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THE DEVELOPMENT OF THE MEXICAN PETROLEUM INDUSTRY TO 1914

by

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ABSTRACT

In the first third of the twentieth century Mexico played a significant role in the history of oil. Large amounts of commercially profitable oil were first produced in Mexico in 1910 and by 1921 Mexico was the second leading world producer of petroleum, surpassed only by the United States. This rapid development was primarily accomplished by American and British entrepeneurs operating in a favorable economic and political climate until 1914 when revolutionary forces triumphed in Mexico and established new laws which the foreign dominated oil companies viewed as discriminatory and confiscatory.

Two men dominated the development of the Mexican oil industry from 1900 to 1914, Edward Doheny and Weetman Pearson. Doheny was an Irish-American and Pearson became an English lord but both realized the vast potential of Mexico's oil and overcame many obstacles to successfully exploit it. During a tumultuous time of political and social upheaval, the foreign oil companies created an extensive industrial complex in Mexico centered in the Tampico region. Despite the Revolution which began in 1910, Mexico was on the verge of being one of the world's major producers by 1914.
TYPOGRAPHICAL NOTE

Accents and tildes are not used in this text.
MAP OF MEXICO in 1914
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INTRODUCTION

If the nineteenth century can be characterized as the century of coal, the twentieth century must be called the century of oil. By the end of the nineteenth century the world was awake to the vast possibilities of petroleum to fuel the machines of a modern civilization. More efficient and transportable than coal, oil was the fuel of the future in 1900. In the first third of this century, as it does now, Mexico played a significant role in the history of oil. Although large amounts of commercially profitable oil were not produced in Mexico until 1910, by 1921 Mexico was the second leading petroleum producing nation of the world, surpassed only by the United States.

American and British entrepreneurs dominated the early development of the Mexican oil industry and benefited from the favorable economic policies of Porfirio Diaz, President and dictator of Mexico in 1900. The growth of the petroleum industry in Mexico was not without struggle and internal conflict. Jungles and deadly malaria hindered the early prospectors and vast sums of money were spent before success was assured. Rivalries between American and British oil men dramatized the speculative nature of the first years.

Coinciding with the first years of oil development was a tremendous social and political upheaval in Mexico. During this period the vast majority of the Mexican people lived in poverty and oppression, while a few of their fellow citizens and foreigners reaped the benefits of the country's wealth. The poor and alienated allied themselves against
the landowners, politicians, Church and foreign capitalists and revolted in 1910 shattering the surface tranquility of the previous thirty years.

Almost simultaneously with the first violence of the Revolution, profits began to flow to the foreign dominated oil companies. By 1914 Mexico's petroleum industry was a substantial complex with extensive facilities throughout the oil regions of the Gulf Coast. To the Revolutionaries petroleum was a part of the national wealth to be controlled for national goals. Just beginning to receive the benefits of ten years of costly investments in time and money, the foreign entrepreneurs resisted the efforts of Revolutionary Mexico to establish its sovereignty over the nation's subsoil.

Not until 1914 did the Revolution finally triumph and in 1917 the liberal Constitution fundamentally changed the rules under which foreign capital conducted business in Mexico. Foreign oil's struggle to operate under the principles of the Mexican Constitution proved unsuccessful and on March 18, 1938 President Lazaro Cardenas expropriated the foreign owned oil industry in Mexico. This twenty year conflict between the Mexican government and the foreign controlled oil industry has been well investigated and discussed. Volumes have been written about the background and ramifications of Cardenas' expropriation, but little has been written about the actual physical development of the Mexican petroleum industry in the years before the victory of the Revolutionary forces in 1914. This thesis seeks to begin to remedy that situation.
Two men dominated the development of the Mexican oil industry after 1900, Edward Doheny and Weetman Pearson. Doheny was an Irish-American and Pearson became an English lord but both realized the potential of Mexico's oil and overcame numerous obstacles to achieve success. After many setbacks both men began to profitably produce oil on a large scale in Mexico in 1910. During these years other companies joined Doheny's and Pearson's enterprises in the exploitation of Mexico's oil until, by 1914, Mexico was on the verge of being one of the world's major oil producers. This paper attempts to discuss chronologically the development of the Mexican oil industry to 1914 and to describe the political and economic environment in Mexico during that development.
Oil to 1900

Although the successful commercial production of petroleum in Mexico did not begin until after 1900, oil and its by-products have been known and used in Mexico since the days before the Spanish Conquest of Hernando Cortez. As in 1900, numerous seepages of petroleum dotted the Pre-Columbian Mexican Gulf Coast in a region beginning in the countryside outside of modern Tampico and extending to the area south of Vera Cruz. This one hundred mile strip provided the coastal Indians with bitumen and asphalt for cement in construction projects and a petroleum base for incense burned by the Aztecs during their sacred rituals.¹ The early Indians called the peculiar petroleum "chapopote" or "chapapote."²

The Spanish conquerors observed chapopote being sold in the great market in the Aztec capital of Tenochtitlan, the site of modern Mexico City. Friar Bernadino de Sagahun, a chronicler of the period, described chapopote as:

a bitumen which comes from the sea and is similar to Spanish tar, being easily decomposed. Upon certain fixed days according to the stage of the moon, it comes to the surface from the bottom of the sea. Those who live near the sea go out and collect it. This material is very odoriferous and is much appreciated by women. When burned, it gives off a great odor... This bitumen, mixed with copal or incense of the country... is a good incense.

Father Sagahun defined chapopote as an Aztec word derived from two terms: "tzauc," meaning paste or cement and "popochile," meaning perfume.⁵ For religious rites the Aztec priests mixed chapopote with
aromatic herbs and burnt the blend during ceremonies to their gods Quetzacoatl, Huitzilopochtli and Tlaloc. The Aztecs also considered chapopote to have curative powers and, as such, it was an important ingredient of medicinal creams and salves. So highly regarded was petroleum in Aztec medicine that their symbol for the goddess of healing was an elaborate pan of chapopote.

Another chronicler of the Spanish conquest, Bernal Diaz, noted the Indians used chapopote-treated wood for illumination in the coastal regions. These coastal Indians also caulked their canoes with the substance while other tribes chewed the chapopote, with these two uses of chapopote having continued into modern times.

Evidence of the early Indian uses of petroleum can still be found in the "ojos de chapopote," or oil mounds, lying along the Mexican coast. These mounds are the remains of Indian efforts to use asphalt and gas from the open springs of petroleum in the firing process during the manufacture of pottery. Some of the mounds are quite large and consist of broken pottery, burned shale, obsidian chips and broken tools.

Modern commercial usage of seepage oil in Mexico was first reported by Captain G. F. Lyon in 1826. Captain Lyon, the newly appointed Commissioner for the Real de Monte and Bolanos Mining Companies, was traveling to the interior of Mexico and spent five weeks in the vicinity of the newly founded village of Tampico. After proceeding up the Panuco River from Tampico, Captain Lyon in his *Journal of a Residence and Tour in The Republic of Mexico in the Year 1826* noted:

"Passing for some time the banks of San Pedro, we come to..."
the Estero de Chila, another extensive rancho, the cattle of which were either grazing or lying under the shade of the trees close to the water's edge. On this estate, at about three or four miles from the river, is a large lake, from whence I understand that the petroleum which is brought in great quantities to Tampico is collected. It is here called Chapopote, and is said to bubble from the bottom of the lake and float in great quantities on the surface. That which I saw at different times was hard and of good appearance and was used as a varnish, or for the covering of the bottom of canoes: the general price was four reals (half a dollar) for a quintal (one hundred pounds).11

No effort was made to market the oil produced from the seepages until 1857 when a group of merchants organized a company to build storage tanks for petroleum which flowed from a spring near their town of Macuspana in the Isthmus of Tehuantepec. The merchants were able to sell the oil to local natives who used it to light their homes. The merchants made a small profit but did not expand their efforts.12

After the world's first oil well was drilled in Pennsylvania by Edwin L. Drake in 1859, several groups of Mexicans attempted to exploit the numerous surface deposits of chapopote. The "Memoria de Fomento," or Records of the Interior Department of Mexico, noted in 1865 permission was given to Don Idelfonso Lopez to exploit deposits of "petroliferous substances" on the Hacienda de las Rusias near Soto de la Marina, a small port north of Tampico.13 Similar permission was granted to another Mexican citizen in 1865 to develop the chapopote at Carancitos on the Hacienda de Bejarano in the state of Tamaulipas.14 In 1868 the United States consul at Minatitlan reported to the State Department that petroleum existed in almost unlimited quantities on the Isthmus of Tehuantepec and the consul suggested that American oilmen investigate the area. According to the consul, it was not uncommon that
petroleum frequently formed small lakes on the surface of the countryside.

Also, in 1868, Dr. Adolph Autrey, "an excellent and well respected" physician from Ft. Bend County, Texas, became interested in the oil seepages around his cotton farming property at Papantla in the state of Vera Cruz. At the Cougas Springs Dr. Autrey found the remains of primitive Indian works surrounding several large exudges of oil. Dr. Autrey built distilling equipment at his home in Papantla and carried oil by mule from the springs to the distillery. Periodically, Dr. Autrey would refine kerosene which found a ready market in the local towns and villages.

Due to Dr. Autrey's activities several local, wealthy Mexicans became interested in the land around the Cougas Springs not controlled by Dr. Autrey and formed the "Compania Explotadora de Petroleo del Golfo Mexicano: to exploit the area. Refining and drilling equipment was imported from the United States and a three inch well was driven to a depth of 125 feet. This well produced an unprofitable three or four barrels of oil a day and, in an effort to increase production, a tunnel was driven into a hill near the largest seepage of the well. Although an additional four or five barrels of oil per day were produced, only some two hundred cans of refined petroleum were eventually obtained from the well site. Poor management and low production caused the company to fail soon.

Petroleum indications at Chapo and San Cristobal along the Rio
Coachapan in the Isthmus of Tehuantepec were described by the naturalist, John Spear, in 1872. The following year several groups of Tampico residents began to work seepages along the Tamesi River, but these attempts, poorly organized and financed, were quickly abandoned. During the same period efforts were made to mine the asphalt deposits in Tamaulipas near Portrero del Cristo and to transport the asphalt by barge to Tampico. Navigational problems made this venture unprofitable and it was discontinued.

Petroleum indications at Papantla, Tuxpan, Tantoyuca, and Ozuluana in the Vera Cruz region interested a John Foster in 1878. In reply to Foster's inquiries, the Secretaria de Hacienda reported on January 15, 1879 the

Existence of petroleum in El Chapopotillo, Mpio. of Panuco, Canton of Ozuluama: in Laguna de Chila; in El Alamo; in Cerro La Pez; . . . in Tantoyuca in the Paso del Capadero. . . . in Tuxpan . . . . in Cerro Chapopote. . . . in Papantla. . . . the Arroyo Coapechapa. . . . Canton of Minatitlan. . . . at Chacalapa. . . .

Chapopotillo, La Pez, Capadero, Coapechapa, and Chacalapa are all variants of Indian words for the physical states of petroleum.

A New England syndicate known as the Boston-Mexican Oil Company made the most ambitious effort to commercially produce oil during this period. In 1876, George Glidden, a Yankee sea captain, settled in Mexico and became interested in the surface pools of petroleum near Tuxpan. By 1881 Captain Glidden had claimed two thousand acres in the area but died before he could develop the property. His widow sold the claims, which consisted of four haciendas, to the Boston-Mexican Company. The Boston-Mexican Company found the property extremely attractive for investment although the local ranchers through the
petroleum seepages a hindrance to ranching and agriculture. So pro-
fuse were the springs in the area that "great lakes extending for a
distance of a mile through a depression in the soil fifty feet in
width filled with viscous petroleum" endangered the local cattle and
crops. 32

Two wells were drilled by the company to a depth of four hundred feet,
but the slight flow of oil produced contained large amounts of gas
making further production unprofitable. 33 After spending additional
capital, the company decided to suspend operations although their wells
were profitably put into production by a later English company after
the turn of the century. 34

Between 1885 and 1889 success eluded other companies and individuals
who sought to tap the petroleum deposits of Mexico. 35 During this
period the local Indians and residents relied on age old methods of
dealing with the oil exudes. In many districts the natives set fire
to the petroleum pools three or four times a year to prevent overflow
danger to livestock and agriculture while others used crude equipment
to distill oil for lighting and medicines. Asphalt washed ashore at
Tuxpam was sold for export to Hamburg, Germany at four dollars a hun-
dred weight and at the end of the nineteenth century the asphalt de-
posits two miles north of the Tuxpam River were being commercially de-
veloped by local businessmen who floated the asphalt down the river
sixty miles to the port for export to the United States.

Although the commercial production of petroleum in Mexico was largely
unsuccessful during this early stage, Mexico's need for oil was growing due to the expansion of the railroads and industry in the country. To meet the increased need the Waters-Pierce Company of St. Louis, Missouri established itself in Tampico in 1887. As a subsidiary of the Standard Oil Trust, Waters-Pierce's purpose was not to work the Mexican deposits, but rather to control the importation and distribution of oil in Mexico. To supply its main customers, the railroads, the company built a refinery in Tampico. Until 1906 Waters-Pierce had the only refinery in Mexico and controlled a virtual monopoly in the distribution of petroleum products in Mexico.

In 1839 the oil deposits of the Mexican Gulf Coast interested two noted geologists in Austin, Texas, Josiah Owen and Dr. E. T. Dumble. Owen made a trip down the east coast of Mexico as far as Tuxpam and sent back samples and reports to Dumble. The two were encouraged, but waited until 1899 to take steps to contact potential investors. They contacted the president of the Southern Pacific Railroad who declined participation as he thought the potential oil lands were too far from existing Southern Pacific operations to be worthwhile.

As early as 1887 the British Foreign Service reported to its government the existence of large petroleum deposits in Mexico, but eleven more years elapsed before the first British efforts were initiated to drill in Mexico. In 1898 George Jeffrey, one of the early prospectors in the Peruvian oil fields, obtained a lease on lands a mile from the village of Panuco, southwest of Tampico. Equipment was ordered from Chicago and four thousand pounds were spent before drilling
started in 1900. Jeffrey's company, the Oil Fields of Mexico, Ltd., remained in independent production until 1911, but the firm never showed a profit on its laboriously wrought yield.\textsuperscript{42}

Almost simultaneously with the starting of Jeffrey's company, the famous English empire builder, Cecil Rhodes, backed a venture seeking a concession to exploit oil lands near Dr. Autrey's Papantla property.\textsuperscript{43} This organization was called the Mexican Petroleum and Liquid Fuel Company and incorporated in 1899 with paid-up capital of almost thirty thousand pounds.\textsuperscript{44} Although the company drilled twenty-four wells, some to a depth of fifteen hundred feet,\textsuperscript{45} no significant strike was made. After spending far more than its initial capital, the company dissolved in 1901\textsuperscript{46} and left behind much abandoned equipment.\textsuperscript{47}

These early and unsuccessful attempts to develop the petroleum wealth of Mexico were prompted by the accelerating pace of oil use after the success of the Drake well. Both in the United States and Europe, technological advances motivated a search for oil deposits and prompted increased production of petroleum to fuel the machines of the future. In the United States new fields were discovered in West Virginia and Kentucky in 1860 and in 1861 oil was exported to Europe. In 1867 oil was first used experimentally for steam locomotives and the first specifically designed ocean going oil tanker launched in 1870 with a capacity of 794 tons.

America started its love affair with the automobile in 1879 with George Selden's patent application for an internal combustion engine.
driven vehicle. In Germany Gottlieb Daimler developed an operating automobile in 1887 and by 1889 gasoline was powering tractors. Charles Duryea of Springfield, Massachusetts mounted a one cylinder engine on a buggy to produce the United States' first gasoline powered automobile in 1893 to be followed in 1900 by the country's first automobile show in New York City.

Elsewhere, the United States was joined by other nations in the production of oil during the later third of the nineteenth century. The Baku region of Russia's Caspian Sea territory became a large producer and Rumania reached commercially profitable production. Also, oil was gaining its adherents for military use. As early as 1882, Sir John Fisher, later Admiral of the Fleet Lord Fisher, believed oil instead of coal would greatly increase the fighting capacity of British naval vessels.

A revolution in rail, road, and sea transportation was under way by 1900. Oil was needed for industry and war in the coming years of the twentieth century and the pioneers of the petroleum industry were seeking new sources of oil throughout the world. Although efforts to produce oil in Mexico had proved unsuccessful during the last half of the nineteenth century, the "bad lands" of the Mexican jungles still oozed with petroleum as the century of coal ended.

Porfirio Diaz and His Policies

Although the subsoil of Mexico contained the petroleum sought by the world, the development of Mexico's oil industry was accomplished
largely by foreigners. These foreigners had to work within the social, political and legal systems that existed in Mexico during the early part of the twentieth century. These systems were the results of the policies and desires of Porfirio Diaz, dictator of Mexico from 1876–1911. Diaz desired foreign investment for his country and established policies that created a favorable environment for that investment but, unfortunately, many of his actions eventually antagonized and harmed his people.

Diaz was born in 1830 the son of a prosperous innkeeper in Oaxaca in the south of Mexico. He was of mixed Spanish and Indian descent, a mestizo, his grandmother being a member of the prominent Mexteca tribe. Although Diaz was not born into the ruling elite of Mexico, his military ability enabled him to reach an early prominence.

Following the final defeat of General Lopez de Santa Ana, the infamous victor of the Alamo and a periodic strongman of Mexico, Diaz fought with Benito Juarez' Liberal forces against the entrenched Conservative faction. The defeat of the Conservatives in 1861 was short-lived as the French intervened in 1862 causing five years of bloody civil war. Faced by defeats in Mexico, harried in Europe, and pressured by the United States, France abandoned her puppet Austrian emperor and withdrew from Mexico. During the hard war against the French and their allies, Diaz distinguished himself in numerous battles. The war over, Diaz resigned his command and returned to his hacienda in Oaxaca.

Restless in retirement, Diaz chafed under the guidance of the civilian
leadership of Juárez. In 1872 he ran for president against Juárez and came in a strong second. Dissatisfied with the election results, Díaz mounted an unsuccessful revolt and was captured. After Juárez unexpectedly died the new interim president paroled Díaz who returned to Tlacotalpan, Oaxaca where he opened a carpenter's shop. In 1876 Díaz again revolted against the civilian government and triumphed over the federal forces at the battle of Tecoac in "brief but sharp fighting." Díaz made himself president but in 1880 he superficially adhered to the principle of no-reelection and handed the presidency to his follower, General Manual González. In 1884 Díaz resumed the office and did not relinquish it until he was driven out in 1911. The constitution was amended to allow re-election and Díaz soon became an absolute dictator:

His will is all powerful, as great, in fact as that of a Tsar and Pope combined. He is a monarchial ruler...He controls millions with a hand of iron...he is a despot.

