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Table 1.--Sedimentary basins

Basin	Map No. number (fig. 2)	Area (sq. mi.)	Maximum depth (feet)	Folds	Faults	Ground water: Water levels, range in depth above (+) or below (-) land surface in feet	Ground water: Type of pressure producing water level	Oil and gas: Range in depth to producing formations in feet	Oil and gas: Type of production	Sediments and rocks: Shale[2]	Sediments and rocks: Coal	Sediments and rocks: Sandstone or conglomerate	Sediments and rocks: Limestone or dolomite	Sediments and rocks: Evaporites (salt unless specified)	Remarks
Atlantic Coastal Plain	1	95,000	10,000	Four scattered	Rare, covered	1/2/+119 to -73	Water table and artesian		None[9]	20 percent silts and clays, 50-300 feet thick[24]	None[83]	Abundant	Abundant in Florida.	Florida[3]	Hot water, 3,005 feet deep in Georgia[3].
Eastern Triassic basins, eight	2	8 basins 300-4,000 each	2/20,000		Near margins and center[6]	1/9/0 to -165	do.		None[9]	Minor[3]	Abundant bituminous[83]	Abundant[8]	None[8]	None[3]	Basalt flows[8]
Appalachian basin	3	6/207,000	10/5,000-19,000		Thrust end normal[10]	2/+1 to -146	do.	11/600-11,600	Oil and gas	800-8,000 feet crop out[12]	Abundant bituminous[13/83]			500 feet thick 300-4,000 feet deep[14]	Volcanic rocks[13]
Gulf Coastal Plain: Florida	4a	40,000	17/>20,000	Minor	Minor	2/+125 to -148	do.	11/12/11,000-16,000	Oil[12]		None[83]		Abundant	30 inches thick and 11,000-12,000 feet deep[17]	Gravity data indicate igneous intrusions[10]. Artesian springs. One thermal spring[16]
Alabama	4b	40,000	30,000	One salt dome and one gentle fold[6]	Many in W. part[6]	2/-7 to -323	do.	18/2,600-19/17,100	Oil	Abundant	Some lignite[83]	Abundant	Moderate to abundant.	Deep and one dome	Gravity data indicate igneous intrusions[20]
Mississippi	4c	60,000	>30,000	Salt domes and gentle folds. Igneous domes[6]	Many in S. part	2/+103 to -243	do.	11/4,900-21,300	Oil and gas	do.	do.	do.	do.	Deep and domes	Igneous intrusions[20]
Basin	4d	5,000	>20,000	Some gentle folds[6]	Some near S. and SW. margins[6]	21/+46 to -29	do.	11/10,451		do.	do.	do.	do.	do.	Do.
Louisiana	4e	65,000	>40,000	Salt domes and gentle folds[6]	Many[6]	21/+25 to -179	do.	11/12/300-17,800		do.	do.	do.	do.	0-130 feet thick and 5,900-10,000 feet deep[11]	Do.
Tyler	4f	5,000	>20,000	Many[6]	Some on folds[6]	12/+3 to -287	do.	11/12/870-13,300		do.	Some bituminous[83]	do.	do.	Stable domes[6]	
Texas Gulf	4g	85,000	>40,000	Salt domes and gentle folds	Many parallel coast[6]	21/+58 to -195	do.	11/12/160-15,600		Abundant, maximum 490 feet thick.	Some lignite[83]	do.	do.	Moving domes[6]	Igneous intrusions[20]. High temp. in south[15]
Michigan basin, including Canada	5	122,000 including Canada	23/14,000	Trend NW. en echelon[23]	Largest 300-foot throw, normal[23]	1/+2 to -49	do.	11/12/700-7,400		200-400 feet thick and 1,000-5,000 feet deep[14]	<1 percent of section. Some[23]	23 percent of section[23]	67 percent of section[23]	12 percent of section[23]. 0-300 feet thick and 1,000-3,000 feet deep[14]	Salty water below 2,000-2,300 feet[23] Many drill holes[23]
Illinois basin	6	55,000	17/15,000	About 8 on E. and S.[6]	Many in S.[6]	1/2/24/-5 to -152	do.	11/12/300-5,200		Partly carbonaceous, 760 feet crops out[12]	Abundant bituminous[83]			None or little[25]	
Forrest City basin	7	15,000	5,000	Many gentle folds[25]		26/27/Flowing to -160	do.	11/910-3,230		Abundant, partly carbonaceous	Abundant bituminous[83]	Abundant[25]	Abundant[25]		
Salina basin	8	20,000	28/4,500	Many gentle folds[28]		29/30/Flowing to -265	do.	18/1,400-3,381	Oil	.12/25/ 600-700 feet thick and 0-900 feet deep in Permian[14]. 100-300 feet thick and 3,000 feet deep in Pennsylvania[28]	Some lignite[84]	Abundant[28]	Abundant[28]	0-300 feet thick and 500-1,500 feet deep[14]	Artesian spring from Dakota sandstone on a fault.
