6264	[2]22	22	---	---	---	[3]141,403	1985
[2]360	11	[2]6250	[2]15	15	35	---	---	[3]1,705,465	1985
[2]360	13	[2]7287	[2]10	10	15	---	---	11,477	[3]1985
[2]25	19	[2]7187	29	9	---	---	---	26,260	[3]1985
---	19	[2]7200	238	38	23	87	---	108,232	[3]1985
---	19	[2]7282	[2]14	14	---	---	---	49,152	1985
[2]160	20	[2]9426	[2]15	13	18	125	---	[3]835,922	1985
---	19-22	---	---	---	---	---	---	73,156	1985
900	11; 9-13	5276	30	---	25	120-2000	---	[3]5,018,685	1985
---	12	---	---	45	25	---	---	14,702	1985
[2]240	19	[2]6836	27	6	24	---	---	[3]1,199,054	1985
---	18	---	---	28	14	---	---	109,715	1982
---	16-30	---	---	---	---	---	---	3,126,093	[3]1985
120	18	9536	10	10	20	470	---	94,059	1985
[2]40	16	11,203	17	17	17	336	---	[3]350,525	1985
---	17	[2]7862	26	6	21	1525	---	289,029	1985
[2]40	17	[2]7940	[2]2	2	---	---	---	22,944	1985
80	15	9699	4	4	18	785	---	14,172	[3]1985
[2]600	19; [3]18-34	[2]9450	33	---	20	265	---	[3]5,372,538	1985

Table 10. Summary of heavy oil deposits in Mississippi--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Mid-Gulf Coast basin--Continued						
Summerland, East[1]	Upper Tuscaloosa.	Jones.....	1969	Upper Tuscaloosa.	212	ss
Thompsons Creek[1]....	Tuscaloosa.....	Wayne.....	1959	Tuscaloosa.....	212	ss
Thompsons Creek South[1].	Lower Tuscaloosa, Massive.	Wayne.....	1966	Lower Tuscaloosa.	212	ss
Thompsons Creek South [1,6].....	9300 Washita/ Fredericksburg.	Wayne.....	1964	Washita/ Fredericksburg.	218	ss
Tribulation[3].....	Eutaw.....	---	1985	Eutaw.....	212	ss
Valley Park[1,2,5]....	Mooringsport....	Issaquena, Sharkey.	1960	Mooringsport.....	218	ss
Valley Park[1,2].....	Rodessa.....	Issaquena, Sharkey.	1957	Rodessa.....	218	---
Wausau[1].....	Lower Tuscaloosa, Massive.	Wayne.....	1982	Lower Tuscaloosa.	212	---
Wausau[1].....	Tuscaloosa.....	Wayne.....	1964	Tuscaloosa.....	212	ss
Wausau, North[1,7]....	Lower Tuscaloosa.	Wayne.....	1965	Lower Tuscaloosa.	212	ss
Wausau, North[1].....	Tuscaloosa.....	Wayne.....	1981	Tuscaloosa.....	212	ss[2]
Wausau, North[3].....	Upper Tuscaloosa, Massive.	Wayne.....	1981	Upper Tuscaloosa.	212	ss
Yellow Creek,..... East[1,2].	Eutaw Unit No. 1.	Wayne.....	1972	Eutaw.....	212	ss
Yellow Creek, North[3].	Eutaw.....	Wayne.....	1952	Eutaw.....	212	ss
Yellow Creek, West[2].	Upper Lower Cretaceous[3].	Wayne.....	[3]1962	Paluxy, upper Lower Cretaceous.	218	ss

Mississippi--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Mid-Gulf Coast basin--Continued									
---	12	[2]8010	220	18	20	---	---	11,922	1985
---	19	---	---	26	22	70	---	[3]1,664,559	1985
---	17	[2]8009	28	8	20	86	---	[3]521,014	1985
---	20	[2]9352	29	10	---	---	---	6,430	1985
---	18	---	---	---	---	---	---	950	1985
40	19	6264	8	10	18	---	---	4,724	1985
---	13	6136	12	12	---	---	---	[3]27,411	1985
---	16	---	---	---	---	---	---	[3]184,012	1985
---	15	[2]7430	[2]15	70	24	1666	---	[3]2,252,241	1985
---	17	[2]7480	28	8	23	794	---	65,058	1985
---	14	---	---	---	---	---	---	277	1985
---	14-16	---	---	---	---	---	---	72,533	1985
1440	20	4724	18	18	27	---	20,000,000	[3]810,911	1985
---	17-22	---	---	---	---	---	---	3,537,806	1985
---	19; [3]14-33	[2]7391	10	---	---	---	---	[3]645,215	1985

Table 11. Summary of heavy oil deposits in Montana

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Bighorn basin						
Frannie[1].....	---	Carbon.....	[3]1929	Tensleep[3].....	325	ss
Mackay Dome[2,3].....	---	Stillwater.....	1960	Greybull.....	217	ss
Roscoe Dome[1].....	---	Carbon.....	[2]1966	Lakota.....	[3]217	ss
Central Montana uplift basin						
Big Wall[1].....	---	Musselshell.....	[2]1953	Amsden/ Tyler[3].	326 [3]320	dol/che ss[2]
Pole Creek[1,4].....	---	Musselshell.....	[2]1964	Amsden.....	326	dol
Woman's Pocket[1,4]...	---	Golden Valley....	---	Amsden.....	326	ls/dol
Powder River basin						
Soap Creek, East[1]...	---	Big Horn.....	[2]1921 [3]1977	Tensleep.....	325	ss
Soap Creek[1].....	---	Big Horn.....	1921 [3]1952	Tensleep/ Amsden[2]/ Madison[3].	325 326 339	ss/ ls/dol
Sweetgrass arch						
Rudyard[1].....	---	Hill.....	[2]1955	Sawtooth.....	224	ss/ls
Utopia[1,3].....	Swift.....	Liberty.....	[2]1943	Swift[3].....	221	ss
Williston basin						
Bowes[1].....	---	Blaine.....	[2]1949	Sawtooth/Eagle[3]...	224/211	ss/ls

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission (1984).

[3]Montana Board of Oil and Gas Conservation (1985).

[4]Abandoned as of December, 1984.

Montana--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Bighorn basin--Continued									
---	17	[3]2700	---	140	---	---	[3]2,816,000	[3]752,300	1985
160	14-20	3700	56	---	10	---	5,561,000	66,000	1985
---	13	[2]2828	232	38	15	---	---	[3]15,086	1985
Central Montana uplift basin--Continued									
[2]1450	19	2498	210	17	16	---	[3]20,822,000	[3]7,364,837	1985
---	18	3584	15	10	7	---	---	169,726	1979
---	19	---	---	10	---	---	---	3,536	1979
Powder River basin--Continued									
[3]120	17 [3]20	[2]2260 [3]3400	25 [3]20	15	15	---	[3]1,335,000	[3]95,411	1985
[2]380 [3]1520	15 [3]20	1650 [3]1900	15	20	15	---	[3]21,900,000	[3]2,415,645	1985
Sweetgrass arch--Continued									
10	18	3374	10	10	14	---	---	[3]12,295	1985
[2]280	20	[2]2183	20	20	15	---	[3]11,010,000	[3]429,443	1985
Williston basin--Continued									
[2]4990 [3]3760	19	3377	[2]75 [3]32	32	12	22	[3]75,774,000	[3]9,251,075	1985

Table 12. Summary of heavy oil deposits in Nebraska

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Denver basin						
Darnall[1].....	J sand.....	Banner.....	---	Dakota J.....	217	ss
Chadron arch						
Macklin Canyon[1].....	---	Hitchcock.....	---	Lansing.....	323	ls
Spring Creek[1]	---	Frontier.....	[2]1961	Basal Pennsylvanian	327	ss

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission (1984).

Nebraska--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Denver basin--Continued									
---	20	---	---	10	---	---	---	617,778	1981
Chadron arch--Continued									
---	12; 6-16	4115	6	6	---	---	---	14,544	1981
---	20	4230	10	10	[2]40	---	---	4,919	1980

Table 13. Summary of heavy oil deposits in New Mexico

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lithology
Permian basin						
Barber[1]	---	Eddy	1937	Yates	313	dol
Button Mesa, South[1,2]	---	Lea	1964	San Andres	313	dol
Chisum[1,2]	---	Chaves	1951	San Andres	313	anhydrite/ dol
Crossroads, West[1]	---	Lea	---	San Andres	313	dol
Jenkins[1,2]	---	Lea	1959	San Andres	313	dol
Leslie Spring[1,2]	---	Chaves	1964	San Andres	313	dol/ ls/ss
Magruder[1,2]	---	Eddy	1953	Yates	313	ss/dol
Maroon Cliffs[1,4]	---	Eddy	[2]1959	Tansill	313	anhydrite/ sts/dol[2]
Maroon Cliffs[1,5]	---	Eddy	1959	Bone Spring	318	ls
Mescalero[1,2]	---	Lea	1962	San Andres	313	ls/ss/ dol
Parallel[1,4]	---	Eddy	---	Tansill	313	dol
PCA[1]	---	Eddy	[2]1939	Yates	313	ls
Ranger Lake[1]	---	Lea	1967	San Andres	313	dol/ ls/ss
Tower[1,2]	---	Chaves	1970	San Andres	313	dol/ ls/ss

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission (1984).

[3]New Mexico Oil and Gas Engineering Committee (1984).

[4]Abandoned.

[5]Combined with Maroon Cliffs, Tansill.

New Mexico--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Permian basin--Continued									
600	20	1400	5	5	15	---	---	[3]1,779,616	1984
40	18	4177	17	17	---	---	---	[3]112,942	1984
120	20	2028	5	5	7	2.3	---	[3]56,008	1984
---	18	---	---	44	6	29	---	[3]175,519	1984
120	19	4846	20	20	---	---	---	[3]52,549	1984
400	19	1484	18	18	---	---	---	[3]11,745	1984
200	16	570	2	2	---	---	---	[3]19,513	1984
---	20	[2]2179	20	20	---	---	---	26,336	1982
---	20	[2]6786	[2]40	50	---	---	---	14,946	1974
160	16-19	4063	67	67	10	---	---	[3]5,962,047	1984
---	20	---	3	3	---	---	---	7,746	1982
[2]480	20	[2]1500	---	10	---	---	---	[3]860,269	1984
---	17	[2]4833	10	10	---	---	---	864	[3]1984
---	19	4148	17	17	---	---	---	2,983	1984

Table 14. Summary of heavy oil deposits in Oklahoma

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lithology
Anadarko basin						
Alden[1]	Pontotoc A	Caddo	1970	Pontotoc A	[2]322	ss
Alden[1]	Pontotoc B	Caddo	1970	Pontotoc B	[2]322	ss
Alden[1]	Pontotoc D	Caddo	---	Pontotoc D	[2]322	ss
Alden, North[1]	---	Caddo	1970	Pontotoc	[2]322	ls
Amorita[1]	---	Alfalfa	1955	Layton	323	ss
Carrier[1]	---	---	1964	Garfield[3]	338	ls
Cement[2]	---	Caddo	1917	Marchand	323	---
Chitwood, Northeast[1]	---	Grady	1954	Hoxbar	323	ss
Arkoma basin						
Conway, Northwest[1]	---	Pontotoc	1963	Booch	325	ss
Chataqua platform						
Byars, East[1]	---	McClain	1948	Viola	364	ls/dol[2]
Johnsonville[1]	---	McClain	1948	Viola	364	ls/dol[2]
Laffoon, Southeast[1]	---	Okfuskee	1964	Second Wilcox	364	ss
Peck[2]	---	Lincoln	1926	Wilcox	364	ss
Prague, West[1]	---	Lincoln	1948	Wilcox	364	ss
Wilzetta, Northeast[1]	---	Lincoln	1957	Wilcox	364	ss
Ouachita tectonic belt						
Holly Creek, South[1]	---	McCurtain	1959	Holly Creek	218	---

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission (1984).

[3]Driller's term.

