OKLAHOMA STATE HISTORIC PRESERVATION OFFICE COMPREHENSIVE HISTORIC PRESERVATION PLANNING PROCESS AND HISTORIC CONTEXT DEVELOPMENT

ENERGY DEVELOPMENT IN MANAGEMENT REGION 2: 1910-1930

Submitted by

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ENERGY DEVELOPMENT IN MANAGEMENT REGION 2: 1910-1930

Rationale

In accordance with the historic context development and thematic survey program for the Oklahoma resource protection process planning process (RP3), the Department of Geography at Oklahoma State University selected Management Region 2 for its continuation of the energy development theme in 1985. Management Region 2 was chosen for the following reasons:

(1) It contained thirteen major petroleum-producing pools opened and developed prior to 1930. Among the largest were Tonkawa, Blackwell, Garber, Billings, Ponca, Newkirk-Mervine, Deer Creek, and Thomas.

(2) Based on archival research, Management Region 2 included a significant number of energy-related resources. Attention would be given to industrial properties (production camps, pipeline stations, gas processing plants, oil refineries,a nd oil and gas wells), commercial buildings associated with energy development, and dwellings resided in by petroleum executives.

(3) Although the emergence of boom towns was not as prevalent in Management Region 2 as in other areas of the state, there was phenomenal growth in the existing communities during the time period, 1910-1930. For example, Ponca City, more than doubled its population from 1920 to 1930.

Chronological limits for the project were based on historical evidence which indicated the peak production years for the thirteen petroleum fields in Management Region 2 occurred during the time frame of 1910 to 1930. Although some exploration took place prior to 1910 and production activity continued after 1930, the 1910-1930 period spanned the opening of the major fields to the early stages of declining production. The Ponca Field was opened in 1910.

It was followed by Newkirk-Mervine (1913), Blackwell (1914), Billings and Garber (1917), Deer Creek (1920), Tonkawa (1921), Thomas and Braman (1924), and Vernon (1925). More than sixty years has elapsed since the discovery of the Vernon Field, the last of the major pools to be opened in Management Region 2.

REGIONAL ANALYSIS

Northwest Oklahoma (Management Region 2) is composed of ten counties with a combined population of 189,018 (1980 U.S. Census) and a total area of 10,417 square miles. The region roughly corresponds with the historic Cherokee Outlet which was provided in Article 2 of the New Echota Treaty, an agreement reached at New Echota, Georgia on December 29, 1935 between the United States government and representatives of the Eastern Cherokees. In 1866, the Treaty of Washington provided for the settlement of several tribes in the Cherokee Outlet. The Osage and Kaw tribes were settled in the portion of the Cherokee Outlet lying between the Arkansas River and the 96th meridian. Other tribes settled in the Cherokee Outlet were the Ponca, Nez Perce, Otoe-Missouri, and Tonkawa. The Cherokee Outlet was opened for white settlement by the Land Run of September 16, 1893. In 1904 and 1906 the lands of the Ponca, Otoe and Missouri, and Kaw tribes were distributed among the tribal citizens and were not opened to white settlement. In terms of land area, Woods is the largest county with 1,298 square miles, whereas Noble is the smallest with 743.

The 1980 census indicates that Garfield has 62,820 inhabitants ranking it first in total population while Harper has only 4,715 people which is the least of all ten counties. Comparative data show that four counties have experienced a decrease in total population from 1970 to 1980: Alfalfa, Grant, Harper, and Woods. The most urbanized county is Garfield with over 80 per cent of its population living in cities of 2,500 or more. Four counties (Alfalfa, Ellis, Grant, and Harper) contain no urban population. Three counties (Alfalfa, Grant, and Woods) have a population of approximately 20 per cent which is 65 years of age or over while Garfield has the least percentage (13.1) of people 65 or over. All ten counties contain less than 4 per cent black population (Table III).

Economic statistics based on 1980 census show that Garfield has the highest per capita income ($7,744) and Woodward has highest median family income ($20,715). Noble has the lowest per capita income ($6,476) and Ellis has the lowest median family income ($16,591). Garfield and Kay rank as the top two counties in the region in terms of value added by manufacture with 152.2 million and 100.8 million, respectively (Table VIII). Mineral industry data for 1977 show that Major, Garfield, and Woodward rank well above the other seven counties in both number of employees and value added in mining (Table IX).

Garfield and Kay rank as the top two counties in both wholesale and retail trade based on 1977 figures (Table X). Ellis has the most acreage devoted to agriculture as of 1978. The 1978 agriculture census shows that Alfalfa, Harper, and Garfield are the top three counties in terms of value of farm products (Table XI).

More detailed information on the socioeconomic characteristics of Management Region 2 is provided in Tables I-XI.

MANAGEMENT REGION 2
TABLE I

COUNTY	COUNTY SEAT	POPULATION OF COUNTY SEAT
Alfalfa	Cherokee	2,105
Ellis	Arnett	714
Garfield	Enid	50,363
Grant	Medford	1,419
Harper	Buffalo	1,381
Kay	Newkirk	2,413
Major	Fairview	3,370
Noble	Perry	5,796
Woods	Alva	6,416
Woodward	Woodward	13,610

SOURCE: 1980 Census of Population

MANAGEMENT REGION 2
TABLE II

COUNTY	LAND AREA (SQ.MI.)	POPULATION						PER CAPITA INCOME (DOLLARS)	MEDIAN FAMILY INCOME (DOLLARS)
		TOTAL	PER SQ.MI.	% 65 & OVER	URBAN %	BLACK %	FOREIGN STOCK %		
Alfalfa	868	7,224	8	22.7	0	.7	5.9	4,239	6,508
Ellis	1,242	5,129	4	19.6	0	0	9.3	3,886	6,571
Garfield	1,054	56,343	55	13.5	80.5	3.7	5.8	4,262	8,063
Grant	1,007	7,117	7	21.4	0	>.05	7.3	3,812	6,289
Harper	1,041	9,578	5	15.4	0	1.0	1.0	3,681	7,357
Kay	950	48,791	50	16.2	77.7	1.5	4.0	4,351	8,271
M[illegible]	963	7,529	8	16.6	37.6	.1	7.7	3,662	6,681
Noble	743	10,043	14	16.5	55.7	2.7	6.3	3,832	6,702
Woods	1,298	11,920	8	19.4	63.0	.6	6.1	4,273	7,037
Woodward	1,251	15,537	13	12.5	56.1	.3	4.3	4,285	8,258

SOURCE: 1970 Census of Population

MANAGEMENT REGION 2
TABLE III

COUNTY	LAND AREA (SQ.MI.)	POPULATION						PER CAPITA INCOME (DOLLARS)	MEDIAN FAMILY INCOME (DOLLARS)
		TOTAL	PER SQ.MI.	% 65 & OVER	URBAN %	BLACK %	FOREIGN STOCK %		
Alfalfa	864	7,077	8.2	21.7	0	.65	DATA NOT AVAIL-ABLE.	7,175	17,537
Ellis	1,232	5,596	4.5	18.7	0	0		6,817	16,591
Garfield	1,060	62,820	59.3	13.1	80.5	3.23		7,744	19,692
Grant	1,004	6,518	6.5	22.8	0	0		7,092	16,965
Harper	1,039	4,715	4.5	18.3	0	.13	DATA NOT AVAIL-ABLE.	7,646	20,045
Kay	921	49,852	54.1	16.2	76.6	1.89		7,333	18,862
Major	958	8,772	9.2	16.7	38.4	0		7,120	17,200
Noble	236	11,573	15.7	16.6	50.1	2.03	DATA NOT AVAIL-ABLE.	6,476	17,212
Woods	1,291	10,923	8.5	20.4	58.7	.49		7,441	17,532
Woodward	1,242	21,172	17.0	11.1	64.3	.25		7,601	20,715

SOURCE: 1980 Census of Population

MANAGEMENT REGION 2
TABLE IV

COUNTY	HOUSING, 1970			MANUFACTURES, 1972			
	TOTAL UNITS	OWNER OCCUPIED	NEW UNITS 1976	TOTAL EST.	20 OR MORE EMPLOYEES %	100 OR MORE EMPLOYEES %	VALUE ADDED BY MANUFACTURE (MIL. DOL.)
Alfalfa	3,246	2,724	18	3	0	0	.1
Ellis	2,192	1,918	(NA)	5	0	0	.1
Garfield	20,747	19,062	782	65	21.5	9.2	47.1
Grant	3,126	2,703	(NA)	7	0	0	.4
Harper	2,039	1,768	29	3	0	0	.1
	19,065	17,111	212	60	30.0	6.7	56.0
Major	3,030	2,655	62	7	28.6	0	2.6
Noble	3,954	3,489	94	8	12.5	12.5	(D)
Woods	4,747	4,165	33	17	5.9	0	2.8
Woodward	5,760	5,178	440	13	15.4	7.7	3.8

(D) = Withheld to avoid disclosure

SOURCES: 1972 Census of Manufactures
1970 Census of Housing

MANAGEMENT REGION 2
TABLE V

COUNTY	WHOLESALE TRADE, 1972		RETAIL TRADE, 1972	TOP THREE RETAIL TYPES		
	ESTABLISHMENTS	TOTAL SALES MIL. DOL.	TOTAL	GAS STATIONS	EATING & DRINKING PLACES	FOOD STORES
Alfalfa	21	(D)	131	20	28	18
Ellis	15	4.8	88	14	18	6
Garfield	163	349.0	659	82	146	50
Grant	35	20.1	94	18	20	11
Harper	13	4.5	80	13	10	9
[illegible]	104	63.4	602	76	106	61
Major	21	19.5	100	21	16	10
Noble	23	23.1	143	19	28	12
Woods	28	8.9	186	25	35	15
Woodward	61	55.3	241	23	44	19