Despite Díaz' dictatorial methods, many notable things were accomplished in Mexico during his years of rule. Although Mexico is a quarter the size of the United States, in 1876 there were only 267 miles of railways in the country running from Vera Cruz to Mexico City. Modern communications were almost non-existent and the land was dominated by bandits and turmoil. Díaz applied a firm hand and quickly controlled the lawless and those who opposed his one man rule. Except for a few initial military movements against him, the "dominant characteristic of the next forty-odd years was, comparatively speaking, blissful peace." This climate of peace greatly facilitated the influx of foreign capital and presented to the world an aura of stability
in Mexico.

Although the reform movement of Juarez, and fought for by Diaz, sought democracy and economic advance for all of the Mexican people, Diaz sacrificed democracy for his version of economic advance. Diaz's early policy of governing was "little politics, much administration" and this soon evolved into "zero politics, one hundred percent administration." Diaz and his subordinates knew the best path for the nation and those who opposed Diaz, opposed progress for Mexico. Diaz imprisoned his opposition, suppressed public debate, rigged elections, ignored the anticlerical provisions of the 1857 Constitution, and appeased the large, wealthy landowners. The support of the military was insured with trappings of military splendor and power beyond that consonant with a "democracy."

His power consolidated and safeguarded, Diaz moved to develop Mexico as he thought the United States had been developed. Since Mexico lacked sufficient capital he invited foreigners to invest in the country. Diaz realized that a country's progress largely depended on its facilities for transportation and communications, therefore, in 1877 he began to grant concessions for railroads and telegraphs. By the late 1880's Mexico had the sound beginnings of a nation-wide network of rail transportation and telegraphic communication. These concessions, especially to the railroads, allowed generous subsidies and the duty free importation of necessary materials and equipment.

Tiring of the direct management of the economy, Diaz in 1893 gave the
day to day control of the government's economic policies to Jose Ives Limantour. Limantour was an intelligent, cultured man who believed in allowing experts to run the government and his experts were young men who disdained the liberal teachings of Juarez. This group, the "Cientificos," were positivists who believed in the virtue and power of science and the importance of materialism. Under their direction more railways, harbors, mines, and factories were built. Public utilities were expanded, the Valley of Mexico drained, and the nation's income soared. These Cientificos constituted a new and burgeoning bureaucracy and believed no ordinary Mexican could "approach the President without their help." The Cientificos' credo became the hallmark of Mexico's industrialization: foreign knowledge, foreign capital, foreign skills.

Despite the aims of Diaz and the hopes of the Cientificos, foreign investment and involvement did not transform the economy. Although Diaz guided the economy, foreigners controlled it. The railroads were almost totally dominated by the Americans and British in 1900. Americans and Spaniards owned great tracts of land while the British ran the utilities and the French the textile industry. Even the Chinese, first imported as coolie labor for the mines and railroads, had become by 1900 a significant element in the shopkeeping class. The wealth created by these enterprises benefitted only the upper classes of Mexico and the gap in the country between the rich and poor widened. The glittering electric lights of Mexico City did little to illuminate the blackness endured by the toiling peons. While the sophisticated banking system held the profits and reserves of the foreign capitalists,
the few pesos of the common people were spent for life's necessities.

The Evolution of Mexican Mineral Law

Diaz' economic policies did little to better the living standards of the masses of Mexico but did much to promote foreign investment. Diaz also manipulated the legal system and the legislative process to promote foreign investment. In no sector of the economy was this more apparent than in Diaz' policies concerning the land and subsoil resources of the nation. To stimulate foreign investment Diaz altered traditional laws concerning the subsoil and legislated measures that led to increased inequity in Mexico's economic system.

To New Spain the Conquistadores brought their own concepts of land law and tradition. Based in Roman law, the Spanish recognized individual ownership of both the surface and sub-surface estates. Although private ownership of the subsoil was recognized in early Spanish law, the Castillian ruler, Alphonso XI, declared in the early thirteenth century that all mines of any metal were the property of the crown and could not be worked without license or grant. Don Juan I in 1387 modified the earlier law by decreeing that the owners of the surface of the land could exploit the subsoil freely, but that two-thirds of the wealth removed was the property of the king. These laws were extended to Mexico and amplified by Charles V in 1523 in the Laws of the Indies:

Lands must be properly marked out, and the house must be lived in. . . the lands must be cultivated, platted with trees and cattle placed thereon. . . under forfeiture of the grant. . . plus a certain return in money [to the crown].
In New Spain the ultimate title to all land was in the sovereign who could grant the land to individuals while still reserving the subsoil to the crown. In Mexico the gold and silver deposits prompted many people to test the laws of the Spanish king so in 1578 Phillip II decided to clarify the crown's ownership of the land and subsoil declaring both to belong to the "royal patrimony." Phillip only excepted grants from previous rulers of the homeland or those he bestowed.

In the eighteenth century the Spanish kings began to make a distinction between metals and hydrocarbons, specifically coal. The Mining Code of 1783, which applied to New Spain, placed all subsoil minerals together and under ownership of the crown, individually noting coal. In legislative changes in 1789 and 1792 the position as to coal was reversed and the ownership of coal was "incorporated into the property of the surface owner." The two changes did not state they were to apply to New Spain and opinion is divided as to whether they effected the ownership of coal in the colonies of the Western Hemisphere. After Mexico's independence from Spain in 1821, the Treaty of Peace and Amity between the two countries in 1836 transferred the past rights of the Spanish crown to the Mexican nation.

Throughout the tumultuous period preceding Diaz' presidency, the principles of sovereign ownership and control of the nation's land resources remained. The liberal Constitution of 1857 reiterated these concepts: "In the nation is vested direct ownership of all minerals, solid and liquid or gaseous." Porfirio Diaz wanted foreign capital but the European and American investors demanded direct individual ownership of
the land and subsoil before putting their money into Mexico. Additionally, the railroads needed coal and the old laws were bothersome and disconcerting to the foreign entrepreneurs. In 1883 Diaz decided to remove the causes for the capitalists' fears and the 1857 Constitution was amended to give the national government the power to "promulgate laws obligatory throughout the republic, relating to mining and commerce. . . ." In 1884 Diaz broke with the traditional Spanish-Mexican principle relating to the ownership of the subsoil:

Foreigners may acquire mining property on such terms and with such limitations as the laws of the Republic grant them the capacity to acquire, own and transfer ordinary property. . . .

The following substances are the exclusive property of the owner of the land, who may therefore develop and enjoy them, without the formality of entry or special adjudication; . . . salts found on the surface, fresh and salt water, whether surface or subterranean; petroleum and gaseous springs of warm or medicinal water. In order to develop these substances the owner of the land shall subject his operations to all rules and orders of a police nature.79

Future Mexican nationalists interpreted the 1884 law as maintaining the nation's ownership over the subsoil and allowing the landowner merely to tap the liquids beneath the surface.80 A second law in 1892 gave some support to this view as the law used words which indicated the nation retained sovereignty over the subsoil.

Art. 4. The owner of the soil may exploit freely without the necessity of a special concession in any case the following mineral substances: Combustible minerals, oils and mineral waters. . . .81

Until 1901 no further laws concerning the subsoil were enacted, but in December of that year the first Mexican law dealing solely with petroleum was promulgated. This law did not discuss the ownership of the
subsoil but was concerned with concessions for the development and ex-
ploration of the nation's petroleum. The law gave the chief execu-
tive the power to issue permits for the exploration and drilling on
national lands and waters for the purpose of discovering oil and gas
deposits. The concessionaires enjoyed certain exemptions under the law:

1. Exportation, free of all duty, of the natural refined
   or finished products resulting from their exploitation;
2. Importation, duty free, of the initial lot of requi-
site materials and machinery for any new well, pipe
   line or refinery;
3. Exemption of invested capital and capital goods of ex-
   ploitation for ten years from all federal duties, ex-
   cepting the stamp tax; and
4. Continued enjoyment of the provisions of Article 4 of
   the Mining Law of 1892 relative to free exploitation
   without the need of special concessions.

A third mining law was adopted in 1909 reiterating that certain sub-
stances such as petroleum were the exclusive property of the surface
owner. This law was enacted when the commercial value of oil in Mex-
ico was proven and was intended to sustain the principles of the law
of 1884. Thus, the position of the Diaz government was clarified:
the subsoil petroleum of the nation belonged to the surface owners.

**Mexican Conditions Circa 1900**

If the benefits Diaz' policies had percolated to the lower classes, the
Porfiriato may not have fallen in 1911. The advantages of the economic
climate and the new wealth created during the period usually bypassed
the poor and powerless. The beginning of the twentieth century was the
eve of the great oil development in Mexico and was a time when the mas-
sive complaints which were to erupt in revolution in a decade were ger-
minating throughout the country.
Land hunger was increasing in Mexico in 1900 and Diaz' policies did much to acerbate the problem. Although each of Mexico's revolutions preached land reform, reform was soon discarded and new abuses established. Juarez advocated land for the peons; Diaz enacted laws that enabled the powerful to obtain land at the expense of the peon.

Diaz' opening sally against the small landowners and the communal property of the Indians was the Survey Law of 1883. To induce the surveying of the national lands without cost to the government, the law granted to the surveyor one-third of the lands examined, the one-third to be selected by the surveyor. Within nine years 100 million acres of so-called "terrenos baldios" were canvassed with the surveyors selecting their one-third and another 40 million acres being sold at low prices to wealthy individuals and companies.

In 1894 the provisions of the first Survey Law requiring colonization and limiting the size of purchases were eliminated. Within months an additional area the size of California was divested. Mexico got in return for these extensive public lands a poor survey and about 3 1/2 cents an acre. Foreign interests eventually owned much of the land. The United Sugar Company obtained 150,000 acres in Sinaloa, the Richardson Construction Company 600,000 acres in Sonora, and the Hearst estate in the northwest of Mexico was alleged to contain over one million acres, much of it former terrenos baldios.

These survey laws led to much fraud and wrongdoing against the peons. Occupied lands were surveyed and declared vacant although the property
had been inhabited for generations. Courts and laws offered little relief. Thousands of poor and powerless peons were frustrated by the "costly judicial process and notorious favoritism of the courts" and were forcibly evicted from their land.

Indian communal land was not immune to avarice of the powerful, although the 1857 Constitution sought the "development of a sturdy peasant class." Diaz' administration perverted this goal to justify the splitting of the communal holdings among the individual Indians who were given title to the land. Then, unscrupulous buyers would purchase the titles from the usually illiterate Indians who were ignorant of the significance of the legal documents. If the Indians resisted eviction they were given a choice—move under threat of force or work as a debt-or to the new owner!

Frustration, poverty and an accentuated land hunger were the results of Diaz' land policies. In the heavily populated central region of Mexico the great haciendas existed side by side with communal villages struggling for existence. Along the petroleum bearing Gulf Coast small farmers and ranchers, ignorant of the worth of the oil beneath their lands, sold their holdings for a fraction of their potential worth. Authorities have estimated that by 1910, 834 men controlled one-fourth of the land in Mexico during a period when 80 percent of the population was agrarian, three-quarters of those existing in debt peonage.

Industrial workers fared little better under the Porfirian methods of economic advance. Although real wages did not begin to decline until
working conditions throughout Mexico were distressingly poor. Twelve hour days for men, women and for the extensively used child labor were normal. Low salaries and mandatory company stores robbed workers of decent living standards while laws forbade effective labor organizations. Class elitism insulated the higher classes from guilt for the harsh conditions endured by the masses of the country. The Porfirian heirarchy completely dominated the political life of Mexico and prevented the workers and peons from petitioning for improvements.

Even solace and aid from the Catholic Church was denied to the poor and deprived. In return for Diaz' lax enforcement of the anti-clerical provisions of the 1857 Constitution, the Church remained silent. Priests forbidden to wear clerical robes were allowed to don tall black hats\textsuperscript{94} as they walked with their eyes closed to the depredations of the regime. The Church did little to alleviate the poverty and social inequality in the country preferring to let "rags and religion" walk side by side throughout the villages and towns of Mexico.\textsuperscript{95} The bishops of the Church chose silence rather than confrontation with the President.

While the vast majority of the Mexican people toiled in drudgery and poverty, the native beneficiaries of the exploited wealth of Mexico lived days of high civilization, great refinement and endless leisure.\textsuperscript{96} The higher class society was dominated by "malinchismo," or the love of anything European.\textsuperscript{97} Educated in England or France, the aristocratic elite had contempt for the lower classes\textsuperscript{98} believing they desired and deserved their meager existences through a basic
lack of intelligence or ambition to better themselves. 99

Unfortunately for the rulers of Mexico in 1900, the superficial prosperity of the country was creating a new group of educated men. These young men were the sons of the middle and lower classes who had been trained as lawyers, doctors and engineers. European in their attitudes and envious of the glitter of upper class society, these men were eager to participate in public life as officials, judges or legislators, but they found the positions closed to them by birth and privilege. Foppish sons of the aristocratic old families and old men appointed during the early days of the Porfiriato filled the posts and had no desire to be replaced. 100 The young professionals became bitter and many of the ideas that destroyed the Porfiriato were the products of these intelligent and disaffected men.

According to the Mexican census of 1900 the country's population was 13,605,819, about equally divided between men and women. Nineteen percent were white or nearly so, forty-three percent mestizo and thirty-eight percent Indian. The foreign population numbered over 100,000 of whom 30,000 were Americans, 20,000 Spanish and some 5000 English. 101 The 100,000 foreigners and a small number of the whites and mestizos were allied in dominating the economy while the rest of Mexico seethed with discontent. The small farmers and peons burned with land hunger while the industrial workers existed in urban squalor. The middle classes and young professionals were frustrated by the immobile and structured society in which the political and legal systems benefitted only the powerful. In the midst of such conditions, the great oil
dynasties of the American, British, and Dutch companies grew and flourished from 1900 to 1914.
Edward L. Doheny

Edward Laurence Doheny was the first man to profitably produce oil on a large scale in Mexico, but his struggle to do so was long and arduous. An unlikely looking entrepreneur, Doheny was a small man with a thin, almost shrill voice and a florid, round face characterized by metal rimmed glasses and a full mustache. Although Doheny became extremely wealthy during his life, he described himself simply: "I am just an ordinary, old-time, impulsive, irresponsible, improvident sort of prospector." 

Born in Fond du Lac, Wisconsin in 1856, Doheny was the son of an Irish immigrant father and an Irish-Canadian mother. After graduating from high school at fifteen, he joined a survey-party going to Oklahoma. From Oklahoma Doheny went to New Mexico with a government mule buyer where he bought and broke horses. During this time Doheny decided to become a prospector and developed his lifelong habits of abstention from alcohol, tobacco and gambling. The life of a prospector was lonely and dangerous and Doheny carried a disfiguring scar on the left side of his face as a result of a mountain lion attack.

After studying books on metallurgy and geology while snowed in one winter in the Black Hills of Dakota, Doheny decided to go to Arizona, a trip of over eight hundred miles through vast deserts and a country populated only by Indians. In Arizona he made his first profits as
as a prospector and in 1880 returned to New Mexico where he discovered the Black Range mining district. Within three months a town of five thousand developed with telegraph and railroad connections. Doheny sold his claims for thirty thousand dollars and duplicated his success at Kingston, New Mexico with a silver placer mine. He was not yet twenty-five years old and possessed a fortune of one hundred thousand dollars.

After Doheny's early prosperity, bad luck seemed to snare him while he was wandering around an old mine. He fell down a 120 foot shaft breaking both legs, but even this experience was put to good use by Doheny. While recuperating in the hospital, he read law books and after six months of study joined a law firm as a practising partner. The law proved too tame for the prospector and Doheny entered a streak of unsuccessful businesses. He gold mined in the Mojave Desert, shipped rich fluxing ores from Mexico to the United States, and opened the first cyanide plant in North America. These failures reduced his fortune to one thousand dollars by 1892.

The next year Doheny was in Los Angeles when his luck once again turned. Fortune came this time in the form of oil -- oil from beneath the streets of the City of Angels! Doheny later related how he made the discovery that many others had overlooked:

I was living at a small hotel in the western part of Los Angeles. One day I noticed a wagon-load of brown material that looked like the manganese ores I used to mine in New Mexico. I took a handful and found it was tarry and greasy. I asked the negro driver what it was. "It is breer," he replied. That was his crude way of pronouncing "brea," the Spanish word for pitch. "Where does it come from?" I asked. "From near West Lake Park," he told me.
I immediately jumped on a street car. I found the place without difficulty. Examining it I discovered tar exudes which, mixing with the soil on the surface, made a tarry product. This, I learned, was being used in lieu of coal in several small manufacturing plants.

My heart beat fast. I had found gold and I had found silver, but this ugly-looking substance I felt was the key to something more valuable than any or all of these metals. . . Without ever having seen an oil district or an oil derrick. . . my natural prospecting instincts told me that these tar exudes bore the same relation to the petroleum below that the resin on the outside of a pine tree bears to the more limpid sap within. I felt sure that by drilling to the source of these exudes I would develop a supply of petroleum. The only damper on my feeling of elation over my discovery was the reflection that these exudes were in the midst of a city of 100,000 and less than thirty miles from where successful oil wells were being worked by three well-known companies. It was almost incredible that the possibilities of this spot had not been recognized by people connected with these nearby companies. The whole thing seemed too good to be true; yet I felt it was true.

Doheny quickly contacted his old partner from his New Mexico days, Charles Canfield, and began to explore the city for other possible exudes. The two selected a spot about a mile from the first location Doheny had examined and bought it for four hundred dollars. With just two helpers, the prospectors started to dig a shaft as if they were digging for gold or silver. At 155 feet the crew hit oil-soaked shale which was emitting deadly gas. Realizing the danger, Doheny used his ingenuity once more:

Dimly recollecting having seen artesian wells being dug in Wisconsin during my boyhood days, I cut down a eucalyptus tree sixty-feet high and made a pole, and began laboriously to worm its point down through the bottom of the shaft. . . Suddenly gas spewed out and oil flooded the shaft to a depth of ten or fifteen feet in a few moments. . . I felt like a millionaire.

Although the thick petroleum was not readily marketable, Doheny convinced a local pipe manufacturer to coat his pipes in the oil.
Meanwhile, using crude methods he and Canfield drilled more wells. Others began to drill for oil in Los Angeles but while his new competitors failed, Doheny survived by guaranteeing businesses a twenty-five percent savings in fuel bills over their coal costs.  

