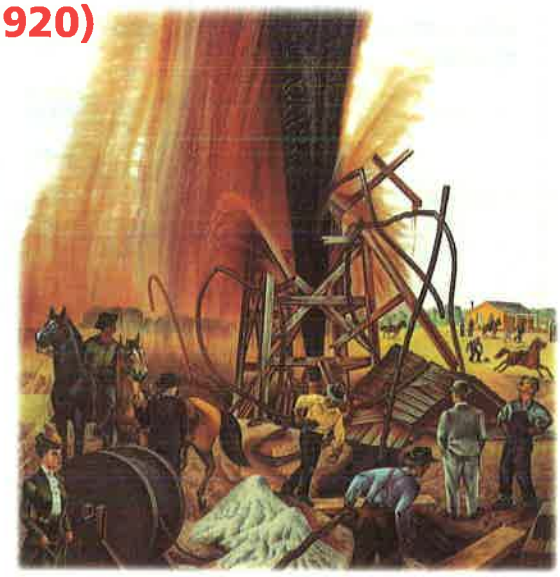
CHAPTER 23

The Oil Boom

(1890–1920)

Texas Normal College was opened as a school to train teachers and other professionals.

When the Spindletop well struck oil, a huge plume of oil erupted from the ground.



TEXAS

1890 Texas Normal College and Teachers' Training Institute, now called the University of North Texas, opens in Denton.

1894 Drillers strike oil in Corsicana.

1901 The Spindletop well strikes oil, producing more than 17 million barrels of oil the next year.

1905 A large oil strike is made in the Humble oil field in Harris County.

1890 | **1894** | **1898** | **1902**

U.S. and WORLD

1890 American inventor John Lambert builds the first automobile that uses an internal combustion engine.

1896 B. F. Goodrich Company manufactures the first automobile tires.

B. F. Goodrich Company advertised its tires in the early 1900s.

Early automobiles were too expensive for many people to purchase. However, their popularity grew in the early 1900s.

Build on What You Know

Texans witnessed many economic changes in the late 1800s. The growth of industry, commercial farming, and railroads affected the way Texans lived and worked. As the new century approached, Texans would witness another major economic change—the growth of the oil industry.

Oil from the Santa Rita No. 1 helped fund Texas universities during the 1920s and 1930s.

Humble Oil Company was founded in 1911

HUMBLE

1906

1908 Oil is discovered at Goose Creek along Galveston Bay.

1908 The Ford Motor Company introduces the Model T, one of the most popular cars in American history.

1910

1911 The U.S. Supreme Court orders the Standard Oil Company to break up into several smaller companies.

1914

1914 The Houston Ship Channel opens, and Houston soon becomes an important oil-refining center.

1917 A French inventor builds a gyroplane—a flying craft much like a helicopter.

1918

1919 An application is filed to drill for oil on state-owned land in West Texas. Several years later the Santa Rita No. 1 strikes oil.

You Be the Historian

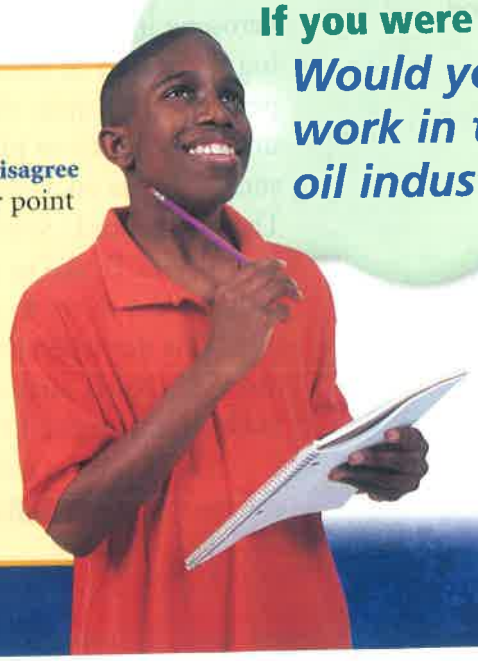
Themes Journal

What's Your Opinion? Do you **agree** or **disagree** with the following statements? Support your point of view in your journal.

- **Science, Technology & Society** The uses for natural resources do not change over time.
- **Culture** The rapid growth of industry affects all aspects of social life, including urban growth, education, and the arts.
- **Economics** National markets always influence local businesses and industries.

If you were there . . .

Would you work in the oil industry?



Section 1

The Birth of the Oil Industry

Read to Discover

1. How did the Texas oil industry begin?
2. What happened at Spindletop, and how did that event affect the Texas economy?

Why It Matters Today

During the 1800s Americans searched for new energy sources. Use CNNfyi.com or other **current events** sources to learn about different sources of energy available today. Record your findings in your journal.

Define

- petroleum
- fossil fuel
- derricks
- refinery

Identify

- Lyne T. Barret
- Pattillo Higgins
- Anthony F. Lucas
- Spindletop strike

The Story Continues

Pattillo Higgins thought that the gas bubbles at Spindletop meant that there was oil beneath the ground.

Spindletop was a small hill just outside Beaumont. Although it was only 12 feet high, people often called it Big Hill. One day Pattillo Higgins took a girls' Sunday school class on an outing to Big Hill. He noticed gas bubbles in the spring on the hill. When Higgins poked his cane into the ground, gas escaped. This visit convinced Higgins that there was oil under Big Hill.

The Search for Oil

The demand for oil had risen dramatically after scientists developed kerosene in the mid-1800s. Kerosene was a new form of fuel for lighting that could be made from coal or **petroleum**. Commonly called oil, petroleum is a dark, thick, liquid **fossil fuel**. A fossil fuel is a fuel formed underground from plant or animal remains. Compared to other fuels, such as whale oil, kerosene was less expensive and less dangerous to use. The first major U.S. oil strike occurred in the late 1850s. An oil company sent Edwin Drake to northwestern Pennsylvania to search for oil. He drilled holes to try to reach petroleum deep underground but had little luck. One day when the drill reached 69 feet, a black liquid oozed out of the well. Local farmers ran through a nearby town shouting, "The Yankee has struck oil!"

