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ADLAI E. STEVENSON, *Governor*
DEPARTMENT OF REGISTRATION AND EDUCATION
NOBLE J. PUFFER, *Director*
DIVISION OF THE
STATE GEOLOGICAL SURVEY
M. M. LEIGHTON, *Chief*
URBANA

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DEVELOPMENTS IN ILLINOIS AND INDIANA IN 1948¹ALFRED H. BELL,² R. E. ESAREY,³ AND B. E. BROOKS³

Urbana, Illinois, and Bloomington, Indiana

ABSTRACT

In all, 3,571 wells were drilled for oil and gas in Illinois and Indiana in 1948 as compared with 2,727 in 1947, an increase of 31 per cent. Total oil production decreased a fraction of 1 per cent from 72,901,000 barrels in 1947 to 72,480,000 barrels in 1948. Wildcat drilling increased from 792 completions in 1947 to 955 completions in 1948. Fifty-one new pools, 63 extensions, and 48 new producing zones were discovered in the two states in 1948.

Most of the discoveries in 1948 were in Mississippian formations but the Devonian limestone produced oil in five new pools, three in Indiana (Spring Hill in Vigo County and Wilfred and Marts in Sullivan County), and two in Illinois (Assumption and Assumption North, both in Christian County).

INTRODUCTION

In Illinois and Indiana, 3,571 wells for oil and gas were drilled in 1948 as compared with 2,727 in 1947, an increase of 31 per cent. Total oil production decreased a fraction of 1 per cent, from 72,901,000 barrels in 1947 to 72,480,000 barrels in 1948. Wildcat drilling increased from 792 completions in 1947 to 955 completions in 1948. Fifty-one new pools, 63 extensions, and 48 new producing zones were discovered in the two states in 1948.

Most of the discoveries in 1948 were in Mississippian formations but the Devonian limestone produced oil in five new pools—three in Indiana and two in Illinois. Oil production in a Silurian coral reef was developed in the McKinley pool in Washington County, which previously produced from the Benoist sand in the Chester series. Oil production from Ordovician limestone was developed with the discovery of the Craig pool in Perry County, Illinois, and the drilling of a number of "Trenton" wells in the Centralia and Shattuc pools in Clinton County and in the old "Trenton" field of northeastern Indiana.

The details of development are discussed separately for Illinois and Indiana.

ILLINOIS

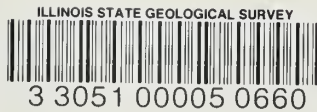
BY ALFRED H. BELL

In Illinois 2,489 wells were completed for oil and gas in 1948, an increase of 22 per cent from 1947. Drilling resulted in 1,285 oil wells, 10 gas wells, and 1,189

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² Illinois State Geological Survey, Urbana, Illinois.

³ Department of Geology, Indiana University, Bloomington, Indiana.



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Table I. Discovery Wells of New Fields