(D) = Withheld to avoid disclosure

SOURCES: 1972 Census of Wholesale Trade
1972 Census of Retail Trade

MANAGEMENT REGION 2
TABLE VI

COUNTY	MINERAL INDUSTRIES, 1972			
	ESTABLISHMENTS	TOTAL EMPLOYEES	VALUE OF SHIPMENTS & RECEIPTS (MIL. DOL.)	VALUE ADDED IN MINING (MIL. DOL.)
Alfalfa	57	.1	10.9	10.0
Ellis	48	.2	10.5	8.4
Garfield	127	.6	45.8	31.9
Grant	55	.1	6.9	3.7
Harper	76	.1	37.7	19.0
Kay	65	.2	29.4	11.1
Major	109	.5	56.2	42.2
Noble	67	.2	5.8	5.0
Woods	55	.1	13.6	12.3
Woodward	95	.7	49.4	26.7

SOURCE: 1972 Census of Minerals

MANAGEMENT REGION 2
TABLE VII

COUNTY	AGRICULTURE, 1974			
	TOTAL FARMS	TOTAL ACREAGE (1,000)	AVERAGE SIZE OF FARMS (ACRES)	VALUE OF FARM PRODUCTS WITH SALES OF 2,510 & OVER (MIL. DOL.)
Alfalfa	974	489	502	45.2
Ellis	702	705	1,004	20.4
Garfield	1,434	657	458	44.6
Grant	1,584	595	546	39.5
Harper	545	634	1,164	37.6
Kay	1,125	486	432	37.6
Major	1,004	550	548	24.0
Noble	866	407	470	19.7
Woods	861	771	895	36.8
Woodward	802	760	948	26.2

SOURCE: 1974 Census of Agriculture

MANAGEMENT REGION 2
TABLE VIII

COUNTY	HOUSING			MANUFACTURES			
	TOTAL UNITS	OWNER OCCUPIED %	NEW UNITS	TOTAL EST.	20 OR MORE EMPLOYEES %	100 OR MORE EMPLOYEES %	VALUE ADDED BY MANUFACTURE (MIL. DOL.)
Alfalfa	3,254	80.6	0	7	0	N/A	.6
Ellis	25,582	79.1	X	5	20.0	N/A	D
Garfield	11,377	73.3	542	78	23.1	N/A	152.2
Grant	3,303	81.8	X	8	0	N/A	1.0
Harper	2,138	79.1	6	3	0	N/A	D
K[illegible]	21,266	74.5	117	78	35.9	N/A	100.8
Major	3,567	80.1	31	8	25.0	N/A	5.4
Noble	4,870	76.1	25	8	25.0	N/A	D
Wood	4,922	72.9	26	14	7.1	N/A	2.4
Woodward	817	73.7	184	17	17.6	N/A	8.6

N/A = Not Available
(D) = Withheld to avoid disclosure

SOURCES: 1977 Census of Manufactures
1980 Census of Housing

MANAGEMENT REGION 2
TABLE IX

COUNTY	MINERAL INDUSTRIES, 1977			
	ESTABLISHMENTS	TOTAL EMPLOYEES (1,000)	VALUE OF SHIPMENTS & RECEIPTS (MIL. DOL.)	VALUE ADDED IN MINING (MIL. DOL.)
Alfalfa	47	.2	44.6	39.5
Ellis	74	.1	38.2	34.9
Garfield	143	1.1	165.8	127.2
Grant	55	.1	11.6	27.3
Harper	75	.1	110.4	67.1
Kay	0	0	0	0
Major	125	.5	121.3	185.6
Noble	69	.3	17.8	22.4
Woods	74	.3	35.0	37.9
Woodward	126	.9	100.6	155.5

SOURCE: 1977 Census of Mineral Industries

MANACEMENT REGION 2
TABLE X

COUNTY	WHOLESALE TRADE		RETAIL TRADE	TOP THREE RETAIL TYPES %		
	ESTABLISHMENTS	TOTAL SALES MIL. DOL.	TOTAL	AUTO. REPAIR, SERVICES GARAGES	EATING & DRINKING PLACES	GENERAL MERCH. GROUP STORES
Alfalfa	20	36.3	112	30.3	7.0	D
Ellis	13	8.3	81	32.0	4.5	D
Garfield	160	724.7	645	20.0	9.0	10.5
Grant	33	31.8	76	14.9	10.1	1.4
Harper	10	D	70	28.7	6.3	D
Kay	105	122.7	569	17.5	7.9	D
Major	26	28.5	95	23.2	5.2	D
Noble	20	27.9	132	22.0	7.5	D
Woods	25	22.6	164	34.1	7.1	8.4
Woodward	62	97.8	240	7.0	5.9	11.7

SOURCES: 1972 Census of Wholesale Trade
1972 Census of Retail Trade

MANAGEMENT REGION 2
TABLE XI

COUNTY	AGRICULTURE, 1978			
	TOTAL FARMS	TOTAL ACREAGE (1,000)	AVERAGE SIZE OF FARMS (ACRES)	VALUE OF FARM PRODUCTS WITH SALES OF 2,510 & OVER (MIL. DOL.)
Alfalfa	888	512	577	54.4
Ellis	685	710	1,036	20.2
Garfield	1,327	662	499	52.0
Grant	1,004	627	625	45.9
Harper	530	611	1,153	52.9
ay	1,086	486	448	38.3
Major	896	532	594	28.0
Noble	775	399	514	24.0
Woods	849	806	949	41.2
Woodward	772	750	971	25.4

SOURCE: 1978 Census of Agriculture

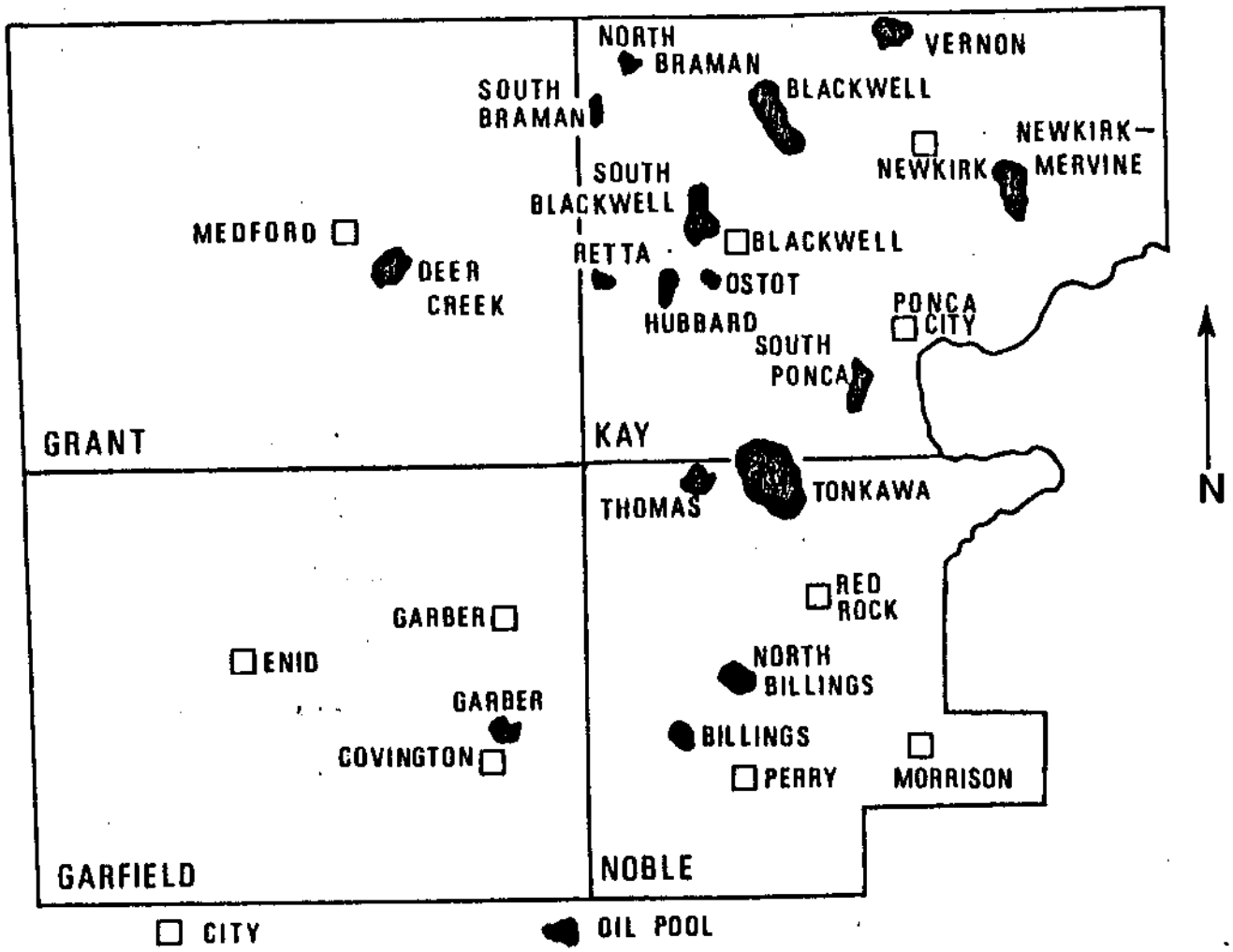
ENERGY DEVELOPMENT IN MANAGEMENT REGION 2: 1910-1930: HISTORIC CONTEXT

Petroleum history in the northwest/north central regions of Oklahoma began in late 1907, the year of statehood. In December of that year, E. W. Marland, a Pennsylvania oil operator, brought an interested group to visit Kay County to investigate the potential for oil. Impressed with the Ponca area, he secured a lease from the Miller Brothers and started a well in February, 1909. This was the first well west of the Osage and a variety of problems were encountered. Moving equipment and materials was a primary concern because the nearest supply house was located at Tulsa, 120 miles to the southeast.