Drake's success led others to search for oil. In Texas a Civil War veteran named **Lyne T. Barret** drilled for oil outside Nacogdoches in 1866.

He struck oil at 106 feet. His oil well was soon producing 10 barrels of oil a day. However, Barret could not raise the money necessary to continue drilling and had to shut the well down. Other Texans accidentally discovered oil. George Dullnig, a rancher in Bexar County, struck oil while drilling for water in 1886. Dullnig drilled two more wells but did not find enough oil to continue drilling. Other efforts at finding oil in Texas met with little success. Texas produced only 48 barrels of oil in 1889, compared to the 35 million barrels of oil produced in the rest of the United States.

It was not until 1894, when drillers searching for water in Corsicana struck oil, that the Texas oil industry truly began to grow. The Corsicana landscape was soon dotted with **derricks**, or towers that support oil-drilling equipment. During 1896 the Corsicana oil field produced 1,450 barrels of oil. Just four years later, Texans took more than 839,000 barrels of oil out of the oil field. To process the oil, business leaders constructed a **refinery**. A refinery is a factory where crude oil is refined, or made pure, and then made into various products. The oil refined at Corsicana was used to lubricate machinery and provide kerosene for lamps. It was also sprinkled on dirt roads to keep down dust.

Reading Check **Identifying Cause and Effect** What scientific innovation occurred in the mid-1800s, and how did that affect Texas?

The Spindletop Strike

The success at Corsicana was quickly overshadowed by a discovery at an oil field near Beaumont. **Pattillo Higgins**, a brick-factory owner, believed that oil would be found under a salt dome at a place called Spindletop Hill, or Big Hill. Salt domes are underground formations

Lone Star Legacy

Spindletop

After the discovery of oil at Spindletop, hundreds of derricks dotted the Spindletop skyline. By 1985 some 153 million barrels of oil had been taken out of the ground at Spindletop. To celebrate the oil field, Texans erected a granite monument in 1941. Today visitors can tour the Spindletop/Gladys City Boomtown Museum. **How does the monument symbolize the importance of Spindletop to Texas?** TEKS

Interpreting the Visual Record

Spindletop. *The Spindletop strike led to an oil boom in the Gulf Coast region.* ***How does this image of the Spindletop oil field six years after the first strike reflect the oil boom?*** TEKS

that often trap oil and natural gases. In 1892 Higgins and some friends worked together to form the Gladys City Oil, Gas, and Manufacturing Company. Although the company drilled three wells at Spindletop, it did not strike oil. But Higgins refused to give up.

Higgins ran an advertisement calling for a drilling engineer. In 1899 an engineer named **Anthony F. Lucas** responded to Higgins's ad. Lucas was an expert on salt domes, and he agreed that oil was probably beneath the Spindletop dome. He started drilling there in June 1900. At 575 feet, Lucas found traces of oil, but his equipment was not strong enough to continue. After finding business leaders willing to invest in new equipment, Lucas continued drilling. A man who worked at Spindletop described the big oil strike that occurred on January 10, 1901.

Texas Voices

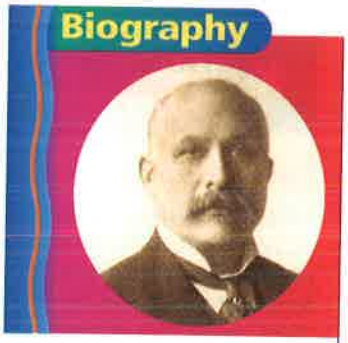
"All of a sudden, a chunk of mud came out of the six-inch hole . . . with an explosion just like a cannon popping off. . . . I walked over and looked down in the hole there . . . this frothy [foamy] oil was coming up . . . each flow a little higher and a little higher and a little higher. Finally it came up with such momentum [speed] that it just shot up clear through the top of the derrick.

—Al Hamill, quoted in *Tales from the Derrick Floor,* by Mody C. Boatwright and William A. Owens

The giant plume of oil shooting into the air at Spindletop could be seen from more than 10 miles away. People came from miles around to see it. Over the next nine days some 800,000 barrels of oil shot out of the Spindletop well before workers could cap the gusher. Word of the strike quickly spread around the world, with newspapers calling it the great gusher in Texas. The **Spindletop strike** marked the beginning of the Texas oil boom.

TEKS **Reading Check Finding the Main Idea** What was the significance of the strike at Spindletop?

Biography



Anthony F. Lucas
(1855–1921)

In 1879 Austrian Antonio Francisco Luchich came to the United States, eventually changing his name to Anthony Francis Lucas. He worked as a mining engineer in Colorado and Louisiana before arriving in Texas in 1899. While drilling at Spindletop, Lucas and his wife lived in a shack and used boxes and crates for furniture. Spindletop made Lucas a wealthy man—he received $400,000 for his work there. **What role did Lucas play in the Spindletop strike?** TEKS

Interpreting Political Cartoons

The Spindletop oil boom. *The strike brought many people to nearby Beaumont.* ***What point does this cartoon make about the significance of the strike?*** TEKS

Boom and Bust after Spindletop

The discovery of oil at Spindletop led to a boom in the Texas economy and created many jobs. Hundreds of oil companies formed to drill new wells, and the population of Beaumont swelled by nearly 40,000 people. By 1902 more than 500 oil companies were operating there. The *Galveston Daily News* reported on the growth and excitement in Beaumont. "The town continues to fill up. The street resembles a great holiday event. . . . Physicians are becoming real estate men. The lumber industry is forgotten in the wild rush for oil land. . . . Throngs of people frequent the streets until late at night and everything is oil."

Spindletop oil production peaked in 1902 at more than 17 million barrels of oil. That year, nearly 20 percent

of the oil produced in the United States came from Spindletop. The discovery of this huge oil field soon affected oil prices. With large quantities of oil being produced, the supply of oil outpaced the national demand. As a result, the price of oil dropped. By 1902 oil prices had hit an all-time low of three cents a barrel. The rush of companies drilling oil at Spindletop also drained its oil reserves. By 1904 Spindletop was producing only 10,000 barrels of oil a day.

