

Black Gold Where the Conquistadores Trod

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Frederick Jackson Turner is reputed once to have remarked to a friend that "conditions in ancient history and, indeed, in much of history are so different from those in the present that lessons derived from anything but recent history are apt to be misleading" (Jacobs, 1966). Even with the admonition of that great authority in mind, we can learn much from the history of the technological development of the great Southwest. The history of the extraction of natural resources, especially of petroleum, in New Mexico offers a valuable lesson for our society in microcosm.

When one contemplates the long recorded history of the American Southwest, some conclusions can readily be drawn which may be useful as we seek to chart our future course as a section and as a nation. These conclusions, while both tentative and tenuous, are three in number: (1) Scientific technology has changed and is changing society's concept of the essence of wealth; (2) Technology itself is often required to obtain natural resources it has made the basis of wealth; and (3) Cities grow and thrive because of the production and utilization of raw materials recovered from vast areas of land often far removed from metropolitan centers.

The Spanish *Conquistadores* who followed Columbus to the New World came to loot indigenous peoples of precious metals, jewels and other riches. Hernando Cortes, in youthful contempt, probably summed up the attitude of many sixteenth century Iberians when he declared, in response to an offer of lands and Indians in *encomienda* in Española, "I came for gold, not to till the soil like a peasant" (Parkes, 1960: 40). Cortes found gold and riches in Mexico, which he liberated from the possession of the heathen Aztecs, but he, Garay and Nuño de Guzmán overlooked the vast deposits of petroleum in Panuco which a later race of economic *Conquistadores* discovered and exploited in the twentieth century.

A number of Spaniards crossed and recrossed the Southwest, usually seeking the wealth of silver and gold, without realizing or caring about the vast wealth in natural resources extant there which would be greatly prized by later generations. First came the great pedestrian, Alvar Núñez Cabeza de Vaca, in the 1530's (Hollon, 1961). The stories of great wealth which he heard from the Indians and retold in Mexico City kindled an interest in the area which ultimately resulted in the permanent settlement of New Mexico despite the failure to find wealth experienced by Francisco Vazquez de Coronado, the Rodriguez-Chamuscado expedition, the Espejo-Beltran expedition, Gaspar Castaño de Sosa, Humaña and Bonilla and Juan de Oñate (Beck, 1962).

Even after the royal authorities of New Spain decided to maintain New Mexico, regardless of its dearth of precious metals, as a buffer colony against possible future intrusions by rivals from the north, the vast natural resources of the area went unnoticed and unsuspected. Friar

Alonso de Benavides, in his two interesting but piously fraudulent *Memorials* written in the 1630's for King Philip IV and Pope Urban VIII, declared on page after page that rich deposits of silver and gold existed throughout the domains of the Pueblo Indians. Neither Benavides' ambition to be appointed the first Catholic bishop of New Mexico nor the masses of gold and silver described in his *Memorials* materialized within the good friar's lifetime (Beck, 1962: 69-70).

The unshakable faith of the Spanish that precious metals existed in commercial quantities throughout New Mexico was, however, ultimately vindicated. By the end of the seventeenth century some small lead and silver "diggings" were being worked in the Cerrillos area south of Santa Fe. The same area was producing small amounts of gold by the 1750's. Large deposits of copper were discovered and worked by Mexican miners as early as 1804 at the Santa Rita mine near Silver City. The first substantial gold lode strike west of the Mississippi River was made in the Ortiz Mountains between Albuquerque and Santa Fe, in 1828. By the early 1830's approximately \$75,000 in gold was being produced annually in the Ortiz area. Ultimately, all but nine of New Mexico's thirty-two counties produced some gold. Subbituminous coal exists in numerous deposits and outcrops throughout the state and has been used as a source of fuel by local inhabitants since the seventeenth century. Not until the railroads were built through New Mexico between 1879 and 1882, however, did coal find a steady and substantial market. Lead, zinc, manganese, molybdenum, potash and even uranium have also been discovered and produced in New Mexico (WPA, 1940).

Presently the most valuable natural resource produced in New Mexico is petroleum, consisting of both crude oil and natural gas. This "black gold" produced in the land where the Spanish *Conquistadores* sought wealth would have been of relatively little value and only passing interest to the Iberians even if they had known of its existence and location. The survivors of the De Soto expedition, in 1543, found a dark substance, which they called *copé*, floating on the water of one of the creeks they encountered as they coasted the Texas shoreline in their journey from Mississippi to Mexico. The *copé* was similar to a material the Spanish used in Iberia to caulk ship bottoms and the De Soto veterans utilized it for that purpose. Indians of the Southwest used petroleum, both internally and externally, as a medicament for many afflictions and as war paint. While both the Spanish and French noted the presence of petroleum in the Southwest, especially in Texas, they treated the substance as a natural phenomenon of only passing interest without commercial value (Rister, 1949). Scientific technology had to develop a use for petroleum and a means of "capturing" the elusive substance before "black gold" could become a source of wealth on a par with the yellow. By the time science and technology performed that function, Spain's long colonial era had ended and the Iberians no longer conducted affairs in the American Southwest.