Mississippi-Arkansas basin	9	10,000	17/20,000	Many folds and domes, especially in S.	Many	12/-10 to -18	do.	11/18/32/825-7,700	Oil and gas	Carbonaceous, 1,000-12,000 feet crops out[12]	Some bituminous[83]	Abundant	Abundant		
Anadarko basin	10	35,000	33,000	On E., W., and S. margins	Near folds	21/31/32/-1 to -239	do.	11/18/33/200-24,600		500-4,000 feet thick[12]	None[83]	do.	do.	800 feet thick	Possible deep solution of salt[34/35]. Saline springs[36]
Fort Worth basin	11	5,000	37/17,000	Some gentle folds[6]	N. and E. sides; buried[38]	39/-4 to -580	do.	11/12/37/900-8,900		Thick and 1,400 feet deep[12]	Some bituminous[83]				
Val Verde basin	12	3,000	15/25,000		N. and S. margins; buried[38]	21/-21 to -693	do.	13/40/1,500-22,000			None[83]				
Midland basin	13	8,000	17/20,000	Some gentle folds[6]	S. and W. margins; buried[38]	21/0 to -250	do.	11/15/2,800-14,000		Abundant	do.	Abundant	Abundant	50-700 feet thick and 60 percent salt[2]	Shallow formations discharge as springs.
Delaware basin	14	7,000	12/25,000	do.	On margins; some buried[38]	21/41/42/+65 to -502	do.	2,500-23,000		do.	do.	do.	do.	1,700 feet thick and 2,500 feet deep[4]	
Palo Duro basin	15	10,000	17/10,000	do.	N. and S. margins; buried[38]	21/-44 to -325	do.		Sparse and oil and gas[9/15]	do.	do.	do.	do.		
Delhart basin	16	3,000	17/7,000	do.	SE. margin; buried[38]	21/-34 to -332	do.	9/15/18/600-6,200	Sparse oil	do.	do.				
Denver basin	17	44/60,000	44/14,000-15,000		E. margin[6]	45/46/47/+86 to -470	do.	18/48/1,000-9,200	Oil and gas	1,000-8,000 feet thick[14]	Abundant subbituminous[83]			80-170 feet thick and 4,100-6,000 feet deep[44]	Oil in stratigraphic traps[44]
Powder River basin	18	44/20,000	44/17,000-20,000	Minor on N. and E. flanks; sharpe on S. and W. flanks[44]	Reverse faults on SE. edge. Faults near folds[6]	65/49/Flowing to -222	Artesian	900-15,000	do.	Bentonitic and 2,500 feet thick.	Thick and <120 feet deep. Abundant subbituminous[50]	Approx. 50 percent of section.	Abundant	6,000-14,000 feet deep	80 percent of oil from stratigraphic traps[44]. One thermal spring[16]
Williston basin, including Canada	19	225,000 including Canada	17,000	11 in W. half[53]	About 5 near folds[51]	24/+1 to -112	Artesian	11/3,000-12,800	do.	1,200 feet crops out, montmorillonitic[12]	Abundant lignite. Thick and 0-120 feet deep[50/83]	Abundant		100-400 feet thick and >4,000 feet deep[44]	Saline springs in N.[51]
Rio Grande basins, six	20	6 basins 1,000-3,000 each	15,000-20,000		Many on margins and center including thrust[6/13]	42/-5 to -497	Water table and artesian?		None[13]	800-2,400 feet crops out. 45 percent of section[12]	Some bituminous[84]	Interbeds in shale. 16 percent of section	37 percent of section.	2 percent of section	Thermal springs[16]
SW. New Mexico basins, six	21	6 basins 100-600 each	52/>10,000			42/-24 to -272	do.		None[13]	do.	None[83]				Igneous intrusions[53]
San Juan basin	22	54/20,000	44/14,000-15,000	Tight NE half and gentle SW half. Igneous domes.	Many in NE half near or along folds. High-angle reverse[50]	55/56/57/+92 to -500	Water table and artesian	11/900-11,000	Oil and gas	2,000 feet thick and 0-2,000 feet deep[14]	Abundant subbituminous[83]	34 percent sandstone in upper 5,000 feet[54]		<1 percent gypsum	Igneous intrusions. Thermal springs[16]
Black Mesa basin	23	8,000	44/8,000-10,000	Some broad gentle folds[6]	Many in W., one in center[6]	57/58/Flowing to -1,118	do.		None[15]		Some subbituminous[83]				Igneous intrusions[6]
Raton-Vermejo basin	24	3,000	44/12,000-15,000	do.		57/59/60/+80 to -880	do.	12/6,700	Minor oil in N.		do.				