With his accumulated capital, in 1898 Doheny developed the Fullerton District of California and began the rich Bakersfield District. During this period the Southern Pacific and Santa Fe Railroads converted their locomotives to oil and Doheny's company obtained the huge Santa Fe contract for fuel. By 1900 Doheny was the leading producer of oil in California and had an income of over $500,000 per year.  

During Doheny's negotiations for the Santa Fe fuel contract he met A. A. Robinson, the president of the Mexican Central Railroad who had surveyed and built the Santa Fe line from Kansas to the Pacific Ocean. In 1889 Robinson had gone to Mexico to manage the Mexican Central which had a branch line running to Tampico, then a "malarial village beside a beautiful river and gifted with a fine harbor." Although the harbor was blocked with sand bars, Robinson realized the potential value of the port to his railroad. Robinson had his engineers clear away the sand bars and build protective jetties making Tampico a first class seaport. Noting the numerous oil exudes in the Tampico area along the railroad right-of-ways, Robinson considered the feasibility of converting Mexican Central's locomotives to oil fuel as had been done with the Santa Fe's engines. If oil could be produced in sufficient quantities, his railroad would not be dependent on the scarce, poor quality coal of Mexico.
Robinson remembered Doheny's and Canfield's reputations as prospectors "willing to take a chance" and in early 1900 invited the two to Mexico to explore the coastal regions surrounding Tampico. Canfield and Doheny were aware of the many failures in oil production and development in Mexico, but the two were always ready for a challenge, especially when Robinson offered them a private railroad car for the two thousand mile trip from Los Angeles to Tampico.

Accompanied by a private cook and porter, Doheny, Canfield and A. P. Maginnis, a prominent California railroad official, arrived in Tampico after a six-day journey. As they neared the coast the prospectors first viewed the magnificent Tamasopo limestone which formed the eastern shoulder of the great central mesa of Mexico. The coastal plain beneath the Tamasopo was called "La Huasteca," after an Indian tribe that once lived in the area. The Huasteca plain was covered with dense, tropical vegetation and was virtually uninhabited. It was a country totally unfamiliar to Doheny and Canfield and the two were "filled with misgivings" about their venture.

Within a few days of their arrival in Tampico, the prospectors started their explorations accompanied by native guides and a burro train of supplies. At first the inhospitable jungle only offered the party heat and insects but at a location about thirty-five miles west of Tampico, the group discovered a small exude. Then, about five miles south of the Mexican Central station at Auza, they found a place called Cerro de la Pez, or hill of tar. Every obstacle was immediately forgotten upon viewing a scene Doheny later described:
The sight caused us to forget all about the dreaded climate, its hot humid atmosphere, its apparently incessant rains, those jungle pests the pinolillas and garrapatas (wood ticks), the dense forest jungle which seems to grow up as fast as cut down, its great distance from any center that we could call civilization and still greater distance from a source of supplies of oil well materials -- all were forgotten in the joy of discovery with which we contemplated this little hill from whose base flowed oil in various directions. We felt that we knew and we did know that we were in an oil region which would produce in unlimited quantities that for which the world had the greatest need -- oil fuel.

Although Doheny and Canfield were enthused by Cerro de la Pez, they realized the difficult requirements for successfully exploiting oil in Mexico. Besides finding the oil and drilling producing wells, Doheny and Canfield had to settle an industrial population, lay pipelines, create shipping facilities and find markets. Tampico was an excellent port but had no refineries except the small Waters-Pierce plant. Nevertheless, Robinson offered to use any oil Doheny found to fuel the Mexican Central and committed the railroad to aid in the construction of transportation facilities. Robinson assured Doheny that the investment policies and laws of Mexico favored oil exploration and exploitation and that he would introduce Doheny to the necessary influential people. Doheny and Canfield decided to continue their efforts.

Using maps supplied by A. V. Temple, the industrial commissioner of the Mexican Central, the prospectors soon discovered numerous other possible well sites. Doheny and Canfield determined that the best plan was to gain control of as much land as possible before beginning serious drilling activities. The oil prospectors had a ready-made guide through those lands; from the Rio Grande to the Guatemalan border "the Mexican coast was sprinkled with towns and hills whose names meant tar or pitch:
El Chapopote, El Chapopotal, Chapotillo, Ojo de Brea."  

For almost one year the two excited explorers scouted the region buying as much land as they could. By foot and horseback they located the most favorable seepages and within months had bought a total of 450,000 acres at prices ranging from sixty cents to several dollars per acre. These were high prices to many of the astonished native owners who thought the petroleum a nuisance. Later antagonists argued that Doheny and Canfield took advantage of guileless and illiterate Indians and received the aid of the corrupt Diaz regime in their purchases; nevertheless, the two oil men dealt with many sophisticated, large landowners who thought the Americans were foolish to buy worthless land.

Doheny organized the Mexican Petroleum Company of California in 1901 capitalized at ten million dollars; and reportedly, half of the capital was for land purchases and security for long term payments. The 450,000 acres purchased were contained in several large lots and numerous smaller holdings in an area bounded in the north by the Soto de la Marina River and running westward along the Panuco River from Tampico. In this area the company located many indications of oil similar to those at Cerro de la Pez. The purchases included the huge Hacienda of Capacao in Tamaulipas and the even larger Hacienda El Tulillo lying near the junction of the states of San Luis Potosi, Tamaulipas, and Vera Cruz. In the next two years additional purchases gave the company a total of 600,000 acres.

In February, 1901 the new company quickly began establishing its base
at Ebano the name given to the Cerro de la Pez facilities. The name Ebano was chosen because of the large ebony forest in the vicinity.\textsuperscript{40}

The jungle was cleared and shops, warehouses, living quarters, and storage facilities built at the site. The first well was started nearby in March 1901 and drilling commenced on May 1st. Doheny and Canfield had fully committed themselves to the Cerro de la Pez location and had obligated a great deal of money. Yet their confidence was based on more than intuition and hope as Doheny later explained:

The question naturally arises on what did we base our belief that there was oil to be found in commercial quantities in this region, seldom if ever before visited by oil prospectors. The Cerro de la Pez, as well as Chijol, with their active exudates, the gas continually coming to the surface, the hill of material different from that of the surrounding country, the evidence of oil oozing along the contact between the formations of which the hill was composed, and the sedimentary formations which abutted against it, the exposures of the strata along the railroad cuts from the mountains down to the vicinity of these exudates, giving evidence of the nature of the rock formation for many thousands of feet in depth—all led us to the inevitable conclusion that this oil found its home or origin in the upper surface of the Tamasopo limestone or in the more thinly stratified limestones and shales overlying it, and that these exudates merely marked the places where the Choy formation, or Mendez shales, were fractured and dislocated so as to permit the flow of the oil to the surface.

Oil, being a liquid, is subject to the same influences whether the original oil-containing rocks are strata of porous sand formations as in California, or the honeycombed, thick-bedded limestones, as here in Mexico. The pressure of the superincumbent strata, capillary attraction, gas pressure and hydrostatic pressure all tend to draw or force the oil from its original receptacle upward to the surface along every line of least resistance. And here in Mexico the evidence was convincing that the conditions were favorable for the storing of immense quantities of oil.

Attempts had, in the past, been made to discover oil in paying quantities in Mexico. Everywhere these efforts were unsuccessful. No drilling had ever been done, however, north of Cerro Viejo, which lies about eighty-five miles south of Tampico. The territory in which we began our development was virgin.\textsuperscript{41}
On May 14th oil was struck at 545 feet and the pressure of the flow was so strong that the tools were lifted off the bottom interrupting drilling for several days. Although this first well tapped a shallow pool and produced only fifty-five barrels a day, Doheny and Canfield were encouraged.

During the next two years other wells were drilled and produced small amounts of oil but Doheny and Canfield had spent three million dollars and obligated a like amount without significant return. Finally, in 1904 the company brought in the first large Mexican well at Ebano which produced one thousand barrels a day, a profitable amount. With the new production the company was able to fulfill the contract made with A. A. Robinson to supply the Mexican Central with fuel.

Unfortunately, Robinson was no longer head of the railroad and the new president repudiated Robinson's agreement citing the uncertainty of Doheny's supply and the asphaltic quality of the Ebano oil as justification. With typical alacrity, Doheny established a paving company in Mexico to relieve the loss of the railroad contract. Asphalt was perfect for paving the dusty roads of Mexico and in the next few years the paving company did extensive work in Mexico City, Guadalajara, Morelia, Tampico, Durango, Chihuahua, and Puebla, making those cities some of the best paved in the world.

In 1906 Doheny was encouraged by his small successes and was eager to strike the gusher that would mark his venture a great success. In February 1907 he formed the famous Huasteca Petroleum Company as a
subsidiary of the Mexican Petroleum Company and the Huasteca became Doheny's main operating company in Mexico. During this period Doheny sent many scouts into the jungles to discover possible new sites for drilling. One of these scouts was George J. Owens, an old associate of Doheny's.

Owens investigated as far south as the Tuxpam River where, a few miles north of the river, he discovered oil indications in an area known as the Casiano Basin. He believed beneath the basin lay a tremendous reservoir of good quality oil. Doheny journeyed from Los Angeles with his wife and visited the spot with Owens and Herbert G. Wylie, the company's general manager in Mexico. Canfield remained in Los Angeles recovering from appendicitis, the first of many debilitating illnesses that were to result in his death in 1913. Doheny was very enthused by the apparent quantity and light quality of the oil and authorized the immediate purchase of the property. The London Oil Trust owned the property but after two months of negotiations, the Mexican Petroleum Company purchased the surface and subsoil rights of approximately ninety-three thousand acres.

Doheny then made a fateful decision. The company's northern properties were producing about 1 1/2 million barrels a year, but Doheny expected the Casiano wells would multiply the production several fold. Casiano was sixty-five miles south of Tampico and the Ebano facilities. If the long awaited gusher came in at Casiano, the results would be disastrous. There were no storage tanks at the site and Tuxpam was not suitable as a shipping point. Although Doheny had finally convinced
the Mexican Central to sign a contract for six thousand barrels daily, he had no other large contracts or ships available to transport oil even if he got it to Tampico. Doheny decided to worry about selling the oil after he had wells producing it. Whatever the situation, Doheny did not want his potential gusher to flow wasted into the jungles around Casiano.

To carry the oil to Tampico, Doheny ordered a sixty-five mile pipeline constructed with eight large pumps along the route. Storage tanks were built at Casiano, along the pipeline and at the Huasteca terminal in Tampico to accommodate the hoped for oil. Although one of the landowners along the pipeline path refused to grant the company a right-of-way for a 7 1/2 mile stretch, Doheny had the pipeline laid to each boundary and made preparations to quickly finish the job when possible. After spending 1 1/2 million dollars on these facilities, Doheny was almost broke.50

Doheny was confident although he knew production at Casiano would have to reach three thousand barrels a day to make the pipeline pay. Early in 1910 his confidence was rewarded when Juan Casiano No. 6 came in at fifteen thousand barrels a day quickly filling all the available storage tanks. Doheny closed the well to await permission to complete the pipeline. Finally, President Diaz intervened and ordered the remaining link to be built while arbitrators decided fair compensation for the landowner.

Just as the pipeline was being finished, on September 11, 1910, Juan
Casiano No. 7 blew in a gusher at sixty thousand barrels a day. The well pressure was so great that oil shot five hundred feet into the air and thwarted efforts to fully control the flow. For several days thirty-three hundred barrels of oil daily inundated the countryside and streams nearby the well until the flow was channeled into the pipeline to Tampico. Juan Casiano No. 7 eventually yielded eighty-five million barrels of oil and assured Edward Doheny's success in Mexico.\textsuperscript{51}

**Weetman Pearson, Lord Cowdray**

While the first barrels of oil from Juan Casiano No. 7 flowed through the Huasteca pipeline to Tampico, thirty miles south of Doheny's great well another drama was reaching a climax at Potrero del Llano under the guidance of Weetman Pearson, later Lord Cowdray. Unlike the prospector Doheny, Weetman Pearson started his career in a more customary way as a third generation member of a well-respected Yorkshire construction family. Pearson's grandfather founded the family firm in 1856, the year Pearson was born. Pearson's father was a shrewd man but "took his work lightly and liked to travel and enjoy himself."\textsuperscript{54} In his son he saw a brilliant man, one eager to learn the business, a judgement with which Pearson's grandfather agreed.

Pearson's family saw that he was well trained for the future management of the family firm. After a typically upper class education which ended at sixteen, Pearson followed the Yorkshire tradition and began to work in the family business. He began his training as a brick mason in his grandfather's yards and was in charge of the brick works before his eighteenth birthday. The practical training he received
during these years proved invaluable later in his other varied activities.

An appetite for foreign countries in Pearson was nurtured early when at nineteen he traveled to America and visited the principal towns of Canada and the United States. On his return to England he observed:

I returned home with an intense admiration for the Americans. I marvelled at their progress during a short hundred years existence as a nation. Some of their methods of work were instructive, their energy and ambition infectious. I returned to England seeing no reason why the great things being done in America could not be done elsewhere. When I say that I had taken the Americans at their own valuation, you will realize how hugely I had been impressed by them.55

Returning to the brick kilns of Yorkshire, Pearson was anxious to improve his skills and expand his knowledge of the construction business. His father continually urged the grandfather to give added responsibility to the quickly maturing young man and at twenty Pearson was put in charge of building a drainage system for the Lancashire city of Southport. Upon the successful completion of that project, Pearson was rewarded with a trip to Rome, Palestine, the Greek Islands, and Constantinople. On his return increasingly more difficult jobs were placed under his supervision. Success followed success and upon his grandfather's death in 1884, Pearson's father gladly surrendered the firm's management to his capable son.56

Moving the headquarters of the company to London, Pearson began to lay the foundation for the "international proportions" the firm was to gain soon.57 The company ceased to be a provincial English enterprise and bid boldly for business around the world. Contracts were
negotiated for docks and channels in Nova Scotia and Alexandria, railways in Spain and China, and tunnels in Dover and New York City. Pearson and Sons' success was continuous and millions of pounds in profits resulted as Pearson was innovative and unorthodox and his results were spectacular. The "Pearson luck" and the "Pearson touch" became bywords in the admiring construction community. Although Pearson became known to his employees simply as the "Chief," by his early forties he was recognized as the leading contractor in the world.

Pearson's Hudson River Tunnel project almost caused his death and led to his involvement in Mexico. Famous for personally enduring and testing the conditions and risks of his workmen, Pearson contracted the bends while examining a compressed air compartment in the tunnel. Gradual decompression saved his life, but his recovery was slow and painful. His wife convinced him recuperation would be aided by a trip to the salubrious climate of Mexico. Previously, President Diaz had requested the famous builder to come to Mexico City to study the age-old drainage problem of the city, but Pearson had declined. Considering his health, Pearson decided to go to Diaz' country and investigate Mexico City's problem.

Once in Mexico City, Pearson analysed the drainage problem and in 1889 personally negotiated a contract with the wily Diaz. The President immediately liked the young Englishman and agreed to Pearson's terms:

...I declined the contract unless three points on which I was insisting were conceded.

The question was put in such a way that I had either to give way or lose the contract. As I could not give way I told
the President that I was full of disappointment at what I thought was the non-success of my negotiations; but to my surprise—certainly it was to my surprise after the way the question had been put—the President said: "Well, if you won't give way, the Government will, provided you assure me on your honour that you will always treat the Government in the same way that you would expect to be treated by them, had they been in the saddle as they ought to be, instead of putting you there." I gave the promise without hesitation, and from that day the contract was made. No question ever arose between us as to its fair interpretation. . .

When next I saw the President, twelve months later, he was visiting the work to see what we were doing, and he shook his finger at me with a smile and told me not to forget the personal arrangement that existed between him and me.

Preventing the annual flooding of Mexico City was a problem which had baffled engineers for centuries. Pearson proposed and built the Grand Canal which stretched for 29 1/2 miles and solved the capital city's dilemma. Pearson was asked next to rebuild the Vera Cruz harbor which had been the gateway to Mexico since the days of Cortez but had become woefully inadequate. The three million pound contract given Pearson turned the port into a modern, deep-water, protected harbor.62

Diaz desired an efficient rail link between the Gulf and Pacific coasts of the Isthmus of Tehuantepec and looked to Pearson to accomplish the task.63 In partnership with the Mexican government, Pearson built terminal ports with modern facilities and connected both coasts with an excellent railroad. Periodically, the railroad was able to transport freight from the Gulf to Pacific coasts cheaper than the Panama Canal.64

These accomplishments made Pearson a noted public figure both in Mexico and England. In 1894 he was created a Baronet and in 1895 he was
elected a Liberal Member of Parliament from Colchester. Although he spent much time in Mexico, Pearson was a very respected voice in Parliament. In England he was dubbed the "Member for Mexico," an implied criticism that correctly indicated that he spent more time in Mexico than in Parliament.\(^{65}\)

Unlike Doheny, no one asked Pearson to explore for oil in Mexico. While on his way back to England from Mexico in 1901 he was delayed in Laredo, Texas by a late train. Although Laredo is over three hundred miles from Beaumont, Texas, the usually somnolent border town was buzzing with excitement about the Lucas gusher at Spindletop. Pearson immediately remembered reports given him of the numerous oil seepages near San Cristobal in the Isthmus of Tehuantepec and realized the advantages to his railroad if oil could be found in sufficient quantities there to fuel his locomotives rather than the expensive wood being used. He quickly cabled John Body, his general manager in Mexico, to secure all the land in the San Cristobal vicinity not already controlled by the railroad. Pearson's knowledge of oil was limited but he knew that one acre plots would not suffice in the exploration and exploitation of oil as he indicated to Body in the following letter:

> You will see that oil deposits frequently extend over big areas, so the oil rights must extend over a large district to be really valuable. Ten, twenty or forty thousand acres appears to be no uncommon size--so in getting the option get it over as big a country as possible. A short option is no good. We must have it for a year or preferably two, as it would take time to put down a well or otherwise prove it. Move sharply and be sure we are dealing with principals.\(^{66}\)

As he traveled on to San Antonio, the oil fever of Spindletop infused itself more deeply into Pearson. The "collective hysteria"\(^{67}\) of the oil
madness gripping Texas made the usually cautious Pearson almost im-
petuous:

The oil business is not all beer and skittles. . . . I entered
into it lightly, not realizing its many problems but only
feeling that oil meant a fortune and that hard work and ap-
lication would bring satisfactory results. Now I know that
it would have been wise to surround myself with proven oil
men. . . . and not to rely, as I did, upon commercial knowledge
and hard work, coupled with a superficial knowledge of the
trade.68

Why did the highly successful contractor go into the petroleum busi-
ness? At forty-five he had reached the pinnacle of his profession and
was secure in the world of building and engineering. Pearson was a man
who enjoyed challenges and the development of Mexico's oil was indeed
a challenge. "Like an onlooker at a no limit poker-table who sees an
empty seat, he could not stay out."69 Pearson was not just a gambler,
he was a man of vision. Although in 1901 oil was still used mainly
for lighting, heating and lubrication, the age of the gasoline engine
was dawning. Pearson knew of Doheny's efforts at Ebano and thought
if anyone could make a success of the oil business in Mexico, he could,
a man with experience in the country and who had close ties with the
President.

