

A HISTORY OF NORTH DAKOTA'S PETROLEUM INDUSTRY, 1917-2017

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ABSTRACT

North Dakota's petroleum industry can be traced back to 1917, when Arthur Blum found a small amount of oil in a well drilled to water his cattle. The unsuccessful exploration for oil continued from 1917 until 1951, when on April 4, oil was produced, in commercial quantities, from the Clarence Iverson #1 well. The discovery well initiated the state's first boom, and after several other wells began production, the state began construction of industry infrastructure. This discovery boom lasted until 1966, when a global oil glut reduced exploration and production slowed. In the 1970s, as a result of OPEC's manipulation of petroleum markets, the state would again experience a boom in its petroleum industry. This boom was short-lived, however, and ended abruptly and painfully. Government deregulation of the industry, coupled with Middle East tensions easing, caused foreign petroleum to produce once again a global glut in oil which caused prices to fall dramatically.

After nearly two decades of anemic production, innovations in technology led to a third and significantly larger, more dramatic boom that saw growth in every aspect of life in western North Dakota. This occurred while the state also enjoyed an increase in agricultural prices and robust crop production. This boom saw intermittent busts in 2008-09 and 2014-15. Predictably, prices fall when oil is oversupplied, and rise when demand increases. The men and women of North Dakota, through each of these periods, have learned some valuable lessons, but despite that, they often continued to make many of the same mistakes. Sometimes they have learned from these mistakes and acknowledged the potential to do better, and sometimes, as in the case of the state's budget, continue to do things the exact same way, hoping for different results.

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DEDICATION

To the GOAT Peggy

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LIST OF ABBREVIATIONS

API	American Petroleum Institute
BOPD	Barrels of oil per day
BBLS	Barrels
DAPL	Dakota Access Pipeline
FERC	Federal Energy Regulation Commission
MBBLS	Million barrels
NAR	North American Royalties
NDGS.....	North Dakota Geological Survey
NDIC.....	North Dakota Industrial Commission
NDOGA	North Dakota Oil and Gas Association
NDPC	North Dakota Petroleum Council
NPL.....	Non-partisan League
OOIC.....	Oil Industry Information Committee
RMOGA.....	Rocky Mountain Oil and Gas Association
RCRC	Roosevelt-Custer Regional Council

CHAPTER ONE: A DRY HOLE

In the summer of 2014, North Dakota, having replaced Alaska as the nation's second largest oil-producing state, produced, for the first time, a million barrels of oil per day. A significant historical event such as this required a celebration, and Tioga, North Dakota's self-proclaimed oil capital, threw a well-advertised party. To kick off the event Governor Jack Dalrymple spoke briefly about the petroleum industry and its positive economic effects on the state. Following the formalities of such an event, those in attendance were treated to a free barbeque, followed by a first-class air show. North Dakotans were heady with economic success across the entire western half of the state. The state's coffers were full, and politicians, pundits, and partisans were drunk with optimism. Citizens across the state could talk about little else and many sought, in some way or another, to benefit from the economic activity. As the summer of 2014 wore on, the rig count, the number of rigs working in the Williston Basin, flirted with 200, while petroleum prices began to fall slightly amidst a fearful and growing sense of doom.

Petroleum stockpiles continued to grow throughout the fall, putting downward pressure on prices. In November, when the Organization of the Petroleum Producing Countries, OPEC, announced it was unwilling to reduce production, the price of petroleum plummeted. The rig count slid abruptly, and a general panic swept the state as the downturn brought an end to North Dakota's record-breaking economic activity. Such is the nature of the petroleum industry, an industry whose history, from the beginning, is replete with tales -- part myth, part fact -- of wild, crazy, and lawless booms, and in the end, there is always a bust. There is always a bust. These histories are global, national, and regional, and they all share a common thread, the boom/bust cycle. North Dakota has experienced such histories, yet none of them have been written.

North Dakota's petroleum industry has experienced four separate and distinct, yet oddly familiar, exploration periods, all of which ended in a bust. The men and women of North Dakota, through each subsequent period, have learned some valuable lessons, but despite this they often continue to make many of the same mistakes. Sometimes they learn from these mistakes and acknowledging the potential to do better comes easy, and sometimes, as in the case of the state's budget, leaders continue to do things the exact same way, expecting different results. It is through memory and these shared experiences that we as a people can avoid the pitfalls of petroleum development should it continue in the future. What does the history of North Dakota's petroleum industry have to teach us about ourselves as a people? What has been the impact on the state from these successive waves of petroleum exploration?

Many of North Dakota's petroleum history news stories and a handful of the published works begin with the obligatory tale of the state's April 4, 1951, discovery of oil south of Tioga on the Clarence Iverson farm. The reality is that at present there is an absence of significant published works on the entire history of North Dakota's petroleum industry, an industry that witnessed its first exploration in 1918. There are but a few North Dakotans that even know such a history exists. It is as though the Amerada Corporation came to town one day, drilled a hole, and oil gushed out. It is important to understand what North Dakotans faced in their early attempts to explore for oil, how they managed and grew the early industry once oil was produced, and how they repeatedly succumb, helpless to stop, the economic boom/bust cycles so prevalent in the industry.

Why should North Dakotans care about their petroleum history? Especially now, considering yet another boom gone bust. It was the often-misquoted George Santayana who wrote, "Those who cannot remember the past are condemned to repeat it." Are North Dakotans

condemned to repeat their past because they do not learn from it? Possibly, but more importantly, North Dakotans were not able to remember their past because historians had not yet recorded it. Edward H. Carr believes that history is “a continuous process of interaction between the historian and his facts.”¹ Facts, according to Carr, exist only when the historian “calls on them,” and in calling on them enters into a dialogue between the past and the present.” North Dakotans are interested in the petroleum industry’s history, we may deduce from Carr, because North Dakotans believe these events to be historic.²

If, as Carr suggests, facts regarding North Dakota’s petroleum industry only exist when we call on them, why has no one done so until now? Why has there been so much written on the petroleum industry outside of the Northern Great Plains, and so little here at home? To explore the answer there must first be an examination of what facts historians have called on.

The mature petroleum industry on the southern Great Plains did not suffer the fate of North Dakota.³ In the August 1933 edition of *The Scientific Monthly*, Carey Croneis wrote, “When an industry becomes fundamental, then comes a ‘breathing spell,’ in which their achievements begin to be recorded. Only then are the details of the early struggles which made them possible exhumed from the contemporary, and often contradictory, accounts.”⁴ The petroleum industry on the southern Great Plains was fundamental, while the northern Great Plains was still in the process of discovery.

The northern Great Plains lack a population significant enough to maintain demand for institutions of higher learning so prominent in the south. While universities in the southern Great

¹ Edward Hallett Carr, *What Is History?* (New York: Vintage Books, 1961), 35.

² Carr, *What Is History?* 4.

³ In the very first sentence of the Foreword to *Oil! Titan of the Southwest*, E. DeGoyler writes, “The Oil Industry approaches maturity,” pg. vii. Carey Croneis also mentions the petroleum industry reaching maturity in 1933.

⁴ Carey Croneis, “Early History of Petroleum in North America,” *The Scientific Monthly* 37 (August 1933): 124.

Plains have substantial doctoral programs in history and recognized university presses in Norman, Austin, College Station, and Lubbock, the northern Great Plains has lacked significant doctoral programs and university presses, so the ability to publish has been limited. A function of these institutions of higher learning is to receive funding, in this case petroleum funding, and channel it to doctoral programs for research in petroleum geology and history. This was the case, for example, with the work of Carl Coke Rister, who received generous support from the Standard Oil Company of New Jersey to publish *Oil! Titan of the Southwest* at the University of Oklahoma Press.⁵

North Dakota's limited recorded petroleum history comes from a farrago of limited sources. A pair of master's theses in addition to the sporadic publications of the North Dakota Geologic Survey, the University of North Dakota, the North Dakota Agricultural College, the work of Williston photographer Bill Shemorry, and several pieces of marketing material. Additionally, two contemporaneous works by William M. Wemett, *Oil in North Dakota*, and Robert B. Campbell et al, *The Williston Report: The Impact of Oil on the Williston Area of North Dakota*, are useful, but extremely limited sources.⁶ There have been several recent releases related to the current boom such as *The Bakken Goes Boom*, *The New Wild West*, *Great American Outpost*, and others but none of these contain a history of North Dakota's petroleum industry, but rather focus on more recent societal events in the Williston Basin.⁷ Remoteness

⁵ Carl Coke Rister, *Oil! Titan of the Southwest* (Norman: University of Oklahoma Press, 1949), xiii. The American Petroleum Institute and American Association of Petroleum Geologists have also provided funding for research.

⁶ Clarence A. Herz, "Petroleum Exploration History in North Dakota to 1951" (Master's Thesis, North Dakota State University, 2013); Dominic Schaff, "The History of the North Dakota Oil Industry" (Master's Thesis, University of North Dakota, 1962); Stanley Voelker, *Mineral Rights and Oil Development in Williams County: Bulletin 395* (Fargo: North Dakota Agricultural College), September 1954; Bill Shemorry, *Mud, Sweat, and Oil: The Early Days of the Williston Basin* (Williston, self-published) 1991; W. M. Wemett, *Oil in North Dakota* (Valley City, self-published) 1958; Robert B. Campbell, et. al., *The Williston Report: The Impact of Oil on the Williston Area of North Dakota*, (Grand Forks: University of North Dakota Press, 1958).

⁷ William Caraher and Kyle Conway, Eds., *The Bakken Goes Boom: Oil and the Changing Geographies of Western North Dakota* (Grand Forks: University of North Dakota Digital Press, 2016).

and environment have suppressed North Dakota's petroleum development, population, and institutions of higher learning and as a result North Dakota's fragmented petroleum history, like all of its early oil wells, is a dry hole.

The absence in the historical record follows a pattern of some of the Great Plains' most celebrated historians. Walter P. Webb's *The Great Plains* fails to discuss oil and its discovery in the West entirely, while Carl Frederick Kraenzel's *The Great Plains in Transition* discusses oil only in relation to the Great Plains' colonial status and the exploitation of oil and other resources. Kraenzel neglects the economic, social, and environmental impact that oil had on the individual states and communities where it was first discovered. Even Gerald D. Nash, author of *The American West Transformed: The Impact of the Second World War*, briefly mentions oil producers in the first chapter and is then silent on petroleum and its impact on the transition of the West, the very subject of Nash's research. The trend would not end until 1989, when historians Richard W. Etulian and Michael P. Malone published *The American West: A Twentieth Century History*, in which appears the first significant acknowledgment of the petroleum industry and its contribution to the West. In regard to the northern Great Plains, Etulian and Malone conclude, "Newer technologies meanwhile, brought in deeper and more difficult deposits, like the Williston Basin of Montana and North Dakota, which came in during the 1950's and boomed the regional economic center of Billings."⁸ Billings? Although they failed to mention Bismarck, Dickinson, Tioga, Watford City, or Williston, they at least begin the discussion. State historians develop patterns of their own. Robinson in his work *History of North Dakota*, Herbert S. Schell in his work *History of South Dakota*, and Michael P. Malone et

⁸ Richard W. Etulian and Michael P. Malone, *The American West: A Twentieth Century History* (Lincoln: University of Nebraska Press, 1989), 250.

al in their work *Montana: A History of Two Centuries*, all spend mere paragraphs discussing the search for and exploitation of oil. This is not true of the petroleum industry's history outside of the northern Great Plains.

Petroleum history can be divided into four general eras. The first era begins with the commodification of petroleum when Edwin L. Drake's well successfully produced oil in August of 1859. This period is often referred to as the age of illumination, because the production of oil was primarily to supply the lamp oil market, which suffered under the diminished supply of whale oil. This was the age of John D. Rockefeller, vertical integration, and the rise of the multinational corporation. Initially Pennsylvania led production, but as oil production elsewhere in the East (NY, OH, WV, IN) grew, the nation itself was overcome with oil fever. Soon newly trained geologists were scouring the countryside in search of surface indications. California, Colorado, Texas, and Oklahoma all showed signs of promise. Production was not limited to the United States. Petroleum was being produced in Baku, a city in the Caucasus region of Russia, long before Russia took possession of the city in 1813.⁹

The second era begins with the Lucas gusher, drilled in Beaumont, Texas, in 1901. The well, drilled on a salt dome formation referred to as Spindletop, flowed an estimated 100,000 barrels of oil per day in an uncontrolled geyser that shot oil 150 feet in the air for nine days until it was brought under control. During this era uncontrolled production, especially in California, Texas, and Oklahoma, encouraged by the rule of capture, led the price of oil to fall to .03 cents a barrel, inducing state and federal legislators to restrict production prior to, and after, World War II.¹⁰ The rule of capture, the result of British common law, meant that a mineral owner who had

⁹ James Dodds Henry, *Baku: An Eventful History* (London: Archibald Constable and Co. 1905), 29.

¹⁰ An additional contributing factor was that Spindletop was drilled with a rotary rather than cable rig, speeding up the process of drilling by many months, enabling producers to get at much more oil, much faster.

drilled an oil well was compelled to produce as much petroleum and as quickly as possible for fear his neighbor, who also had a well, would drain the resource first. This period was characterized by the development of what historian Brian Black refers to as a culture of consumption induced by the availability of cheap oil.¹¹ The period also led to the industrialized nations of the world turning to petroleum to fuel their armies and turn the commodity into a vital national security resource, which may have caused the Japanese to bomb Pearl Harbor. It was during this period that North Dakota, South Dakota, and several other states began earnestly searching, unsuccessfully, for petroleum.

The third period began after World War II, when the United States implemented production quotas to conserve petroleum and fight the previous overproduction caused by the rule of capture. This period is also characterized by the global search for and production of petroleum, specifically in the Middle East. Middle Eastern oil gained a strategic importance in the face of the Cold War, and its production drove the global price of oil down, leading to a slowdown in domestic production and an increase in products made from this inexpensive material. It was during this period, when the United States was involved in fighting the Korean Conflict, that North Dakota discovered petroleum in 1951.

The fourth and final era of energy history begins with the formation of the Organization of Petroleum Exporting Companies and the smaller Organization of the Arab Petroleum Exporting Companies (OAPEC). OAPEC, following the United States' support for Israel during the Yom Kappur War, cut off supplies of petroleum in 1973. The price of oil quickly doubled; Americans were forced to wait in lines for hours to purchase a limited supply of gas. Initially, in

¹¹ Brian C. Black, *Crude Reality: Petroleum in World History* (Lanham: Rowman & Littlefield Publishers, 2012), 71.

the 1970s, this period shocked the petroleum market, spurring domestic production, which had been lagging globally. This period continues today and is characterized by greater military involvement in the Middle East, followed by an ever-increasing domestic production of oil, as well as an increased awareness of petroleum's finite nature, and effects on the environment, both locally and globally. It has been during this period that North Dakota has experienced the volatility of the global oil market and suffered the effects of the notorious boom/bust cycles associated with the petroleum industry.

These historical eras are effective for understanding the impact of petroleum on society, culture, and economics as well as being representative of the historical literature. Historians often write about one, two, or all eras, and these histories can also be classified, for the purpose of this paper, into four distinct groups. The first group represents non-historians who, despite not being professional historians, have made historical contributions to the etymology of the petroleum industry. Professional historians, the second group, reflect a gathering of facts and a building of bricks, each historian responsible for a biography, a state history, or a petroleum company. These historians in turn write about petroleum with a regional, national, state, or individual focus in a linear, chronological sense. They are effective at finding and describing facts. Their narratives tell the how, when, where, and what of the petroleum industry's history, but not always the why; they lack comprehensive analysis of their subjects. The third group, often citing the historians from the first groups, not only begins to explore the facts, but also analyze one hundred and fifty-five years of production in toto, including its effects on the environment. Brian Black, a historian from this group, believes that the very nature of petroleum

requires historians to “revise our historical narratives.”¹² Black argues, “There is clear evidence that cheap oil empowered the middle class and helped the United States attain the world’s greatest standard of living by helping Americans overcome very basic limits on the human condition. Our histories must accept this premise so that scholars might unravel the large environmental, social, and cultural implications of our high-energy existence.”¹³ Historians in the third group also begin to examine the environmental impact of petroleum with a regional, national, and global focus which has produced several environmental histories. The fourth and final group consists of non-historians, pseudo-historians, or hack historians. These authors often write from a position of ideological, environmental, or political bent and their publications are often biased to one degree or another. These books usually, but not always, begin with or include the word “crude” such as *Crude Justice* by Stuart H. Smith, *Crude Politics* by Paul Sperry, and *Crude World* by Peter Maass, to name a few.¹⁴

These four groups of historians writing about petroleum often begin with what some have referred to as the “discovery” of oil in 1859. No one “discovered” oil. It has been present on and below the earth’s surface long before the age of humans. Writing about it is not new, either. It is mentioned in early Greek and Roman texts. What historians of the American petroleum industry highlight is the first well, drilled specifically to obtain oil, in an effort to make a profit, commonly referred to as production. This first production, the commodification of oil, occurred in the 1859 Drake well, at Titusville, Pennsylvania.

¹² Brian C. Black, “Oil for Living: Petroleum and American Conspicuous Consumption,” *Journal of American History* 99 (June 2012): 41.

¹³ Black, “Oil for Living,” 43.

¹⁴ There also are *Crude World*, *Crude Reality*, *Crude Chronicles*, *Crude Democracy*, *Crude Power*, *Crude Domination*, *Crude Interventions*, *Crude Politics*, *Crude Continent*, *Crude Reflections*, *Crude Existence*, *Crude Nation*, *Crude Justice*, *Crude Oil*, and just plain *Crude*, all titles published since 1991.

Within ten short months of Drake striking oil, Thomas A. Gale, a resident of Oil Creek, seeing his own opportunity to make money, wrote, “Many all over the country are desirous of information in relation to *Rock Oil* -- they would know whether it is a humbug or not.”¹⁵ Gale, a non-historian, penned the first book on the industry in which he chronicled Drake’s attempts, setbacks, and ultimate success. Gale’s book was largely forgotten until, in 1941, Dr. Paul H. Giddens, professor of history and curator of the Drake Museum, noted it in his work, *The Beginnings of the Petroleum Industry*. Published works like that of Gale’s were all too common prior to the professionalization of history. With little training, any lay person could put pen to paper and publish a historical account of just about anything. This may be why so many of these early works have been forgotten.

Speaking in 1945, Paul H. Giddens, a history professor at Pennsylvania’s Allegheny College, professes his concern for the perceived failure of his fellow historians to chronicle the petroleum industry. Giddens argues that as a result of “neglect” by historians, the writers of sensationalized stories, i.e. non-historians, reveal only negative aspects of petroleum, and according to Giddens were “determining the attitude of the American public.”¹⁶ These muckraking articles and books, according to Giddens, included Ida Tarbell’s *History of the Standard Oil Company* and Herbert Asbury’s *Golden Flood*.

Giddens asks his audience, “How can we expect the public to appreciate the work done by the pioneers who established the petroleum industry? How can we expect the public to have any understanding of the problems involved in the growth and development of a great industry?”¹⁷ In his response he highlights three specific areas that warrant historical inquiry.

¹⁵ Thomas A. Gale, *Rock Oil, in Pennsylvania and Elsewhere* (Erie: Sloan and Griffeth, Publishers, 1860), 3.

¹⁶ Paul H. Giddens, “History Looks at Oil,” *Bulletin of the Business Historical Society* 1 (February 1946): 8.

¹⁷ Giddens, “History,” 10.

First, historians could explore the history of petroleum companies, large and small, to include “a full-length story of its life and activities.”¹⁸ Second, historians could concentrate on individual oil men within the petroleum industry (the great man histories). Last, Giddens argues, “there needs to be a central agency devoting its time exclusively to collecting and preserving materials relating to petroleum history.”¹⁹ As the philosopher of history R. G. Collingwood points out, “Evidence is evidence only when someone contemplates it historically.”²⁰ Giddens himself published two books on petroleum. In 1938 Giddens wrote *The Birth of the Oil Industry*, and in 1955 he wrote, *Standard Oil Company (Indiana); Oil Pioneer of the Middle West*. Both books are frequently cited by historians.

Seventeen years later, in 1960, Giddens was again speaking, this time in celebration of one hundred years of petroleum history. Giddens having previously been critical of historians, calling them neglectful, was now impressed with the “remarkable change” and was ready to heap praise on historians. Included in these publications, according to Giddens, were “histories of oil fields, oil companies, pipeline companies, integrated companies, and the industry in general: biographies, bibliographies, and folk lore; and even a petroleum dictionary.”²¹ Of particular note was the two-volume set of Harold F. Williamson and Arnold Daum, *The American Petroleum Industry: 1859-1899, The Age of Illumination*, and *The American Petroleum Industry: The Age of Energy, 1899-1959*, which remained the definitive work on the industry for several decades.

Throughout the last quarter of the twentieth century there was a marked change in what stories historians were interested in telling and how they went about telling it. The company

¹⁸ Giddens, 10.

¹⁹ Giddens, 12.

²⁰ R. G. Collingwood, *The Idea of History: Revised Edition with Lectures 1926-1928*. (New York: Oxford University Press, 1994), 247.

²¹ Paul H. Giddens, “One Hundred Years of Petroleum History,” *Arizona and the West* 4, no. 2 (1962): 143-44. In his footnotes Giddens lists many of the publications from 1937 to 1960.

histories of the previous decades, praised by Giddens, were derided by others as “syrupy sweet,” often written either by the company’s marketing departments or by historians paid to produce a friendly product. Few indeed were considered unbiased works of history. Many petroleum histories had become dated, had been written about oil fields in other countries, or were limited to the eastern United States while neglecting the industry in the Southwest and West. The industry had grown and had gone through significant changes regarding conservation, consumption, and technology, and there was little done to chronicle those changes.

In 1970 Gerald D. Nash wrote a historiography of the petroleum industry for the *Pacific Historical Review*. Nash was concerned with the absence of historical research into petroleum-related topics in the West specifically. Researchers at colleges and universities in oil-producing states in the trans-Mississippi area were, according to Nash, “surprisingly few,” and published works were “relatively few in number.” Nash writes, “By necessity, such a discussion must deal more with what remains to be done rather than with what has already been accomplished.”²² What had been accomplished, according to Nash, was a limited amount of literature that included the “relevant works” of Rister’s *Oil! Titan of the Southwest*; Williamson and Daum’s *The American Petroleum Industry: The Age of Energy, 1899-1959*; and Joe S. Bain’s *The Economics of the Pacific Coast Petroleum Industry*.

Nash, who was concerned with the petroleum industry in the West, parrots Giddens’s frustration when he outlines several areas in need of additional research, which included: histories of oil companies; biographies of influential oil men; the impact of science and technology; federal and state policies and their role in conservation and regulation; pollution;

²² Gerald D. Nash, “Oil in the West: Reflections on the Historiography of an Unexplored Field,” *Pacific Historical Review* 39 (May 1970): 193.

diplomacy; and military exploitation.²³ The first category, histories of oil companies, contained “just a few” published works, and Nash uses Gerald T. White’s history of Standard Oil of California as an example.²⁴ White, in his preface, writes that there were two categories of business history: syrup-sweet stories and the work of muckrakers. White insists his work is free from both and believes in his ability to publish an unbiased history. Nash remarks that published histories like White’s, of large, mid-size, and small companies in states like Texas, Louisiana, Oklahoma, Wyoming, New Mexico, and Kansas, would be welcomed and would “clarify the reasons for successes and failures in the industry.”²⁵ This new research, according to Nash, would highlight shared attributes among successful companies that would provide a basis for research on a state or regional level.²⁶ There have been numerous histories of petroleum companies since Nash’s 1970 article; however, nearly all of these companies have, since 1970, been bought, merged, or gone bankrupt. Companies such as Standard, Amoco, Enron, Gulf, Husky, Mobil, Phillips, Skelly, Texaco, and Union 76 were all consolidated, merged, bankrupt, or purchased. Remaining are BP, ConocoPhillips, Enron Oil and Gas (EOG), Exxon, Chevron, Hess, Marathon, Sinclair, and Whiting, as well as many smaller companies.

Since Nash’s 1970 historiographical essay, there have been numerous publications of state-specific histories as well. Of these publications, a significant portion has come from the southern Great Plains. California, Colorado, Kansas, Oklahoma, and Texas are all well represented, while Montana, Nebraska, North Dakota, and South Dakota lack any significant treatment of their state’s petroleum history. The northern Great Plains states rely heavily on their

²³ Nash, “Oil,” 194.

²⁴ Gerald T. White, *Formative Years in the Far West: A History of Standard Oil Company of California and Predecessors through 1919* (New York: Appleton-Century-Crofts, 1962).

²⁵ Nash, “Oil,” 194.

²⁶ Nash, 194-95.

respective geological surveys. In 1989 Nebraska's Geological Survey published *Oil in Nebraska: 50 Years of History; 100 Years of Exploration; 500 Million Years of History*, written by Marvin Carson. Montana's sole contribution, *Oil and Gas in Montana*, written in 1953 by Eugene S. Perry and published by the Montana School of Mines, has this to say of its history: "The history of Montana oil and gas production dates from 1915."²⁷ Woeful, but not nearly as bad as South Dakota, whose sole publication in regard to its petroleum industry comes from the South Dakota Geological and Natural History Survey, titled *The Possibility of Oil in South Dakota: A Preliminary Discussion*.²⁸ North Dakota's Geological Survey has published *The 50th Anniversary of the Discovery of Oil in North Dakota in 2001*, which was written by John P. Bluemle. Bluemle, a state geologist, relied heavily on archived geologic survey files and the published work of Bill Shemmory while doing little if any additional or original research. It is also important to note the master's theses on the subject. In 1962 Dominic Schaff, a graduate student at the University of North Dakota, wrote *The History of the North Dakota Oil Industry*, which at the time was a decade old. Schaff devotes a single chapter to the pre-discovery period, an introduction if you will, to the discovery of oil in 1951; subsequent chapters discuss discovery, production, and early developments. In his 2013 thesis *Petroleum Exploration History in North Dakota to 1951*, Clarence Herz explores North Dakota's pre-discovery period.

The southern Great Plains, in contrast to their remote neighbors to the north, possess multiple universities which generate history like Rister's groundbreaking history of petroleum in the Southwest. While some of these state histories attempt to tackle several categories Nash found wanting, still others address specific issues. Diana Davids Olien and Roger M. Olien

²⁷ Eugene S. Perry, *Oil and Gas in Montana* (Butte: Montana School of Mines, 1953), 1.

²⁸ Roy A. Wilson, *Possibility of Oil in South Dakota: A Preliminary Discussion* (Vermillion: University of South Dakota, 1922).

tackle “business cycles, the increasing importance of science and technology, the creation and expansion of refining, manufacturing service, and supply activities” in their work *Oil In Texas: The Gusher Age, 1895-1945*.²⁹ Kenny A. Franks, following in the footsteps of Rister and Nash with his work *The Oklahoma Petroleum Industry*, first marches through early exploration in Indian Territory then through Red Fork, Cushing, Healdron, Seminole Field, and Oklahoma City. Franks then spends several chapters discussing Nash’s concerns to include regulation and conservation, science and technology, and outstanding Oklahoma oilmen.³⁰

Nash, a history professor at the University of New Mexico, avoided the New Mexico petroleum history and opted instead to publish *United States Oil Policy, 1890-1964*, in which he attempted to analyze and describe the growth of cooperation and politics between government agencies and the petroleum industry. Adding to Nash’s work was Nicholas George Malavis, who in 1996 published *Bless the Pure and Humble: Texas Lawyers and Oil Regulation, 1919-1936*. While Nash reviewed regulation and policy in terms of politics, Malavis looks at regulation and policy through the legal system. Recently, the work of Nash’s political view and Malavis’ legal view was joined by the work of Paul Sabin. Sabin, a senior research scholar at Yale Law School and executive director of the nonprofit Environmental Leadership Program, wrote *Crude Politics: The California Oil Market, 1900-1940*, in which he addressed the rule of capture, California oil policy, and state and local politics. Sabin was concerned state policies were being overlooked by historians, and while taking a jab at “a more general federal bias among researchers,” project his own point of view when he writes, “Global warming, caused in

²⁹ Diana Davids Olien and Roger M. Olien, *Oil in Texas: The Gusher Age, 1895-1945* (Austin: University of Texas Press, 2002), viii.

³⁰ Kenny A. Franks, *The Oklahoma Petroleum Industry* (Norman: University of Oklahoma Press, 1980).

great part by releasing carbon dioxide through oil consumption, may prove the twentieth century's most lasting and devastating legacy.”³¹

In the second category, biographies of influential oil men, Nash suggests, among others, a biography of Edward L. Doheny, a pioneer in the industry who was incredibly successful in California and Mexico. There are several biographies on Doheny, but a good example would be the work Dan Labotz published in 1991, *Edward L. Doheny: Petroleum, Power, and Politics in the United States and Mexico*. While other biographies exist on many of the petroleum industry's pioneers, there is still much to be done. Biographies of men like Thomas W. Leach and Harold Hamm, important figures in North Dakota's history, have yet to be written. In 2016 Michael S. Johnson published an autobiography chronicling his involvement in the discovery of the Parshall Oil Field in North Dakota utilizing horizontal drilling and hydraulic fracturing.³²

The impact of science and technology is the third category Nash highlighted. In addition to advances in technology, which led to more effective drilling and production methods, Nash also points to the immense contributions of geology, writing, “The influence of geological theories concerning anticlines was almost revolutionary. Suddenly trial and error was replaced by a high degree of scientific certainty.”³³ The American Association of Petroleum Geologists sponsored Edgar Wesley Owen's *Trek of the Oil Finders*, which is the definitive work on the geologist's participation in the industry; however, it is not an accessible work for public consumption, with more than 900 pages of sometimes heavily scientific and technical language,

³¹ Paul Sabin, *Crude Politics: The California Oil Market, 1900-1940* (Berkeley: University of California Press, 2005), 11.

³² Michael S. Johnson, *Obscurity to Success in the Oil Business: Discovery of Parshall Oil Field in North Dakota* (Denver: Karras Publishing, 2016), 188.

³³ Nash, “Oil,” 196.

and it has become dated as new technologies have replaced many of the ones highlighted in the work.