Most of the new companies that had formed went out of business when their wells dried up. Of those Texas companies that survived, several grew into major businesses. J. S. Cullinan, who owned the Corsicana refinery, founded the Texas Fuel Company in Beaumont in March 1901. The company soon changed its name to the Texas Company—later Texaco—and grew rapidly. By 1905 it owned oil wells and a refinery as well as railroad cars and pipelines for transporting oil. Another Spindletop oil company, the J. M. Guffey Petroleum Company, was formed in May 1901. Its owners—J. M. Guffey, A. W. Mellon, R. B. Mellon, and other associates—also founded the Gulf Refining Company. The two companies struggled for several years until merging in 1907 to become the Gulf Oil Corporation.

The Magnolia Petroleum Company and the Humble Oil Company, both founded in 1911, also became major businesses. By 1917 Humble—which was later bought by the Standard Oil Company of New Jersey—owned 217 wells that together produced 9,000 barrels of oil a day. Oil companies that survived the early boom were important to the Texas economy. They employed thousands of Texans, which in turn helped boost many of the state's other businesses.

Reading Check **Evaluating** How did the Spindletop oil boom affect the local economy and national oil prices?

Daily Life

Life in the Oil Fields

Working in the Texas oil fields was rough, dirty, and dangerous. Laborers usually worked 12-hour shifts. O. G. Lawson recalled that workers were sometimes burned by "gas wells that they had no way of controlling." Gases escaping from wells could hurt or kill. **What was life like for workers in the oil industry?** TEKS

Section 1 Review

TEKS Questions 2, 3, 4a, 4b, 5

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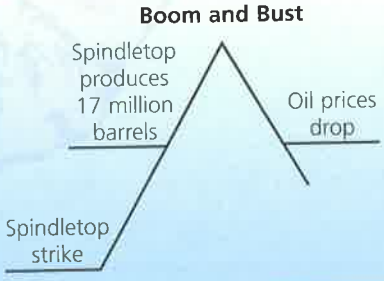
1 Define and explain:
- petroleum
- fossil fuel
- derricks
- refinery

2 Identify and explain:
- Lyne T. Barret
- Pattillo Higgins
- Anthony F. Lucas
- Spindletop strike

3 Identifying Cause and Effect
Copy the graphic organizer below. Use it to describe causes of each of the events listed.



4 Finding the Main Idea
a. Trace the beginning of the Texas oil industry.
b. How did the Spindletop strike affect national oil markets and local communities?

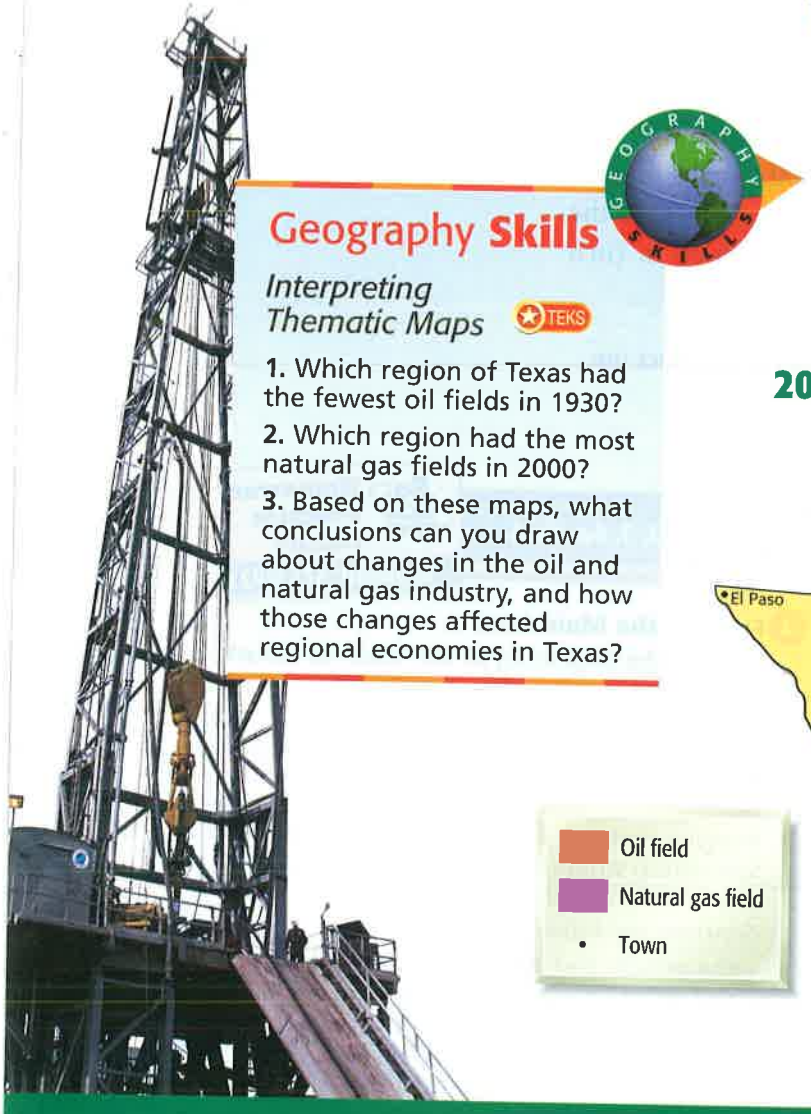
5 Writing and Critical Thinking
TAKS
Making Generalizations and Predictions
Imagine that you are a reporter present at the Spindletop strike. Write a short newspaper article on the event.
Consider the following:
- the people and events that led to the strike
- how the strike will shape the future of Texas

Connecting To

Geography

Oil and Natural Gas Fields

While the Spindletop oil strike brought a surge of drilling to the Gulf Coast, oil fields were later discovered in many regions of Texas. Oil was soon discovered in North Texas, the Panhandle, and the Permian Basin. Natural gas was also found in these regions. These natural resources spurred Texas industries and economic growth.