Pearson originally intended to limit his investment at 1 1/2 million
pounds and, if unsuccessful, to minimize his losses and quit.70 Tak-
ing advantage of the Petroleum Law of 1901, he leased 400,000 acres in
the Isthmus of Tehuantepec. Within five years his total holdings in-
cluded 600,000 acres in Vera Cruz, Tabasco, Campeche and Chiapas, much
of it under concessions from the Mexican government. He hired Captain
Lucas of Spindletop fame to survey his properties and make drilling
recommendations and in early 1902 Pearson sank exploratory wells at Jaltipan and San Cristobal in the state of Vera Cruz.71

Diaz was pleased to see the Englishman go into the petroleum business as a counterbalance to the aggressive Doheny and the distribution monopoly of the Standard Oil affiliated Waters-Pierce Company. Pearson realized the strengths of his competitors and from the first he was "determined to create a vertical organization, in direct competition with Doheny as a producer and with Pierce as a distributor."72

Although Captain Lucas returned to the United States after a year doubting the potential of the Isthmus oil lands, Pearson remained optimistic and brought in British and Swiss geologists to explore his holdings. In 1905 he began exploring Sarlat in Tabasco and later in the year was encouraged by the reports on the San Cristobal area. That year he decided to invest 500,000 pounds to build a refinery at Minatitlan on the Coatzacoalcos River in the Isthmus and supplement the refinery with storage tanks and pipelines running from his small production in the surrounding fields.73

In 1906 Pearson decided to expand his exploration northward into the area Doheny was developing. Although these years were also times of great activity in the construction business, Pearson spent at least three months of the year supervising his oil activities.74 His 1906 expansion into the north resulted in new concessions from the government extending for fifty years and carrying exemptions from all but the stamp tax.75 In March 1906 he assessed the situation in a
Our oil-fields are situated in the states of Vera Cruz, Tabasco and Campeche, Mexico.

We own about 600,000 acres of land in the oil country and have royalty leases for 200,000 or 300,000 acres, which we have been four or five years in securing.

We are drilling four distinct fields. Our field forty miles from Coatzacoalcos produces first-class oil, as will be seen from the analysis and report of the fractional distillates. Our Refinery Manager is drawing up details of the first installment of the Refinery we intend putting up with all speed. His first installment will have a capacity of 4,000 barrels of crude oil per day, or say 500 tons a day, of which 300 tons, or say 2,000 tons per week, will be benzenes and kerosenes. We are hoping to get this Refinery at work before the end of the year, and after working it for three months, we intend increasing it with all speed to 12,000 barrels a day; thus, by the end of the next year, we expect to get 6,000 tons a week of naphthas and illuminating oils to sell. As the total consumption in Mexico at the present time is under 50,000 tons a year, this means that we should have a minimum of 250,000 tons of such oils a year to dispose of outside of Mexico.

We have acquired extensive river frontages and some 800 acres of land at Minatitlan for the Refinery. The climate is better there than at Coatzacoalcos, although only twenty miles from the coast, and the river is navigable, or if not will be made so, for vessels drawing 23 ft. or 24 ft. The load could be completed at Coatzacoalcos whenever necessary.

A 6-in. pipe-line is now being delivered to connect the oil-field with Minatitlan, and storage tanks are now being shipped for erection there.

We expect before July 1st to be in a position to deliver crude oil to steamers. This oil on account of the great quantity of Benzoine it contains is not suitable for fuel.

With these prospects, Pearson's decision to concentrate more on the northern fields was to have significant results. While Doheny sought to buy outright oil properties in the north, Pearson resolved to obtain government concessions for public lands and avoid direct competition with Doheny. Pearson's efforts were facilitated by his close
contacts with the Diaz administration, ties that caused later detractors to claim Pearson unfairly was granted concessions under extremely favorable terms. 78

Like Doheny, slow progress did not dim Pearson's confidence in the certainty of future success. To distribute his products, he established an oil marketing division in London and contracted to supply C. T. Bowring and Company, a leading British distributor of oil, with refined petroleum. To insure a supply for Bowring, Pearson joined George Jeffrey in developing the Fubrero field fifty-four miles inland from Tuxpan. 79 The contract, signed in 1907, called for Jeffrey to make available to Pearson two thousand to six thousand barrels a day for twelve years in return for which Pearson agreed to lay fifty miles of pipeline from Fubrero to Tuxpan and to build a light guage railway along the same route. 80

Pearson continued with his plans to create a fully vertical organization and in 1907 he commissioned his first oil tanker for Gulf operations. 81 He soon added three more small coastal tankers but still lacked sufficient oil to supply all his potential customers. He went to the United States to buy oil and again illustrated his unbounded optimism after viewing the spectacular Tulsa fields:

We were shown round. . . the grandest sight imaginable, beautiful country, 2,000 rigs, 700 big tanks. . . productive wells of magnificent oil. I marvelled and was both encouraged and frightened. . . I was encouraged by the fact that if we find such a pool of oil in Mexico on our lands—and I feel we shall— it will be wholly ours, instead of belonging to eight or ten thousand people, as the pool does here. . . Tulsa, a delightful town, now 35,000 people, four years ago only an Indian trading village, brings home to me, more vividly than any imagination
can, the immensity of the enterprise we are engaged upon. 82

In June 1908 Pearson's oil operations appeared to turn the corner to profitability with the discovery of a two thousand barrel a day well in the San Diego field about twenty-five miles north of Doheny's Casiano property. Two months later the infamous Dos Bocas gusher roared into oil field history catching fire and burning for eight weeks despite heroic efforts to stop the costly conflagration. Flames reaching five hundred feet in height destroyed oil worth an estimated one million pounds* and burned the vegetation surrounding the well for miles.® On the fifty-eighth day the flow of oil and gas abruptly ceased allowing hot salt water to rush into the vast sinkhole created by the fire.® The well and field were completely ruined,® although the oil lost would have made Dos Bocas the world's largest well.®

From the Isthmus the news was no better for Pearson. The Fubrero field was not able to increase production sufficiently to meet contracted needs and Pearson had to continue costly purchases of Texas oil to meet his obligations. Just as the Minatitlan refinery began operations in 1908, the San Cristobal field's production began to fall, and then a fire destroyed a substantial part of the new refinery.®

Pearson took the series of severe setbacks "philosophically."® In the least, Dos Bocas illustrated the great potential of the Mexican oil fields and he was determined to push ahead and streamline his operations in anticipation of the oil to come. Pearson decided to expand
and he needed additional capital as until 1908 he had supported his operations almost entirely with his own fortune. He organized the Mexican Eagle Oil Company in August 1908 as a Mexican corporation and transferred all but a few sites in the Isthmus and the refinery to the new company which became known in Mexico as "El Aguila," or the eagle.

Forming El Aguila as a Mexican corporation differed from the approach of Doheny who formed his company under United States law. Pearson's long experience in Mexico convinced him of the advantages of incorporating as a Mexican firm and he included many Mexican friends on the board of directors: Porfirio Diaz, Jr.; Enrique C. Creel, a prominent politician, landowner and President Diaz' son-in-law; Guillermo de Landa y Escandon; and several notable Mexican attorneys. Pearson took a place as a mere member of the board while Escandon was the president. Escandon's family "had graced Maximilian's Imperial court, helped finance the Vera Cruz-Mexico City railroad, made haciendas famous" and were dotted in political posts around the country. These influential men greatly facilitated El Aguila's operations but were virtually the only Mexican stockholders of the company.

After the Dos Bocas catastrophe Pearson continued to concentrate on the Northern Fields and relegated exploitation in the Isthmus to a secondary status. In January 1910 at Tanhiujo, thirty miles north of Tuxpam, oil was struck at 115 feet, the most shallow producer in Mexican history to that date, and the well yielded eighty barrels a day. In February 1910 George Jeffrey in partnership with El Aguila drilled in the discovery well of the Potrero del Llano, or Pasture of the
Plains, field. Meanwhile, the San Pedro field began to produce considerable oil and the pipeline to Tampico from the Tamochin River started to transfer oil. Increased production from Fubrero flowed through the newly completed pipeline to Tuxpam and was taken in tankers to Tampico to be refined. Although Tuxpam was an open roadstead, the oil was piped to waiting ships via a flexible hose attached to the ends of a two kilometer submarine pipeline. From Tampico, Pearson distributed oil throughout Mexico using twenty rail tankcars.

Also, in 1910 Pearson was raised to the peerage as Baron Cowdray of Midhurst in recognition of his accomplishments as a contractor. Although Pearson was created a lord for his building achievements, the year closed with recognition of his efforts as an oil man. On December 27, 1910 Potrero del Llano No. 4 came in a raging monster spewing 100,000 barrels daily.

Controlling Potrero del Llano No. 4 became a battle of almost epic proportions. The well was drilled by the cable tool method of percussion and as soon as the drill head broke through the hard limestone cap rock, gas pressure burst out the break blowing the oil hundreds of feet into the air. Pearson, who was in Mexico City when the well blew, rushed to the scene to direct operations personally.

Life in the camp trying to cap the well and control the massive flow of oil was rugged. The oil was everywhere and Pearson was like a ship's captain struggling against a violent storm. Dressed in "a slicker, hip boots and a souester," Pearson worked eighteen hour days. The oil
ruined everyone's clothes so the Chief brought thousands of cheap Mexican outfits from Tampico to dress the workers as they battled the well.  

For sixty days the well resisted all efforts to stem its outpouring although some of the oil was captured in earthen storage around the site. The oil so filled the nearby little Buena Vista River that no water could be seen. The Buena Vista flowed into the Tuxpam River sending the oil to the coast where it covered the beaches and the water offshore. "Fishing was destroyed in the river; the oyster beds were ruined by the thick asphalt which sank from the surface; and transportation by rowboats was rendered impossible because the heavy oil formed huge balls around the blades of the oars." In Tampico, one hundred miles away by sea, the beaches became black with oil from Potrero del Llano No. 4's flow.

Pearson greatly feared fire and a duplication of the Dos Bocas disaster. He directed that flumes be built along the Buena Vista to keep the oil flowing too fast for the oil on the surface of the water to burn. But despite the efforts about ten miles downstream the oil caught fire:

Immense black clouds that looked alive in their fierce menace rose to mountainous heights. The horizon was an inferno of flame. The anxiety was almost unendurable—would the fires travel back upstream to the well?

Crews of one thousand men were pressed into service from the countryside and Diaz sent soldiers to help. More earthen storage was built and eventually three million barrels were saved in a huge reservoir close to the well. Many of the native laborers wanted to give up
the work after one week forcing Pearson to withhold most of their pay until the job was completed.

At last, on the sixtieth day of struggle an improvised "bell nipple" was fashioned and forced onto the well substantially controlling the oil flow and diverting it into the newly completed pipeline to Tuxpam. Downstream the fire died as the oil ceased to flow wildly but almost six million barrels had been lost. Potrero del Llano No. 4 produced over 94,000,000 barrels before it was ruined by salt water in 1918, but the output of the well confirmed more than its status as one of the world's greatest gushers. Potrero del Llano No. 4 made El Aguila one of the two giants of Mexican oil production and justified Pearson's investment of nine years and five million pounds.
While the parallel activities of Edward Doheny and Weetman Pearson progressed, both encountered many similar difficulties: the "mordita," the jungle, tropical diseases, high costs and numerous technical problems. One obstacle opposed Pearson alone—Henry Clay Pierce, the head of the Waters-Pierce Company. Since 1878 Waters-Pierce had controlled a virtual monopoly of the distribution of refined petroleum products in Mexico and as he was affiliated with Standard Oil, Pierce was in a seemingly powerful position in Mexico. Doheny posed no threat in the eyes of Pierce since Doheny, a large California producer prior to his Mexican venture, was content to cooperate with Standard Oil in the United States and Waters-Pierce in Mexico. As created by John D. Rockefeller, Standard Oil was a monopoly of transportation and refining and controlled a network of distributors throughout North America. Waters-Pierce's allocated territory included southern Missouri, Arkansas, Oklahoma, western Louisiana, Texas and Mexico.

Pearson was not content to be merely a producer and was determined to create a vertical organization which produced, refined, transported and distributed oil products. Pearson believed only a vertical system could minimize the possibility of being "squeezed out in the oil business." Thus, Pearson was in direct competition with Henry Clay Pierce who resented the "newcomer and amateur," and was dedicated to break the interloper.
Pierce was described by one of Pearson's biographers as "rough, tough and had no scruples" and this description was not unfair. Pierce was a stubborn and tenacious man who abused his economic power and battled the Standard Oil combination for the control of his own company on several occasions. In 1878, the year Waters-Pierce began to distribute oil products in Mexico, Standard Oil acquired a majority share of the stocks of Waters-Pierce, but agreed to allow Pierce to fully manage the company. By 1885 Pierce had built an extensive marketing organization throughout Mexico and had plants in Mexico City and Vera Cruz to refine the Pennsylvania crude he imported. As refined products were taxed highly on importation, Pierce made great profits refining petroleum in Mexico for resale. Pierce soon developed a monopoly in which he sold kerosene at eight pesos a case or forty cents a gallon, well above world prices. Pierce's profits ran as high as $200,000 yearly although Mexico's total daily consumption of petroleum was only seven hundred barrels. In 1897 Pierce built a new refinery and canning plant in Tampico processing oil from the newly discovered Corsicana fields of Texas.

Although Waters-Pierce was substantially owned by the powerful Standard Oil Trust, Pierce followed an independent path. Despite his minority position, Pierce relied on the 1878 agreement and totally managed the company. Standard Oil tried to control Pierce but was never fully successful as Pierce was an "aggressive individualist and could never be persuaded to work as a member of a team." Pierce's offensive tactics and high profits in the United States attracted the attention of state and Federal regulators. Bad publicity was very distasteful to the
frequently attacked Standard Oil Company and its Domestic Trade Committee paid special notice to the quarrelsome Pierce. Still, Pierce rarely paid heed to the suggestions and admonitions from 26 Broadway and although Standard Oil tried to buy Pierce out several times, Pierce enjoyed too advantageous a position to abdicate willingly.

In 1896 Waters-Pierce came under the scrutiny of the State of Texas for violations of its anti-trust laws. After a series of trials and extensive legal maneuvering by both sides, Waters-Pierce was banned from Texas in 1900. Waters-Pierce was dissolved and a new company under the same name incorporated while Standard Oil arranged a nominal, legal separation between the new company and itself transferring its stocks to Pierce. Pierce then transferred the stocks to "C. M. Pratt Investment," a paper organization of Standard Oil intimates. Pierce immediately elected himself chairman of the new Waters-Pierce Company and installed his relatives as the chief executives.

In 1904 Standard Oil forced Pierce to accept a "team" man as a Waters-Pierce vice-president but Pierce did not like the man or his activities. Especially rancorous to Pierce was the close adherence to state and federal laws advocated by the new man. Pierce enjoyed the days of free wheeling monopoly and higher profits, profits which justified illegality. At his first chance, Pierce forced the resignation of the Standard Oil man.

Early in 1905 Missouri indicted Waters-Pierce for anti-trust violations prompting a very anxious Standard Oil to move to disassociate itself
as much as possible from the troublesome Pierce. Standard Oil allowed Pierce to reassert his rights under the 1878 agreement and in the spring of 1905 Pierce resumed full management of the Waters-Pierce Company.

Pierce continued to disregard the law and in 1908 was fined a large sum by the State of Texas. That year Waters-Pierce paid no dividends as fines and legal fees swallowed all the profits from the company's Mexican operations. In the famous United States suit for dissolution of the Standard Oil Trust, Standard Oil officials literally laughed at the government's assertion that Waters-Pierce was one of the "slaves" of their monopolistic combine.17

During Pierce's jockeying with Standard Oil and legal battles against Texas and Missouri, he watched with increasing apprehension the activities of Weetman Pearson in Mexico. Pierce was well aware of Pearson's favored position and long association with Diaz and his coterie of aides. Many of Pearson's friends were directors of the National Railways of Mexico, the country's major rail network and a line of which Pierce was the largest stockholder.18 Also, for many years Pierce had been a majority owner and chairman of the board of the Mexican Central Railroad19 and had been able to observe Pearson's ability and character at close quarters.

After Doheny's early successes in 1904 Standard Oil obtained several concessions in Mexico for itself but Diaz cancelled the grants forcing Standard Oil to operate through Pierce, a situation which pleased
neither party. Pierce began to develop a small producing field along the Panuco River, but still relied on imported Texas crude and oil from Doheny to supply his refineries. During this period Pierce did not feel directly threatened by Pearson who seemingly was limiting his oil activities to drilling in the Isthmus in an effort to supply his railroad there with fuel. Additionally, in an accidental meeting in New York City in 1903, Pearson personally assured Pierce he hoped to work in complete accord with Waters-Pierce in Mexico.  

Believing Pearson was content to be solely a producer of oil, Pierce decided in 1905 to approach Pearson about distributing his oil in Mexico. In February 1906 Pierce's son-in-law cabled Pearson in London wishing to know if anyone in Mexico was authorized to negotiate with Waters-Pierce. Pearson replied that only he would negotiate and in June 1906 Pierce sent a representative to London to talk to the Englishman. Pearson told the representative he was going to build a refinery in Mexico and go into the oil distribution business.  

