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DEVELOPMENTS IN ILLINOIS AND INDIANA IN 1949¹

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ABSTRACT

In all, 4,018 wells were drilled for oil and gas in Illinois and Indiana in 1949 as compared with 3,662 in 1948, an increase of 10 per cent. Total oil production increased 3 per cent, from 71,782,000 barrels in 1948 to 74,139,000 barrels in 1949. Wildcat drilling increased from 955 completions in 1948 to 1,217 completions in 1949. Fifty-one new pools, 84 extensions, and 53 new producing zones were discovered in the two states in 1949.

Most of the discoveries in 1949 were in Mississippian formations, but the Devonian limestone produced oil in six new pools, Pennsylvanian sandstone in five, Ordovician limestone in three, and Silurian limestone in one.

INTRODUCTION

In Illinois and Indiana, 4,018 wells for oil and gas were drilled in 1949 as compared with 3,662 in 1948, an increase of 10 per cent. Total oil production increased 3 per cent from 71,782,000 barrels in 1948 to 74,139,000 barrels in 1949. Wildcat drilling increased from 955 completions in 1948 to 1,217 completions in 1949, an increase of 27 per cent. Fifty-one new pools, 84 extensions, and 53 new producing zones were discovered in the two states in 1949.

In the Illinois basin area—southern Illinois and southwestern Indiana—36 out of 46 discovery wells of new pools discovered in 1949 produced from Mississippian formations (15 Chester series and 21 Lower Mississippian). Of the remaining 10 discovery wells of new pools, five produced oil from Pennsylvanian sandstone, four from Devonian limestone, and one from Silurian limestone. Five new pools were discovered in eastern Indiana outside of the Illinois basin, of which two produced from Devonian and three from Ordovician ("Trenton") limestone.

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

ILLINOIS

By ALFRED H. BELL

In Illinois 2,737 wells were drilled for oil and gas in 1949 as compared with 2,489 in 1948, an increase of approximately 10 per cent. (These figures are ex-

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TABLE I. DISCOVERY WELLS OF NEW FIELDS

Pool	County	Company and Farm	Location	Total Depth (Feet)	Producing Formation	Depth to Top (Feet)	Initial Production (Barrels) ^a	Date of Completion	No. Wells Producing in Pool, Dec. 31, 1949
1. Beaver Creek North	Bond	Holles, Holles I	13-4N-3W	1,127	Bethel	1,121	3,100	8-9-49	2
2. Bogota North	Jasper	W. D. Schweitzer, B. Freeman I	15-6N-9E	3,139	McClosky	3,078	15,335	5-24-49	1
3. Cantrell	Hamilton	J. W. Everhart, Wesley Foundation I	5-7S-5E	3,216	Aux Vases	3,200	525	11-29-49	4
4. Dead River	White	C. E. Skiles, McAllister I	7-7S-11E	2,486	Cypress	2,475	45	7-19-49	3
5. Dudley	Edgar	C. M. Hickman, Louis Brinkerhoff I	10-13N-13W	469	Pennsylvanian	415	30,300	6-21-49	44
6. Edinburg	Christian	Paul Doran, Earl Heater I	15-14N-3W	1,853	Devonian	1,787	8	11-15-49	1
7. Elbridge	Edgar	National Associated & Continental, H. S. Cockcroft I	1-12N-11W	2,093; PB 990	McClosky	1,969	50,500	9-13-49	19
8. Ina North	Jefferson	Dunbar, Wilson I	20-4S-3E	2,977	McClosky	2,941	30,700	7-19-49	1
9. Inman Central	Gallatin	J. L. Crawford, Sutton I	6-8S-10E	2,496; PB 2,140	Tar Springs	2,123	18,320	8-9-49	1
10. Keyesport	Clinton	E. J. Goldschmidt, Goldschmidt I	17-3N-2W	1,185	Bethel	1,175	17	5-10-49	7
11. Merriam	Wayne	Robinson & Puckett, J. C. Meyers I	3-2S-3E	3,377	McClosky	3,368	46	4-26-49	1
12. Mitchell	Edwards	Texas, E. E. Foster I	30-2S-10E	3,329	McClosky	3,305	156	11-15-49	1
13. Panama	Montgomery	McGaw & Hughes, Grabruck I	23-7N-4W	897	Bethel	790	6	12-20-49	1
14. Raccoon Lake	Marion	Texas, Franke-Meyer Unit I	3-1N-1E	2,067; PB 1,982	Rosiclare; McClosky	1,924; 1,931	214	7-19-49	22
15. Roby	Sangamon	Cliff Perardi, Goldstein I	10-15N-3W	1,780	Silurian	1,761	16,900	11-1-49	1
16. Rural Hill North	Hamilton	Gulf, J. Russ I	35-5S-2E	3,468	Rosiclare	3,324	22,700	7-19-49	1
17. Sparta South	Randolph	Kleiboeker & Schantzmeier, A. B. McMillan I	7-5S-3W	900	Cypress	880	1,100	9-20-49	1
18. Ste. Marie East	Jasper	Baldwin & Graham, C. Burton I	33-6N-14W	2,800	Rosiclare	2,686	35	6-7-49	4
19. Ste. Marie West	Jasper	Smith & Coffman, W. Ochs I	35-6N-10E	2,844	McClosky	2,813	175	2-15-49	2
20. Taylor Hill	Franklin	Producers Pipe Line, King I	16-5S-4E	3,063	Lower Ohara	3,050	154	7-26-49	1
21. Thompsonville East	Franklin	Carter Oil, Trustee-Tract #8 I	12-7S-4E	3,158	Aux Vases	3,148	489	9-20-49	3
22. Weaver	Clark	Schiaer & Granbohn, Cusick I	20-11N-10W	2,135	Devonian	2,086	6,150	6-14-49	7
23. Westfield North	Coles	B. W. Quick, B. Steele I	17-12N-14W	507	Pennsylvanian	488	2	6-21-49	2
24. Zenith South	Wayne	Illinois Mid Continent & Aurora, R. Richardson I	9-1N-5E	3,002	McClosky	2,992	675	7-19-49	14

^a Oil and water.

* Consolidated with Inman West.