(See Fig. 1 for locations of pools)

Pool	County	Company and Farm	Location	Total Depth Feet	Producing Formation	Depth to Top Feet	Initial Production (Barrels)	Date Production Completed	No. of Wells
1	Akin West.....	Taylor & Schumaker, U. S. Coal & Coke 1	21-6S-4E	3146	Lower Ohara; Rosiclare	3062; 3082	80,160	10-26	1
2	Assumption.....	Nat'l. Assoc. Pet., Sincos 1	29-13N-1E	3070; PB2360	Devonian	2327	31,112	10-12	1
3	Assumption North.....	Nat'l. Assoc. Pet., J. H. Lawrence 1	9-13N-1E	2310	Devonian	2282	116	12-21	4
4	Clay City North.....	Calvert & Willis & Ashland, Bemis 1	8-3N-8E	3094	Rosiclare; McClosky	3005; 3036	365	2-3	15
5	Craig.....	Nat'l. Assoc. Pet., J. A. Ernest 1	23-4S-6W	3735	Trenton	3623	22	12-14	1
6	Daide South.....	W. R. McKain, Cooke 1	12-2S-5E	2875	McClosky	2871	354	3-9	4
7	Evers.....	Central Pipe Line, J. Wetts 1	33-8N-7E	2808; PB2676	McClosky	2659	57,63	1-13	1
8	Evers South.....	Dunbar, J. Repling 1	8-7N-7E	2690	Rosiclare	2652	30,4	6-8	1
9	Goldengate West.....	Cities Service, Bryant 1	5-2S-9E	3480; PB254	Aux Vases	3226	58	3-9	1
10	Herald North.....	Nat'l. Assoc. Pet., Garrison 1	24-6S-9E	2908	Aux Vases	2900	56,30	7-13	4
11	Lancaster North.....	J. S. Young, Jr., Frick & Limp 1	14-2N-15W	2534; PB2316	Bethel	2292	5	6-18	1
12	Livingston.....	J. L. Neary, C. Henke 1	17-6N-6W	556	Pennsylvanian	528	146	7-6	6
13	Maud Central.....	C. E. Skiles, H. Groff 1	22-1S-13W	2622	Bethel	2607	104	8-10	•
14	Maud West.....	O. D. Sharp, G. Wells 1	20-1S-13W	2570	Cypress	2428	17,3	8-17	•
15	Mayberry North.....	George & Wrether, W. Monroe 1	27-2S-6E	3440	McClosky	3333	76,10	2-10	0
16	Mills Prairie.....	O. Weston, Hasevinkle 1	22-1N-14W	2977	Lower Ohara	2924	33	6-22	1
17	Parkersburg South.....	Bridger Basin, W. Schmidt 1	8-1N-14W	3085	Bethel	2813	36,7	8-3	2
18	Passport South.....	Arvin Drig., A. MoDade 1	17-4N-9E	2682	Cypress	2687	23	5-18	2
19	Raffie.....	Black & Central Pipe Line, Hammer 1	5-4N-6E	2753	Rosiclare	2736	200	12-7	1
20	Rochester.....	Lynch Oil, Farber 1	14-2S-13W	1957	Waltersburg	1876	600	9-21	31
21	Sailor Springs Central	New Penn Devel., C. O. Schmutz 1	31-4N-8E	3109	Rosiclare	3013	2,50	8-3	1
22	Sailor Springs North.....	Rudy & Witt, LaRue 1	16-4N-9E	2991	Rosiclare	2996	661	6-8	1
23	Sailor Springs West.....	Diamond Oil Exploration, Toliver-Woods Comm. 1	15-4N-7E	2620	Cypress	2602	56	5-4	16
24	Shawstetown North.....	Johnson Drig., G. E. Mathis 1	17-9S-10E	3017	McClosky	3040	69,50	10-5	1
25	Stringtown East.....	Calvert & Willis & Aurore, H. Schneider 1	4-4N-14W	3011	McClosky	3047	64,3	11-9	1
26	Sumpter South.....	W. O. Allen, Hughes 1	2-5S-9E	2611	Waltersburg	2571	25	5-4	1
27	Williams.....	H. E. Howard, A. R. McLaughlin 1	2-3S-2E	2796; PB2585	Aux Vases	2566	12,68	1-4-49	1
28	Zemi Central.....	Gulf, W. S. Rush 1	35-2N-5E	2983	McClosky	2970	92	12-21	1