Recently Brian Frehner published an accessible treatment of the rise of petroleum geologists in America. Frehner tells a tale of transformation from doodle bugging oil men to college-educated petroleum geologists. His work, *Finding Oil: The Nature of Petroleum Geology, 1859-1920*, maps the course geologists took from the early days in Pennsylvania's oil field to the discovery of the anticline method and modern geologic theories and practices which replaced a myriad of doodle buggers, seers, and other dubious methods of finding oil. Frehner's work, while exceptional, fails to mention the contributions women began to make in the field of petroleum geology as early as 1917. Robbie Rice Gries, a petroleum geologist by trade, does a remarkable job of telling the stories of pioneering women from 1917 to 2017.³⁴ There is little, if anything written on the history of other aspects of petroleum technology --horizontal drilling, hydraulic fracturing, and secondary recovery processes such as water, gas, and carbon flooding.

Nash's fourth category, federal and state policies and their role in conservation and regulation, has had a profound impact on the industry. Conservation, driven by the fear of running out of oil and the acknowledgement of the wanton waste of the rule of capture, led to an inverse relationship between a steady and reliable supply of oil and a production glut so severe it drove prices to near ruinous levels. Nash himself published *United States Oil Policy 1890-1964*, in which he attempted to analyze and describe the growth of cooperation and politics between government agencies and the petroleum industry. Nash had called for historians "interested in constitutional or legal history" to investigate the oil conservation movement, writing, "The

³⁴ Robbie Rice Gries, *Anomalies - Pioneering Women in Petroleum Geology: 1917-2017* (Denver: JeWel Publishing, 2017).

adaptation of nineteenth-century mining laws to petroleum production provides a fascinating theme for an analysis of the interplay of law and new economic resources which resulted in novel concepts of resource exploitation.”³⁵

Adding to conservation history was Nicholas George Malavis, who in 1996 published *Bless the Pure and Humble: Texas Lawyers and Oil Regulation, 1919-1936*. Malavis’s work reviews regulation and policy in terms of Texas law and politics. Malavis looks at regulation and policy through the legal system and the development of the Texas Railroad Commission.³⁶

Malavis’s work was of a regional nature and both Nash and Malavis were concerned solely with petroleum. Adding to this growing body of knowledge was the work of John G. Clark. Clark published *Energy and the Federal Government: Fossil Fuel Policies, 1900-1946*, in which he analyzed the federal government’s regulation of oil, coal, and natural gas and concluded that the ‘public interest’ can be used as a measure of successful energy policy in the twentieth century.³⁷

Nash’s fifth category is pollution, but not air pollution; instead Nash is concerned with pollution caused by offshore drilling and overproduction, indicating again the desire to explore governmental regulation. Nash writes, “Much governmental regulation of the oil industry in the United States remains in the hands of state governments.” Ironically, in December of the same year Richard Nixon established the Environmental Protection Agency (EPA), and the EPA has been wresting control from state regulators ever since. Nash calls for histories on state regulation when he writes, “Between 1900 and 1924 well spacing, drilling, gas conservation,

³⁵ Gries, *Anomalies*, 198.

³⁶ Nicholas George Malavis, *Bless the Pure and Humble: Texas Lawyers and Oil Regulation, 1919-1936* (College Station: Texas A & M University Press, 1996).

³⁷ John G. Clark, *Energy and the Federal Government: Fossil Fuel Policies, 1900-1946* (Urbana: University of Illinois Press, 1987).

water drainage, and oil seepage were among the most common objects of control. Between 1935 and 1970 the Interstate Oil Compact Commission also played an important role in coordinating state policies and in stabilizing the western oil industry.”³⁸

The sixth and seventh categories, diplomacy and military exploitation, are often combined in histories written to explore the twentieth century and the United State’s involvement in the Middle East, Latin America, and other parts of the world. This category is most notably represented, along with many of the previous categories, by the 1991 Pulitzer Prize book by Daniel Yergin, *The Prize: The Epic Quest for Oil, Money and Power*. Yergin has three great themes in his history of petroleum. The first is the rise and development of capitalism and modern business. Petroleum is the world’s biggest and most pervasive business, the greatest of the great industries that arose in the last decades of the nineteenth century. The second theme is that of oil as a commodity intimately intertwined with national strategies and global politics and power. The third theme in the history of petroleum is how humans have become a “hydrocarbon society,” and we, in the language of anthropologists, according to Yergin, have become “Hydrocarbon Man.”³⁹ At one and the same time, this is a story of individual people, powerful economic forces, technological change, political struggles, international conflict, and, indeed, of epic change.

There has not been a petroleum historiography since Nash’s 1970 paper, and enough has changed in the industry to warrant an update. There have not been any major publications of petroleum histories, environmental or otherwise, since 2012, so now is a good time to take stock and review the trajectory and transformation of the historical narrative of petroleum.

³⁸ Nash, “Oil,” 201.

³⁹ Daniel Yergin, *The Prize: The Epic Quest for Oil, Money & Power* (New York: Free Press, 1991), xvi.

In 1991, Yergin published *The Prize*. The book marked the end of an era and the beginning of a transformation in petroleum histories. Environmental historians had been writing about the environment for some time, but what changed after 1991 was a desire to understand the causes of environmental transformation brought about by the production of petroleum. How did humans and nature interact? Some environmental historians writing about petroleum chose to emphasize the environmental degradation of the industry, while others chose to chronicle petroleum's transformation of our culture. Still others wished to highlight the ecology of oil on a national and global scale. Petroleum history was being transformed by environmental historians, and it was altering how society viewed petroleum and its impact on our culture and economy. Simultaneously there was a resurgence of authors not professionally trained as historians, but publishing works that were based in history, but focused on social, political, or strategic topics.

To illustrate this transformation, it would be helpful to compare two histories written about the same event. The first, *The Birth of the Oil Industry*, was written by noted petroleum historian Paul H. Giddens. The book, first published in 1938, touts an introduction by none other than Ida M. Tarbell, famed muckraker, who grew up during the first oil boom in Titusville, Pennsylvania. The second book, published in 2000, was written by Brian C. Black, and may be the first environmental history of petroleum.

In Tarbell's introduction for Giddens she describes the early industry as both evil and good and writes,

Here we have demonstrations of the enterprise and resourcefulness of American men in adapting what they knew to unheard-of industrial problems, of their patience and imagination in adding by invention, by trial and error, a body of

entirely new mechanical and commercial devices and processes.”⁴⁰ Tarbell concludes, “It was a triumph of individualism.”⁴¹

Black, in his introduction, quotes Tarbell’s autobiography in the first paragraph, “If oil was found, if the well flowed, every tree, every shrub, every bit of grass in the vicinity was coated with black grease and left to die.”⁴² Black writes, “In the case of Pennsylvania’s oil boom, environmental history allows one to re-create one of the earliest examples of the culture of massive disturbance—the culture that remains a mainstay of American economic development.”⁴³ In 1938 Giddens, quoting British banker Sir S. Morton Peto, writes, “It is difficult to find a parallel to such a blessing bestowed upon a nation.” In contrast Black, in 2000, writes, “The early oil industry offers a model for considering the effects of massive industrialization on individual and community views of the landscape – most basically, the culture’s environmental ethic.”⁴⁴ Society, culture, and economics have changed the story over time. In Black’s work he highlights some of these changes, noting, “The cultural drive to harvest resources and make them profitable at any cost had become widespread by the close of the nineteenth century.”⁴⁵ Culture still drives Americans to “harvest resources and make them profitable,” but as a result of the environmental movement of the late twentieth century, society demands this process include the economic cost of pollution and degradation. What is important to note is the shift in awareness of environmental degradation. Black writes of a “sacrificial landscape” created by a wanton disregard for the environment as individuals focus on short-term profit driven by the rule of capture.

⁴⁰ Paul H. Giddens, *The Birth of the Oil Industry* (Norwood: The MacMillan Company, 1938), xii.

⁴¹ Giddens, *Birth of the Oil Industry*, xxxix.

⁴² Brian C. Black, *Petrolia: The Landscape of America’s First Oil Boom* (Baltimore: Johns Hopkins University Press, 2000), 1.

⁴³ Black, *Petrolia*, 7.

⁴⁴ Black, 10.

⁴⁵ Black, 7.

The rule of capture led to the unmitigated waste of petroleum across the nation from Pennsylvania to California. Paul Sabin, author of *Crude Politics: The California Oil Market, 1900-1940*, attempts to chronicle the causes of environmental change, focusing his study on the “intricate connections between environment and economy.”⁴⁶ Sabin, concerned with the causes of climate change, asks, “How have we become so dependent upon oil and the automobile?”⁴⁷ Through analysis of California’s oil market, Sabin places responsibility for petroleum dependence on the relationship between business and government as it relates to property rights, federalism, regulation, and tax policy. Sabin’s study focuses on California, but due to the size and scope of his work, the study could be extrapolated to other states or regions in the United States during this period, as all suffered similarly. Sabin, unlike Black, avoids writing about the environmental degradation of California in order to focus on the cause of petroleum’s pervasiveness in our lives.

As California struggled with overproduction in the early twentieth century, so did Mexico. There once existed a tropical rain forest in a region referred to as the Huasteca, located on the gulf coast of Mexico, in the state of Veracruz. It was in the Huasteca that American oil baron Edward L. Doheny and English petroleum magnate Weetman Pearson drilled Mexico’s first oil wells, forever changing the Huasteca’s indigenous people, environment, and petroleum workers. Myrna Santiago, in her work, *The Ecology of Oil: Environment, Labor, and the Mexican Revolution, 1900-1938*, chronicles the ecological transformation of the Huasteca from tropical rain forest to a petroleum wasteland beginning during the Porfiriato, the period of Mexican President Porfirio Díaz’s rule, active through the Mexican Revolution, and ending in

⁴⁶ Sabin, *Crude Politics*, 7.

⁴⁷ Sabin.

1938 when President Carranza nationalized the petroleum industry under unrelenting pressure from the Mexican labor unions.

Santiago makes a successful argument that the ecology of oil transformed the Huasteca. She writes, “The ecology of oil, therefore, denotes an integrated package of human interactions, interactions between humans and/in nature, and historical processes.”⁴⁸ She begins with the tropical rain forest in Mexico referred to as the Huasteca. Initially, the Mexican government attempted, through legislation, to replace the rain forest with productive agricultural land. Having failed at such attempts, the Mexican government allowed petroleum companies to search for oil. The United States and Britain, among others, found oil, and in the process of extracting it from the earth utterly destroyed the environment, displaced indigenous peoples of the region, transformed Mexican workers into union activists, transformed Mexican society by class and race, and, in the end, transferred the petroleum industry from foreign-owned to state-owned, as Mexico seized control of the industry in 1938 in the name of revolution.

California, Mexico, and Texas all experienced much the same environmental damage and overproduction at the hands of the early petroleum industry. Martin V. Melosi and Joseph A. Pratt edited *Energy Metropolis: An Environmental History of Houston and the Gulf Coast*, a collection of essays organized in three parts addressing this damage. Part one, “Energy and the Environment,” chronicles the birth of Texas’s oil industry and Houston’s meteoric rise as a petroleum city replete with refineries, tankers, and pollution. Pratt details the industry’s attempts at self-regulation and the subsequent takeover by state and federal regulators. Growth in the

⁴⁸ Myrna I. Santiago, *The Ecology of Oil: Environment, Labor, and the Mexican Revolution, 1900-1938* (Cambridge: Cambridge University Press, 2006), 4.

industry surpassed attempts at self-control, as Hugh Gorman details in the following chapter regarding the Houston Ship Channel and growing industrial pollution. The third and final chapter of part one is written by Robert Fisher. In it, Fisher discusses the impact of pollution caused not by the industry, but by the suburban sprawl. Houston, in 2000, became the smog capital of the nation, eclipsing Los Angeles. Fisher details Houston's civic and business leaders' attempts to find a solution to the problem.

Part two examines the metro area's growth, while part three is a discussion of the environmental realities of the city's place as energy capital of the world. The book is one of the first of its kind in petroleum history, highlighting the environmental cost of Houston's economic boom from the production, refinement, and distribution of petroleum products.

Melosi and Pratt, in the introduction to part one, quote from Black's work, *Petrolia*, writing that the impact on Titusville, Pennsylvania, was a "biotic reaction" when "the naturally occurring pockets of fossil fuels met the human enterprise and dogged pursuit of wealth that created the period of American Industrialization." The editors go on to say that the petroleum industry's rise in Houston was also a "biotic reaction."⁴⁹

So significant was the impact of *The Prize*, published in 1991, that it took over a decade for a new global petroleum history to be published, and that was Black's global environmental history of petroleum, *Crude Reality: Petroleum in World History*. There are several underlying themes in Black's work. Foremost is the assertion that America's culture of consumption of petroleum-based products has led to global environmental damage both to our immediate environment, through damage to land and water, as well as to our climate. An additional theme

⁴⁹ Martin V. Melosi and Joseph A. Pratt, Eds., *Energy Metropolis: An Environmental History of Houston and the Gulf Coast* (Pittsburgh: University of Pittsburgh Press, 2007), 17.

is that America is largely to blame for this problem because of its energy decadence following World War II. Black laments, “Petroleum remained useful but not essential until humans, and particularly Americans, pursued and modeled a human condition wholly different from that of the nineteenth and even the early twentieth centuries.”⁵⁰ Black continues, “Led by Americans, humans invited petroleum into nearly every aspect of their lives during the late twentieth century.”⁵¹ Black borrows Santiago’s ecology of oil for his final theme, the belief that our ecology of oil is “unsustainable and poisonous.” Throughout the book Black highlights several instances of environmental degradation, degradation Black blames on America’s culture of consumption. It is this culture of consumption, Black argues, that has damaged the environment, damage driven by capitalism and cheap oil that led to wanton waste of a natural resource and an increase in man’s impact on the global environment.

Black’s arguments are well made, but lack significant sources to support them. In his final chapter Black discusses Hubert’s Peak Oil, the belief of petroleum geologist M. King Hubert that the world had reached the peak of oil production and faced dwindling supplies and a downward sloping supply curve. This Black did without even mentioning the technological advances (horizontal drilling and fracturing) that have enabled the petroleum industry to tap into vast reserves in the Bakken formation located in North Dakota, the Eagle Ford formations in Texas, and formations in Siberia. Nor does Black discuss the impact of natural gas, its abundance, and its clean burning properties. Black also argues that America is moving away from “energy decadence,” yet offers no empirical evidence to back that claim. Despite these

⁵⁰ Black, *Crude Politics*, 157.

⁵¹ Black, 158.

failures Black does a tremendous job of writing an inclusive petroleum history that addresses the ecology of oil on a global scale.

The Journal of American History published a special issue, *Oil in American History*, in 2012. In it several of America's leading petroleum historians published essays that were a mix of environmental and petroleum histories. Included in the edition were essays from Black, Santiago, and Sabin.

Black's essay, "Oil for Living: Petroleum and American Conspicuous Consumption," has many of the arguments he makes in *Crude Reality*. Black asks the reader, "Why was a finite resource worked into so many products on which American consumers came to depend?"⁵² The answer, Black writes, "is a perfect intersection of consumer passion for convenient products and the corporate drive for profit wedded through petroleum's flexibility and affordability."⁵³ This, Black asserts, borrowing the term from Santiago, has led the United States "to exist in an ecology of oil."⁵⁴

In Santiago's essay, "Culture Clash: Foreign Oil and Indigenous People in Northern Veracruz, Mexico, 1900-1921," she covers much the same material as she did in *Ecology of Oil*; however, in the essay she takes a closer look at the consequences of the Mexican Revolution, the subsequent seizing of the foreign-owned petroleum industry in response to Article 27 of the 1917 Mexican Constitution.⁵⁵ Santiago concludes, "That year, discursively speaking, the oilmen ceased to be modernizers worthy of respect and instead became agents of exploitation and

⁵² Black, *Oil for Living*, 49.

⁵³ Black, 49.

⁵⁴ Black, 50.

⁵⁵ Myrna Santiago, "Culture Clash: Foreign Oil and Indigenous People in Northern Veracruz, Mexico, 1900-1921," *Journal of American History* 99, no. 1 (June 2012): 68.

environmental destruction. In the eyes of the state and the nation, the oil companies became synonymous with “Yankee imperialism.”⁵⁶

Sabin’s essay, “Crisis and Continuity in U.S. Oil Politics, 1965-1980,” analyzes oil policy in response to environmental degradation. Sabin reviews the Santa Barbara oil spill of 1969 and the 1973 oil embargo and how these events changed or altered United States oil policy. What he finds disturbs him. Sabin writes, “The Santa Barbara spill and the 1973 oil embargo did not alter the American relationship with oil. Contradictory policy goals, including the conflict between producers and consumers and the subsuming of energy policy to large battles over the environment and inflation, undermined a unified and effective national strategy.”⁵⁷ Sabin concludes that “substantial political and economic change” will not result from oil shocks, but, he hopes, it will from alternative energy.⁵⁸ Many, but not all, of the remaining articles in the journal were of a similar nature. In one way or another they decried American imperialism, environmental degradation, and an ecology of oil so engrained in American society and culture that it is seen as nearly impossible to reduce or end our insatiable consumption.

The petroleum industry has always had its detractors. Ida Tarbell, the woman who relentlessly attacked Standard Oil, was raised in Titusville, Pennsylvania, during the initial oil boom of the mid nineteenth century. Despite that fact she, in an introduction for Giddens, proclaimed petroleum “a triumph of individualism.” Giddens, in his body of work, was a champion of the industry; he along with many of his colleagues overlooked the environmental impact of petroleum as the result of a lack of awareness and a cultural separation between humans and nature. This was true until environmental historians began writing about petroleum.

⁵⁶ Santiago, *Culture Clash*, 63.

⁵⁷ Paul Sabin, “Crisis and Continuity in U.S. Oil Politics, 1965-1980,” *Journal of American History* 99, no. 1 (June 2012): 185.

⁵⁸ Sabin, *Crisis and Continuity*, 186.

The environmental movement of the 1960s and 1970s changed the way society viewed nature, petroleum, and the interaction between the two. Society called for, and environmental historians provided, a change in the narrative regarding the history of petroleum, and the ecology of oil. Petroleum historians have thus changed the narrative as a result of environment, society, and culture from a narrative of triumph to one of awareness. North Dakota's petroleum history requires this type of narrative -- one that involves a discussion of the changes to the industry, to the community, and to the response of the federal, state, and local governments to the search for, discovery, and production of petroleum.

CHAPTER TWO: DARING GREATLY

On January 10, 1901, James Haril, assistant driller, watched in stunned disbelief as the drill pipe climbed slowly upward until it shot into the air, twisting, bending, and breaking in the wind, before crashing to the ground.¹ Moments later an eruption of oil, in a 6-inch stream, gushed to a height of nearly 200 feet before it broke in the wind and showered the hillside below. The Lucas gusher, on a salt dome called Spindletop, near Beaumont, Texas, had come in. The Texas oil boom was on, and the world would be forever changed.

In North Dakota, sixteen hundred miles straight north from Beaumont, Texas, a different kind of boom was on: a land boom, North Dakota's second. This boom was driven by the expansion of railroads, a rise in agricultural prices, and a steady stream of immigrants, mostly Norwegians and Germans from Russia, as well as second-generation Americans from Minnesota.² Immigrants poured into North Dakota on newly laid railroad tracks, filling up what little space remained, in search of the last few parcels of land available in what historian Frederick Jackson Turner referred to as a closing frontier.³

Not everyone came to North Dakota in search of land; there were also a great number of people looking for opportunity. These men, and infrequently women, were the West's entrepreneurs. They dedicated their lives, and their livelihoods to create, grow, and better the communities in which they lived as farmers, butchers, bankers, merchants, attorneys, doctors, and salesmen of all stripes and colors. Many brought families with, still more started families once they arrived. It was, in large part, a time ruled by white men with few exceptions. These

¹ Reid Sayers McBeth, *Pioneering the Gulf Coast: A Story of the Life and Accomplishments of Capt. Anthony F. Lucas* (Chicago: University of Chicago, 1918), 21-22.

² Robinson, *History of North Dakota*, 235-36, 246.

³ Frederick Jackson Turner, *The Frontier in American History* (New York: Henry Holt and Co., 1920).

men came to North Dakota eager to capitalize, not just on economic opportunity, but also on natural resources like clay, coal, gold, and petroleum. Whereas Captain Lucas had risked everything and had succeeded in Texas, those who initially sought to exploit North Dakota's petroleum resources failed. They failed because they lacked the necessary capital, geologic knowledge, and technical experience. In some instances their failure meant financial ruin; in others, it just meant they would have to try again.

The dawn of North Dakota's petroleum industry coincided with the dawn of the Non-partisan League. The political culture in rural North Dakota created by the Non-partisan League's rise to power led communities to have an "us against them" attitude. Communities asked their citizens to invest the necessary capital for oil projects. Citizens of these communities were encouraged to participate lest the eastern, monied interests would take their natural resources like they took their wheat, with little profit left for them. One community after another, throughout the state, was asked to do its part, not to invest beyond their means, but to do what they could in order ensure success.

The shrill of the train's whistle stabbed the air; the hissing of steam, the lurch of the cars, and the clanging of the bell signaled the train's departure from the Great Northern's Des Lacs, North Dakota, train station. The year was 1918, it was September, and aboard the departing train sat John Arthur Blum and Clinton Edgar. The two men were to be inducted into the Army at Minot on September 3.⁴ John, who knew nothing of the outside world, was twenty-five. The two men were on their way, like so many other young Americans, to fight in the Great War raging in France. Algot F. Blum and his wife Johanna, along with John's little brother Carl, had

⁴ *Des Lacs Observer*, September 5, 1918.

brought John in from the farm, two miles to the west, to see him off. As John's parents turned to return home, they most certainly worried they would never see John again. The train, accelerating slowly, stretched out of sight until only the rising black smoke was visible on the eastern horizon. Algot, Johanna, and Carl returned to the wagon for the short ride home. Algot and Johanna were no strangers to trains, journeys, or leaving worried loved ones behind. They had traveled across the Atlantic and half the continent before they even met.

Born in Sweden in 1864, Algot, at the age of thirteen, immigrated with his parents to Minneapolis, Minnesota, in 1877. Algot lived for roughly twenty years in Minneapolis, where he worked as a carpenter. In 1893 he met and married his wife Johanna, who herself, had just immigrated from Sweden. The newlyweds welcomed their first son, John Arthur, shortly after. Several years later, in 1898, the couple, eager to better their lot in life, packed up their belongings and moved to Grand Forks, where Algot again worked as a carpenter. In Grand Forks their second child, Carl Elmer, was born.

Having saved some money, the Blum family made their final move from Grand Forks to a farm near Lonetree, North Dakota, where Algot advertised his carpentry skills in the nearby *Des Lacs Observer* from May of 1907 to January of 1909. The villages of Lonetree and Des Lacs were small but growing communities located in Ward County. The Des Lacs township had what the Blums had been waiting and saving for – land. Most of the free land available during the Great Dakota boom had long been gone, but there were many parcels available for purchase and even a few available for homesteading. Algot, having paid the required two hundred dollars, received the patent on the northwest quarter of Section 9, Township 155 North, Range 85 West

on September 6, 1907.⁵ It was here, in a modest farmhouse with a small barn, that Algot and Johanna Blum made their life.

The years came and went on the Blum farm as they had on so many North Dakota farms. There were fields to plow and plant, hay to cut and put up, wheat to harvest, cows to milk, and livestock to feed. The seasons marked time, and the year's success was measured by the bushel per acre and the price per bushel. Algot, like many North Dakota farmers during the Great War, was successful, largely due to the high price of wheat. He also learned, along with many of his peers, that 160 acres was not enough land to make a living on, so he acquired an additional 160 acres which gave him ownership of the north half of Section 9. Algot soon found it necessary to drill a water well for his livestock. Algot hired experienced water well driller M. H. Anderson, from Alberta, Canada. Anderson, having drilled several of Algot's neighbors' wells, began drilling, and on October 22, 1916, having reached the depth of 235 feet, encountered (as he recounted in his hand-written report), "very hard rock requiring one day to drill through it. On reaching bottom of this rock the drill 'dropped' one foot through [a layer of fine gray sand and water] and a strong odor of gas came up out of the well. Pulled tools and found oil on bit. Baled with sludge bucket and found oil on top of water in bucket."⁶ The *Des Lacs Observer* would later report, "about two gallons of oil was taken from the well."⁷

Finding oil in a water well was not a new phenomenon. In 1894, while drilling a water well for the city of Corsicana, Texas, the American Well and Prospecting Company hit oil at 1,025 feet.⁸ As early as 1905 there were reports of this phenomenon in North Dakota as well.

⁵ Ward County Register of Deeds, Deed Book 60 Page 68, Document No. 139086, September 6, 1907.

⁶ North Dakota Oil and Gas Division, Well File No. 1, Well Files, <https://www.dmr.nd.gov/oilgas> (accessed June 26, 2018).

⁷ "Des Lacs Western Oil Co. Well Attracting Much Attention," *Des Lacs Observer*, January 17, 1917.

⁸ Olien and Olien, *Oil in Texas*, 4.

The *Edgeley Mail* reported oil had been discovered while drilling a water well.⁹ Oil had also been reported under similar circumstances in Ryder, North Dakota, in 1909. Joseph Wustner, Ryder's butcher, contracted to have a water well drilled behind his butcher shop. Instead of water, Wustner and his driller recovered sixty gallons of "light yellow brownish substance which smelled like petroleum."¹⁰

In Des Lacs the presence of oil in Algot's well created quite a stir. Local men unfamiliar with petroleum, well drilling, or finance organized the Des Lacs Western Oil Company, eager to capitalize on their good fortune. Organizers included: Algot F. Blum, president, Martin D. Johnson, vice-president; Jacob Davick, treasurer; Henry S. Johnson, secretary; L. L. Colby, assistant secretary and promoter; M. E. Anderson, mechanical engineer; John Arthur Blum, engineer; and E. R. Sinkler, attorney.¹¹ The Des Lacs Western's first order of business was to invite state survey geologists to travel out to Des Lacs to test the oil well and look over the surface geology. Dr. Howard E. Simpson, Assistant State Geologist arrived at the Blum farm February 8, 1917, just as a severe blizzard struck. Once the weather subsided the well test was conducted, and several samples were taken from the well. Due to the heavy snow cover a look at the surface geology would have to wait until spring. In his report, dated March 16, 1917, Simpson found that oil did occur in trace amounts, but concluded, "The evidence does not, in my judgment, indicate the presence of oil in commercial quantities and further prospecting by means of deep drilling is not at present warranted."¹² Having been unable to walk the area to survey

⁹ *Fargo Forum*, May 15, 1905.

¹⁰ Great Western Oil and Refining Company Bulletin Number One, April 10, 1918. Burr A. Dickinson Papers, #10556, State Historical Society of North Dakota., Bismarck

¹¹ "Des Lacs Western Oil Company Completes Organization," *Des Lacs Observer*, January 11, 1917.

¹² Howard E. Simpson to Des Lacs Western March 16, 1917, North Dakota Oil and Gas Division, Well File No. 1. Well Files.

geologic surface features, Simpson gave an unfavorable conclusion that drilling was not warranted.

Determined to proceed, the Des Lacs Western turned to a mining engineer, geologist, and former geologic and mining expert for the US Department of Interior, William R. Jewel. From May 10 to June 3, 1917, Jewel scoured the countryside evaluating the surface geology. In Jewel's report, submitted June 19, 1917, he wrote,

The presence of anticlines in the region is a favorable indication and makes it possible that oil (or gas, or both) might be struck, but the finding of a little oil in shallow wells gives no assurance that it would be found in commercial quantity at greater depth.¹³

Simpson, requested once again by the Des Lacs Western, concluded a second test on Blum's additional shallow wells and issued a third report. From September 25 to October 5, 1917, Simpson ran tests and collected samples from three shallow test wells on the Blum farm. Once again Simpson concluded,

The finding of oil and gas under conditions such as are found at Des Lacs do not constitute conclusive evidence of larger quantities below, unless associated with favorable structure. The information compiled regarding the wells in the immediate vicinity is too meagre and uncertain to warrant any definite conclusion as to structure in the immediate neighborhood of the Blum Far. The occurrence of a measurable quantity of oil in a thin layer of sand suggests the presence of a

¹³ William R. Jewel, "Report on the Oil Properties of the Des Lacs Western Oil Company," North Dakota Geologic Survey Files, Elwyn B. Robinson Department of Special Collections, University of North Dakota, Grand Forks.

minor structure in this vicinity favorable to its accumulation. This evidence is however slight.

Undeterred with negative reports from Simpson, the Des Lacs Western began raising capital in preparation to drill the Blum #1. The Des Lacs Western did not just jump into drilling, they took several years to raise capital and collect geologic data from 1916 until 1918. They even had some of the oil produced at the well tested by the Leonard at the survey. They did everything they thought prudent before continuing.

The promotional literature printed for sales agents, dated July 14, 1919, announced to the public, "This is a North Dakota proposition." Stock agents, such as Singer sewing machine salesmen Henry Kennedy of Grand Forks, distributed the literature and offered the stock for sale at \$5.00 per share. The literature's sales pitch concluded, "You can help develop the natural resources of your home state by becoming a stockholder now."¹⁴

Having raised the necessary capital, the derrick was erected, and the pipe, casing, and equipment were purchased and shipped by rail to Des Lacs, where it was hauled two miles west to the well site by wagons. To celebrate the commencement of drilling operations, referred to as "spudding in," the well's owners, on July 31, 1918, invited the community to witness firsthand what so many had been talking about. As reported in the *Des Lacs Observer's* August 1, 1918, edition, "The opening of one of the largest oil fields in the country [would] bring a hitherto undreamed-of era of prosperity to this section."

Towering above the prairie stood a standard cable tool rig, an eighty-two-foot-high derrick powered by a steam engine with quarters nearby to house the workers. The great wooden

¹⁴ Des Lacs Western Oil Company sales material, July 14, 1919. North Dakota Geologic Survey Files, Elwyn B. Robinson Department of Special Collections.

derrick, visible for several miles, gave the grain elevators in the nearby villages of Des Lacs and Lonetree competition for the wandering eye's attention.

Before the day's work commenced, the auspicious occasion required a speech. Briefly speaking was Ward County Assistant States Attorney and future governor of North Dakota, the Honorable Ragnvold A. Nestoss, who encouraged the crowd that gathered to do their part and invest but cautioned against going "beyond one's means."¹⁵ Having ended his remarks Nestoss stepped down from the platform. The great steam engine engaged the belt drive with a screech, and the drilling machine lurched to life. Black smoke rolled out of the exhaust pipe and was carried away on the hot summer breeze. The sound of whirring belts and clanking rods, the shouts of the workmen, and the steady thud of the bit beginning to bite into the earth made it difficult for the growing crowd to hear. The crowd, drawn closer and closer by the spectacle of the machines, concerned the operator, who determined it was necessary to shut drilling down over safety concerns for the citizens in attendance.¹⁶ Citizens had witnessed a marvel.