The initial well never reached the producing sand, was abandoned, and another started five miles away. This second well, a gasser, started producing in the spring of 1910. At this time, Marland organized the 101 Ranch Oil Company which continued operations until 1917. This company developed the 1,500' sand formation, drilling eight gas wells before oil was struck. The first oil well was the Willie Cry No. 1 located in the SE 1/4, Section 8, T25N, R2E. This became known as the Ponca Field and it expanded into Sections 4, 5, 7, 9, 17, 18, and 19, T25N, R2E in Kay County.

In 1917 Marland reorganized the 101 Ranch Oil Company and it was thereafter known as the Marland Oil and Gas Company with headquarters centered in Ponca City. Marland Oil leased all the acreage in the Ponca Field and developed two more sand formations by 1918. These were at depths of 1,800' and 2,100' (See Figure 1 for location of Ponca Field).

The next field to be opened in Management Region 2 was the Newkirk-Mervine pool located in Sections 2, 3, 10, 11, 14, and 15, T27N, R3E and Section 35, T28N, R3E in Kay Councy. The first important oil well was drilled in 1913 on the Murdock Farm in the NE corner of SE 1/4, Section 2, T27N, R3E. It had an



OIL POOLS IN MANAGEMENT REGION 2: 1910-1930

FIGURE 1

initial production of 100 barrels per day and resulted in the discovery of several additional wells which produced 500-1,000 barrels per day.

The Murdock No. 1 Well was the first oil well to be drilled on a published structure made by the Oklahoma Geological Survey in 1913. These early wells, however, were not big producers and interest in the area lagged until 1918 when the Carter Oil Company and the Southwestern Petroleum Company drilled a well on the McClasky Farm in the NW corner, SW 1/4, NE 1/4, Section 15, T27N, R3E. In December of 1918, the Carter-Hays No. 3 in Section 15 came in with an initial production of 2,000 barrels per day. These two wells were drilled at a depth of 3,100-3,200'.

Late in 1916, Marland Oil opened the North Newkirk Field with a 28 million feet gas well on the McMichael Farm in Section 17, T28N. R3E. The gas from this well was used to supply the towns of Ponca City, Newkirk, Kildare, and Tonkawa for about three years. The discovery of gas resulted in further drilling and two major oil wells were discovered in 1919 in the Chilocco area. There were eventually five producing horizons in the Newkirk-Mervine Field: Newkirk, Hoover, Endicott, Stalnaker, and Burbank (See Figure 1 for location of Newkirk-Mervine Field).

Although some drilling had occurred as early as 1912, the first real interest in the Blackwell Field started in 1914. Marland and others developed the north end of the field which resulted in 21 gas wells out of 37 completions. The first oil well was drilled in NE corner, Section 29, T29N, R1E and made 600 barrels per day. It is not known who discovered the Blackwell Field, however, it created expansion five miles to the south of the first well. The most productive well was drilled by the Duluth-Oklahoma Company which produced a half million barrels within a year. It was located in Section 1, T28N, R1W. There were eight producing horizons in the Blackwell Field (See Figure 1 for location of Blackwell Field).

One of the smallest and slowest developing fields in the management region was Billings. It was located in Sections 15, 16, 21, and 22, T23N, R2W, Noble County. The first well was drilled in 1917 and produced 250 barrels per day at a depth of 2,136'. Most of the oil and gas wells in this field had a large initial production, but quickly declined. The producing area was limited to about one square mile. In 1922, the field's daily output was 1,158 barrels from 73 wells (See Figure 1).

One of the major fields in the management region was opened in September of 1917. Because of its location midway between the communities of Covington and Garber, it became known as the Covington-Garber Field. The discovery well was brought in on the R. E. Hoy Farm in the NE corner, Section 25, T22N, R2W, Garfield County. The Garber Brothers, general store operators in the town of Garber, hired a California geologist by the name of Dorsey Hager to explore leases they held on several farms between Garber and Covington. Hager convinced Harry Sinclair that potential for petroleum existed in the area and the Hoy No. 1 Well was brought in with an initial 100 barrels per day. This first well was drilled to a depth of 1,130-56' and produced from the "Hoy Sand," so named because of its location on the Hoy Farm.

The development of the field proceeded rapidly following completion of the Sinclair Well. Several major companies immediately started drilling including Roxana Petroleum, Healdton Oil and Gas, Cosden Oil and Gas, Marland Oil, and Atlantic Petroleum. The largest initial production of any well in Oklahoma to that date was recorded by the Hartley No. 27 drilled by Sinclair Oil and Gas. Located in the NW 1/4, NW 1/4, Section 18, T12N. R3W, it produced up to 27,000 barrels per day at a depth of 3,085'. Eventually, the Garber-Covington Field produced from eighteen different sands and cumulative production reached almost 19 million barrels by 1925.

During the latter part of 1917, the Garber-Covington Field reached a daily output of 2,000 barrels and quadrupled its yield two years later. By the end of 1918 the field had 760 producing wells in a relatively small area located in Sections 18 and 19, T22N, R3W and Sections 13 and 24, T22N, R4W, Garfield County. The field became one of the most profitable in Oklahoma petroleum history because of the shallowness of the sands and the large number of producing horizons (See Figure 1 for location of the Garber-Covington Field).

The Deer Creek Field was opened in July of 1920 when a gas well, drilled to a depth of 2,440', produced 18 million feet of gas per day. This well was later deepened to 3,350' and produced 10 barrels of oil per day. The first major oil well was drilled by Western States Land and Development Company in the SW corner, SE 1/4, SE 1/4, Section 15. Its initial production was 450 barrels per day. The field was located in Sections 14, 15, 22, 23, 26, and 27, T27N, R3W, Grant County. Because of the geological structure of Deer Creek, its main production was gas with small amounts of oil (See Figure 1 for location of the Deer Creek Field).

The Tonkawa Field was the next field in the management region to assume major proportions. This area had been explored in the early 1880s by a Professor Bowers of the Department of Interior. During the Osage boom, "Spot" Geyer, one of Marland's geologists, determined that the Tonkawa anticline (See Glossary) was an ideal location to drill. Marland encountered problems selling leases in the area because several dry holes had already been drilled and other geologists disagreed with Geyer's analysis.

Marland was joined by Cosden Oil and a test was made in the NE corner, Section 16, T24N, R1W. On June 29, 1921 the well came in, flowing initially 850-1,000 barrels a day from a sand at 2,661'. The second well was drilled

three months later with an initial production of 3,300 barrels per day. Marland had drilled eight previous wells in the area with no luck. As usual, Marland's determination paid dividends. The J. H. Smith School Land Well No. 1 proved to be the beginning of the Tonkawa Field.

The Tonkawa Field was a profitable field from the outset. By April of 1922 enough oil had been produced to pay for all operating costs, the total output having reached 675,000 barrels. Although the first well was in the southernmost part of the field, the northern section was to become the major producer. There were three main producing sands (Upper Hoover at 1,900-2,000', the lower Hoover at 2,100', and the Tonkawa at 2,625') giving the field its popular name of "Three Sands." Later several other oil sands were found.

Development of the deeper sands in the Tonkawa Field began with the completion of Slick No. 1A in the SW corner of Section 35, T25N, R1W in April of 1924. The Wilcox Sand at 4,100' was a significant producer. Total Wilcox Sand production to January 1, 1926 was 28,305,000 barrels, an average of 21,443 barrels per acre over the 1,320 acres that produced oil from this horizon. Similar production from shallow sands to the same date was 49,258,000 barrels, an average of 18,729 barrels over 2,630 acres (See Figure 1 for location of Tonkawa Field).

The Thomas Field is located in the center of T25N, R2W of Kay County, about 6 miles northwest of the Tonkawa Field. Marland Oil Company's Thomas No. 1, the discovery well, was completed in May, 1924 as a 250 barrel per day well in sand encountered at a depth of 2,055', which was thereafter called the Thomas Sand.

Following this initial discovery, drilling was limited. Only two additional wells, Twin State Oil Company's Siler No. 1 and Carter Oil Company's

Turk No. 1, were found at the Thomas Sand. Marland's Thomas No. 2 well, however, was drilled deeper, and in May of 1925, was completed as a 3,600' well in the Wilcox Sand. A second drilling campaign was begun. It resulted in the discovery of eleven producing wells in the Wilcox Sand, and three more producing horizons.

The major production from the Thomas Field came from the Wilcox Sand. Initial production of the wells from this horizon ranged as high as 6,500 barrels per day. By 1927 the field had produced 3 million barrels of oil and averaged approximately 7,000 barrels per day (See Figure 1 for location of Thomas Field).

Several other minor pools were discovered in Kay County during the mid-1920s. The Otstot Field, located just north of the center of T27N, R1W, produced large quantities of gas. Average production for the oil wells was 100-500 barrels per day and for the gas wells about 50 million cubic feet per day. The Retta Field, located in Sections 1 and 12, T26N, R2W, produced at four horizons with the Wilcox Sand being the most prolific. In January, 1927, eight wells in the Wilcox Sand produced an aggregate of 4,000 barrels per day. The Vernon Field discovery wells came in during 1925 and were primarily gas producers at a depth of 2,000'. Later wells averaged 100-300 barrels of oil per day from the Stalnaker Sand at 2,300'. It was located in Sections 16 and 17, T29N, R1E. The North and South Braman Fields were opened in 1924. North Braman was located in Section 21, T29N, R1W and South Braman in Sections 5 and 8, T28N, R1W. North Braman covered approximately 600 acres with deeper production confined to an area of about 80 acres. Initial production from the North Braman wells averaged about 1,800 barrels per day. The discovery well in South Braman produced over 5,000 barrels of oil in the Stalnaker sand at 2,387'. The excitement caused by this discovery resulted in 33 locations on

the Braman townsite of which only three were producers. Thousands of dollars were lost and much property destruction occurred due to drilling activities.