TABLE II. DISCOVERY WELLS OF EXTENSIONS TO POOLS

Pool	County	Company and Farm	Location	Total Depth (Feet)	Producing Formation	Depth to Top (Feet)	Initial Production (Barrels) ^a	Date of Completion
1. Aden South	Hamilton	I. A. Talbot, M. Fields I	39-3S-9E	3,417	McClosky	3,402	118; 6	10-11-49
2. Allendale	Wabash	F. L. Beard, Bruce French I	32-2N-12W	PB 4,201	Bethel	2,163	15	2-22-49
3. Allendale	Wabash	C. E. Brehm, Dunkel I	31-1N-12W	2,385	Rosiclare	2,350	200	5-24-49
4. Allendale	Wabash	F. L. Hartman, C. E. Courter I	26-1N-12W	1,445	Bethel	1,237	5; 20	6-21-49
5. Assumption North	Christian	H. R. Lippitt, R. E. Cramer I	15-13N-1E	2,335	Devonian	2,310	28	7-10-49
6. Assumption North	Christian	Collins Bros., Seifert I	31-1N-1E	2,740	Devonian	2,311	22; 18	0-7-49
7. Browns South	Edwards	C. E. Skiles, J. Curtis I	35-18-14W	3,143	McClosky	3,113	14; 7	0-20-49
8. Bungey Consol.	Hamilton	Ill. Mid-Co., Aurora, A. M. Thomas I	12-4S-7E	3,345	Aux Vases	3,336	170	5-31-49
9. Calhoun Consol.	Richland	McDowell & Murvin, S. Pitts I	4-2N-10E	PB 3,310	McClosky	3,200	10; 5	10-4-49
10. Clay City-Noble Consol.	Jasper	F. Lomelino <i>et al.</i> , Ochs I	27-6N-10E	4,315	McClosky; St. Louis; Devonian	2,806; 2,193; 4,328	53; 7	7-19-49
11. Clay City-Noble Consol.	Richland	L. F. Jordan, E. J. Levitt I	22-3N-0E	3,220	Rosiclare	3,000	45	5-3-49
12. Clay City-Noble Consol.	Wayne	C. J. Meyers, L. E. Spriggs I	31-1S-3E	3,260	Aux Vases	3,243	82; 85	10-25-49
13. Colmar-Plymouth	McDonough	Dale Lambert, Warren McGinnis I	28-4N-4W	4,416	Devonian	3,742	24	3-20-49
14. Dudley	Edgar	L. B. Stablerford, B. Waller I	28-14N-13W	460	Pennsylvanian	280	310,000 cu. ft.	1-15-49
15. Dundas East	Edgar	Jones & Simpson, J. A. Pierce I	34-14N-13W	450	Pennsylvanian	315	466,000 cu. ft.	10-11-49
16. Fairfield	Richland	Reil Bros., Porter-Seller I	3-4N-10E	3,018	Lower Ohara	2,086	84	0-13-49
17. Fairfield	Wayne	Robinson and Puckett, H. Johnson I	9-2S-8E	3,161	Aux Vases	3,143	40	5-17-49
18. Grayville West	Edwards	W. Duncan & S. Yingling, Schmittler I	14-3S-10E	2,206; PB 2,098	Waltersburg; Cypress	2,183; 2,862	30	4-12-49
19. Grayville West	White	C. E. Brehm, P. Blackford I	34-3S-10E	2,862	Cypress	2,840	110	2-8-49
20. Inman	Gallatin	C. E. Skiles & Aurora, Lawlor 2	13-8S-0E	2,135	Tar Springs	2,123	109; 10	5-13-49
21. Inman	Gallatin	Ashland, D. S. Maloney I	25-8S-9E	2,047; PB 2,100	Tar Springs	2,126	5; 25	6-14-49
22. Inman Central	Gallatin	Van Tuyl & Gilpin, Wilson I	36-7S-9E	2,056; PB 2,830	Lower Ohara	2,816	108	6-21-49
23. Inman Central	Gallatin	Oil Management, Downen I	7-8S-10E	2,145	Tar Springs	2,128	76; 12	0-13-49
24. Inman East Consol.	Gallatin	Carter Oil Co., C. L. Hughes I	8-8S-10E	2,036; PB 2,741	Aux Vases	2,716	20; 50	8-23-49
25. Inman N. & W. Consol.	Gallatin	C. E. Skiles, S. E. Abell I	14-8S-0E	2,517	Cypress	2,580	62	7-10-49
26. Iuka	Marion	Winn & Beck, Cheeley I	3-2N-4E	2,807; PB 2,740	McClosky	2,734	25	5-17-49
27. Junction	Gallatin	George S. Engle, R. V. Stinson I	9-9S-0E	2,130	Hardinsburg	2,118	35	3-1-49
28. Junction North	Gallatin	Oil Management & Hayes, Wilson I	2-9S-9E	2,945; PB 1,635	Pennsylvanian	1,600	33; 15	8-30-49
29. Lancaster	Lawrence	P. Graebling, B. Cook I	28-2N-13W	2,533	Bethel	2,509	3; 60	9-20-49
30. Lancaster South	Wabash	Ashland <i>et al.</i> , M. C. Koertage I	21-1N-13W	2,520	Bethel	2,518	04	12-13-49
31. Livingston	Madison	O. R. Shull, Heinecke I	17-6N-6W	1,528	Pennsylvanian	1,517	10; 5	4-5-49
32. Loudon	Fayette	W. L. Belden, W. Grames I	25-8N-3E	1,528	Cypress	1,492	130	0-27-49
33. Loudon	Fayette	Reynolds & Henson, Kuppels I	35-8N-3E	1,612	Cypress	1,604	88	10-11-49
34. Loudon	Fayette	M. H. Richardson <i>et al.</i> , J. A. Siebert I	3-7N-3E	1,585	Cypress	1,556	180	10-25-49

TABLE II.—(continued)