In the eleventh month, on the eleventh day, at the eleventh hour, the war to end all wars came to an end with the Armistice. John Arthur Blum never made it to Europe. On October 26, 1918, he was assigned to the 161st Depot Brigade, where he suffered an injury or illness, most likely the Spanish Flu, and spent nearly a year recuperating at the Fort Sheridan, Illinois, Army hospital until he was discharged November 28, 1919.¹⁷ Also tragic was the death of Algot's wife Joanna on August 15, 1919. The Blums' had returned from a trip to Fargo where they attended a fair. Upon their return Mrs. Blum "complained of not feeling well and shortly afterwards took to

¹⁵ *Des Lacs Observer*, August 1, 1918.

¹⁶ *Des Lacs Observer*, August 1, 1918.

¹⁷ U. S. Adjutant General Military Records, 1631-1976, database accessed December 8, 2017, <http://www.ancestry.com>.

her bed” where she first suffered a “paralytic stroke” and died three days later.¹⁸ A funeral was conducted at the Blum farm by Reverend Michaelson, pastor of the Zion Lutheran church of Minot. Mrs. Blums’ remains were then shipped on the 19th to Minneapolis, where she was buried. Having lost his wife, Blum turned to the only other thing he knew, farming and the Blum well.

In Des Lacs drilling continued and by December 1, 1918, the well was down 1200 feet.¹⁹ After having several difficulties with equipment, various problems with formations, and damaged and failed casing issues, the well reached a depth of 3100 feet by January 22, 1920, and by October 26, 1920 it was down to 3670 feet.²⁰ Running short of money for casing and still far from the Dakota sands and possible production, Johnson, in desperation, wrote the survey and asked, “Should we continue to drill?”²¹ The reply, on October 23, 1920, came from Simpson, “I believe it would be a mistake to abandon the well before the drill enters [the Dakota sandstone], since otherwise you will not have made a satisfactory test as to whether oil or gas are present.”²²

By the fall of 1921, the Blum well had been drilled to 3,924 feet reaching the top of what state geologist Arthur G. Leonard described as the Dakota Sandstone. Leonard continued to encourage drilling, writing, “go down into this formation far enough to test it out thoroughly.”²³ Leonard’s letters along with letters from Simpson, W. H. Wineman, and H. B. Snyder were all used in a promotional bulletin published by Des Lacs Western to generate much-needed capital.²⁴ As winter approached and funds dwindled, operations at the well were suspended, and

¹⁸ *Ward County Independent*, August 21, 1919.

¹⁹ Johnson to Leonard, December 1, 1918, North Dakota Oil and Gas Division, Well File No. 1. Well Files.

²⁰ Johnson to Leonard, January 22, 1920, North Dakota Oil and Gas Division, Well File No. 1. Well Files.

²¹ Leonard to Johnson, October 23, 1920, North Dakota Geologic Survey Files, Elwyn B. Robinson Department of Special Collections.

²² Leonard to Johnson, October 26, 1920, North Dakota Geologic Survey Files, Elwyn B. Robinson Department of Special Collections. This letter is present in both the North Dakota Geologic Survey Files and in the Des Lacs Western Bulletin issued in 1923 and serves to confirm the Survey’s belief that if oil existed in other states below the Dakota sandstone formation, then it may exist in North Dakota as well.

²³ Leonard to Johnson, October 26, 1920, North Dakota Geologic Survey Files, Elwyn B. Robinson Department of Special Collections.

²⁴ Des Lacs Western Bulletin, 1923, North Dakota Geologic Survey Files, Elwyn B. Robinson Department of Special Collections.

an additional sale of stock was offered; this time, however, \$5.00 bought two shares rather than one with the officers of the company kicking in one share for every one purchased.²⁵ Would-be investors had to hurry, for the sale only lasted until February 22, 1922. Little money was raised, and operations remained suspended. Johnson wrote a letter to Simpson, March 16, 1923, claiming optimistically, “I believe that our Venture will be completed in the early Spring and with conditions showing such as they did after drilling through the last Cap-Rock [Dakota Sandstone], I believe that we will have a might good chance of bringing in a Producer.”²⁶ Unfortunately the well, according to a Department of Interior press release dated June 13, 1923, “caved extensively and no samples of some parts of the log could be obtained.”²⁷

In the end, the Des Lacs Western’s Blum #1 well, within several miles of modern production, failed to reach oil. The well caved in, and the drillers were never able to break through the Dakota Sandstone. The well was abandoned at 3,980 feet.²⁸ Des Lacs Western, convinced by periodic shows of oil that they were very near production, raised additional capital, often by having picnics, and started a second, and then third well, the Blum #2 and Blum #3 respectively, but by April of 1928 Blum #3 had reached a depth of 1,380 feet and all money had been exhausted.²⁹

²⁵ Des Lacs Western Bulletin, 1923, North Dakota Geologic Survey Files, Elwyn B. Robinson Department of Special Collections.

²⁶ Johnson to Simpson, March 16, 1923, North Dakota Oil and Gas Division, Well File No. 1. Well Files.

²⁷ Department of the Interior, Memorandum for the Press, June 13, 1923, North Dakota Geologic Survey Files, Elwyn B. Robinson Department of Special Collections.

²⁸ North Dakota Oil and Gas Division, Well Index.

²⁹ “Des Lacs Oil Search Goes On For 9 Years,” *McLean County Journal*, April 26, 1928.



Figure 1. Postcard of the Blum #1 June 5, 1927. Post card owned by Jeff Spencer

Algot held 194,600 shares of worthless stock, but he still had his farm. The farming operation, once so successful, limped along until 1933 when, in the throes of the Great Depression, he was unable to make the mortgage payments and lost the farm to the bank.³⁰

Algot's oldest son, John Arthur, died, on April 28, 1941, at the age of forty-seven. John Arthur had never married and had worked as a janitor for the Great Northern railroad depot at Minot.³¹

Algot, having lost his farm, moved to Minot, where he died in 1944. As sad as the story of Algot is, what may be the saddest part is that rather than being buried by his wife Joanna in Minneapolis, Algot rests in the Minot cemetery. Algot's youngest son, Carl Elmer, married his wife Julia, but the two had no children. Carl was the postmaster in Lonetree, North Dakota,

³⁰ Ward County Courthouse, Register of Deeds, Mortgage Book 132 Page 264-65, Document No. 310321, July 18, 1933.

³¹ North Dakota Certificate of Death, accessed 11/26/2020, www.ancestry.com.

where he owned the Texaco service station and general store. Carl retired and moved to California, where he died in May of 1978.³²

The Des Lacs Western's drilling program had kicked off an initial period of exploration created by local citizens who were becoming increasingly active in the newly formed Non-partisan League (NPL). These entrepreneurs sought their neighbors' capital to finance their ventures as the Des Lacs Observer proclaimed, "to determine once and for all whether or not oil exists here in paying quantities," and if oil were to be discovered, the riches created would "not go out to enrich a lot of rich outsiders -- outsiders who had been getting rich from their labor in the wheat fields."³³

William G. Robbins believes, "The heavily capitalized railroads brought the world of industrial capital to the region and initiated the full-scale exploitation of natural resources."³⁴ This seems true everywhere but North Dakota. In North Dakota, wheat was king, but that did not stop industrial capital from effectively colonizing North Dakota to serve the interests of the railroads and flour mills of the East. North Dakotans took notice and with the help of Arthur C. Townley, and many men like him, the NPL was formed. It was not so much that North Dakotans could not get outside capital investment; it was, rather, that they did not necessarily want it. What seems to have been happening as a result of the NPL's involvement in the state was a distrust or disdain for people who came into the state looking to make money off the backs of hard-working North Dakotans. Judge Nestos, who spoke at the Des Lacs Western's barbeque,

³² Appointments of U.S. Postmasters, 1832-1971; California Death Certificate, accessed 11/20/2020, www.ancestry.com.

³³ *Des Lacs Observer*, August 1, 1918, *Bottineau Courrant*, December 25, 1924.

³⁴ William G. Robbins, *Colony and Empire: The Capitalist Transformation of the American West* (Lawrence: University Press of Kansas 1994), 123.

was, after all, an NPL member and an attorney in Des Lacs, before he became a judge. Thirty miles to the south of Des Lacs a similar story was unfolding.

The horses knew the way as they pulled the stagecoach across the frozen prairie. Atop the stage sat a frozen Edward E. Fredeen who pulled his collar to the freezing wind in a vain attempt to warm his frostbitten face. Fredeen, a native Minnesotan born to Swedish parents, had come to Ryder, North Dakota, when it was not even a town. In fact, it was not even Ryder, but Centerville, a collection of settlers, a few merchants, a stable, and a motel, but no post office. Like Blum, Fredeen had come to North Dakota for land and opportunity. Fredeen filed for and received a patent on the northwest quarter of Section 35, Township 155 North, Range 98 West. Opportunity and success, to Fredeen, were just around the corner.

Centerville sought the establishment of a post office, which was granted in 1903, and Centerville became Ryder.³⁵ The mail was Ryder's only source of communication with the outside world, and it was delivered by the Minot-Ryder-Oscar stage line, operated by Fredeen from 1903 to 1907.³⁶ Sitting atop the stage day after day, week after week, year after year, often passenger-less, with only the horses to talk to, Fredeen contemplated his future.

In the fall of 1906, the Soo Railroad came west, within four miles of Ryder. On July 19, 1906, in the middle of a blossoming flax field, the Ryder town lot sale was held. There was not a building on the scene, but a throng of homesteaders and Indians, horses, rigs of every description, and a spattering of tents lent a carnival atmosphere. Fredeen was again in the forefront, having acted as the agent of the railroad in purchasing the town-site quarter from one

³⁵ John M. Stammen, Ed., *Ward County 75 Jubilee: Jim Hill to Jets*, 1961, 41-45.

³⁶ U. S. Register of Civil, Military, and Naval Service 1863-1959; Postal Service Contracts, accessed 11/26/2020, www.ancestry.com.

of the early homesteaders, a Mr. Bailey. Once the town's new lots were sold, it was time to move.

The entire town picked up and moved four miles north to the railroad. The first building to occupy Ryder was Burr A. Dickinson's law office. Dickinson, like Fredeen, was born in Minnesota. Dickinson, from Lakeland, attended the University of Minnesota, where he received a Bachelor of Law degree in June of 1906. Having completed law school, he packed his meager belongings, moved out of his apartment on Van Buren Avenue, and hopped on a west-bound train arriving in Ryder just in time for the lot sale, becoming Ryder's first resident.³⁷ Fredeen and Dickinson, Ryder's most accomplished residents, began a business relationship that would last for forty years. Dickinson practiced law, and Fredeen built and operated his hotel, which, according to Stammen came, "complete with lobby and dining facilities as fine as anything in the state west of Fargo and Grand Forks."³⁸ Their first project was to open reservation lands to settlement,

It became an early project for the newly organized Commercial Club to Bring about the opening of [the Fort Berthold Indian Reservation] land to settlement by farmers. Mr. Fredeen, along with B. A. Dickinson, [entertained] a congressman and a member of the Department of Interior. [The officials] were brought to Ryder, acquainted with the situation, and wined and dined and entertained in the manner of the day.³⁹

As far removed and remote as Ryder was to the outside world it did not dissuade Fredeen, Dickinson, and their associates from a firm belief in taking advantage of economic

³⁷ Stammen, *Ward County*, 41-45; Minneapolis City Directory, accessed 11/26/2020, www.ancestry.com.

³⁸ Stammen, *Ward County*, 41-45.

³⁹ Stammen, *Ward County*, 41-45.

opportunity. These men believed in developing natural resources to enrich themselves and their communities. The two men, over the course of four decades, invested their time and money to develop gold mining, petroleum exploration, and tourism on the Sa-ka-ka-wea trail. While Dickinson's individual effort was gold mining, Fredeen's was tourism, and the two men worked tirelessly with several other associates on the region's petroleum exploration.

Hearing of the developments on the Blum farm, Fredeen and Dickinson sought to explore their own region for petroleum. Unlike the Des Lacs Western organizers, the Ryder pair first chose to incorporate in Delaware, thereby avoiding North Dakota's laws governing stock sales. Their first attempt, the Great Western Oil and Refining Company, purchased an oil and gas lease from the Minneapolis, Sainte Paul and Sault Sainte Marie Railway Company in March of 1919.⁴⁰ The company then issued Bulletin Number One on April 10, 1918.⁴¹ Fredeen, having spoken with Reinhardt Riersen, hotel manager for the Leland Parker Motel in Minot, wrote to John M. Wiley, a New York geologist, who had stayed at Riersen's hotel, and enlisted his services. Riersen agreed to participate and completed a geological survey of the region.⁴² The Great Western Oil and Refining Company's 1918 bulletin, published by Fredeen, read, in part,

I was a stage driver, carrying the mail from Minot to the Missouri River in this section of the country long before there were any railroads, and dating back to my earliest knowledge of this country, the Indians and pioneer settlers were always complaining they could not get drinking water, that in a large number of wells

⁴⁰ Oil and Gas Lease, March 1, 1919, Burr A. Dickinson Papers, #10556, State Historical Society of North Dakota. Bismarck.

⁴¹ Great Western Oil and Refining Company Bulletin Number One, April 10, 1918. Burr A. Dickinson Papers.

⁴² Robert B. Dickinson, Dickinson Files: Early Ventures North Dakota Gold and Oil, unpublished, undated, Burr A. Dickinson Papers.

around Ryder, the seepages of oil were so great that even the stock would not drink the water.”⁴³

Fredeen went on to explain the occurrences of oil in several local wells including the well of Mr. Wustner, the butcher, who drilled a well directly behind his butcher shop only to find the water fouled with oil. Fredeen also informed his readers about the occurrence of oil in the well of Algot F. Blum.⁴⁴ Despite Fredeen’s effort no wells were drilled in the Ryder area, primarily because the Des Lacs Western’s operations consumed all available regional capital. Dickinson himself purchased twenty-eight shares of Des Lacs Western stock in the early 1920s.⁴⁵ The failure of the Great Northern slowed, but did not deter, the two men, who waited for, and worked on their next opportunity to explore for petroleum.

In the meantime, exploration activity continued throughout the state, unbeknownst to the survey. In Adams County, in the fall 1922, the Prairie States Oil and Gas Company spudded in the Davis No. 1 well, and after a couple of months, in an all-too-familiar story, the *Adams County Record* reported, “oil bubbling up through the slush,” on December 21, 1922. The well, located near Lemmon, South Dakota, was reportedly salted with what smelled like kerosene, which drew the ire of *Lemmon Tribune* editor O. K. Fjetland. Believing the well had been salted, he sent a telegram to the now-governor Nestos of North Dakota and the governor of South Dakota, William H. McMasters:

The Prairie States Oil and Gas Co. officers have been accused by the *Lemmon Tribune* of dishonesty an insincerity in drilling and testing the Davis well.

⁴³ Great Western Oil and Refining Company Bulletin Number One, April 10, 1918. Burr A. Dickinson Papers.

⁴⁴ Great Western Oil and Refining Company Bulletin Number One, April 10, 1918. Burr A. Dickinson Papers.

⁴⁵ Des Lacs Western Stock Certificates, Burr A. Dickinson Papers.

Request that you come here at once and make investigation. We people of North and South Dakota want to know who is telling the truth.⁴⁶

Unhappy with the bad press, landowner W. H. Davis and oil promoter D. C. Stone attacked Fjetland. He was, according to Fjetland, “Waylaid at night and kicked in the face and otherwise injured, by four men.”⁴⁷ Arrested were Davis and Stone, who were fined for disturbing the peace. The beating, and Fjetland’s opposition, shut down investment in the well, and it was plugged and abandoned in 1923. The survey has the total depth at 2,800 feet, but there is no indication the well was drilled any deeper than 1,454 feet, the depth Prairie States had claimed to have found oil.⁴⁸ Despite Fjetland being beaten by Davis and Stone, the *Bottineau Courant* reported that Prairie States “returned the stock to the stockholders together with the money they had invested and abandoned the enterprise entirely.”⁴⁹

The survey lists North Dakota’s third well was drilled by the Great Northern Oil and Gas Pipeline Company in Bottineau County, but this is an error. It is clear from the historical record that Great Northern (not to be confused with Fredeen’s Great Northern) drilled a gas well in 1908, but the oil well was drilled in the 1920s. Bottineau County records show the Great Northern Oil and Gas Pipeline Co.’s leasehold was assigned to the Turtle Mountain Gas and Oil Company who, in 1926, began raising money to drill a well near Bottineau.

The Turtle Mountain Gas and Oil Company sought, like those before it, to raise capital locally. *The Bottineau Courant*, as early as 1924, was calling for investment from the community, writing, “The incorporators are all local men and it is planned to raise the necessary

⁴⁶ “Large Crowd Witnesses Test of Davis Oil Well,” *Adams County Record*, April 26, 1923.

⁴⁷ *Adams County Record*, May 3, 1923.

⁴⁸ North Dakota Geologic Survey Files, Elwyn B. Robinson Department of Special Collections. and *Adams County Record*, April 26, 1923.

⁴⁹ *Bottineau Courant*, February 11, 1926.

funds here so that when a strike is made the revenues will remain right here and enrich ourselves and not go out to enrich a lot of rich outsiders.”⁵⁰ Also involved was survey head A. G. Leonard who published a geologic report in the October, 1925, issue of *The Bottineau Courant*.

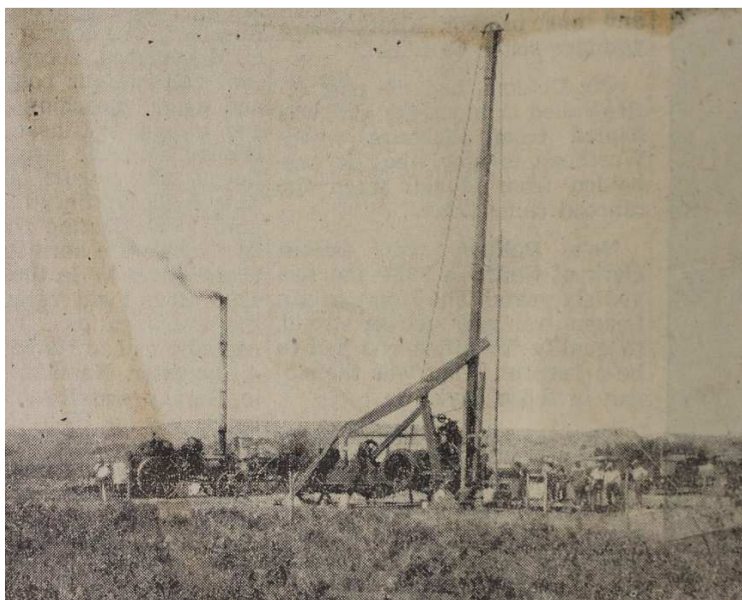


Figure 2. Turtle Mountain Oil Company’s drilling rig. Photo from *Bottineau Currant*.

Throughout the course of 1926, citizens continued to invest. The *Bottineau Courant* warned community members, “Don’t miss this opportunity.”⁵¹ Capital continued to be raised as drilling continued, reaching 1,585 feet by June of 1927.⁵² Local farmer, businessman, and oil promoter George R. White was traveling to nearby communities, including Rolla, to raise additional capital to fund the drilling process. The well had reached a depth of 1,700 feet in July of 1927, when it suffered a cave in, the result of the company being unable to install additional casing due to lack of capital.⁵³ The appeal went out for additional money, which was eventually raised, and the drilling continued to 2,040 feet. With capital resources drying up. ownership of

⁵⁰ *The Bottineau Courant*, December 25, 1924.

⁵¹ *Bottineau Courant*, November 19, 1926.

⁵² “Rolla People Interested in Souris Oil Well, According to Star Report,” *Rolla Star*, June 16, 1927.

⁵³ “Appeal for Additional Funds Made By Oil Co., Well Down 1700 Feet,” *Bottineau Courant*, July 7, 1927.

the well was transferred to Cens Nelson of Ross in April of 1928. Nelson was contractually obligated to. but did not finish the well. and it was abandoned as a dry hole that year.⁵⁴

East of Carrington, North Dakota, in Foster County, sits the town of Glenfield. Like many towns throughout North Dakota in the 1920s, Glenfield was struck with oil fever. To assuage the fever local men organized the Central North Dakota Development company which secured 10-year leases and collected the funds necessary to hire the Thorpe Brothers of Des Moines, Iowa. to drill the well.⁵⁵ Money was raised from New Rockford, Cooperstown, Carrington, and Glenfield totaling approximately \$50,000. The well, drilled to a depth of 3,850 feet, hit granite, something no other well during this period was able to accomplish. The *Tuttle Times* said, "All stockholder[s], it is said, are satisfied that they got honest value for their money invested."⁵⁶ This well was one of two wells drilled during this period that was drilled to granite. All others failed to reach their stated goals for want of capital resources.

Leonard, survey head from 1903-1932, was often asked to travel throughout the state to make geological determinations that benefited those exploring for petroleum. Leonard had repeatedly written letters of encouragement, endorsement, confidence, and an occasional admonishment to the Des Lacs Western, Turtle Mountain, Glenfield, Velva, and Herman Hanson oil and gas companies. He would now lend his name and reputation to the Fredeen Oil Development Company.

In 1926, during this heightened period of exploration, Fredeen, Dickinson, and Danielson formed the Missouri Slope Development Company, later named the E. E. Fredeen Oil

⁵⁴ "Souris Oil Well to be Completed," *Bottineau Curreant*, April 4, 1928.

⁵⁵ *Glenfield History, 1886-1987* (1987), 62-63.

⁵⁶ *Tuttle Times*, August 9, 1928

Development Association.⁵⁷ Danielson, like Fredeen, owned a hotel, the Grand Hotel in Minot. Danielson also headed the Greater North Dakota Development Association and much like Fredeen sought to develop the area's economy. The three men sought, to not only enrich themselves but also their communities. Fredeen, as president of the E. E. Fredeen Oil Development Company, was the driving force behind the Armstrong #1 well in Kidder County. Fredeen traveled throughout the county signing leases, visiting with landowners, and corresponding with petroleum companies in search of possible partners for their exploration efforts. After negotiating for several weeks, Fredeen Oil Development and Prairie Oil and Gas, of Paco, Wyoming, entered an agreement to drill the Armstrong #1 well in Kidder County. The *Steele Ozone* reported, "This Company asks for no local finances for its work, and is not selling any stock."⁵⁸ This was a departure from the common practice of each individual community funding their own exploration. It was a sign that local capital was beginning to dry up, and that outside capital was beginning to see North Dakota as an area ripe for exploration.

The Fredeen Oil Development Company, in August of 1927, received a response from survey director Leonard that they used in their marketing materials. The letter read in part,

This structure, which may be called the Fredeen anticline, is one of the few such structures which are known in the state.⁵⁹ I regard this locality as one of the most favorable in North Dakota, if not the most favorable, in which to drill for oil. I understand that it is so regarded by several other geologists who have examined the anticline.⁶⁰

⁵⁷ Dickinson to Fredeen, Danielson, Garness, and Dove undated, 1928, Burr A. Dickinson Papers.

⁵⁸ "Important Facts About The Prairie Oil & Gas Co," *Steele Ozone*, August 2, 1928.

⁵⁹ This structure is currently called the Tuttle Anticline.

⁶⁰ Leonard to Danielson, August 3, 1927, Burr A. Dickinson Papers.

The E. E. Fredeen Development Company assigned its leasehold over to the Prairie Oil and Gas Co. from Wyoming. In August of 1928, the Armstrong #1 well was spudded in, drilled to a depth of 3,388 feet to granite, and abandoned just before Christmas of 1929. It was the state's eighth exploration well that had failed to find petroleum; however, unlike previous attempts that had failed for want of capital, the Armstrong #1 well had been finished as a dry hole. This was Fredeen's second attempt at exploration, but not his last. Fredeen, along with Dickinson, and Danielson, would continue their search for petroleum until well into the 1940s. Unfortunately, in 1947, Fredeen's Hotel Fredeen in Ryder burned to the ground, and he died a short time later in Minnesota. The three men would do no further exploration, but other North Dakotans were just getting started.

In April 1926, Carl E. Danielson, head of the Greater North Dakota Development Association, and member of the E. E. Fredeen Development Company, spoke to a group of nearly 400 citizens at an event organized to help raise money to drill an oil well.⁶¹ Danielson told the crowd that "large advertisements were being run in all the principal periodicals of the east and beside more than 125 letters per day were being sent to prospects in the east in an endeavor to attract new settlers."⁶² Danielson, along with a group of business owners in Velva, organized the Velva Petroleum Company. It was another local group organized, financed, and run by local men destined for failure. By the spring of 1928, the Velva Petroleum Company had raised enough to spud a well five miles west of Minot. The well, doomed from the start by quicksand, would go down a mere 520 feet.⁶³ Having little capital and poor equipment, the well

⁶¹ *Ray Pioneer*, April 22, 1926.

⁶² *Ray Pioneer*, April 22, 1926.

⁶³ North Dakota Geologic Survey Files, Elwyn B. Robinson Department of Special Collections.

was abandoned and the investors, mostly area businessmen, were once again left without a return on their investment.

Oil fever spread throughout western North Dakota in the late 1920s, reaching every corner of the state, including the most northwestern corner in Divide County. In the community of Noonan, as in communities across the state, citizens were joined in large, organized meetings, and once there, were encouraged to purchase stock in a local drilling company in order to finance the drilling of a well. Having secured the necessary investment through stock purchases, the Northwest Oil Company of Noonan, North Dakota, spudded in its Well No. 1 on March 12, 1927.⁶⁴ Drilling progressed with few interruptions, but as in many other cases the company soon ran out of money. Another investment meeting was called in October 1927, and while several hundred attended, few had anything left to invest. The well having been drilled to a reported 2300 feet, all news of it disappeared from the newspaper, while simultaneously frequent stories of another community's development began appearing in the papers for a Big Viking well.

A cacophonous din rose from the prairie as the Ray Knickerbockers Boy's Band warmed up their instruments on the cool, partly cloudy morning of July 17, 1927.⁶⁵ The band, playing periodically throughout the day, was the main source of entertainment for the estimated 3,000 in attendance.⁶⁶ Rising from the Nesson flats, was the main attraction, the eighty-four-foot-high wooden oil derrick of the Big Viking Oil Company. Similar to other ventures in the state, the organizers provided the entertainment, which included several speeches which encouraged investment in the company. Speeches from the 5th Judicial District judge of Williston, George H. Moelling, and Big Viking director Mr. Barrington filled out the day. Moelling, convinced of

⁶⁴ *Noonan Miner*, March 17, 1927.

⁶⁵ *Williams County Farmers Press*, July 17, 1927.

⁶⁶ *Williams County Farmers Press*, July 17, 1927.

the Big Viking's probable success, invested heavily, and upon his death in 1935 willed 15,000 preferred shares and 205 shares of common stock should oil be found in the venture.⁶⁷

In the spirit of the NPL, Barrington warned against the outside intervention of moneyed interests and urged attendees to invest in the "community proposition."⁶⁸ In time the necessary capital was raised, and sometime during the fall of 1927 the Big Viking was spudded in. Also operating near the Big Viking and unbeknownst to A. G. Leonard and the survey were the Ray Oil and Gas Company, which was drilling simultaneously with and near the Big Viking, and the A.C. Townley organization, which was leasing in the area and "welcomed into the field by the Big Viking people."⁶⁹



Figure 3. The Ray Knickerbockers boy's band at the Big Viking well. Photo courtesy of State Historical Society of North Dakota.

⁶⁷ Williams County Register of Deeds, Doc. No. 210470, Final Decree of Distribution, September 3, 1938.

⁶⁸ *Williams County Farmers Press*, July 17, 1927.

⁶⁹ *Williams County Farmers Press*, August 18, 1927.

In the fall of 1927, the Big Viking Oil Company spudded in its Big Viking No. 1. When the Big Viking failed, it, too, failed for want of capital, which ended eighteen years of oil exploration by North Dakotans for North Dakotans. Over the course of this period drilling was done exclusively with cable tool rigs due to the unavailability and or expense of the more modern rotary rig, which was first used at Spindletop in 1901. In 1937 *Bismarck Tribune* writer Gordon MacGregor wrote that the Big Viking's derrick stood "ghost-like against the panorama of buttes, a monument to the pioneer effort to find oil in the Nesson valley."⁷⁰

During the years 1916-1935, the political movement in North Dakota began by A. C. Townley and the NPL effected how capital was raised in the state. North Dakota's oil explorers, with limited local capital, had to manage with marginal equipment, unskilled labor, and limited geological knowledge. As the 1920s drew to a close and the nation was gripped with economic calamity, local capital markets, like the North Dakota oil wells and wheat fields, were dry. When the Big Viking Oil Company, the last of its kind, failed due to a lack of capital, those oil explorers who remained were left to search for capital outside the state. With the help of men like Thomas W. Leach, outside capital moved into the state with information gleaned from the initial exploration period. National companies, encouraged by Leach's reports, had greater amounts of capital, modern equipment, experienced labor, and accumulated geologic information and scientific technology. This, along with more stringent requirements from the survey, would reduce fraud and abuse in the industry, which ultimately would ensure a more effective use of community resources.

⁷⁰ Gordon MacGregor, *Oil Hunting in North Dakota: The Story of Exploration Operations in the Nesson Valley* (Bismarck: The Bismarck Tribune, 1938), 5.

CHAPTER THREE: KISS IT GOODBYE

The sun, blazing in a clear blue sky, seared the rolling prairie below. An unidentified man, a citizen of Robinson, North Dakota, arrived at one of the town's several water wells on August 25, 1925. The heat of the Monday afternoon wore on, and in a desperate attempt to cool his overheating Model T, the man lowered a bucket into the three-foot wide, and 69 feet-deep, city water well. The well, which had produced only muddy, bad tasting water, had been abandoned as a source of drinking water in June of that year, and had last been used that July, in an attempt to fight a church fire.⁷¹ The initial attempt at procuring water yielded only a bucket full of "greasy muddy stuff."⁷² A second attempt proved equally futile at producing water, but this time the bucket miraculously contained a liquid that appeared to be petroleum, and when set afire, "burned with a blue flame."⁷³ News of the discovery spread quickly.