By the mid-1920s, attention of the oil world was shifted to a different section of Oklahoma, the Greater Seminole Oil Field. In terms of historic significance, the following summary outlines key contributions of the Management Region 2 petroleum fields during the chronological limits of this study (1910-1930):

(1) Several major petroleum firms were formed including:

a. E. W. Marland Oil in Ponca City

b. Lew Wentz Oil Company in Ponca City

c. Victor Bolene Refining Company in Enid

d. Charles E. Knox Refining Company in Enid

e. Thomas T. Eason Oil Company in Enid

f. H. H. Champlin Petroleum Company in Enid

(2) One of the important mergers in Oklahoma petroleum history occurred in 1929 when Marland Oil and Continental Oil combined to become CONOCO with headquarters in Ponca City.

(3) The huge gas wells discovered in the area resulted in it becoming one of the greatest casinghead gasoline manufacturing centers in the U.S. By 1923 there were eight such plants in the Tonkawa Field and one in the Garber Field. During the period from July, 1921 to September, 1923, 525,000,000 cubic feet of gas had been mudded off and 112,000,000 shut in.

(4) The introduction of rotary drilling rigs was necessary in mudding off (See Glossary) the gas in drilling oil wells and conserving gas in others. The Southwestern Petroleum Company used the first rotary rigs at Tonkawa to solve the problem of gas interference, after

which other companies followed suit until they were universally used.

(5) Northwest and north central Oklahoma fields were the first to develop adequate pipelines and storage facilities. Twenty-six pipelines carried Tonkawa crude by 1925 and could handle 185,000 barrels per day. The fields were also dotted with 55,000 barrel storage tanks, capable of storing approximately one million barrels of oil.

(6) Leases in Management Region 2 fields commanded high prices, especially Tonkawa because of its high gravity oil. Enormous prices were paid for 40-acre, 80-acre, and 160-acre leases. In 1923, the Blackwell Oil and Gas Company sold its interest in the northern part of the Tonkawa Field for $2,000,000, or at a rate of $7.00 per share for approximately 300,000 shares. By June, 1923, Tonkawa royalty interests were estimated at $100,000,000.

(7) The diamond core drill (See Glossary) was first used by Marland in the Tonkawa Field. Its success there led to increased use throughout the industry.

(8) Geologists were used extensively in the Tonkawa and Garber Fields. "Spot" Geyer, head of Marland's geological staff, was the first to recognize the potential of the Tonkawa anticline (See Glossary). Dorsey Hager, a California geologist working in Tulsa, was hired by the Garber Brothers to explore the area midway between Covington and Garber. Hager convinced Harry Sinclair to drill the Hoy No. 1, the discovery well of the Garber Field.

(9) Dr. Waterschoot von der Gracht, famous Dutch geologist who had worked for the Royal Dutch Shell Oil Company, was hired by E. W. Marland to head his geology division. He became Vice-President for Exploration with Marland Oil and brought the seismograph into use in

the Oklahoms oil fields.

(10) The Tonkawa and Garber Fields were unique because of so many producing horizons of oil and gas. Tonkawa, for example, began production at a depth of 1,150' and extended to 4,330'. Horizons included the Hoy, Hotson, Newkirk, Upper Hoover, Lower Hoover, Carmichael, Endicott, Tonkawa, Layton, Oswego, Mississippi, Chattanooga, and Wilcox.

(11) Tonkawa became the wonder of the oil world at the time of its discovery and development. Despite its comparatively small size, it became one of the most significant producers in Oklahoma petroleum history. Although the field covered only about eight square miles, as many as five derricks might be clustered around one location producing oil from several different horizons.

(12) The highest daily production in the Tonkawa Field was 112, 112 barrels of oil, and by the end of 1927, the field had produced an average of 30,000 barrels of oil per acre.

(13) The oil fields in northwest/north central Oklahoma combined with the Healdton and Seminole Oil Fields helped continue Oklahoma's dominant position in the nation in petroleum production during the 1920s (Figure 2).

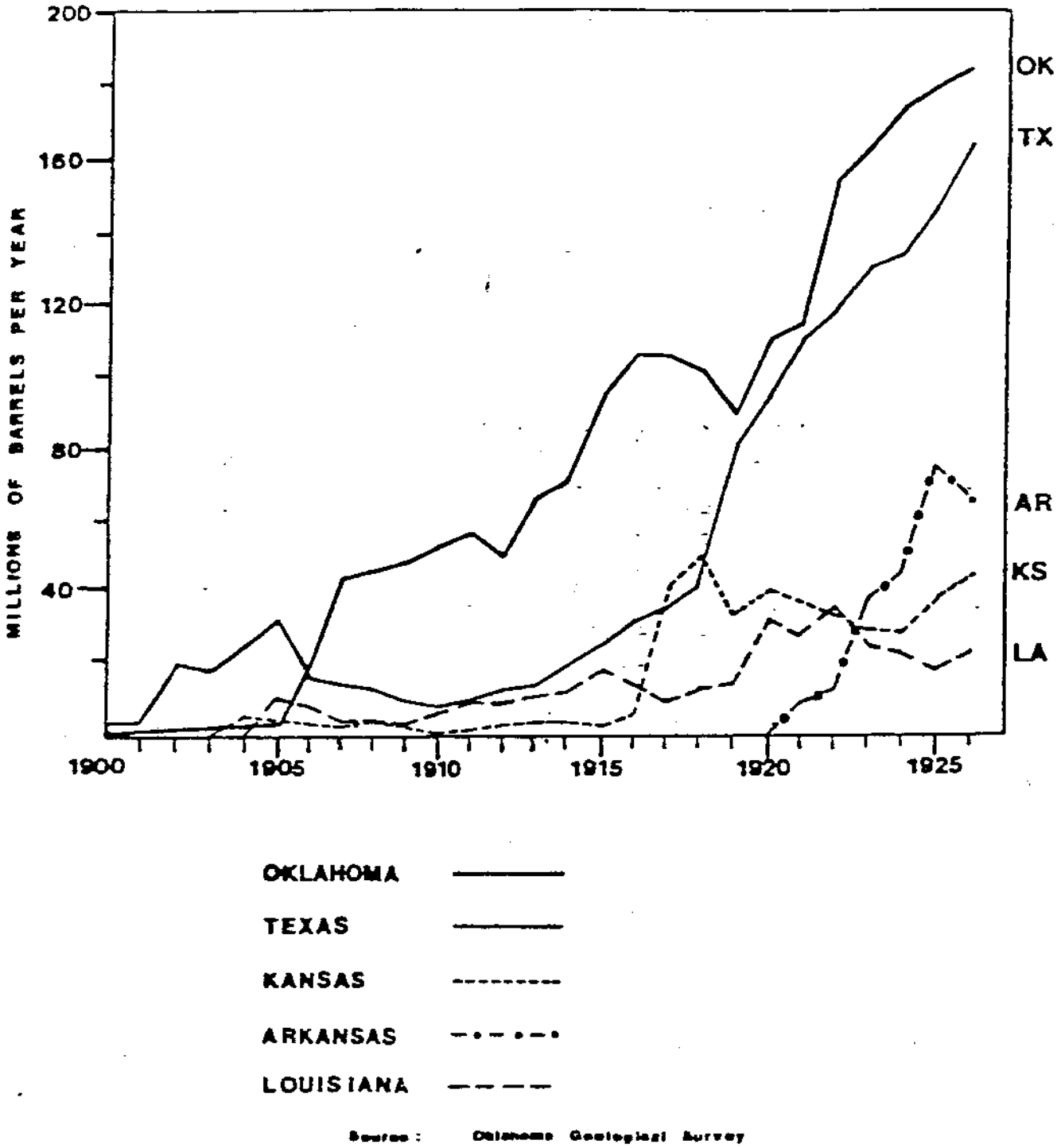


Figure 2. OIL PRODUCTION OF THE PRINCIPAL OIL-PRODUCING STATES, 1900-1926

GLOSSARY - HISTORIC NARRATIVE

Anticline - A subsurface geological structure in the form of a sine curve or an elongated dome. The formation is favorable to the accumulation of oil and/or gas.

Casinghead Gas - Gas produced with oil from an oil well as distinguished from gas from a gas well. Casinghead gas is taken off at the top of the well or at the separator.

Diamond Core Drill Bit - A drill bit with many small industrial (man-made) diamonds set in the nose or cutting surface of the bit. Diamonds are many times harder than the hardest steel, so a diamond bit makes possible longer bit runs before a round trip is necessary to change bits.

Dry Hole - An unsuccessful well; a well drilled to a certain depth without finding oil; a duster.

Horizon - A zone of a particular geological formation; that part of a formation of sufficient porosity and permeability to form a petroleum reservoir.

Mud (Drilling) - A special mixture of clay, water and chemical additives pumped downhole through the drillpipe and drill bit. The mud cools the rapidly rotating bit; lubricates the drillpipe as it turns in the well bore; carries rock cuttings to the surface; and serves as a plaster to prevent the wall of the borehole from crumbling or collapsing. Drilling mud also provides the weight or hydrostatic head to prevent extraneous fluids from entering the well bore and to control downhole pressures that may be encountered.

Mud Off - In the early days of rotary drilling and before the advent of accurate well logging, producible formations could be mudded off (plastered over) by the sheer weight of the column of drilling mud.

Rotary Drill - A modern drill capable of drilling a borehole with a bit attached to a rotary column of steel pipe.

Seismograph - A device that records vibrations from the earth. As used in the exploration for oil and gas, a seismograph records shock waves set off by explosions detonated in shot holes and picked up by geophones.