Pool	County	Company and Farm	Location	Total Depth (Feet)	Producing Formation	Depth to Top (Feet)	Initial Production (Barrels) ^a	Date of Completion
35. Louden	Fayette	H. Luttrell, Rhodes I	3-N-3E	1,587	Cypress	1,572	192	11-15-49
36. Louden	Fayette	W. L. Belden, M. Griffin I	25-N-3E	1,587	Cypress	1,597	147 15	12-8-49
37. Louden	Edwington	E. C. Reeves et al., Taylor I	19-N-3E	1,575	Cypress	1,503	70	1-3-50
38. Maple Grove East	Edwards	F. Lomelino, A. B. Seibert I	7-N-14W	3,201	McClosky	3,201	1	1-15-49
39. Mand Consol.	Wabash	Calvert & Willis, J. W. Kesinger I	4-S-13W	2,412	Cypress	2,491	275	6-28-49
40. Mand Consol.	Wabash	Oil Management, Hare I	1-S-13W	1,672	Bethel	1,637	351 18	7-26-49
41. Mand North Consol.	Wabash	George S. Engle, Steckler 2	24-S-13W	2,205	Cypress	2,285	107 10	1-25-49
42. Mand North Consol.	Wabash	C. H. Skiles, Erward Wetts I	5-S-13W	2,594	Bethel	2,584	103	4-26-49
43. Mand North Consol.	Wabash	T. H. Osgoodby, J. W. Stee et al. I	22-S-13W	2,834	Bethel	2,834	22 10	8-23-49
44. Mand North Consol.	Wabash	Oil Management & Hayes, G. Woods I	31-N-13W	2,889	Lower Ohara	2,787	22 70	8-23-49
45. Mand North Consol.	Wabash	C. E. Skiles, F. Ceney I-B	32-1S-13W	2,935	Bethel	2,787	81 10	10-18-49
46. New Harmony-Keensburg Consol.	Wabash	V. Gallagher & Aurora, M. Richardson I	35-2S-14W	2,937	Cypress	2,524	160	4-26-49
47. New Harmony-Keensburg Consol.	Wabash	E. Brown, Dunn I	26-S-14W	2,587	Cypress	2,544	12	8-16-49
48. New Harmony-South (Ill.)	White	V. T. Drig, E. Brown I	29-S-14W	3,186	Aux Vases	3,083	35	8-30-49
49. New Haven North	White	George & Wraether & W. Duncan, H. Garrison I	3-7-S-10E	2,462	Waltersburg	2,154	367	5-21-49
50. Olney Consol.	Richland	F. Leolino et al., H. Graves I	14-N-10E	3,062	Rosiclare	3,051	10	11-22-49
51. Olney South	Richland	Don Billie, C. Schmitt I	16-N-10E	3,158	Rosiclare	3,082	20 30	1-10-49
52. Olney South	Richland	Sun Drilling, H. Kaitoid I	9-S-10E	3,099	Rosiclare	3,092	25	5-10-49
53. Omaha	Gallatin	Geig & Wraether et al., Patton 2	34-S-8E	1,576	Pennsylvanian	1,465	80	6-21-49
54. Omaha	Gallatin	C. H. Mardick, Dixon I	27-S-8E	1,576	Bethel	1,485	80	1-3-50
55. Panama Gas	Boone	T. R. Keady, Howard I	37-N-3W	3,952	Bethel	3,872	220 cu cu. ft.	12-13-49
56. Roland	White	Kingwood Oil, W. C. Hill I	36-S-8E	3,952	McClosky	3,927	607 19	3-15-49
57. Roland	Gallatin	George & Wraether, H. Miner I	24-S-8E	2,956	Rosiclare	2,976	71 5	3-22-49
58. Ruark	Lawrence	Hayes Dalg. & Big Four, R. C. Horton I	17-2N-12W	2,990	Pennsylvanian	1,602	262	10-25-49
59. Ste. Marie	Leaper	O. C. Smalley, Steber I	7-N-14W	1,611	McClosky	1,806	84	2-8-49
60. Sailor Springs Consol.	Clay	Hed Oil, Catt et al., Ober I	14-N-7E	2,293	McClosky	2,280	50	2-15-49
61. Shattuc	Clinton	T. M. Pratt et al., T. Washofel I	34-N-1W	1,274	Cypress	1,260	56	6-21-49
62. Stanford	Clay	Johnson & Canfield, Nodaker I	23-3N-7E	3,124	Cypress	2,792	261 40	1-11-49
63. Stanford	Clay	R. P. Johnston et al., Pierce-Wyler Cons. I	10-N-8E	3,750	Rosiclare	3,076	130	2-15-49
64. Walpole	Hamilton	C. L. Reaser, Ritchey, Hrs. I	33-S-6E	3,163	Aux Vases	3,150	35	10-25-49
65. Weaverly	Morgan	Murwood Oil & Gas, Derrin-Carr Comm. I	16-11N-8W	1,193	Devonian	1,040	2,000 cu cu. ft.	1-3-50
66. Weaverly	Clark	W. W. Dayton, C. A. Cox et al. I	30-11N-10W	2,066	Devonian	2,020	187	8-16-49
67. Westfield North	Coles	George Zicos, Martha Fender I	17-12N-14W	611	Pennsylvanian	275	21 36	11-1-49
68. Whittington West	Franklin	B. P. Jones, Boyles I	13-S-2E	2,786	Bethel	2,616	25	8-9-49
69. Zenith South	Wayne	R. P. Johnston, E. Vest I	16-1N-3E	3,004	McClosky	2,999	256	8-23-49