The citizens of Robinson descended on the site en masse to witness the spectacle and cart off the booty. Any vessel capable of containing the flammable liquid was pressed into service, and several autos were briefly run to test the gasoline's purity. Confusion and chaos reigned, as much of the region's population succumbed to oil fever. After a thorough investigation it became clear the gullible and naïve were victims of the age-old practice of well salting. The gentlemen responsible, having raised a hue and cry, quickly retreated into eternal anonymity. The well could not possibly have been the source of the gasoline, and after an investigation survey head A. G. Leonard concluded, "The oil found in Kidder County is refined oil and analyses show it to be Red Crown Gasoline. The oil found in the water wells has evidently been

⁷¹ *Fargo Forum*, June 24, 1951.

⁷² *Steele Ozone*, August 27, 1925.

⁷³ *Steele Ozone*, August 27, 1925.

poured in from above.”⁷⁴ The news did little to assuage the region’s fervor, as North Dakotans once again fell prey to the false claims of a petroleum discovery. During the 1920s, North Dakota experienced a community driven exploration boom where individual communities raised the necessary capital to drill exploration wells. Sometimes these endeavors had the blessing of the survey, but often the survey was either unaware or was dead set against some of the claims being made by fake geologists, doodle buggers, or others trying to separate North Dakotans from their hard-earned money. Most North Dakotans, during the 1920s, lacked any understanding of the petroleum industry, during a time when the industry itself was still growing and learning the science of geology. This made North Dakotans, easy prey for doodle buggers, swindlers, charlatans, and confidence men who, for a small fee, delivered promises of great wealth to any who would listen.

Swindlers come in all shapes and sizes and have existed in the oil industry since its infancy. Some men claimed to be trained geologists, still others secretly salted wells, but none were more notorious, more colorful, or more effective than the doodlebug man in all his many forms with all his wondrous machines. A doodlebug is a person who claims to be able to identify the location of petroleum below the earth’s surface by use of several differing techniques including a can on a string, a witching wand, or other homemade device or contraption. The doodlebug was quite successful in the industry’s early years. In Pennsylvania, Ohio, and the Southwest, doodlebugs had a long history of success. Frehner writes,

Some prospectors found oil by relying on their eyes, ears, feet, and hands while traversing landscapes. Others saw field work as an opportunity to formulate

⁷⁴ John P. Bluemle, *The 50th Anniversary of the Discovery of Oil in North Dakota* (Bismarck: North Dakota Geologic Survey 2001), 10.

philosophical speculations about geological principles useful for finding oil and answering larger questions about a landscape's form, age, and relationship to surrounding topography.

However, by 1925, geologists had largely replaced the doodlebug as a reliable source of knowledge. On the northern plains geologists replaced doodlebugs with the science of surface geology. Frehner explains, "Geologists began to displace [doodlebugs] as oil-finding authorities during the first two decades of the twentieth century by building institutional power within universities and surveys and using these forums for creating and controlling knowledge the oil industry wanted while simultaneously advancing their professional authority and prestige." Geologists, such as the survey's Leonard, saw as one of their primary purposes to protect the citizens of North Dakota from the speculative nature of the doodlebug with the more scientific nature of the surface geologist, but in North Dakota in the 1920s, the doodlebug was still an effective means of rousing support and putting on a good show. Three men -- Arthur C. Townley, Herman Hanson, and Alois P. Swoboda -- used doodlebugs to locate and promote their drill sites, write outlandish reports, and distribute propaganda to induce investment from the gullible, naïve, and uneducated.

Arthur Charles Townley, the oldest son of Fitch R. and Esther J. Cross Townley, was born December 30, 1880.⁷⁵ Townley completed high school in Alexandria, Minnesota, and briefly taught school before leaving for Colorado. It was in Colorado that Townley first attempted and failed at farming and where he met his wife, Margurite Rose Keenan, whom he married in 1911.⁷⁶ In 1907 Townley returned to Beach, North Dakota, where he and his

⁷⁵ Robert L. Morlan, *Dictionary of American Biography, Supplement 6: 1956-1960*, 644-645.

⁷⁶ Morlan, *Dictionary*.

brothers began an extensive operation of flax cultivation.⁷⁷ Townley, for unknown reasons, arranged for his family, except for his father, to live with him in Beach. In 1909 his sister Cora Mae, then 26, died in Dickenson. The boys, Earl, Covert, and Claude, all lived and worked with Townley throughout his years in Beach. Townley, referred to as the Flax King, quickly grew his operation far beyond his capacity.

Morlan writes, that in 1912, “an early frost and a depressed market,” left him bankrupt.⁷⁸ Townley said, “A few months before I had been a good fellow and an able farmer but after the failure nobody in town wanted to speak to me or to see me. All because somebody in Chicago or Minneapolis sought to break somebody else who was buying flax.”⁷⁹ Townley, a broken man, sent his family back home to the farm in Minnesota. Soon after leaving Beach, Townley’s brother Earl, who suffered a mental disorder, was admitted to the State Hospital in Fergus Falls, Minnesota.



Figure 4. Townley speaks to members of the NPL. Picture courtesy of the State Historical Society of North Dakota.

⁷⁷ Morlan.

⁷⁸ Morlan.

⁷⁹ Herbert E. Gaston, *The Nonpartisan League* (New York: Harcourt, Brace and Howe 1920), 50.

Herbert Gaston credited Townley as a gifted orator writing, “[Townley’s] mastery of sarcasm, scorn, and ridicule, and vitriolic attacks on ‘Big Biz’ roused enthusiastic responses.”⁸⁰

Gaston credited these talents to three men with whom Townley spent considerable time in his youth. According to Gaston, “These men were Townley’s university. Under their tutelage he left the paths of conventional learning for excursions with the apostles of protest and revolt.”⁸¹

These men -- a grey-bearded tailor, a carpenter, and a jeweler -- Gaston wrote, were “philosophers, given to long evenings of reading and discussion of economics, religion and other abstract matters.”⁸²

Having failed at farming, Townley, who blamed the capitalists in Saint Paul for his failure, turned his experience and oratorical skill into a job with the Socialist Party of North Dakota. Using his experience and ability to advantage, he quickly gained recruits to his cause. At odds with the socialists over his use of the Model T to recruit new members, he left the Socialist Party and founded the NPL in 1915. From 1915 to 1922 Townley was the NPL’s undisputed leader. However, having been convicted in 1919 for discouraging enlistment during World War I, Townley resigned as head of the NPL after serving a ninety-day federal prison sentence in 1921. Having resigned from the NPL Townley made his home at the Saint Regis Hotel in Minneapolis, where the city directory had him listed as the President of the National Nonpartisan League.⁸³ It was in Minneapolis that Townley gathered his associates from NPL states to organize the National Producers Alliance (NPA) on February 23, 1923.⁸⁴ The failure of the NPA, according to Theodore Saloutos, was the result of many factors, including “the

⁸⁰ Gaston, *Non-Partisan League*, 46-47.

⁸¹ Gaston, *Non-Partisan League*, 46-47.

⁸² Gaston.

⁸³ Minneapolis, Minnesota, *City Directory 1922*, accessed on 1/30/2019, www.ancestry.com.

⁸⁴ Theodore Saloutos, *The National Producer’s Alliance*, accessed 1/30/2019, www.collections.mnhs.org/mnhistorymagazine/articles.

agricultural depression, faltering leadership and organization methods, uncertainty as to the objectives to be attained, and the competition of rival farm groups for membership.”⁸⁵ Whether he was pushed out or left of his own accord, Townley did not hang around long enough to see the struggling NPA merge with the Farmers’ Union in January of 1926. He instead resigned from the organization in the spring of 1924 and headed south to the oil fields.

Townley traveled through Texas, Oklahoma, Nebraska, and Kansas looking for work along with his brothers Claude and Covert. Covert died in Nebraska in January of 1923, leaving Claude and Townley to find work selling petroleum stocks in Kansas.

Townley claimed that while traveling in Texas, he had discovered a doodlebug, known only as Henry, whom he brought back to Kansas with him and Claude.⁸⁶ The two men recalled how they tested Henry’s ability,

[The brothers] took [Henry] and his instrument in a closed automobile, Put him in the rear seat, hung black curtains over the front and rear seats and over the windows so [Henry] could not see out. One of the brothers drove the car while the other sat in back with [Henry]. They would drive up beside a producing oil well and [Henry] would tell them almost exactly how much the well was producing. Then they would go to another well, or a dry hole, and in every instance the instrument gave a true account of petroleum or the lack of petroleum.⁸⁷

Having been convinced of Henry’s talents, the brothers set about raising money to drill an oil well in Kansas. Raising the necessary cash locally proved troublesome so the two,

⁸⁵ Saloutos, *National Producer’s Alliance*.

⁸⁶ Bill Shemmory, *Mud, Sweat, and Oil: The Early Days of the Williston Basin* (Williston, self-published, 1991), 42.

⁸⁷ Shemorry, *Mud, Sweat, and Oil*, 42.

according to Townley, “decided to let some of the old-time league leaders back in North Dakota onto the secret.”⁸⁸ These men included state representative Walter Maddock and his brother Ron Maddock, R. H. “Dad” Walker, and state senator O. J. Olson.⁸⁹ The Townleys invited the men down to Kansas for a demonstration, and when they became convinced, they in turn took friends of their own down in what became a regular route between Aberdeen, South Dakota, and Wichita, Kansas.⁹⁰ Back in Robinson, the fervor, unchecked, grew as local businessmen leased acreage immediately surrounding the town and the now famous water well and continued, despite evidence to the contrary, to support the claim that the well produced petroleum.⁹¹

Nearby in Pingree a similarly dubious situation played out in February of 1926. It was reported that the owners of the Verlinden Motor Company, located in Pingree, pumped, from their leaking cistern, a “quantity of oil which has the smell and burns like pure kerosene.”⁹² The two sensational tales quickly drew regional attention, and newspapers throughout the state picked up the unbelievable story. Predictably, the events induced accelerated leasing.

The *Fargo Forum and Daily Republican* reported, “Now it happened that a man who was working with Townley in the development of certain oil properties in Kansas was in Robinson on the day that the oil was found.”⁹³ The man remains unidentified; however, he is reported to have immediately wired Townley, telling him of the discovery. Within a very few days of the discovery Townley himself, the returning hero, was in Robinson along with Henry, who Townley referred to as an oil finder.⁹⁴ In short order Henry was able to identify the greatest

⁸⁸ *Fargo Forum and Daily Republican*, March 4, 1926.

⁸⁹ *Fargo Forum and Daily Republican*, March 4, 1926.

⁹⁰ Walter Jeremiah Maddock (September 13, 1880 – January 25, 1951) was a politician in North Dakota. He served in the North Dakota House of Representatives from 1914 to 1924, and became the 14th Lieutenant Governor of North Dakota in 1925. Maddock became the 15th Governor of North Dakota in 1928 when Arthur G. Sorlie died in office, and became the first governor born in North Dakota.

⁹¹ *Fargo Forum and Daily Republican*, March 4, 1926.

⁹² *Kidder County Farmers Press*, February 18, 1926.

⁹³ *Kidder County Farmers Press*, February 18, 1926.

⁹⁴ *Kidder County Farmers Press*, February 18, 1926.

potential for production and, as it happened, it was on acreage not already under lease.

Convenient? Those who thought so were quickly dismissed by Townley, as he noted the source is often far away from seeps and surface indications.

Several months later, in a pasture near Robinson, an oil derrick stood towering over the treeless plain below. The well, the Robinson Patented #1, had been erected by the A. C. Townley Interests without any communication with or input from the survey. A bunk house capable of housing up to 200 guests sat between the derrick and the power plant, which continuously belched out black smoke created by the coal burning steam engine housed within. To ensure security and secrecy, an eight-foot-high, wire fence was installed along the perimeter.

Within the bunk house hand-selected participants, chosen solely based on their membership in the NPL, and their ability to lend large sums of money, were gathered, housed, and fed. These men, often several hundred strong, were shuttled to the bunk house by Model T every Thursday and Saturday by NPL organizers who were paid a dollar for each person they delivered to the camp. Once enough men were gathered, Townley spoke about the well, the prospects for success, and the necessity of their contributions. Townley, part skilled orator, part carnival barker, and part pure charlatan, called on those present, “loan me your money – but kiss it goodbye. There may be oil here, I am convinced that there is -- but there may not.”⁹⁵

⁹⁵ *Fargo Forum and Daily Republican*, March 4, 1926.



Figure 5. The Robinson well. Picture courtesy of Institute for Regional Studies, NDSU, Fargo.

To entice those who attended to invest the greatest possible amount of money, Townley restricted each person's total investment to 250.00, which caused many men to buy stocks for their wives and children, often creating a total family investment of over one thousand dollars.⁹⁶ In December of 1925, Townley, having gathered as many men from the surrounding area as possible, discontinued the meetings and abruptly left for Texas, where he claimed he was also drilling an oil well.⁹⁷ Estimates of Townley's fund-raising range between \$500,000 and \$1,000,000.⁹⁸ This money was used to pay leases, the organizers who carted investors to and from the well site, the builders who erected the camp, the equipment and materials necessary to drill a well, and most importantly, to pay Townley and his brother Claude's living and traveling expenses.⁹⁹

⁹⁶ Shemorry, *Mud, Sweat, and Oil*, 49.

⁹⁷ *Kidder County Farmers Press*, December 10, 1925.

⁹⁸ *Fargo Forum*, June 24, 1951.

⁹⁹ Larry Remele, *The Lost Years of A. C. Townley (After the Nonpartisan League)*, North Dakota Humanities Council Paper, 1988, 8-9.

Sometime between the 10th and the 13th of January 1926, the Townley well was spudded in. By May the well had descended to about 1,700 feet, and having expended all available resources, operations came to a halt. Townley, with his drilling crew threatening to leave, needed the drilling to continue, and he also needed time to quietly raise more money, so he did what others in his position had done: he salted the well, but first, he had to stall for time. A mass meeting was held on May 6, 1926. Local land owners who had signed leases with Townley's organization were told that drilling operations had ceased, "On account of some parties having leases so near the drill that it is out of the question to expect those who have put their money in this proposition to go further with the work than they have already done without securing enough leases to make them safe financially."¹⁰⁰ The *Kidder County Farmer's Press* published the leaseholders resolutions concluding, "Therefore: Be it resolved that we the undersigned, in Mass Meeting assembled, request that the parties holding leases in said area, of three miles from said well under operation, relinquish to H. C. Schumacher their holdings as a protection to him that he may continue such operations which he agrees to do if said relinquishments are made at once."¹⁰¹ Having effectively explained that drilling was halted, not because Townley was out of money, but rather because he needed more leases, Townley could now safely produce oil without being accused of salting the well.

On May 15, 1926, Townley, having supposedly returned from his trip to Texas, appeared in Robinson with a container of oil he claimed was recovered from 1,700 feet by dipping a tomato can down the well with a string. Townley ensured those he showed the oil that it had been found much earlier, but that the discovery was kept secret to gain more leases.¹⁰² Townley

¹⁰⁰ *Kidder County Farmer's Press*, June 2, 1926.

¹⁰¹ *Kidder County Farmers Press*, June 2, 1926.

¹⁰² *Fargo Forum*, June 24, 1951.

then held a demonstration at the well site where the crew first lowered, then pulled, an oil and mud-soaked string of drilling tools out of the well.¹⁰³ The ploy did not work. Despite raising some funds, not nearly enough was raised to continue drilling, and although there were claims that the well was near the 2000-foot mark, it never went much further than where it was in May of 1926, when it was shut down.

The operation was not without its detractors. Several complaints prompted a state securities commission investigation that, “failed to locate a single reputable geologist who had made a favorable report on the possibility of finding oil in the region.”¹⁰⁴ Even survey head Dr. A. G. Leonard warned, “There is no evidence whatever of any anticline or other oil structure in the region and in the absence of these there is practically no chance that oil will be found in commercial quantity. Prospecting in the area is thus a gamble pure and simple with the chances all against those who invest in the projects.”¹⁰⁵

Townley, as was his nature, began to expand his new enterprise beyond his financial and organizational capabilities. Soon there was talk of development back in the state of Kansas as well as potential oil camps erected near Ray, Valley City, and New England, North Dakota.¹⁰⁶ Near Ray, in the fall of 1927, the Townley brothers dug a pit on land owned by Fred Wagner northwest of the Big Viking location. According to state senator Solberg, “Night after night, hundreds of people from far and near would drive to Townley’s camp to see the man with the ‘doodle bug,’ and the money would pour in.”¹⁰⁷ Townley was always ready for the money to pour in, but when it stopped, when people ran out of money with nothing to show for it, they

¹⁰³ *Fargo Forum*, June 24, 1951.

¹⁰⁴ *Kidder County Farmers Press*, November 19, 1925.

¹⁰⁵ *Kidder County Farmers Press*, November 19, 1925

¹⁰⁶ Remele, *The Lost Years*, 9.

¹⁰⁷ Shemorry, *Blood, Sweat and Oil*, 49.

would come looking for Townley. They would always just miss him as he was off to Texas or Kansas, where he was always just about, but not quite ready, to hit a big producer.

When Townley failed, and he did so his entire life, he failed dramatically and completely. His habit of trying to become too big too soon caught up with him once again. Whether it was growing flax in Beach, the implosion of the NPL, or drilling dry holes for oil, he spread his organizations too thin, too fast, and subsequently could not withstand the vagaries of the prospective ventures. In January of 1944 Townley's wife Margaret, who spent the better part of thirty years separated from her husband, passed away in Utica, New York. His daughter Bonita died in April of the same year in Cheyenne Wells, Colorado. When oil was discovered in 1951 Townley again appeared in Williams County trying to put together something, anything, but his moment in the sun had passed. No longer able to sway people, Townley, a broken, lonely, penniless man, died in an automobile accident November 16, 1959, near Makoti, North Dakota.¹⁰⁸

The survey, for its part, was never given any information about Townley's well. There was no official spud date, or total depth. It could have been as deep as 2,000 feet, or as shallow as several hundred. There were no logs, cuttings, or reports of any kind for the survey to review; in fact in all three pictures of the well, there is no cuttings pile to estimate how deep the well was drilled, only a pit, which in one picture appears to be holding water. The enterprise was investigated for violations of the state's laws and the survey heavily ridiculed the entire operation, but it did not stop the Townley faithful from donating their hard-earned money, nor did it stop Herman Hanson from doing the exact same thing.

¹⁰⁸ Shemorry, *Blood, Sweat, and Oil*, 49.

While the citizens of Robinson frenetically gathered gasoline from their town's former water well, another spectacle unfolded to the east. Nearly 1,600 miles away in Jackson Mills, New Jersey, a Los Angeles, California, man, George W. Perry, "reluctantly demonstrated to incredulous newspaper reporters the Perry Mineral Indicator."¹⁰⁹ A self-proclaimed geologist, Perry had, in the preceding five years, bilked two Rhode Island worsted merchants out of \$400,000.¹¹⁰ He had convinced the men that his indicator could identify the location of oil utilizing the scientific principal of "like attracts like."¹¹¹

Perry, born in New York in 1862, made his way to Seattle, Washington, where he worked as a painter. In 1920, he and his wife, Katherine Teahan Perry, moved from Seattle to Los Angeles, California, where he began his career as a doodlebug traveling across the United States. In 1922 Perry joined several other Los Angeles businessmen to create the Midvein Oil and Refining Company.¹¹² With 205 acres of leases between the oil fields of Santa Fe Springs and Signal Hill, the men believed their success was imminent, but they were unsuccessful at raising the necessary capital to drill and their leases expired. While serving as Midvein's Secretary-Treasurer Perry, continued his work with what he called, his "instrument of unlimited scope and utility." In June of 1925, on his way to Jackson Mills, New Jersey, he stopped in Turtle Lake, North Dakota, at the behest of pioneer farmer Herman Hanson to survey Hanson's land.

Herman Hanson was born in Skane, Sweden, June 18, 1856. Herman immigrated with his parents to the United States in 1875, when he was nineteen years old. Herman met and married his wife Anna in Fairfield, Iowa, in the early 1880s, but moved to North Dakota in 1883.

¹⁰⁹ *TIME*, August 24, 1925, 18.

¹¹⁰ *TIME*, August 24, 1925, 18.

¹¹¹ *TIME*, 18-19. Worsted is a smooth compact yarn from long wool fibers used especially for firm napless fabrics, carpeting, or knitting.

¹¹² *The Oil Age*, November 1922, 30.

The couple had ten children: James, Hanna, Laura, Nora, Nils, Nanna, Von, Alice, May, and Emma. In 1892 Herman homesteaded near Turtle Lake. The land he settled had coal, which he promptly began to mine and sell throughout the region.

In 1913 Hermon sent a sample of his coal to Dusseldorf, Germany, and according to the story told by Herman's sons Vaughn A. and Nelse E. Hanson, the scientists wrote Herman back. His coal was fine, they wrote, but they said, "Why bother with it, you are living in an oil field, so why not get oil."¹¹³ The Hansons did not immediately begin drilling for oil, but rather continued to farm and mine coal while Herman began collecting information on petroleum, reading trade journals like the Montana Oil Journal, the Oil and Gas Journal, and others. It was not until a push to test for oil began that Herman reached out to Perry and hired him, along with several dubious geologists, to come to Turtle Lake and survey his holdings.

On June 5-6, 1925, Perry, using his mineral indicator, surveyed Hanson's land and in his report wrote, "I have never before surveyed such remarkable petroleum deposits as the instrument shows this entire area of land to contain and I predict that development will quickly prove these lands the greatest oil field the world has ever known."¹¹⁴

The indicator itself was quite an amazing and unique piece. It was, according to the description in the August 23, 1928, edition of the *Foster County Independent*,

a tripod apparatus fitted with compass, dials and a brass cylinder like the weight from a grandfather clock, suspended by a silken, tubular thread. The indicator, a cylinder eight inches long and an inch and a half in diameter, is suspended by a chemically treated silk cord and the cylinder itself contains chemicals. A large

¹¹³ *Fargo Forum*, June 13, 1954.

¹¹⁴ George W. Perry to the Herman Hanson Oil Syndicate, August 17, 1925, North Dakota Geologic Survey Files, Elwyn B. Robinson Department of Special Collections.

glass bowl surrounds the cylinder which acts to protect the cylinder from the elements. Mr. Perry, the only person who can operate it, can test for any mineral or metal he desires.”

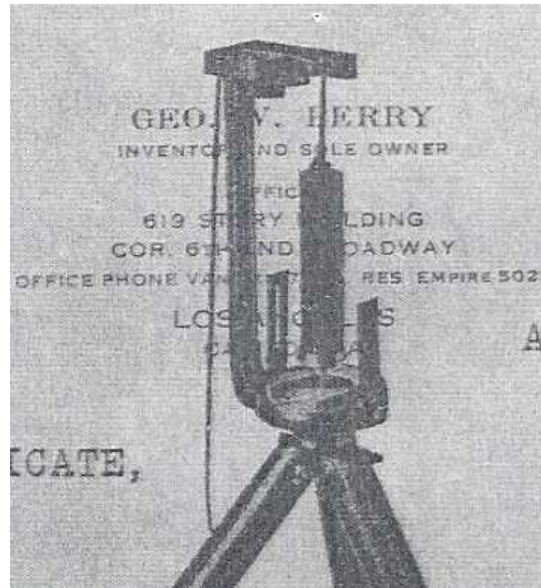


Figure 6. Perry's Mineral Indicator. Image taken from the letter cited above.

The process by which Perry would operate it were also documented in the *Independent*,
To test for oil, [Mr. Perry] takes a piece of chamois skin saturated with crude oil and places it at the top of a finger. Around the chamois and finger he wraps a silken cord a dozen times and this supports the finger on a tripod. He has no control over the [indicator]." If there is oil directly beneath the instrument it stops swinging almost instantly. If no oil is present it swings in the direction of the closest large body of oil even if it is hundreds of miles away. The instrument can be varied, thus: if the oiled chamois is replaced by a copper penny, the [indicator] will search for copper, even detecting a few pennies in a man's pocket nearby by its motions. But if the pennies are not close, the [indicator] will swing in the direction of the Montana cooper mines. By using a dime, the bug is agitated by

silver coins in pockets. It oscillated slightly for one man; when a number joined hands, it is agitated very much more. If the metal or oil or water sought is close underneath the bug, its pendulum motion stops quickly. If the substance sought does not exist near where the bug is being worked, it will start itself to swinging without other help.

Not everyone was impressed with Perry's indicator. Like the incredulous reporters in New Jersey, Leonard was not amused and in a letter to the syndicate voiced his displeasure with the use of a doodlebug to locate anything, much less a drilling site. Leonard wrote,

I was interested in receiving your letter of November 17 and the report of the findings made with a "Mineral Indicator." I am sorry you believe the ridiculous stuff contained in that report and by the time you have spent many thousands of dollars drilling for oil and finding none, you will realize what a fake the man was. His findings are almost too absurd to deserve notice. No instrument has yet been invented which will locate oil below the surface as has been abundantly proved again and again. There is absolutely no evidence of any anticline in McLean County and if there were, the "Indicator" would never locate it. I know, of course, that you will drill one or more holes in search of oil and I certainly wish you might find the oil, but I am satisfied that the conditions are not favorable and that no oil is present below the surface. For this reason, I feel that I should warn you beforehand that your money spent in drilling will be wasted and no oil will be found.¹¹⁵

¹¹⁵ Leonard to Herman Hanson Oil Syndicate, September 17, 1925, North Dakota Geologic Survey Files, Elwyn B. Robinson Department of Special Collections.

Leonard was right, the syndicate did drill, but not until they spent the better part of four years raising money by boosting the well in local newspapers. From March 8, 1928, to July 25, 1929, the *McLean County Journal* carried booster articles week after week challenging the community to do their part by investing in the syndicate. Finally, on November 4, 1928, the community celebrated the spudding in of the well. Regular updates ensued, as the newspaper kept the community abreast of the drill's advance, setbacks due to breakdowns, and possible shows of oil until, on July 25, 1929, the well reach a depth of 1420 feet.

A month later, August 18, 1929, the well was abandoned at a depth of 1840 feet, but it was not so much abandoned as it was idled for want of capital investment.¹¹⁶ The syndicate would have continued to drill had they the money to do so. During the syndicate's December 5, 1929, first annual meeting a final push for investment was made, but the stock market crash of late October 1929 ensured little if any additional capital would be gained. The syndicate limped along into 1930, unwilling to give up on what it believed to be certain production, but drilling never resumed. On January 4, 1938, Herman Hanson passed away, but his sons, through the syndicate, continued to push the development of North Dakota's petroleum resources and drilled several additional dry holes into the late 1950s.

Townley and Hanson, both North Dakota residents, sought capital from North Dakotans in order to finance their drilling operations. Alois P. Swoboda, a "wealthy New York health culturalist," on the other hand, sought investment from New Yorkers. In a short paragraph from a 1930 edition of Time it was reported that Swoboda had raised \$70,000 in stock from New Yorkers but failed to produce any oil. According to the article Swoboda directed John Dahlgran,

¹¹⁶ The North Dakota Oil and Gas Division's well index lists the date of abandonment and depth of 1840 feet, but this is mere speculation as no proper documentation was ever submitted to the survey by Townley.

referred to as an oil locater, to drill a well in North Dakota. In his stock sales letter Swoboda claimed, “Dahlgran has located for me what he considers a very extensive oil pool . . . and is positive that the first well will be an enormous gusher. . . . I personally do not care for wealth for my own sake, but merely to aid Swobodians.”¹¹⁷ The location of the well was 10 miles west of Edgely and as reported by the *Kulm Messenger* was LaMoure county’s first oil well. According to the *Messenger’s* report “The well is located near a knoll and at the edge of an old slough, here John Dahlgren, oil seer of the Kulm area, said he felt the strongest “oil pull.” It is hoped to strike the presumed oil vein or pool at from 700 to 800 feet. Alois P. Swaboda, wealthy, New York health culturist, is financing the oil test drilling operation.”¹¹⁸

Leonard reported that while the primary purpose of the survey was to report on the natural resources of the state, the survey also was responsible to “to prevent the waste of money in futile prospecting.”¹¹⁹ Leonard wrote, “It is as much the duty of the survey to inform people how to avoid squandering their money on useless prospecting as it is to make valuable resources known.”¹²⁰ In Leonard’s Fifth Biennial Report he wrote, “The geological surveys of many states have been the means of saving thousands of dollars to citizens by telling them not only where, but where not to look for coal, gas, oil and other minerals.”¹²¹ Despite Leonard’s conviction, he had no way of protecting North Dakota’s citizens and was not effective in combating fraud, waste, and abuse because of either a lack of proper regulatory statutes, a lack of funding to the survey, or a combination of the two. Having witnessed the waste at the Townley and Hanson wells, the North Dakota Legislature acted in 1929. Chapter 184 of the Laws of the State of

¹¹⁷ *TIME*, July 7, 1930.

¹¹⁸ *Kulm Messenger*, November 7, 1929.

¹¹⁹ *Kulm Messenger*, November 7, 1929.

¹²⁰ *Kulm Messenger*, November 7, 1929.

¹²¹ Unknown Author *Work of the North Dakota Geological Survey*, 28. North Dakota Geologic Survey Files, Elwyn B. Robinson Department of Special Collections.

North Dakota provided for the licensing of all corporations, partnerships and individuals drilling test holes for oil in North Dakota. The act read as follows,

An Act providing for licensing of any person, co-partnership, firm or corporation, who shall either lease from the owner of land, and obtain oil or gas rights thereon, or who shall sell its corporate stock, bonds, notes, or any other evidence of indebtedness, who desires to drill either a test hole or an oil or gas well, shall apply to the State Geologist for a permit before drilling, providing that the State Geologist shall issue a license for drilling and provided further that the person, co-partnership, firm or corporation shall file with the State Geologist a complete log of the drilling, which log shall be a public record, giving authority to the State Geologist to make such examination of the drilling while in progress or after completion, and giving authority to the State Geologist to inspect drilling operations.¹²²

Why the citizens of North Dakota fell prey to the doodlebug is complicated, but several factors would have contributed to their investing in the Townley and Hanson wells. We know the impact of Townley and the NPL was greatest on that well, but even the Hanson well's promoters used the NPL language. It was the farmer against the corporate machines of the East. Time and again phrases such as "do your part" and "keep out the foreign interests" were published in calls for investment. Had there been reliable geologic data, investment would have come, as it did in other areas of the country.