Application of National Register of Historic Places Criteria For Historic Properties in Management Region 2

In identifying and evaluating historic properties associated with energy development in Management Region 2: 1910-1930, National Register criteria were used.

National Register criteria for evaluation. The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

(a) That are associated with events that have made a significant contribution to the broad patterns of our history; or

(b) That are associated with the lives of persons significant in our past; or

(c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) That have yielded, or may be likely to yield, information important in prehistory or history.

Criteria consideration. Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register.

However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

(a) A religious property deriving primary significance from architectural or artistic distinction or historical importance.

(b) A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event.

(c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life.

(d) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events.

(e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived.

(f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance.

(g) A property achieving significance within the past 50 years if it is of exceptional importance.

PROPERTY TYPE ANALYSIS

Prior survey work in Management Region 2 had uncovered eight historic properties related to the energy theme, one of which had received National Register designation -- E. W. Marland Mansion in Ponca City. The Marland Mansion was the residence of E. W. Marland, pioneer petroleum industrialist, who founded the Marland Refining Company and opened several oil fields in north central Oklahoma. The remaining seven properties listed on the O.L.I. were a mixture of types located in four counties. They included another property associated with E. W. Marland (Marland Estate Stables in Ponca City); two properties in Enid associated with H. H. Champlin, founder of Champlin Petroleum Company (Champlin Home and Champlin Refinery); a third property in Enid associated with Charles Knox, founder of Knox Refining Company (Knox Building); a site of an oil field in Kay County near Tonkawa (Three Sands); a historic service station in Ellis County (Flight Service Station); and an oil supply station in Harper County. This preliminary search gave the project staff some initial indication of the types of historic resources they might expect to find in Management Region 2. Six of the eight previously identified resources were located in two counties in the eastern part of the study unit where a majority of the historic petroleum fields were opened (Kay and Garfield). The other two energy-related properties were located in Harper and Ellis Counties, two of the westernmost counties in the study unit, where little petroleum activity occurred during the chronological limits of the project.

In classifying the 58 O.L.I. properties identified and evaluated in Management Region 2, buildings ranked first with a total of 36, or 62%; structures with 18, or 31%; and sites with 4, or 7%, ranked second and third. No historic objects were listed on the O.L.I. Almost one-third (32.8%) of the

Table 1

PRIOR IDENTIFICATION OF HISTORIC PROPERTIES IN MANAGEMENT REGION 2

Name of County	O.L.I.	N.R.	Energy Theme
Alfalfa	18	9	0
Ellis	31	9	1
Garfield	37	5	3
Grant	13	2	0
Harper	23	9	1
Kay	45	19	3
Major	8	1	0
Noble	19	4	0
Woods	13	3	0
Woodward	13	2	0
Totals	220	63	8

Energy-related properties included:

Kay County (E. W. Marland Mansion,* Marland Estate Stables, and Three Sands Site)

Garfield County (H. H. Champlin Home, Champlin Refining Properties, and Knox Building)

Ellis County (Flight Service Station)

Harper County (George's Oil Supply Station)

* National Register of Historic Places

SOURCE: State Historic Preservation Office, 1985

properties were industrial-related buildings, structures, and sites. Recreational/educational properties (Lew Wentz Camp) were second (29.3%) followed by dwellings (17.2%) and commercial (12.1%). The remaining properties were related to government (two city halls), fraternal orders (one Masonic Temple and one Oddfellows Lodge) and schools (one boom era school) for a total of five, or 8.6%. Over one-half othe O.L.I. properties were constructed during the 1920-1929 period (57%). The 1930-1939 era produced 36.2%. The remainder of the properties were built during the period immediately following statehood, 1907-1919 (7%). There were no nominations from the pre-statehood time frame (Table 2).

From the O.L.I. list, 21 properties were determined eligible for National Register nomination. This figure represented slightly more than one-third of the O.L.I. total (36.2%). Approximately 90% of the properties nominated to the National Register were classified as buildings. The other 10% were either structures or sites. Industrial-related properties accounted for slightly more than one-half of the National Register nominations (52.4%). The next highest property type was dwellings (33.3%), followed by commercial (9.5%) and government (4.8%). The 1920-1929 period yielded 90% of National Register nominations. The only other time period represented was the 1907-1919 era with two, or 10% (Table 2).

Statistical analysis of survey results indicate that substantial numbers of historic resources associated with the petroleum industry had retained their historic and/or architectural integrity. Furthermore, those historic properties related to the petroleum industry consisted of a wide variety of buildings, structures, and sites. Included were a gas processing plant, a production camp machine shop, a natural gas compressor station, a multi-purpose pipeline pumping terminal, and the first oil well in the Garber Field.

Table 2

Statistical Results of RP3 Survey

MANAGEMENT REGION 2

Classification	O.L.I.	N.R.H.P.
Buildings	36	19
Structures	18	1
Sites	4	1
Objects	0	0
Property Types	**O.L.I.**	**N.R.H.P.**
Industrial	19	11
Commercial	7	2
Dwellings	10	7
Churches	1	0
Schools	0	0
Fraternal Lodges	2	0
Government	2	1
Recreational/Educational	17	0
Period of Construction	**O.L.I.**	**N.R.H.P.**
Pre-Statehood	0	0
1907 - 1919	4	2
1920 - 1929	33	19
1930 - 1939	21	0

The overwhelming number of properties (19/21) identified from the 1920-1929 era can be attributed to the Garber and Tonkawa booms which reached their peak during the 1920s. It is somewhat surprising that only two properties originated in the 1907-1919 time frame because that was when several fields in the study unit were opened including Ponca (1910), Newkirk-Mervine (1913), Blackwell (1914), and Billings (1917). These fields, however, were much smaller both in areal coverage and total production.

In examining the National Register nominations from a spatial perspective, four counties were designated as high priority counties after completion of the reconnaissance survey. Selection of these counties was based on the location of the thirteen producing pools in the four easternmost counties (Kay, Garfield, Grant, and Noble). Sixteen of the twenty-one National Register nominations were found in the high priority counties. Kay, where a majority of the north central Oklahoma oil pools were located; and Garfield, where the Garber Field was discovered, were the most productive. Woodward and Harper, two of the low priority counties, generated the other five nominations. These five properties were related to the pipeline companies which built booster stations in western Oklahoma to help transport petroleum products from Texas to refineries or marketing outlets in Missouri and Illinois. Grant and Noble, two of the four high priority counties, produced no National Register nominations. This was surprising because considerable petroleum activity occurred in each of these counties during the 1920s (Table 3).

Six of the eight Kay County properties were located in Ponca City, the center of oil field activity for north central Oklahoma and the base for several oil field companies including Marland Oil. The other two were identified in Tonkawa, also a node of boom development because of its close proximity to the Tonkawa, or Three Sands Field.

Table 3

NATIONAL REGISTER NOMINATIONS BY COUNTY

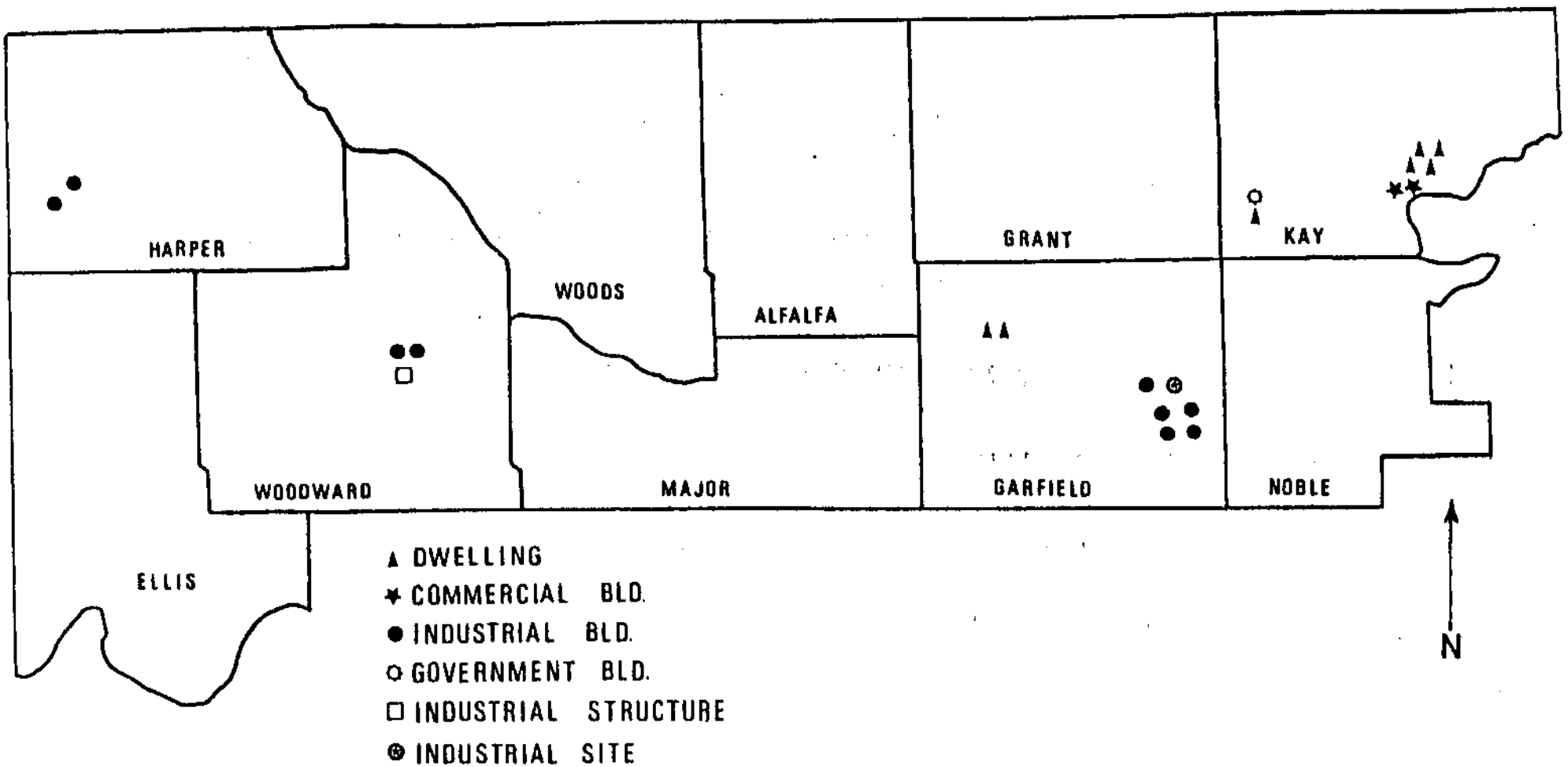
MANAGEMENT REGION 2

Name	Number	Property Type
Kay	8	5 Dwellings 2 Commercial Buildings 1 Government Building
Garfield	8	5 Industrial Buildings 2 Dwellings 1 Industrial Site
Woodward	3	2 Industrial Buildings 1 Industrial Structure
Harper	2	2 Industrial Buildings
Alfalfa	0	
Grant	0	
Woods	0	
Ellis	0	
Noble	0	
Major	0	

All Garfield County nominations were found in either Enid (2) or in the heart of the Garber Field (6), approximately halfway between the communities of Garber and Covington (Figure 3).