Pierce, greatly agitated, demanded a meeting with Pearson and the two met again in New York City in April 1907. Pearson reiterated his plans to Pierce and later described the meeting as one in which "we were both waiting for our trumps to turn up." Pearson's awaited trump was his hoped-for "gusher" while Pierce was relying on what he thought were Pearson's poor prospects and the strength of Waters-Pierce due to its long monopoly in Mexico and its old, if tenuous, ties to Standard Oil. Standard Oil did originally back Pierce against Pearson as Standard Oil believed Pearson's petroleum activity in Mexico was one example of a
world-wide challenge to Standard Oil's supremacy. Pierce was determined to maintain his Mexican position since he needed the profits to fight his legal battles in the United States. Furthermore, Pierce was an "obstinate and quarrelsome man. ... who would always rather fight than compromise." In 1908 the struggle burst into a bitter conflict after another meeting between Pierce and Pearson in New York City. For three weeks the two met with Judge Priest, a representative of Standard Oil. After much argument, the parties were near exhaustion but Pierce finally agreed in principal to a draft contract by which Pearson would get one-third of Waters-Pierce's profits in Mexico for two years in return for a stated quantity of refined oil from Pearson. Six months later Pierce had tacked on so many amendments and additional requirements that the contract was untenable to Pearson and Pierce's bad faith was apparent. Pierce began a series of attacks on Pearson and his operations:

Everybody in the least degree interested in Mexican oil knows of the Pearson and Waters-Pierce war, and how the Waters-Pierce organs dwell on the lack of oil in the Pearson camps, the . . . white elephantism of Pearson Minatitlan refinery, and the general foolishness of the Pearson ideas, the Pearson engineers, and the Pearson ambitions; simultaneously, the solid nature of the Waters-Pierce undertaking in all its bearings is indicated.

Pierce initiated personal attacks on Pearson in Mexican, British and American papers accusing Pearson of being an unscrupulous adventurer who bought and sold the Diaz government. "As soon as one charge was shown to be unfounded, another was invented." In addition to press attacks, Pierce had detectives shadow Pearson and his chief associates, intercepted his adversary's mail, and intimidated potential Pearson
customers. 30

Despite Pierce's vehemence, Pearson survived as Pierce did not accurately weigh Pearson's resolve or the other resources at Pearson's disposal. Pearson had an enormous fortune from his construction company and the large profits from the Tehuantepec Railroad to draw upon for money to combat Pierce. With the incorporation of El Aguila as a Mexican company Pearson solidified both his financial and political positions vis-a-vis Pierce. Encouraged by his faith in the potential of his oil properties, Pearson was not bluffed or bullied by Pierce or his tactics.

Pearson fought back and announced, "In a mild way I am going to be ruthless." 31 Pearson bought twenty railroad tank cars and began retailing operations in fifteen principal Mexican cities. Within a few months he established 160 depots around the country and sent agents out to obtain contracts from merchants and industrial concerns. By the beginning of 1910 Pearson's organization was competitively equal to Pierce's and claimed one-half the refined burning oil trade and one-fourth the lubricating oil business in Mexico. 32

Pierce's principal economic strategy was radical price-cutting, eventually reducing his prices an average of 65 per cent. 33 Although Pearson lost fifty thousand pounds due to Pierce's price-cutting, 34 he tried to compromise with his antagonist. Pearson suggested that in any negotiations Pierce's established "goodwill" be calculated as equal to the value of Pearson's potential oil production. To this magnanimous
offer Pierce replied that his goodwill was a tangible asset, Pearson's prospects just a dream.\textsuperscript{35} Always the engineer, Pearson dispassionately analysed Pierce's intransigence in letters to his wife:

If he had been looking out for supplies of crude oil, as we have, he would be in a much stronger position. His policy of drift has let him get into a corner from which his best and cheapest way out is through our door--the door we have left open for him and which any other person would be thankful for. . . . Our friend Clay Pierce, I find, is very rancorous against me as he says I cut him dead in New York. This is, of course, not a fact. I may have been standing shoulder to shoulder with him while talking in the street, as he says, but alas, I never saw the great one. . . . Clay Pierce has not approached us, except through setting detectives on our track as usual.\textsuperscript{36}

In another letter Pearson was buoyed by news that Pierce and Standard Oil were feuding:

Pierce is quarrelling with his oil partners. . . . His monopoly in the United States is being assailed as strongly as we are assailing it in Mexico. The State of Texas has just been paid the fine 350,000 pounds it imposed on Waters-Pierce as penalties and generally he is in a very bad way. But he is so peculiar that his very difficulties may make him more determined to get an unfair proportion out of his deal with me. That is, he will try to recoup his losses elsewhere from his deal with us. I have no pity for the man. . . . and if he does not come in now, my terms will be more onerous when he does. . . . As he is a man whom I cannot trust for one instant, it means that I have to have the controlling voice, a bitter pill for him to swallow. . . .\textsuperscript{37}

In December 1910 Potrero del Llano No. 4 roared in disgorging the oil Pearson needed to beat Pierce and thwart any move Standard Oil contemplated to help their unruly ally. But Pierce was not ready to concede his imminent defeat. On May 15, 1911 the United States Supreme Court found Standard Oil guilty of violating the Sherman Anti-Trust Act and decreed the dismemberment of the Standard Oil combination.\textsuperscript{38}

Pierce seized this opportunity to acquire complete and unhampered control
of Waters-Pierce. After dissolution, John D. Rockefeller received the Standard Oil shares in Waters-Pierce and at the first annual meeting of Waters-Pierce following Standard Oil's dissolution, Pierce refused to allow Rockefeller to cast his votes. In the lawsuit which followed Pierce played on the public distrust of Rockefeller and Standard Oil. Pierce argued publically and in court that the oil magnate and his subordinates were trying to reassert themselves despite the Supreme Court order. Rockefeller had bigger problems to combat and sold his stock to Pierce.

Pierce briefly enjoyed his Pyrrhic victory but John D. Rockefeller had a good and long memory. Tired of Pierce's machinations, Standard Oil of New Jersey, one of the companies created after the great dismemberment, decided to deal with the new major producer in Mexico—Weetman Pearson, Lord Cowdray. In 1912 the Chairman of Jersey Standard openly apologized to Pearson about the conduct of Henry Clay Pierce and in all ways disassociated his company from Pierce. Pearson gladly accepted the overture and attended a dinner given for him in New York City by Jersey Standard and presided over by John D. Rockefeller, Jr.

In March 1912 several of the Standard Oil companies entered into contracts with El Aguila for ten million barrels of oil. Pierce was isolated and reduced to depending on his own small production in Mexico as Doheny declined to openly side with Pierce. Pierce was defeated and in 1913 reluctantly surrendered to Pearson who allowed the beaten American to keep one-half of the domestic Mexican market. In gratitude, Pierce instigated another series of press attacks on Pearson.
who reacted strongly threatening to "smash the market" and run Pierce out of Mexico. Frightened, Pierce acquiesced on Pearson's terms, the same Pearson had offered ten years before.
Chapter IV

OTHER DEVELOPMENTS IN THE OIL INDUSTRY TO 1914

After Doheny's success at Casiano and Pearson's Potrero del Llano gusher, the growth of the Mexican oil industry was spectacular until it was interrupted by the Revolution during 1914. Both the Huasteca and El Aguila expanded their operations while other companies developed the areas uncontrolled by the two dominant firms. Tampico became a large, modern city and one of the world's principal seaports while vast storage, refining and transportation facilities dotted the oil region. The world required more and more oil and the foreign dominated Mexican oil industry continually increased its production to meet that need. In 1910 Mexico was an importer of one million barrels of oil but by the end of 1911 the country exported 700,000 barrels.¹

Doheny's Interests, 1910-14

Doheny's companies were instrumental in Mexico's oil development and by 1910 were operating under a diverse corporate structure. Incorporated on February 16, 1907, the Mexican Petroleum Company, Limited, of Delaware became the parent company² wholly owning the Mexican Petroleum Company of California and the Huasteca Petroleum Company. Doheny operated two separate "paper" organizations on leased property under the names of the Tamiahua Petroleum Company and the Tuxpan Petroleum Company.³ In 1912 the Mexican Oil Company of Louisiana was organized to build a refinery for Mexican oil at Destrehan, Louisiana.⁴

Also, in 1912 Doheny negotiated a contract with Standard Oil to deliver
two million barrels of oil yearly for five years. The year before Doheny began to raise the needed capital to finance a fleet to deliver future oil contracts and in 1911 William Salomon and Company purchased five million dollars of Mexican Petroleum's securities. This purchase was preceded by an extensive on the spot evaluation of Doheny's oil properties by a group of bankers from New York City, Philadelphia, Baltimore, Pittsburgh, and Cleveland. Several prominent geologists accompanied the bankers to aid in the inspection, chief among them Dr. I. C. White, the former State Geologist of West Virginia. Dr. White and his colleagues valued the Mexican properties at $62,674,000. With the Salomon investment and the $3,076,374 profit for the year ending in June 1912 Doheny embarked on aggressive expansion.

Doheny's tanker fleet was inaugurated in October 1911 with the chartering for one year of the 1,726 ton Snowflake from the Trinidad Lake Petroleum Company. In April 1912 the Russian Prince of 5,800 tons was leased for two years and the Herbert G. Wylie was purchased and delivered. Five other owned ships were put into service in 1913 ranging in tonnage from 2,770 to 9,970 tons and all were named after officers or individuals closely associated with the company.

Doheny's increased production necessitated a rapid increase in storage facilities and pipelines from the fields to the port at Tampico. During 1910 the Huasteca Petroleum Company built a new 55,000 barrel steel tank every 4 1/2 days and laid another pipeline from Casiano to Tampico in 1911. From Casiano south to Cerro Azul, a field which produced a tremendous gusher in 1916, an eight inch pipeline was built in
1913. A third pipeline was constructed from Casiano to the Tampico terminal in 1914 and confirmed what had been a tacit truce between Doheny and Pearson. Although Doheny had been inclined towards his fellow American Henry Clay Pierce during his battle against Pearson, Doheny had done little more than sell some crude oil to Pierce. With Pierce defeated, Doheny was convinced it was better policy to cooperate with the formidable and energetic Pearson. Casiano No. 7 and Potrero del Llano No. 4 proved there was enough oil to share so Doheny reached a "gentlemen's agreement" with Pearson to share the Casiano pipeline and respect each other's claims and properties.

Pearson's Interests, 1910-14

Despite Pearson's oil war with Pierce, Potrero del Llano No. 4 launched El Aguila into rapid expansion. The Los Naranjos field was brought in during 1913 and the older fields increased their production significantly while new pipelines were built and a refinery established in Tampico. A large office building was erected in Tampico and a full-time office maintained in Mexico City. From the Los Naranjos field the company shipped over three million dollars worth of oil out of the Tuxpam dock in 1913. With the profits from its overall production El Aguila declared dividends of eight percent for the years 1911-14 and had profits for those years successively of $874,000; $4,265,000; $9,166,000; and $9,689,000.

The Eagle Fleet flourished after acquiring the San Cristobal in 1907 and added the San Bernadino in 1908. The San Antonio of nine thousand tons was built in 1909 and in 1912 two more ships joined the
fleets to include the new flagship, the San Fraterno. Unlike Doheny, Pearson decided against naming his ships after individuals and christened them for saints in the Mexican Church calendar.

After Standard Oil made its peace with Pearson, J. D. Archbold, the president of Jersey Standard, twice approached Pearson about acquiring El Aguila. Pearson rejected both offers, informed the British Government and suggested that Britain might be interested in investing five million pounds in El Aguila to insure a war-time oil supply. Lloyd George, then Chancellor of the Exchequer, did not wish to arouse the American government's animosity by such an investment and refused Pearson's proposal.

While El Aguila prospered after 1910, Pearson's personal situation in Mexico deteriorated due to his old and intimate relationship with Diaz. Revolutionary factions vied for control after 1911 and a captured Pearson would have made a valuable hostage. J. B. Body, El Aguila's general manager in Mexico, advised Pearson to absent himself from Mexico and in the spring of 1912 Pearson sailed from the harbor of Vera Cruz, one he had built for Diaz many years before. Although he never returned to Mexico, Pearson remained deeply involved in the activities of his company throughout the revolutionary period but was forced to leave the actual supervision of the operations to his trusted staff.

Other Mexican Oil Companies

During the development of the Pearson and Doheny interests in Mexico
there arose two other major oil producers and several significant small producers during the period to and including 1914. The two major companies were the Royal Dutch Shell's La Corona and the jointly operated holdings of John Hayes Hammond, R. A. Mestres, and the Consolidated Goldfields of South Africa. During the early days of the 1900s, Royal Dutch Shell was Standard Oil's major competition in the worldwide market whereas the Hayes-Mestres-Consolidated Goldfields group was an independent producer unaffiliated with any worldwide distributor.

Although Royal Dutch Shell did not formally enter oil production in Mexico until late in 1912, the company earlier investigated the buying of the Oilfields of Mexico Company then controlled by Percy Fubrero. Royal Dutch sent a geologist to explore the prospects of the Oilfields of Mexico Company, but decided the potential production in the company's holdings did not justify the high price Fubrero was asking.

Also, Royal Dutch was involved in negotiations with Henry Clay Pierce after Pierce let it be known he was willing to cooperate with the European company. Henry Deterding, the flamboyant and capable General Director of Royal Dutch, was always anxious to undercut Standard Oil. Pierce's refineries, marketing organization and potential oil lands in Mexico would have provided a valuable foundation for Royal Dutch's entry into Mexican petroleum. Once again, Pierce showed his true colors and asked for a greater share of future profits to finalize the deal than he had originally negotiated with Royal Dutch. Thinking he was
"not quite straight," Deterding checked on Pierce's reputation and found it was "not satisfactory." Upon further investigation, Deterding discovered that Pierce was still formally affiliated with Standard Oil and was in no position to deal independently.

Still anxious to invest in Mexico, Royal Dutch secured an option on approximately 150,000 acres close to Tampico in 1912. Deterding sent two top geologists to Mexico from Holland to evaluate the properties which consisted of numerous small plots. One of the geologists, Erb, was overly cautious while the other, Van Elde, believed in decisiveness based upon rapid but careful scientific investigation. Van Elde complained to London and Amsterdam that "It is impossible to get Erb to commit himself on anything." Finally, Erb agreed that Royal Dutch's attention should be directed on the remaining uncontrolled Panuco fields. In August 1912 the company took a lease on twenty thousand acres in the Topila and Panuco areas and on September 16, 1912 the N. V. Maatschapij, "La Corona," was confirmed by Royal assent in Holland. Before the end of 1912 the company's holdings were expanded to include the immense hacienda known as San Jose de Las Rusias north of Tampico and which covered 1,250,000,000 acres.

In 1913 La Corona negotiated leases in Comales and Zacamixtle, both locations lying between the Panuco and Tuxpam Rivers. Exploration was started immediately and a well was drilled at Topila in March 1913 yielding only one hundred barrels daily. The following four wells at
Panuco produced no oil but on January 11, 1914 La Corona joined the Huasteca and El Aguila as a major company when Pazzi No. 5 gushed in at 100,000 barrels a day.

Before the discoveries of Casiano No. 7 and Potrero del Llano No. 4 John Hayes Hammond and R. A. Mestres controlled extensive properties scattered throughout the oil region. Both men lacked adequate capital to fully develop their properties so they joined with the Consolidated Goldfields of South Africa in 1910 to form the International Petroleum Company of Maine. This company had initial capital of six million dollars and took over the individual holdings of Hammond and Mestres. Mestres was made the general manager of the company and after securing additional leases and purchases the company had holdings third in value to those of Doheny and Pearson.

Other companies were formed by the Hammond-Mestres-Consolidated Goldfields combination to drill and transport their oil. The Vera Cruz Syndicate was incorporated to drill wells for the International Petroleum Company's holdings and the Cia. Transcontinental de Petroleo, S. A. was formed to own and manage the necessary pipeline and transportation facilities. A series of small successes made the Hammond-Mestres-Consolidated Goldfields interests the fourth largest producer in Mexico in 1914.

As oil production increased and successes mounted, many other entrepreneurs formed companies to exploit the subsoil of Mexico. One company,
East Coast Oil owned by the Southern Pacific Railroad, discovered a large well at Topila on April 26, 1911. Also, in 1911 the New England Fuel Oil Company and the Continental Mexican Petroleum Company were formed to be joined in 1912 by the Mexican Gulf Company, a subsidiary of Gulf Oil, and the Pennsylvania-Mexican Fuel Company of Delaware. In 1912 the Tampico Oil Company, Ltd., predominantly British owned and registered in London on June 21, 1910, drilled the first important well in the Chila Salinas field. The Penn-Mex Company had been organized by several Pittsburgh capitalists of the Standard Oil Group and early in 1913 brought in the first important well of the Alamo field.

During the later part of 1913 the Mexican Oil Company in which local Mexican capital was involved drilled a big producing well in the Topila field. The continuing success in the oil fields convinced many Mexicans to invest and "some thirty or forty companies" were formed with participation by Mexican capital. Two of these companies, the Freeport Mexican and the National Oil Company, brought in large wells early in 1914. Other producing companies in 1913-14 were the Topila Petroleum Company controlled by the Texas Company, the Gulf Coast Corporation, the Lot 17 Company, and the J.R. Sharp Mexican Oil Company.

By 1913 there were 213 companies involved in some phase of oil production: drilling, leasing, supplies, equipment, or transportation. Mexican capital was nominally in control of 87 of these companies while Americans supposedly owned 96 and the English dominated 28 firms. The actual ownership of these companies in 1913 was more accurately 120
American and 37 British with the Mexicans owning 47 companies, few of which were in the drilling and producing aspects of the industry.

American and British money dominated investment in the Mexican oil industry during this period. Although Royal Dutch Shell was originally chartered in Holland, most of its capital was British. Mexican investment was almost insignificant during this time as even companies owned by Mexicans had substantial foreign participation. In 1911 American dollars accounted for 38.5 percent of the investment in the oil industry while the other 61.5 percent was substantially British capital. By 1914 this ratio had reversed as American investment stood at 58 percent and the remaining 42 percent was almost totally British.

Production, 1901-1914

Mexican oil production rose slowly during the first years of effort by Doheny, Pearson and the smaller companies but the gushers of 1910 caused a dramatic increase. In 1901 Mexico produced only 10,345 barrels compared to the world output of 167,434,434 barrels and by 1910 the Mexican yield still amounted to a meager 3,634,080 barrels of crude oil. After Casiano No. 7 and Potrero del Llano No. 4 Mexico's wells produced 12,552,789 barrels in 1911 and 26,235,403 barrels by 1914. Although the yield for 1914 was only 6.5 percent of the world's total for the year, the continued increased exploitation of the subsoil, temporarily interrupted by the Revolution, produced 193,397,587 barrels in 1921. This was 23 percent of the world's total and ranked Mexico second only to the United States in the production of petroleum.
Unlike the industry in the United States, the production in Mexico was from relatively few successful wells. Until January 1, 1921 the United States had produced 2,598,313,331 barrels of oil from 356,568 wells, an average of 7,286 barrels per well. In the Tampico-Tuxpam region to January 1, 1913 only 252 successful wells had yielded 41,481,455 barrels for an average of 164,608 barrels per well. But these statistics are misleading as the two greatest wells, Juan Casiano No. 7 and Potrero del Llano No. 4, produced almost 25,000,000 barrels of the Mexican total. Still, the other 250 Mexican wells averaged over 60,000 barrels apiece, well above the average yield in the United States. Although the number of wells drilled in the Isthmus region was approximately 250 to 1913, the production was a dismal 1,404,835 barrels.