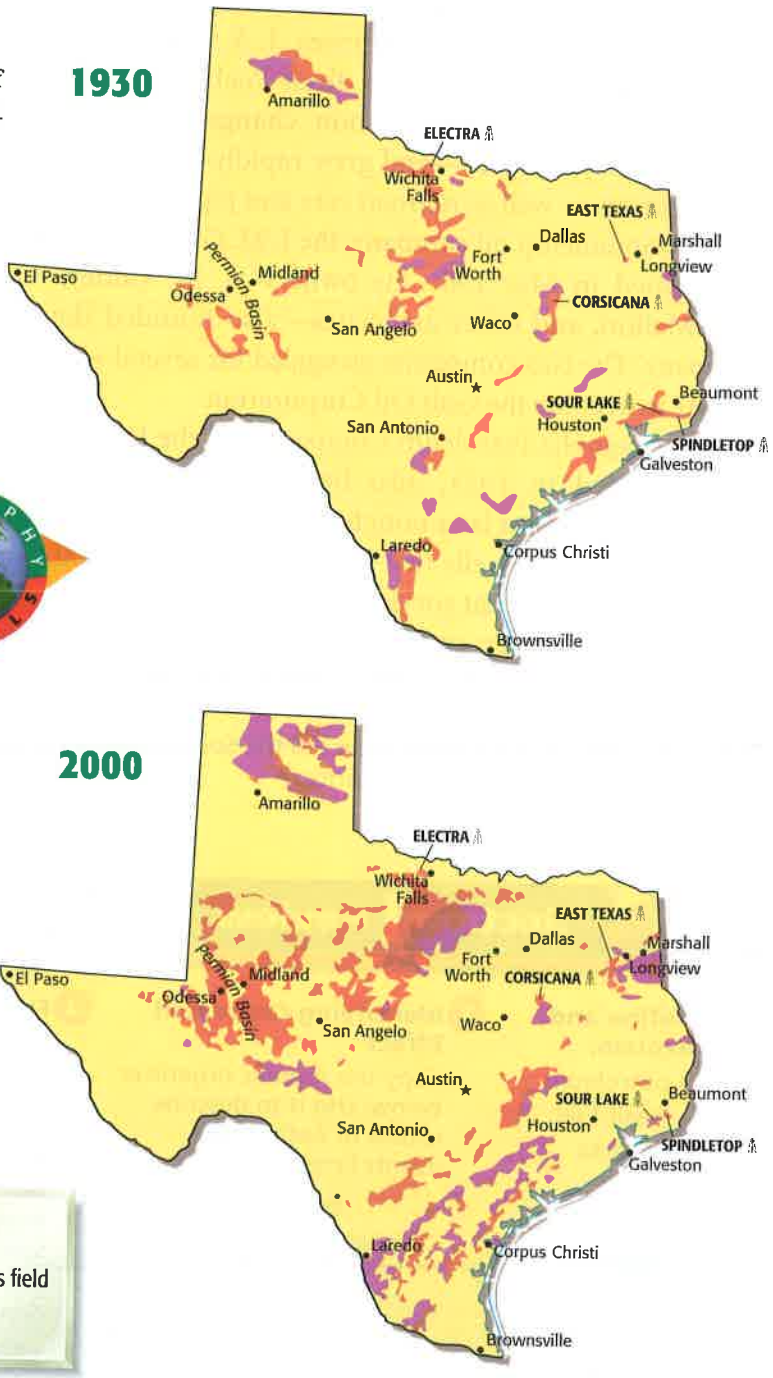


Geography Skills

Interpreting Thematic Maps TEKS

1. Which region of Texas had the fewest oil fields in 1930?
2. Which region had the most natural gas fields in 2000?
3. Based on these maps, what conclusions can you draw about changes in the oil and natural gas industry, and how those changes affected regional economies in Texas?

Oil and Natural Gas Fields



Section 2

The Growth of the Oil Industry

Read to Discover

1. How did Texans contribute to the oil boom, and what Texas regions produced oil?
2. How did new business ideas change the oil industry?

Define

- **wildcatters**
- **natural gas**
- **vertical integration**
- **horizontal integration**

Why It Matters Today

The oil industry was important to the Texas economy in the early 1900s. Use CNNfyi.com or other **current events** sources to learn about the oil industry today. Record your findings in your journal.

The Story Continues

The Spindletop strike lured thousands of people to Beaumont. They came with the hope of making huge profits. Soon it seemed as if everyone owned an oil company. In Beaumont a newspaper reporter saw two men looking at a map. The next day he learned that the newcomers had formed the What-Not Oil Company. This new company was just one of the hundreds that appeared in Beaumont in 1901.

New oil companies such as the Texas Consolidated Oil Company placed advertisements like this one.