Areal coverage of Management Region 2 included 6,663 square miles at the reconnaissance level and 3,754 square miles at the intensive level for a total of 10,417 square miles.

NATIONAL REGISTER OF HISTORIC PLACES NOMINATIONS



MANAGEMENT REGION 2

FIGURE 3

I. Drilling Rigs

The earliest drilling rigs in Management Region 2 were of the cable tool type. These rigs consisted of drilling tools suspended by a rope or chain cable into the wellbore, and various methods were used to pound the drill but into the ground to make hole. Most of the early rigs used some system of manpower to raise a pole called a walking beam that dropped the bit and dug out a little more soil. Others managed to contrive a system that enabled a horse to supply the power in a method that resembled a threshing machine. Only a few were powered by engines. The drilling tools included a bit that looked like a funnel -- approximately 3½' long and 1½" in diameter until it flared into a cutting edge about 3" wide. In the course of normal operations, the men would drill for a foot or two, then exchange the then dull bit for a bigger reaming instrument, sharpen the bit, and pump out the hole with a bailer or pump. Stationary cable tool drilling rigs with their pyramid-shaped wooden derricks were used in Region 2 from ca. 1910 to the mid-1920s when the portable cable tool rig became standard. Modern versions of cable tool drilling rigs are still used, particularly where shallow wells are drilled. Rotary drilling rigs were first introduced in Management Region 2 in the Tonkawa Field in the mid-1920s. These rotary rigs consisted of a steel derrick equipped with rotary equipment: drilling engines, draw works, rotary table, mud pumps, and auxiliary equipment. The major difference between the cable tool rig and the rotary rig was that the rotary method drilled a borehole with a bit attached to a rotary column of steel pipe. No cable tool drilling rigs were identified in Region 2 because they have become obsolete. Thousands of rotary rigs are still in use in Region 2, however, none met the National Register criteria.

II. Derricks

The first derricks used in Region 2 were built from wood and stood over the well site to provide support for drilling equipment and a tall mast for raising and lowering drillpipe and casing. The derrick floor was a platform (usually 10' or more above the ground) on which drilling operations were carried on, also called a rig floor. In the early days of drilling, the original derrick used for drilling was replaced by a smaller, shorter derrick, called a pumping derrick or pumping rig whereby the well could be pumped by a pumping jack or by a wood walking beam. Wooden derricks were replaced with steel in the 1920s and were of bolted construction. All derricks have four legs standing at the corners of the substructure and reaching to the crown block. The substructure is an assembly of heavy beams used to elevate the derrick and provide space to install blowout preventers and casingheads. The standard steel derrick was eventually replaced because it had to be assembled piece by piece. The mast has become the standard equipment because it can be lowered and raised without disassembly. A mast is a more simply designed derrick made from pipe held upright by guywires. No wooden or steel derricks commonly used in the 1920s and 1930s in Region 2 were located. Wooden derricks have weathered and been razed. The more permanent steel derricks have also either been replaced or razed.

III. Stock Tanks, Tank Batteries, Storage Tanks, and Tank Farms

Oil, water-cut oil, and water produced by the well move from the well head through the treating facilities and finally into stock tanks, or a tank battery. The number of tanks in a battery will vary, as will their size, depending on the daily production of the well or wells and the frequency of the pipeline runs. Total storage capacity of a tank battery is usually production of three to seven days. Earliest tank batteries in Region 2 were

constructed of redwood planks, but have been replaced with tanks constructed of either bolted or welded steel. No tank batteries identified in Region 2 were deemed significant enough to nominate to either the O.L.I. or the National Register. Storage tanks are different than production tanks (stock tanks) because they are larger and of stronger construction and are located away from the wellhead in groups known as tank farms. Earliest storage tanks in Region 2 were constructed of redwood planks and had a capacity of 500-1,000 barrels of crude oil. The redwood versions were replaced in the 1920s with larger riveted or welded steel tanks with a capacity of 50,000 barrels of crude oil. Storage tanks are maintained by a pipeline company to store oil after it has been transferred from the production tanks before transportation to the refinery. No redwood storage tanks were identified in Region 2 because they have been razed due to their obsolescence. Hundreds of riveted and bolted steel storage tanks were located in Region 2, however, only one tank farm of significance was evaluated. It is located in the SW¼, Section 19, T24N, R1W, near the ghost town of Three Sands. It was constructed in 1925 by the Sinclair Oil Company as a part of a pipeline station complex. Although nominated to the O.L.I., it did not meet the historical significance criteria for a National Register nomination.

IV. Loading Racks

Loading racks were used in transporting oil by railroad tank car. They consisted of an elevated walkway, usually constructed of wood, that supported vertical filling lines and valves for filling the tank cars from the top. Loading rack complex included loading arms which were vertical standpipes with swivel-jointed extensions that reached the hatch of the tanker. One loading rack was located in Region 5, however, none have been found in Region 2. They

have become obsolete due to use of long distance pipelines for transporting crude oil and the decline of railroads in Oklahoma.

V. Power Houses (Central Power)

Power houses are buildings which housed a well-pumping installation consisting of an engine powering a large diameter, horizontal bandwheel with shackle-rod lines attached to its circumference. The bandwheel is an eccentric, and as it revolves on a verticle axle a reciprocating motion is imparted to the shackle rods. A central power may pump from 10 to 25 wells on a lease. Power houses have become out dated buildings because equipment used in the central powers was no longer produced after ca. 1930. Two power houses were found in Region 5 in 1985 and one in Region 3 in 1980, however, Region 2 yielded no such property type.

VI. Company Housing

Company housing usually consisted of two types of vernacular dwellings: shotgun house and pyramidal house. Both of these house types were quite common throughout Oklahoma oil fields. Photographs of both house types were located in petroleum histories dealing with Three Sands and Tonkawa Oil Fields. These houses were generally located in production company camps or near other petroleum installations. According to Gilbert's thesis on the Three Sands Field, shotgun houses were located in rows on oil lease sites and often painted according to company colors. They were simply designed dwellings, one room wide and three to four rooms deep. The pyramidal house usually had four small rooms with a roof shaped in pyramidal form with roof ridges running from four corners of house to a central peak. According to local informants, shotgun houses existed at the Sinclair Production Camp, midway between Covington and Garber, in Region 2. It is estimated that

approximately 12-15 of these houses stood at the camp until the mid-1950s when they were destroyed. All the shotguns and pyramidal houses near the Three Sands Field have also been destroyed.

VII. Pipeline Stations and Pipelines

This property type associated with energy was the most numerous in Region 2 primarily because northwest Oklahoma was an area where pipeline networks were built to reach from the oil fields of the Texas Panhandle to refineries in Kansas, Missouri, and Illinois. Pipeline booster or trunkline stations were necessary to force the liquid product along its pipeline route to the next station or terminal. Five pipeline booster stations in Region 2 were identified and evaluated: Conoco Pipeline Station near Cherokee, Sinclair Booster Station near Billings, Sinclair Pipeline Station near ghost town of Three Sands, Empire Gas and Fuel Compressor Station near Mooreland, and Phillips Pipeline Station near Laverne. Two of the five met National Register criteria: Phillips Station near Laverne, and Empire Gas and Fuel Station near Mooreland. Pipeline booster station complexes generally consisted of one or more engine rooms, graphometer building, water tower, cooling tower, and pipelines. Buildings were of either brick or wood frame covered with corrugated metal, rectangular-shaped floor plan, and had gabled roofs. Booster stations served pipelines of varying size ranging from 8" to 30" and carried a variety of liquid products including crude oil, kerosene, and refined gas. The engine rooms usually contained large internal combustion engines bolted to a reinforced concrete foundation. Attached to engine room exterior walls were breather/muffler facilities connected to the engines on the inside. Graphometer buildings housed instruments to measure and record density, temperature, specific gravity and pressure needed to calculate flow. These buildings also contained control valves and meters to control flow of

liquids. A wooden cooling tower, located in the Empire Gas and Fuel Station complex, was removed in 1972.