¹²² North Dakota Legislative Assembly, Laws Passed at the Twenty-First Session of the Legislative Assembly of the State of North Dakota (Bismarck 1929).

What is so striking about these three examples is their differences. Townley, in four short months, raised enough capital, approximately \$300,000, not only to drill an oil well but also to pay his leases, operators, and he and his brother Claude's own salaries on nothing more than his word and the largely unseen actions of Henry, a doodlebug from Texas. Hanson, for his part, raised roughly, \$100,000 over the course of three years. Hanson drilled approximately the same depth at a third of the cost. Nearby in Foster County the Glenfield well was drilled to a depth of 3,240 feet. That community had raised \$50,000 to drill and had drilled to granite. The *Tuttle Times* reported, "All stockholders, it is said, [were] satisfied they got honest value for their money invested."¹²³ As far as the Swoboda well, all we can know is that something near 100,000 was invested with no return.

In the three above cases the drill site was chosen by doodlebugs and fake geologists who conned the gullible. Despite the best efforts of Leonard and his admonishments, North Dakotans were sold on the idea of becoming instantly and fabulously wealthy for a dollar or two worth of stock. They were duped time and time again by men such as Townley, Hanson, and Swaboda.

¹²³ *Tuttle Times*, August 9, 1928.

CHAPTER FOUR: LEACH AND FRUH

The Great Depression sealed the fate of any local attempts by North Dakotans at finding petroleum in the state. Many men lost everything, while still others, undeterred, acknowledged that if oil or gas were to be found in the state it was going to require outside capital, and a great deal of it at that. Two men, one from Minnesota and the other from Wisconsin, would find their way, on completely different paths, to North Dakota's Nesson anticline. These men, Alfred M. Fruh and Thomas W. Leach, would rise above their peers and commit themselves, their lives, and their fortunes to prove North Dakota contained vast amounts of petroleum. In the past North Dakota's petroleum explorers lacked the necessary capital or the proper geologic information to be successful. Fruh and Leach initially failed to find oil because of a lack of technical experience, but eventually succeeded through persistence, perseverance, trial and error. Despite individually suffering heavy losses themselves, and in the end dissolving their partnership, they continued unabated until they finally realized success.

The First National Bank of Tolley's "burgle proof" vault stood open, empty like the community it had once served. It had not been emptied by burglars, but by hard economic times. Behind his desk, gathering the few personal items that remained, was forty-year-old Alfred Marty Fruh. Around him his life lay in ruin. Not only had Fruh, on Monday, November 19, 1923, lost his Tolley, North Dakota, bank, but he had also lost the Security Land and Loan Company, and roughly four thousand acres of Renville County farmland.¹

Fruh, whose parents, Albert and Agatha, immigrated from Switzerland, was born in Marietta, Minnesota, on July 1, 1883.² Fruh graduated from High School and attended the

¹ *Renville County Farmer's Press*, November 22, 1923.

² Clement A. Lounsberry, *North Dakota History and People: Outlines of American History, Volume II* (Chicago: S. J. Clarke Publishing Company 1917), 888-91.

Lincoln-Jefferson College of Law in Chicago, Illinois, where he received a degree in law.³ In 1903, at the age of twenty, Fruh moved from Marietta, first to Madison, Minnesota where he worked briefly as a bookkeeper at a bank., and then to Lansford, North Dakota, where in 1905 he worked at the Farmers and Merchants Bank as a cashier.⁴ It was in Lansford that Fruh met his first wife, Josephine Riley, a teacher and the principal at Lansford City School.⁵ What may, for the time, have been scandalous behavior required her abrupt resignation from the school and his termination at the bank. The two, as the times dictated, were married quietly on December 31, 1905, in Rugby, North Dakota, eighty plus miles from Lansford. After the wedding they moved, for a short time, to Grano, North Dakota, the next stop west on the Soo Railroad.⁶

In 1908 Fruh and Josephine moved to Tolley, North Dakota, where Fruh, just twenty-five years old, bought the Tolley State Bank from the town's namesake, Edward C. Tolley.⁷ It was here in Tolley that Fruh's star began to shine. Fruh's banking career was highlighted in a 1917 publication which boasted, "Mr. Fruh in the conduct of the bank maintains an even balance between conservatism and progressiveness, doing everything in his power to accommodate its patrons to a point that will not endanger the interests of depositors."⁸

In addition to owning the bank Fruh was president of the Security Land and Loan Company, which, according to Lounsberry, in 1915, "sold twenty-one thousand acres of land and up to September 1916 its sales had amounted to eighteen thousand acres."⁹ Fruh claimed to have sold a million dollars' worth of real estate in 1919.¹⁰ It was no surprise that Fruh became a

³ *The Minneapolis Sunday Tribune*, April 19, 1953.

⁴ Lounsberry, *History and People*, 888; Jevne and Aus, *Reflections of Lansford, North Dakota and Community: Heart of the Mouse River Loop*, 1975.

⁵ *Jevne Reflections*.

⁶ *Jevne Reflections*.

⁷ Lounsberry, *History and People*, 888.

⁸ Lounsberry, *History and People*, 888-91.

⁹ Lounsberry, *History and People*, 889.

¹⁰ *Minneapolis Sunday Tribune*, April 19, 1953.

wealthy and influential man in Tolley, so influential that the townspeople elected him mayor, a position he held for fifteen years.¹¹ Despite his success, or as the result of it, the Fruh's suffered marital strife, and sometime between 1912 and 1914, Fruh, having met his second wife on a trip to Minnesota, divorced his first. Josephine and the girls, Maggie, born in 1910, and Josephine, born in 1912, moved to Shelby, Montana, before moving on to Washington, where they would never be heard from or spoken about again.¹²



Figure 7. Alfred M. Fruh. Portrait from Lounsberry, *History and People*.

Miss Mabel Lindblom became Fruh's second wife on December 10, 1914.¹³ Mabel, the youngest of eight siblings, lived in Blue Mound Township, Pope County, Minnesota, and was ten years younger than Fruh. In 1915 the couple welcomed their first child, Alfred Martie Fruh,

¹¹ *Tolley Diamond Jubilee 1905-1980*.

¹² 1930 United States Federal Census, accessed 11/5/2021, www.ancestry.com.

¹³ Lounsberry, *History and People*, 891.

Junior. Tolley, under Fruh's leadership, would go through a stage of prosperity as he worked tirelessly to bring families to North Dakota from Minnesota and beyond. Fruh traveled throughout Minnesota, Iowa, and Illinois where he would show prospective homesteaders a movie produced by the Soo Line railroad which highlighted the big wheat harvests in North Dakota.¹⁴ It was on one of these trips east that Fruh met and fell in love with Mabel.

Fruh brought, in addition to Mabel's family, two hundred and eleven families to Tolley in the spring of 1916, on the train from Minneapolis. Fruh related, "It took a train of more than 70 cars to bring them and their belongings. On the side of each car was a big sign: 'Where to? Tolley on the Soo. See Fruh!'"¹⁵ Unfortunately for them and Fruh, things did not end well. In 1916 the wheat crop according to Fruh, suffered damage from rust. In 1917 and 1918 grasshoppers destroyed the crop, and although many managed to make it through, Fruh's ability to maintain his empire in Tolley came to an end in 1923.¹⁶

Fruh was not the only businessman in Tolley, or in Renville County, who suffered. Fruh's friends and business associates, Maurice Elliot Porter; who operated a Case automobile garage where he sold Case cars purchased by Fruh; and Frank Carl Kaatz, who had been Tolley's barber and chiropractor, were equally harmed by the town's financial upheaval. The three men, under Fruh's leadership, formed the Dakota Montana Oil Company and set out for the newly discovered Kevin-Sunburst oil field in Shelby, Montana, to seek their fortunes.¹⁷ Fruh recalled, "I provided my family with coal and food and took off for Shelby with \$27 and a broken-down Ford. I organized the Dakota Montana Oil Company."¹⁸

¹⁴ *Minneapolis Sunday Tribune*, April 19, 1953.

¹⁵ *Minneapolis Sunday Tribune*, April 19, 1953.

¹⁶ *Minneapolis Sunday Tribune*, April 19, 1953.

¹⁷ *Tolley Diamond Jubilee 1905-1980*.

¹⁸ *Minneapolis Sunday Tribune*, April 19, 1953.

Upon arriving in Shelby Fruh had raised enough capital to buy a string of pipe, but had no drilling rig, no fuel to operate one, no driller, and no food. Unable to raise additional money, Fruh said, “A friend lent me his drilling rig. A refinery staked me to the fuel oil to run it. A grocery staked me to food. Carter Oil Co. sent over a driller to help.”¹⁹ With everything in order, the crew drilled its first well, the Government Emmons #1A. After three separate attempts to finish the well, it was abandoned as a dry hole in September of 1923. Fruh’s second well, the Carlson #1, came in on May 12, 1924, and produced 25 barrels per day.²⁰ The Dakota Montana Oil Company was on a roll when its third well, the Government Emmons #4, came in at 75 barrels per day in October of 1925. In 1926 Fruh was replaced as president by Lawrence Robert Hanna, a friend of Fruh’s from Norma, North Dakota.²¹ Hannah had just arrived in Shelby from Norma, where he had owned the general merchandise store.²² Fruh, having made a substantial profit of \$110,000, sold his interest in the wells to Hanna and returned to North Dakota in 1927.²³

Having returned from Montana, Fruh collected his family in Tolley and moved them to Minot, where he began work as an insurance and real estate agent. Unable to stay away from the oil business, within months of returning, Fruh created the Zenith Oil Company. Fruh began raising funds to drill a gas well in what was referred to at the time as the Mohall anticline, an area surrounding the Renville County seat of Mohall along the Souris River. The president of Zenith Oil Company, Dr. Olaf Haroldson, had been the trustee of the Minot Oil and Gas

¹⁹ *Minneapolis Sunday Tribune*, April 19, 1953.

²⁰ Montana Department of Natural Resources, Well Files, Log of Oil or Gas Well. November 7, 1927, accessed September 19, 2017, <http://dnrc.mt.gov>.

²¹ Montana Department of Natural Resources, Well Files, accessed September 19, 2017, <http://dnrc.mt.gov>.

²² WW1 draft registration card, C-33-1-38, September 12, 1918, accessed 11/5/2021, www.ancestry.com.

²³ *Minneapolis Sunday Tribune*, April 19, 1953.

Company. The Minot Oil and Gas Company, as previously described in chapter two, had Fruh as the secretary, and Burr Dickinson as the attorney.

In the fall of 1927 Fruh had leased 40,000 acres and had dug a pit for the well before he ran out of money.²⁴ Fruh recalled his frustration that Zenith had only enough money to dig a pit. It was then, Fruh said, “I figured then and there it was going to take outside money – and lots of it—to find oil in North Dakota.”²⁵ With the experience and contacts Fruh had gained in Shelby, he began seeking outside capital to drill the gas well, and a courtship ensued between Fruh and several national companies.

Soon suitors began showing up at the Great Northern train depot in Minot, where they were collected by Fruh and given the grand tour of the Mohall anticline. In October of 1928 Fruh hosted A. F. Crider, geologist for Dixie Oil Company, a subsidiary of Standard.²⁶ In December of 1928 it was reported that Transcontinental Oil Company of Tulsa, Oklahoma, would send a man in January of 1929 “to check title on all of the leased lands.”²⁷ That man was Thomas Witt Leach.

Leach was born on December 23, 1896, in La Crosse, Wisconsin. Leach’s father, Frederick B. Leach, and his mother, Melissa (Chatfield) Leach, moved to Pine Bluff, Arkansas, when Leach was five. In Pine Bluff Leach’s father worked as a lumberman. Leach served in the US Army Field Artillery as a first lieutenant and later served in the Aviation Section of the Signal Corps during World War I. In 1920 Leach graduated from the Missouri School of Mines

²⁴ *Minneapolis Sunday Tribune*, April 19, 1953.

²⁵ *Minneapolis Sunday Tribune*, April 19, 1953.

²⁶ *Renville County Farmer*, October 18, 1928.

²⁷ *Renville County Farmer*, December 20, 1928.

located in Rolla, Missouri. A member of the Pi Kappa Alpha fraternity, Leach graduated with a B.S. degree in Mining Engineering with a major in Geology.



Figure 8. Thomas W. Leach, 1939. Photo from private collection.

Although originally intending to take a mining job with a Mexican copper mine, Leach, having missed his train after a long night of revelry, was encouraged by his pals to stay and seek employment in Oklahoma. Eventually Leach took a job in Tulsa, Oklahoma, working first as a roustabout. Leach then worked briefly for the Jersey Oil company in the production department before hiring on with the Wiser Oil Company in the petroleum engineering department as a

junior engineer in 1920.²⁸ In August of 1920 Leach left Wisner and became the instrument man at Transcontinental Oil Company, where within five years he was promoted to geologist, and shortly after that chief geologist.²⁹

On October 28, 1925, Leach married his childhood sweetheart, Frances Van Valkenburgh Land, who he affectionately referred to as Sugar or Sug, also from Pine Bluff. At the time of her marriage to Leach, she was a reporter for the *St. Louis Times* and had taught school – she enjoyed working with children.³⁰ The two made their home at the Hotel Tulsa, in Tulsa, Oklahoma.

Leach recalled his first trip to North Dakota: “In 1928 while employed as geologist for [Transcontinental], I made a hurried reconnaissance survey of the area north of the Missouri River.”³¹ Leach returned to North Dakota the following year, writing home to Sug, on January 29, 1929, “It was 32 ° below zero last night when I arrived. The radiator in my room froze up and I was nearly a corpse this morning. I slept with my heavy wool shirt and sox on. It’s just too cold here.”³² Leach had visited Dr. A. G. Leonard at the State Geologic Survey, located at the University of North Dakota, and continued on to Minot where he once again met Fruh at the Great Northern station. The following morning, Leach wrote, he and Fruh left Minot at 6:30 a.m. “in a very thick freezing fog,” headed out to tour the Mohall anticline. In his next letter home, Leach reported that he and Fruh had driven 225 miles and had “spent two hours trying to push and dig Fruh’s Hudson sedan out of a snow drift.”³³ It was during this dreadfully long, cold day that Leach and Fruh became acquainted with one another and most likely talked about the

²⁸ *Daily Graphic*, August 19, 1930.

²⁹ *Daily Graphic*, August 19, 1930.

³⁰ Thomas W. and Frances V. Leach Papers, #10534, State Historical Society of North Dakota. Bismarck.

³¹ Report of Oil and Gas Possibilities North Dakota, undated, prepared by Thomas W. Leach, Thomas W., and Frances V. Leach Papers.

³² Thomas W. Leach to Frances Leach, January 29, 1929, Leach Papers.

³³ Thomas W. Leach to Frances Leach February 3, 1929, Leach Papers.

Nesson anticline, the area where the Big Viking's well was being drilled. Fruh explained, "[Leach and I] had discussed the Ray structure, which was outlined by Collier in his report."³⁴

The Collier report Fruh referred to was produced by the United States Geologic Survey's A. J. Collier, Leach had ordered and received it prior to his trip. Leach explained, "I did what any geologist does when he goes into a state for the first time. I got all the literature I could on the state's geology from the federal and state authorities and the American Association of Petroleum Geologists. This literature first attracted my attention to the Nesson anticline in the northwestern part of the state."³⁵

The *Renville County Farmers Press* reported that Leach recommended drilling, but it appears Transcontinental had become more interested in what the Big Viking was up to.³⁶ Transcontinental, having declined Fruh's project, instead had offered to finish the Big Viking well, directing Leach to lease as much acreage as he could near the well. However, the Big Viking, Leach wrote, "definitely rejected the offer."³⁷ Eventually A. R. Jones Oil and Operating Company from Kansas City, Missouri, would drill a dry hole on Fruh's leases in Mohall and abandon the well in 1930.

Having been turned down by the Big Viking, Transcontinental sent Leach back to North Dakota in the spring of 1930 to acquire acreage around the well site. Big Viking, unhappy with the intrusion from an outside "Big Oil Company" interests, placed an April 20, advertisement in the *Minot Daily News*,

³⁴ *Minneapolis Sunday Tribune*, April 19, 1953.

³⁵ *Minneapolis Sunday Tribune*, April 19, 1953.

³⁶ *Renville County Farmer*, March 7, 1929.

³⁷ *Renville County Farmer*, April 18, 1929.

If you are interested in oil in North Dakota on the Nesson Dome where the Transcontinental Oil Company subsidiary of the Standard Oil, is spending thousands of dollars in the purchase of leases as close to the big Viking Oil Well as they can buy them, call on C. H. Sowle or M. C. Erickson, Grand Hotel, Room 135, between the hours of 7 and 9 P.M. this week.³⁸

Leach, having read the article, responded in a letter to the editor of the Minot Daily News,

I desire to inform you that the Transcontinental Oil company is strictly an independent company and is often confused with the Transcontinental Petroleum company which is an operating subsidiary of one of the Standard Oil companies. Thru Mr. A. M. Fruh of your city, our company has become more or less interested in the development of the Mohall anticline and we are also marketing our products in the vicinity of Minot and Mohall. We are interested in the development of the Nesson anticline mentioned in the advertisement, to the extent of purchasing a few pieces of cheap protection acreage.³⁹ We desire to expand the marketing of Marathon products in your area and also to do all we can to further the oil and gas development in your state and would appreciate your rectifying the error and doing anything you can to eliminate confusing our organization with that of the Standard Oil subsidiary.⁴⁰

Along with the advertisement, a friendly article appeared in the *Ray Rakota* accusing big companies” of being Johnny-come-lately’s arguing, “The Big Oil Men have undoubtedly investigated the structure and analyzed its geological indications. From vast experience they

³⁸ *Minot Daily News*, April 23, 1930.

³⁹ Protection acreage is acreage leased to protect the drilling area from competitors.

⁴⁰ *Minot Daily News*, May 9, 1930.

know what the showings in the Big Viking Well portend and what can be expected from underlying formations.”⁴¹

Leach returned to Transcontinental with several small leases in the Big Viking drilling area, only to find that in his absence Transcontinental had merged with the Ohio Oil Company.⁴² Although given an opportunity to work for the Ohio Oil Company, Leach decided it was time to set out on his own. In 1930 Leach, as an independent consulting geologist, contracted with Doak and Hughes, who were exploring an area in Lafayette County, Arkansas. It was here that Leach opened the Stamps-Lewisville field in 1935.⁴³ Meanwhile the Big Viking, crippled by the Great Depression, continued to raise small amounts of capital with the hope of continuing its drilling operations, but as the 1930s began to bear down on North Dakota’s farm families, few people were willing to risk any money on an oil well. Leach considered the Big Viking’s failure his opportunity.

In February of 1935, flush with cash from his Arkansas success, Leach wrote the Big Viking’s officers E. M. Jacobson and O. M. Opdahl from his office in Oklahoma,

I still think the Nesson Anticline area has possibilities and I am wondering how deep you drilled the Big Viking well. If the block can be reassembled, I would check the area further this spring and might arrange to have it seismographed, providing I believe it necessary after checking the surface carefully.⁴⁴

⁴¹ *Ray Rakota*, April 24, 1930.

⁴² The Ohio Oil Company was in turn merged with Marathon Oil, the company whose products Leach was pushing while in Minot in 1930 as a Transcontinental geologist.

⁴³ *Bismarck Tribune*, July 31, 1951.

⁴⁴ Thomas. W. Leach to Messrs. E. M. Jacobson and O. M. Opdahl February 25, 1935, Leach Papers.

The Big Viking's President, E. M. Jacobson, wrote that the well was at 4700 feet and concluded, "We have avoided outside investments so far. But sometimes it is advisable to cooperate on fair basis."⁴⁵ Leach, frustrated, responded,

I especially wanted to know the status of your test well and the other information outlined in my letter for the purpose of determining whether it would be advisable to attempt to make some equitable deal with you to take over your block and finance a second test well. We are in the business of taking over projects of this kind and, for your information, I may state we drilled some 15,000 feet of hole in Arkansas this past year along with several tests here in Oklahoma on more or less proven acreage.⁴⁶

The Big Viking's response to Leach is lost, but it would appear it was unfavorable. Leach was undeterred. In 1936 Leach, along with his wife, Frances, traveled to Ontario, Canada, to see the Dionne Quintuplets, five identical girls — Annette, Emilie, Yvonne, Cecile, and Marie.⁴⁷ According to reports, "By 1937, about 3,000 visitors were passing daily through the 'Quintland' hospital compound where the sisters were being cared for, bringing in an estimated three million tourists between 1934 and 1943."⁴⁸ Once their trip to Ontario was over, probably sometime in late January, they drove several hundred miles out of their way to visit North Dakota.⁴⁹ After spending some time with Fruh and his wife Mabel, the Leachs returned to Oklahoma and immediately began making plans to open an office in North Dakota. Leach's first days back in North Dakota were spent in Minot developing his friendship and partnership with

⁴⁵ E. M. Jacobson to Thomas W. Leach March 11, 1935, Leach Papers.

⁴⁶ Thomas W. Leach to Mr. E. M. Jacobson March 21, 1935, Leach Papers.

⁴⁷ Dennis Gaffney, "The Story of the Dionne Quintuplets," accessed 5/30/2013, www.pbs.org/wgbh/roadshow.

⁴⁸ Gaffney, "Story."

⁴⁹ *Tulsa Tribune*, March 7, 1953.

Fruh. The Leachs arrived in Minot July 8, 1936, and after spending two weeks in a hotel Fruh invited the Leachs to come stay with him and Mabel at their Minot home.⁵⁰ The Leachs returned to Oklahoma in October while continuing their business through correspondence. Between 1936 and 1937 Leach again reached out to the Big Viking, and this time negotiations to take over their block of leases moved forward. Leach and Fruh, confident of their business relationship, signed the first of many partnership agreements on June 24, 1937.⁵¹

Leach wasted no time in boosting the Nesson Anticline. In a letter to Fruh in July 1936, Leach wrote, "I am making considerable progress on negotiating the block and have had a nice reaction from the Carter, Sinclair Prairie and Amerada."⁵² In respect to the chances of success, Leach, cautiously optimistic, wrote,

There is no question in my mind but what the block can be turned to good advantage, but a deal of this size which involves considerable expenditure on the part of any one company and located so far from what is generally considered the oil country, requires considerable checking and takes time to get together on the deal. The cost of the well, estimated around \$100,000, is a sizeable deal for any of the companies particularly since the block is located in rank wildcat territory.

The Carter, Sinclair, Prairie, and Amerada companies proved poor suitors, and after negotiations with the California Oil Company broke down several times over option payments it appeared the deal was dead.

After some careful considerations and concessions by Leach the two sides resolved their differences and an agreement was signed between the California Oil Company and Leach on

⁵⁰ Note from Al to Tom and Tom's response in margin undated, 1943. Leach Papers.

⁵¹ Agreement between Thomas W. Leach and A. M. Fruh June 24, 1937. Thomas W. and Frances V. Leach Papers.

⁵² Thomas W. Leach to Mr. A. M. Fruh July 14, 1936, Leach Papers.

April 28, 1937.⁵³ Leach and Fruh subsequently provided nearly 170,000 acres for the California Oil Company including the Big Viking's block. Leach continued to travel back and forth developing his interests in Arkansas, meeting prospective clients in Colorado, keeping abreast of developments at his office in Oklahoma, and boosting the Nesson Anticline to anybody who would listen along the way. In 1937, as the California Company began erecting its drilling rig, *Bismarck Tribune* reporter Gordon MacGregor wrote that the Big Viking's derrick stood "ghost-like against the panorama of buttes, a monument to the pioneer effort to find oil in the Nesson valley."⁵⁴

Drilling on the Nels Camp well began October 1, 1937, and continued, stopping only as a result of snow-clogged roads. The California Company's rig may have been the second biggest rig in the country, but it could not stand up to the harsh North Dakota winter. Roads, packed with snow, forced work to stop until the spring of 1938.⁵⁵ The well was spudded in on October 1, 1937, and continued until August 14, 1938, when a cave-in caused a stuck drill pipe at 10, 281 feet.⁵⁶ After fifteen days and numerous attempts to fish the pipe out failed, it was decided to abandon the well.

⁵³ The California Oil Company Deal #1 file, Leach Papers.

⁵⁴ Gordon MacGregor, *Oil Hunting in North Dakota: The Story of Exploration Operations in the Nesson Valley* (Bismarck: The Bismarck Tribune, 1938), 5.

⁵⁵ Lloyd W. Sveen, "1938 Well Drilled 3 ½ Miles From Producer," *The Fargo Forum*, April 5, 1958.

⁵⁶ North Dakota Oil and Gas Division, Well File No. 13.

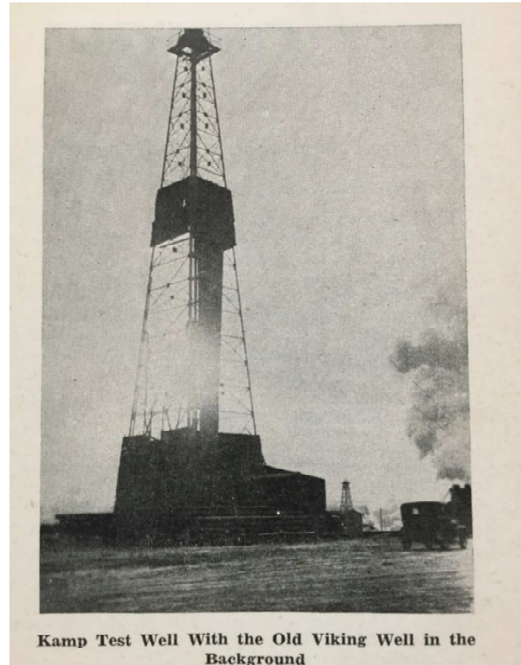


Figure 9. Nels-Kamp #1 well with Big Viking in background.⁵⁷

The problem, as reported in *Ira Reinhart's Oil Report* of April 25, 1942, occurred when “an evaporite section not expected was encountered, and a few oil shows were logged near the bottom of the hole. At 10,281 feet a twist-off forced operators to junk the hole.” In essence the drilling mud, a mixture designed to carry the drill bit cuttings to the surface and cool the bit, dissolved the anhydrite or salt formation, creating a cavern within the uncased well, which eventually collapsed around the drilling pipe.

The failure of the California Oil Company to discover oil in the Nesson Anticline did not stop exploration in other areas of the state. *Ira Rinehart's Oil Report* wrote, “Nearly every major oil firm sent men into (North Dakota) to check the activity and in many instances to take leases.”⁵⁸ Despite the failures, there were high expectations that an extensive drilling program

⁵⁷ *North Dakota Engineer*, May 1939.

⁵⁸ *Rinehart's Oil Report* (December 1940); quoted by Lloyd W. Sveen, “Big Viking Well Sparked Activity,” *Fargo Forum*, April 12, 1953.

was on the horizon, and an estimated 10 million acres were soon under lease.⁵⁹ On March 4, 1940, Tom reached an agreement with the Carter Oil Company, operating subsidiary of the Standard Oil Company of New Jersey, and assigned several large tracts over for development including 50,000 acres in Oliver County and 80,000 in Morton County.⁶⁰

The Carter Oil Company had much to be excited about. It was reported that an estimated 100,000 square miles of North and South Dakota was a possible oil producing area.⁶¹ In anticipation of a successful drilling program, the Carter Oil Company moved its district office from Billings, Montana, to Bismarck, North Dakota, and on October 23, 1940, spudded in its stratigraphic test in Morton County on leases assigned by Leach.⁶²

The test well was a dry hole.⁶³ The Carter Oil Company was not the only company with which Leach was doing business. In April, 1942, he signed an agreement with Amerada Petroleum for a block of leases in southwestern North Dakota, but after several dry holes in South Dakota and the hostilities in Europe and Asia, Amerada would abandon its drilling program for the remainder of the war and decline the option on 168,000 acres of leases in Stark, Hettinger, and McLean counties.⁶⁴

The once-high expectations of an extensive drilling program in the state ended when the challenges of war necessitated the rationing of steel. *Fargo Forum* reporter Lloyd W. Sveen explained, “The remoteness of North Dakota from any market and a lack of oil transportation facilities forced the industry to concentrate its efforts in established [fields].”⁶⁵ Leach, also

⁵⁹ Lloyd W. Sveen, “Big Viking Well Sparked Activity,” *Fargo Forum*, April 12, 1953.

⁶⁰ Lease Assignment, March 4, 1940, Leach Papers.

⁶¹ “Dakota Lease Play Continues With Little Drilling.” *Oil and Gas Journal* (October 9, 1941): 89.

⁶² North Dakota Oil and Gas Division, Well File No. 13.

⁶³ North Dakota Oil and Gas Division, Well File No. 14.

⁶⁴ Lloyd W. Sveen, “Big Viking Well Sparked Activity,” *The Fargo Forum*, April 12, 1953.

⁶⁵ Sveen, “*Big Viking Well*.”

called away, served as a captain in the US Army Artillery Corps at San Diego from 1943 to 1944. It was while Leach was serving in San Diego that Fruh's wife, Mabel, on June 24, 1943, passed away from cancer.

Prior to his wife's death Fruh's behavior became erratic as he lashed out at Leach, who was in California serving in the Army, and those who worked in the Bismarck office. In a note Leach received in March of 1942, the author, presumably someone from within the Bismarck office, reported Fruh's behavior and claimed that Fruh said, "If it wouldn't be for him, you'd be nothing at all. He doesn't like your big-shot ideas – thinking that you run around with 'big-shots' and your half ass friends that you brought up from Tulsa."⁶⁶ Fruh also had it out for a young office girl, Connie, trying several times to get her fired and referring to her as a drunk and a whore and insinuating that Leach was having an affair with her.⁶⁷

The discord came to a head when Fruh wrote Leach in April of 1943 and accused Leach of a great many misdeeds. Fruh catalogued the problems, dating back to their first meeting, with the partnership. In the margins of Fruh's letter Leach had carefully written responses that challenged Fruh's assertions, and on April 8, 1943, responded,

Al, two or three of your recent letters have indicated that you are dissatisfied with the work I have done in the office and the tone is of an accusing nature. I wouldn't write you that type of letter under any circumstances. If anything looked irregular to me I would come right out with it. You shouldn't have waited until I got in the Army and then began to find fault. While I'm at it I might as well tell you that two letters from weak friends have reached me recently wanting

⁶⁶ Thomas W. and Frances V. Leach Papers.