Although Doheny and Pearson made tremendous profits in Mexico, many oil ventures during the same period lost money. The success of El Aguila and the Huasteca were purchased with immense capital investment and success was not assured until 1910. Unfortunately, unsuccessful wells were as expensive to drill as gushers causing the losses and gains in Mexico to be unequally divided. Many small companies drilled several dry holes and folded after spending several hundreds of thousands of dollars. Frequently, one of the large international firms would then buy the holdings of the smaller, bankrupt company and later bring in successful wells. Experience and business acumen were no guarantees of success during these early days of oil development.
Tampico: The Oil Capital

Tampico, a "remote, sleepy little port" in 1900, was by 1914 a modern city and the focal point of the Mexican oil industry. Situated at the mouth of the Panuco River, Tampico's trade before oil dominated the local economy consisted of cattle hides and agricultural produce. In 1900 the town was surrounded by lagoons and malarial swamps while the "housing was primitive and sanitation nonexistent." The roads leading to the interior were no more than dirt trails, useless in the rainy season. Although the Mexican Central established a rail link to Tampico in the early 1890s, the port did not rapidly develop until the first surge of oil production.

In the first years of the twentieth century Tampico's growth paralleled that of the petroleum industry. Although the population of the town was a mere two or three thousand people in 1900, by 1908 it had grown to 17,000. One year later the city contained 20,000 persons and by the close of 1913 boasted 35,000 citizens. In 1914 Tampico had a newly built, riverfront open market from which mule drawn street cars carried shoppers to and from all parts of the city over well paved roads. Although there was no public telephone system, electric lights illuminated the central business district and the outlying suburbs. In 1913 the Colonia El Aguila was organized to "supply to the staff of the Cia. Mexicana de Petroleo El Aguila, S. A., and allied companies attractive living conditions at reasonable cost." Four miles from the center of town, this housing development became the most desirable and exclusive residential area in Tampico.
Life in Tampico was full and exciting. The theatres and cabarets imported acts from around the world while a red light district the envy of much more sophisticated cities served the carnal pleasures of the oil field roughnecks. Rents and food prices were astonishingly high and hotel rates rivaled the cost of the best accommodations offered in New York City. Six room houses rented for $100 to $200 monthly and "sugar was 30¢ a pound, butter $1.85, eggs 93¢ per dozen, corn $3.50 a bushel, bacon $1.00 a pound." Despite the Revolution engulfing Mexico, these high prices in Tampico were due almost solely to the tremendous oil boom.

Tampico and its environs awed and excited those who visited the growing city. Jack London, the noted writer and avowed socialist, spent several days in the city during June 1914 and reported his observations in Collier's Magazine:

One must go and see in order to know. My advance impression of Tampico, for one, was a typical Mexican port infested with smallpox, yellow fever, and a few American adventurers of pernicious activities and doubtful antecedents. There were also oil wells, I understood in and about Tampico, operated by the aforesaid adventurers. . . .

Once in the mouth of the Panuco River, the landscape on either side sprouted into the enormous, mushroom growths of the tank farms. I was quite impressed, not having dreamed that our adventurers had done so much work. . . . But as we continued up the river, more and more terminals and tank farms lined both banks of it. This was the Corona terminal, and that was the Aguila on both sides, and adjoining were the huge solid buildings of Standard Oil. And still the names of companies were rolled off to me. There was the National Petroleum, there the Waters-Pierce, the Gulf Coast, the Huasteca, the Mexican Fuel, the Magnolia Petroleum, the Texas, the International Oil, the East Coast Oil—and thereat I ceased taking account of the companies and realized that there was quite something more to Tampico than I had anticipated.

"Ah", I remarked, "there's the city at last," indicating great
masses of buildings on the north bank. But I was informed that the city was yet miles away, and that what I had mistaken for Tampico were the boiler stacks, still stacks, warehouses, paraffin plants and agitators of the refineries. . . .

. . . I found that Tampico was mostly surrounded by water and was half a Venice. The backyards, or patios, rather, of the water-front dwellers overhung the canal, which teemed with dug-out canoes and chalans (the open, native boat), on which lived many families. But in addition to all this was the evidence of the activity of our American adventurers. Everywhere boat building and repairing was going on. There were paint shops, machine shops, and shipways; and there were river steamers, barges, and launches, not by the score, but by the hundred. . . .

The hotel was modern, five-storied, had elevators and was in every detail—from the cafe tables copied after Sherry's to the Tom Collins glasses that were duplicates of the Martin's—a New York hotel. Mine host even had cold beer. . . .

But the hotel was not the interesting thing. It was the men in it—Americans all. . . . The atmosphere was of the West, of the frontier, of the mining camp. I was more nearly reminded of the men of the Klondike than of anywhere else. In truth, within an hour I encountered a dozen sourdoughs. Two of them I had known in the old days in Alaska. Said one from whom I had parted seventeen years before in Dawson City: "Jack, this ain't no Klondike. It's got Klondike faded to a fare you well and any other gold camp the world has ever seen. You know my old claim on Eldorado, from rim rock to rim rock and 500 feet up and down stream—well, that was a humdinger and it cleaned up half a million. But shucks, that ain't anything alongside these diggings."

**Fields and Facilities in 1914**

Jack London's amazement at the industrial complex he saw in and around Tampico was not surprising. Within a few short years the oil fields had expanded into major production accompanied by the newly built and extensive facilities necessary for the refining and exporting of petroleum. These facilities were concentrated in Tampico but to a lesser extent were located throughout the oil regions. The Tampico-Tuxpam fields comprised an area of about seventeen thousand square miles. This roughly triangular shaped district was bounded on the east by the
Gulf of Mexico and on the southwest and northwest by the edge of the great Mexican Central Plateau. These oil producing lands included parts of the states of Tamaulipas, Vera Cruz, San Luis Potosi, Puebla and Hidalgo. The Isthmus oil region consisted of the coastal plain and valleys of the Coatzocoalcos and Grijalva Rivers and parts of the states of Vera Cruz, Tabasco and Chiapas but only produced enough oil to fuel the Tehuantepec Railroad.

The Tampico-Tuxpam region was divided into the North and South fields. The North Fields outside of Tampico included the original Ebano discovery, the Panuco, Topila, Chila-Salinas, and Chijol fields. The South Fields were situated along the southern flanks of the Tamiahua Lagoon and consisted of the Tepetate, Amaltan, Portrero, Casiano, Alamo, Tanhuijo, Fubrero and Papantla fields. The extremely bountiful strip of the Southern Fields running from north of the Dos Bocas site to south of the Potrero field was known by 1914 as the "Faja del Oro," or the Golden Belt and was later referred to as the Golden Lane.

By the end of 1914 the Tampico-Tuxpam region contained an impressive array of facilities—refineries, pipelines, storage tanks, railways, shipping docks, and oil derricks. The ports of Tampico and Tuxpam connected the oil of Mexico with the hungry engines of the world. Tampico was by far the more important and ranked second only to Vera Cruz as a Mexican port. Through Tampico most of the equipment and supplies for the oil industry arrived and the majority of Mexico's oil was exported. At Tampico refineries lined the harbor and the Huasteca
and El Aguila had their pipeline terminals there receiving oil from the outlying fields. In 1904-05 Tampico received 418 foreign vessels and 124 coastal ships yearly but by 1914 the harbor was host to those numbers monthly. On August 1, 1913 harbor improvements were begun to deepen and widen the ship channel and upon the completion of the work Tampico was the equal of any port its size in the world.

Tuxpam was the second leading oil port in Mexico and served as a disembarkation point for supplies and equipment for the South Fields. Although Tuxpam was blocked by a sandbar and had only a depth of five to six feet, cargo was unloaded from ships beyond the sandbar to waiting barges and taken to dockside. The port was also the terminal for El Aguila's Potrero del Llano field and utilized a submarine line to pump oil to ships offshore.

Due to the inhospitable terrain, inland waterways were used extensively for transportation. In the North Fields the Panuco and its affluents were instrumental in the early development and exploration of the area. Running generally west from Tampico, the Panuco was navigable from the city to the river's headwaters. The Tamesi River entered the Chairrel Lagoon northwest of Tampico and was navigable for one hundred kilometers upstream. Two smaller rivers, the Tempoal and Tamuin, flowed into the Panuco and were navigable in small boats far above the Panuco.

Waterways were important in the Southern Fields as well with the Tamiahua Lagoon serving as the main route to the area. The oil companies
joined with the Mexican government in digging a canal from Tampico to the northern point of the Lagoon and after the 1910 strikes several rivers emptying into the lagoon were deepened and canals added to connect Tuxpam with the Tamiahua waterway. The Tuxpam River was navigable to Tumbadero, thirty miles upstream, and to the south the Tecolutla River was navigable to Papantla.71

Complementing the waterways of the oil region was a sophisticated network of railways and dirt roads. Tampico was a terminal for both the National Railroad from Monterrey and the Mexican Central line from San Luis Potosi. The Huasteca had its own short gauge railway from the Ebano camp to the fields a few miles away and a line running forty kilometers from the San Geronimo pump station to the Casiano fields. The longest private track was an eighty-three kilometer line from Tuxpam to Fubrero owned by the Oil Fields of Mexico Company. Many of the oil companies maintained dirt roads between the fields but the most notable and well maintained was the Huasteca road from Las Piedras to Tres Hermanas in the South Fields which paralleled Huasteca's pipeline to Tampico.72

Although there was little tank storage in the Tampico-Tuxpam region early in 1910, the gushers at Casiano and Potrero required the rapid building of storage facilities. Within two years the region had 12,000,000 barrels capacity of steel and concrete storage and 5,000,000 barrels of earthen reservoir storage. The Huasteca Terminal Tank Farm opposite Tampico in May 1912 had thirty-six 55,000 barrel steel tanks, two 40,000 barrel tanks and one 750,000 barrel concrete tank. At the
company's Tankville on the Chijol Canal there were forty-five 55,000 barrel tanks and a 1,000,000 barrel concrete tank by the end of 1914. Combined with the storage capacity of the various pump stations and production sites, the Huasteca had a storage capacity of 7,399,000 barrels. Huasteca's companion company, the Mexican Petroleum Company of California, had storage of 1,500,000 barrels at Ebano. 74

By the end of 1914 El Aguila had approximately 7,000,000 barrels of storage in the Tampico-Tuxpam and Isthmus regions, almost all of it in Faja del Oro areas. 75 The East Coast Company had 1,500,000 barrels of earthen storage and 75,000 barrels of steel storage in the Topila fields while the Tampico Company, Waters-Pierce, Hammonds-Mestres-Goldfields, and the Topila Petroleum Company had steel storage in the Tampico-Tuxpan area totalling 240,000 barrels. 76
Chapter V
POLITICS AND REVOLUTION

Juan Casiano No. 7 and Potrero del Llano No. 4 were events of great significance to the early Mexican oil industry in the year 1910. The year was also the centenary of Father Miguel Hidalgo's call for revolt against the Spanish and President Diaz was determined the Centennial celebrations would long be remembered. Although Diaz had ruled Mexico for over thirty years, he was apparently oblivious to the misery and discontent rampant in the country. Even nature, as described by Anita Brenner in her book *The Wind That Swept Mexico*, seemed to portend a violent future for the country when the great volcano of Mount Colima erupted for days obscuring the sky with smoke and ashes:

> The Lord had promised to send Someone to do his work, the peasants said, and the powerful Old Ones would come out then and sweep the wicked away.

> People in Mexico City—the knowing ones in the Banco de Londres y Mexico and of course the Cientificos—understood about volcanic disturbances. They were explained in the books. . . .

> . . . In 1910 came still another sign. People who could read learned that it was Halley's Comet and that there was nothing to fear. The Scientists understood it. . . .

> But in the villages, where the glare destroyed the peace of the night and made the cattle uneasy, it was an announcement. The young were told by the old that it meant war, death, famine and plague.

While the Americans and British celebrated their discoveries of great producing oil wells, festivities for the Centennial commenced with carnival days in Mexico City on September 15th and 16th followed by a gala pageant on the 19th. On the 25th a sham battle illustrated to the world the military might of Mexico. A million dollar palace was
dedicated in Chihuahua and fairyland entertainment sponsored on the famous rock of Chaupultepec as thirty thousand electric stars illuminated a grand ball. Special ambassadors arrived from all over the world led by Prince Henry of Prussia with only Great Britain declining official representation as the empire was still mourning the death of Edward VII. As warships from many nations crowded the harbor at Vera Cruz in homage to the seemingly ageless leader of Mexico, Diaz "exhibited Mexico's monumental pride by inaugurating a new goal and lunatic asylum" in the capital.

Although the glittering centennial facade portrayed a prosperous and happy Mexico, discordant signs of unrest were fast dominating the Mexican scene. The first great success of the foreign controlled oil industry coincided with these days of turmoil and the industry became inextricably involved in the days of conflict which followed. The exultant cries of "Viva la Republica Mexicana" and Viva Don Porfirio Diaz that abounded during the Centennial celebrations were soon drowned by mobs howling for the death of the oil general and the expulsion of foreign influence.

Discontent seethed in every city, pueblo and corner of the troubled land. Although the liberal 1857 Constitution promised democracy, there was no democracy. Millions of peasants yearned for land while the newly trained young professionals were frustrated by the rigid social and political society. Foreign capital dominated the economy while labor was exploited in the mines of Sonora and the textile mills of Mexico City. Even the Church appeared to care more for its vested
wealth than for the people who prayed before its altars. Mexico was a tinderbox awaiting a spark.

Diaz had provided that spark himself in an interview with the well-known American correspondent James Creelman in February 1908. Creelman reported in Pearson's Magazine that Diaz was going to retire in 1910 and that the dictator believed Mexico was ready for democracy. Diaz said he "welcomed" the formation of an opposition party willing and able to take the reins of power. Diaz intended the interview to illustrate his enlightened attitude but his enemies hailed it as his abdication. Under the slogan of "No Re-election" a group of young idealists led by Francisco Madero organized to oppose the continued role of the aged president.

Madero's movement was the final product of a series of attacks on the Mexican status quo. Early in the century Diaz had brutally suppressed the vocal Liberal Party and in 1906 ruthlessly put down a violent strike of mine workers at the Cananea copper works. In 1907 labor violence flared again at the Rio Blanco textile mills and Diaz sent government troops to subjugate the workers. Political disturbances increased and in 1909 two anarchist brothers, Enrique and Ricardo Flores Magon, led an abortive revolt in Chihuahua and Coahuila.

Madero was a member of a very wealthy northern Mexico family with intimate connections to the Porfirian hierarchy. Nevertheless, Madero became noted for his enlightened and idealistic attitudes. He actively managed much of his family's land and used advanced agricultural
techniques to improve the yield and ease the drudgery of the peons. He believed it was incumbent upon the leaders of Mexico to distribute the wealth of the nation among the people within a framework of democratic capitalism. His eccentricities included strict adherence to a vegetarian diet and a belief in homeopathy while his naivety convinced him of the intrinsic goodness of man and the total patriotism of his fellow Mexicans. These characteristics were both Madero's strengths and his weaknesses.

In 1908 Madero wrote "The Presidential Succession of 1910" in which he advocated free elections and mildly criticized Diaz. Madero and his supporters held a convention and selected candidates to oppose Diaz in the upcoming election. Madero ran as a presidential candidate and conducted a vigorous campaign despite constant harassment by Diaz agitators. At first, Diaz did not consider Madero a serious threat but as the vote drew near, the rumblings of discontent frightened the eighty-year old ruler. Diaz arrested Madero just weeks before the June 26, 1910 election and in the tightly controlled vote Diaz was selected for another four year term.

Madero escaped and fled to San Antonio, Texas where he issued a pamphlet entitled "Call to Arms" and which outlined his political platform dubbed the "Plan de San Luis Potosi." This plan declared the past election void, Diaz' government illegal, and stated that all land wrongfully taken from the people during Diaz' regime would be returned. Madero called for all Mexicans to join him and set the national day of revolt as November 26, 1910.
Madero's call to arms was joined by the dissatisfied from all parts of Mexico. Students and workers organized in the cities while the dispossessed gathered under leaders such as Emiliano Zapata to oppose the old order. Overwhelmed by the almost universal opposition to his continued rule, Diaz had little desire to fight. Diaz decided to leave Mexico and departed for exile in Paris on May 25, 1911. Unfortunately, the old dictator's abdication did not solve Mexico's problems and the following ten years have been characterized by the noted historian, Charles C. Cumberland, as ones of "utter chaos."^8

Despite Diaz' favorable attitude towards foreign investment, many American oil men were not distressed at his departure. Some American capitalists believed Diaz had openly favored British investment generally and the efforts of Weetman Pearson specifically. Additionally, the United States government had become displeased with Diaz' support of anti-American factions in Nicaragua and his refusal to renew a lease permitting the U.S. Navy to use Magdalena Bay off Baja California as a base.^9 Standard Oil was still annoyed about Diaz' cancellation of its oil concessions^10 and Henry Clay Pierce was in the midst of a struggle with Pearson causing both Standard Oil and Pierce to have little dismay over Diaz' fall.

Whatever may have been the actual role of the oil industry in the course of the Revolution, it is certain the foreign controlled petroleum companies had a vested interest in the outcome. As the Revolution raged, oil production soared and the new leaders of Mexico believed the ownership and control of the subsoil belonged to the nation. The oil
companies hampered and delayed the realization of this goal but did not prevent it.

After Madero's forces captured Ciudad Juarez opposite El Paso in May 1911, allegations began linking Standard Oil to Madero. In 1913 Lawrence R. Converse, an American officer in Madero's army, testified to the U. S. Senate Foreign Relations Committee that Standard Oil was "backing" Madero. Converse alleged that Standard Oil had purchased Madero bonds and had prompted El Paso bankers to advance Madero large sums of cash. Meanwhile, Pearson maintained his close relationship with the fast faltering Diaz. Pearson's general manager in Mexico, J. B. Body, offered his Vera Cruz home to Diaz before he sailed for exile and the broken president spent his last night in Mexico there. Pearson even offered his English estate of Paddockhurst for Diaz' exile but Diaz preferred France.