5/ Oil and Water

* Consolidated with Maud North, December 1948

Table II. Discovery Wells of Extensions to Pools

Pool	County	Company and Farm	Location	Total Depth Feet	Producing Formation	Depth to Top, Feet	Initial Pro-duction (Barrels) ^a	Date of Completion
1 Amity	Richland	Black, Kocher 1	2-4N-14W	2946	McClosky	2931	37	10-5
2 Barnhill	Wayne	Central Pipe Line et al, Boze 1	28-2S-8E	3463	McClosky	3455	99;12	8-10
3 Bennington	Wayne	Arvin Drlg., Huttle 1	13-1N-9E	3151	Aux Vases	3138	100	12-14
4 Bible Grove Cons. Clay	Clay	Sohio, Stortzsum et al 1	6-5N-7E	2511	Cypress	2491	161;130	10-5
5 Bible Grove Cons. Clay	Clay	Baldwin & Pruett, Marshall 1	27-5N-7E	2832	Aux Vases	2801	25;55	8-3
6 Bone Gap South	Edwards	Calvert & Willis, Wayne 1	18-1S-14W	3223				
				PB3110	McClosky	3104	2;14	6-15
7 Bungey Cons.	Hamilton	Nolan, Reed-Twist 1	4-4S-7E	3507	Rosiolare	3396	18;24	11-9
8 Cisne North	Wayne	Nat'l. Assoc. Pet., Feller 1	16-1N-7E	3250				
				PB3075	Aux Vases	3047	42;4	7-13
9 Clay City-Noble Cons.	Clay	Johnson et al, Blessing 1	22-3N-8E	3037	Rosiolare	2903	9;24	5-25
10 Clay City-Noble Cons.	Clay	Johnson et al, Blessing 1	22-3N-8E	3037	Rosiolare	2985	9;24	5-25
11 Dahlgren	Richland	Arvin Drlg. et al, Hassler 1	2-3N-8E	3140	McClosky	3041	5;30	7-13
12 Divide East	Hamilton	Bartnes, Whipple 1	23-3S-5E	3382	McClosky	3292	144	12-14
13 Divide East	Jefferson	Bell Bros., Warren Heirs 1	18-1S-4E	2808	McClosky	2746	51;2	4-13
14 Dundas East	Jefferson	Shulman Bros., Halloway 1	21-1S-4E	2797	McClosky	2759	100;20	8-17
15 Dundas East	Richland	Bell Estate et al, Phillips 1	26-5N-10E	3007	Lower Ohara	2909	132	10-12
16 Dundas East	Jasper	Sohio, Robins 1	14-5N-10E	2958	McClosky	2921	134	7-27
17 Ellery North	Edwards	Lambert et al, Broster 1	7-2S-10E	3391	Rosiolare	3321	12;Trace	5-4
18 Fairfield	Wayne	Robinson & Puckett, Wood 1	16-2S-8E	3202	Aux Vases	3182	225;6	4-20
19 Fairfield	Wayne	Nation, Bothwell 1	19-2S-8E	3256	Aux Vases	3229	90	7-13
20 Goldengate Cons.	White	Magnolia, Taylor 1	31-3S-9E	3550	McClosky	3475	9	11-2
21 Half Moon	Wayne	Collins Bros., Messman 1	33-1S-9E	3405	McClosky	3310	146	10-5
22 Herald East	Gallatin	Calvert & Willis & Ashland, Egli 1	30-7S-10E	2184	Tar Springs	2162	50	10-26
23 Inman East	Gallatin	Vandenbark, Big Barn 1	10-8S-10E	2420	Cypress	2404	108	2-10
24 Inman East	Gallatin	Miller Drlg., Johnson 1	22-8S-10E	1998	Waltersburg	1986	53;42	11-16
24 Johnsonville West	Wayne	Robinson & Puckett, Smith 1	36-1N-5E	3114	McClosky	3105	25;60	1-13
25 King	Jefferson	Slagter, Modert et al 1	22-3S-3E	2870				
				PB2772	Aux Vases	2764	35;15	8-24
26 Maud	Wabash	Continental, Schrodt 1	26-1S-13W	2691	Rosiolare	2680	11;21	10-19
27 Maud North	Wabash	Ross, Ankenbrandt 1	5-1S-15W	2549	Bethel	2539	30	7-13
28 Maud North	Wabash	Mortimer, Peters 1	19-1S-13W	2526	Cypress	2520	15;5	7-13
29 Maud North	Wabash	Skiles, Smith 1	20-1S-15W	2589	Bethel	2576	140;3	5-25
30 Maud North	Wabash	Phillips & Duncan, Keeps & Pfeister 1	24-1S-14W	2996				
				PB2565	Cypress	2558	12;2	8-3
31 Mill Shoals	Wayne	Phillips, Book 1	31-2S-8E	3389	McClosky	3375	189;72	1-6
32 Mt. Carmel West	Wabash	Gilliam Drlg., Seitz 1	23-1S-15W	2288	Cypress	2280	219	2-3
33 Passport	Clay	Bander et al, Phillips 1	14-4N-8E	3041	McClosky	3010	240	5-25
34 Roland	Gallatin	Brehm et al, Burns 1	20-7S-8E	2188	Waltersburg	2180	360	8-3
35 Rural Hill	Hamilton	Gulf, Lightner 1	3-7S-5E	3529	Aux Vases	3306	170;40	6-1
36 Sailor Springs Cons.	Clay	Magnolia, Drake 1	23-4N-7E	2630	Cypress	2591	94;22	9-7
37 Sailor Springs West	Clay	Diamond Oil & Exploration, Dillman 1	15-4N-7E	2998				
38 Sesser	Franklin	Mosebach, Eurgil 1	35-6S-1E	2768	Sto. Genevieve	2924	18;16	6-29
				PB2638	Aux Vases	2586	50	7-13
39 Stanford South	Clay	Wright, McLaughlin 1	17-2N-7E	3116	McClosky	3104	25;37	2-24
40 Stringtown	Richland	Fulk et al, Jenkins 1	30-5N-11E	3028	McClosky	3016	1051	10-28
41 Stringtown	Richland	Johnson et al, Von Almen Heirs 1	31-5N-14W	3010	McClosky	2997	1724	9-7
42 Sumpter	White	Duncan & Duncan, Barbare-Rebstock 1	25-4S-9E	3280				
				PB2880	Cypress	2862	15;15	9-21
43 Thompsonville North	Franklin	Sheppard, Sweet 1	9-7S-4E	3076	Aux Vases	3068	110	7-6
44 Thompsonville North	Franklin	Froderman-Connelly, Carter 1	15-7S-4E	3146	Aux Vases	3136	60;Trace	4-13
45 Thompsonville North	Franklin	Ford, Wood Trustee 1	16-7S-4E	2759	Cypress	2750	30;30	11-2
46 Toller East	Clay	Redwine, McGee 1	24-5N-8E	2827	Rosiolare	2817	42;60	2-10
47 Whittington	Franklin	George & Wraether & Aurora, Wilcox 1	20-6S-3E	2318	Hardinsburg	2308	92	10-19