^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) ^a	Date of Completion of Discovery Well
1. Assumption North	Christian	National Assoc. Petroleum & Continental, Lawrence 4	9-13N-1E	1,167	Rosiclare	1,156	390	1-25
2. Assumption North	Christian	National Assoc. Petroleum & Continental, Lawrence 5	9-13N-1E	1,066	Bethel	1,051	38	1-11
3. Clay City-Noble Cons.	Jasper	Lomelino et al., Ochs 1	27-6N-10E	4,515	St. Louis*	2,935	53; 7	7-19
4. Clay City-Noble Cons.	Jasper	Lomelino et al., Ochs 1	27-6N-10E	4,515	Devonian*	4,343	53; 7	7-19
5. Dead River	White	C. E. Shires, McAllister 4	7-7S-11E	2,159	Tar Springs	2,148	80	8-30
6. Ebridge	Edgar	N. E. Shires, McAllister 4	1-12N-11W	2,093	Devonian	1,949	51; 35	10-18
7. Fairfield	Wayne	H. S. Czeroff	20-2S-8E	3,381; PB 2,984	Cypress	2,932	204	7-5
8. Fairfield	Wayne	Stewart Oil, Bobwell 2	17-2S-8E	3,310	McClosky**	3,307	210; 15	0-28
9. Fairfield	Wayne	Nation, Nation-Curry 3-A	17-2S-8E	3,504	Tar Springs	2,582	070	0-7
10. Grayville West	Edwards	D. Nation, & Vining, Schmittler 1	14-3S-10E	3,200; PB 2,908	Watersburg**	2,383	30	4-12
11. Grayville West	White	C. E. Fresh, Hines, Schmittler 1	34-3S-10E	2,875	Tar Springs*	2,442	300	4-5
12. Junnan Central	Gallatin	Stiles & Auman, Jolor 2	13-8S-9E	2,135	Tar Springs	2,123	190; 19	5-31
13. Junnan Central	Gallatin	J. L. Crawford, Wilson 2	6-8S-10E	2,820	Lower Kenault*	2,772	12	8-23
14. Junnan Central	Gallatin	S. A. Gilpin, Prosser 2	6-8S-10E	2,790	Aux Vases	2,770	150	7-5
15. Junnan Central	Gallatin	Van Tassel & Gilpin, Wilson 1	36-5S-9E	2,956; PB 2,830	Lower Ohara	2,816	108	0-21
16. Junction	Gallatin	G. S. Eagle, Stipes 1	9-2N-7W	2,139	Hardsburg	2,118	95	3-1
17. Junction	Webster	Ashland et al., M. Koertge 1	23-1N-7W	2,529	Bethel	2,518	34	12-13
18. Mt. Erie North	Wayne	George & Wraether, S. J. Ascher 1	3-2N-9W	3,206; PB 3,182	Lower Ohara	3,170	120; 6	9-7
19. New Haven North	White	V. T. Drilling, F. Brown 1	29-5S-14W	3,136; PB 3,025	Aux Vases	3,095	35	8-30
20. New Haven North	White	George & Wraether, H. Garrison 1	3-5S-10E	2,500	Watersburg	2,154	307	5-31
21. New Haven North	White	Subling, Pearce B. 3	3-5S-10E	2,906	McClosky*	2,901	108	7-26
22. New Haven West	Gallatin	Yingling, Stoffeth 4	34-7S-10E	2,737; PB 2,573	Cypress*	2,557	48; 60	1-11
23. Omaha	Gallatin	George & Wraether, Patton 2	34-7S-8E	882	Pennsylvanian	800	20	0-21
24. Panama Gas	Bond	T. R. Kerwin, Howard 1	30-1N-1W	889	Bethel	870	220,000 cu. ft.	12-13
25. Racoon Lake	Marion	Texas, Scott-Avett Unit 1	3-1N-1E	2,025; PB 1,076	Cypress	1,853	72; 23	9-20
26. Racoon Lake	Marion	Texas, C. Griner 1	3-1N-1E	1,955	Lower Ohara*	1,880	142; 22	11-22
27. Runk	Lawrence	Hexas & Big Four, R. C. Horton 1	15-1N-14W	3,071	Pennsylvanian	1,002	208	10-25
28. Sailor Springs West	Lawrence	Hexas & Big Four, R. C. Horton 1	15-1N-14W	2,906; PB 2,889	Aux Vases	2,823	8; 39	8-29
29. West End	Franklin	P. Mosebach, Bays 3	38-5S-3E	4,509; PB 4,405	Devonian	4,300	35	8-9
30. Westington West	Franklin	George & Wraether & W. Duncan, Laswell 1	13-5S-3E	3,260	McClosky	3,274	15; 10	10-11
31. Williams	Jefferson	W. F. Seider, Wakefield 1-A	3-3S-2E	2,585; PB 2,630	Bethel*	2,016	25	8-9
32. Williams	Jefferson	W. F. Seider, Wakefield 1-A	3-3S-2E	2,585	Bethel**	2,504	18; 18	8-30
33. Wolbrn South	Bond	M. & M. Drilling, Voloski 3	10-3N-2W	2,269	Devonian	2,261	47; 150	11-1

^a Oil and water.

* Producing from 3 pays.

** Producing from 2 pays.

clusive of water or gas-input wells, salt-water disposal wells, and old wells worked over.) Of the 2,737 wells drilled, 746 are classified as wildcat wells as compared with 628 in 1948, an increase of 19 per cent. Of the 746 wildcat wells drilled in 1949, 326 were located more than 2 miles from production ("wildcats far"), of which 24, or 7 per cent, were successful. In 1948, 12 per cent of the "wildcats far" were successful. Drilling in 1949 resulted in 1,404 oil wells, 7 gas wells, and 1,326 dry holes.

Of the 746 wildcat wells drilled, 24 discovered new pools and 69 discovered extensions to pools (Tables I and II). In addition 32 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 resembled that of previous years except for a noteworthy increase in drilling in Edgar and Christian counties and the adjacent area north of the main structural basin which centers in Wayne County. The seven counties having the greatest number of completions were Wabash (357), Wayne (244), White (238), Gallatin (194), Christian (149), Clay (165), and Edgar (154). These seven counties had 56 per cent of the total number of completions in the state.

The pools with the greatest number of successful oil-well completions in 1949 were Assumption North (Christian County), 124, Maud North Consolidated (Wabash County), 113, Clay City-Noble Consolidated, 101, Sailor Springs Consolidated, 78, Inman East Consolidated, 62, Loudon, 55 oil and 2 gas, Allendale, 56, New Harmony-Keensburg Consolidated, 55.

Total oil production in Illinois in 1949 was 64,583,000 barrels as compared with 64,808,000 barrels in 1948, a decrease of $\frac{1}{3}$ per cent, or about one day's production. (Actually, 1949 had only 365 days as compared with 366 in 1948.) Average daily production in 1949 was 177,000 barrels. The daily average by months varied from a low of 167,000 barrels in January to a high of 184,000 barrels in December.