With Diaz gone, Madero was the man of the moment and he entered Mexico City in triumph on June 7, 1911. After initially allowing moderate Porfirian politicians to run an interim government, Madero assumed the presidency on November 6, 1911. Despite demands from his radical allies for immediate and sweeping reforms, Madero believed in gradual, orderly change and he began a series of blunders. Madero retained the Porfirian bureaucracy and left the federal army intact under its old generals. He allowed the press, long controlled by sycophants of the exiled Diaz, to attack him freely. Madero antagonized the land hungry by his reliance on slow, legal redistribution while alienating the still powerful hacendados by his advocacy of land reform. Radical
labor leaders urged nationalization of Mexico's industry and Madero's August 1911 political platform did little to assuage the growing fears of foreign investors. The platform's stated goals were:

To assist in the development of the natural resources; to see that taxes are impartially imposed; to abolish the contract system and to combat all monopolies and special privileges, and above all to see that the public funds are used for the general good of the nation.13

The powerful Guggenheim family already considered Francisco Madero an enemy as the Maderos were the Guggenheim's main competitors in the lucrative copper trade of northern Mexico. Rumors of new Madero family projects added to the apprehension of American businessmen and on November 21, 1911 the American Consulate in Tampico reported information that the Madero family was going to organize a large, independent oil company.14

Madero soon caused added concern to both British and American oil companies with several measures. From 1901 to 1911 the petroleum producers paid no direct taxes except for the nominal stamp tax on revenues.15 Needing money to run the government, Madero imposed a production tax on crude oil and on June 12, 1912 required the registration of all oil companies holding leases and lands.16 Although Madero's June 3rd production tax was only twenty centavos per metric ton (seven barrels),17 the petroleum firms bitterly characterized it as "confiscation."18

Although only El Aguila initially paid the tax, all the companies viewed Madero's registration law as the first step towards nationalization.
Indeed, the stated purpose of the law did little to alleviate the anxiety created as its objective was to establish a basis for indemnification of private owners if the government expropriated any property.\textsuperscript{19}

Despite the initiation of the tax and registration laws, Madero made gestures of goodwill towards the foreign investors and impressed Mrs. Edith O'Shaughnessy, the wife of the American Charge d'Affairs in Mexico City, with views that sounded "almost too reasonable to be true."\textsuperscript{20} Madero met with Weetman Pearson in Mexico City in August 1911 and assured him that the Mexican government would recognize the validity of the oil leases and purchases made under the Díaz regime. Furthermore, Madero offered Pearson a contract for harbor improvements at Coatzacoalcos and which Pearson readily accepted.\textsuperscript{21}

Rumors of Madero's ties to Standard Oil made Pearson unsure of the new President's actual loyalties and motives despite his conciliatory manner. Certain members of Madero's cabinet also added to Pearson's apprehensions. Ernesto Madero, the President's uncle, was a chief minister and was reported to have been a middle man in Madero's dealings with Standard Oil. Manuel Calero, an attorney, was the Interior Secretary and had been the Doheny interests' representative in Mexico City.\textsuperscript{22}

Madero also had trouble with different factions that had aided him in Díaz' capitulation. Zapata revolted in the south only sixty miles from the capital. Pascual Orozco led resistance to Madero in Chihuahua
while Diaz' nephew Felix rebelled in Vera Cruz. Felix Diaz was captured and sentenced to death but Madero spared Diaz and brought him to Mexico City. Throughout the country much of the population was losing its faith in Madero as promised reforms were slow to come.

Madero's most dangerous enemy was not a Mexican patriot or traitor, but was Henry Lane Wilson, the United States Ambassador to Mexico. Wilson was a friend of the Guggenheims and believed Madero was too weak and vacillating to control the chaos engulfing Mexico. Wilson forwarded and seconded to Washington the oil companies' complaints about Madero's new laws and the ambassador accused Madero of favoring British capital in Mexico. In Washington, President William Howard Taft, whose brother was Pearson's attorney in New York City, preferred to let his successor handle the Mexican situation.

Henry Lane Wilson moved to oust Madero before Woodrow Wilson assumed the presidency in March 1913. Secretly, the ambassador assured Madero's enemies in the capital the United States would not interfere with a coup d'état if the result would bring stability to Mexico. Felix Diaz escaped from jail and joined other rebel forces in Mexico City.

Opposing the rebel forces in the capital were troops led by Victoriano Huerta, a veteran of the Porfirian army and a general trusted by Madero. Seizing the opportunity, Huerta turned on Madero and made the President his captive. Henry Lane Wilson invited Huerta and Diaz to the American embassy where the three men agreed Huerta would become
President to be succeeded by Diaz within a few months. On February 22, 1913 Madero and his vice president, Pino Suarez, were murdered "while trying to escape."

Huerta was initially acceptable to both the British and American oil companies as they desired stability and a return to the policies of the Porfiriato. Huerta was backed by the old elite--the army, the wealthy, the advantaged--and soon caused Felix Diaz to flee. Huerta quickly obtained official British recognition for his government but the new U. S. president, Woodrow Wilson, would have nothing to do with the man he described as a "bloody usurper." To Wilson Huerta was the epitome of the distasteful Latin American strongman: he was a military man unelected by popular vote, he was supported by the reactionary forces of his country, and, worse of all, he had seized power over the corpse of his predecessor. Huerta had little chance to survive as Mexico's dictator with an outraged Woodrow Wilson opposing him.

What favor Huerta may have had in the American business community ended late in 1913 when he raised the tax initiated by Madero. The American oil companies protested vigorously to Huerta and Washington while flatly refusing to pay the tax. Again El Aguila and the smaller British companies paid the tax under protest and attempted to deal with "Huerta through their government. Sir Lionel Carden was appointed the British ambassador to Mexico but was the worst choice possible for the post from the American point of view. Carden was a close friend of Pearson's and the Taft Administration had considered him so anti-American that the U. S. State Department had twice requested the British to
remove him as ambassador to Cuba. Carden immediately invoked the ire of President Wilson by being quoted as saying Wilson knew nothing of Mexico. Carden later denied criticizing Wilson but reiterated that, in his opinion, Huerta was the man needed for the situation in Mexico.

Ambassador Wilson resigned his post in Mexico and President Wilson sent John Lind, a former governor of Minnesota, as his personal envoy to replace the meddlesome ambassador. Lind's job was to convince Huerta to step down voluntarily, but Huerta totally rejected such suggestions. Lind reported to Wilson that apparently Huerta had no intentions of holding a national election and that Huerta feared only rebel success. Additionally, Lind told the President that he believed Lord Cowdray "controls the Huerta Administration absolutely."

Lind's opinion about Weetman Pearson's influence over or with Huerta has some support in fact. Pearson publically supported Huerta and said he was the strongman the occasion required. Pearson gave Huerta's daughter a very handsome wedding present and had cordial relations with many of Huerta's advisors. In many ways Pearson, due to his long association in Mexico and his personal relationship with many respected Mexicans, became the British government's intermediary with the new regime. Although Pearson helped negotiate a sizable loan for Huerta, it must be remembered that Pearson had left Mexico in the spring of 1912 and conducted whatever relationship he maintained with Huerta from England.
Pearson's biographers, J. A. Spender and Desmond Young, discount Pearson's influence in the Huerta government. They claim Pearson participated in dealings with Huerta to the least extent possible, preferring a neutral position. In a letter to Dr. Walter H. Page, U. S. Ambassador to the Court of St. James, dated November 17, 1913, Pearson personally refuted allegations of any machinations on his part:

Dear Mr. Ambassador,

I am thankful to you for having received me this morning, and shall be further indebted if you will kindly advise your Government as follows:

1. That Sir Lionel Carden was appointed Minister to Mexico before it had come to my knowledge that there was to be a change. I need hardly say that I was not asked to express an opinion nor would I venture to give one to our Foreign Office relative to its representation in Mexico.

2. The interests in which I am concerned have not in any shape or form interfered with or had any hand in politics in Mexico during the twenty-four years we have been established in that country, with the single exception that on August 20th last, and in view of a certain cable from Washington suggesting our doing so, we telegraphed our representative in Mexico City in the following terms:

"Having received confidential advice from Washington that Congress and people becoming irritated about Mexican situation. Suggestion made that we advise Mexican Government take no arbitrary stand which might anger American people. Suggest you see General Huerta, do your best make him realize situation."

You may remember that it was, at that time, rumoured that the Mexican Government was going to deliver passports to the members of your Embassy in Mexico City, and it was stated that certain of the Cabinet Ministers had made public announcement of this intention. Fortunately, our message arrived at the opportune moment and we believe it was a principal factor in determining the President to abandon the precipitate course of action which had apparently been contemplated.

3. We have in no way, directly or indirectly, financed the present de facto Government of Mexico, beyond taking an interest of 500,000 pesos—something less than three percent—in a loan negotiated on September 20th last by the National Bank of Mexico, to which a large number of the prominent interests in Mexico subscribed.
4. That our oil concessions were given us some eight years ago by the Government of General Diaz, and are as valid as any railway or other concessions that Mexico had ever granted. Their validity was not questioned by the Madero Government, although many statements appeared in the press, manufactured, we believe, by competitors—that our concessions were not valid and should be cancelled. As a fact, the Madero Government specifically recognized their validity.

We have not applied to the present Government for further oil concessions, or extensions thereof. The Mexican Eagle Oil Company, Limited, in consequence of the concessions it holds, has incurred expenditure in connection therewith, involving to date, something over 50,000,000 dollars, gold.

5. In recent years, presumably by virtue of our long establishment in Mexico, we have been offered a number of contracts for Public Works, but with the exception of one awarded us by the Madero Government, we have not seen our way to accept them. I may add that some of these contracts were subsequently taken over by American contractors.

6. That the rumour that the Eagle Oil Transport Company has sold many of its vessels to the British Admiralty at a substantial profit has no foundation in fact. That Company has not disposed of a single one of its ships.

Yours sincerely,

cowdray.

While American policy revolved on the twin axes that Huerta was a "bloody usurper" and unduly controlled by Pearson, Huerta was fast losing the ability to provide any stability in the oil regions. Zapata was having continued success in the South and in the North the opposition gathered around the leadership of Venustiano Carranza, an ex-governor of Coahuila under Diaz. Carranza was a tall, bespectacled man with an avuncular manner and he espoused revolutionary dogma but his history suggested his zeal emanated more from ambition for power than for reform. Carranza was recognized as the "First Chief" by such leaders as Pancho Villa, Pablo Gonzalez, and Alvaro Obregon.
Taft had initiated an arms embargo against Mexico in 1912 and Wilson continued the official embargo but allowed guns and munitions to be transported openly to the revolutionaries. These revolutionaries under Carranza styled themselves the "Constitutionalists." They advocated the democratic selection of a legitimate successor to Madero and supported the precepts of the liberal Constitution of 1857.

Great Britain's early support of Huerta began to wane as the threat of a general European war increased. The British needed American friendship far more than it needed a rapidly weakening Huerta and Wilson's intransigence about Huerta was apparent. The British decided to gamble the United States would protect its oil interests in Mexico in time of war, and in December 1913 Carden told Huerta that Great Britain was withdrawing its recognition of the general's government. Wilson lifted the official arms embargo while at the same time the withdrawal of British support for Huerta deprived him of money and markets in which to purchase his war material.

In March 1914 Carranza reportedly received a $100,000 cash advance and a $685,000 fuel credit from Edward Doheny. The fuel credit greatly aided the Constitutionalists as the revolutionary campaigns followed the railroad lines and a sure supply of oil greatly facilitated the rebel's advance. Huerta was forced to abandon the initiative and garrisoned the rail junctions leading to the capital in an attempt to hold the major cities throughout the country. Huerta's forces were well equipped but were made up of conscripts who lacked the revolutionary
fervor of Carranza's forces. Often, Huerta's troops chose to surrender or run rather than to fight.

In March 1914 the Constitutionalists launched a three-pronged offensive against Huerta. Obregon marched down the western portion of the country while Villa attacked with his forces through the center of the country gaining a great victory at Torreon. Pablo Gonzalez quickly ousted the Huertistas from Monterrey and in April his Constitutionalist troops besieged Tampico.

Both sides valued the oil region and through self interest wanted the fields to remain intact. Huerta controlled the ports of Tampico and Tuxpam while the rebels ruled in the countryside. The United States, Great Britain and several other European countries maintained naval squadrons off the Tampico jetties to insure the protection of the foreigners and their property in the oil region. Throughout the prolonged fighting very little damage was done to the fields although most of the foreigners did evacuate the area on several occasions.

During the Constitutionalist siege of Tampico, several U. S. Navy men were detained for a few hours in the city by Huerta's troops. The sailors were released with apologies but due to the tenor of Huerta's relationship with President Wilson, the incident escalated into what the United States considered an insult to the flag. This "Tampico Affair" resulted in Wilson ordering the occupation of Vera Cruz by U. S. Naval forces on April 21, 1914. Although Huerta tried to use
the occupation to rally all Mexicans against the Yankee invader, he was unsuccessful and the force of events convinced him to flee Mexico in July 1914.

Initially contested by Zapata in the South and Villa in the North, Carranza eventually emerged as the premier national leader although his power was continually tested. The following turbulent years was a period in which several leaders made attempts to dominate the policies of the new Mexico. Carranza's opponents called for radical changes and the reluctant First Chief was forced to initiate new measures in an effort to maintain revolutionary unity.

In one area of the economy the revolutionary leaders were in agreement: petroleum was a national resource that belonged to the Mexican people. The week after Huerta fled Mexico Carranza issued an executive decree introducing "bar dues," or export taxes on shipments of petroleum from Tampico and Tuxpam. This tax, the first official tax of its kind on oil exports, was vehemently denounced by the oil companies although the rate was a low ten centavos per metric ton.

Although Carranza owed his victory over Huerta in part to President Wilson, Carranza did not prove as pliable as had been hoped for by Washington. Carranza refused to send representatives to a conference of Latin American nations called by Wilson to discuss the Mexican situation. Formal United States recognition of the Carranza government did nothing to change the First Chief's attitude towards the conference.
The United States may have been instrumental in Carranza's victory over Huerta, but Carranza wished to disassociate himself from the policies of the American government.

Carranza's lieutenant in the oil region was his future son-in-law, Candido Aguilar. Aguilar quickly made enemies in the region by accusing many prominent local leaders of Huertista support. Soon after Huerta fled Mexico, Manual Pelaez rose against the Aguilar forces and seized control of the oil region except for the ports of Tampico and Tuxpan. For the next six years the situation remained virtually the same. In retaliation, Aguilar on August 27, 1914 decreed that all lease concessions and contracts concerning oil "celebrated" during Huerta's regime were null and without legal effect. The oil companies were forced into paying Carranza's export taxes for shipment from the terminals at Tampico and Tuxpan while supporting Pelaez' demands in the countryside. Nevertheless, to the oil companies the competing requirements for tribute from Pelaez and taxes from Carranza were preferable to the radical measures Zapata and Villa espoused.

For the oil companies the situation soon worsened as Carranza's export tax only foreshadowed his future policies concerning petroleum. Within the first months of his rule, Carranza directed the newly formed Ministry of Development, Colonization and Industry to prepare a program to restore the nation's ownership of its subsoil minerals. During the next three years Carranza increasingly used taxes, drilling requirements, and registration decrees to regulate and control the
petroleum business. Carranza also tried to force the foreign companies to accept the Calvo Clause whereby foreigners agreed not to resort to diplomatic protection in disputes with the Mexican government. These measures of Carranza generated revenues for the depleted national government, but more importantly, alleviated much of the domestic criticism of Carranza's revolutionary program.

Still in effect today, the Constitution of 1917 consolidated the goals of the revolutionary masses of Mexico. Although the provisions of the Constitution went beyond the immediate objectives of Carranza, the document formally ended the legal and institutional framework established by Diaz and maintained virtually intact until Huerta's defeat. Petroleum was particularly addressed by the writers of the Constitution and Article 27 was of direct consequence to the oil industry. The article affirmed that the direct ownership of the subsoil wealth of Mexico belonged to the nation and that the right was "inalienable." Only Mexicans by birth or naturalization and Mexican companies" were to have "the right to acquire ownership" of the subsoil although the "Nation may grant the same right to foreigners provided they agree. . .to be considered Mexican in respect to such property, and accordingly not invoke the protection of their governments." Additionally, Article 27 provided that "Within a zone of 100 kilometers from the frontiers and of 50 kilometers from the seacoast, no foreigner shall under any conditions acquire direct ownership of lands and waters." Almost all of the Faja del Oro was within 50 kilometers of the sea.
CONCLUSION

Huerta's flight in 1914 marked the final defeat of the old order and the victory of the revolutionary principles which became embodied in the Constitution of 1917. Madero's rhetoric had been revolutionary but his methods were traditional. Huerta, a classic example of the military strongman, found support in the reactionary remnants of the Porfirian hierarchy struggling to retain their control of the nation. Unlike Huerta, Carranza was obligated to the revolutionary masses and his later conflicts with Villa, Zapata and Obregón were battles between members of the same ideological fraternity. These leaders all believed in one principle—the nation's sovereignty over the subsoil.

Throughout the period from 1914 until President Lazaro Cardenas expropriated the petroleum industry in 1938, the foreign owned oil companies labored under and against the new order. Production of oil rose until 1921 despite the continued fighting in Mexico and then began a dramatic fall as the path of the Mexican government became clear. Mexico instituted more regulation of the industry and higher taxes during the 1920s and the oil companies replied to these measures with increased hostility.

Neither Edward Doheny nor Weetman Pearson lived to see the expropriation by Cardenas and, in any case, both had sold their Mexican holdings before 1930. Doheny divested himself of his Mexican properties in the mid-1920s while under trial for his involvement in the infamous Teapot
Dome Scandal. Doheny was found innocent, but the six year ordeal soured his taste for an active role in oil. Doheny received $37,575,000 and stock from Standard Oil of Indiana for his Mexican and Venezuelan holdings. Doheny's prospecting days were over and he died in 1933.

During World War I Pearson was Great Britain's first President of the Air Board, the forerunner to the Air Ministry. Also, he became extensively involved in military construction and munitions production during the war. Although he never returned to Mexico after 1912, he actively directed El Aguila from London. As the war closed, Henry Deterding again approached Pearson about selling his oil properties. Pearson hesitated but the situation in Mexico convinced him of the futility of future dealings in the country. "His Mexican friends were all in exile, the Tehuantepec Railway had gone, and Mexico under Carranza was no place for him." Early in 1919 the negotiations were completed and Royal Dutch Shell assumed operation of El Aguila with Pearson retaining a large minority interest and the control of the Eagle Fleet.