^a Oil and Water

Table III Discovery Wells of Additional Producing Zones in Pools

Pool	County	Company and Farm	Location	Total Depth Feet	Producing Formation	Depth to Top. Feet	Production (Barrels)	Date of Completion of Discovery Well
Aden Consol.	Wayne	Weinert, Morlan "A"-2	33-2S-7E	3756	Salem	3737	22;7	2-3
Belle Prairie	Hamilton	Phillips, Young 1	12-4S-8E	3425	Aux Vases ^b	3251	44;2	7-27
Bone Gap South	Edwards	Phillips, Bone 1	19-1S-14W	3165	Lower Ohara	3058	45;33	1-6
Clay City North	Clay	Calvert & Willie & Ashland, Bonie "B"-6	8-3N-8E	2658	Cypress	2649	90;35	8-31
Crossville	White	Engle, Ridenour 2	10-4S-10E	3136 PB 2892	Bethel	2881	40;Trace	7-6
Divide East	Jefferson	Nat'l. Assoc. Pet., McElravy 3	17-1S-4E	2732	Rosiclare	2729	175	4-20
Divide East	Jefferson	Bell, Sledge 1	20-1S-4E	2810	McClosky	2723	113;8	3-23
Grayville West	White	Mitchell (Thorne), Hatcher 1	22-3S-10E	3305 PB 1966	Biehl	1957	42;140	5-4
Inman West	Gallatin	Kingwood, Millingham 1	22-8S-9E	2984	Lower Ohara ^b	2828	3;25	4-13
Iola South	Clay	Robinson & Puckett, Franklin 1	11-4N-5E	2675 PB 2437	Bethel	2422	25;24	3-9
Maud	Wabash	Skiles, Alpa 2	34-1S-13W	2678	Lower Ohara	2608	70	4-20
Maud	Wabash	Skiles, Schrodt 2-A	3-2S-13W	2355	Biehl ^b	1718	100	7-27
Maud North	Wabash	Mortimer, Peters 1	19-1S-13W	2526	Cypress	2520	15;5	7-13
Mt. Carmel West	Wabash	Brubeck & Pappas - George & Wrather, Chapman 1	14-1S-13W	2589	Lower Ohara	2512	115	6-8
Mt. Carmel West	Wabash	Gilliam, Seitz 1	23-1S-13W	2288	Cypress	2280	219	2-3
New Harmony-Keensburg Consol.	Wabash	Sourapas, Hocking 4	20-2S-13W	2604 PB 1348	Bridgeport	1339	10	12-7
Omaha	Gallatin	Carter, York 2	33-7S-8E	1353	Biehl	1320	139;20	6-22
Passport South	Richland	Arvin Drlg., Stone 1	18-4N-9E	3033	Rosiclare	3027	54	8-17
Rochester	Wabash	Lynch & Alberding, Legier 1	14-2S-13W	1968 PB 1298	Pennsylvanian ¹	271	75	10-12
Sailor Springs West	Clay	Diamond Oil Exploration, Dillman 1	15-4N-7E	2996	Ste. Genevieve	2924	18;16	6-29
Shattuc	Clinton	Talbot, Gullick 1-T	28-2N-1W	4071	"Trenton"	4000	50;40	11-9
Thompsonville North	Franklin	Ford, Wood Trustee 1	14-7S-4E	2759	Cypress	2750	30;30	11-2
Whittington	Franklin	Geo. & Wrather & Aurora, Wilcox 1	20-5S-3E	2318	Hardsburg	2308	92	10-19
Whittington West	Franklin	Jones, Johnson 1	14-5S-2E	2804	Lower Ohara	2800	157	1-6
Woodlawn	Jefferson	Magnolia, Eubank 2	35-2S-1E	2200	McClosky	2197	18;1½	1-6

a Oil & Water
b Dual Producer

TABLE IV Selected List of Dry Tests

Pool	County	Company and Farm	Location	Total Depth Feet	Deepest Formation	Depth to Top. Feet	Date of Completion
1	Bond	Sun, Bauer 1	20-5N-2W	3561	"Trenton"	3384	8-31
2	Champaign	Hays, Richmond 1	23-21N-7E	1170	"Trenton"	1096	1-4-49
3	Christian	Nat'l Assoc. Pet. and Cont., Peabody Coal "E" 1	33-13N-3W	2606	"Trenton"	2510	12-28
4 Assumption*	Christian	Nat'l Assoc. Pet, Sincox 1	29-13N-1E	3070	"Trenton"	2915	10-12
5	Clark	Schaffer & Cranholm, Robinson 1	17-11N-10W	2130	Devonian	2094	1-4-49
6 Kenner West	Clay	Phillips, Randall 5	23-3N-5E		Devonian		6-15
7	Clinton	Dirickson, Kleystuber 1	34-3N-1W	2862	Devonian	2790	9-21
8	Coles	Walker, Temples 1	31-14N-11E	2355	"Trenton"	2014	9-7
9	Douglas	Landon, Rareither 1	24-15N-8E	564	Devonian	289	3-2
10	Edgar	Wright, Penwick 1	36-15N-14W	820	Devonian	751	8-17
11	Hancock	Lambert, Boeddeker 1	23-7N-8W	1002	St. Peter	972	4-27
12	Jackson	Lambert, Hasler 1	28-10S-2W	2565	Devonian	2117	12-21
13 Colmar-Plymouth	McDonough	Lambert, Mathews 1	20-4N-4W	895	St. Peter	885	12-14
14 Colmar-Plymouth	McDonough	Lambert, McCutchen 1	28-4N-4W	435	Maquoketa	431	9-28
15	Macon	Breeze and Bayless, Hiser 1	27-17N-3E	2308	Silurian	2262	11-23
16	Madiison	Kerwin, Mann 1	16-3N-8W	2032	"Trenton"	1834	7-13
17	Marion	Booth, Green 1	13-4N-2E	3633	Devonian	3561	2-24
18	Montgomery	Pentecost, Pope 1	28-9N-3W	2882	"Trenton"	2801	6-22
19	Montgomery	Nat'l Assoc. Pet, Borgic 1	36-10N-4W	2806	"Trenton"	2678	11-9
20 Pike County Gas	Pike	Pan Handle Eastern, Mumford 21-1	21-5S-4W	2226	Pre-Cambrian	2221	2-24
21	Pulaski	White, Goza 1	20-15S-1E	1150			10-5
22	Union	Ohio, Cross 1	21-13S-2W	1500	St. Peter	1445	11-30
23 McKinley**	Washington	McBride, Hunleth 1	29-3S-4W	3983	"Trenton"	3013	7-27

* Plugged back to Devonian production.
** Plugged back to Silurian production.