VIII. Petroleum Production Camps

Once petroleum had been discovered, and oil was being produced from wells, it was quite common for production camp complexes to be built to serve a series of wells owned by the same company. Camp complex buildings usually included a machine shop, an office, a supply house, several "doghouses," and company housing and garages for company employees. Several production camps were established in the 1920s in Region 2 especially in the Garber and Tonkawa Fields. Sinclair, Conoco, and Phillips each had their own separate production camps in these fields. The only production camp which retained original buildings of the 1920s boom era was the Sinclair Camp near Covington. Most of the Sinclair Camp buildings were wood frame and covered with corrugated metal and had poured concrete foundations. The only production camp building to meet National Register criteria was the Sinclair Camp Machine Shop, a 50' x 50' building with gently sloping gabled roof. Machine shops were the focal point for production camp activities because it housed a variety of functions and served as a storage center for tools, parts, and equipment needed to service the wells. Functions performed in machine shops included welding and forging, cleaning and straightening pipes, and general repair of malfunctioning equipment and well-head machinery.

IX. Refineries and Processing Plants

Refineries are plants and attendant equipment used in the manufacturing of petroleum products from crude oil. Natural gas processing plants are designed to remove valuable products (natural gasoline, butane, propane, ethane, and methane) over and above those needed to make the gas marketable.

A number of refineries were built in Region 2 during the 1920s boom, especially in Ponca City and Enid. Ponca City refineries included Marland (Conoco) and Wentz Oil. Enid refineries included Bolene, Knox, Eason, and Champlin. Considerable research was completed in 1980 on the Champlin Refinery in Enid, however, nomination to the National Register was denied by company officials. Documentation on historic properties associated with Champlin Oil is located in the Department of History at Oklahoma State University. Although the other refineries in Enid (Eason, Bolene, and Knox) have ceased operations, future research may uncover significant properties associated with these operations. Field surveyors in 1985, however, were unable to identify any significant properties related to these facilities. The Wentz operation in Ponca City has been razed and equipment removed. Field surveyors in 1985 were unable to identify any historic properties associated with the Marland (Conoco) Refinery in Ponca City because most of the original equipment and plant had either been replaced or removed. There were nine gas processing plants in Region 2 during the 1920s boom, eight of which were in the Tonkawa Field and one in the Garber Field. The only remaining facility which retained its historic integrity was the Sinclair Gas Processing Plant No. 6 near Covington in the Garber Field. These plants originally processed casinghead gas (gas produced with oil from an oil well as distinguished from gas from a gas well). Casinghead gas is taken off at the top of the well or at the separator. Casinghead gas plants generally included one or more engine rooms, a generator room, tool and work shop, boiler house, and office. All were one-story buildings and have rectangular floor plans. Similar materials were used: wood frame covered with corrugated metal. All had gabled roofs and poured concrete foundations. Buildings generally contain roof vents, flexivent windows, and either sliding or double door openings. Engine and boiler houses always have breather/muffler systems attached to exterior walls.

X. Well Sites

Hundreds of petroleum well sites existed in the thirteen producing pools of Management Region 2 prior to 1930. Four sites were identified and evaluated: (1) a 1918 oil well near Gate (first oil well drilled in the Oklahoma Panhandle), (2) a 1932 oil well near Arnett (first well drilled in Ellis County), (3) Lizzie Howell Gas Well (discovery well for Mocane-Laverne Gas Field drilled in 1932), and (4) R. E. Hoy #1 Oil Well (discovery well for the Garber Field drilled in 1916). The most prolific areas for oil well sites in Region 2 were the two largest fields in terms of production: Tonkawa Field and Garber Field. At peak production in ca. 1920-1925, the Garber Field included approximately 760 wells. Despite its comparatively small size in area covered (eight square miles), the Tonkawa Field produced from fourteen different horizons and as many as five derricks might be clustered around one location producing oil from several different sand layers. By the end of 1927, the Tonkawa Field had produced an average of 30,000 barrels of oil per acre. The Tonkawa Field was also a major gas producer with some twenty gas wells producing in the mid-1920s at a daily rate of 408,250,000 cubic feet.

Most of the oil well sites in Region 2 had new pumping equipment in our 1985 survey. For example, R. E. Hoy #1, which met the National Register criteria because of its significance as being the first well in the Garber Field, had a new pump jack installed over the well by ARCO Oil and Gas in the 1960s. Many of the earlier wells such as R. E. Hoy #1 had been cleaned out at various intervals during their production years. R. E. Hoy #1 was an exception for most of the older wells because it was still producing at the time of our survey. According to local ARCO officials, it has continued operations primarily for historical and sentimental reasons.

number and quality nominated from Management Region 5 in 1984. Perhaps the lack of boom town properties in Region 2 can be attributed to two reasons: (1) there were fewer actual boom towns in Region 2 as compared to other regions of Oklahoma, and (2) several of the boom towns no longer exist such as Kaw City and Three Sands.

XIII. Dwellings Associated With Petroleum Company Executives

Ten dwellings associated with petroleum company executives were identified and evaluated. Six were located in Ponca City and were residences of Marland Company executives during the 1920s boom era: John Alcorn Home, Jack Cleary Home, Frank Lucas Home, George Shalenberger Home, Seward Sheldon Home, and W. A. J. M. Van Waterschoot van der Gracht Home. Four of the six were nominated to the National Register because of their historic and architectural significance: Alcorn, Lucas, Sheldon and van der Gracht Homes. The Cleary and Shalenberger Homes were significantly altered because of new siding materials and other major changes. Three residences in Enid were identified and evaluated: H. H. Champlin, T. T. Eason, and McChristy-Knox. Each dwelling represented heads of three different petroleum companies. The Eason and McChristy-Knox Homes were nominated to the National Register because of their historic and architectural significance. The Champlin Home did not meet the 50-year time limit because of its construction in 1938. The other oil company dwelling nominated to the National Register was the Sam McKee Home in Tonkawa. The dwellings represented a wide variety of architectural styles: McChristy-Knox (Neo-Classical), Sheldon (Tudor Period), van der Gracht (Spanish Colonial Revival), Alcorn (Colonial Revival), and McKee (Prairie). A complete listing of all properties evaluated in Management Region 2 follows.

XI. Corporate Buildings

Although Region 2 contained the headquarters of several major firms, few corporate buildings remained intact. Only two were worthy of nomination to the O.L.I. -- Wilcox Oil Company Building in Garber and the Royalty Building in Ponca City. The latter property met National Register criteria because of its historic and architectural significance. It was the headquarters for Marland Oil Company in the mid-1920s and retained its Spanish Colonial Revival architectural integrity. The Wilcox Oil Bilding had been significantly altered since its construction in 1927. All other corporate buildings had either been razed or significantly altered.

XII. Boom Towns and Boom Town Buildings

One of the major information gaps in Region 2 was the lack of boom town development and the physical destruction of boom towns. Two major boomtowns which emerged in the 1920s are now "ghost towns." Kaw City in Kay County was flooded with the construction of the Kaw Dam by the U.S. Army Corps of Engineers in the 1960s. And Three Sands, located on the county line between Kay and Noble Counties, had deteriorated to nothing more than a few building foundations. According to Morris' Ghost Towns of Oklahoma, these two oil field communities once boasted of extensive commercial districts, social institutions such as schools and churches, and several industrial properties. These two communities could have proven to be rich in energy-related historic resources had they survived into the 1980s. In existing communities founded prior to the boom era of the 1920s, a few commercial, government, and social buildings remained intact such as the Garber Hotel, Garber and Tonkawa City Halls, and the Community Church of Christ in Garber. Only one (Tonkawa City Hall constructed in 1923) was nominated to the National Register. Few boom town churches and schools were identified, especially when compared to the

I. BUILDINGS

A. Dwellings

(1.) H. H. Champlin Home

Location: Enid, Oklahoma
Legal or Address: Lots 1-9 and Lots 13-15, Block 2, Kisner Heights Addition
Date: 1938
Significance: H. H. Champlin built his home with income generated from his oil business. Both Mr. & Mrs. H. H. Champlin and Mr. Joe N. Champlin, the next Champlin Oil Company owner, resided in the house.

(2.) T. T. Eason Mansion

Location: Enid, Oklahoma
Legal or Address: Lots 1-6, Block 12, Waverly Addition
Date: 1923
Significance: T. T. Eason was President of the Bolene Refining Company from 1921 to 1928 and began operating the Eason Oil Company in 1925.

(3.) McChristy-Knox Mansion

Location: Enid, Oklahoma
Legal or Address: Lots 9-12, Block 12, Waverly Addition
Date: 1904
Significance: J. E. McChristy, a pioneer businessman in Enid, built the mansion. The home is the oldest remaining and best preserved example of Neo-Classical architectural style in Enid.

(4.) John Alcorn Home

Location: Ponca City, Oklahoma
Legal or Address: Tract 17, Hillcrest Addition
Date: 1923
Significance: John Alcorn was Vice-President of Marland Oil Company in the 1920s. The home is one of the best remaining examples of Colonial Revival architecture in Ponca City.

(5.) Jack Cleary Mansion

Location: Ponca City, Oklahoma
Legal or Address: Tract 4, Hillcrest Addition
Date: 1923
Significance: Jack Cleary was Vice-President of Land Acquisition at Marland Oil Company in the 1920s.

(6.) Frank and Blanche Lucas Home

Location: Ponca City, Oklahoma
Legal or Address: Tract 6, Number 11, Hillcrest Addition
Date: 1923
Significance: Frank Lucas served as E. W. Marland's private secretary. Lucas and his wife, Blanche, were one of the most politically powerful husband and wife teams in Ponca City during the 1920s and early 1930s. The house is one of the best preserved Tudor Period Homes in Ponca City.

(7.) Sam McKee Home

Location: Tonkawa, Oklahoma
Legal or Address: Lots 1-7, Block 27, Original Townsite
Date: 1923
Significance: Sam McKee attained considerable wealth from the McKee Lease, one of the most prolific oil leases in the Tonkawa Field. The house is the oldest and best preserved example of Prairie Box architecture in Tonkawa.