San Luis basin	25	4,000	44/15,000-20,000		Many on margins[6]	61/+61 to -238	do.		Spare oil and gas. Some CO_2[9].		do.				Thermal springs[16]
Paradox basin	26	44/19,000	44/20,000-25,000	Tight in NE. half and gentle in SW. half, NW. trend. Igneous domes.	Many in NE. half on or near folds.	56/62/-1 to -800	do.	48/2,000-9,600	Oil and gas in S.		do.			4,000-12,000 feet thick and 0-8,000 feet deep[6]	Igneous intrusions. One thermal spring[16]
Piceance basin	27	44/3,900	44/27,000	N. and S. ends[6]	N. and E. sides[44]. Small normal[16]	62/63/0 to -675	do.	11/18/500-8,800	Gas		Some bituminous[83]				Oil shale[44]. Thermal springs on E.[16]
Uinta basin	28	44/8,000	44/30,000-32,000		N. side[44]	43/+11 to -25	do.	11/2,000-13,000	Oil and gas. Some CO_2[9/44].	Abundant	Some bituminous[84]	Abundant	Some in Paleozoic. Minor[49]		Oil shale and gilsonite[44]
North and Middle Parks	29	4,000	44/15,000-20,000	In N. part of N. Park[6]	Many[6]	49/62/-2 to -270	do.	11/2,600-29,000	Oil and gas in N. Park.	Contains sandstone and is 200-5,000 feet thick[49]	Some subbituminous[83]	Abundant[49]			Thermal springs[16]
Laramie basin	30	44/2,000	44/10,000-15,000	Many on margins and center[6]	Many on margins[6]	45/65/-1 to -66	do.	18/800-5,400	Oil and gas		do.				One thermal spring[16]
Hanna basin	31	44/1,000	44/25,000-30,000	Some on margins, one in center[6]	Some on N. and S. margins[6]	Flowing to -118	do.		Spares gas[15]		Abundant subbituminous[84]				
Washakie and Sand Wash basins	32	3,000	44/>30,000	Two in W. part[6]	Many	65/Flowing to -895	do.	11/65/1,100-10,500	Oil and gas	Heavy shale, 150-525 feet thick and 0->11,000 feet deep[65]	do.	Abundant[65]	Minor[65]	None[65]	
Red Desert basin	33	2,000	44/380,000	Two on S. and E. margins[6/44]	Some on N. margin[6/44]	65/+51 to -151	do.	11/65/3,800	Oil	do.	do.	do.	do.	do.	
Green River basin	34	44/21,000	44/>30,000	Some on margins[6]	Thrusts on E. and W. sides[44]	66/+290 to -249	do.	11/12/300-18,000	Oil and gas	do.	do.		Lower one-third of section[67]		
Jackson Hole	35	44/2,000	44/20,000-25,000	Well-developed anticlines[67]	Many[6]	68/Flowing to -88	do.		None[13]		Some subbituminous[83]				Thermal springs[16]
Wind River basin	36	3,000	44/25,000-30,000	Anticlines in S. and NW parts[6]	N. and E. sides[44]	69/Flowing to -480	do.	11/12/300-14,000	Oil and gas		do.				Lavas and basalts[44]. Thermal springs[16]
Bighorn basin	37	4,000	44/20,000-25,000	Steep W. side[6]	N. and W. sides[44]	70/-1 to -120	do.	11/15/1,400-12,900	do.	600-1,000 feet crops out[12]	do.				Many intrusions and dikes[71]
Crazy Mountain basin	38	1,000	44/>30,000	Tight on margins and gentle in center[71]	Many on margins and W. center. Some thrusts[71]	72/73/Flowing to -120	do.	1,000-5,500	do.		Some bituminous[84]		12 percent of section		
Western Montana basins, eight	39	8 basins 300-600 each	74/52,000?	Many on margins[38]	Many on margins[38]	75/Flowing to -145	do.		None[9]	Mostly siltite[74]	Some subbituminous[83]	Fine- to medium-grained quartzite[74]	Upper one-third of section[74]		Abundant volcanic and granitic rocks in S.[75]. Thermal springs[16]
SW. Utah basin	40	1,500	12,000	Two anticlines[76/77]	Large on E.	78/-1 to -102	do.	77/475-800	Minor oil	200 feet thick including 3 feet of limestone[79]	Some lignite[84]				Thermal springs[16]
San Joaquin basin	41	14,000	80/32,000	Many on W. and S.[80]	Many on margins[38]	81/82/-10 to -200	do.	11/15/18/600-11,000	Oil and gas	100-10,000 feet crops out[12/80]	Some subbituminous[84]				Thermal springs[16]. Land subsidence.