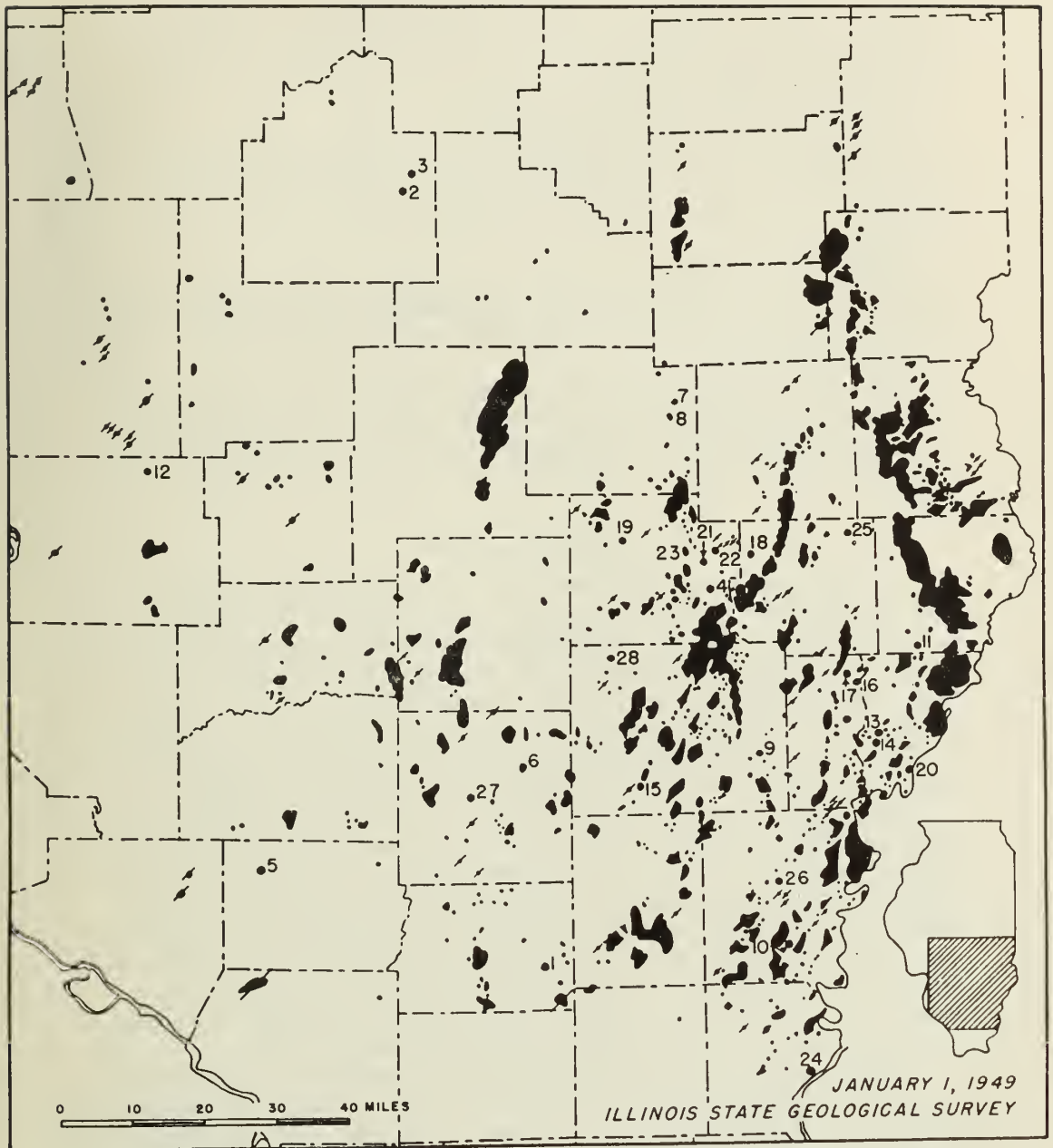


FIG. 1.—New pools discovered in Illinois in 1948. All present and former oil- and gas-producing areas are shown in black. See Table I for pool number identification.

dry holes. Of the 628⁴ wildcat wells drilled 28 discovered pools and 47 discovered extensions to pools (Tables I and II). In addition 25 wells, most of which can not be designated properly as exploratory wells, discovered additional producing zones in known producing areas (Table III).

The geographic pattern of drilling mainly followed that prevalent in recent years, the greatest number of completions by counties being in Wayne (342), followed by Wabash (312), Clay (310), Gallatin (217), and White (182). Wells in Clay County averaged 200 barrels initial production, almost double the state average of 112 barrels.

The pools with the greatest number of successful oil-well completions in 1948 were as follows: Clay City-Noble Consolidated, 229; Inman East, 93; Thompsonville North, 51; Maud North Consolidated, 47; Sailor Springs Consolidated, 45; Passport, 40.

Total oil production in Illinois in 1948 was 64,669,000 barrels as compared with 66,459,000 barrels in 1947, a decrease of 3 per cent. Average daily production in 1948 was 177,000 barrels. Average daily production by months during the year ranged between a low of 170,000 barrels in April and a high of 182,000 barrels in October.

EXPLORATORY DRILLING

As shown on the map (Fig. 1) nearly all of the new oil pools discovered in 1948 were close to previous production. A noteworthy exception was the Assumption pool in Christian County, 19 miles northwest of the Lakewood pool in Shelby County and 14 miles southeast of the Mt. Auburn pool in Christian County, both of which are small. The Assumption North pool discovery well is about 3 miles north of Assumption pool. The Devonian limestone is productive in both of these pools at an approximate depth of 2,280 feet, and this discovery extends northward the region in which Devonian limestone is productive in Illinois.

Two shallower zones are productive in the North Assumption pool, the Bethel sandstone in the Chester series, approximate depth 1,040 feet, and the Rosiclare sandstone in the Ste. Genevieve formation of the Lower Mississippian. The Rosiclare sand was found to be unexpectedly thick and prolific for a location this far north in the basin. Several of the Rosiclare wells in Assumption North had initial productions of about 400 barrels at depths of about 1,170 feet. Good oil production is also obtained from the Rosiclare in the Mattoon pool 39 miles east. Prospects thus appear good for further Rosiclare sandstone production in an area of several counties in the northern part of the Illinois basin.