(8.) George Shalenberger Mansion

Location: Ponca City, Oklahoma
Legal or Address: Tract 3, Number 5, Hillcrest Addition
Date: 1923
Significance: George Shalenberger was the Vice-President of Gas Processing at Marland Oil Company. The home is one of best preserved examples of Tudor Period architecture in Ponca City.

(9.) Seward Sheldon Mansion

Location: Ponca City, Oklahoma
Legal or Address: Tract 5, Number 9, Hillcrest Addition
Date: 1923
Significance: Seward Sheldon was Treasurer and member of the Board of Directors of Marland Oil Company in the 1920s. The house is one of the best remaining examples of Tudor Period Homes in Ponca City.

(10.) W.A.J.M. Van Waterschoot van der Gracht Mansion

Location: Ponca City, Oklahoma
Legal or Address: Tract 18, Number 6, Hillcrest Addition
Date: 1923
Significance: Waterschoot van der Gracht was a Dutch geologist who served as Vice-President of Exploration for Marland Oil Company during the 1920s. The house is one of the best remaining examples of Spanish Colonial Revival architecture in Ponca City.

B. Churches

(1.) Community Church of Christ

Location: Garber, Oklahoma
Legal or Address: Lots 1-8, Block 13, Original Townsite
Date: 1923
Significance: George Failing and the Garber family were instrumental in building the Community Church of Christ.

C. Commercial

(1.) Cherokee Water and Gas Company

Location: Cherokee, Oklahoma
Legal or Address: NE 1/4, SE 1/4, Section 11, Township 2 North, Range 26 West
Date: 1910
Significance: The Cherokee Water and Gas Company has been in continuous operation for over 75 years.

(2.) Eason Gas Station

Location: Enid, Oklahoma
Legal or Address: Lots 30-32, Block 5, South Side Addition
Date: 1920
Significance: This is the only remaining building associated with the Eason Oil Compnay in Enid.

(3.) Covington Lumber Yard

Location: Covington, Oklahoma
Legal or Address: Lots 13-20, Block 20, Original Townsite
Date: 1923
Significance: This is the only remaining lumber yard constructed during the oil boom in Covington.

(4.) Garber Hotel

Location: Garber, Oklahoma
Legal or Address: Lots 1-3, Block 11, Original Townsite
Date: 1920
Significance: The Garber Hotel was used as a permanent residence by oil executives during the 1920s and 1940s oil booms.

(5.) Fairview Light and Water Department

Location: Fairview, Oklahoma
Legal or Address: 424 South Main Street
Date: 1934
Significance: This utility company has provided energy to the city of Fairview for over 50 years.

(6.) Royalty Building

Location: Ponca City, Oklahoma
Legal or Address: Lots 13-16, Block 41, Hartman Addition
Date: 1923
Significance: The Royalty Building is one of two commercial buildings financed by E. W. Marland, founder and president of Marland Oil Company, and one of only two commercial buildings designed in the Spanish Colonial Revival style in Ponca City. It is the only remaining building in the central business district of Ponca City which housed offices for petroleum companies during the boom period of 1923 to 1929.

(7.) Paris Furniture Building

Location: Ponca City, Oklahoma
Legal or Address: Lots 13-16, Block 41, Hartman Addition
Date: 1923
Significance: The Paris Furniture Building is one of only two commercial buildings financed by E. W. Marland and designed by John Duncan Forsythe in Ponca City, Oklahoma. It is one of only two commercial buildings of Spanish Colonial Revival architecture in Ponca City.

D. Industrial

(1.) Conoco Pipeline Station: Cherokee Terminal

Location: Cherokee, Oklahoma
Legal or Address: SW 1/4, SW 1/4, Section 28, Township 27 North, Range 10 West
Date: 1945
Significance: This is the oldest remaining pipeline station in Alfalfa County.

(2.) Champlin Warehouse

Location: Enid, Oklahoma
Legal or Address: 1009 South Grand Avenue
Date: 1925
Significance: This is the only remaining unaltered warehouse associated with the Champlin Refinery Company in Enid.

(3.) Sinclair Production Camp Company House Garage

Location: Covington, Oklahoma
Legal or Address: Tracts 1-3, NE 1/4, Section 25, Township 22 North, Range 4 West
Date: 1925
Significance: This is the only remaining building associated with the Sinclair Oil Company housing units at or near the Sinclair Production Camp.

(4.) Sinclair Production Camp Machine Shop

Location: Covington, Oklahoma
Legal or Address: NE 1/4, NE 1/4, NE 1/4, Section 25, Township 22 North, Range 4 West
Date: 1920
Significance: This is the only remaining property still intact from the Sinclair Production Camp, the first such operation in the Garber-Covington Field and the oldest remaining oil field production camp structure in Garfield County.

(5.) Wilcox Oil Company Building

Location: Garber, Oklahoma
Legal or Address: Lots 1-2, Block 15, Garber's Addition
Date: 1927
Significance: This is the only remaining early oil boom company office in Garber.

(6.) Antelope Booster Station

Location: Billings, Oklahoma
Legal or Address: NE 1/4, Section 31, Township 23 North, Range 2 West
Date: 1927
Significance: The Antelope Station is one of the oldest booster stations built by the Sinclair Oil Company in Noble County.

(7.) Sinclair Oil Company Pipeline Station and Tank Farm

Location: Three Sands, Oklahoma
Legal or Address: SW 1/4, Section 19, Township 24 North, Range 1 West
Date: 1925
Significance: Constructed by the Sinclair Oil Company, the pipeline station and tank farm have operated for over 70 years.

(8.) Empire Gas and Fuel Company Compressor Station

Location: Mooreland, Oklahoma
Legal or Address: NE 1/4, SE 1/4, Section 35, Township 24 North, Range 19 West
Date: 1927
Significance: The engine room, auxiliary room, and water tower represent the oldest and best remaining examples of a natural gas camp in Woodward County. These three properties represent the oldest existing pipeline facilities constructed by Empire Gas and Fuel Company before it merged with Cities Service Gas Company in 1929.

(9.) Phillips Pipeline Trunkline Station

Location: Laverne, Oklahoma
Legal or Address: SE 1/4, Section 9, Township 25 North, Range 25 West
Date: 1928
Significance: This is the only remaining Phillips Petroleum Company pipeline terminal complex in Oklahoma built when Phillips Petroleum Company constructed its first major long distance, multi-purpose pipeline from Borger, Texas to Chicago, Illinois, a distance of more than 1,000 miles.

E. Lodges

(1.) Knox Building/Masonic Temple

Location: Enid, Oklahoma
Legal or Address: Lots 1-4 and East 1/2 of Lot 5, Block 8, Weatherly Addition
Date: 1923
Significance: This building is one of the best remaining examples of Sullivanesque high rise style architecture in north central Oklahoma. It was the first Masonic Temple in Garfield County, housing activities of all Masonic Lodges in Garfield County from 1928 to 1945.

(2.) Oddfellows Lodge and Rooming House

Location: Covington, Oklahoma
Legal or Address: Lots 17-20, Block 32, Original Townsite
Date: 1920
Significance: The building served as a hotel, rooming house and I.O.O.F. meeting hall during the 1920s oil boom in Covington.

F. Government

(1.) Garber City Hall

Location: Garber, Oklahoma
Legal or Address: Lots 11-12, Block 11, Original Townsite
Date: 1920
Significance: The Garber City Hall was constructed during the early 1920s oil boom in Garber.

(2.) Tonkawa City Hall

Location: Tonkawa, Oklahoma
Legal or Address: Lots 15-16, Block 43, Original Townsite
Date: 1923
Significance: This is the only local government building in Tonkawa constructed during the oil boom era of the early 1920s and is the best example of Gothic Revival architecture applied to a public building in Tonkawa.

II. STRUCTURES

(1.) Lew Wentz Camp

Location: Ponca City, Oklahoma
Legal or Address: N 1/2, NE 1/4, Section 18, Township 26 North, Range 3 East
Date: 1934
Significance: Lew Wentz, a wealthy oil businessman, constructed the Lew Wentz Educational Camp at a cost of $400,000 and donated the property to Ponca City in 1934. The property includes 33.45 acres. Consists of seventeen historic properties.

III. SITES

(1.) First Oil Drilling Venture in the Oklahoma Panhandle

Location: Gate, Oklahoma
Legal or Address: SE 1/4, Section 5, Township 34 North, Range 28 West
Date: 1918
Significance: Gate area residents formed the Gate Valley Drilling Corporation, hoping to strike oil; however, the venture failed when funds expired and drilling ceased at a depth of 3,400 feet.

(2.) First Oil Well Drilled in Ellis County

Location: Arnett, Oklahoma
Legal or Address: NE 1/4, NE 1/4, Section 21, Township 20 North, Range 24 West
Date: 1932
Significance: L. V. Hivick and the Algiers Oil Company attempted to drill for oil on the J. R. Roper farm in 1932. The venture failed and it was not until the 1940s that oil exploration was reinstituted in Ellis County.

(3.) "Lizzie Howell" Natural Gas Well

Location: Laverne, Oklahoma
Legal or Address: SW 1/4, SW 1/4, Section 30, Township 27 North, Range 24 West
Date: 1929
Significance: The Sinclair Oil drillilled the "Lizzie Howell" well, the discovery well for the Mocane-Laverne Gas Field in Harper County. Since 1932, this well has supplied natural gas for the cities of Buffalo and Laverne.

(4.) R. E. Hoy #1 Oil Well

Location: Covington, Oklahoma
Legal or Address: NE 1/4, NE 1/4, NE 1/4, Section 25, Township 25 North, Range 4 West
Date: 1916
Significance: The R. E. Hoy #1 Oil Well was the discovery well for the Garber Field and was the first well drilled in Oklahoma based on findings by a geologist. Its drilling resulted in a production horizon being discovered which was thereafter known as the "Hoy Sand."

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