The existence of asphaltic petroleum in New Mexico has been known since the middle of the nineteenth century. An oil seep in a cave on the Navajo Reservation was used for several decades as a source of lubricant for wagons passing through northwestern New Mexico Territory. E. L. Goodridge, in 1882, was the first man to file a claim for petroleum rights on the public domain after he prospected through the desolate Four Corners area (Kuhn, 1958). Scientists working for the Pacific Railroad Company, a precursor of the Atchison, Topeka and Santa Fe Railroad Company, in 1884, reported oil seeps near Gallup in present McKinley County. Territorial Governor Miguel A. Otero, in 1901, optimistically reported exploratory activity and confidently predicted as imminent the discovery of commercial petroleum deposits (Annual Report, 1902).

The great development of natural gas production in the San Juan Basin was foretold by a 2,730-ft test well drilled in 1906-07 near Farming-

ton. This well uncovered a heavy flow of natural gas at a depth of 740 ft. The well produced no substantial quantities of crude oil and there was no market for the natural gas, but 40 years later pipe lines carried the rich natural gas of the San Juan Basin to both coasts. In 1909, an interesting but uncommercial flow of petroleum was discovered in a water well, known as the "old Brown well," near Dayton in Eddy County. In 1911 another water well, this time in the Seven Lakes area of McKinley County, uncovered a show of petroleum at 350 ft. This discovery set off New Mexico's first oil boom which resulted in the filing of approximately 3,000 claims in 20 townships. This boom faded in a manner consistent with the seven ephemeral lakes after which it was named (Winchester, 1933).

During the 1920's both natural gas and crude oil were discovered in the northwest and southeast portions of New Mexico. In 1921, the Midwest Refining Company discovered the Southern Ute Dome natural gas pool and by the next year had completed two wells, one with a tested capacity of 4,000,000 ft³/day and another rated at 37,000,000 ft³/day. By 1930, a six-inch pipeline had been built from Durango, Colorado, to provide a market for the Southern Ute Dome operation. After a wait of eight years, the Southern Ute Dome gas wells were commercially utilized (Winchester, 1933). The Hogback Field near the eastern boundary of the Navajo Reservation was discovered in 1922 by the Midwest Refining Company. The discovery well flowed 375 barrels of oil from a depth of 796 ft (Kuhn, 1958). The famous Artesia Field, located 14 miles southeast of Artesia, was discovered in August of 1923, and was further developed in 1924, by the firm of Flynn, Welch and Yates (Stipp, 1956). Both natural gas and petroleum were produced in the Artesia Field and by 1930, some 300 wells were producing from the field (Winchester, 1933). In this manner the northwestern flank of the great Permian Basin was discovered.

The Permian Basin, one of the greatest oil-producing regions in the world, covers 88,610 square miles of which 76,610 are located in western Texas and some 12,000 in New Mexico (Rister, 1949:284). The New Mexico part is known as the Permian Basin while the Texans, with great originality and modesty, call their portion the West Texas Field. Exploration and development of the western portion of the Permian Basin proceeded from the opposite ends of the structure. The small and medium-sized operators drilled eastward and southward from the Artesia Field while the larger companies conducted operations northward and westward from the discovery site of the Westbrook Field, drilled in 1920, near Colorado City, Texas (Rister, 1949:285).

New Mexico dates its entry into the company of the major oil-producing states from 1930, the date of the second completion in the Hobbs Pool in Lea County. This well, drilled by the Humble Oil and Refining Company, produced 60,000,000 ft³/day of gas from two formations and over 10,000 barrels of oil from two other formations (Winchester, 1933:155). The Hobbs Pool from its inception has been conducted as a "monument to conservation" for the whole petroleum industry (Nutter, 1963). Rotary rigs were used for drilling out the field. It was probably the first to have tubing in oil wells at the time of completion (Porter, 1963). It has been operated on sound conservation principles and by the end of 1962, 160 of the 338 wells were still flowing after having produced over 178,000,000 barrels of oil (Nutter, 1963).

Today the New Mexico petroleum industry is still increasing its production and reserves of crude petroleum and natural gas. In 1965, New Mexico's most prolific year to date, eight counties produced \$494,672,000 worth of petroleum and natural gas from 21,517 wells. Crude petroleum ranks first and natural gas third in the principal mineral products of the state in order of value. The petroleum industry produces 65.5% of all of

the present mineral output of the state. New Mexico presently ranks fifth in the nation in the total value of all petroleum and natural gas produced. In 1965, the industry employed over 8,000 people in crude oil and natural gas production (Porter, 1963).

Most of the petroleum and natural gas produced by New Mexico is exported from the state. Its population of approximately 1,000,000 people does not consume even a majority of the petroleum products furnished by the state. Natural gas is transported by high pressure pipe lines from both the San Juan Basin and the Permian Basin to California, the Midwest and the Eastern seaboard. Cities and persons thousands of miles from New Mexico use the fruits of its natural resources for a myriad of purposes.

When one views the great change that science and technology have wrought in the concepts of what constitutes wealth, it does not seem improbable that future generations may well view the Americans of the twentieth century as almost as backward and crude as we regard the Spanish *Conquistadores* who overlooked subterranean fortunes in "black gold" while seeking elusive gold and silver on the surface.

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