A list of some of the most noteworthy dry holes completed in 1948 is given in Table IV. Little deep testing was done. The "Trenton" was tested without success in the McKinley (No. 23) and Assumption (No. 4) pools. The only St. Peter sandstone tests were in western Illinois (Nos. 11 and 13) and extreme

⁴ This figure does not include wells which tested additional producing zones in producing areas classified by Lahee as deeper-pool tests and shallower-pool tests.

southern Illinois (No. 22). The only test to reach the pre-Cambrian (No. 20), located on the Pittsfield-Hadley anticline in Pike County, was drilled in 1947 but not officially completed until 1948.⁵

METHODS OF EXPLORATION

The principal methods used in locating exploratory wells continued to be subsurface geology and the reflection seismograph (Table V.)

TABLE V
WILDCAT WELLS MORE THAN 2 MILES FROM PRODUCTION CLASSIFIED BY METHOD OF LOCATION

<i>Method of Location</i>	<i>Total</i>	<i>Producers</i>
Geology	179	24
Geophysics	3	2
Geology and geophysics	14	2
Total scientific	196	28
Non-scientific	32	0
Unknown	3	0
Grand total	231	28

TABLE VI
NUMBER OF GEOPHYSICAL CREWS ACTIVE IN ILLINOIS DURING 1948 BY MONTHS

<i>Months</i>	<i>Seismograph</i>	<i>Gravity Meter</i>	<i>Resistivity</i>
January	6	1	1
February	6	1	1
March	6	1	
April	6	1	
May	6	1	
June	4	1	
July	5	1	
August	6	1	
September	6	1	
October	5		
November	5		
December	3		
Totals	64	9	2

Of the wildcat wells more than 2 miles from production, the 196 located by scientific methods were 14 per cent successful, whereas there were no successes among those not located by scientific methods. The amount of seismograph work in Illinois decreased 25 per cent from 86 crew-months in 1947 to 64 crew-months in 1948 (Table VI)

⁵ Alfred H. Bell and Ralph E. Esarey, "Developments in Illinois and Indiana in 1947," *Bull. Amer. Assoc. Petrol. Geol.*, Vol. 32, No. 6 (June, 1948), pp. 925-27.

INDIANA

BY R. E. ESAREY AND B. E. BROOKS

Production in Indiana during 1948 increased 21 per cent over 1947, and reached 7,811,521 barrels, the highest since the peak of Trenton production in 1905. The new discoveries of all types totaled 61 of 1,173 wells drilled during the year. The new fields are shown on the accompanying map in black and are numbered according to the table of new-field discoveries (Table VII). The older producing areas are shown in outline.

The most significant development in Indiana was the opening of three new Devonian fields in Sullivan and Vigo counties. Two of the fields, Wilfred and Marts in Sullivan County, were discovered on the basis of surface structure determined from coal drilling, and the Spring Hill field in Vigo County was located by non-technical means. Oil in these fields is produced from three zones in the Devonian limestones and dolomites at depths between 1,800 and 2,300 feet.

The discovery wells for these fields are included in Table VII. Potentials of some wells were estimated above 1,000 barrels daily. The Salem limestone, of Middle Mississippian age, is being watched carefully as a possible good producing zone. Several wells were completed in the Salem in the Prairie Creek field. The old Riley and Siosi fields are being revived by new producing wells within the limits of the old production. Similarly, a Carter oil completion in the 10-year old Prairie Creek field reported 768 barrels per day from the Devonian. Intensive leasing, exploration, and drilling have resulted from the discoveries which create the prospect of many additional tests to the Devonian, Silurian, and Trenton in this part of the basin.

In the "Pocket" area of Indiana (which includes Posey, Vanderburgh, and Gibson counties) 14 new fields and 29 extensions and new producing zones were discovered. The most important discovery in this area is the Rochester field in Gibson County. This field is a stratigraphic trap which produces from the Waltersburg sand of Upper Mississippian age. It was opened in June, 1948, and by December 31 had an accumulated production of more than 549,700 barrels. Many wells in the field produced more than 1,000 barrels per day and the daily average production during November was 3,177 barrels for the field. In Gibson County 6 new fields, 4 extensions, and 4 additional producing zones were discovered, all of which produce from Mississippian formations. The opening of two more Waltersburg fields caused intensive sand studies being carried out in this part of the basin in an effort to find additional stratigraphic accumulations.

In Posey County, 134 producing wells were completed of a total of 240 drilled. Five new fields, 6 new pools, and 4 extensions were opened throughout the county. Most of the producing beds are Chester and Middle Mississippian, but some good Pennsylvanian saturation was found. The discovery well of the Spencer field made 1,137 barrels from the McClosky zone of the Ste. Genevieve.