Oklahoma--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Anadarko basin--Continued									
---	20	[2]560	28	---	---	---	---(Included with Pontotoc D.)		
---	20	[2]628	10	---	---	---	---(Included with Pontotoc D.)		
---	20	[2]738	8	---	---	---	---	[2]44,000	1977
---	17	[2]814	[2]21	---	---	---	---	---	---
---	20	4287	46	---	---	---	---	---	---
---	16	6686	107	---	---	---	---	22,000	1977
---	17	6263	---	---	---	---	---	145,109,000	1984
---	20	9700	20	---	---	---	---	---	---
Arkoma basin--Continued									
---	18	1440	6	---	---	---	---	22,000	1977
Chataqua platform--Continued									
[2]40	15	4170	34	---	---	---	---	---	---
[2]80	16	4044	26	---	---	---	---	[2]136,000	1977
[2]3011	19	4200	2	---	---	---	---	[2]5,252,000	1977
950	20	4150	---	---	---	---	---	4,364,000	1984
---	19	---	---	---	---	---	---	---	---
[2]40	19	4589	---	---	---	---	---	[2]6,000,000	1977
Quachita tectonic belt--Continued									
---	12	618	5	---	---	---	---	---	---

Table 14. Summary of heavy oil deposits in Oklahoma--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lithology
South Oklahoma folded belt						
Alma, Northeast[1]	---	Stephens	1954	Pickens[3]	325	ss
Chigley, West[1]	---	Murray	1962	Hoxbar	323	ss
Comanche Lake District.[1]	---	Stephens	1948	Pennsylvanian	320	ls
Davis[1]	---	Murray	1961	First Bromide	364	ss
Deese, Northwest[1]	---	Carter	1963	Third Hoxbar	323	ss
Hewitt, East[1]	---	Carter	1963	Second Bayou[3]/ Lone Grove[2,3].	323	ss
Homer, South[1]	---	Carter	1946	Pennsylvanian	320	ss
Hoover, North[2]	---	Garvin	---	Pennsylvanian	320	ss
Iona[1]	Pennsylvanian D sand.	Murray	1963	Pennsylvanian D	320	ss
Iona[1]	Pennsylvanian F sand.	Murray	1963	Pennsylvanian F	320	ss
Iona, Northeast[1]	---	Murray	1953	---	---	---
Knox, Southeast[1]	---	Stephens	1954	Permian	310	---
Likins[2]	---	Murray	---	Simpson	364	ss
Loco[2]	---	Stephens	1953	Loco[3]/Hoxbar	310/323	ss
Lone Grove, Southeast.[1]	---	Carter	1954	Deese	325	ss
Paul's Valley[2]	---	Garvin	1942	Bromide	364	ls
Paul's Valley, Southeast.[2]	---	Garvin	1955	Oil Creek	364	ss
Sandy Creek[1]	---	Murray	1948	Oil Creek	364	ss
Sho Vel-Tum[2]	Deese	Carter	1925	Deese	325	ss
Sho-Vel-Tum[1]	4th Tussy	Carter, Garvin	1970	4th Tussy	325	ss
Sho-Vel-Tum[1]	Upper Morris	Carter, Garvin	1967	Upper Morris	326	ss
Stratford, South[1]	---	Garvin	1956	Unconformity	324	ss
Sulphur, Northwest[1]	Basal Oil Creek	Murray	1947	Oil Creek, basal	364	ss
Sulphur, Northwest[1]	Hoxbar	Murray	1965	Hoxbar	323	ss
Wheeler[1]	---	Carter	1904	Pontotoc/Deese	[2]322/235	ss

Oklahoma--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
South Oklahoma folded belt--Continued									
[2]10	18	5110	6	---	---	---	---	216,215,000	1977
[2]80	17	2134	10	---	---	---	---	24,000	1977
---	18	2812	5	---	---	---	---	---	---
[2]1660	12	[2]2564	24	---	---	---	---	25,589,000	1977
[2]180	14	636	18	---	---	---	---	24,000	1977
680	14 [2]20	2866 [2]4634	14	---	---	---	---	23,455	1977
[2]40	20	490	21	---	---	---	---	---	---
---	20	4250	---	---	---	---	---	---	---
[2]100	16	1308	4	---	---	---	---	24,000	1977
[2]100	20	1223	10	---	---	---	---	---	---
[2]10	19	830	5	---	---	---	---	---	---
[2]120	18	1326	12	---	---	---	---	[2]156,000	1977
---	11	7100	---	---	---	---	---	---	---
4000	18	350	18	---	27	500	---	688,000	1984
[2]40	20	3476	20	---	---	---	---	---	---
---	16	4200	---	---	---	---	---	28,309,000	1984
325	10	4300	58	---	24	2000	---	1,503,000	1984
[2]40	18	1920	15	---	---	---	---	[2]9,000	1977
705	15	1400	50	---	28	500	---	2,943,000	1984
---	20	[2]2936	16	---	---	---	---	---	---
---	18	4014	44	---	---	---	---	---	---
[2]200	17	[2]1987	---	---	---	---	---	[2]111,000	1977
[2]320	16	[2]1490	[2]55	---	---	---	---	[2]327,000	1977
---	19	1057	5	---	---	---	---	---	---
[2]1960	20	5056	40	---	---	---	---	---	---

Table 14. Summary of heavy oil deposits in Oklahoma--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
South Oklahoma folded belt--Continued						
Whitebead, Southwest.[1]	---	Garvin.....	1960	First Bromide.....	364	ss
Wynnewood, North[2]...	---	Garvin.....	1966	Oil Creek.....	364	ss

Oklahoma--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
South Oklahoma folded belt--Continued									
[2]80	20	4772	6	---	---	---	---	[2]114,000	1977
80	11	4375	15	---	---	---	---	24,000	1984

Table 15A. Summary of heavy oil deposits in Texas (except East Texas basin)

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Texas Gulf Coast basin						
Aguila[1,2]	Mirando	Zapata	1956	Mirando/Jackson[3]	124	ss
Alamo[1]	7,850	Hidalgo	1984	---	---	---
Albrecht[1,2]	Yegua	Goliad	1952	Yegua	124	ss
Albrecht[1,2]	85 sand[3]	Starr	1960	Frio	123	ss
Alta Mesa[1]	E-Z	Brooks	1985	---	---	---
Alta Verde[1,2]	[3]900	Brooks	1952	Oakville	122	ss
Alta Vista[1,2]	---	Bexar	1915	Navarro	[2]210 [3]212	ss
Alworth[1,2]	---	Jim Hogg	1965	Cole	[2]124	ss
Andy Brown[1]	---	Wilson	1985	Buda	218	ls
Arnim, East[1,2]	---	Fayette	1950	Wilcox	124	ss
Bear Salt[1]	---	Zavala	1982	Olmos	212	---
Ben Santos[1]	---	Duval	1983	Cole	[3]124	ss
Berclair[1]	Vicksburg, S.E.	Goliad	1976	Vicksburg	[2]123	ss
Bessmay[1]	---	Jasper	1957	Yegua 8th	[2]124	ss
Big Creek[1,2]	---	Fort Bend	1922	Frio	123	ss
Big Hill[1,2]	Miocene 5440 sand.	Jefferson	1955	Miocene	[2]122	ss
Big Hill[1]	Heterostegina	Jefferson	1985	Heterostegina[7]	---	---
Block 630-L[1]	Catahoula bar	Calhoun	1982	Catahoula	123	ss
Bob Hines, 2100	---	Atascosa	1954	Carrizo/Wilcox	124	ss

[1]Railroad Commission of Texas (1986).

[2]Interstate Oil Compact Commission (1984).

[3]Petroleum Information Corporation (1984).

[4]Inclusive all fields.

[5]Combined into Las Animas-Lefevere Field, 1956.

[6]Combined with Chicon Lake, 1961.

[7]Drillers term.

15A. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Texas Gulf Coast basin--Continued									
30	19	229	7	---	---	---	---	683	1985
---	20	7824	---	---	---	---	---	3,939	1985
400	17	4642	20	---	---	---	---	212,137	1985
1000	17	84	11	---	[3]30	[3]600	---	6,771	1985
---	20	1726	---	---	---	---	---	852	1985
40	20	900	27	---	---	---	---	2,718	1985
250	12; [3]12-31	1100	8	---	---	---	---	71,810	1985
---	18	1040	[2]4	---	28	511	---	69,639	1985
---	20	5305	---	---	---	---	---	11,894	1985
240	20	2151	17	---	33	300	---	426,151	1985
---	14	2684	---	---	---	---	---	1	1985
---	20	3726	---	---	---	---	---	352	1985
---	20	3180	[2]2	---	---	---	---	7,832	1985
---	12	7583	[2]5	---	---	---	---	86,783	1985
---	18	4500	12	---	---	[3]720	---	24,943,379	1985
---	20	5434	---	---	---	---	---	17,825	1985
---	19	7500	---	---	---	---	---	2,478	1985
---	20.5	4600	---	---	---	---	---	173	1985
60	19	2099	5	---	---	---	[3]119,592	25,234	1985

Table 15A. Summary of heavy oil deposits in Texas (except East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic Unit	Geol. age	Lith-ology
Texas Gulf Coast basin--Continued						
Bob Hindes, 2100[1,2] Seg. B.	---	Atascosa.....	1962	Carrizo.....	124	ss
Boling[1].....	---	Wharton.....	1923	Iago[7].....	[3]123	ss
Borregos, West[1].....	E-46 segment I[3]	Kleberg.....	1966	Frio.....	[2]123	ss
Bowman[1,2].....	Reklaw.....	Wilson.....	1955	Reklaw.....	124	ss
Bowman[1,2].....	Queen City.....	Wilson.....	1955	Queen City.....	124	ss
Brenham[1,2].....	---	Washington.....	1915	Cockfield.....	124	ss
Bruja Vieja[1].....	---	Jim Hogg.....	1950	Cole.....	[2]124	ss
Bruni, South[1,2].....	---	Webb.....	1944	Jackson.....	124	ss
Burmil[1,2].....	---	Burleson.....	1967	W-2.....	---	ss
Cache[1].....	Olmos,shallow...	Medina.....	1980	Olmos.....	212	---
Camaron Ranch[1].....	---	La Salle.....	1976	Queen City.....	[2]124	ss
Campana, South[1].....	Chernosky.....	McMullen.....	1958	Chernosky[7].....	[3]124	ss
Campana, South[1,2,3]	1870 sand.....	McMullen.....	1952	Cole.....	124	ss
Campana, South[1,2,3]	2400.....	McMullen.....	1974	Chernosky[7].....	124	ss
Casa Blanca[1,2].....	---	Duval.....	1939	Cole Sand.....	124	ss
Cebolla[1].....	---	Zavala.....	1977	3660 ft.....	---	ss[2]
Cedro Hill[1,2].....	---	Duval.....	1938	Jackson.....	124	ss
Charamousca[1,2].....	---	Duval[3].....	1937	Jackson[2]/ Mirando[3].	124	ss
Charamousca, E.[1,2]..	---	Duval.....	1949	Jackson.....	124	ss
Charamousca, S.[1,2]..	---	Duval.....	1940	Jackson[2]/Cole[3]....	124	ss
Charco Redondo[1,2]...	---	Zapata.....	1913	Jackson.....	124	ss
Chas. N. Jones[1].....	---	Guadalupe.....	1970	Austin.....	[2]212	ss
Chittim[1].....	Austin.....	Maverick.....	1957	Austin.....	[2]212	ls
Chittim[1].....	Eagle Ford.....	Maverick.....	1964	Eagle Ford.....	[2]212	ls
Chittim[1].....	San Miguel.....	Maverick.....	1962	San Miguel.....	[3]212	ss[2]
Cistern[1,2].....	---	Fayette.....	1943	Wilcox[3].....	124	ss

15A. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Texas Gulf Coast basin--Continued									
80	19	2096	1	1	---	---	[3]496,260	115,674	1985
---	20	4800	---	---	---	---	---	311,724	1985
---	20	4536	[2]6	---	---	---	---	38,790	1985
40	19	1012	4	[3]4	---	---	[3]298,194	64,522	1985
40	19	837	4	---	---	---	[3]2,431	513	1985
---	17	1400	10	---	---	---	---	922,361	1985
---	19	734	---	---	---	---	---	1,534	1985
[2]40	18	1755	[3]7	---	[3]28	---	---	1,284	1985
820	19	1804	[3]11	---	---	---	---	1,352	1985
100	19	2659	4	---	30	500	---	190,415	1985
---	19	2235	[2]4	---	---	---	---	72,968	1985
[2]360	20	2225	[2]10	---	[3]30	[3]100	[3]8,035,490	1,620,737	1985
360	20	1870	3	3	27	100	---	139,710	1985
360	20.5	2386	10	---	---	---	1,819	384	1985
820	19	1190	---	---	---	---	---	4,912,351	1985
---	20	3660	2	[3]16	[3]22	[3]81	---	336,030	1985
1800	19	1440	12	---	35	600	---	6,546,482	1985
720	20	1530	10	---	[3]32	[3]600	---	1,516,139	1985
70	20	1583	[2]9	---	---	---	---	4,424	1985
400	20	1525	17	---	32	[3]600	---	2,636,512	1985
1000	17	339	15	---	34	2800	---	656,318	1985
---	14	2430	[3]28	28	---	---	[3]11,143	4,045	1985
---	19	2018	32	[3]32	---	---	[3]27,013	149,707	1985
[2]60	17	1440	2	[3]2	---	---	[3]412,415	9,806	1985
[2]160	12	48	[2]35 [3]51	---	---	---	[3]3,137	662	1985
200	18	1187	10	---	---	---	---	243,731	1985