⁶⁷ A. M. Fruh to Thomas W. Leach, undated, Leach Papers.

to know if something had come between us. He stated that you were going around saying that you picked me up in 1935 a poor struggling geologist and made me a lot of money and that now I thought I was a Big Shot and you were glad to get rid of me and my drinking with the girls in the office to. If you said that Al, it's a damn lie and you know it. Dammit Al, I refuse to believe you would do that to me. If you are, you know it and if true, I want you to know that I don't like it a dam bit and think it very under handed of you. In any event I don't want any part of a partnership where there is distrust on either side and am sure you don't. If you think I have taken advantage and cheated, you come out like a man and say so and kindly refrain from telling others. Then as soon as I get a chance to be with you we will settle up on our joint interest: once and for all. Now Al don't answer this right away. Think the situation over carefully and then write me your honest opinion. I'm not vindictive and as I told you before leaving Bismarck, I don't want to stay in the picture if you don't want me nor if you are going to let your imagination make a cheat and a "Big Shot" out of me. I don't deserve that kind of classification and don't want to do business in that kind of atmosphere. I am working hard out here under conditions that do not appeal to me at my age in an effort to be of service to our country. It's quite a sacrifice for me. You can take advantage of the situation if you like, but it's not the Al that I know.⁶⁸

⁶⁸ Thomas W. Leach to A. M. Fruh April 8, 1943. Leach Papers.

That the partnership continued is proof enough there was an amicable solution to the pair's problems.

Leach returned to Bismarck, and he and Fruh began to assemble leases once again throughout North Dakota. No two people worked towards the discovery of oil in North Dakota more than Leach and Fruh. Fruh traveled throughout western North Dakota buying leases, while Leach sold leases to, leased for, or spoke to and exchanged geologic and price information with every major oil company drilling or thinking of drilling in North Dakota. Leach's business files contained the North Dakota Geologic Survey's reports of every single well drilled in North Dakota since a drilling report was required in 1929, and he shared that information with anyone that wanted it boosting North Dakota's petroleum possibilities.

In 1947 the pair again had problems with their partnership. This time Fruh was furious because he felt he was being cheated out of profit on a deal in Arkansas. Once again Fruh wrote a letter airing his grievances, and again Leach wrote notes in the margins. In his reply to Fruh Leach wrote, "We have always been able in the past to adjust our differences of opinion so don't know why it should change. You know you cannot always be right any more than I can so let's lay it aside until I see you."⁶⁹

After losing a deal with the California Company and Phillips in 1947, Leach began corresponding with L. J. Handy, head of the land department at Amerada Petroleum. Leach and Fruh, having resolved their differences, once again began taking leases in the Nesson Anticline. In a February 1949 letter Leach wrote Fruh and suggested he attend the American Association of Petroleum Geologists conference to boost their lease hold. Leach wrote, "Most of the major

⁶⁹ Ltr Thomas W. Leach to A. M. Fruh May 15, 1947, Leach Papers.

company geologists will be present and will offer an excellent opportunity to boost North Dakota from the standpoint of later securing buying orders for us.”⁷⁰ A short time later Leach wrote, “I am developing all the heat I can on the play.”⁷¹

Leach was not only boosting the Nesson Anticline, he was also involved in leasing to the Carter Oil Company, and he was in constant contact with geologists working throughout the state. In a letter exchange with Claud B. Hamill, Hamill writes, “I agree with you that it appears to me that the Magnolia play is slightly too far out of the basin.”⁷² Leach was also communicating with state geologist Wilson M. Laird, head of the North Dakota Geological Survey, and W. A. Stubbs a geologist with Stanolind Oil and Gas Company, both giving and receiving information about geologic formations, problems associated with drilling through particular formations, and lease, mineral, and royalty pricing.

Leach, who had kept in contact with geologists at Amerada Petroleum prior to the war, again began corresponding. In 1949 he entered into another agreement in which Leach, with the help of Fruh, would acquire the leases necessary to begin a drilling program.⁷³ This time, however, instead of southwest North Dakota, Leach had persuaded Amerada that success lay in the Nesson anticline. Much had changed since the failure of the Nels-Camp well in 1938. In the twelve years since that attempt, companies had learned that when drilling through the anhydrite, or salt formations, they had to condition their drilling mud to be saturated with saltwater or face collapse of the hole and loss of pipe. However, there still was no proof that oil existed in North Dakota, and until someone drilled a producing well, that was not going to change.

⁷⁰ Ltr Thomas W. Leach to A. M. Fruh February 16, 1949, Leach Papers.

⁷¹ Ltr Thomas W. Leach to A. M. Fruh March 23, 1949, Leach Papers.

⁷² Claud B. Hamill to Thomas W. Leach, July 15, 1949, Leach Papers.

⁷³ Leach Papers.

The decade of the 1940s was a contentious one for the partnership -- a partnership that Leach could no longer tolerate as Fruh's behavior became increasingly erratic and troublesome. Having suffered a stroke in 1949, Fruh, once back on his feet, grew ever more contentious. In his private notes Leach noted that in the spring of 1949 and again in March of 1950 Fruh had kept all commissions made on trades with Jeff Hawks and others and did not report them to Leach. Leach became aware of Fruh's activities when Hawks and others brought up the trades thinking Leach new of them. Leach had put up with a great deal of bad behavior from Fruh, but this he could not stand for. The partnership of Leach & Fruh, one that had lasted fourteen years, came to an end in 1950.

Once the partnership was dissolved Fruh continued to stay active in the oil business and along with his sons negotiated oil and gas leases and bought and sold mineral interests. Old man Fruh lived and worked from his hotel room in Bismarck's Patterson Hotel until his death in 1962, he had enjoyed a life that few North Dakotans could. First, as a banker and land developer, then an oil man and insurance agent. Fruh was never happier then when he was sitting across the table from a farmer, talking about farming and oil leases. Two things he was well versed in.

Drilling on Amerada's Clarence Iverson #1 well began September 3, 1950, and as required by state law, a weekly report of its progress was submitted. There was little to report between September 3, when the well was spudded in, and the week of January 29, 1951. Then a blizzard hit. The report read, "Were on trip out with core when the well was shut down due to storm."⁷⁴ Work continued a short time later, but again halted the week of March 5 by another

⁷⁴ North Dakota Oil and Gas Division, Well File No. 25.

blizzard. This time the well would remain idle for several weeks until the snow-choked roads could be cleared for passage. The report resumed on April 4, the well was opened, and the gas flare was ignited as fluid began accumulating in the tank -- about 10 barrels per hour.⁷⁵ North Dakota had discovered oil. Headlines in the *Williston Graphic* the following morning pronounced in big bold letters, "OIL FLOWING FROM TIOGA WELL TODAY."⁷⁶

The *Williston Graphic* was owned by Herman Zahl, who, after receiving a late-night tip, dispatched William "Bill" Shemorry out to the drill site to report on the development. Shemorry arrived late in the evening. The road was lined with the cars of curious onlookers, drawn by the gas flare that could be seen for miles around the well site. The blizzard had dumped an excessive amount of snow that had to be pushed from the drill site into huge piles that now began to melt. As the temperature rose, snowmelt began accumulating around the well and in the fields. The ground was still frozen, and a sort of reservoir was created by the bulldozed snow, leaving nowhere for the water to run. The snow melt, several feet deep, created a small lake that sat in front of the lighted drilling rig. Standing knee deep in freezing cold water, the snowmelt began to get into Shemorry's boots. Freezing from the ice-cold water, Shemorry quickly snapped several nighttime photos of the well. The picture appeared on the front page of the *Williston Graphic* the following morning, and soon after appeared in *Life* magazine. An iconic photo, it would launch Shemorry's reputation as one of North Dakota's most recognizable photojournalists.

⁷⁵ North Dakota Oil and Gas Division, Well File No. 25.

⁷⁶ "Oil Flowing From Tioga Well Today," *Williston Daily Herald*, April 5, 1951.

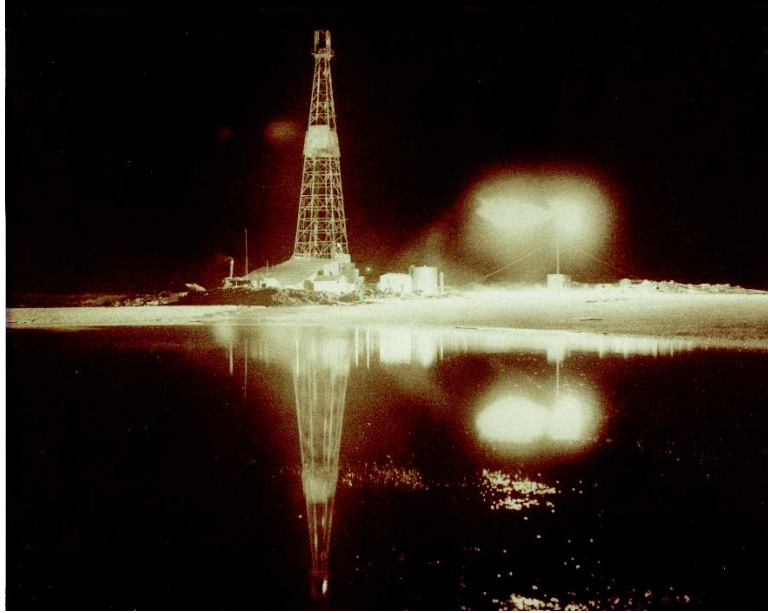


Figure 10. The Clarence Iverson #1. Photo courtesy of North Dakota State Historical Society.

The petroleum industry in North Dakota had first struggled with a lack of available capital to finance drilling. It then struggled with geologic knowledge that could be gained only through the experience of drilling wells throughout the state. Once the boundaries were overcome the industry proved capable of drilling a producing well.

CHAPTER FIVE: RANK WILDCAT TERRITORY

At the telephone switchboard in Williston pandemonium reigned. An operator recalled, “The board lit up like a pinball machine.”¹ Northwestern Bell employees, twenty-five women, handled the flood of incoming and outgoing calls inquiring about and giving information on the discovery well. Chief operator Edith Sloulin was on duty that day and explained, “I didn’t think I was going to live through it. Calls between Tioga and Williston suddenly increased. Then, when the land men and other people connected with the oil industry arrived . . . whoosh! The rush was on.”² As news of the discovery traveled outside of North Dakota, the telephone problem only worsened. There were too few long distance lines servicing Ray, Tioga, and Williston, and according to reports, Tioga’s operator had only one circuit with which to place calls, while the Ray operator had shared her lines with Wheelock, which had two.³ The problem affected everyone in the community, even Clarence Iverson, who faced endless busy signals when he attempted to call his father in California to share the discovery news.⁴ The telephone problem was one of many.

Amerada, the communities of the Williston basin, and the state’s burgeoning petroleum industry had several complex issues to deal with once oil was discovered in commercial quantities. Amerada had discovered oil in rank wildcat territory. The communities surrounding the discovery well were initially incapable of providing support to the industry due to a lack of infrastructure. This reality was made worse by the fact there was no immediate guarantee enough petroleum could be produced from this or additional wells for the market. More

¹ *Williston Herald*, April 24, 1971.

² Shemorry, *Mud, Sweat & Oil*, 206.

³ “Oil Strike Causes Confusion and Many Rumors,” *The Lakota*, April 12, 1951.

⁴ Shemorry, *Mud, Sweat & Oil*, 66.

importantly, there was no current market, such as refineries, for that petroleum were it to be produced. The complexities of the petroleum market and North Dakota's infrastructure would also contribute to the delay in development until such a time as production induced the necessary capital investment, not just for additional exploration, but for development of the industry including service companies, housing, and infrastructure. Despite the American Petroleum Institute's claim that North Dakota would be developed methodically by the industry, these complex factors, addressed by industry, community, and state leaders, determined the slow development of the Williston Basin; it boomed only when these issues had been satisfactorily resolved. Added to these issues were global market issues revolving around the Korean Conflict, Iran's nationalization of its petroleum industry, and an ever-increasing demand for foreign oil. These issues created shortages in steel in the first instances, shortages of oil in the second, and falling domestic supplies in the third.

The *Williston Graphic* broke the discovery story, and the news quickly spread to national news outlets through the Associated Press. The first of these discovery articles appeared in the *Oil and Gas Journal*. The article, "North Dakota's In," welcomed North Dakota as the twenty-seventh producing state and warned, "You will be visited by a horde of strangers, oil men from other areas. Your oil well attracts nation-wide attention because it is in completely virgin territory, far from other production."⁵ The locals were pretty excited, too, and provided their own horde. On Sunday, April 8, 1951, presumably after worship services, there were 3,000 visitors in 883 cars that made their way to Tioga to witness firsthand the discovery well in

⁵ *Oil and Gas Journal*, "North Dakota's In" April 19, 1951.

action.⁶ How disappointed they must have been when they arrived just as the well had been killed.⁷

Amerada Petroleum's Clarence Iverson #1 well, having produced oil for a mere two days. As the well's production neared the top of Amerada's sole five-hundred-barrel storage tank, out of necessity, it was shut in. The Iverson well had produced four hundred and sixty-six barrels of forty-five gravity crude from the Silurian.⁸ Two ten-thousand-gallon-capacity railroad tank cars were immediately ordered to Tioga from Minneapolis, and two one-thousand-barrel tanks were ordered from Casper, Wyoming, which were due to arrive April 6.⁹ While Amerada's North Dakota crew awaited the arrival of additional storage tanks, back at Amerada headquarters in Tulsa, Oklahoma, plans were being made to plug back and test the well at still greater depths, called horizons. When a well is plugged back, it means the hole is filled to a certain depth with cement and then that cement is drilled through so the well can continue downward without producing from the previously tested horizons. Conversely the hole can also be plugged back to a shallower horizon to test at a shallower depth. From April to July of 1951, Amerada continued to test the well, reaching a maximum depth of 10,955 feet. On July 19, 1951, the Iverson well again produced, this time from the Devonian, where it produced 17,408 barrels of oil before once again being shut in.¹⁰ Once produced, the oil was transferred from the well to the railroad tank cars by truck transport. The tank cars, located at Temple, North Dakota, were delivered to the Northwestern Refinery in Saint Paul, Minnesota.¹¹

⁶ *The Lakota*, April 13, 1951.

⁷ North Dakota Oil and Gas Division, Well File No. 25, Well Files.

⁸ North Dakota Oil and Gas Division, Well File No. 25, Well Files.

⁹ *Minot Daily News*, April 6, 1951.

¹⁰ *Press Graphic*, May 3, 1951.

¹¹ *Press Graphic*, April 19, 1951

Why would you kill a perfectly good oil well? Twice! Why would you kill it, plug it, and search out other producing horizons? Why would you wait to finish the discovery well for eight months? Initially, it was because Amerada geologists were committed to testing several horizons to gain geologic knowledge not previously known. This combined with the facts that Amerada had run out of room for its oil, had no idea if additional wells would be successful, and lacked a market for the little oil it was producing. Thus the decision to plug the well. However, Charles S. Agey, chief geologist for Amerada, in an official account of the discovery well, wrote that following discoveries of oil in the Henry O. Bakken #1, Palmer H. Dilland #1, and Math Iverson #1 wells, which all produced from the Madison formation later that year, a decision was made to shut down the Iverson's production in the Devonian in favor of production in the shallower Madison.¹² So it was that the initial production in the Silurian and Devonian was passed up in favor of production found in the Madison at 8,528 feet, now famously referred to as the Bakken formation. The C. Iverson well was finished for the third and final time on December 18, 1951.¹³

The industry, represented by the American Petroleum Institute, reported through press reports and in public speeches that it was going to develop the field deliberately and responsibly as opposed to the pell mell days of yesteryear when boom towns and frenetic drilling ruled the day. A former US Congressman from Indiana, and spokesperson for Pure Oil Company, Samuel B. Pettengill, said, "Orderly development of the Williston Basin will be assured by the petroleum industry's newest planning, technical and engineering methods."¹⁴ Pettengill continued, "The old hell-roaring days in the petroleum industry are over, and, I assure you there will be no mad

¹² Shemorry, *Blood, Sweat & Tears*, 61-62.

¹³ North Dakota Oil and Gas Division, Well File No. 25, Well Files.

¹⁴ *Rakota*, March 11, 1952.

rush to skim off the cream and move on.” The industry had learned a painful and near ruinous lesson prior to World War II when, during the 1930s, petroleum prices, the result of wanton over production, fell as low as three cents per barrel. Having experienced the folly of overproduction at the hands of the rule of capture, industry leaders and government regulators claimed they would prevent waste, and subsequently prevent over-production blunting the chief cause of petroleum booms.

While this may have been the intention the real reasons are far less dramatic. As Leach told Fruh in 1936, North Dakota was in rank wildcat territory. The industry and North Dakota had to create a petroleum industry, and the infrastructure to support it where none had previously existed. Moreover, the Amerada Petroleum Company dominated the industry’s activity in the basin, and it was in no hurry to develop the area.¹⁵

Amerada’s local leaders, initially working from Roundup, Montana, understood that they lacked industry infrastructure such as refineries, pipelines, transportation systems, and supply companies. While the decision by Amerada to build an office in Williston came only after additional production was secured, independent oil men like Leach, and majors like the Carter Oil Company and Magnolia Oil Company, had previously chosen Bismarck for their operations chiefly because their many and varied accommodations could better be met. It was, however, the communities of Ray, Tioga, and Williston whose lack of infrastructure was the most acute. Proper roads capable of hauling heavy loads, telephone systems, an abundant and experienced labor force, and the institutions necessary to serve such a labor force -- schools, hospitals, waterworks, groceries, and most importantly housing -- were not immediately available and

¹⁵ Robert B. Campbell, et. al., *The Williston Report: The Impact of Oil on the Williston Area of North Dakota* (Grand Forks: UND Press, 1958), 103.

could only be produced if production in the Williston Basin increased beyond a solitary well. Additional production would induce capital investment.

The leasing activity of Fruh and Leach prior to and following World War II, would pale in comparison to the leasing that went on after discovery. An all-out leasing frenzy ensued state-wide. It would become one of the largest lease plays to have ever occurred in the United States. As large swathes of Manitoba, Montana, and South Dakota came under lease the numbers paled in comparison to the 52% of North Dakota's land mass that would come under oil and gas leases. Approximately 23,930,284 acres of the state were taken by May 1951.¹⁶ In June the number reached 66% and counting as companies from around the nation descended on the Williston basin in the hopes of getting a little slice of the petroleum pie.¹⁷

The Rakota, Ray's newspaper, exclaimed, "What's in the news this week? Strictly nothing but oil."¹⁸ How could it be helped? Rumors and confusion reigned supreme as the paper reported the hotels in the surrounding area were "filled to capacity." A reporter from the *Bismarck Tribune* wrote, "Downtown Tioga was bustling that day. Oil speculators were moving in and out of town in a constant stream."¹⁹ By April 6, representatives from Stanolind Oil, Phillips Petroleum, the Texas Company, Magnolia Oil Company, Pure Oil Company, and Big Chief Drilling Company, amongst others, made their way to Williston, Williams County's seat, looking for information.²⁰ Williston, Tioga, and Ray, as well as Bismarck and Minot, immediately began to entice Amerada to locate new offices in their communities. Some communities' chances were better than others.

¹⁶ *Bismarck Tribune*, May 12, 1951. North Dakota's total acreage is 44,834,560.

¹⁷ *Life Magazine*, August 13, 1951.

¹⁸ *Rakota*, April 11, 1951.

¹⁹ *Bismarck Tribune*, April 6, 1951.

²⁰ Shemorry, *Blood, Sweat & Oil*, 111.

Tioga lacked a water and sewer system, a hotel, and a newspaper, but community leaders immediately pushed for change. The businessmen's Commercial Club, which had disbanded in 1946, was re-organized and immediately called for the city's investment in a municipal water works, much to the chagrin of its most famous citizen, Clarence Iverson.²¹

Iverson, interviewed the day after discovery by a *Bismarck Tribune* reporter, did not want to talk about the discovery at all, but instead insisted on talking about Tioga's lack of water, or rather lack of a water works.²² Iverson explained, according to the article, that some in town, the "wets," had water wells that provided running water in their houses, while others, the "drys" did not.²³ Those that did not have wells relied on those who did for water. Predictably, those without water wanted a water works, while those with wells thought the cost prohibitive. Iverson had a well and, according to the report, "he could get pretty hot under the collar just talking about what the people without wells were trying to do to the town."²⁴ Not only did Tioga lack a water works, hotel, and housing according to *The Lakota*, "people want modern facilities, which at the present time is Tioga's drawback."²⁵ Despite their best efforts, Ernest Knutson, operator of the Tioga Club, announced that Amerada Petroleum had chosen Williston for its headquarters, acknowledging that Tioga was not chosen because "it is not modern."²⁶

While Tioga did not get Amerada Petroleum it did get Walter "Walt" Ludwig Braun. Braun, a native North Dakotan from Mercer, North Dakota, worked as a landman with a R. W. Porter from Texas. Braun, who was interviewed by the State Historical Society of North Dakota Foundation for an oral history project, recalled that Porter called him the day after oil was

²¹ *Williston Press-Graphic*, April 6, 1951.

²² *Bismarck Tribune*, April 6, 1951.

²³ *Minneapolis Sunday Tribune*, October 22, 1953.

²⁴ *Bismarck Tribune*, April 6, 1951.

²⁵ *Minot Daily News*, April 6, 1951; *The Lakota*, April 13, 1951.

²⁶ *Williston Press-Graphic*, April 5, 1951.

discovered and said, “Get your butt up to Tioga and rent an office up there.”²⁷ Braun, the first oil broker in Tioga, rented the vacant Merchants bank building that had sat empty since the 1920s. The building sat directly across from the phone center. As Braun explained in the interview, when a phone call would come in for him the operator, from across the street, would wave a flag to get his attention, and he would then walk over to the phone center and take the call. Braun was a “bird dog,” an industry term used to describe a local man whom farmers inherently trusted. During his time in Tioga, Braum acquired leases for many different companies including Leach, Rudman, and Amerada.

Similar activities were taking place in Ray. In October of 1951, Ray businessmen formed a new business organization. According to reports in *The Rakota*, the organization had an eye for, “all sorts of business relating to town improvements.”²⁸ Ray, like Tioga, would continue to lose out to Bismarck and Williston. The citizens of Ray were determined to prepare for the economic boom they were sure was coming. B. H. Weyrauch built a two-hundred-unit trailer court to accommodate approximately four hundred people, and the city completed a new auditorium and grade school.²⁹

Housing shortages existed throughout the area, and each community addressed the situation differently, but the shortage was most acute in Williston. In the fall of 1951 Williston took several steps to address the housing crisis. First, it hired Minneapolis, Minnesota, city planner and consultant I. S. Shattuck to review the situation in Williston and formulate a master plan for a city of 50,000 people.³⁰ Next, it created the Public Housing Administration, which

²⁸ *Rakota*, October 19, 1951, December 14, 1951.

²⁹ *Williston Daily Herald*, 1975.

³⁰ *Williston Basin Oil Review*, June 1952, 6.

approved the construction of seventy-six new homes.³¹ Finally, Williston leaders, in anticipation of the ever-growing need for housing, asked several women's organizations to canvas the town and identify additional housing. The women reported "48 sleeping rooms, 41 apartments and 16 houses which might be available for rent if the necessity arouse."³²

By January of 1952 many of the sleeping rooms, apartments, and houses that were reported available had been filled, and new arrivals were left with less than suitable accommodations in basements, attics, dilapidated houses, and even garages and outbuildings. Williston, according to accounts, had every livable place, "pressed into service."³³

The *Williston Press-Graphic* argued, "The crowding of families into these places which were never meant for living quarters is a dangerous condition which is worrying fire chiefs and other officials responsible for public safety."³⁴ The living conditions were believed to be so dangerous that the newspaper called for city leaders to pass ordinances banning such living arrangements writing,

The Press-Graphic believes the only answer to the problem is one of municipal supervision backed up by a state law. We think that representatives of the various fire departments, municipal boards, builders, landlords and other affected parties in this area should get together and draft a building code during the construction of basement, attic and other apartments. This code should be enacted into law and should be strictly enforced.³⁵

³¹ *Williston Basin Oil Review*, June 1952.

³² *Williston Daily Herald*, 1975.

³³ Campbell, *Williston Report*, 8-12.

³⁴ *Williston Farmers Press*, January 24, 1952.

³⁵ *Williston Farmers Press*, January 24, 1952.

The problem, according to the paper, was dire, and it warned, “A delay in cleaning up this dangerous housing situation may mean the lives of women, children, or aged folks. It might even mean your life. Let’s act on it now!”³⁶

The housing shortage was but one sobering reality of life in Williston. Schools, overrun with children, forced classes to be held in shifts, one in the morning and one in the afternoon.³⁷ County, state, and federal roads suffered relentless damage from truck traffic as trucks began bringing the trappings of an industry into the state. Businesses of every shape and size reaped the benefits of discovery as capital and demand for goods rushed into every café, hardware store, and hotel in the region. Grocery stores soon began carrying strange foods. Foods familiar in the south, such as grits, soon became available throughout the basin. New companies formed from local men and newly arriving entrepreneurs eager to serve the industry.

Tioga and Ray found innovative ways to speed up construction that eased the pain caused by the housing crunch. Directly south of Tioga, about a mile, a large steel shed, which sat on wheels, was used by the Kelley-Coppedge Corporation to build houses in the cold winter weather. Houses, built for the Amerada Petroleum Corporation, were constructed inside the steel shed. Once built, one end of the shed would open, and the shed was rolled off the new house and onto the next building site.

³⁶ *Williston Farmers Press*, January 24, 1952.

³⁷ Campbell, *Williston Report*, 8-12.

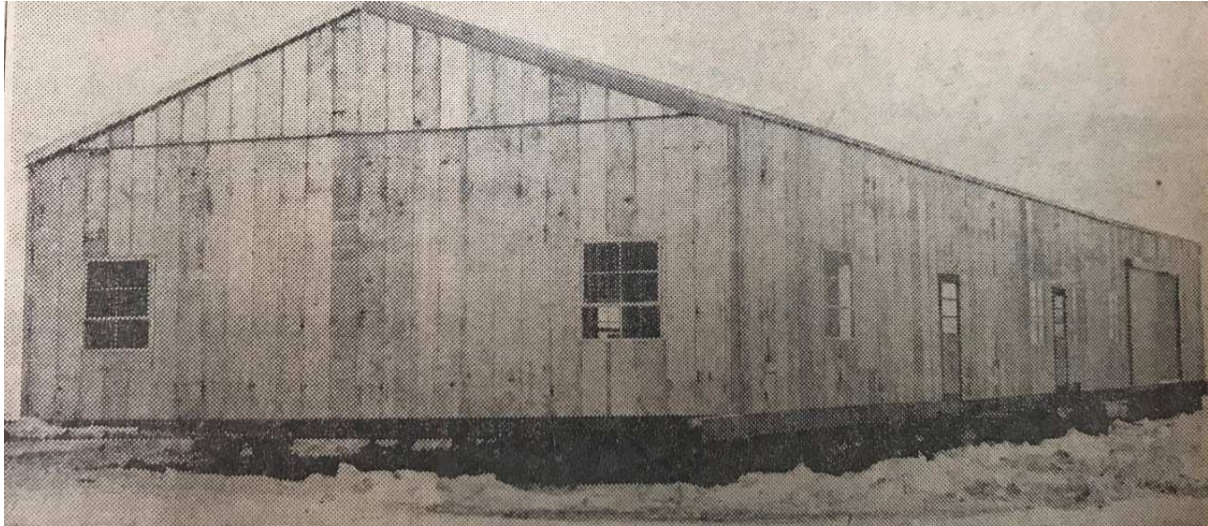


Figure 11. Steel structure mounted on wheels.

Bruno Weyrauch built a housing development on Ray's city park property about two miles west of Tioga. A group of Ray businessmen purchased nine houses that sat in Coleharbor, North Dakota, and in turn sold them to Weyrauch. The Dakota House movers Inc. of Bismarck moved the houses from Coleharbor to Ray, where they were joined with the necessary facilities for a 130-unit trailer park. Tioga had its own trailer park, owned by Clarence Gilbertson, which was fully occupied. There were also several new houses and several old houses that were either built or moved into Tioga. Also moved to Tioga from Coleharbor was a seventeen-room building which served as a hotel and rooming house.”³⁸ While the housing problem in the Williston basin was acute, the entire state had endured the strains associated with oil plays as landmen, seismograph crews, and drilling rigs hop-scotched across the prairie in their furtive search for oil. As the uncompleted Iverson #1 continued drill stem tests, the *Wall Street Journal* reported, “This hectic leasing activity doesn't mean a thicket of drilling rigs will sprout on the countryside here next week. Pipe is scarce and drilling costs – more than \$10 a foot – are too

³⁸ *Fargo Forum*, May 2, 1952.

high to permit a shotgun development of this particularly uncharted new area.”³⁹ Scarcity of pipe, the result of the Korean Conflict, certainly played a role in the slow development of the basin.

Despite the problems associated with North Dakota’s location in rank wildcat territory and a general lack of infrastructure in surrounding communities, 1951 ended with but one producing oil well in North Dakota, the C. Iverson #1, completed on December 19, as well as one producing oil well in Montana, Shell Oil’s Northern Pacific #1, completed on November 29.⁴⁰ Three unfinished wells had also produced commercial quantities of oil, but there was no guarantee enough petroleum would be produced for the market or to induce much needed capital expenditures. More importantly, there was no current market for that petroleum were it to be produced.

Amerada, as previously stated, had little geologic information about the Williston Basin’s lower horizons. The Bakken #1 was the deepest well drilled in the Williston basin to date and it would take time to process the information being collected. Another significant problem Amerada faced was that there was, initially, no place to put the oil. Amerada had produced oil from several unfinished oil wells, but it had no place to put the oil, no market to sell the oil in, no oil supply companies to service the wells, no oil transportation systems to move the oil, no anything. North Dakota lacked every necessity a petroleum industry needed, and that was not going to change because one or two finished wells produced oil.

Discovering oil in rank wildcat territory posed many significant problems. Amerada, having produced a small amount of oil in one oil well, had not yet committed itself to a rapid

³⁹ *Wall Street Journal*, June 12, 1951.