EXPLORATORY DRILLING

Exploratory drilling in 1949 was done in 54 counties in Illinois as compared with 44 counties in 1948 and was more widespread than in the last several years.

With few exceptions the new pools discovered in Illinois in 1949 are located close to previous production (Fig. 1). The most noteworthy exceptions are Dudley (map No. 5) and Elbridge (map No. 7) in Edgar County, Weaver (map No. 22) in Clark County, Edinburg (map No. 6) in Christian County, and Roby in Sangamon County (map No. 15).

The producing zones in the Dudley pool are in Pennsylvanian sandstones at average depths of 325 feet and 425 feet, respectively. The reservoirs are probably lenses on the east flank of the Oakland dome which is part of the LaSalle anticlinal belt. In the Elbridge pool, production is mainly from Ste. Genevieve limestone. The discovery well was deepened to the Devonian, from which a small

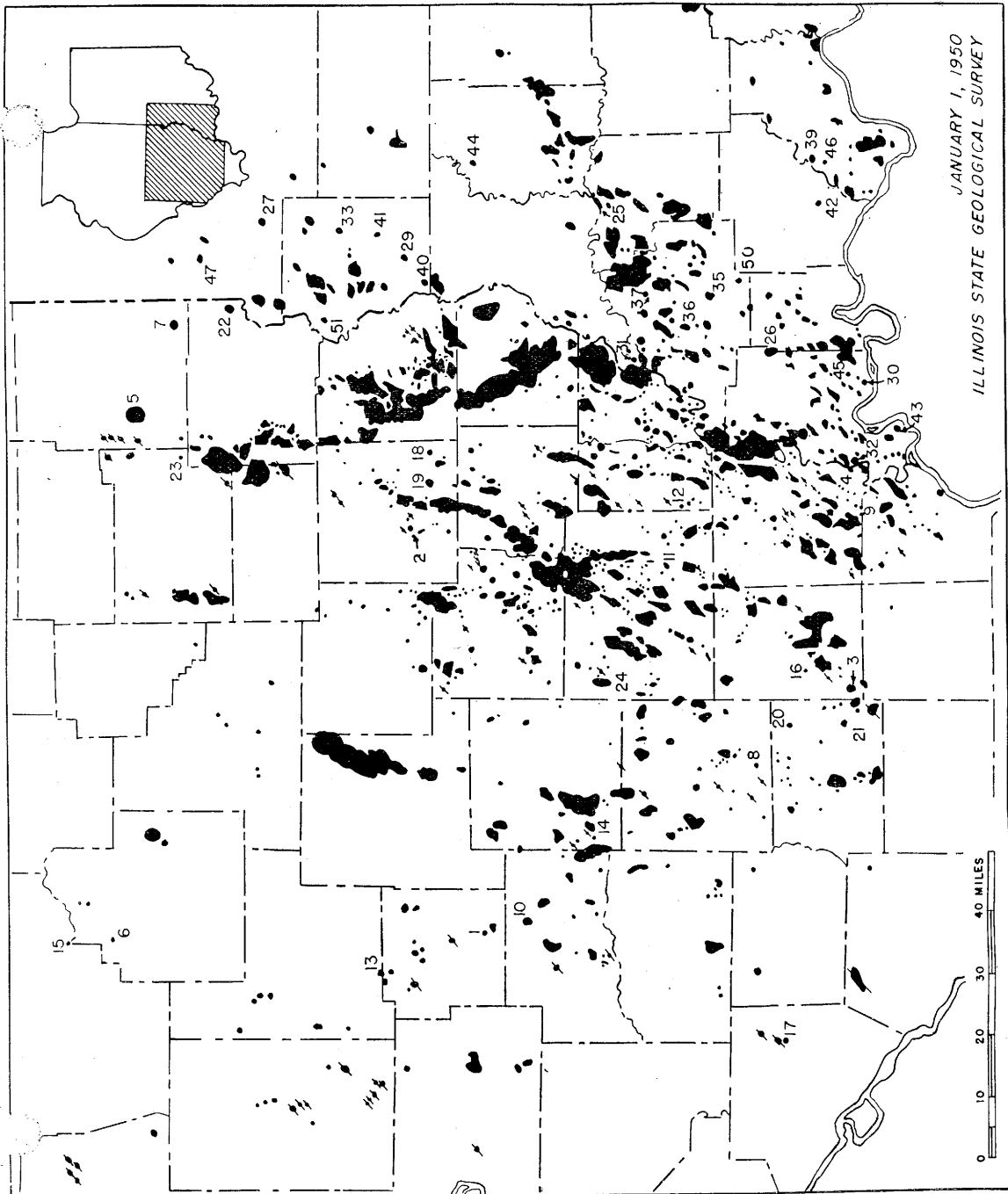


FIG. 1.—New pools discovered in 1949. All former oil- and gas-producing areas are shown in black. See Tables I and VII for pool number identification.