Table 15A. Summary of heavy oil deposits in Texas (except East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic Unit	Geol. age	Lith-ology
Texas Gulf Coast basin--Continued						
Cistern[1]	FB III/ Wilcox B[3]	Fayette	1966	Wilcox[3]	[2]124	ss
Cistern[1,3]	FB IV, 1125	Fayette	1966	Wilcox	[2]124	ss
Cistern[1]	Wilcox G[3]	Fayette	1983	Wilcox	[2]124	ss
Cistern[1]	Wilcox H[3]	Fayette	1983	Wilcox	[2]124	ss
Cistern[1]	Wilcox J[3]	Fayette	1966	Wilcox	[2]124	ss
Cistern[1]	Wilcox L[3]	Fayette	1979	Wilcox	[2]124	ss
Cistern, North[1,2]	---	Fayette	1952	Wilcox	124	ss
Coal Mine[1,4,6]	---	Medina	1955	Navarro	[3]212	ss
Cole[1]	---	Duval	1940	Jackson[3]	[2]124	ss
Cole, East[1]	---	Duval	1941	Cole	[2]124	ss
Colemena[1,2]	---	Duval	1936	Jackson	124	ss
Colony[1]	---	Gonzales	1965	Poth	[3]124	ss[2]
Conroe[1,3]	F-4	Montgomery	1977	---	---	ss
Conroe[1]	P-20 FB-1[3]	Montgomery	1972	---	---	---
Cost[1]	---	Gonzales	1977	Austin	[2]212	ss
Crystal City[1]	---	Zavala	1981	Bracero[7]	---	---
DCR 79[1,2]	---	Duval	1948	Cole	124	ss
DCR 79, South[1]	---	Duval	1970	Chernosky[7]	[3]124	ss
Damon Mound[1]	FB, Southeast[3]	Brazoria	1955	Frio	[2]123	ss
Dawn[3]	3170	Frio	1963	Bartosh[2,7]	[3]124	ss
Debby[1]	---	McMullen	1980	Mirando, Upper	[3]124	ss
Del Monte[1,3]	San Miguel-D	Zavala	1961	San Miguel-D	212	ss
Dewville[1]	---	Gonzales	1984	Poth	[3]124	---
Dinn[1]	---	Duval	1949	Jackson	[2]124	ss
Dinsmoor[1]	---	Atascosa	1952	Carrizo	[2]124	ss
Dinsmoor[1]	---	Atascosa	1954	Queen City	[2]124	ss
Dragoon Creek[1]	Hockley	McMullen	1985	Hockley	124	ss

15A. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Texas Gulf Coast basin--Continued									
---	18	1269	[2]1	---	---	---	---	4,484	1985
1	19	1125	[2]5	---	33	415	---	19,891	1985
---	18	1933	---	---	---	---	---	5,307	1985
---	18	2071	---	---	---	---	---	6,066	1985
---	16	2258	[2]15	---	---	---	---	30,786	1985
---	20	2871	---	---	---	---	---	3,903	1985
20	17.5; [3]17-20	1130	---	---	---	---	---	28,712	1985
[2]40	19	464	[2]9	---	---	---	---	911	1985
---	20	1762	[2]7	---	---	---	---	2,621	1985
---	20	1727	[2]25	---	---	---	---	13,871	1985
1800	19	1500	45	---	[2]32 [3]28	[2]485 3430	---	3,755,456	1985
---	18	1892	[2]6	[3]8	---	---	[3]87,658	24,217	1985
---	19	3618	2	---	---	---	---	3,590	1985
---	19	1442	[2]9	---	---	---	---	1,873	1985
---	20	7296	[3]188	---	---	---	---	2,039,471	1985
---	18	3414	---	---	---	---	---	8,854	1985
60	20	1478	[3]12	---	33	972	---	1,484,254	1985
---	19	1812	[2]8	---	---	---	---	72,167	1985
---	15	3725	---	---	---	---	---	878	1985
---	16	3171	[2]2	---	---	---	[3]601	127	1985
---	20.5	1100	---	---	---	---	---	1,433	1985
[2]40	20	3409	34	34	---	---	142,459	30,059	1985
---	18	2295	---	---	---	---	---	10,652	1985
[3]24	19	1805	[2]43	[3]6?	[3]31	---	---	307,644	1985
[2]90	19	2060	[3]12	12	---	---	[3]3,765,480	827,192	1985
[2]20	15	1891	[3]6	6	---	---	[3]779,928	171,894	1985
---	20.3	744	---	---	---	---	---	333	1985

Table 15A. Summary of heavy oil deposits in Texas (except East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic Unit	Geol. age	Lith-ology
Texas Gulf Coast basin--Continued						
Dragoon Creek[1,2]....	Gov't Wells, Upper.	McMullen.....	1965	Gov't Wells,..... Upper.	124	ss
Dragoon Creek, [1,2] S.W.	Gov't Wells.....	McMullen.....	1967	Gov't Wells.....	124	ss
Dunlay[1].....	---	Medina.....	1938	Serpentine[2].....	[2]210	ls[3]
Eagle Hill[1,2].....	---	Duval.....	1933	Jackson.....	124	ss
Echo.....	Hackberry.....	Orange.....	1964	Hackberry.....	123/124	---
Edlasater, West[1]....	Cole 950.....	Zapata.....	1968	Cole.....	[2]124	ss
Elaine, N.[1].....	5250.....	Zavala.....	1974	---	---	ls[2]
Elm Grove[1,2].....	---	Fayette.....	1953	Wilcox, Upper.....	124	ss
El Puerto, N.[1,2,3].	O'Hern.....	Starr.....	1965	Pettus.....	124	ss
Ezzell[1,2].....	---	McMullen.....	1937	Loma Novia.....	[3]124	ss
Foerster[1].....	---	Wilson.....	1955	Poth A.....	[3]124	ls
Foss[1,3].....	---	McMullen.....	1959	Mirando.....	124	ss[2]
Galba[1].....	---	Atascosa.....	1955	Carrizo.....	[2]124	ss
Gloriana[1,2,3].....	---	Wilson.....	1965	Poth A.....	124	ss
Goldfinch[1,2].....	---	Frio.....	1981	Austin.....	[3]212	ls
Govt. Wells, N.[1,2,3]	900 sand.....	Duval.....	1948	Catahoula.....	123	ss
Govt. Wells, N.[1]....	1000 sand[3].....	Duval.....	1950	Catahoula[2].....	[2]123	ss
Govt. Wells, N.[1]....	[3]1150.....	Duval.....	1978	---	---	ss
Govt. Wells, N.[1,2]..	1550[3].....	Duval.....	1964	Cole/Jackson.....	124	ss
Govt. Wells, N.[1]....	1800-E.....	Duval.....	1980	---	---	---
Govt. Wells, S.[1]....	1900 Hockley[3]...	Duval.....	1965	Hockley.....	[3]124	ss
Guadalupe Bend.[1]....	---	Guadalupe.....	1985	Austin.....	212	ls
H.H.H.[1].....	8800.....	Harris.....	1979	---	---	ss[3]
Hagist Ranch[1,2].....	Purple sand[3]....	Duval.....	1955	Jackson.....	124	ss
Hankamer[1].....	Miocene.....	Liberty.....	1951	Miocene.....	[2]122	ss
Hankamer[1].....	Frio.....	Liberty.....	1951	Frio.....	[2]123	ss
Helen[1,2].....	---	Zavala.....	1978	Anacacho.....	212	ls

15A. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Texas Gulf Coast basin--Continued									
180	16; [3]16-18	1022	10	---	32	532	[3]638,649	241,281	1985
750	18	1120	10	---	28	---	---	101,516	1985
[2]10	18	550	---	---	---	---	[3]5,589	2,029	1985
700	19	1500	10	---	---	---	---	5,623,443	1985
---	20.5	10,203	---	---	---	---	---	72,507	1985
---	20	950	[2]5	5	[3]15	---	---	11,116	1985
---	12	5289	[2]35	---	---	---	---	30,461	1985
160	20	1886	10	---	[3]34	---	---	102,963	1985
---	20	760	5	6	30	1170	---	949	1985
2500	20	1500	7	---	30	[3]300	---	6,890,180	1985
[2]80	19	1578	[2]6	6	---	---	[3]39,499	14,320	1985
[2]60	20	490	20	---	33	1000	178,663	55,209	1985
[2]30	19	1578	[3]4	4	---	---	[3]641,379	139,097	1985
490	19	1630	6	10	35	1000	4,126,380	1,211,394	1985
---	20	6150	---	---	---	---	---	7,025	1985
360	20 [3]30	918	[2]12	16	33	1068	---	309,342	1985
---	19	1062	[3]10	---	---	---	---	72,005	1985
---	20	1167	[3]24	---	---	---	---	21,852	1985
---	20	1547	4	---	---	---	---	30,174	1985
---	20.5	2026	---	---	---	---	---	30,623	1985
[2]360	19	1919	[2]10	---	---	---	---	30,462	1985
---	13	2179	---	---	---	---	---	2203	1985
---	19	8820	---	---	---	---	---	18,266	1985
80	20	1826	4	---	---	---	---	206,776	1985
[2]2380	15	4207	---	---	---	---	---	96,838	1985
[2]2380	15	4207	---	---	[3]30	[3]900	---	1,211,689	1985
3	18	1906	12	---	---	---	---	2,667	1985

Table 15A. Summary of heavy oil deposits in Texas (except East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic Unit	Geol. age	Lithology
Texas Gulf Coast basin--Continued						
Hicksbaugh[1]	Yegua 5583	Tyler	1981	Yegua	[2]124	ss
Hoffman, East[1,2]	---	Duval	1950	Cole	124	ss
Holloway, East[1]	---	Atascosa	1979	Austin	[2]212	ls
Honcho-Maguellitos[1]	1300	La Salle	1981	---	---	---
Houdman, West[1]	---	Live Oak	1974	Hockley	[3]124	ss
Huff[1]	303	Refugio	1975	---	---	---
Huff[1]	2950 sand	Refugio	1951	2950 sand	[2]122	ss
Huff[1]	3000 FB-W[3]	Refugio	1968	---	---	ss[2]
Ike Pryor[1]	---	Zavala	1983	Olmos	[3]212	---
Imogene, South[1]	---	Atascosa	1955	Queen City	[2]124	ss
Imogene, Southeast.[1,2,3]	---	Atascosa	1952	Carrizo/Wilcox	124	ss
Jack Frost[1]	---	La Salle	---	Crockett	[2]124	ss
Jeanie[1,2]	---	Zavala	1976	Serpentine[7]	210	---
Jerry House[1]	---	Zavala	1978	Escondido	[2]211	ss
Joe Moss[1,2]	500 sand	Zapata	1952	Jackson	124	ss
Jourdanton[1]	400	Atascosa	1952	---	---	ss
Jourdanton[1,2]	Nixon sand	Atascosa	1953	Nixon[7]	---	ss
Jourdanton[1,2,3]	Reklaw	Atascosa	1956	Reklaw	124	ss
Jourdanton[1]	Sparta	Atascosa	1954	Sparta	[2]124	ss
Kingsbury, E.[1]	---	Guadalupe	1982	Austin	[3]212	ls
Kingsville[1]	---	Kleberg	1913	Lagarto[3]	[2]122	ss
Kingsville[1,2]	Oakville[3]	Kleberg	1963	Oakville	122	ss
Kingsville[1,2]	[3]2500	Kleberg	1963	Miocene	122	ss
Kittie[1,2]	---	Live Oak	1943	Jackson	124	ss
Kittie, West[1]	---	Live Oak	1959	Hockley, Upper	[3]124	ss
Kohler, NE.[1]	Mirando [2,3]	Duval	1980	Mirando	[2]124	ss
Labbe[1,2]	---	Duval	1937	Loma Novia	124	ss

Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Texas Gulf Coast basin--Continued									
---	20	5640	---	---	---	---	---	6,260	1985
350	20	2038	15	---	---	---	---	1,371,954	1985
---	20	6760	---	---	---	---	---	21,138	1985
---	20	1297	---	---	---	---	---	31,023	1985
---	17	2081	[2]7	---	---	---	---	57,313	1985
---	20	3041	4	---	---	---	---	26,018	1985
---	20	2492	[2]51	---	---	---	---	67,701	1985
---	19	2949	[2]3	---	---	---	---	35,203	1985
---	18	2318	---	---	---	---	---	1,283	1985
---	20	1772	[3]5	5	---	---	[3]57,018	12,031	1985
---	20	1822	5	5	37	2505	5,982,600	1,221,030	1985
---	20	1300	[2]5	---	---	---	---	308,607	1985
45	12	3500	600	---	---	---	---	114,677	1985
[2]5	13	1142	---	---	---	---	---	2,742	1985
1000	20	447	[2]10	---	---	---	---	553,654	1985
---	19	396	[3]5	---	---	---	[3]843	178	1985
100	19	906	8	---	36	[2]400 [3]1500	[3]1,815,820	344,287	1985
70	19	1409	4	5	---	---	857,843	298,252	1985
---	19	209	[2]3	3	---	---	[3]288,876	70,563	1985
---	19.5	2028	---	---	---	---	---	33,118	1985
---	20	2940	[2]3	---	---	---	---	1,123,884	1985
20	20	2286	3	---	---	---	---	105,994	1985
20	19	2533	---	---	---	---	---	90,516	1985
30	20	1432	10	---	---	---	---	52,898	1985
[2]160	20	1853	[2]4	---	---	---	---	5,345	1985
---	19	2633	---	---	---	---	---	671,931	1985
230	20.5	2908	10	---	---	---	---	1,551,856	1985

Table 15A. Summary of heavy oils in Texas (except East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic Unit	Geol. age	Lith-ology
Texas Gulf Coast basin--Continued						
Labbe[1,2]	Cole Sand	Duval/McMullen[3]	1953	Cole	[2]124	ss
Las Animas[1,2,5]	---	Jim Hogg	1937	Jackson	124	ss
Las Animas, S.[1,5]	Cole	Jim Hogg	1965	Cole	[2]124	ss
Las Animas-Lefevre[1,2]	---	Jim Hogg	1937	Cole	124	ss
La Vernia[1,5]	Austin	Guadalupe	1963	Austin	[2]212	ls
La Vernia[1,2]	190 sand	Guadalupe	1960	Carrizo/Wilcox	124	ss
Lefevre[1,2,5]	---	Jim Hogg	1945	Cole	124	ss
Leon Creek[1]	---	Bexar	1954	Austin	[2]212	ls
Leon Creek[1]	---	Bexar	1954	Austin	212	ls
Liska[1,2]	---	Live Oak	1951	Hockley	[3]124	ss
Littig[1]	---	Bastrop	[2]1980	---	---	---
Little Alamo[1,2]	---	McMullen	1947	Queen City	124	ss
Little Tom[1,2]	(A, A-1, C sand)	Zavala	1957	San Miguel	211	ss
Lopez, N[1,2]	Lopez sand[3]	Duval	1951	Jackson	124	ss
Losoya[1,2]	---	Bexar	1957	Austin	212	ls
Los Olmos[1]	---	Starr	1925	Frio[2]	[2]123	ss
Lost Lake[1,2]	---	Chambers	1929	Frio	123	ss
Luby, North[1]	Greta main	Nueces	1963	Greta/Frio[2]	[2]123	ss
Luling-Branyon, W.[1]	---	Guadalupe	1967	Edwards	218	---
Lundell[1,2]	---	Duval	1937	Jackson/Cole	124	ss
Lytle[1,2]	Anacacho, Lower[3]	Bexar	1954	Anacacho, Lower	212	ls
Magnolia City, North.[1,3]	4200	Jim Wells	1965	Frio	123	ss
Maple Hughes[1,2]	(1550 Burton)	Guadalupe	1967	Austin	212	ls
McClain[1]	---	Wilson	1976	Austin	[2]212	ls
McDade[1,2]	2875 sand[3]	Lee	1953	Wilcox	[2]124	ss
Mesquite Bonita[1,3]	Sibley sand	Duval	1965	Frio	123	ss
Milbur[1]	---	Milam	1978	Poth	[3]124	ss

15A. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Texas Gulf Coast basin--Continued									
[2]90	20.5	1938	---	---	[3]32	[3]800	---	760,208	1985
150	18.5	1823	11	---	---	---	---	305,557	1985
---	19	1753	[2]1	---	---	---	---	418	1985
120	18.5	1793	15	---	30	1800	---	3,317,605	1985
---	17	1723	[2]7	7	---	---	[3]232,212	84,333	1985
20	19	189	10	10	---	---	[3]62,417	15,992	1985
110	18	1751	5	---	---	---	---	126,758	1985
---	1100	18	---	---	---	---	---	0	1985
---	1100	18	---	---	---	---	---	[3]371,046	1982
280	19	975	9	---	---	---	---	66,050	1985
---	20	350	---	---	---	--	---	270	1985
320	18	2258	[3]7	[3]10	---	---	[3]577,440	131,387	1985
5500	19	2761	14	[3]6	22.3	64	[3]4,848	1,282	1985
430	20	2064	[2]10	---	35	428	---	2,177,325	1985
30	17	1855	[2]20 [3]15	[3]20	---	---	[3]90,294	32,933	1985
---	20	700	[3]47	---	---	[3]900	---	975,265	1985
43	20	2382	30	---	---	---	---	1,915,808	1985
---	12	5068	[2]4	---	---	---	---	76,420	1985
---	20.5	2233	---	---	---	---	---	2,229	1985
5000	19	1528	12	---	32	2630	---	10,160,140	1985
10	20	1200	10	---	---	---	[3]9,614	3,490	1985
---	19	4198	4	---	---	---	---	26,403	1985
---	16	1560	8	---	---	---	---	20,723	1985
---	20	7083	[2]111	---	---	---	---	10,215	1985
[2]10	18	2875	---	---	---	---	---	334	1985
---	20	3049	9	---	---	---	---	45,686	1985
---	17	2377	[2]7	---	---	---	---	1,655	1985

Table 15A. Summary of heavy oil deposits in Texas (except East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic Unit	Geol. age	Lith-ology
Texas Gulf Coast basin--Continued						
Minnie Bock, East[1,3]	Frio.....	Nueces.....	1978	Frio.....	[2]123	ss
Minnie Bock, North[1]	[3]Z-12.....	Nueces.....	1949	Frio.....	[2]123	ss
Minnie Bock, North[1]	[3]500.....	Nueces.....	1965	Frio[2].....	[2]123	ss
Minnie Bock, North[1]	[3]600.....	Nueces.....	1965	Frio[2].....	[2]123	ss
Minnie Bock, West[1]..	[3]5500.....	Nueces.....	1970	---	[2]123	ss
Muldoon, S.W.[1].....	Drenner[3].....	Fayette.....	1962	Wilcox.....	[2]124	ss
Muldoon, S.W.[1].....	Reklaw[3].....	Fayette.....	1975	Reklaw.....	[2]124	ss
Neely, East[1].....	[3]700.....	Duval.....	1966	Jackson[2].....	[2]124	ss
Neely, East[1].....	[3]1130.....	Duval.....	1965	Jackson[2].....	[2]124	ss
Neely, East[1].....	[3]1150.....	Duval.....	1966	Jackson[2].....	[2]124	ss
Neely, West[1,3].....	1150.....	Duval.....	1962	Jackson[2].....	[2]124	ss
Neta[1].....	Bracero.....	Zavala.....	1979	Bracero[7].....	---	ss[3]
Neta[1].....	Olmos.....	Zavala.....	1979	Olmos.....	212	---
Oakville[1,2].....	---	Live Oak.....	1936	Jackson.....	124	ss
Orlee[1,2].....	---	Duval.....	1942	Jackson.....	124	ss
Ormsby[1].....	---	Wilson.....	1945	Buda[2].....	[3]218	ls
Peters, North[1].....	Cole first sand[3]	Duval.....	1959	Jackson/Cole[3].....	[2]124	ss
Petronilla[1].....	[3]7750.....	Nueces.....	1977	---	---	ss[3]
Petrox[1].....	[3]1480.....	Duval.....	1975	---	---	ss[3]
Petrox[1,2,3].....	Chernosky Sand..	Duval.....	1955	Jackson.....	124	ss
Pettus, North[1].....	7150 sand.....	Bee.....	1948	Wilcox[3].....	[3]124	ss
Pleasanton[1,2].....	---	Atascosa.....	1952	Reklaw.....	124	ss
Pleasanton, S.[1,3]...	Carrizo sand....	Atascosa.....	1952	Carrizo.....	124	ss
Pleasanton, S.[1,2]...	Queen City.....	Atascosa.....	1956	Queen City.....	124	ss
Pleasanton, S.[1,2]...	Sparta.....	Atascosa.....	1953	Sparta.....	124	ss
Plymouth[1,2].....	5400 sand[3].....	San Patricio.....	1960	Frio.....	123	ss
Plymouth, East[1,2]...	5400[3].....	San Patricio.....	1960	Frio.....	123	ss

15A. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Texas Gulf Coast basin--Continued									
15	17	7227	10	10	---	---	---	7,155	1985
---	18	5487	[2]6	---	[3]28	---	---	5,421	1985
---	19	5500	[2]2	---	---	---	---	41,495	1985
---	19	7594	[2]7	---	---	---	---	6,390	1985
---	20	5507	[2]5	---	---	---	---	8,854	1985
---	20	2302	---	---	[3]38	[3]2775	---	313,026	1985
---	20	2230	[2]6	---	---	---	---	3,125	1985
---	20.5	670	[3]9	---	---	---	---	55,171	1985
---	20	1142	[3]7	---	---	---	---	66,997	1985
---	19.5	1156	[3]4	---	---	---	---	150,457	1985
---	20	1132	20	20	20	500	---	106,914	1985
---	19	3273	---	---	---	---	---	1,185	1985
---	20.5	2677	---	---	---	---	---	96	1985
600	20	1830	38	---	---	---	---	1,894,735	1985
80	20	1697	16	---	---	---	---	244,632	1985
---	15	5049	[2]5	---	---	---	---	1,885	1985
---	20	1746	---	---	---	---	---	42,024	1985
---	18	7748	---	---	---	---	---	663	1985
---	20	1478	[2]2	---	---	---	---	774	1985
590	20	2024	15	---	30	400	---	2,367,309	1985
---	20	7152	[3]35	---	---	---	---	23,167	1985
40	19	2180	4	4	---	---	[3]147,417	30,997	1985
[2]120	18	1887	26	26	36	868	13,014,600	2,757,392	1985
90	19	1616	4	4	---	---	[3]1,190,270	251,271	1985
30	19	492	3	3	---	---	169,625	38,252	1985
---	20	7015 [2]5426	8	---	---	---	---	5,570	1985
---	20	5414	5	---	---	---	---	1,551	1985

Table 15A. Summary of heavy oil deposits in Texas (except East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic Unit	Geol. age	Lith-ology
Texas Gulf Coast basin--Continued						
Port Neches[1,2]	---	Orange	1929	Frio	123	ss
Presa De Oro[1,3]	Yegua C	Webb	1962	Yegua	[2]124	ss
Presa De Oro[1,2,3]	Yegua G	Webb	1960	Yegua	124	ss
Presa De Oro, North[1]	F sand[3]	Webb	1960	Yegua[2]	[3]124	ss
Pryor, East[1]	---	Zavala	1982	San Miguel	211	---
Pryor Ranch, West[1]	---	Zavala	1977	Elaine[7]	---	---
Raccoon Bend[1,3]	Miocene X	Austin	1962	Miocene	122	ss
Raccoon Bend[1,3]	Miocene Y	Austin	1958	Miocene	122	ss
Raccoon Bend[1,3]	Miocene Z	Austin	1956	Miocene	122	ss
Raccoon Bend[1,3]	Oakville 970	Austin	1971	Oakville	122	ss
Raccoon Bend[1,3]	Paine	Austin	1952	Paine[7]	122	ss
Rancho Solo[1,2]	---	Duval	1937	Jackson	124	ss
Rancho Solo[1,2]	Cole 2nd[3]	Duval	1959	Cole/Jackson[3]	[2]124	ss
Rancho Solo[1,3]	Extension	Duval	1939	Jackson/Cole	124	ss
Refugio-Fox[1]	5750	Refugio	1962	Frio[2]	[2]123	ss
Recklaw[1,2]	---	Wilson	1948	Wilcox	124	ss
Renate[1]	---	Zavala	1982	Elaine[7]	---	---
Retamia[1]	Yegua 950	Webb	1960	Yegua	[2]124	ss
Richardson[1,2]	---	Duval	1944	Jackson	124	ss
Rinehardt[1,2]	---	Bexar	1956	Austin	212	ls
Ronnie[1,2]	---	Frio	1951	Queen City	124	ss
Sacatosa[1,3]	---	Maverick	1977	Olmos	212	ss
Sand-Oak[1,3]	---	Wilson	1965	Poth	124	ls
Sandy Creek[1]	---	Jackson	1982	Marginulina[7]	---	---
Saxtet[1,2]	---	Nueces	1930	Oakville/Anahuac	122	ss
Saxtet, North[1]	3650	Nueces	1985	---	---	---
Sayersville[1]	---	Bastrop	1952	Buda	218	ls