⁴⁰ Montana Department of Natural Resources, Well Index, API#25-021-05168-00-00.

drilling program. This meant there would be no oil boom, at least not in 1951. The industry had good reason to be cautious. In 1937, a well drilled in Fallon County, Montana, near Marmarth, North Dakota, produced sixty-two barrels per day for several days before it petered out. The oil man's term for failing to produce.⁴¹ In February 1951, across the border in Manitoba, Canada the California Standard Company drilled the Cal-Stan Daly 15-18 near Virden. That well produced a total of 850 barrels over an eight-month period before being abandoned in October of that year.⁴² Amerada had no guarantee the Iverson #1 would not perform similarly, and so warned against "the danger of over-optimism."⁴³ R. G. Fuller, production superintendent on the Iverson, told a *Bismarck Tribune* writer that "although not a good oil well, [the C. Iverson #1] was 'very encouraging.'"⁴⁴ Prior to the C. Iverson #1, the only geologic information anyone had on the Nesson anticline was core samples from the Nels-Camp well which had drilled to 10,281 feet. Production on the Iverson was between 11,630 and 11,660 feet respectively.

While Amerada was busy drilling the Clarence Iverson and testing various horizons, several other companies worked feverishly throughout the state, drilling in Morton, Cavalier, Pembina, Grand Forks, Bottineau, McHenry, and Stutsman counties. Unfortunately, they were all dry holes. It was because of this that the industry moved slowly and cautiously in developing North Dakota's newest industry. Caution meant that service companies were not investing in pipelines, refineries, and office and warehouse space. Those would have to wait until production increases spurred investment. State and city governments were affected as well. Few wanted to spend the required money on infrastructure projects like water works, hotels, and schools. unless

⁴² *Williston Basin Oil Review*, June 1952, 10.

⁴³ "Tests Do Not Yet Prove Production In Pay Quantity," *Bismarck Tribune*, April 5, 1951.

⁴⁴ *Bismarck Tribune*, April 5, 1951.

the industry could show it would be around for a while. Pre-discovery populations could not sustain the debt necessary to build those infrastructure projects.

In the late summer and early fall of 1951, additional discoveries were made throughout the basin. Shell Oil, the largest leaseholder in the basin with its Montana acreage, made a significant discovery in Dawson County, Montana, near Glendive, on July 17, 1951. In North Dakota three additional wells had good shows of oil during drill stem tests: Amerada's Bakken #1 and Dilland #1, and the Math Iverson #1, drilled by a group of independent operators from Texas comprising Rudman Resources, American Viking Corporation, and Tioga Petroleum Corporation.

The Math Iverson #1 was what oilmen call a lightning strike because of its rarity. In 1947, as Leach and Fruh were putting together the leasehold for Amerada, M. B. Rudman, an independent oil man from Texas, walked into Leach's Bismarck office looking to get involved in the lease play, offering to purchase leases from Leach, in western North Dakota, for .15 to .20 cents per acre.⁴⁵ Rudman was also curious if there were any areas in North Dakota that remained unleased, and Leach responded that the northwestern corner of the state, including portions of Williams county, remained unleased, as no companies had been interested in the area. At the time Leach and Fruh had been confined to leasing an area Leach described as being "five miles north of the river in Williams County southward to what is now the Risser location."⁴⁶ Rudman, having contracted with a man named Porter from Texas, began leasing to the north of the block Leach and Fruh were putting together for Amerada. As it happened Amerada, after completing seismograph work, decided to expand its acreage north and enlisted Leach to buy

⁴⁵ Leach to Sveen, November 15, 1951, Leach Papers.

⁴⁶ Leach to Sveen, November 15, 1951, Leach Papers.

Rudman's and others leasehold. For his part Rudman was paid 3.50 per acre on the 10,000-acre leasehold clearing a profit of approximately 34,000 dollars. Rudman then turned to fellow Texan Critchell Parsons, president of the Tioga Petroleum Corporation, a company created by the United Tank Corporation, to drill wells in North Dakota to drill in the basin. The Math Iverson #1, the eighth producing well, was completed in the Madison formation on April 28, 1952.

Rudman, who went by either Bill or Duke, was born Mayer Billy Rudman in Bonham, Texas, in 1909. Having grown up in and around the industry, he dropped out of college after his freshman year to begin a lifelong career in oil exploration. His first twenty-nine attempts were dry holes, but then in 1932, he got his first producer.⁴⁷ At thirty years of age, his oil interests included 175 wells producing monthly income of \$5,000. At thirty-eight he walked into the offices of Leach & Fruh in Bismarck, North Dakota, looking for his next big deal.

Beginning in August of 1951, Amerada's Bakken #1 showed oil. Then on September 9, during a drill stem test, the well flowed oil for twenty minutes. The *Williston Press* reported North Dakota's second discovery well and announced that the Bakken brothers, Henry and Harry, would celebrate with a free public barbecue.⁴⁸

The Bakken #1 went through fifteen separate drill stem tests before being completed in the Madison, April 14, 1952. The well's success was bittersweet for the Bakkens. Just after celebrating Christmas and the marriage of Harry, the Bakkens' house burned to the ground.⁴⁹ It seemed that the Bakken brother's discovery celebration had barely ended when newspapers reported on the success of Amerada's third producer, the Dilland #1, which on October 10, 1951, produced 219 barrels from the Madison.

⁴⁷ Peter Applebombe, "The Wildcatter's Tale," *New York Times*, March 1, 1987.

⁴⁸ *Williston Farmers Press*, September 13, 1951.

⁴⁹ *Williston Farmers Press*, December 27, 1951.



Figure 12. Henry and Harry Bakken farm, and house fire. The first photo is a post card in author's private collection, the second is a photo from the *Williston Farmers Press*, December 27, 1951.

In addition to Amerada, Shell, and Rudman there were many others active throughout North and South Dakota, Montana, and Alberta. In North Dakota Union-Los Nietos drilled four unsuccessful wells in Cavalier County, while Ajax dealt with a twisted off drill pipe near Rugby. In the northeast corner of the state Union-Central Life Insurance Company plugged and abandoned a well near Langdon.⁵⁰

The M. Iverson #1 produced oil on November 3, 1951, also in the Madison. It was the result of these three Nesson wells -- the Bakken #1, Dilland #1, and M. Iverson #1 -- that Amerada decided to plug back and test the C. Iverson #1 in the Madison formation.

The drilling process of Amerada's first three wells all went through an identical drilling process of testing multiple levels for production, including the Risser #1, which was spudded in August 9, 1951, across the Missouri river in McKenzie County, but only completed May 18, 1952. Amerada, having no real market for its newly discovered oil, had time to check the

⁵⁰ North Dakota Oil and Gas Division, Well File No. 25, Well Files.

Williston Basin's stratigraphic record while the industry contemplated infrastructure, mobilized, and moved into the state. The fact that Amerada and Rudman Resources had drilled five producing wells did not guarantee infrastructure would be built. The type of investment a pipeline or refinery took would require more than five wells to justify the investment, however things were beginning to look up.

First to acknowledge that Amerada's success would most likely continue was the Western Oil Tool and Manufacturing Company, regarded as the largest such company in the Rocky Mountain area. In December of 1951, the *Williston Daily Herald* reported Western Oil Tool leased land in Williston, "to supply tools and repairs for oil field machinery."⁵¹ Following shortly after, in January of 1952, the *Williston Daily Herald* reported on the arrival of the National Supply Company, "regarded as the nation's largest supplier of oil field equipment," and the Jones and Laughlin Supply Company, which supplied, "drilling, production, pipe line, and refinery equipment."⁵² What began as a trickle in January of 1952 developed into a flood in the spring and summer, as nearly fifty oil service and supply firms entered the basin in 1952, creating an acute strain on an already burdened commercial and residential real estate market.⁵³

The petroleum produced from these five wells, approximately 11,197 barrels per month, had to be transported by tanker truck twenty-five miles to the Northern Pacific Railroad at Temple, North Dakota, where it was shipped, temporarily, to refineries throughout the northern United States and Canada. The first pipeline company to serve the area was the Service Pipeline

⁵¹ *Williston Daily Herald*, A Special Tribute to the 25th Anniversary of the Discovery of Oil in North Dakota, undated, 23.

⁵² *Williston Daily Herald*, 23.

⁵³ *Williston Daily Herald*, 25.

Company of Tulsa, Oklahoma, which completed a six-inch gathering system connecting these initial wells to remove the necessity of hauling oil from the separate wells to the railhead.⁵⁴

In 1951 world oil demand hit an all-time high of 2.7 million barrels of oil during a time when Iran, having nationalized its oil industry, was shut out of petroleum markets. The decrease in production created by Iran's withdrawal from the market was made up by countries like the United States, who increased output by 4 percent.⁵⁵ Amerada's new-found reserves were significant when considered on a global scale.

Amerada had proven the basin could produce commercial quantities of oil, but because of the complexities in the global petroleum market and a lack of key infrastructure and industry investments, little progress was made in 1951. As production continued to climb throughout the winter and spring of 1952, the capital expenditures necessary for pipeline gathering systems, refineries, and the relocation of industry supply firms to the Williston Basin began to increase, but market conditions would plague the basin for decades. Production quotas, instituted in the 1930s, to stave off the industry's destruction allowed for only 40 barrels per day, per well, when the well was spaced on a 40-acre tract.

The petroleum market represented the nation's refineries capable of buying petroleum from producers like Amerada to refine into products such as gasoline, diesel fuel, heating fuel, and kerosene. When oil was discovered in North Dakota, there were no local refineries to sell petroleum to, nor was demand for oil increasing. The nearest refinery, located in Saint Paul Park, Minnesota, was one of many refineries to receive North Dakota petroleum; however, to

⁵⁴ *Rakota*, December 28, 1951.

⁵⁵ *Associated Press*, January 3, 1952.

refine North Dakota crude, the crude from other producers had to be set aside. Ralph O. Dietler, Chairman of the board for the Stanolind Purchasing Company of Tulsa, Oklahoma explained,

At present, there is no market demand for crude oil produced from the Beaver Lodge pool in the sense that such oil supplies a need not otherwise met.

Nevertheless, in order to assist in the development of this potentially great area we will buy 200 barrels of oil per day per well, shipping it to a customer in Saint Paul (Northwestern Refining company of Saint Paul Park) who has agreed to temporarily purchase a small quantity from us.⁵⁶

Dietler said Stanolin's parent company, Standard Oil of Indiana, would purchase production exceeding that purchased by the Northwestern refinery when production exceeded capacity. This meant that Stanolind, when unable to sell its North Dakota crude to the Saint Paul refinery, sold it instead to the Standard Oil Company of Whiting, Indiana; Phillips Petroleum Company of Spokane, Washington; Wisconsin Oil Refining Company of Sheboygan, Wisconsin; and a limited amount to a refinery in Kamsack, Saskatchewan.⁵⁷ Dietler went on to explain the price difference between the Texas crude shipped to the Chicago refinery by pipeline, forty-five cents per barrel, and the North Dakota crude shipped via rail tank car, one dollar seventy-five and a half cents per barrel, concluding, "It is safe to assume that if a pipeline was constructed from Tioga to our major sales outlet . . . it would result in an increase in the price of oil produced from the Beaver Lodge pool because the cost of the crude oil to the refiner must include the cost of transportation." In other words, the price of North Dakota crude would garner less until such time as transportation costs would be lowered.

⁵⁶ *Williston Herald*, January 17, 1952.

⁵⁷ *Fargo Forum*, January 4, 1953.

In January of 1952, North Dakota still had only one producing oil well, the C. Iverson #1. Amerada had most of the leases near the Beaver Lodge field, but there were plenty of others nearby just as anxious to begin a drilling program. To find oil outside the Beaver Lodge field, the Hunt Oil Company, with a majority of its leasehold in Bottineau and McKenzie counties, announced it was opening a land department office in Williston's Plainsman Hotel with two employees.⁵⁸ With knowledge of current and probable production from the Williston basin, Stanolind could now justify the capital investment in a new refinery.

On February 4, 1952, Stanolind, the sole buyer of North Dakota petroleum, announced plans to build a refinery at a to-be-determined location capable of refining fifteen thousand barrels per day.⁵⁹ As if to put an exclamation point on the announcement, Amerada finished its North Dakota State "A" #1 well on the February 11, bringing the number of producing wells to six and ensuring there would be enough production to accommodate the new refinery.⁶⁰ Amerada put the well into production with remarkable speed, finishing the well in just forty days, despite an early winter. This was not an insignificant achievement. Having the C. Iverson #1, Bakken #1, and Dilland #1 drilling rigs set up for several months each versus forty days is a considerable cost savings as Amerada's increased its drilling efficiency thus rewarding it with a lower operating cost per well.

Stanolind, because of the refining capacity of the afore-mentioned refineries, was unable to deliver more than 10,000 barrels daily, but the company was hopeful that new construction in North Dakota and expansion of existing refinery capacity in Minnesota would allow for an

⁵⁸ *Williston Daily Herald*, A Special Tribute to the 25th Anniversary of the Discovery of Oil in North Dakota, undated.

⁵⁹ *Williston Basin Oil Review*, March 1952, 4.

⁶⁰ North Dakota Oil and Gas Division, Well File No. 25, Well Files.

increase in deliverable petroleum.⁶¹ North Dakota's marketing problem revolved around this reality. Refining capacity is the market. The market was fixed for North Dakota petroleum at 10,000 barrels daily. The fixed market operated while simultaneous expansion of drilling operations continued, and hence petroleum production, along with imports from the middle east, continued to grow at an increasing rate. The *Fargo Forum* reported, "Because of the long haul by rail tank car, Stanolind has paid \$2 per barrel at the well even though crude of similar quality delivered by pipeline from other oil areas commands \$2.65 to \$2.85 because of the lower transportation costs." To add insult to injury those wells not connected to a pipeline gathering system required truck transportation, further eroding the price per barrel below two dollars.⁶²

Clearly the biggest hurdle to North Dakota's burgeoning petroleum industry during the first ten months of production was marketing, caused by the state's location in rank wildcat territory. The state's remoteness, and the region's low population numbers required limited petroleum products. While the industry claimed it would develop the Williston basin in an organized, determined, and cautious manner, and that may have been the intention, it was remoteness and a lack of significant petroleum markets that stunted early development. Also, Amerada's significant leasehold put together by Leach and Fruh was in the area most sought after. Those late to the play had difficulty getting leases near production and instead were forced to drill in marginal areas far from the Nesson anticline. A factor affecting not just North Dakota, but the industry in general, was a shortage of steel, created by the conflict in Korea. The Korean conflict, coupled with the consequences of Iran's decision to nationalize its petroleum industry, created instability in the Middle East and volatility in oil prices. As a result of these complex

⁶¹ *Williston Basin Oil Review*, March 1952, 4.

⁶² *Fargo Forum*, January 4, 1953.

factors, the industry, despite its intention to orderly develop the field, was not the sole arbiter of the pace of development. The communities of the basin, suffering from acute problems of housing and infrastructure forced slowed the pace of development by being located in rank wildcat territory. The government through its state, county, and local institutions attempted to remove obstacles of development.

CHAPTER SIX: THE BIRTH OF AN INDUSTRY

The banquet room at the Midway Club, filled with the cigarette smoke of more than thirty men dressed in coat and tie, many with a glass of bourbon, scotch, or whiskey, burst into applause. The men, who hailed from such faraway places as Montana, Oklahoma, Texas, and Wyoming, gathered with a handful of North Dakotans for the formation of the Dakota Petroleum Club.¹ The applause, and the title of President Emeritus, was bestowed upon Thomas W. Leach. Leach was unanimously elected to the lifelong position in recognition of his pioneering effort in North Dakota's search for oil.² Leach, according to Paul S. Hedrick, oil editor of the *Tulsa World*, was the father of North Dakota's petroleum industry and an active member of the petroleum community and the communities of Bismarck and Tulsa. In Bismarck he helped shape legislation regulating and protecting both industry and community.³ The Dakota Petroleum Club's members were, the *Fargo Forum* reported, "connected with the land, exploration or drilling ends of the oil business."⁴ The newly formed Dakota Oil Scout Association, primarily for geologists, had elected officers the night before, and the Desk and Derik club, whose members handled the administrative end, would soon be created in Williston. Associations amongst the oil fraternity were nothing new. Because of its very nature, the petroleum industry's professionals moved from state to state as they explored and exploited natural resources. The community created by these associations was a necessity for industry professionals to stay connected and informed with one another while working in wildly disparate areas.

¹ *Bismarck Tribune*, June 1, 1951.

² *Bismarck Tribune*, June 2, 1951.

³ *Fargo Forum*, July 26, 1951.

⁴ *Fargo Forum*, July 26, 1951.

Industry, community, and government leaders embraced the development process and sought ways to improve their relationships with one another. The industry worked to promote the Williston Basin's possibilities within the state and region, creating associations; releasing films, books, and news articles; and meeting with community and government leaders. The communities swelled as they accepted many newcomers into their churches, schools, and families. These newcomers in turn became involved not only in industry organizations but also local government, civic, and religious organizations, while adjusting to a much different culture and climate. The state government, which benefited from the delayed process of development, modified legislation, passed prior to discovery, that ensured conservation, safety, and tax revenue. These three institutions worked feverishly in the first years after discovery and ensured North Dakota's petroleum industry was successful.

The industry, primarily through the American Petroleum Institute (API), promoted the basin's possibilities within the state and region by disseminating information through the Oil Industry Information Committee (OIIC), which created and exhibited movies, published literature, empaneled industry experts to tour the state, and sponsored events like Oil Progress Week, held October 14-20, 1951, that garnered fresh interest in the new oil state. The API also placed ads in America's leading magazines to promote the discovery. One such ad, featured in *Life's* October 15, 1951, issue, featured a picture of a dozen or so men attending a state lease sale. There in the middle of the picture, hand against his face, sat Leach. Leach, who was the go-to guy on anything Williston Basin, hosted the API's art director as he and his staff visited North Dakota taking pictures around the drilling at the Bakken, Dillan, and Risser, drilling rigs, the mineral lease auction, and other sites. The industry also began building the infrastructure

necessary for an integrated oil industry to include pipelines, refineries, and a gas plant to handle the ever-increasing production of the Williston basin.

Corporate members of the industry also affiliated themselves with associations within the state, most notably the North Dakota Oil and Gas Association (NDOGA). The NDOGA's aim was, "To promote the discovery, development, production, and conservation of oil and gas in the State of North Dakota."

The press, through newspapers, magazines, and journals, also played a key role in disseminating information from the industry and government to the public. The industry, community, and government were well informed of each other's progress across the state and region. Laird, in remarks delivered to the North Dakota Press Association, said, "It is absolutely necessary that [the people of North Dakota] be informed about the problems of oil production and also the problems of conservation of this resource in North Dakota."⁵

The individual members of the industry affiliated with the various associations prominent in oil producing states recreated those associations in North Dakota. Such associations provided a network of men and women that focused on disseminating information and aid to fellow members and to the general public through the press. Associations included the afore mentioned Dakota Petroleum Club; its female counterpart, the Petroleum Wives Club; the Dakota Oil Scout Association; and the Desk and Derik Club.

In March of 1952, Don Hotchkiss, Williams County extension agent, held meetings to educate and inform local citizens about the coming industry. During the meeting three short films, produced by the API, were shown: *Birth of an Oil Field*, *Prospecting for Oil*, and *Refining*

⁵ "Oil and Its Effect on North Dakota, April 26, 1952. Leach Papers.

Oil for Energy. A discussion of Oklahoma's oilfield experience followed.⁶ Meetings such as this were held throughout the state and were sponsored by an extension agent or by the Greater North Dakota Association (GNDA). The GNDA sought to educate and inform North Dakotans about the effects of the industry on their lives. The group, with the help of the OIIC, organized a panel of experts that traveled throughout the state speaking at universities, colleges, and normal schools. The panel, having explained the industry, answered questions from roughly 5,000 attendees during twelve events.⁷ Local organizations like the Kiwanis Club in Bismarck sponsored lectures on the newly emerging industry. Attendees of one such event in Bismarck came away enthusiastic over the presentation and what they learned.⁸ The Williston Junior Chamber of Commerce got involved, hosting an open forum in June of 1952. Speakers included Clarence Nelson, research economist at the Federal Reserve Bank in Minneapolis; C. S. Agey, Amerada's assistant chief geologist; chief petroleum engineer R. E. Sorey from Shell Oil; Gordon Locke, for pipeline companies; and C. F. Smith of Standard of Indiana.

The API also sponsored Oil Progress Week, October 14-20, 1951. A national event, it had an added emphasis during North Dakota's discovery year. The *McKenzie County Farmer* reported, "Residents of the communities engaged in this important industry are desirous of participating in the observances of Oil Progress Week by arranging various exhibits and engaging in other activities which show how they and their competitive progressive companies contribute to our freedom and high standards of living, which must be preserved along with our

⁶ *Rakota*, March 14, 1952.

⁷ *North Dakotan*, November 1951, 4.

⁸ *Bismarck Tribune*, October 25, 1951.

democratic freedom.”⁹ Amerada, holding many such events throughout the state, showed two movies, *Men and Oil* and *The Long Road*, in the Watford City School Auditorium.¹⁰

The movies that API had produced were informative, but none garnered the attention of *American Frontier*, API’s 1953 release on North Dakota’s new industry. Directed by Willard Van Dyke, the film sought to ease apprehension and educate the public regarding the petroleum industry and what lay ahead for the state and its communities. The movie opens to a wintery, windy North Dakota prairie scene,

The wind blows west from the Great Lakes.

The wind sings like a wild bird across the Northern States.

Coming at last to this place,

this sweep of America.

10,000 square miles of prairie across Montana and Dakota.

They call it the Williston Basin.

Not so long ago this was frontier.

Listen closely and you will hear the old ghost echo of covered wagons.

The phantom shadows of pioneers fighting for their lives against the wilderness.

Lean men, hard as hickory.

Lonely women, wearing their dreams like a bit of bright calico.

They began with nothing. With their bare hands and a bucket of hope.

Breaking the land with freedoms plow.

⁹ *McKenzie County Farmer*, October 11, 1951.

¹⁰ *McKenzie County Farmer*, October 11, 1951.

Planting towns with names American as a banjo tune:

Fargo, Stampede, Blue Grass, Beaver Lodge, Lincoln Valley, Williston.¹¹

The movie valorizes the new petroleum industry in North Dakota and the many changes and challenges that lay ahead. The main character, a schoolteacher and farmer, having experienced the industry firsthand, concludes, “I finally understood that oil will enrich the lives of hundreds of my neighbors who will never own a well or see a drop of petroleum. I finally knew for sure that the coming of oil was good for all of us.” The API made its point. The industry was going to bring change, but it was change the industry felt would be good for “all of us.” Of course, definitives are rarely true, and some were left out of the prosperity, but it was certainly good for many North Dakotans.

Once well completions along with production increased, and refineries, pipelines, and other infrastructure projects were planned, the industry moved quickly on several fronts. Along with the other clubs and associations, there was one organization crucial to the industry. In order that the industry could speak to both the communities in which it lived and worked, and to the governmental institutions that regulated and taxed it, the North Dakota Oil and Gas Association, NDOGA, was formed in 1952. The association welcomed independent and major organizations alike to develop and promote shared interests to “speak with a unified voice and to forward common goals and objectives.”¹² The NDOGA’s objectives were as follows,

The purpose of this association shall be to promote the discovery, development, production, and conservation of oil and gas in the State of North Dakota; to furnish opportunities for the open discussion and interchange of information

¹¹ “Narration by Thomas Chalmers,” *American Frontier*, directed by Willard Van Dyke (1953; www.globalimageworks.com).

¹² *Bismarck Tribune*, August 15, 1966.

concerning exploration, development, production and conservation practices in the oil and gas industry; and the gathering and dissemination of information relating to the oil and gas from and among the members of this association and the general public.¹³

Members of the NDOGA received regular monthly newsletters that dealt with news relating to government regulation. In 1953, 1955, 1957, 1959, and 1961 the NDOGA effectively fought against and defeated measures to increase the extraction tax. It also played a major role in defending the industry from legislative attacks meant to increase either taxation or legislation against the industry. It did not publish general industry news. That news was reported on by the *Williston Basin Oil Review*, a Bismarck company. In March of 1952, the first issue of the *Williston Basin Oil Review* was published, and it, according to its publishers, “intend[ed] to summarize, condense and report information on the oil progress within the Williston basin.”¹⁴ It was, however, much more than that: the review chronicled the first fifteen years of the industry, well by well, company by company, regulation by regulation. It was and is the go-to source for all things regarding the Williston Basin and its development during the discovery period. The men and women working in the industry moved quickly to form organizations helpful to their cause, but more importantly, they joined the communities in which they lived and worked.

The API was not the only entity disseminating information; private sources also contributed. *An Introduction to the Williston Basin* was published by Petroleum Information, a private company with offices in Montana, Wyoming, Colorado, and North Dakota. The publication, copyright 1952, equipped any independent oil man or anyone thinking of becoming

¹³ *Independent Petroleum Association of America Monthly*, February 1953.

¹⁴ *Williston Basin Oil Review*, March 1952, 7.

an oil man to enter the Williston Basin with as much information as possible. It included a brief history of the Williston Basin, the story of discovery, and a geological overview followed by an in-depth discussion on leasing, production, and marketing of petroleum in the state.¹⁵ Published in 1954, by two engineering professors from the University of Minnesota, was *The Williston Basin*, a book its authors reported “represents essentially a compilation of information on many aspects involving the past and influencing the future development of the Williston Basin.”¹⁶

Leach, too, was in the thick of things. As reported by Bob Foresman in the *Tulsa Tribune*, “In the early days [Leach] spent a great amount of time doing missionary work for the basin by briefing dozens of newcomers in the development and history of the play. Only a limited number of maps were available, and many [of] the oil men who came had no knowledge of the area. Leach furnished them with base maps and other data for initial reports to their companies.”¹⁷ Leach would never turn an interested oilman away, and many turned out to be great friends.

When Norman Mullendore, Art director for the API, came to North Dakota to take pictures the API would later use in ads placed in *Life*, *Time*, *Collier's*, and other magazines, Leach was his guide. One ad in particular was that of a lease sale where the two men sat prominently in the middle of the photo. Also pictured in the state lease sale photo was Braun, in attendance on behalf of Porter. Leach, who had many connections with Amerada, took Mullendore to Amerada's Dilland well site, to the C. Iverson, and to several other drill sites for pictures. An avowed Republican, Leach was a friend and donor to North Dakota's governor

¹⁵ *An Introduction to the Williston Basin* (Bismarck: Petroleum Information, 1952).

¹⁶ Emory N. Kemler, and Lacabanne, *The Williston Basin* (Saint Paul: Summary Reports, 1953).

¹⁷ *Tulsa Tribune*, April 9, 1953.

Brunsdale, who was also a frequent guest at the Leachs' ranch in Towner.¹⁸ In addition to befriending nearly everyone he met, Leach also brought his nephew, Cooper Land, under his wing. Land, was a world renowned sedimentologist who lived and worked in the basin till his death in 2016.

At the state lease sale, Leach, and the other oilmen were able to bid on acreage owned by the state. There are five different types of land ownership that an oil company can drill on which include: fee simple, state, federal, tribal, and allottee lands. Fee simple is the most common type and refers to land purchased through the exchange of title for consideration. This is most commonly a warranty deed in exchange for a monetary sum. When an oilman like Fruh or Braun went out to see a farmer about a lease, that farmer is the owner of fee simple land. State lands are held by the North Dakota Department of Trust Lands. These lands, which include every 16th and 36th section of each township in the state, were given to the state by the federal government through the Enabling Act of 1889.¹⁹ Lands owned by the federal government, such as those lands within the boundaries of the Theodore Roosevelt National Park are leased to oil companies through the Bureau of Land Management's bidding process. Tribal lands, lands owned by a sovereign tribal nation, are managed by the Three Affiliated Tribes energy department in New Town, North Dakota. Their lands are leased much like state and federal lands. Finally, lands owned by allottees are held in trust and leasing is done through the Bureau of Indian Affairs (BIA). There are no negotiations between the oil company and the allottee. The BIA has an amount that they will accept on their behalf, and it becomes a take it or leave it proposition. Regardless of who owns the land, or who is going to drill the well a permit must be

¹⁸ Leach Papers.

¹⁹ The Enabling Act, <https://www.legis.nd.gov/files/documents/theenablingact.pdf>, accessed December 26, 2021.

granted from the NDIC before drilling can commence. Incidentally the first oil well drilled within the boundaries of the reservation, the Woodrow Star 1, was spudded in on June 14, 1953, by the Pan America Oil Company on fee simple land.

Amerada, by the end of 1953, had developed enough production to spur Standard into building a refinery at Mandan. Two other companies would build refineries, at Williston and Dickinson, and Signal Oil and Gas Company would build a gas plant at Tioga. These facilities, along with the necessary pipelines, created North Dakota's integrated petroleum industry. The Standard Oil Company refinery was begun at Mandan in April 1953 and completed in September 1954, at a cost of \$30,000,000. At the same time, construction was completed on a crude pipeline from the Nesson Anticline fields to the refinery. The same year, Signal Oil and Gas poured 17 million dollars into a gas processing plant at Tioga and the gathering system necessary to bring the natural gas in from the surrounding fields. At Williston \$553,000 went into a refinery completed in May of 1954. This plant was taken over the following year by Westland. Dickinson completed yet another refinery, at cost of nearly \$800,000, in April of 1954.²⁰ All of this economic activity required a large influx of skilled and unskilled labor into the state.

As the *Oil and Gas Journal* warned, "You will be visited by a horde of strangers, oil men from other areas," and indeed North Dakota was. A diverse group of people descended upon North Dakota from oil producing regions, typically in the south and southwest. It must be said, however, that it was an industry composed predominantly of white men; the diversity was in their speech and eating habits. Women, as was discussed in a previous chapter, did participate in some key positions as geologists, but they mostly served in administrative rolls or as

²⁰ *Grand Forks Herald*, January 24, 1960.

housewives--even though some housewives had geology degrees. Men and women of color, however, are absent from the historical record. One can simply peruse old newspaper photos or click through the archive collection of photos taken by Bill Shemorry to see the obvious. Men of color, from the photographic and archival evidence, did not, or were not allowed to participate in the petroleum industry in North Dakota. The strangers, many who spoke with a southern accent, ate grits, and hated the cold weather, settled into their newly constructed homes.



Figure 13. A group of all white males from Amerada Petroleum Corporation.