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. Bartleso*	Brown	Crandaal and Hunt, W. J. Thomas I	15-15-S-2W	612	Silurian	600	7-12
2. Bartleso*	Clinton	P. Mosebach, Robben 5	5-1N-3W	3,745; PB 2,440	Trenton	3,418	7-26
3. Dudley	Dewitt	Paul Doran, C. B. Arboogast I	10-20N-4E	1,430	Devonian	1,242	10-11
4. Dudley	Edgar	Livengood and Cooksey, Stoneburner 3	3-13N-13W	1,342	Devonian	1,275	8-0
5. Dudley	Fulton	B. J. Grigsby, Elsbett I	23-6N-1E	1,400	Trenton	1,302	11-22
6. Russellville gas	Jasper	Keystone Oil, O. R. Ball I	9-7N-9E	4,502	Devonian	4,386	11-20
7. Russellville gas	Lawrence	J. S. Young, Jr., Citizens Trust-Tedford Comm. 2	13-4N-11W	3,031	Devonian	2,905	12-13
8. Russellville gas	Lee	H. O. Carr, Vedovell I	35-20N-10E	3,052	Pre-Cambrian	3,465	9-13
9. Russellville gas	Macoupin	M. Mazzarino, W. D. Kilton I	21-20N-6W	2,320	Trenton	2,206	6-14
10. Russellville gas	Macoupin	J. Castle, Butcher I	17-12N-0W	1,577	Trenton	1,367	5-10
11. Russellville gas	Madison	F. R. Stocker, Brose I	16-5N-7W	2,269	Trenton	2,157	5-31
12. Russellville gas	Madison	G. A. Isaacson, A. T. Dorsey I	29-6N-6W	1,800	Trenton	1,645	6-21
13. Russellville gas	Morgan	J. W. Gerhardt, Gerhardt I	31-13N-6W	1,551	Trenton	1,310	11-15
14. Russellville gas	Moultrie	E. A. Obering, R. C. Coffey I	20-14N-4E	2,840	Devonian	2,755	7-23
15. Russellville gas	Moultrie	Sohio, M. Schable I	15-15N-6E	3,002	Silurian	2,881	9-27
16. Russellville gas	Peoria	Blue Ridge Oil, Holmes I	4-11N-8E	1,405	Trenton	1,315	4-26
17. Russellville gas	Platt	National Assoc. Pet. and Continental, Reed I	6-16N-5E	2,490	Devonian	2,411	10-4
18. Russellville gas	Platt	National Assoc. Pet. and Continental, Mathews I	15-16N-6E	2,591	Silurian	2,484	11-22
19. Sparta gas	Kandolph	L. V. Horton, Temple 2	6-5S-5W	3,130	Trenton	2,908	12-6
20. Sparta gas	Washington	W. C. Vickery, C. Wise I	9-5S-2W	4,076	Trenton	3,909	2-15
21. Sparta gas	Washington	National Assoc. Pet. Rabe I	13-3S-4W	3,759	Decorah	3,750	7-5
22. Sparta gas	Williamson	Amerada, B. Gent I	33-3S-4E	2,833	St. Louis	2,785	12-6

* Pugged back to Devonian production.

amount of oil was produced. The type of structure is not yet known. In the Weaver pool, oil is produced from the Devonian limestone at an average depth of 2,050 feet to top of the producing zone. The structure is possibly a reef of Devonian or Silurian age. It is located near the Siosi and Prairie Creek pools in Indiana, which are believed to be in reef structures. The Edinburg and Roby discovery wells yielded only small production and there has not been enough drilling to determine the type of reservoir.

TABLE V. WILDCAT FAR WELLS CLASSIFIED BY METHOD OF LOCATION

<i>Method of Location</i>	<i>Total</i>	<i>Producers</i>	<i>Percentage Successful</i>
Geology	269	22	8.2
Geophysics	22	1	4.5
Geology and geophysics	18	1	5.6
Non-scientific	17	0	0
Total	326	24	7.4

A list of some of the most noteworthy dry holes completed in 1949 is given in Table IV. There was little deep testing.

METHODS OF EXPLORATION

The principal methods used in locating exploratory wells continued to be subsurface geology and the reflection seismograph (Table V). The amount of seismograph work decreased 17 per cent from 64 crew-months in 1948 to 53 crew-months in 1949. Gravity-meter work increased three-fold from 9 crew-months in 1948 to 25 crew-months in 1949.

TABLE VI. NUMBER OF GEOPHYSICAL CREWS ACTIVE IN ILLINOIS DURING 1949 BY MONTHS

	<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May</i>	<i>June</i>	<i>July</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>	<i>Total</i>
Seismograph	3	3	4	4	3	4	5	4	7	6	5	5	53
Gravity meter	0	1	3	3	2	4	2	2	2	2	2	2	25

INDIANA

By R. E. ESAREY

Production in Indiana has increased substantially over the preceding year for the third consecutive time. The total oil production was 9,556,000 barrels (U. S. Bureau of Mines figure), which is 37 per cent greater than in 1948. The total of 1,288 wells drilled during the year represents an increase of about 10 per cent in drilling activities. Wells were drilled in 55 counties, indicating a much greater spread in exploration over the state. Except for Sullivan County, the number of producing wells equaled the number of dry holes in the 7 counties leading in new discoveries and production. The footage drilled was approximately 2,352,900 feet, representing a considerable increase for 1949. The total initial production from discovery wells was about 44,650 barrels of oil daily, and new gas was