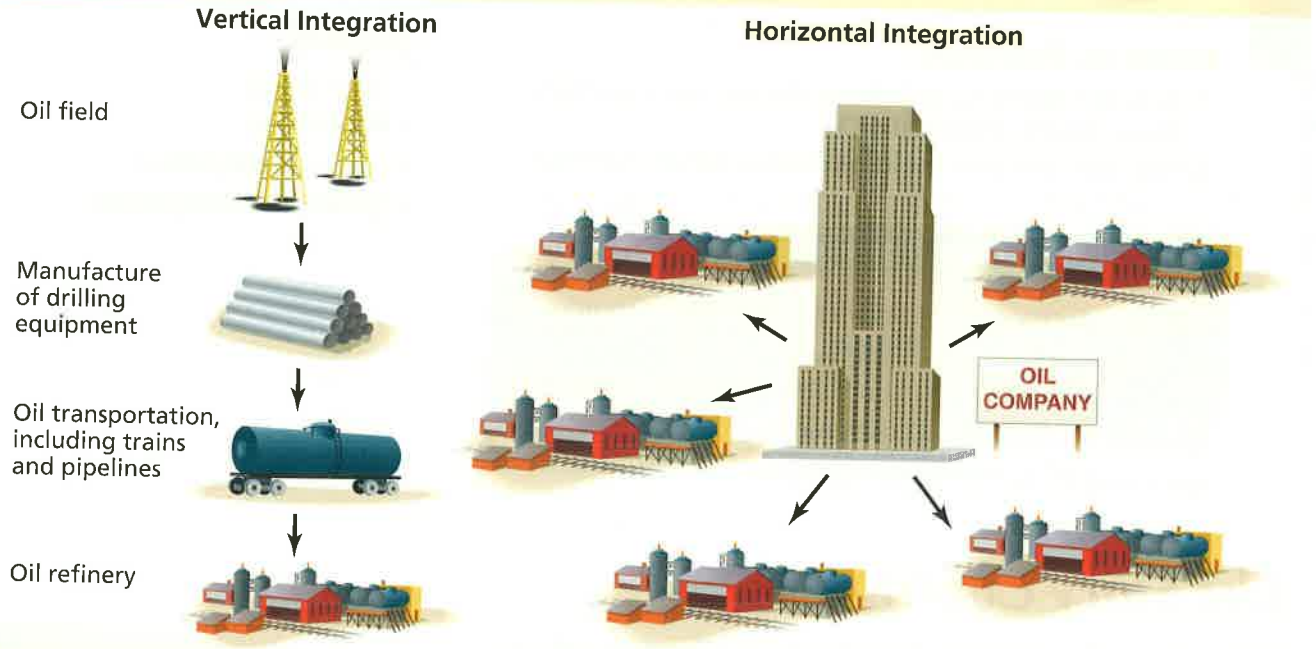
Wildcatters and New Oil Fields

Some of these companies were owned by **wildcatters**—independent oil operators who searched for new fields. These entrepreneurs saved and borrowed money to invest in the oil business. In particular, wildcatters competed with one another to find salt domes in the Gulf Coast Plain just like the 1901 Spindletop strike. They found salt domes some 20 miles outside Beaumont at Sour Lake. Drilling began there in 1893, but the first big strike did not occur until 1902. That year a gusher produced as many as 50,000 barrels a day. By 1903 there were some 150 wells at Sour Lake. Overdrilling soon led to a drop in underground pressure, making oil drilling difficult. By the end of 1903, more than half of the wells at Sour Lake were abandoned. Other Gulf Coast oil fields faced a similar drop in oil production when they were overpumped.

Oil production extended beyond the Gulf Coast to North Texas. In 1903 North Texas rancher W. T. Waggoner struck oil. He later

Vertical and Horizontal Integration

Many corporations used horizontal and vertical integration to increase their business. Some large oil companies owned smaller companies that made products for each step of the oil-production process. Oil companies also bought many refineries or oil fields.



Visualizing History TEKS

1. **Economics** How do you think these business practices would affect a company's profits?
2. **Connecting to Today** How do you think these practices affect local markets and businesses in Texas today?

complained that he was only drilling for water. "I wanted water, and they got me oil. I was mad, mad clean through." This Electra oil field made Waggoner a wealthy man, however. Other major North Texas oil fields included Wichita Falls and Burkburnett. In 1919 the Burkburnett field produced some 31.6 million barrels of oil.

After their success in North Texas, oil companies began drilling in the Panhandle. The first successful strike there took place in 1921. Six years later, Panhandle oil fields produced some 39 million barrels of oil in a single year. Oil was also discovered in the Permian Basin region of West Texas in 1921. During the 1920s several large oil fields were discovered in the area, including the Yates, Hobbs, and Big Lake oil fields. South and Central Texas were also the sites of oil production. However, these regions never produced the amount of oil that made other parts of the state famous. An oil strike deep in the heart of East Texas gave the oil industry its greatest surprise. Geologists had claimed that there was very little oil in East Texas north of the Gulf Coast. But a wildcatter's 1930 strike proved them wrong—the East Texas oil field turned out to be one of the largest in the world.

Reading Check **Sequencing** Identify in order where and when oil was discovered in the major regions of Texas. TEKS

That's Interesting!

Oil Nicknames

People in the oil business had special names for just about everything. A "boll weevil" was a worker who knew nothing about the oil business. A "roustabout" looked after the well and made necessary repairs. A "roughneck" worked on the derrick and took care of the pipe lowered into the well.

Oil Business Is Big Business

Texas oil fields produced more than just oil. **Natural gas**—a gas that can be used as a fuel—was also abundant. However, there was no way to get it to market safely in the early years of the oil industry. As a result, gas coming out of oil wells was allowed to burn. In the 1890s scientists invented a leakproof pipeline that could safely move natural gas about 100 miles. The first Texas gas pipeline stretched 19 miles between the Petrolia oil field and Wichita Falls. Further advances in pipeline technology during the 1920s and 1930s expanded the distance gas could be shipped. This new pipeline technology opened the market for Texas natural gas.

As more oil and gas fields were discovered, the Texas oil industry grew into a big business. In 1915, Texans sold more than 13 million dollars' worth of oil. Some Texas oil companies began to use a business strategy called **vertical integration**—owning the businesses involved in each step of a manufacturing process. For example, the Texas Company began by purchasing and transporting oil from Spindletop. As its profits grew, the company expanded into oil drilling, production, and refining. The company also bought items it needed for its business, such as barges and railroad tanker cars. By streamlining the processes of drilling, transporting, and refining oil, the Texas Company was able to develop into a huge corporation.

Most large oil companies also practiced **horizontal integration**—owning many businesses in a particular field. The larger oil corporations would run many refineries, sharing supplies and resources to make their businesses more efficient.

TEKS **Reading Check** **Drawing Inferences and Conclusions** How did oil companies expand to control a large part of the oil industry?

CONNECTING TO ECONOMICS

Wildcatters

Motivated by the potential profits, wildcatters bought land, hired oil workers, and drilled wells. Wildcatters worked hard, hoping that their investments would pay off. However, wildcatting was risky and expensive. Many wildcatters went bankrupt after drilling a few wells. While most wildcatters did not strike oil, some became wealthy. Pattillo Higgins could be considered one of the earliest successful wildcatters. **How did the free enterprise system, particularly the desire for profit, motivate wildcatters in Texas?** TEKS

Section 2 Review

TEKS Questions 2, 3a, 3b, 4

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1 Define and explain:

- wildcatters
- natural gas
- vertical integration
- horizontal integration

2 Sequencing

Copy the graphic organizer below. Use it to trace the discovery of oil in the various regions of Texas.