Daily production in Vanderburgh County was quadrupled by the discovery of 4 new fields, 7 new pools, and 4 extensions. Shallow Pennsylvanian oil was

TABLE VII Discovery Wells of New Fields in Indiana in 1948

Pool	County	Company and Farm	Location	Total Depth	Producing Formation	Production
1 Darmstadt	Vanderburgh	Gilliam Drlg. Co., Spilker #1	12-5S-11W	2597	Ste. Gen.	198 bbls.
2 East Peru	Miami	A. J. Palmer, Harrison #1	19-27N-5E	905	Trenton	80 bbls.
3 Ford	Posey	Heath & Ind. Farm Bur., Fischer #1	22-6S-12W	2259	Cypress	32 bbls.
4 Ford North	Posey	G. L. Reasor, Justus #1	15-6S-12W	2256	Cypress	104 bbls.
5 Harrison Gas	Harrison	New Boston Oil & Gas Corp., Fox #2	6-6S-5E	282	New Albany	400 MCF
6 Leogootee North	Martin	Barrow, Crane #1	4-3N-4W	1690	New Albany	280 MCF
7 Harts	Sullivan	A. S. Reed, Bolinger #1	19-9N-9W	2229	Devonian	50 bbls.
8 McGary	Gibson	Geo. S. Engle, Teel #1	16-3S-11W	1702	Waltersburg	112 bbls.
9 Mounds	Gibson	C. L. Skiles, Smith #1	13-3S-12W	2635	Waltersburg	20 bbls.
10 Mt. Vernon E.	Posey	Ind. Farm Bureau, Hohstradt #1	33-6S-13W	2982	Ste. Gen.	87 bbls.
11 Owensville E.	Gibson	Superior, Tucker #1	4-3S-11W	2525	Benoist	4 bbls.
12 Parker	Posey	S. D. Jarvis, Schweikart #1	1-6S-12W	2100	Tar Springs	10 bbls.
13 Rochester	Gibson	Sharp, Berry #1	13-2S-13W	1953	Waltersburg	600 bbls.
14 Rosewood Gas	Harrison	Albertson, McCauley #1	3-6S-5E	250	Devonian	80 MCF
15 Spencer	Posey	Schock & Gallagher & Aurora, Spencer #1	12-8S-14W	2975	Ste. Gen.	1134 bbls.
16 Spring Hill	Vigo	C. B. Mansfield, Sutliff #1	14-11N-9W	1803	Devonian	200 bbls.
17 St. James	Gibson	Zink, Haier #1	12-4S-11W	2392	Ste. Gen.	20 bbls.
18 Vienna North	Vanderburgh	George & Wrather, Heneisen #1	19-5S-11W	2775	Aux Vases	150 bbls.
19 Vienna South	Vanderburgh	Aurora, Boeke #1	6-6S-11W	2655	Aux Vases	57 bbls.
20 Walten Townsite	Cass	T. W. Drake, Shaffer #1	36-26N-2E	1008	Trenton	13 bbls.
21 Warren	Huntington	S. Vegars, Jones #1	17-26N-10E	1006	Trenton	30 bbls.
22 Warrentown	Gibson	George & Wrather, Zilliak #1	18-4S-10W	2351	Ste. Gen.	88 bbls.
23 Wilfred	Sullivan	F. B. Cline, Slepman #1	30-9N-8W	2039	Devonian	60 bbls.

TABLE VIII Discovery Wells of Extensions to Fields in Indiana in 1948

Pool	County	Company & Farm	Location	Total Depth	Producing Formation	Production
Bufkin	Posey	Cherry & Kidd & Ashland, Pappenmeier #1	4-6S-12W	2407	Cypress	75 bbls.
Caborn	Posey	Hollingsworth & Travis, Egli #4	19-6S-12W	1760	Biehl sd.	15 bbls.
Columbia	Gibson	Lensgraf, Mason #1	8-2S-8W	1253	Jacks-r	32 bbls.
Evansville	Vanderburgh	Tedrow, Seibert et al #1	10-6S-11W	1019	Penn.	75 bbls.
Martin	Vanderburgh	Duncan, Allen Comm. #1	6-5S-11W	2292	Cypress	130 bbls.
Martin	Vanderburgh	George & Wrather, Reimann #1	30-4S-11W	2218	Cypress	276 bbls.
Mt. Carmel Cons.	Gibson	Ill. Mid. Cont., Pugh-Grant #1	36-1S-12W	2053	Cypress	47 bbls.
Mt. Carmel Cons.	Gibson	Geo. Engle, Baltzell #1	31-1S-11W	2304	Ste. Gen.	2 bbls.
Mt. Carmel E.	Knox	S.D. Jarvis, Hansen - Stillwell #1	13-1S-12W	2089	Benoist	104 bbls.
Oliver	Posey	C. E. Hickens, Becker #1	1-6S-13W	698	Penn.	2500 MCF
Oliver	Posey	C. E. Nickens, Becker #1	2-6S-13W	835	Penn.	332 MCF
Owensville N.	Gibson	Superior, Brady #1	13-2S-12W	2332	Ste. Gen.	6 bbls.
Owensville N.	Gibson	Gilliam Drlg. Co., Montgomery #1	18-3S-11W	2475	Ste. Gen.	11 bbls.
Union-Bowman	Pike	S.D. Jarvis, Gladish #1	24-1N-9W	1323	Jackson	14 bbls.
Union-Bowman	Pike	J. T. Peak, Billin #1	15-1N-9W	977	Penn.	8 bbls.
Vernon Heights	Vanderburgh	Aurora & Ingle, Pride-Jones Comm. #1	8-7S-11W	2598	Ste. Gen.	130 bbls.