TABLE VII. DISCOVERY WELLS OF NEW FIELDS IN INDIANA IN 1949

Pool	County	Company and Farm	Location	Total Depth (Feet)	Producing Formation	Initial Production (Barrels)	Date of Completion	No. Wells Producing in Pool, Dec. 31, 1949
25. Arda	Pike	W. R. White, Neal I	12-1N-8W	1,302	McClosky	25	6/ 9/49	2
26. Armstrong	Vanderburgh	Ryan & Sharp, Schweikart I	15-5S-11W	2,651	L. Ohara	171	9/ 1/49	1
27. Blackhawk	Vigo	Gilliam, Huntwork I	20-10N-8W	1,084	Devonian	100	8/11/49	11
28. Brown	Hamilton	F. B. Cline, Brown I	7-10N-4E	1,063	Trenton	6	3/16/49	1
29. Carlisle	Sullivan	Unger, Queen I	17-6N-9W	1,334	McClosky	50	11/ 3/49	1
30. Crunk South	Posey	George & Wrather, Tenison I	20-7S-12W	2,077	Hards.	28	8/11/49	2
31. Cypress Pond	Knox	Winnar, Parkinson I	11-1S-12W	2,269	Ohara	66	8/11/49	3
32. Dead River	Posey	Sidles, Greathouse I	7-7S-14W	2,156	Tar Springs	100	9/ 8/49	8
33. Denny	Sullivan	F. B. Cline, Wilson I	23-8N-10W	2,637	Penn.	1,760 MCF	11/11/49	2
34. Elkhart gas	Elkhart	Pletcher, Fisher 2	35-38N-5E	572	Devonian	5 MCF	3/30/49	1
35. Ft. Branch	Gibson	George & Wrather, Titzer I	17-3S-10W	1,552	Tar Springs	70	10/20/49	4
36. King	Gibson	Evans & Dobbs, Brown I-Comm.	28-2S-11W	2,150	Benoist	100	9/ 1/49	3
37. Kolb	Gibson	Superior, Kolb I	22-1S-10W	2,033	McClosky	26	2/16/49	3
38. Lake of the Woods	Marshall	Kendall, Marks I	12-34N-2E	360	Devonian	800 MCF	7/26/49	4
39. Midway gas	Spencer	J. C. Ellis, Daniel I	11-6S-7W	1,004	Tar Springs	3,923 MCF	9/15/49	2
40. Oaktown Ext.	Sullivan	Ill. Mid. Cont., Mitchell, McLaughlin, Green I	3-5N-10W	1,808	Penn.	5	6/16/49	3
41. Paxton	Sullivan	Nash, Johnson I	23-7N-9W	1,207	McClosky	5	8/17/49	1
42. Pelzer	Warrick	V. T. Drig., Helm I	23-6S-8W	1,886	Cypress	50	11/ 3/49	1
43. Piroque	Posey	Heath, Hardwick & Highman I	18-8S-13W	2,751	McClosky	175	6/ 2/49	7
44. Plainville	Daviess	National Assoc., Meurer I	2-4N-7W	760	McClosky	250	12/15/49	1
45. Stooker E.	Posey	Witt, Whitehead et al. I	3-7S-12W	2,713	McClosky	150	4/ 6/49	1
46. Sweezer	Spencer	Dobbs Jr., Williams I	22-6S-7W	956	Watts	10	8/ 4/49	1
47. Terre Haute S.	Vigo	Froderman, Roysse I	9-11N-9W	1,775	Devonian	14	5/19/49	10
48. Trenton Ext.	Wabash	Snyder, Evans I	33-26N-7E	926	Trenton	54	2/11/49	2
49. Wheatonville	Franklin	in fee, Franklin Co. Canning Co. I	36-12N-12E	783	Trenton	1	8/11/49	1
50. Wheatonville	Gibson	Gilliam, Stitt I	12-4S-10W	2,122	McClosky	92	6/30/49	1
51. York Ferry	Sullivan	Strickland, Kelley I-A	11-8N-11W	606	Penn.	9	8/17/49	2

26,000 M cubic feet daily. The average daily production of oil was about 27,000 barrels.

A breakdown of the new discoveries includes 27 new fields, 20 new pay zones in producing areas, and 15 extensions of existing fields. The Pocket area of south-western Indiana, Posey, Gibson, and Vanderburg counties, contained 34 of the new discoveries, 9 new fields, 13 new pay zones, and 12 extensions, thus con-

TABLE VIII. DISCOVERY WELLS OF ADDITIONAL PRODUCING ZONES
IN POOLS IN INDIANA 1949

Pool	County	Company and Farm	Location	Total Depth (Feet)	Producing Formation	Initial Production (Barrels)	Date of Completion
Buflin	Posey	C. E. Skiles, Meier 1	7-6S-12W	1,140	Penn.	96	12/15/49
Carlisle	Sullivan	Unger, Knotts 1	17-6N-9W	1,727	Salem	4	12/ 1/49
Cypress Pond	Knox	Winmar, Johnson 1	11-1S-12W	2,362	Benoist	79	10/20/49
College	Posey	Basin Drlg., Oakland City College 1	16-8S-14W	1,857	Walts.	32	1/26/49
Grafton	Posey	George & Wrather, Hempfling 1	21-6S-14W	2,305	Hards.	44	12/ 8/49
Heusler	Posey	Coy, Gumbel 1	36-6S-12W	2,191	Jackson	15	5/ 5/49
King	Gibson	Evans & Dobbs, Woods 1	21-2S-11W	2,250	Aux Vases	85	11/11/49
Lamott Ext.	Posey	Heppard et al., Thomas 1	24-7S-13W	2,369	Cypress	25	4/14/49
McGary	Gibson	Chas. C. Clark, Montgomery et al. 1	18-3S-11W	2,908	St. Louis	7	12/22/49
Monroe City	Knox	Zanetis, Doty 1	29-2N-8W	1,868	St. Louis	15	12/ 1/49
Monroe City	Knox	N. W. Strange, Scott 1	19-2N-8W	1,652	McClosky	12	8/11/49
Mumford	Posey	Skiles, Mumford et al. B-1	33-3S-13W	2,605	Walts.	20	11/22/49
Oaktown Ext.	Sullivan	Ill. Mid. Cont., Walden 1	3-5N-10W	2,915	Salem	8	9/22/49
Oaktown	Knox	J. B. & L. Drlg. Co., Shepard 2	13-5N-10W	1,491	McClosky	50	6/16/49
Parker	Posey	Slagter Jr., Korsmeier Hrs. 1	2-6S-12W	2,264	Cypress	9	2/ 2/49
Rochester	Gibson	Sharp, Ryan, Aurora, Berry-State Comm. 1	4-2S-13W	2,026	Penn.	300	3/30/49
Stacer	Vanderburgh	Boland, Boyle 1	32-4S-10W	2,357	Aux Vases	20	9/22/49
Terre Haute, S.	Vigo	Froderman, Royle 3-A	2-11N-9W	1,530	Carper	55	9/22/49
Vaughn	Vanderburgh	Ashland, Brose et al. 1-Comm.	9-7S-11W	1,652	Walts.	40	1/26/49
Vaughn	Vanderburgh	Jarvis, Kolb 1	22-7S-11W	2,505	Ste. Gen.	60	10/13/49

tinuing its predominance over other areas. Sullivan and Vigo counties ranked third and fourth, respectively, in initial production and new discoveries. In Posey County, discovery wells produced 6,400 barrels of new oil per day; in Gibson County, 10,600 barrels; Sullivan County, 5,600 barrels; Vigo County, 3,000; Vanderburg County, 2,500; Knox County, 2,400; and in Pike County, 2,300 barrels. The counties rank similarly in new discoveries.

Devonian production was augmented by the addition of oil from the new fields in Vigo County, Terre Haute South and Blackhawk. The Carper sand in the Borden or Lower Osage series produced commercially for the first time in Indiana in the Terre Haute South field. The Marts field in Sullivan County, opened about the first of the year, has produced more than 500,000 barrels of oil from the Devonian. Many wells in the field had estimated initial productions of more than 1,000 barrels. The Oaktown and Carlisle fields of southern Sullivan County found new production in the McClosky and Salem limestones. Additional shallow Pennsylvanian production was opened in Sullivan County in two new areas.