Region	When oil was discovered
Gulf Coast	
North Texas	
Panhandle	
Permian Basin	
East Texas	

3 Finding the Main Idea

a. What role did wildcatters play in the oil boom?

b. Explain how new business strategies affected the oil industry.

4 Writing and Critical Thinking TAKS

Evaluating Imagine that you are a wildcatter traveling from region to region in 1919. Create a journal entry describing what businesses in the oil-production process you would want to own.

Consider the following:

- the steps of oil production
- getting oil to market

Section 3

Effects of the Oil Boom

Read to Discover

1. How did the oil boom affect Texas towns?
2. How did new technology change the oil industry?
3. What effects did the oil industry have on the politics, economy, and social life of Texas?

Why It Matters Today

During the early 1900s oil production created boomtowns. Use CNNfyi.com or other **current events** sources to learn about how industry affects city growth today. Record your findings in your journal.

Define

- **boomtowns**
- **internal combustion engines**
- **gasoline**
- **philanthropy**

Identify

- **Texas Railroad Commission**
- **Permanent University Fund**
- **Santa Rita No. 1**

The Story Continues

Howard Hughes's rock bit had rotating drills that were able to cut through hard rock.

Excited by stories of the Texas oil boom, Howard Hughes quit his job at a mining company in Missouri and moved to Beaumont. However, he quickly encountered a problem faced by all oil producers—drill bits could not cut through hard rock. Hughes decided to take a vacation to visit his parents and think about the problem. After two weeks, he had a solution. Hughes outlined the basic design of the Hughes Rock Bit, which could cut through rock 10 times faster than other bits.

Boomtowns

The spectacular fortunes made in the oil business drew thousands of people to the Texas oil fields and nearby towns. Before Spindletop, Beaumont had 9,000 residents. Within two years of the big strike, some 50,000 people called Beaumont home. Nearby Sour Lake went from a small village to a city of 10,000 people within a matter of months.

Called **boomtowns** because they grew along with economic booms, these towns were crowded, dirty, and rough places. Thousands of Texans arrived at these towns seeking work in the oil industry. Oil-field workers often lived in tents or wooden shacks. The dirt streets of these towns became rivers of mud when it rained. Above all, boomtowns were

busy places, where everyone was trying to make money. Businesses that served the oil industry benefited economically from the oil boom. A Texas schoolteacher described life in her boomtown.

Texas Voices

"In McCamey, they worked twenty-four hours a day. Everything stayed open twenty-four hours, the eating places and all, because the men worked night shifts and day shifts. I've seen my brother-in-law stay up twenty-four hours at the lumberyard. Businessmen had their living quarters at their place of business. They worked Sunday. It was no different from any other day."

—Allie V. Scott, quoted in *Life in the Oil Fields,* by Roger M. Olien and Diana Davids Olien

Analyzing Primary Sources TEKS
Identifying a Point of View
According to Scott, how did the oil boom affect other industries in Texas?

TEKS **Reading Check Drawing Inferences and Conclusions**
How did the development of the oil industry lead to urban growth in Texas?

The Automobile and Petrochemical Industries

Oil companies grew at a time when electricity was rapidly replacing kerosene for lighting homes and industries. Fortunately for oil producers, new uses for petroleum were being discovered. Because oil was cheaper than coal, it quickly replaced coal as the fuel for steam engines that ran ships and railroad locomotives. The use of automobiles with **internal combustion engines** was also increasing. These engines used **gasoline**, an oil by-product, for power instead of steam. These new uses for oil allowed the oil industry to remain profitable.

Before the development of the internal combustion engine, oil producers had little use for gasoline because demand for it was low. This changed as more Americans began to buy cars. Between 1895 and 1906 the number of registered cars in the United States rose from 5 to some 619,000. By 1916, Texans were driving about 195,000 of the 3.4 million cars in the United States. As Americans continued to purchase cars and drove longer distances, the demand for gasoline grew. Between 1916 and 1920, gasoline production in the United States rose from 49 million barrels to more than 116 million barrels. The Texas oil industry's production of gasoline helped keep Americans traveling the nation's roads and highways.

The growing popularity of the automobile guaranteed the Texas oil industry millions of customers.

Texas Cities

Midland and Odessa

History: Odessa was established in 1881 as a stop on the Texas and Pacific Railway. Farming families established Midland in 1884. Both cities grew slowly until the oil boom of the 1920s.

Midland population in 2000: 94,996

Odessa population in 2000: 90,943

Relative location: In the Permian Basin of West Texas

Region: Southern edge of the High Plains where the Edwards Plateau meets the Mountains and Basins region

County: Midland is the county seat of Midland County, and Odessa is the county seat of Ector County.

Origin of name: Midland was named for its location midway between Dallas and El Paso. Odessa was named after a city in Russia.

Economy: The major source of income and jobs for both cities is the petroleum industry. Banking, farming, and ranching are also important to their economies.

Interpreting the Visual Record

Boomtowns. *People flocked to boomtowns seeking jobs in the oil business.* ***What type of work do you think these wagon drivers found in Texas boomtowns?*** TEKS

CONNECTING TO SCIENCE AND TECHNOLOGY

Oil Drilling

The first oil wells were drilled with a heavy drill bit attached to a long cable. This cable was lowered into the hole. The drill bit was lifted up and down, pounding deeper and deeper into the rock. Drillers also used the cable to pull dirt and rock out of the hole. Rotary drilling quickly became the preferred method. In rotary drilling the drill bit turns or spins as it pushes downward. As the bit turns, workers shoot drilling mud into the well. This mud prevents gushers and explosions. It also carries loose rock to the top of the well, so that workers do not have to stop as often.

How was new oil-drilling technology similar to and different from past technology? TEKS

Offshore oil platform

In addition, scientists continued to develop new uses for petroleum. Petrochemicals, products made from oil and gas, became an important part of the Texas economy. Petrochemical products include synthetic rubber, plastics, and carbon black, which is used to make ink, tires, and other products.

TEKS **Reading Check** **Analyzing Information** How did the development of new technologies affect the use of fossil fuels such as oil in Texas?