Sacramento basin	42	11,000	80/53,000	Many on W. and N.[18/80]	Many on margins[38/80]	82/-13 to -70	do.	11/2,000-9,000	Mostly gas	do.	Some lignite[84]				Intrusive near center. Volcanic rocks in E. Land subsidence. Thermal springs[16]

INDEX TO REFERENCES IN TABLE 1.

1/ U.S. Geological Survey, (1970a).
2/ U.S. Geological Survey, (1971a).
3/ Maher, (1971).
4/ Pierce and Rich, (1962).
5/ McKee and others, (1959).
6/ U.S. Geological Survey and American Association of Petroleum Geologists, (1962).
7/ Johnston, (1960).
8/ Cushman, (1964).
9/ Vlissides and Quiris, (1964).
10/ Love and Hoover, (1961).
11/ American Association of Petroleum Geologists, (1961-1972).
12/ Marsweather and others, (1973).
13/ Colton, (1962).
14/ American Association of Petroleum Geologists, (1964).
15/ Landes, (1970).
16/ Waring, (1965).
17/ American Association of Petroleum Geologists and U.S. Geological Survey, (1967).
18/ Society of Petroleum Engineers of AIME, (1959).
19/ Nichols, (1972).
20/ Murray, (1961).
21/ U.S. Geological Survey, (1971b).
22/ Dillard, (1963).
23/ de Witt, (1961).
24/ U.S. Geological Survey, (1969).
25/ Lee, (1943).
26/ Bayne and Schoewe, (1967).
27/ Walters, (1953).
28/ Lee and others, (1948).
29/ Berry, (1952).
30/ Bayne and Walters, (1959).
31/ Hinghem, (1969).
32/ Marine and Schoff, (1962).
33/ Oil and Gas Journal, (1972).
34/ Frye and Schoff, (1942).
35/ Ward and Leonard, (1961).
36/ Stevens and Hardt, (1965).
37/ Fort Worth Geological Society, (1951).
38/ King, (1969a).
39/ Thompson, (1969).
40/ West Texas Geological Society, (1959).
41/ U.S. Geological Survey, (1968).
42/ Busch and Hudson, (1969).
43/ West Texas Geological Society, (1968).
44/ Rocky Mountain Association of Geologists, (1972).
45/ U.S. Geological Survey (1972a).
46/ McCormaghy and others (1964).
47/ Boettcher and others, (1969).
48/ Rocky Mountain Association of Geologists, (1963).
49/ Voegeli, (1965).
50/ Averitt, (1970).
51/ Sandberg, (1962).
52/ New Mexico Geological Society, (1953).
53/ New Mexico Geological Society, (1951).
54/ Bayenning, (1959).
55/ Renick, (1931).
56/ Irwin, (1964).
57/ Cooley and others, (1969).
58/ McCavock and others, (1966).
59/ Goode, (1964).
60/ Goode, (1966).
61/ Emery and others, (1972).
62/ McCormaghy and Colburn, (1964).
63/ Weir, J. E., oral commun., (1973).
64/ Rocky Mountain Association of Geologists and Intermountain Association of Geologists, (1951).
65/ Welder and McGreevy, (1966).
66/ Welder, (1968).
67/ Wyoming Geological Society, (1951).
68/ McGreevy and Gordon, (1964).
69/ Whitcomb and Lowry, (1968).
70/ Robinove and Langford, (1963).
71/ Montana Geological Society, (1972).
72/ Groff, (1962a).
73/ Groff, (1962b).
74/ Harrison, (1972).
75/ Kominzski and others, (1968).
76/ Dobbin, (1939).
77/ Mehr, (1963).
78/ Sandberg, (1964).
79/ Baker, (1952).
80/ Bayenning, (1961).
81/ Wood and Davis, (1959).
82/ U.S. Geological Survey, (1972b).
83/ Averitt and Berryhill, (1950).
84/ Trumbull, (1960).