In the years following the Great War, the production of the Mexican oil fields soared. Between 1919 and 1921 El Aguila's fields increased production from 18,700,000 barrels to over 32,000,000 barrels yearly. Then without warning, Potrero del Llano No. 4 was invaded by salt water that soon spread throughout the field and other nearby sites. After peak production years in 1921 and 1922, the Mexican oil fields began a precipitous decline.
Salt water encroachment was only one reason for the dramatic fall in production. Oil field technology to combat the salt water was primitive and expensive while new wells proved unsuccessful. New fields were discovered in Texas, California, and Oklahoma as production in Russia and Venezuela rose sharply. The glut created by these sources of oil caused a world-wide fall in petroleum prices during the 1920s. Meanwhile, the foreign companies became more and more wary of new investment in Mexico as the government continued to implement measures the companies believed to be discriminatory and confiscatory. Venezuela with an economic climate much like that of Porfirian Mexico became a more attractive site for unhampered investment and exploitation. In 1932 Mexico's oil production reached a low of 32,805,496 barrels and, although the downward slide was somewhat halted by the discovery of the rich Poza Rica fields in 1933, the production levels of the early 1920s were not reached again until after World War II.

Today, Mexico owns and controls her petroleum industry but remembers the days of Porfirio Diaz when foreigners dominated the exploitation of the nation's subsoil. The revolution against Diaz was partially a reaction to that domination and to the great influence foreigners had over Mexico's economy. The early Mexican oil industry was developed by such men as Edward Doheny and Weetman Pearson who had the fortitude, energy and resources to accomplish the job. They and their successors resisted the efforts of Revolutionary Mexico to establish its control over the petroleum resources of the nation until Lazaro Cardenas ended
foreign participation in the oil industry by expropriation. Today, once again, the industrialized world wants Mexico's oil but this time Mexico will assure it is on her terms.
FOOTNOTES

Chapter I

1"Historical" No. 5347, DeGolyer Collection, Southern Methodist University Library, Dallas, Texas, p. 1.


4Ibid., p. 2.


7Ibid.

8"Historical," DeGolyer Collection, p. 2.


10Ibid.

11Quoted in Hamilton, Oil Tales, pp. 19-20.


13Everette Lee DeGoyler, "The Crude Oil Industry of the Tampico Region, Mexico," March 8, 1912, No. 5347, DeGolyer Collection, p. 3.


16John Henry Brown, Two Years in Mexico (No publisher, 1867), DeGolyer Collection, p. 100.


26 Ibid.

27 Tuxpan is frequently spelled "Tuxpan."


32 Ibid., p. 292.


34 The Mexican Yearbook, 1920-21, p. 292.


39 Meyer, Mexico and the United States, p. 3.


41 Alfred Tischendorf, Great Britain and Mexico in the Era of

42 Ibid., p. 123.


44 Tischendorf, Great Britain and Mexico, p. 169.


46 Tischendorf, Great Britain and Mexico, p. 169.

47 Middleton, Industrial Mexico, p. 152.


49 McMahon, Two Strikes and Out, p. 25.


55 Mrs. Alec Tweedie, Mexico As I Saw It (London: Thomas Nelson and Sons, 1911), p. 129. Despite the harsh tone of the quote from Mrs. Tweedie, she liked Diaz personally and respected him as a ruler.

56 Villegas, Compact History, p. 125.

57 Cumberland, Mexico, p. 190.


59 Villegas, Compact History, p. 125.

60 Powell, Mexican Petroleum, p. 7.


65 Young, *Member For Mexico*, p. 143.


67 Gordon, *Expropriation in Mexico*, p. 5. David Pletcher argues in *Rails, Mines and Progress* (Ithaca, New York: Cornell University Press, 1958) that foreign capital did not generate significant profits in Mexico during the Porfiriato. Pletcher does not discuss the petroleum industry at length and restricts his discussion to the years before the large oil production began.

68 The *Mexican Yearbook, 1913*, (London and New York: McCorquodale and Company, 1914), pp. 46-53, discusses the Mexican banking system as it existed during the Diaz period and early revolutionary years.


70 Ibid.


72 Ibid.

73 Rippy, *Oil and Revolution*, p. 2.

74 Gordon, *Expropriation in Mexico*, p. 56.

75 Rippy, *Oil and Revolution*, pp. 8-9.


79 Articles 6 and 10 quoted in Gordon, *Expropriation in Mexico*, p. 57.
80 Rippy, Oil and Revolution, p. 16.

81 Quoted in Rippy, Oil and Revolution, p. 21.

82 Harlow S. Person, Mexican Oil: Symbol of Recent Trends in International Relations (New York: Harper and Brothers, 1942), p. 36.

83 Ibid.

84 Rippy, Oil and Revolution, p. 23.

85 Gordon, Expropriation in Mexico, p. 4.

86 Cumberland, Mexico, p. 198.

87 Ibid., p. 199.

88 Gordon, Expropriation in Mexico, p. 5.

89 Cumberland, Mexico, p. 200. Turner's Barbarous Mexico, cited above, discusses in length numerous atrocities alleged against the Diaz regime especially those against the Yaquis and other Indians of Mexico. Turner claimed to have personally witnessed the horrors he described.

90 Cumberland, Mexico, p. 201.


92 Powell, Expropriation in Mexico, p. 9.

93 Cumberland, Mexico, p. 224.

94 Tweedie, Mexico, p. 104.

95 Ibid., p. 119.

96 Ibid., p. 156.

97 Malinchismo is a word derived from the name of Cortes' Indian mistress who acted as the conqueror's interpreter.

98 Cumberland, Mexico, p. 198.

99 Ibid., p. 193.

100 Villegas, Compact History, p. 127.

Chapter II


3 Ibid.


6 Ibid.

7 "Trailing Doheny Over Oil and Quicksands," Current Opinion, March, 1924, p. 283.

8 Ritchie, The Dohenys, p. 12.

9 Ibid.

10 Forbes, Men Who Are Making the West, p. 104.


12 Forbes, Men Who Are Making the West, p. 105.


15 Forbes, Men Who Are Making the West, p. 106.

16 Thy cyanide process extracts gold and silver from low grade ores by treating the ores with a solution of diluted cyanide or potassium cyanide and then recovering gold and silver by electrolysis. The process was first developed by the South African Witwatersrand mines.


18 Ibid., pp. 14-15

19 Ibid., p. 16.

20 Forbes; Men Who Are Making the West, p. 111.

21 Ibid., p. 112.
22 Ibid.
23 Tinkle, Mr. De, p. 27.
24 Ibid.
26 Mexican Petroleum, p. 15.
27 Ibid.
30 Mexican Petroleum, p. 17.
31 McMahon, Two Strikes and Out, p. 11.
33 Ibid.
34 Mexican Petroleum, p. 23.
35 Tinkle, Mr. De, p. 27; Barron, The Mexican Problem, p. 20.
36 Carlton Beals in Mexican Maze believes the worse of the oil companies; Frank Hanighen in The Secret War believes the opposite.
38 Ibid.
41 Mexican Petroleum, p. 20.
46 Tinkle, Mr. De, p. 29.
48 Barron, The Mexican Problem, p. 137.
50 J. Gaston Carter, interview, Tampico, Mexico, August 10, 1978; Alfonso Casados, interview, Tampico, Mexico, August 14, 1978; Archibald Seabrook, interview, Tampico, Mexico, July 25, 1978.
51 Mexican Petroleum, p. 31
52 Young, Member for Mexico, p. 16.
53 Ibid., p. 25.
55 Young, Member For Mexico, p. 10.
56 Ibid., p. 11.
57 Spender, First Viscount Cowdray, pp. 13-14.
58 Young, Member For Mexico, p. 2.
59 Ibid., p. 2.
60 Spender, First Viscount Cowdray, p. 84.
61 Ibid., pp. 85-86.
62 Ibid., p. 287.
63 W. B. Ryan, this thesis writer's grandfather, was the vice-president and general manager of the Tehuantepec Railroad from 1908-1916.
65 Spender, First Viscount Cowdray, p. 3.
66 Ibid., p. 149.
67 Young, Member For Mexico, p. 121.
68 Ibid., p. 119.
69 Ibid., p. 122.
70 Spender, First Viscount Cowdray, p. 151.
71 "Notes on Mexican Oil Industry," p. 3.
73 Spender, First Viscount Cowdray, p. 151.
74 A list of the firm's construction contracts is included in Spender, First Viscount Cowdray, pp. 286-89.
75 Spender, First Viscount Cowdray, p. 152.
76 Ibid.
77 Calvert, The Mexican Revolution, p. 25.
79 Tischendorf, Great Britain and Mexico, p. 124.
80 Spender, First Viscount Cowdray, p. 153.
81 Ibid., p. 154.
82 Ibid., p. 173.
83 Ibid., p. 156.
84 The Mexican Yearbook, 1913, p. 295.
85 Tischendorf, Great Britain and Mexico, p. 144.
86 The Mexican Yearbook, 1913, p. 295; DeGolyer, "The Crude Oil Industry," p. 5. Everette Lee DeGolyer was Weetman Pearson's chief geologist from 1909-14. DeGolyer chose the Potrero del Llano No. 4 drilling site and Pearson considered DeGolyer his "luck." DeGolyer was born in 1886 and studied geology at the University of Oklahoma. With financial backing from Pearson, DeGolyer formed the very successful Amerada Petroleum Company and later he formed the equally successful Rycade Company. DeGolyer was a noted expert in geology and geophysics.
He introduced many innovations in the exploration and exploitation of oil. Also, DeGolyer was an avid book collector and scholar. In the late 1940s he became the majority stockholder in the *Saturday Review of Literature*, but allowed full editorial control to remain with Norman Cousins. DeGolyer died in 1956.

89 Young, *Member For Mexico*, p. 127.
91 Spender, *First Viscount Cowdray*, p. 159.
95 Calvert, *The Mexican Revolution*, p. 24; Meyer, Mexico and the United States, p. 5 indicates Mexican capital never exceeded three percent of the total investment in the oil industry.
100 Spender, *First Viscount Cowdray*, p. 182.
102 Everette Lee DeGolyer, Letter to Dr. C. W. Hayes, January 13, 1911, No. 5201, DeGolyer Collection, p. 2.
103 Ibid., p. 1.
106 Tinkle, Mr. De, p. 42.
107 Ibid.
108 Ibid., p. 44.
110 Young, Member For Mexico, p. 134.
Chapter III

1 Money obtained by graft.
2 Barron, The Mexican Problem, p. 28.
3 Hidy and Hidy, Pioneering in Big Business, p. 200.
4 Young, Member For Mexico, p. 128.
5 Ibid., p. 127.
6 Ibid., p. 128.
7 Hidy and Hidy, Pioneering in Big Business, p. 448.
8 Ibid., p. 258.
9 Ibid., p. 128.
10 Rippy, Oil and Revolution, p. 135.
11 Spender, First Viscount Cowdray, p. 163.
12 Calvert, The Mexican Revolution, p. 22.
13 Hidy and Hidy, Pioneering in Big Business, p. 448.
14 Address of Standard Oil in New York City.
15 Hidy and Hidy, Pioneering in Big Business, p. 448.
16 Ibid.
18 Rippy, Oil and Revolution, p. 138.
19 Turner, Barbarous Mexico, p. 266.
21 Hidy and Hidy, Pioneering in Big Business, p. 464.
22 Spender, First Viscount Cowdray, p. 164.
23 Ibid.
24 Ibid.

26 Young, Member For Mexico, p. 128.

27 Spender, First Viscount Cowdray, p. 165.

28 Quoted from unnamed source in Tischendorf, Great Britain and Mexico, p. 125.

29 Young, Member For Mexico, p. 128.

30 Spender, First Viscount Cowdray, p. 168.

31 Young, Member For Mexico, p. 129.

32 Spender, First Viscount Cowdray, p. 166.

33 Young, Member For Mexico, p. 129.

34 Spender, First Viscount Cowdray, p. 166.

35 McMahon, Two Strikes and Out, p. 178.

36 Spender, First Viscount Cowdray, p. 167; Young, Member For Mexico, p. 129.


39 Spender, First Viscount Cowdray, p. 169.


41 Young, Member For Mexico, p. 138.

42 Ibid.

Chapter IV


2 Mexican Petroleum, p. 31.

3 Meyer, Mexico and the United States, p. 23.

4 Mexican Petroleum, p. 126.

5 Ibid., p. 35.

6 Ibid., pp. 35-36.

7 Rippy, Oil and Revolution, p. 141.


9 Ibid., p. 123.


11 Ibid., p. 74.

12 Ibid., p. 73.

13 Beals, Mexican Maze, p. 341.

14 For a history of Potrero del Llano No. 4's early production see a letter from T. H. Vaughan to Mr. E. DeGolyer dated 15th July 1916, DeGolyer Collection, no. 5201, three pages.


16 Spender, First Viscount Cowdray, p. 186.

17 Tinkle, Mr. De, p. 60.


21 Ibid., p. 23.

22 Young, Member For Mexico, p. 183.
23. Ibid.

24. Ibid., p. 170.

25. In 1907 Royal Dutch joined with the British Shell Transport and Trading Company to form Royal Dutch Shell. Royal Dutch controlled sixty percent of the stock.


27. Ibid., p. 264; The Oilfields of Mexico had been incorporated September 1, 1903 as a Delaware company, *The Mexican Yearbook, 1909-10*, p. 504.


30. Ibid., p. 265.

31. Ibid., p. 266.

32. Ibid.

33. Ibid., p. 267.

34. Reginald Wright Barker, *Personal Notes on the Mexican Oil Industry, Bellaire, Texas*. Mr. Barker was active in the Mexican oil business from the late 1920s to 1938.


36. Ibid., p. 2.


42. Ibid.
115

44. Ibid.
46. Ibid., p. 10.
49. Ibid., p. 6.
50. McMahon, Two Strikes and Out, p. 40.
51. Ibid.
52. Terry, Terry's Mexico, p. 49.
54. The Mexican Yearbook 1913, p. 34.
55. Ibid.
59. Ibid.
63. The Mexican Yearbook, 1920-21, p. 306; Middleton, Industrial Mexico, pp. 53-54.

64. After World War I the great oil producing strip was usually called the Golden Lane.


68. American Consul, Charles Miller, in Tampico, Mexico to the Secretary of State, August 23, 1913, Records of the Department of State, U. S. National Archives, 812.156/17 (Microfilm records at the Institute of Latin American Studies' library, University of Texas at Austin), p. 4.


70. Ibid., pp. 8-9.

71. Ibid., p. 9.

72. Ibid.

73. Ibid., p. 10.


75. Tinkle, Mr. De, p. 171

Chapter V


2 Morris, Mexico, p. 244.

3 Ibid.

4 Calvert, The Mexican Revolution, p. 33.

5 Womack, Zapata, pp. 10-11.


7 Morris, Mexico, p. 244.

8 Cumberland, Mexico, p. 242.

9 Rippy, Oil and Revolution, p. 139; Meyer, Mexico and the United States, p. 21.

10 Calvert, The Mexican Revolution, p. 75.


12 Tinkle, Mr. De. p. 189.

13 Rippy, Oil and Revolution, p. 140.

14 List of papers from American Consulates concerning petroleum in Mexico, November 21, 1914, Records of the Department of State, U. S. National Archives, 812.6363 (Microfilm records at the Institute of Latin American Studies' library, University of Texas at Austin).

15 Rippy, Oil and Revolution, p. 137; Meyer, Mexico and the United States, p. 4.

16 Bermudez, National Petroleum, p. 4.

17 Rippy, Oil and Revolution, p. 29.

18 Meyer, Mexico and the United States, p. 31.

19 Ibid., p. 32.

21 Young, *Member For Mexico*, p. 148.
25 Taft, later U.S. Supreme Court Chief Justice, always knew when to withdraw from a "case."
26 O'Connor, *The Oil Barons*, p. 166.
29 Young, *Member For Mexico*, p. 151.
30 Ibid.
31 Ibid., pp. 151-52.
33 Both of Pearson's biographers, Spender and Young, argue that Pearson's influence in the internal affairs of Mexico was minimal during all of Pearson's long association with the country.
35 Young, *Member For Mexico*, pp. 165-66.
39 The Tampico Affair and the subsequent occupation of Vera Cruz is superbly described in Quirk's *An Affair of Honor*.
40 Powell, *The Mexican Petroleum Industry*, p. 10
41 Villegas, *Compact History*, p. 137.
43 Ibid.
44 Young, Member For Mexico, p. 179.
46 List of papers from American Consulates concerning petroleum in Mexico, August 27, 1914, Records of Department of State, U. S. National Archives, 812.6363 (Microfilm Records at the Institute of Latin American Studies library at The University of Texas at Austin).
48 Meyer, Mexico and the United States, p. 47
49 O'Connor, The Oil Barons, p. 168 quoting the 1917 Mexican Constitution known officially as the "Constitución Política de los Estados Unidos Mexicanos de 1917."
Conclusion

1 Villegas, *Compact History*, p. 137.
3 Carranza's government "purchased" the railroad under terms included in Pearson's original agreement with Diaz.
4 Young, *Member For Mexico*, p. 190.
5 Ibid., p. 189.
6 Ibid., p. 190.
8 Ibid., p. 9.
BIBLIOGRAPHY

ARCHIVES AND COLLECTIONS


DeGolyer Collection, Southern Methodist University Library, Dallas, Texas.

Records of the Department of State, U. S. National Archives, Washington, D. C. Austin, Texas: Microfilm Reproductions at the Institute of Latin American Studies, University of Texas.

BOOKS AND ARTICLES


Brown, John Henry. Two Years in Mexico. No publisher: DeGolyer Collection, 1887.


Floyd, Olive. Doctora in Mexico, the Life of Dr. Katherine Neel Dale. New York: G. P. Putnam's Sons, 1944.


Villegas, Daniel Cosio; Bernal, Ignacio; Toscano, Alejandra Moreno; Gonzalez, Luiz; and Blanquel, Eduardo. *Compact History of Mexico*. Translated by Marjory Mattingly Urquidi. Mexico City: El Colegio de Mexico, 1974.


**INTERVIEWS**


**PERIODICALS**


"Lord Cowdray: the British Oil King Behind the Mexican Crisis." *Current Opinion*, February 1914, pp. 110-11

"Trailing Doheny Over Oil and Quicksands." Current Opinion, March 1924, pp. 282-84.