The Effects of the Oil Boom

While the oil boom boosted the state's economic growth, it also affected Texas in many other ways. The oil boom attracted many young farmworkers to jobs in the oil fields. Most drilling and production jobs were reserved for white workers. Despite facing discrimination in the oil fields, some African American and Mexican American workers found jobs as teamsters, hauling goods to and from the oil fields. Many oil workers lived a very mobile life, moving from town to town as they followed new oil strikes.

The oil boom also affected Texas politics and the environment. State officials began to pass restrictions designed to control parts of the oil industry. In 1899 the legislature passed laws concerning abandoned wells and the protection of groundwater from oil pollution. Some 20 years later, the legislature made it illegal to waste oil and natural gas. In 1917 the legislature gave the **Texas Railroad Commission**, an agency originally created to regulate railroads, authority to enforce laws concerning the petroleum industry. The commission set standards for spacing between wells and for pipeline transportation of oil and gas. These rules helped to prevent overdrilling.

The state government also began collecting taxes on oil production in 1905, taking in more than $101,000 in taxes that year. By 1919 the amount of money collected from taxes on oil production rose to more

than $1 million. This money helped fund the state government and education programs for Texas children. Higher education in Texas also benefited from the state's oil production. In 1876 the Texas legislature had set aside 1 million acres of land in West Texas for the **Permanent University Fund**. Texas universities received money from the sale or use of this land. However, many people considered the land worthless until the **Santa Rita No. 1** oil well struck oil in 1923. Income from oil production went into the Permanent University Fund, which grew by more than $2,000 a day in 1925. The University of Texas system and the Texas A&M system continue to share the money in this fund. Their campuses have become two of the most important education centers in the state.

Texas also benefited from oil producers' **philanthropy**—the giving of money or gifts. Many of the wildcatters who became wealthy gave generous gifts to public institutions that influenced life in Texas. Wildcatters such as Hugh Roy Cullen gave large gifts to the University of Houston, Texas Medical Center, and many charitable organizations. Oil producers Sid Richardson and Walter William Fondren both gave money and gifts to Texas schools, hospitals, and other social institutions. Other oil producers have given generously to the arts in Texas. For example, John and Dominique de Menil established a collection of more than 10,000 works of art for public display. Oil producers have provided many jobs and spurred related industries in Texas. They have also had a major effect on the state's social life through philanthropy and education funding.

The University of Houston benefited from the philanthropy of oil wildcatters. The new funds created construction and education opportunities.

TEKS **Reading Check** **Summarizing** How did the oil boom affect the politics, economy, and society of Texas?

Section 3 Review

TEKS Questions 2, 3, 4a, 4b, 5

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1 Define and explain:

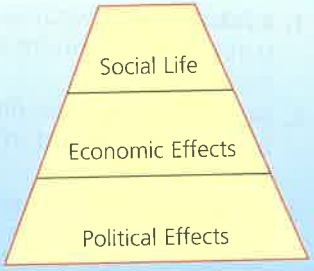
- boomtowns
- internal combustion engines
- gasoline
- philanthropy

2 Identify and explain:

- Texas Railroad Commission
- Permanent University Fund
- Santa Rita No. 1

3 Categorizing

Copy the graphic organizer below. Use it to show how the oil industry affected the economy, politics, and social life of Texas.



4 Finding the Main Idea

a. In what ways did the oil industry contribute to urban growth in Texas?

b. How did new technological developments such as the internal combustion engine, automobile, and petrochemicals affect the demand for and use of oil?

5 Writing and Critical Thinking TAKS

Supporting a Point of View Write a letter to a member of Congress supporting a position for or against taxation and government regulation of the oil industry.

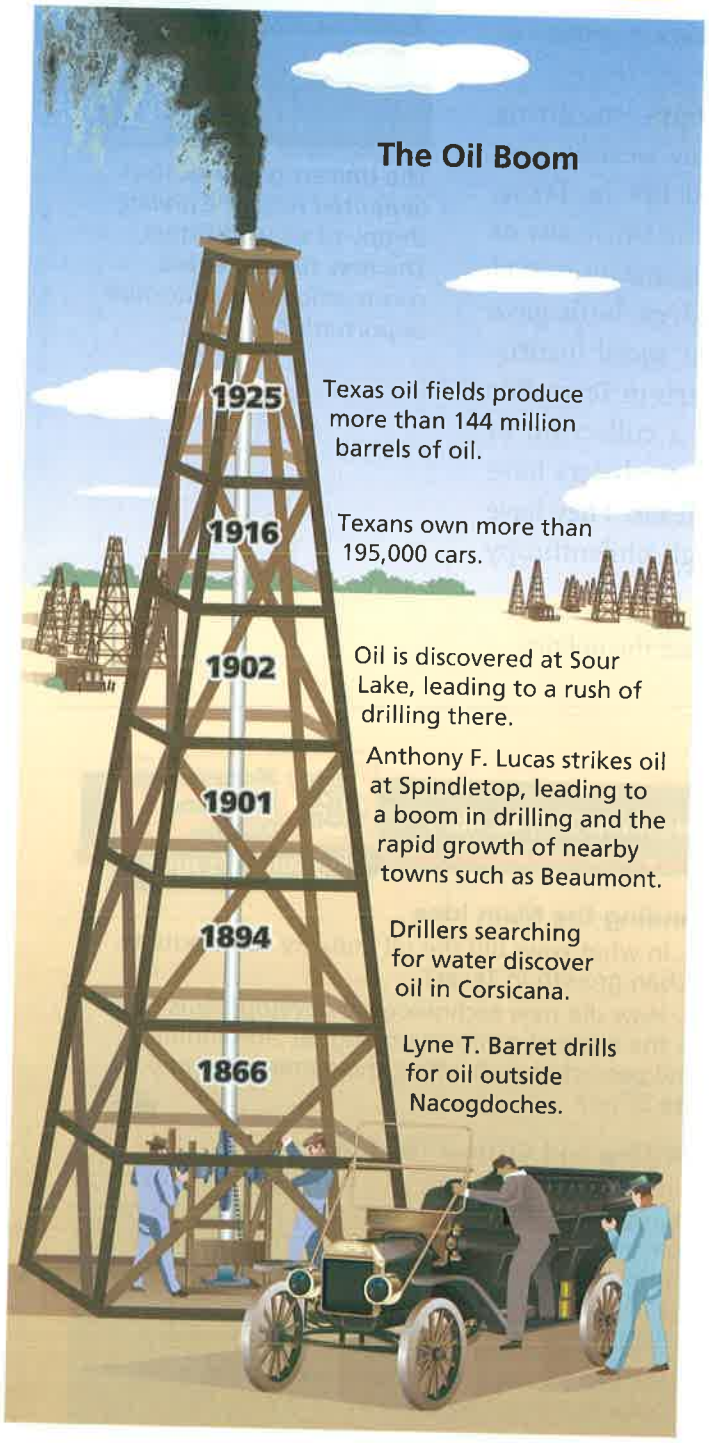
Consider the following:

- wildcatters and the spirit of free enterprise
- the Permanent University Fund and taxes collected on oil production

CHAPTER 23 REVIEW

The Chapter at a Glance

Examine the following visual summary of the chapter. Sketch a map that illustrates where these events of the oil boom occurred. Be sure to record the date of each event on the map. TEKS



Identifying People and Ideas TEKS

Use the following terms or people in historically significant sentences.

1. petroleum
2. Pattillo Higgins
3. Anthony F. Lucas
4. Spindletop strike
5. wildcatters
6. natural gas
7. vertical integration
8. boomtowns
9. internal combustion engines
10. Permanent University Fund

Understanding Main Ideas TEKS

Section 1 (pp. 478–481)

1. List in chronological order the events that led up to the discovery of oil at Spindletop.
2. How did the Spindletop strike affect national oil markets?

Section 2 (pp. 483–485)

3. Compare the levels of oil production in various regions of Texas.

Section 3 (pp. 486–489)

4. How did new technology such as the automobile affect the use of natural resources in Texas?
5. How did the oil boom affect education in Texas?
6. How did the growth of the oil industry affect sources of revenue for the state?

You Be the Historian TEKS

Reviewing Themes

1. **Science, Technology & Society** How did technological advances lead to the oil boom and contribute to the growing use of the state's natural resources?
2. **Culture** In what ways did the oil boom affect Texas society and urban growth?
3. **Economics** How did the national demand for oil affect local businesses in Texas, and how did Texas oil discoveries affect the national oil market?

TAKS Practice: Thinking Critically TEKS

1. **Evaluating** In what ways did the Spindletop strike lead to a boom-and-bust cycle in the oil industry?
2. **Summarizing** How did geographic factors such as natural resources affect the economy and politics of Texas?
3. **Drawing Inferences and Conclusions** What role did the desire for profit play in the growth of the oil industry in Texas?

Social Studies Skills Workshop

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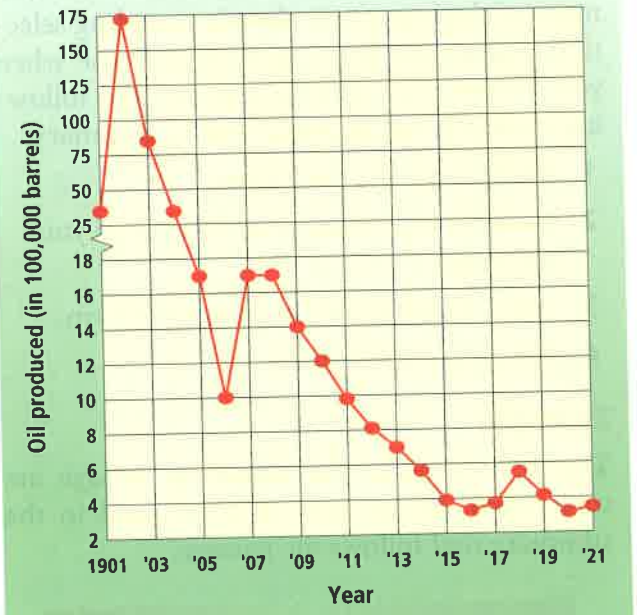
Interpreting Graphs TEKS

Study the graph below. Then use the information on the graph to answer the questions that follow.

Spindletop Oil Production, 1901–1921



Source: Carl Coke Rister, *Oil! Titan of the Southwest*

1. Approximately how much did Spindletop oil production change between 1902 and 1910?
   - **a.** dropped 16 million barrels
   - **b.** rose 16 million barrels
   - **c.** dropped 18 million barrels
   - **d.** rose 18 million barrels

2. Based on your reading of the chapter what do you think may have caused the change?

Analyzing Primary Sources TEKS

Read the following excerpt from an oral history of oil drilling as remembered by Electra resident E. M. Friend. Then answer the questions.

"Doc got hold of a little old spudding [digging] machine and got to drilling those shallow wells. . . . His old machine didn't amount to much. He kept it fixed up with bailing wire and anything he could get hold of. . . . And so his brother had a little money and his father had a little money. They kind of throwed in together and bought them a rotary drill. And they got some contracts and I imagine they were just about the luckiest drillers in the country. And they had the one rig, then they built it up to three or four. And when things got quiet in Electra, the East Texas field opened up and they went down there. And their luck still held good, by George."

3. What led to Doc's success as an oil producer?
   - **a.** using bailing wire on his old drilling machine
   - **b.** luck and buying new technology
   - **c.** drilling in many different regions at once
   - **d.** only drilling in Electra

4. Is this a primary source of the events in Electra or a secondary source? Explain your answer.

Alternative Assessment

Interdisciplinary Connection to the Arts TEKS

Imagine that you are an artist hired by the city of Beaumont to design a mural to celebrate the Spindletop strike. Be sure that your mural has captions that explain the chronology of the events, individuals, and issues that led up to the historic Spindletop strike. You might include images in your mural that reflect the political, economic, and social effects of Spindletop and the Texas oil boom that soon followed.

internet connect

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KEYWORD: ST3 TX23 TEKS

Access the Internet through the HRW Go site to research the impact of the oil industry on local Texas communities. Then create a poster or model that illustrates products made from petrochemicals, analyzes technological innovations in the oil industry, or evaluates the effects of those innovations on the use of resources such as fossil fuels, water, and land.