In Gibson County, probably the outstanding event was the discovery of oil in the shallow Pennsylvanian sands of the Rochester pool, which to this time had produced only from the Waltersburg sand. Because of this fact, production continued above 500,000 barrels for the second straight year.

The Dead River field in Posey County, producing from the Tar Springs sand, has produced 26,504 barrels during the 4 months of its existence. Only 8 wells

DEVELOPMENTS IN ILLINOIS AND INDIANA IN 1949 1089

TABLE IX. DISCOVERY WELLS OF EXTENSIONS TO FIELDS IN INDIANA IN 1949

Pool	County	Company and Farm	Location	Total Depth (Feet)	Producing Formation	Initial Production (Barrels)	Date of Completion
1. Beman E.	Knox	Zanetis, Gilliatt 1	20-3N-10W	1,915	Ste. Gen.	20	4/14/49
2. Hazelton E.	Gibson	Holland, Pauley Hrs. 1	84-1S-10W	1,580	Benoist	17	6/30/49
3. Lamott	Posey	Vail, Hill 2	18-7S-12W	1,942	Tar Springs	66	4/21/49
4. Owensville N.	Gibson	Ryan & Sharp, Lewis 1	35-2S-12W	2,567	L. Obara	35	6/ 2/49
5. Owensville N.	Gibson	Schuller, Springle 1	20-2S-11W	2,339	Ste. Gen.	20	4/ 6/49
6. Patoka E.	Gibson	C. F. Robb, Hardiman 1	32-1S-10W	1,784	Cypress	20	10/27/49
7. Patoka E.	Gibson	Winmar, White 1	29-1S-10W	1,684	Cypress	46	8/ 3/49
8. Springfield	Posey	George & Wrather, Clements 1-A	29-5S-13W	2,043	Palestine	105	4/28/49
9. St. James	Gibson	Luttrell, Clark 1	7-4S-10W	2,290	McClosky	60	10/13/49
10. St. Wendell E.	Posey	Skiles, Luigs, Helfer, Schauss 1	25-5S-12W	2,292	Cypress	4	11/22/49
11. Sweezer	Spencer	Benoist, Wilson 1	28-6S-7W	957	Walts.	8	12/15/49
12. Trenton	Huntington	Lynn Oil & Gas, Lohr 1	2-26N-9E	984	Trenton	12	1/26/49
13. Union—Bowman	Gibson	Haynes, Thompson 1	101-1S-10W	1,685	Benoist	1,000 MCF	9/29/49
14. Union—Bowman	Gibson	George & Wrather, White 1	7-1S-9W	1,671	Benoist	60	6/16/49
15. Union—Bowman	Gibson	Holland, Whiting 1	2-1S-10W	1,770	McClosky	40	1/ 5/49

have been completed to January 1.

The Spencer field, opened in 1948 and developed this year, had the largest producer of 1949, which flowed 2,223 barrels. The discovery well made 1,137 barrels. Production is obtained from the McClosky limestone and the daily average was 1,691 barrels from 20 wells. The accumulated production to January 1 was 450,000 barrels.

TABLE X. SELECTED LIST OF DRY TESTS

County	Company and Farm	Location	Total Depth (Feet)	Deepest Formation Tested
1. Clark	Louisville Cement Corp., 1 in fee	131-1S-7E	1,806	Prairie du Chien
2. Crawford	Sun Oil, Eaton 1	27-3S-1W	1,948	Silurian
3. Fountain	Ratchiff & Beckelhymer, Young 1	23-21N-8W	1,788	Trenton
4. Greene	Whitaker & Dyer, Sharr 1	10-8N-4W	2,394	Trenton
5. Greene	C. E. Skiles, McDermot 1	33-8N-5W	2,615	Trenton
6. Greene	Sohio, Sherwood-Templeton Coal 1	6-7N-7W	2,312	Silurian
7. Kosciusko	Hunt, Henwood 1	29-34N-7E	1,821	Trenton
8. Lake	Sewage Sanitation, Burge 1	24-35N-9W	1,250	St. Peter
9. Marshall	V. & S. Oil Co., Wexelberg 1	30-33N-1E	1,417	Trenton
10. Orange	Burton, Hardiman 1	35-3N-1E	1,185	Devonian
11. Owen	Brake, Hauser 1	4-9N-5W	2,446	Trenton
12. Pike	Texas Gas Transmission, Smith 5	17-1N-7W	2,741	Devonian
13. Spencer	Mulzer Bros., Mulzer Bros. 1	21-5S-5W	2,766	Devonian
14. Vermillion	Neubert, Darroch 1	9-17N-10W	2,039	Trenton
15. Washington	Spang, Stobbe 1	18-1N-3E	2,555	Trenton

The Plainville field in Daviess County, opened in late December, found production in the Aux Vases, McClosky, and Salem limestones. Four wells are producing from the shallow sands and the saturated zones of the Salem are being tested. A considerable flurry of wildcatting and testing was created along with town-lot drilling in the town itself. The structure now producing was outlined by seismic exploration.

The Lake of the Woods gas field in northern Marshall County opens new Devonian production in the extreme south edge of the Michigan basin. Four wells are completed to date. The field is 30 miles from production.

Exploration and leasing have been very active in the marginal counties of the basin in the search for Salem, Devonian, and Trenton production. Such counties as Daviess, Clay, Greene, Parke, Vermillion, and Warren are under lease almost entirely. Seismograph and gravity-meter parties have covered much of the area. Activity has spread eastward into Jackson and surrounding counties where shal-

low Devonian and Trenton production is being sought. Several wells in Jackson County have had good showings of oil and gas in the Devonian. A selected list of important dry tests is included in the report.

A summary of drilling activities for the year shows 526 producing oil wells, 37 gas wells, and 727 dry holes. In all, 62 new discoveries were made, one more than last year. Operations for 1950 should equal or exceed the record of 1949.