15A. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Texas Gulf Coast basin--Continued									
---	19	6000	30	---	---	---	---	24,069,350	1985
---	20	1112	---	8	30	1344	---	147,466	1985
100	17	1214	5	8	32	1985	---	208,959	1985
---	19	1238	[2]7	---	---	---	---	9,739	1985
---	20	2305	---	---	---	---	---	200	1985
---	15	2506	[2]26	---	---	---	---	31,879	1985
[4]1800	18	1439	3	---	---	---	---	0	1985
---	18.5	1952	---	---	---	---	---	823,471	1985
---	19	2194	---	---	---	---	---	920,812	1985
---	14.5	984	14	14	---	---	---	41,856	1985
---	19	2734	---	15	25	500	---	240,091	1985
500	19	1849	[3]12	---	---	---	---	464,537	1985
---	20	1840	[2]6	---	---	---	---	30,385	1985
[2]150	19	1836	[2]8	6	---	---	---	516,633	1985
---	20	5755	---	---	---	---		7,812	1985
10	17	587	3	---	---	---	---	216	1985
---	19	3233	---	---	---	---	---	4,685	1985
---	20	950	[2]4	---	---	---	---	28,237	1985
260	18	1784	31	---	---	---	---	144,433	1985
1400	20	1163	[2]95 [3]50	[3]40	25	---	[3]1,745,340	652,158	1985
30	16	890	8	8	---	---	[3]169,218	40,467	1985
---	20	1278	10	12	---	---	---	1,742	1985
---	20	2164	9	9	---	---	6,374	2,314	1985
---	20	4345	---	---	---	---	---	1,066	1985
9900	20	4060 [2]3380	18	---	28	700	---	62,894,841	1985
---	18.5	3654	---	---	---	---	---	1,654	1985
[2]40	17	3038	[2]12	---	---	---	[3]11,206	4,068	1985

Table 15A. Summary of heavy oil deposits in Texas (except East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Texas Gulf Coast basin--Continued						
Seguin[1,2]	---	Guadalupe	1948	Buda	218	ls
Sejita, East[1,3]	Zone 10-A	Duval	1955	Miocene	122	ss
Sejita, East[1,3]	Zone 11-B[3]	Duval	1954	Miocene[3]	122	ss
Sejita, East[1,2]	1170	Duval	1967	Miocene	122	ss
Seven Sisters[1,2]	---	Duval	1935	Jackson	124	ss
Seven Sisters[1]	1750 Cole[3]	Duval	1966	Cole	[2]124	ss
Seventy Six[1,2]	---	Duval	1947	Jackson	124	ss
Seventy Six, South[1]	---	Duval	1950	800 sand	---	[2]ss
Siesta Lake[1]	---	Wilson	1980	Bartosh[7]	---	---
Simmons City[1,3]	---	Live Oak	1972	Govt. Wells	[2]124	ss
Sinton, North[1]	---	San Patricio	1975	---	---	---
Sinton, West (Shallow).[1,2]	Bayder sand[3]	San Paticio	1944	Catahoula	123	ss
Sinton, West[1]	---	San Patricio	1944	Frio?[2]	[2]123	ss
Spears[1,3]	---	Wilson	1956	Reklaw	[2]124	ss
Stockdale[1,3]	---	Wilson	1971	Carrizo	[2]124	ss
Sutil[1,3]	---	Wilson	1976	Austin	212	ls
Taylor-Ina[1]	---	Medina	1936	Navarro	[2]218	ls
Telferner[1,2]	---	Victoria	1966	Frio	123	ss
Thompson, SW[1]	13A-1[3]	Fort Bend	1984	Miocene	122	---
Thoreen[1]	---	Zavala	1984	---	---	---
Tilden, S[1]	---	McMullen	1974	Yegua	[2]124	ss
Torch, East[1]	---	Zavala	1984	Taylor	212	---
Triple A[1,2]	Frio 6450	San Patricio	1979	Frio	123	ss
Verdi[1,3]	5600	Atascosa	1953	Buda	218	ls
Viola, 4000[1,2]	---	Nueces	1954	Catahoula	123	ss
Violet[1]	5700[3]	Nueces	1974	---	---	ss[3]
Volpe, South[1]	---	Webb	1963	Mirando	[2]124	ss

15A. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Texas Gulf Coast basin--Continued									
40	12	1192	50	---	---	---	[3]3,184	1,244	1985
[2]20	18	1266	[2]12	---	30	---	---	21,251	1985
20	20	1345	15	---	---	---	---	22,566	1985
---	18	1226	30	---	---	---	---	2,754	1985
5150	20	2112	20	---	---	---	---	55,681,368	1985
---	19	1757	---	[2]3	---	---	---	29,677	1985
40	19	1322	---	12	---	---	---	13,555	1985
---	17	876	---	[2]25	---	---	---	46,988	1985
---	19	1624	---	---	---	---	---	695	1985
---	20	1338	9	9	28	35	---	82,313	1985
---	20	1130	[2]4	---	---	---	---	22,434	1985
770	19	3368	[3]96	---	---	---	---	5,724,311	1985
---	19	5450	---	---	---	---	---	7,655,177	1985
[2]10	17	585	3	5	---	---	39,194	9,064	1985
---	18	452	1	1	31	730	---	12,119	1985
---	19	6050	75	---	---	---	---	711,024	1985
120	16	350	16	---	[2]20 [3]36	---	[3]14,338,500	4,233,045	1985
---	20	2520	2	---	---	---	---	1,202	1985
---	17.5	4182	---	---	---	---	---	56,577	1985
---	17	3794	---	---	---	---	---	833	1985
---	17	682	[2]22	---	---	---	---	1,303	1985
---	17	3654	---	---	---	---	---	1,044	1985
40	19	6430	3	[3]6	---	---	---	31,242	1985
[2]10	17	5665	72	65	---	---	21,443	7,784	1985
---	18	4097	55	---	---	---	---	742,629	1985
---	20	5740	[2]10	10	---	---	---	934	1985
---	20	2480	[2]3	---	---	---	---	655	1985

Table 15A. Summary of heavy oil deposits in Texas (except East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic Unit	Geol. age	Lith-ology
Texas Gulf Coast basin--Continued						
W.B.M.[1,3]	Poth A	Wilson	1961	Olmos	212	ss
Warncke[1]	---	Wilson	1980	Carrizo	[2]124	ss
Westhoff Ranch, N.[1]	---	Jackson	1979	Frio[2]	[2]123	ss
Wheeler-Mag[1,2]	1200	McMullen	1965	Jackson	124	ss
Wherry & Green[1]	Carrizo	Atascosa	1952	Carrizo	124	ss
Wherry & Green[1,2]	Reklaw	Atascosa	1952	Reklaw	124	ss
White Creek, E.[1]	1800	Live Oak	1966	Hockley[2]	[3]123	ss
White Creek, S.[1,2]	---	Live Oak	1941	Yegua	124	ss
Windmill Creek[1]	---	Zavala	1983	Escondido	212	---
Winn-Dulce[1]	Bracero	Zavala	1983	Bracero[7]	---	---
Winn-Dulce[1]	Del Monte	Zavala	1983	Del Monte[7]	---	---
Winn-Dulce[1]	Elaine	Zavala	1982	Elaine[7]	---	---
Winston[1,3]	---	Gonzales	1977	Austin	[2]212	ls
Withers, North[1,3]	D-2, East	Wharton	1974	---	---	ss
Yancy[1,2]	---	Medina	1938	Navarro	212	ss
Zimet[1,2]	Yegua G[3]	Webb	1963	Yegua	124	ss
Zimet[1,2]	Yegua H[3]	Webb	1963	Yegua	124	ss
Texas Permian basin						
Azalea, W.[1]	San Andres	Midland	1981	San Andres	[2]313	---
Billy Holland[1]	---	Edwards	1948	Glen Rose[2]	[2]218	ss
Blalock Lake, E.[1]	Wolfcampian	Glasscock	1971	Wolfcampin	319	dol/ls
Coronet[1,2,3]	---	Howard	1952	Glorieta/ San Angelo.	318	dol
Dollarhide, East[1,2]	---	Andrews	1956	Wolfcampian	319	dol/ls
Dorvene[1,3]	Yates	Ward	1970	Yates	313	dol
Fluvanna[1,2,3]	Leonard	Borden	1969	Leonard	318	dol/ls
Grassroots[1,2,3]	---	Pecos	1942	U. Permian	311	ss
Hence[1,3]	Grayburg	Ector	1962	Grayburg	[2]313	ls

15A. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Texas Gulf Coast basin--Continued									
[2]40	18	1315	[2]3	---	---	---	848	308	1985
---	19	458	---	---	---	---	---	542	1985
---	20	5486	---	---	---	---	---	27,836	1985
350	15	1193	7	[3]9	30	400	[3]1,490,970	403,838	1985
[2]80	19	1690	[3]10	10	---	---	[3]1,078,320	230,515	1985
140	20	1710	7	[3]22	---	---	[3]1,822,740	403,253	1985
---	19	1811	[2]5	---	---	---	---	71,718	1985
70	20	1841	8	70	---	---	---	322,167	1985
---	17	716	---	---	---	---	---	6,440	1985
---	19	3074	---	---	---	---	---	225,742	1985
---	15	2921	---	---	---	---	---	98,604	1985
---	15	2790	---	---	---	---	---	190,900	1985
100	20	7376	220	---	12	---	---	195,266	1985
---	20	5389	6	6	---	---	---	23,204	1985
---	18	818	15	---	---	---	[3]1,405	510	1985
10	18	1221	6	---	---	---	---	50,067	1985
10	20	1227	4	---	---	---	---	40,091	1985
Texas Permian basin--Continued									
---	19	4338	---	---	---	---	---	747	1985
---	20	540	[2]11	---	---	---	---	0	1985
---	17	7914	[2]43	[3]43	---	---	5,852,550	2,395,612	1985
620	20	2740	15	---	---	---	---	532,632	1985
40	18	8350	25	---	---	---	[3]5,191	1,220	1985
---	20	2951	[2]4	4	8	100	245,926	66,830	1985
---	15	5160	22	22	---	---	124,909	39,939	1985
240	19	42	3	---	---	---	13,405	3,698	1985
---	20	4473	[2]4	4	---	---	570,161	153,305	1985

Table 15A. Summary of heavy oil deposits in Texas (except East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Texas Permian basin--Continued						
Holman Ranch[1,2]	---	Edwards	1947	Ellenburger	[3]367	dol
Hurlbut[1,2]	---	Mitchell	1952	Sunflower[7]	[3]313	ss
Leeper[1]	Wolfcampian	Hockley	1979	Wolfcampian	[2]319	dol/ls
Log-Pat[1]	Wichita-Albany	Scurry	1969	Wichita-Albany	[2]318	dol/ls
Marholl[1]	Clear Fork	Dawson	1981	Clear Fork	[2]318	ls
Massey[1]	1000	Pecos	1978	---	---	---
Massie West[1,2]	Paluxy	Val Verde	1959	Paluxy	218	ss
Millspaugh[3]	Glen Rose	Crockett	1965	Glen Rose	218	ls
Oates[1,2]	---	Pecos	1947	Rustler	312	dol
Olson[1,3]	---	Crockett	1940	Grayburg/ San Andres.[2]	313	dol
Parmer[1]	---	Val Verde	1969	Paluxy	[2]218	ss
Pyote[1,2]	---	Ward	1942	Yates/Seven Rivers	313	ls
Ropesville[1]	Clear Fork	Hockley	1978	Clear Fork	318	ls/dol[2]
Sand Hills, S.[1,3]	Holt	Crane	1966	Holt[7]	313	ls
Schuler[1]	Leonard	Pecos	1964	Leonard	[3]318	dol/ls
Schuler, S.[1]	Leonard	Terrell	1966	Leonard	[2]318	dol/ls
Toborg[1,2,3]	---	Pecos/Crockett	1929	Trinity	218	ss/cgl
Turney[1,2,3]	---	Edwards	1939	Glen Rose	218	ls
Walt[1,2,3]	Paluxy	Edwards/Val Verde	1961	Paluxy	218	ss
Wardlaw[1,2,3]	---	Edwards	1947	Glen Rose	218	ss
Wentz, W.[1]	Grayburg	Pecos	1965	Grayburg	[2]313	ss
Wilson, West[1]	Clear Fork	Lynn	1981	Clear Fork	[2]318	ls
Worth Evans[1]	---	Edwards	1984	Glen Rose	218	---