TABLE IX Discovery Wells of Additional Producing Zones in Indiana in 1948

Pool	County	Company & Farm	Location	Total Depth	Producing Formation	Production
Belknap	Vanderburgh	Geo. S. Engle, Jourdan et al #1 comm.	18-6S-11W	1617	Biehl	150 bbls.
Belknap	Vanderburgh	Geo. S. Engle, Koressel #1	17-6S-11W	1916	Tar Springs	8 bbls.
Bufkin	Posey	Cherry, Kidd, & Ashland, Roberg #1	4-6S-12W	2672	Aux Vases	115 bbls.
Cypress	Vanderburgh	Joe Keznik, Edmond et al #1	10-7S-11W	2439	Ste. Gen.	75 bbls.
Evansville	Vanderburgh	Maynard Rogers, Ross #1	36-5S-11W	2374	Ste. Gen.	40 bbls.
Ford North	Posey	Cherry & Kidd, Esche #2	10-6S-12W	2651	Ste. Gen.	150 bbls.
Francisco W.	Gibson	C. M. Amaler, Witherspoon #1	26-2S-10W	1931	Ste. Gen.	24 bbls.
French	Spencer	R. Hal Compton, Montgomery-ilbe #1	19-7S-7W	1708	Ste. Gen.	35 bbls.
Hovey West	Posey	Coy Oil Co., P. A. Lynch #1	26-7S-15W	2481	Cypress	42 bbls.
McGary	Gibson	Flamingo Oil Co., Teel #3	16-3S-11W	2278	Benoist	25 bbls.
McGary	Gibson	Ill. Mid. Cont., Douglas Heirs #1	17-3S-11W	2176	Cypress	20 bbls.
Mt. Carmel Cons.	Gibson	Ill. Mid. Cont., McFarland #1	19-1S-11W	2356	Ste. Gen.	150 bbls.
New Harmony Cons.	Posey	George & Wrather, Westsiderman #1	2-4S-14W	2887	Aux Vases	150 bbls.
Parker	Posey	A. J. Slagter, Herrenbruck hrs. #1	2-6S-12W	2640	Ste. Gen.	45 bbls.
Parker	Posey	A. J. Slagter, Felthouse #1	35-5S-12W	2688	Ste. Gen.	90 bbls.
Prairie Creek	Vigo	E. Luttrell, Strain et al #2	16-10N-10W	1267	Salem	4 bbls.
Rockport	Spencer	Garwood et al, Abshire et al #1	17-7S-6W	1438	Aux Vases	3 bbls.
Springfield Cons.	Posey	Cherry & Kidd, Truscott #1	31-5S-13W	1200	Penn. sd.	18 bbls.
Vernon Heights	Vanderburgh	Johnston Drlg. Co., Keck #1	6-7S-11W	2472	Aux Vases	250 bbls.
Vernon Heights	Vanderburgh	Johnston Drlg. Co., Murrenbern #7-A	6-7S-11W	2194	Jackson	30 bbls.
Vienna	Vanderburgh	W. O. Morgan, Boeke #1	6-6S-11W	2609	L. O'hara	160 bbls.
West Franklin	Posey	B. H. Heath, Kelborne #1-A	13-7S-12W	1811	Waltersburg	30 bbls.

found in the Belknap and Evansville pools, but most of the new oil came from the Mississippian. The discovery well of the Martin extension made 276 barrels in the Cypress and the Vernon Heights discovery well made 250 barrels in the Aux Vases sand. One hundred new producing wells were completed in the county.

Within the old fields of Pike County, 53 new producing wells were drilled. They consist of extensions and undrilled locations in the old fields, and practically all of the oil comes from Mississippian rocks. A Silurian test reaching the total depth of 2,702 feet was drilled in Daviess County on the Swan lease by the Hagar Oil Company in Sec. 28, T. 2 N., R. 7 W. The Devonian was tested but failed to make a commercial well. The Brown well in Sec. 34, T. 2 N., R. 6 W., reported good showings in both the Salem and Devonian formations but failed to make a producer. In Martin County, a gas well reported as flowing 3,000 MCF daily, was drilled in Sec. 4, T. 3 N., R. 4 W. The gas is coming from the New Albany shale of Devonian age. Interest in Spencer County was revived somewhat by the opening of two pools, one in the Aux Vases and one in the Ste. Genevieve formation, respectively. Forty-four wells were drilled in the county and 15 were producers.

Devonian tests were drilled in several counties around the rim of the basin, including Clay, Greene, Parke, Fountain, Vermillion, Owen, and Morgan. Considerable interest is being shown in Devonian, Silurian, and Trenton possibilities in this area, and it will undergo widespread exploration and testing during the coming year. Five tests were drilled west of the outcrop of Devonian formations in southeastern Indiana in the attempt to find shallow Devonian or Trenton production. No commercial saturation was found in any of the wells.

Search for additional oil in the Trenton area of central and northern Indiana continues with some success. In Hamilton County, 21 wells were drilled, of which 12 were producers. The wells averaged about 10 barrels each when put on the pump. Six new oil wells and 3 gas wells were drilled in Jay County, of a total of 15 tests. Miami County was the most active by far in the old Trenton area where 81 wells were drilled, of which 54 were producers. The East Peru field was the only major discovery. Wabash County which adjoins Miami on the east, had 8 wells drilled of which 6 were oil wells.

Indiana has experienced one of its best years in history, during which more than 2,000,000 feet of hole were drilled and 584 wells completed as producers. In all, 23 new fields were discovered and 307 wildcat wells drilled. Exploration and leasing are increasing, and 1949 may be a still better year for the oil industry.