15A. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Texas Permian basin--Continued									
640	14	550	10	10	31	174	[3]411,826	164,860	1985
80	19	126	2	---	20	500	6,889	2,529	1985
---	18	8492	---	---	---	---	---	1,946	1985
---	20.5	5094	[2]10	10	---	---	[3]96,270	37,195	1985
---	20	7403	---	---	---	---	---	25,586	1985
---	20	1004	[2]10 (est.)	---	---	---	---	24,770	1985
50	18	360	10	---	30	1200	[3]450,104	102,199	1985
---	20	[2]368	3	---	---	---	---	0	1985
360	18	790	[2]10 [3]55	55	---	---	4,951,700	1,001,886	1985
---	18	1828	18	40	8?	---	49,996,896	13,275,357	1985
---	20	473	[2]6	---	---	---	---	106	1985
80	19	2827	20	[3]30	---	---	[3]1,559,840	338,486	1985
---	18	5796	---	---	---	---	---	11,277	1985
---	20	3723	10	10	---	---	409,919	123,802	1985
---	20	4619	[2]19	---	---	---	[3]21,017	4,939	1985
---	17	4324	[2]12	[3]12	---	---	[3]2,903	1,513	1985
500	19; 10-30	[1]500 [3]200	10	32	33	2800	181,991,008	40,480,993	1985
80	20	[1]600 [3]535	10	---	---	---	33,947	19,001	1985
1147	17	284	[2]11 [3]37	6	18	2500	138,672	32,320	1985
640	18	300	18	218	29	58	100,696	62,593	1985
---	20	1710	[2]20	20	---	---	[3]9,732	2,112	1985
---	17	6522	---	---	---	---	---	12,169	1985
---	20	295	---	---	---	---	---	13	1985

Table 15A. Summary of heavy oil deposits in Texas (except East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
South Oklahoma folded belt						
Barbour[1,3]	Strawn	Grayson	1954	Strawn	325	ss
Char-Jan[1]	---	Cooke	1976	Strawn	325	ss
Collinsville, East[1]	Strawn 2750[3]	Grayson	1965	Strawn	[3]325	ss
Dangle[1]	Strawn 1600[3]	Cooke	1954	Strawn	325	ss
Dove[1,2]	---	Cooke	1950	Strawn	325	ss
Dove[1]	Pennsylvanian, Basal.	Grayson	1975	Pennsylvanian, Basal.	[3]325	ss
Dozier[1]	Oil Creek	Cooke	1955	Oil Creek	360	ss
Gee, S. W.[1]	5100[3]	Grayson	1962	Strawn	325	ss
Hester[1]	Strawn 4800[3]	Grayson	1954	Strawn	325	ss
Mackoy[1]	Strawn 3100[3]	Grayson	1973	Strawn	325	ss
Mackoy, East[1]	Strawn 4200[3]	Grayson	1956	Strawn	325	ss
Mackoy, East[1]	Strawn 4200-2[3]	Grayson	1964	Strawn	325	ss
Southmayd[1]	Barnes[3]	Grayson	1975	Barnes[7]	---	---
Southmayd[1]	Strawn 4700[3]	Grayson	1965	Strawn	325	ss
Stein[1]	---	Grayson	1980	Strawn	325	ss
Sweetgrass[1]	---	Grayson	1983	Stapp[7]	---	---
Veto[1]	Strawn	Grayson	1974	Strawn	325	ss
Bend Arch						
Bolton[1,3]	Strawn	Young	1956	Strawn	325	ss
Josie[1,2]	---	Callahan	1948	Cisco	321	ls
Kingsbury[3]	170	Eastland	1980	---	---	ss
Fort Worth syncline						
Fritcher Sand[1]	---	Denton	1984	---	---	---
Pilot Point[1,2]	---	Denton	1951	Strawn	325	ss
Saint Jo, S.W.[1,3]	Conglomerate	Montague	1953	Bend	326	cgl

15A. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
South Oklahoma folded belt									
---	20	6450	23	23	15	---	---	19,360	1985
---	14	2298	[2]5	---	---	---	---	6,382	1985
---	19	2758	[2]9	---	---	---	---	49,380	1985
[2]40	16; [3]16-17	1614	[2]31	---	[3]23	[3]299	---	261,573	1985
260	18	3253	24	---	21	75	---	1,940,998	1985
---	13	3708	[2]6	6	---	---	---	11,369	1985
[2]160	13	6351	[2]10	---	[3]20	---	---	19,614	1985
---	20	5076	[2]7	7	---	---	---	29,612	1985
[2]20	18	4870	[2]18	---	[3]16	---	---	32,423	1985
---	19	3154	[2]6	---	---	---	---	7,183	1985
[2]40	16	4184	[2]19	---	[3]18	---	---	41,379	1985
---	20	5350	---	---	---	---	---	174,851	1985
---	14	4855	[2]17	---	---	---	---	52,199	1985
---	20	4760	[2]48	---	---	---	---	47,732	1985
---	20	3809	---	---	---	---	---	66,094	1985
---	19	4086	---	---	---	---	---	5,170	1985
---	17	5184	[2]17	---	---	---	---	3,313	1985
Bend arch--Continued									
240	3424	20	210	12	17	275	---	31,337	1985
40	1554	20	12	---	---	---	[3]4436	1,260	1985
---	178	20	---	---	---	---	---	260	1982
Fort Worth syncline--Continued									
---	2870	18	---	---	---	---	---	5,761	1985
60	1550	20	15	---	[3]16	---	---	24,292	1985
12	6711	20	[2]3	---	---	---	---	528,369	1985

Table 15A. Summary of heavy oil deposits in Texas (except East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Llano uplift						
Bratton[1].....	---	McCulloch.....	1979	Strawn.....	[2]320	ss
Doreen, Shallow[1]....	---	Kimble.....	1954	Buck[2,7].....	---	ss
Doreen[1].....	Strawn 1200.....	Kimble.....	1980	Strawn.....	[3]325	ss
RFS[1].....	---	Menard.....	1984	Cisco.....	321	---
Wilson Ranch[1,2].....	---	Sutton.....	1975	Wolfcampian.....	319	dol/ls
Quachita tectonic belt						
Hubbard[1,2].....	---	Hill.....	1959	Woodbine.....	212	ss
Seneca[1].....	---	McLennan.....	1978	Georgetown.....	[2]218	ls

15A. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Llano uplift--Continued									
---	726	18	---	---	---	---	---	2,193	1985
[2]120	1072	20	[3]22	---	---	---	[3]7,629	824	1985
---	1223	20	[2]13	---	---	---	---	901	1985
---	1636	19	---	---	---	---	---	0	1985
---	3873	20	37	---	---	---	---	160	1985
Quachita tectonic belt--Continued									
10	19	1160	1	[3]10	---	---	---	15,790	1985
---	19	365	---	---	---	---	---	0	1985

Table 15B. Summary of heavy oil deposits in Texas (East Texas basin)

Field	Reservoir	County	Year disc.	Stratigraphic Unit	Geol. age	Lith-ology
East Texas basin						
Alba[1,2]	---	Wood	1948	Sub-Clarksville	212	ss
Boggy Creek[1,2]	Wilcox[3]	Anderson	1957	Wilcox	124	ss
Bo-Nan-De[1]	Sub-Clarksville	Hopkins	1980	Sub-Clarksville	[2]212	ss
Camp Hill[1,2]	---	Anderson	1955	Carrizo	124	ss
Chapel Hill 5700[1]	---	Smith,	1959	Paluxy[2]	[3]218	ss
Chapel Hill, E.[1,2]	Paluxy	Smith	1959	Paluxy	[3]218	ss
Chapel Hill, E.[1]	Paluxy 5600	Smith	1967	Paluxy[2]	[3]218	ss
Coats[1,2]	Sub-Clarksville	Wood	1949	Sub-Clarksville	212	ss
Como[1,2]	Sub-Clarksville	Hopkins	1954	Sub-Clarksville	212	ss
Como, N.E.[1]	Sub-Clarksville	Hopkins	1985	Sub-Clarksville	212	ss
Concord[1,2]	---	Anderson	1960	Woodbine	212	ss
Concord Dome[1,2]	---	Anderson	1960	Woodbine	212	ss
Dalby Springs[1]	Paluxy	Bowie	1952	Paluxy	218	ss
Deron	---	Red River	1982	Glen Rose	218	---
Deu Pree[1,2]	---	Wood	1951	Woodbine	212	ss
Forest Hill[1,2]	Harris sand	Wood	1954	Harris	212	ss

[1]Railroad Commission of Texas (1986).

[2]Interstate Oil Compact Commission (1984).

[3]Petroleum Information Corporation (1984).

[4]Transferred to F. H. Harris Sand, 1966.

[5]Consolidated into Sub-Clarksville 1st, 1974.

[6]Changed to Woodbine, 1964.

[7]Consolidated into Sugar Hill-Paluxy, 1974.

[8]Driller's term.

15B. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
East Texas basin--Continued									
690	[3]15; 15-17	4074	10	---	21	240	---	7,353,582	1985
20	19	1474	7	---	---	---	---	10,988	1985
---	15	4070	5	[3]5	---	[3]18	---	14,947	1985
605	19; [2]17-19 [3]18-37	540	[2]35 [3]6	---	37	12,000	---	2,054,323	1985
---	20	5700	11	---	---	---	---	13,015	1985
239	16.5; [2]16-20	5693	13	---	23	[2]276 [3]125	---	48,485	1985
---	---	5619	[2]6	---	---	---	---	229,671	1985
1440	14	4873	12	---	27	494	---	12,089	1985
180	18	4028	35	---	[3]18	[3]69	---	1,058,940	1985
---	12.6	4038	---	---	---	---	---	15,189	1985
20	15; [3]12-15	4484	20	---	[3]25	---	---	16,527	1985
600	12	4404	14	---	[3]23	---	---	1,571,778	1985
[2]40	18	4363	[2]12	---	[3]20	---	---	38,878	1985
---	14	1786	---	---	---	---	---	808	1985
40	16; [3]14-16	5738	12	---	[3]20	[3]250	---	169,263	1985
1800	15	4679	16	---	28	400	---	2,060,028	1985

Table 15B. Summary of heavy oil deposits in Texas (East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic Unit	Geol. age	Lith-ology
East Texas basin--Continued						
Forest Hill[1,2,4]....	Harris sand, Segment B.	Wood.....	1965	Harris.....	212	ss
Forest Hill[1,2,4]....	Harris sand, Segment C.	Wood.....	1965	Harris.....	212	ss
Forest Hill[1,2,4]....	Harris sand, Segment D.	Wood.....	1965	Harris.....	212	ss
Forest Hill[1,2,4]....	Harris sand, Segment E.	Wood.....	1965	Harris.....	212	ss
Forest Hill[1,2,4]....	Harris sand, Segment F.	Wood.....	1965	Harris.....	212	ss
Forest Hill[1,2].....	Sub-Clarksville 1st.	Wood.....	1965	Sub-Clarksville...	212	ss
Forest Hill[1,5].....	Sub-Clarksville 2nd.	Wood.....	1965	Sub-Clarksville...	212	ss
Forest Hill[1,2].....	Eagle Ford.....	Wood.....	1950	Eagle Ford.....	212	ss
Grand Saline[1,2].....	---	Van Zandt.....	1963	Paluxy.....	218	ss
Hawkins[1,2].....	---	Wood.....	1940	Woodbine.....	212	ss
Hosannah[1].....	---	---	1982	Woodbine.....	212	ss
Hubbard[1].....	---	Hill.....	1959	Woodbine.....	212	ss
Irene[1].....	---	Smith.....	1975	Paluxy.....	218	ss
Janna-Pat[1].....	---	Wood.....	1979	Sub-Clarksville...	212	ss
Jeff Smith[1].....	---	Hopkins.....	1980	Paluxy.....	218	ss
K. B. & Z.[1].....	Woodbine.....	Wood.....	1982	Woodbine.....	212	ss
K. B. & Z.[1].....	Woodbine B.....	Wood.....	1985	Woodbine.....	212	ss
Keith[1,2].....	---	Leon.....	1957	Queen City.....	124	ss
Lakeview[1].....	---	Franklin.....	1979	Rodessa.....	[3]218	ls
Manziel[1].....	FB-A.....	Wood.....	1970	Sub-Clarksville...	212	ss
Manziel, SE[1,2].....	---	Wood.....	1967	Sub-Clarksville...	212	ss
Manziel, W[1].....	---	Wood.....	1982	Sub-Clarksville...	212	ss
McCrary[1,2].....	---	Wood.....	1952	Sub-Clarksville...	212	ss

15B. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
East Texas basin--Continued									
2856	15	4604	19	[3]13	28	740	---	4,943	1985
2856	15	4840	---	---	---	---	---	102,445	1985
2856	15	4858	12	---	28	740	---	27,797	1985
2856	15	4853	---	---	28	740	---	29,949	1985
2856	15	5000	13	---	28	740	---	8,586	1985
130	16	4642	10	---	22	400	---	515,559	1985
---	20	4669	[2]6	---	---	---	---	84,444	1985
2856	16	4452	20	---	29	740	---	4,299,078	1985
40	14	5781	10	---	---	---	---	106,128	1985
13,980	19; [3]19-24	4531	[2]75 [3]6	---	27	---	---	778,920,852	1985
---	20	2647	---	---	---	---	---	18,920	1985
---	19	1160	---	---	---	---	---	15,790	1985
---	19	7310	[2]12	---	---	---	---	17,174	1985
---	18	4608	[2]15 (est.)	---	---	---	---	2,622	1985
---	12	4586	---	---	---	---	---	1,569	1985
---	11	4668	---	---	---	---	---	3,405	1985
---	15	4897	---	---	---	---	---	2,581	1985
10	18	300	9	---	---	---	---	0	1985
---	18	5760	---	---	---	---	---	3,883	1985
---	18	4169	213	---	---	---	---	175,473	1985
102	18; [3]13-18	4166	22	---	26	912	---	327,817	1985
---	16	4178	---	---	---	---	---	13,978	1985
[2]140 [3]70	20	4364	10	---	[3]26	[3]1400	---	1,207,733	1985

Table 15B. Summary of heavy oil deposits in Texas (East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
East Texas basin--Continued						
McCrary, W.[1].....	---	Wood.....	1966	Sub-Clarksville...	212	ss
Mineola[1,2].....	---	Wood.....	1949	Sub-Clarksville...	212	ss
Mitchell Creek[1,2,3]	---	Hopkins.....	1948	Paluxy.....	218	ss
Mitchell Creek, N.[1]	---	Hopkins.....	1970	Paluxy.....	218	ss
Mitchell Creek, SW[1]	---	Hopkins.....	1978	Paluxy.....	218	ss
Newsome[1,2].....	---	Camp.....	1953	Sub-Clarksville...	212	ss
Nolan Edward[1,2].....	---	Wood.....	1949	Sub-Clarksville...	212	ss
Nolington[1,2].....	---	Titus.....	1961	Blossom.....	212	ss/ls
Nolington[1].....	Sub-Clarksville	Titus.....	1964	Sub-Clarksville...	212	ss
Norman Paul[1,2].....	---	Wood.....	1946	Woodbine.....	212	ss
Nova[1].....	---	Wood.....	1971	Sub-Clarksville...	212	ss
Nova, South[1].....	---	Titus.....	1980	Sub-Clarksville B	212	ss
Pewitt Ranch[1,2].....	---	Titus.....	1949	Paluxy.....	[3]218	ss
Pine Mills[1].....	Orr.....	Wood.....	1950	Orr[8].....	---	ss
Pine Mills, W.[1].....	---	Wood.....	1983	Woodbine B.....	212	ss
Pittsburg[1,2].....	Sub-Clarksville	Camp.....	1958	Sub-Clarksville...	212	ss
Pittsburg[1].....	Sub-Clarksville B	Camp.....	1964	Sub-Clarksville...	212	ss
Purt[1,2,6].....	---	Anderson.....	1963	Woodbine.....	212	ss
Quitman, S.[1].....	---	Wood.....	1965	Sub-Clarksville...	212	ss
Quitman, SE[1].....	---	Wood.....	1971	Sub-Clarksville...	212	ss
Quitman, SE[1].....	---	Wood.....	1982	Woodbine.....	212	ss
Quitman, SE[1].....	---	Wood.....	1983	Woodbine, Upper...	212	ss
Seneca[1].....	---	McLennan.....	1978	Georgetown.....	218	---
Shirley-Barbara, E.[1]	---	Wood.....	1964	Woodbine.....	212	ss
Slocum[1].....	---	Anderson.....	1955	Carrizo.....	124	ss
Sugar Hill[1,2,3].....	Paluxy.....	Titus.....	1952	Paluxy.....	218	ss

15B. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
East Texas basin--Continued									
---	17	4345	[2]7	---	---	---	---	449,374	1985
40	18	4608	---	---	---	---	---	2,834	1985
220	[2]14, [3]18	4515	29	25	21	1500	---	1,459,507	1985
---	18	9340	[2]2	---	---	---	---	9,526	1985
---	18	4546	---	---	---	---	---	4,726	1986
620	18	3854	[2]10 [3]21	---	---	847	---	1,836,418	1985
403	20; [3]18-22	4762	26	---	24	250	---	2,328,466	1985
80	20	2366	2	---	---	---	---	99,715	1985
---	20	2694	[2]15	---	---	---	---	5,629	1985
40	17.5	5237	22	40	---	---	---	524,268	1985
---	20	4800	[2]15 (est.)	---	---	---	---	140,449	1985
---	19	4760	---	---	[3]24	[3]113	---	121,375	1985
1180	19	4507	29	---	24	1400	---	22,177,361	1985
---	20	4764	---	---	[3]27	---	---	846,856	1985
---	19	5516	---	---	---	---	---	26,892	1985
500	13	3844	9	[3]10	---	---	---	2,184,667	1985
---	16	3793	[2]7	---	---	---	---	891,588	1985
160	19	3088	22	---	---	---	---	158,162	1985
---	16	4217	[2]7	---	---	---	---	82,720	1985
---	16	4201	[2]4	---	---	---	---	118,818	1985
---	15	4581	---	---	---	---	---	22,853	1985
---	11	4512	---	---	---	---	---	1,664	1985
---	19	365	---	---	---	---	---	0	1985
---	16	6232	[2]8	---	---	---	---	99,387	1985
2500	19	490	24	---	38	2655	---	8,798,534	1985
120	18	4836	11	---	22	375	---	242,589	1985

Table 15B. Summary of heavy oil deposits in Texas (East Texas basin)--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
East Texas basin--Continued						
Sugar Hill[1,7].....	Paluxy, Lower...	Titus.....	1969	Paluxy, Lower.....	[3]218	ss
Talco, West[1].....	---	Franklin.....	1978	Paluxy.....	[3]218	ss
Tami[1].....	---	Wood.....	1978	Sub-Clarksville...	[2]212	ss
Trice[1,2].....	---	Wood.....	1951	Woodbine.....	212	ss
Trix-Liz[1,2].....	---	Titus.....	1959	Sub-Clarksville...	212	ss
Trix-Liz[1,2].....	Woodbine A.....	Titus.....	1950	Woodbine.....	212	ss
Trix-Liz[1,2].....	Woodbine B.....	Titus.....	1959	Woodbine.....	212	ss
Tully[1,3].....	---	Franklin.....	1979	Paluxy.....	218	ss
Tyler[1].....	---	Smith.....	1963	Paluxy, Lower.....	[3]218	ss
Van, West[1].....	---	Van Zandt.....	1975	Woodbine.....	[2]212	ss
Winnsboro[1].....	Sub-Clarksville	Wood.....	1965	Sub-Clarksville...	[2]212	ss
Winnsboro, SE[1].....	---	Wood.....	1966	Sub-Clarksville...	[2]212	ss
Woodland[1,2].....	1770 sand.....	Red River.....	1956	Paluxy.....	[3]218	ss
Yantis[1,2].....	---	Wood.....	1948	Eagle Ford.....	212	ss
Yantis, South[1].....	---	Wood.....	1965	Coker[2].....	[3]212	ss

15B. Texas--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
East Texas basin--Continued									
---	19	4411	[2]5	---	---	---	---	29,711	1985
---	17	4296	[2]20 (est.)	---	---	---	---	238,035	1985
---	13	3968	[2]15 (est.)	[3]10	---	[3]24	---	124,122	1985
---	13; [3]13-16	5621	15	---	[3]27	---	---	784,226	1985
120	18; [3]18-23	3003	6	---	---	---	---	347,938	1985
[2]620 [3]100	20; [3]20-24	3390	4	---	[3]31	---	---	986,752	1985
820	18; [3]18-22	3588	27	---	[3]28	---	---	1,366,068	1985
---	19; [3]16-19	4456	[2]20 (est.)	16	24	300	---	12,957	1985
[2]40	19	7608	[2]13	---	---	---	---	17,220	1985
---	13	3080	[2]4	---	---	---	---	11,603	1986
---	14	4170	[2]8	---	---	---	---	2,384	1984
---	4146	12	[2]8	---	---	---	---	98,925	1985
20	1773	14	13	---	---	---	---	473	1985
4000	4210	20	6	---	---	---	---	2,482,970	1985
---	4188	17	[3]7	---	---	---	---	8,821	1985

Table 16. Summary of heavy oil deposits in Utah

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Paradox basin						
Upper Valley[1].....	---	Garfield.....	1949	Redwall[2].....	330	ls
Uinta basin						
Duchesne[1].....	Wasatch.....	Duchesne.....	1959	Wasatch.....	124	ss

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission (1984).

[3]Utah Natural Resources Division of Oil, Gas and Mining (1985).

Utah--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig. oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Paradox basin--Continued									
3350	17	8777	11	11	10	---	---	[3]19,216,982 (field).	1985
Uinta basin--Continued									
---	20	7500	75	75	---	---	---	[3]484,063 (field).	1985

Table 17. Summary of heavy oil deposits in Wyoming

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Bighorn basin						
Alkalai Anticline[1]..	---	Big Horn.....	[3]1957	Darwin.....	332	ss
Black Mountain[1].....	---	Hot Springs, Washakie[3].	[2]1924	Madison.....	339	ls
Cowley[1].....	---	Park.....	[3]1964	Tensleep.....	325	ss
Crystal Creek[1].....	---	Big Horn.....	[3]1919	Tensleep.....	325	ss
Dickie[1].....	---	Hot Springs.....	[2]1953	Phosphoria.....	318	ss
Ferguson Ranch[1].....	---	Park.....	[3]1963	Tensleep.....	325	ss
Fourbear[1].....	Amsden.....	Park.....	[3]1928	Amsden.....	327	ss/ls
Fourbear[1].....	Darwin/Madison..	Park.....	---	Darwin/Madison....	332/339	ls
Fourbear[1].....	Phosphoria.....	Park.....	---	Phosphoria.....	318	dol
Fourbear[1].....	Tensleep.....	Park.....	[2]1928	Tensleep.....	325	ss
Garland[1].....	---	Big Horn, Park...	[3]1906	Madison.....	339	ls
Gooseberry[2].....	---	Park.....	1937	Embar[6].....	318	ls
Half Moon[1].....	---	Park.....	[2]1944	Tensleep.....	325	ss/ls
Hamilton Dome[1].....	Bighorn.....	Hot Springs.....	[2]1953	Bighorn.....	361	dol
Hamilton Dome[1].....	Chugwater.....	Hot Springs.....	[2]1918	Chugwater.....	231	ss
Hamilton Dome[1].....	Curtis.....	Hot Springs.....	---	Curtis.....	224	ss
Hamilton Dome[1].....	Madison.....	Hot Springs.....	[2]1948	Madison.....	339	ls
Hidden Dome[1].....	---	Washakie.....	[2]1918	Tensleep.....	325	ss
Hunt[2].....	---	Park.....	[2]1966	Tensleep.....	325	ss
King Dome[2].....	---	Hot Springs.....	[3]1964	Phosphoria.....	318	ls

[1]Petroleum Information Corporation (1984).

[2]Interstate Oil Compact Commission (1984).

[3]Wyoming Oil and Gas Conservation Commission (1985).

[4]Wyoming Geological Association (1981).

[5]Wyoming Geological Association (1984).

[6]Name abandoned; equivalent in part to Phosphoria Formation.

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Bighorn basin--Continued									
---	16	---	---	25	---	---	---	[3]2,117,087	[3]1985
166	20	3865	9	9	14	---	---	[3]14,606,798	1985
40	19	---	---	10	11	442	---	[3]765,011	1985
[2]160	19	724	20	27	---	---	---	[3]43,557	1985
560	20	6572	15	32	2	---	---	[3]100,945	1985
---	13	---	177	177	---	---	---	[3]2,971,718	1985
180	13	---	180	---	---	---	---	[3]22,733,471 (field).	1985
880	14	3470	35	35	14	---	---	Included above.	
---	14	---	---	25	---	---	---	Included above.	
880	14	2875	60	60	11	100	---	Included above.	
---	20	3990	50	50	13	---	---	[3]154,800,791	1985
680	19	5670	75	---	---	---	---	[3]6,556,952	1985
600	18	3365	40	40	[2]16	117	---	[3]6,561,477	1985
168	16	3522	[2]40	40	13	50	---	[3]221,237,338 (field).	1985
[2]10,160	20	2162	10	10	15	40	---	Included above.	
2000	20	---	---	14	15	20	---	Included above.	
400	15	3332	[2]120	120	16	25	---	Included above.	
350	20	4549	[2]54	60	16	---	---	[3]6,043,815	1985
160	15	4210	28	---	---	---	---	[3]498,039	1985
80	18	2864	15	---	---	---	---	[3]236,682	1985

Table 17. Summary of heavy oil deposits in Wyoming--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Bighorn basin--Continued						
Lamb[1]	---	Big Horn	[3]1913	Madison	339	ls
Little Buffalo Basin.[1]	Embar	Park, Hot Springs	[3]1914	Embar[6]	318	dol
Little Buffalo Basin.[1]	Frontier	Park	---	Frontier	210	ss
Lovell Draw[3]	---	Big Horn	[1]1977	Phosphoria	318	ls
Murphy Dome[3]	---	Hot Springs, Washakie[2].	1949	Curtis[2]	224	---
Oregon Basin[1]	Madison	Park	[3]1912	Madison	339	ls
Oregon Basin, West.[1]	Phosphoria	Park	[3]1955	Phosphoria	318	ls
Pitchfork[1]	Tensleep	Park	[2]1930	Tensleep	325	ss
Pitchfork[1]	Madison	Park	[2]1948	Madison	339	ls
Pitchfork[1]	Phosphoria	Park	---	Phosphoria	318	dol
Rawhide[1]	---	Park	[3]1953	Phosphoria	318	dol
Red Springs[1]	---	Hot Springs	[2]1919	Madison	339	ls
Rose Creek[1]	---	Park	[2]1957	Phosphoria	318	ss
Sage Creek[1]	---	Big Horn, Park	[3]1948	Madison	339	ls
Sheep Point[1]	---	Park	[2]1957	Phosphoria	318	ss
Shoshone[2]	---	Park	[3]1929	Phosphoria/ Tensleep.	318/325	ls/ss
Spence Dome[1]	---	Big Horn	[2]1944	Madison	339	ls
Spring Creek, South.[1,3]	Amsden	Park	[2]1947	Amsden	327	ss/ls
Spring Creek, South.[1,3]	Embar	Park	---	Embar[6]	318	ls
Spring Creek, South.[1,3]	Madison	Park	[2]1947	Madison	339	ls
Spring Creek, South.[1,3]	Tensleep	Park	[2]1929	Tensleep	325	ss
Sunshine, North	Embar	Park	[3]1928	Embar[6]	318	ls/dol

Wyoming--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Bighorn basin--Continued									
150	19	[2]3812	[2]14	14	---	---	---	[3]958,976	1985
[2]4920	20	4264	[2]30	30	16	45	---	[3]109,493,484	1985
---	20	1500	---	---	20	---	---	Included above.	
---	18	2004	31	---	---	---	---	296	1985
1520	19	3176	12	---	---	---	---	[3]37,259,431	1985
---	18	3571	---	60	13	---	---	[3]360,112,778	1985
160	16	4311	37	37	15	---	---	[3]764,424	1985
850	15	3711	127	127	15	98	---	[3]29,505,530	1985
---	15; 14-19	4219	[2]35	35	---	---	---	Included above.	
---	18	---	---	25	15	10	---	Included above.	
---	17	---	---	28	---	---	---	[3]76,481	1985
80	11	900	60	60	12	---	---	[3]14,947	1985
[2]80	14	5069	266	66	---	---	---	[3]130,932	1985
[2]760	20	3356	20	20	[2]18	[2]125	---	[3]10,551,641	1985
[2]200	16	3624	20	20	---	---	---	[3]417,838	1985
320	18	4500	60	---	---	---	---	[3]3,222,219	1985
[2]880	19	500	215	15	---	---	---	[3]554,392	1985
[2]1200	17	4145	250	50	---	---	---	15,355,910 (field).	1985
Incl. above.	15	3677 [2]4139	230	30	11	---	---	Included above.	
Incl. above.	11	[2]4579	---	187	---	---	---	Included above.	
Incl. above.	17	3929	250	50	16	100	---	Included above	
---	18	---	---	22	17	---	---	[2]2,008,576 (field).	1985

Table 17. Summary of heavy oil deposits in Wyoming--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Bighorn basin--Continued						
Sunshine, North[1]....	Embar/Tensleep..	Park.....	---	Embar[6]/Tensleep...	318/325	ss
Sunshine, South[1]....	Tensleep.....	Park.....	---	Tensleep.....	325	ss
Sunshine, South[1]....	Embar.....	Park.....	[3]1926	Embar[6].....	318	dol
Sunshine, South[1]....	Phosphoria.....	Park.....	---	Phosphoria.....	318	ls/dol
T. E. Ranch[1].....	---	Park.....	[2]1959	Phosphoria.....	318	ss
Warm Springs[3].....	---	Hot Springs.....	1917	Embar[6].....	318	ls
Wild Horse Butte[1,2]	---	Hot Springs.....	1948	Phosphoria.....	318	ls
Willow Draw[1,2].....	---	Park.....	1972	Tensleep.....	325	dol/ss
Green River Basin						
Ferris, East[1,3].....	---	Carbon.....	1919	Chugwater.....	231	ss
Laramie Basin						
Herrick[2].....	---	Albany.....	1947	Tensleep.....	325	ss
Little Laramie[5].....	---	Albany.....	1948	Casper.....	325	ss
Powder River Basin						
Billy Creek[1].....	---	Johnson.....	[3]1923	Frontier.....	211	ss
Deadman Creek[1].....	---	Crook.....	[3]1973	Minnelusa.....	319	ss
Dutch[2].....	---	Campbell.....	[2]1975	Minnelusa.....	319	ss
Garner Lake[1].....	---	Campbell.....	[3]1966	Minnelusa.....	319	ss
Gray (abandoned).[2,3]	---	Campbell.....	[3]1966	Minnelusa.....	321	ss
Gray, South.....	---	Campbell.....	[3]1979	Minnelusa.....	319	ss
Kummerfeld, Kummer-feld West.[1,2,3]	---	Crook.....	1960	Minnelusa.....	319	ss
Little[1].....	---	Campbell.....	[3]1965	Minnelusa.....	319	ss
Mellott Ranch[2].....	---	Crook.....	1960	Minnelusa.....	319	ss/ls
Moorcroft[2,3].....	---	Crook.....	1956	Minnelusa.....	319	ss

Wyoming--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Bighorn basin--Continued									
---	14	---	---	100	15	---	---	Included above.	
---	14	3825	100	100	15	88	---	Included above.	
---	17	2480	30	30	---	---	---	[3]379,697 (field).	1985
---	16	---	---	44	17	---	---	Included above.	
---	---	[2]3905	14	11	11	---	------	[3]157,045	1985
1560	18	925	40	---	---	---	---	3,111,839	1985
100	12	1120	30	30	---	---	---	[3]6,637(S.I.)	1985
760	19; 18-20	4548	18	---	---	---	---	[3]1,840,086	1985
Green River basin--Continued									
---	18	---	---	20	8	---	---	283,963	1985
Laramie basin--Continued									
200	20	3675	32	---	---	---	---	[3],1023,220	1985
137	18	3824	37	37	23	[1]1570	---	[3]1,180,179	1985
Powder River basin--Continued									
---	19	3200	10	10	---	---	---	0	[3]1985
---	20	---	44	18	17	---	---	[3]1,002,882	1985
40	14	8883	14	25	16	150	---	[3]1,773,037	1985
[2]40	20; 20-21	---	---	6	6	---	---	[3]231,668	1985
40	19	7915	8	---	---	---	---	[3]10,616	1985
240	19	7915	8	8	10	---	---	[3]381,892	1985
172	19	7643	22	20	17	135	---	[3]10,267,712	1985
80	19	7304	10	10	13	---	---	[3]28,353 (S.I.)	1985
160	18	6956	33	23	18	500	---	[3]5,025,178	1985
960	20	2100	[4]10	---	[4]22	[4]229	---	[3]6,556,920	1985

Table 17. Summary of heavy oil deposits in Wyoming--Continued

Field	Reservoir	County	Year disc.	Stratigraphic unit	Geol. age	Lith-ology
Powder River basin--Continued						
Pine Lodge[2].....	---	Niobrara.....	[3]1960	Leo.....	321	ss
Pleasant Valley[2]....	---	Campbell.....	1963	Minnelusa.....	319	ss
Prong Creek[1,4].....	---	Crook.....	[2]1959	Minnelusa.....	319	ss
Rocky Point[1,2].....	---	Campbell[3].....	[3]1961	Minnelusa.....	319	ss
Rozet, East[2].....	---	Campbell.....	[3]1985	Minnelusa.....	319	ss
Rozet, South[1].....	---	Campbell.....	[3]1965	Minnelusa.....	319	ss
Simpson Ranch[2].....	---	Campbell.....	1971	Minnelusa.....	319	ss
Sussex[1].....	---	Frontier.....	[3]1948	Frontier, Second..	211	ss
Timber Creek, NW[1]...	---	Campbell.....	[2]1963	Minnelusa.....	319	ss
Tisdale, East[1,2]....	---	Johnson.....	1959	Tensleep.....	325	ss
Well Creek[1].....	---	Campbell.....	[2]1972	Minnelusa.....	319	ss
Wind River basin						
Bison Basin[1,2].....	---	Fremont.....	1929	Frontier.....	210	ss
Casper Creek, South.[1]	---	Natrona.....	[2]1922	Tensleep.....	325	ss
Clark Ranch[1].....	---	Natrona.....	[2]1955	Tensleep.....	325	ss
Dallas[2].....	---	Fremont.....	[3]1884	Tensleep.....	325	ss
Dubois[1].....	---	Fremont.....	[2]1946	Phosphoria.....	318	ls
Horse Ranch.....	---	Natrona.....	[2]1955	Tensleep.....	325	ss
Oil Mountain[1].....	---	Natrona.....	[2]1945	Tensleep.....	325	ss
Pine Mountain[1].....	---	Natrona.....	[2]1914	Tensleep.....	325	ss
Poison Spider[1].....	Sundance.....	Natrona.....	[3]1917	Sundance.....	221	ss
Poison Spider[1].....	Tensleep.....	Natrona.....	---	Tensleep.....	325	ss
Spindletop[1,2].....	---	Natrona.....	1922	Sundance.....	221	ss/ls
Spindletop, N. (abandoned).	---	Natrona.....	1959	Ervay.....	313	dol
Winkleman[1].....	---	Fremont.....	[3]1917	Nugget.....	231	ss

Wyoming--Continued

Area (acres)	API grav. (average; range)	Depth (ft)	Thickness Net pay (ft)	Thickness Avg. (ft)	Porosity (%)	Perme-ability (mD)	Orig.oil in-place (bbls)	Cumulative crude oil production bbls	Cumulative crude oil production year
Powder River basin--Continued									
80	20	2650	25	---	---	---	---	[3]140,024	1985
40	12	8145	36	25	20	---	---	[3]887,476	1985
640	19	6745	27	27	21	411-834	---	[3]4,311,133	1985
671	16	5450	43	6	18	475	---	[3]10,026,709	1985
320	20	8149	---	---	---	---	---	[3]2,809,386	1985
---	20; 14-24	8534	9	16	14	18	---	[3]5,334,397	1985
---	20	7880	10	13	---	---	---	[3]598,238	1985
---	15	---	---	15	12	---	---	[3]66,101,475	1985
2640	19	9552	18	18	12	29	---	[3]140,834	1985
500	20	2244	30	30	20	900	---	[3]2,624,618	1985
[2]40	20	[2]7908	22	22	10	75	---	[3]158,042	1985
Wind River basin--Continued									
220	17	603	12	75	22	100	---	[3]2,450,462	1985
480	15	[2]2400	---	50	16	200	---	[3]12,179,348	1985
105	15	[2]4678	217	17	18	131	---	[3]1,500,070	1985
660	19	1137	40	---	---	---	---	[3]10,369,575	1985
58	20	2062	93	100	14	---	---	[3]226,347	1985
[2]80	19	5160	5	5	13	12	---	[3]262,446	1985
40	13	2622	230	30	19	---	---	[3]145,064	1985
[2]80	19	[2]1800	22	2	20	300	---	[3]99,488	1985
400	19	[2]1450	[2]91	91	20	200	---	[3]3,635,251	1985
---	15	---	---	10	---	---	---	Included above.	
120	19	1100	40	40	---	---	---	[3]191,614	1985
---	19	---	---	---	---	---	---	1,299	1974
[2]207	14	1286	63	63	24	730	---	[3]82,895,832	1985

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