The communities of Bismarck, Tioga, Williston, and the surrounding areas, although at first leery, accepted the new arrivals, as they quickly became part of their respective communities. A newcomer remarked, “Of course [North Dakotans] were cautious. They should be. We are used to that. But once the North Dakota folks were convinced that this was not a fleece game, then there was nothing but cooperation and the grandest spirit of hospitality that we have ever seen.”²¹ The *Fargo Forum*’s Women’s Editor, Ruth Fairbanks, ran a series of stories on several families making the transition, reporting that the men of the petroleum industry enjoyed their work, married North Dakota girls, and were family men.²² Fairbanks also ran several stories of women who had a direct impact on their new communities. Mrs. Joe Powell was Williston’s new ballet teacher, a “pert auburn-haired young oil wife,” who held a master’s

²¹ *Fargo Forum and Daily Tribune*, January 10, 1954.

²² *Fargo Forum and Daily Tribune*, January 10, 1954.

degree in geology from Brigham Young University.²³ The mother of three girls, ages, twelve, ten, and eight had as many as 300 students enrolled in classes. Mrs. E. B. Cole, Bismarck's recreational program's art instructor, along with three other women, were largely responsible for the success of North Dakota Art Week in October of 1953. Still others joined Williston's recreation program called Happy Town. Williston's recreation club director Chuck Stone, when asked to explain the program's popularity among newcomers, replied, "Possibly it is because these families are used to making every effort to adapt themselves to new communities and feel the need of a recreational set up more keenly than permanent residents of a community."²⁴

Whether it was the desire to fit in, to contribute to the community, or any other reason, the impact was felt immediately. The 150-member Petroleum Wives Club of Bismarck put on a tea service for the North Dakota Art Exhibit, while Williston's Petroleum Wives Club held a blood drive and directed a theatre group. Plus, the volunteers of the music clubs, the Daughters of the American Revolution, and various church groups and the resulting interaction between native and newcomer created lifelong relationships in these communities. Fairbanks concluded, "The folks of the oil industry have added greatly to these communities. Their spirit of participation and cooperation in civic and state affairs is strong."²⁵

North Dakotans became oilmen, and oilmen became North Dakotans. Fruh and Braun are fine examples of North Dakotans becoming oil men and there are many others, but there is no better example of oilmen becoming North Dakotans than Tom and Francis Leach. The couple, while maintaining a business and apartment in Tulsa, Oklahoma, embraced North Dakota as their second home from 1935 until their deaths. Francis became active in civic affairs, regularly

²³ *Fargo Forum and Daily Tribune*, January 10, 1954.

²⁴ *Fargo Forum and Daily Tribune*, January 10, 1954.

²⁵ *Fargo Forum and Daily Tribune*, January 10, 1954.

speaking to groups regarding the dark side of the oil industry. In 1956 the Leach's established the Tom and Frances Leach Foundation to continue their philanthropic endeavors. The Leachs were active in their community and participated in various social and charitable organizations including the Bismarck Chamber of Commerce, Methodist Church, and Prairie Public Television. Frances Leach was at one time on the Board of Regents at Minot State College. Tom Leach was elected to serve on bank boards, belonged to numerous organizations, and was involved in several business ventures including a gas plant, a stain company, and his beloved Hereford Ranch in Towner, North Dakota. The Leachs' lifelong dream was realized in 1953 with the purchase of a 7,750-acre Hereford cattle ranch near Towner, North Dakota.

Leach was not the only oilman to settle in North Dakota. Allison "Al" Grant Golden, originally from Illinois, found his way to North Dakota through Billings, Montana. Golden was born October 10, 1927, as a twin, but his brother Grant Allison Golden died several days after birth. Golden grew up in rural Illinois and was an industrious, hardworking man from the start. Golden's first job was running a milk route with the milk from his Jersey milk cow. Having served in the Coast Guard during World War II, Golden received a degree, taught animal husbandry, and served as an extension agent before going into the oil industry with Socony Vacuum in its land and scouting office. Golden was transferred to Bismarck in 1957 and worked for Socony Vacuum until 1960. Rather than be transferred to Casper, Wyoming, Golden opened an independent landman office in Bismarck in 1961. During slowdowns in the industry Golden would often work with Leach's nephew continuing to explore the basin.

The tremendous success of these newcomers and natives in adjusting to their new homes and new industries did not come without reported social problems. Concerns about the impact on communities in the basin led University of North Dakota professors Robert B. Campbell,

Samuel C. Kelley, Jr., Ross B. Talbot, and Bernt L. Wills to publish the *Williston Report* in 1958. Their analysis of the impact of oil discovery on Williams and Mountrail counties reached several distinct conclusions. First, the social problem created by the influx of outsiders, although expected, was not borne out by analysis. Second, attitudes between and among natives and newcomers were overwhelmingly positive, ranging at or about 96%. There was a “virtual absence” of comments toward “oil people” regarding criminal or immoral behavior.

The social problems found to have existed were with public agencies. According to the report, “schools had to operate on a split day in the small towns,” and Williston’s post office struggled to accommodate the community. Finally, the report spoke of those left out of the region’s newfound prosperity, concluding,

To many it yielded little more than bitterness. Often the original residents found themselves in the position of a minority group. The newcomers often had markedly different backgrounds from the older residents, often they were of different political or religious persuasion. When the earlier residents sought employment in the oil development program, they found only the lower paid, less skilled jobs open to them, for the big oil concerns commonly brought their own trained labor supply into the area.²⁶

Despite those few citizens who were left out of the new-found opportunities, the overall economic impact of the industry was a positive one. North Dakota’s culture benefited from the newcomers who made their homes in Bismarck, Tioga, or Williston, sometimes for a month or two, and sometimes for life. A *Newsweek* reporter attended Oil Discovery Days, in April of

²⁶ Campbell, *Williston*, 8-12.

1953 and reported on the basin's business growth and changes to populations.²⁷ Tioga, it was reported, grew from 456 to 1,200 and Williston's population went from 7,378 in 1950 to 12,000. There were, in Williston, 225 new businesses, two new schools, an addition to the hospital, and a brand-new courthouse. However, this growth was only present in the northwest portion of the state. Little, if any, economic activity or benefit reached other portions of the state once the leasing and seismograph crews were finished with their work. While industry and community members adjusted to one another, those within North Dakota's governmental institutions made their own adjustments.

The state legislature, the industrial commission, and the geological survey formed their own community. The trio sought to forge relationships in regulating the burgeoning industry, conserving the state's resources, and providing economic benefit to the state. Regulation of the industry and conservation of natural resources were the responsibility of the commission as legislated by the state and enforced by the survey. The rule of capture and global oil glut, as discussed in chapter 4, wrought havoc on the industry during the 1930s, forcing several states and the federal government collectively to form the IOCC. Conservation was the cause celeb, growing out of each state's experience with waste, overproduction, and reservoir failure, at differing times and to differing degrees. The principles, as expressed by Murphy, "were known and established," and were "applied to the discovery, development, and operation of oil and gas reservoirs to prevent waste, protect correlative rights of the producers, and effectuate the public interest."²⁸ These principles were foremost on the mind of Dr. Frank Foley prior to discovery.

²⁷ *Newsweek*, April 27, 1953, 38-40.

²⁸ Blakely M. Murphy, Ed., *Conservation of Oil & Gas A Legal History, 1948* (Chicago: Section of Mineral Law American Bar Association, 1948), iii.

Foley, the survey's director from 1938 to 1941, having had discussions with several oil men doing work in North Dakota in the late 1930s, thought it prudent to put in place legislation prior to discovery, as opposed to waiting until oil was found. Foley requested a copy of the Model Act from the IOCC in the fall of 1940. However, before Foley could request legislation, he resigned from the survey, to work for the United States Army Corps of Engineers. Laird, who took over in February of 1941, wasted little time in returning to Foley's work on legislation. With the help of Forrest Darrough, an employee of Carter Oil Company, Laird sought passage of an oil and gas conservation law.²⁹ Laird wrote, "During questioning by the Legislature regarding the necessity of the law I told them what had happened in other states, notably Texas when oil was discovered in the East Texas Field in the early thirties, and what chaos had resulted."³⁰ Heeding Laird's advice, the legislature passed the Model Act in 1941, making the commission "responsible for the conservation of oil and gas in North Dakota."³¹ It also made the commission responsible for environmental protection. Provisions, rudimentary as they were, included protecting ground water sources and preventing fires, but most importantly the new laws included provisions limiting waste.³² The waste of oil and gas either by drowning stratum with water, through secondary recovery efforts, or by allowing gas to escape were important, but nothing the state passed was more important than provision number 13, "To regulate the spacing of wells."³³ This recalls those iconic photos of Oklahoma City, and Signal Hill, California, derricks, piled one upon another as far as the eye could see. The commission was granted authority to control the size of a spacing unit and how many wells could be drilled on that

²⁹ Bluemle, *The First 100 Years*, 55.

³⁰ Bluemle, *The First 100 Years*, 59.

³¹ Bluemle, *The First 100 Years*, 57.

³² Bluemle, *The First 100 Years*, 57.

³³ Bluemle, *The First 100 Years*, 57.

spacing unit. Laird concluded, “Very few, if any, states can say that they were so well prepared for the oil and gas industry to come to their respective states as was North Dakota.”³⁴

Prepared though they were, actual production necessitated immediate change. Initially the commission had chosen a 10-acre spacing unit, but Laird, in July of 1952, asked the commission to increase the spacing unit from 10 to 40 acres; requested unitization; and sought an increase in the amount a well could produce daily, called proration, from 10 to 200 barrels of oil per day, BOPD.

Amerada, which had seven of the eight producing oil wells in 1952, wanted the spacing unit in the Beaver Lodge field set at 80 acres. A public debate ensued. Amerada, wanting the public to understand its request, published numerous ads in local media and held several informative forums to explain its needs. Amerada argued that maintaining reservoir pressure was the main objective, not how many wells it could drill. Amerada felt that one well could “efficiently and economically drain at least 80 acres” as opposed to 40.³⁵ Amerada believed that an 80-acre spacing unit would not diminish potential recovery, and if it was found that 40 acres was more suited for the field, the industry could always go back and do additional drilling. Concluding that an 80-acre spacing program was “the latest scientific development and the modern trend,” Amerada waited for the commission’s decision.³⁶

Those opposed to the plan, approximately 300 people from Williams County, quickly formed an association, the Williams County Independent Producers and Royalty Owners Association. Speaking at their inaugural meeting was Critchell Parsons, operator of the Math Iverson well, who said, “Let us take the Math Iverson [well]. Under a 40-acre spacing rule two

³⁴ Bluemle, *The First 100 Years*, 59.

³⁵ *Bismarck Tribune*, February 20, 1952.

³⁶ *Bismarck Tribune*, February 20, 1952.

more wells will be drilled. Under the 80-acre spacing the one now being drilled is the only one that can be drilled.”³⁷ In Bismarck, Fruh was organizing the North Dakota Independent Landowners and Royalty Owners association, of which he was president. Fruh said, “This spacing should be left alone until more is known about the field. It may turn out that 120 acres would be proper spacing. They should drill at least 10 more wells before they decide.”³⁸

Having met, the commission denied Amerada’s application by a vote of 2 to 1. Governor Brunsdale was the sole yes vote. As reported in the *Fargo Forum*, “The other two commission members Agriculture and labor commissioner Math Dahl and Attorney general Elmo Christianson, voted no which left the spacing regulation at 40 acres.”³⁹ While the commission had denied Amerada’s 1952 request for an 80-acre spacing unit, it ultimately would approve the request in 1953. During the meeting commissioners also held conversations about changing the prorated amount of daily production from 200 BOPD to 400 BOPD. This proration schedule, which controls the amount of oil produced throughout the state in relation to market demand, accounted for North Dakota’s total production.

In addition to other requests, Laird called on the legislature for a unitization law. “By unitization,” Laird explained,

I mean a law which will allow the operation of a given oil pool, such as the Beaver Lodge Pool for example, as a unit. It would appear from the technical evidence now at hand that this is the most logical and efficient way in which oil and gas fields can be operated. It leads to the greatest ultimate production of oil and therefore, leads to the greatest amount of revenue for all concerned, drillers,

³⁷ *Bismarck Tribune*, February 20, 1952.

³⁸ *Bismarck Tribune*, November 23, 1951.

³⁹ *Fargo Forum*, March 15, 1952.

landowners, royalty and mineral owners as well. Quite frankly I have not time, I have no patience, with someone who wants to get immediate, quick returns, and by so doing sacrifices some of the oil which will be irreparably lost and never recovered.⁴⁰

Unitization was the pinnacle of conservation, but not everyone was on board. In order to gain more information and insight into unitization, Laird traveled to several oil-producing states to see how they handled development and what laws they had regarding unitization. Laird, upon his return, spoke with newspapers to inform the public about unitization and why, although thought unfair by many independent oilmen like Leach, Fruh, and Rudman, it was the most equitable way to handle production. In July of 1951, Laird was calling for a bill “giving the [commission] power to enforce unitization.”⁴¹ In Laird’s opinion it was the only way to insure sound conservation and the best way to eliminate the dangers of excessive drilling, violation of proration rules, and the waste of reservoir energy.

Hypothetically, in a 40-acre spacing unit, if four different companies owned leases in the spacing unit, the companies would have to get together, pool their interests, decide how the well would be drilled and operated, put up the money for operating expenses according to their proportionate interests in the pool, and share in any revenue on the same basis. A well is drilled on a 40-acre spacing unit, but one landowner owns 38 acres and has the well site on his property, while the other landowner has 2 acres. With unitization, the two-acre landowner would get 2/40 of the landowner’s 1/8th royalty, otherwise the landowner would be unable to drill on his two acres. Under unitization landowners do not have to participate in the operating expenses, unless

⁴⁰ *Fargo Forum*, April 27, 1952.

⁴¹ *Bismarck Tribune*, July 28, 1951.

they want to for a greater share of the well's production. Unitization is the most equitable way to drill an oil field. All that would remain is for the commission to designate an allowable for the field in order to control reservoir pressure. The operator would determine which wells within the field would produce to reach the allowable. When a well comes online, or begins production, it is allowed to produce as much oil as possible before given an allowable by the operator in the field in order to recoup some of the drilling expense.

Laird, having worked tirelessly to prepare for discovery and regulate the industry efficiently acknowledged problems created by the boom stating,

There are some problems before us in conservation matters in North Dakota. Specifically, I can refer to the fact that this is a very large boom. It has created problems of staff, and we are not as yet adequately staffed; new forms have to be devised, and put into use of the reporting of the various data required by our rules and regulations, and lastly and certainly not least, most of us dealing with the regulatory problems in North Dakota are unfamiliar with these problems. In other words, we have to learn just as many other people in the state are having to learn.”

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The survey, commission and legislature continued to learn and adapt to the continued transformation of their newest industry. The legislature, in an effort to stay as current and forward thinking as possible, passed legislation assuring its membership in the Interstate Compact to Conserve Oil and Gas on April 2, 1953.⁴³

⁴² *Fargo Forum*, April 27, 1952.

⁴³ *Fargo Forum*, January 10, 1954, 43.

Proration, or allowable, are two words that mean the same thing: what a well is allowed to produce during a given time period, usually a day, as expressed in BOPD. Most of Amerada's 1952 well production was not prorated, but the survey quickly moved to ensure overproduction did not become a problem. Prior to the Mandan refinery being built, and even after it began refining, North Dakota struggled with developing markets for its petroleum. The problem, a lack of markets, drove the allowable down from 400 to 200 BOPD, and later in the decade even further.

Initially the boom brought activity and economic benefit to every corner of the state; however, production was confined to the northwest corner, leaving many North Dakotans without any benefit. Laird recommended a severance tax that would tax each barrel of oil produced, but cautioned against excessive tax that would stifle development. State Senator Clyde Duffy, chairman of the oil subcommittee, in remarks to the *Fargo Forum* said,

Oil production will provide a source of taxation for the state. As some of you are well aware, I have already recommended to the Legislative Research Committee that we have a tax placed on oil production. By that I mean a tax placed on the oil as it comes out of the ground, not a tax on oil in place. This particular type of tax is known as a severance tax and is most efficiently used in other states, notably Oklahoma, Texas, Louisiana, and Mississippi. We must be careful, however, in taxation that we do not tax the oil excessively so that exploration and production of oil and gas will be discouraged. It must be remembered that a tax on oil does not necessarily mean extensive reduction in other taxes because the need for more public services brought on by the oil business will take proportionally more money. It should also be pointed out that as oil is a wasting resource, the tax

revenue derived therefrom should be placed in capital expenditures such as roads, schools, et., in so far as is possible. I personally would hate to see our state and local governments so dependent on oil revenue that any disturbance in economic or other conditions leading to a reduction in oil production and thus a reduction in tax revenue would cause serious interruption in essential public services.⁴⁴

The production tax, passed by the 1953 legislature taxed production at 4.25%. When a barrel of oil was produced, the price received for it at the well head, before being refined or transported, was taxed. The annual production of oil in 1954, the first year the tax was applied, was 6,024,947 bbls which, at an average of \$2.99 per barrel, amounted to nearly a million dollars in tax revenue. The distribution formula allowed that much of that money went to affected counties, while the rest went into the state's general fund. The trick, as the legislature learned repeatedly, was forecasting a volatile industry that was responsible for those funds accurately enough to ensure the state budget would operate properly, something far harder to do than first thought.

The petroleum industry, newly arrived in North Dakota, immediately set about developing relationships with the communities and governments in which it lived and worked. The communities, for their part, welcomed these newcomers in their homes, their institutions, and their families. The inclusion of so many outsiders into North Dakota communities may have been the result of the relative age of those communities. Tioga and Ray, founded in 1902, were barely fifty years old and filled with newcomers themselves when oil was discovered. The government sought to regulate the industry, protect the community, and through taxation benefit

⁴⁴ *Fargo Forum*, April 27, 1952.

the entire state. The press, through journals, magazines, and newspapers and other media, sought to educate, elucidate, and empower all three: industry, community, and government. From this was born a fully integrated petroleum industry. It was industry that barred minorities from participation and allowed women to participate in only the most rudimentary administrative positions. This exclusion was not the sole responsibility of the petroleum industry. There were no people of color in any of the movies, books, newspapers, or advertisements. Their absence was universal and complete. Women, however, who could educate themselves as geologists and find work during the war, were required by society to become housewives and secretaries once that war ended.

CHAPTER SEVEN: THE LONG, HARD PULL

At first glance the Standard Oil Company's 25 million-dollar Mandan refinery was a modern engineering marvel in 1954. Tanks appeared, as if suspended by stairs and pipe, with several tall and cylindrical and others short and squat. Nestled amongst them was a giant sphere: a vessel for distillation. Inside the powerhouse gauges, dials, blinking lights, buttons, buzzers, and valves dizzied the mind, all part of the process that turned crude oil into many different products like gasoline, kerosene, and heating oil. At night, the entire 900-acre site bathed the prairie and nearby Missouri river in a soft, warm glow from the fluorescent lights and gas flares. The refinery, built to process 30,000 BOPD, sat just off the newly built interstate highway 94. The dedication ceremony would be well attended and substantial.

The celebrations began Tuesday, September 28, when a group of 72 local high school seniors shadowed several Bismarck oil men for the day. Wednesday was designated Farm and Ranch Day, with a free breakfast served at the Mandan Memorial Building. Thursday was Family Day and included a lady's variety fair complete with tea service. Transportation Day, Friday, featured a mile-long "Parade of Progress" which began in Mandan and continued across the memorial bridge to Bismarck. The festivities culminated on October 2, 1954, with an early morning fly-in by the North Dakota Flying Farmers and Ranchers who performed an aerial salute. Those who had gathered to hear Governor Norman Brunsdale speak were an eclectic mix of industry executives and insiders, refinery employees, Bismarck-Mandan residents, farmers, politicians, and the curious.¹

¹ *Fargo Forum*, September 26, 1954.

The development of an integrated petroleum industry did much to assuage marketing pressures but provided only temporary relief. Soon production outstripped demand, leaving the industry searching ever further for markets for the basin's oil. The industry, in order to justify additional pipelines to distant markets, continued to explore for and produce more oil than it could sell while continuing to search for additional reserves.

The industry, while attempting to develop the Williston Basin, also imported ever-increasing amounts of cheap foreign oil from the Middle East, sabotaging its own national efforts – leading, in 1966, to a decline in both exploration and production.² During the discovery the communities within the basin quickly adapted, prospered, and grew while communities outside of the basin experienced little or no changes in their daily lives. Government leaders, including the legislature, commission, and survey, adopted a laissez faire attitude toward the industry, relying heavily on the industry to police itself while making only minor adjustments to legislation in 1954 and 1965.

By the end of 1966, the discovery boom began to wane, but did not end. Exploration and development continued, but at a much slower rate, drilling a limited number of wells each year. Developments in the Middle East, where production had increased from 1.1 million BOPD to 18.2 million BOPD, produced a global oil glut, suppressing price and exploration in North Dakota.³ The industry's hope for new markets, capable of producing increases in exploration and production, failed to materialize, leaving North Dakota's petroleum industry to wither on the vine. North Dakota's remoteness from markets continued to force producers to sell oil at a reduced price to cover transportation to distant markets. Moreover, the state's population

² *Bismarck Tribune*, May 12, 1953.

³ Yergen, *The Prize*, 482.

continued to fall decreasing demand for petroleum products. The state's petroleum industry, after fifteen years of development, slowed to a crawl ending the discovery boom.

Problems associated with North Dakota's petroleum markets were expected and explained by John Casper as the "paradox of production."⁴ The paradox of production is explained as such, "The first crude finds a market because it is produced in small quantity. Then production builds up beyond the ability of the immediate market to absorb it, but not yet large enough to justify installation of a pipeline or a refinery. So, production is curtailed while development continues."⁵ This explains why wells, capable of producing in excess of 400 BOPD when discovered, were only allowed to produce 20 or 30 BOPD through most of the period. It was expected that producers could not sell all they could produce initially, but it was hoped that at some point distant markets outside the basin would be developed and a pipeline would be built to those markets. Without such a pipeline, the high cost of railroad tank car transportation forced down the well price of basin crude oil. This was not, however, just a matter of having a new field. North Dakota was remote and its population small. Not only did North Dakota suffer from the paradox of production it suffered from remoteness and outmigration. Remoteness from available markets, combined with an ever-decreasing population, created little demand for petroleum products in the region. Campbell writes, "Small populations offer no concentrated market; they are remote from the urban concentrations that consume a large part of the nation's product."⁶ Crude oil prices in the basin, because of a lack of markets, had to be discounted. Crude from the Tioga and Beaver Lodge fields sold for two dollars a barrel, while a barrel of oil outside the basin would fetch two dollars and sixty-five cents to two dollars and

⁴ John C. Casper, "Moving and Refining Williston Basin's Oil," *Oil and Gas Journal*, 1952.

⁵ Casper, "Moving".

⁶ Casper, "Moving."

eighty-five cents a barrel.⁷ Prior to the building of Standard's refinery basin oil found its way to sporadic and distant markets that included Spokane, Washington; Sheboygan, Wisconsin; Whiting, Indiana; St. Paul, Minnesota; and Canada.⁸

Marketing fears eased temporarily when North Dakota's three refineries were brought online in 1954. An analysis of the state's production, compiled by the survey, can serve to illustrate the marketing problem. At the end of 1954, there were 446 wells producing 6,024,947 barrels (bbls).⁹ In 1955, with three refineries, a gas plant, and hundreds of miles of pipeline in operation, the basin's annual production rose to 11,183,607 bbls produced from 614 wells. Each well's allowable was increased from thirty-seven BOPD to fifty BOPD, an increase of thirteen. The daily allowable, set in direct relation to the market demand for crude, was set by the commission monthly and equaled the 37,000 BOPD capacity of the refineries. After several more years of exploration and production increased, the state produced, in 1957, 12,755,580 bbls -- an increase of 1,571,973 bbls -- however, the allowable fell from fifty BOPD to forty-four BOPD due to a diminished market. The matter only grew worse, and by 1960 the allowable had fallen to seven BOPD. This was a direct result of the supply of oil being greater than the demand and the basin's lack of any additional markets.

Pipeline service companies would not invest millions of dollars if they could not be assured proven reserves existed and could sustain production at a rate high enough to realize a return on their investment.¹⁰ In order to justify this expenditure the state would have to produce in excess of 60,000 BOPD, which was equal to the local demand for petroleum products in North

⁷ Allen Doerr, "Good Marketing Means Still Years Away for Williston Basin Crude Oil," *Bismarck Tribune*, December 9, 1952.

⁸ Doerr, "Good Marketing".

⁹ North Dakota Annual Oil Production, accessed January 24, 2022, <https://www.dmr.nd.gov/oilgas/stats/AnnualProd.PDF>.

¹⁰ Casper, "Moving."

and South Dakota.¹¹ Casper analyzed every conceivable route a pipeline could transport crude out of the basin. Eastern markets in Chicago and Saint Louis, northern markets in Wisconsin and Michigan, northwestern markets in Oregon and Washington, all proved too distant and consequently too expensive to justify pipeline construction. The result, as Kemler and Lacabanne note, was that exploration would be diminished.¹² As the cost of exploration in deeper portions of the basin grew, the number of rigs working the basin fell.

In 1960, according to the *Grand Forks Herald*, the basin was experiencing “growing pains,” having outstripped market demand.¹³ The *Herald* reported that well numbers continued to increase, but allowables fell inversely. Soon, exploration slowed, because those exploring knew that if they discovered any new oil, they would not be able to recoup their investment through production. First exploration slowed, then so did production. After reaching an annual production record of 27,122,483 bbls from 1,826 wells in 1966, North Dakota’s production continued to decrease annually. Production continued to decline until 1974 when it reached 19,658,695 bbls from 1,502 wells. The number of wells in North Dakota by 1974 had fallen to 524.¹⁴ The marketing problem, associated with North Dakota’s remoteness and population, proved chronic and lasting. Those working in the industry, however, were not the only ones to suffer due to lower production numbers. Communities in and out of the basin felt the ramifications of the slow down.

Initially, the small farming communities of the basin, plunged into circumstance beyond their control, rose to the occasion, overcame obstacles, and prospered with their new neighbors

¹¹ Casper, “Moving.”

¹² Kemler, *The Williston Basin*, 5.

¹³ *Grand Forks Herald*, January 24, 1960.

¹⁴ North Dakota Annual Oil Production, accessed January 24, 2022, <https://www.dmr.nd.gov/oilgas/stats/AnnualProd.PDF>.

to form cohesive communities. In order to accommodate a diverse population, the basin's cities moved quickly to build new hospitals, schoolhouses, roads, and water supply and treatment systems. Unfortunately, despite the tremendous growth and prosperity in the basin, those who lived outside of it were unable to participate in the promised benefits of the new industry. Industry advocates like the North Dakota Petroleum Council, several authors, and state taxing agencies claimed that all North Dakotans would experience an increase in their standard of living, but those claims never came to fruition. As drilling slowed, people began to leave the state, and production revenues began to fall, counties and communities in the basin, who relied on that revenue, began the return to their quiet former selves. Crowded streets, cafes, and courthouses retreated, having been nearly overrun, their resources depleted, their roads and bridges damaged, and their culture forever altered.

Those in Bismarck, Mandan, and the basin experienced an increase in their standard of living that was the envy of the rest of the state. Benefits derived from an industry that took great pride in the life it provided communities in which it worked. But not everyone, in or out of the basin, was able to participate. No comprehensive study of the period exists, but there were several projects that documented portions of the activity going on within the basin. The University of North Dakota produced a social science research project titled *The Williston Report: The Impact of Oil on the Williston Area of North Dakota*. Professors in Sociology, Economics, Political Science, and Geography used data compiled from 1951 to 1954 to analyze a portion of the basin that encompassed portions of Williams and Ward counties, including the cities of Williston, Tioga, Ray, and Stanley.

The authors asserted that to landowners like Clarence and Math Iverson, whose property produced oil, the industry meant an increased standard of living and "increased wealth and

opportunity,” but to others unable to participate the development, it “yielded little more than bitterness.” Residents who had been born, raised, and lived within the basin’s communities sometimes found themselves minorities in their own towns.¹⁵

Prior to discovery North Dakota’s economy was one that relied predominately on agriculture. An agricultural economy offered income levels lower and more unstable than economies diversified with manufacturing. Furthermore, as it relates to agriculture, Kelley concluded, North Dakota, experienced “a low wage structure, persistent underemployment and standards of living that [were] not in accord with the dynamic growth present in other areas of the national economy.”¹⁶ It is no wonder there was bitterness.

The Williston Report concluded that farm families enjoyed supplemental income from leases and selling mineral rights, and for a very small number of people, through royalty payments. The study claimed, “This supplementary income permitted the repayment of mortgage obligations on farmland, the purchase of new farm equipment, and general farm improvements. In many cases it provided the capital outlay necessary to eliminate the farm from sub marginal status.” Additionally, for those living in or near the basin, discovery “provided additional job opportunities directly and indirectly.”¹⁷ But for how long? The study was simply a snapshot of basin life the early 1950s. The boom benefited some, but not all in the short run, and few in the long run. Census data shows the problem of outmigration continued long after oil development subsided, and the number of farms in the state continued to decline. By 1960, the state’s population had grown to 632,446, but by 1970 it had fallen to 610,648.¹⁸ The population

¹⁵ Campbell, *The Williston Report*, 10.

¹⁶ Campbell, *The Williston Report*, 96.

¹⁷ Campbell, *The Williston Report*, 18.

¹⁸ United States Census Bureau, accessed 12/3/2020, <https://www.census.gov/data.html>.

in Williams County grew from 16,402 in 1950 to 22,051 in 1960. However, in Emmons county, for example, the population over the same period declined from 9,694 to 8,462.

In 1958 a professor at Valley City's Normal School, William M. Wemett, published *Oil in North Dakota*. Wemett made several assertions about North Dakota's supposedly inevitable prosperity. First, he believed the petroleum industry would "stabilize the state's economy." While many in North Dakota's government and at the petroleum council hoped this were true, the economy never came close to stabilizing. Despite the oil boom, federal spending on the Garrison Dam, and the two Air Force bases in Grand Forks and Minot, the state's population continued to decline. Considering, as Elwin Robinson pointed out, "probably 2/3rds of all farms earned net incomes too low to give adequate return for the labor and capital invested," it is not surprising that population fell in 66 percent of towns in 38 of the 53 counties in the 1950s.¹⁹

Second, Wemett argued there would be an increase in the value of real estate in the western half of the state. There may have been an increase in some areas, but as Robinson noted in 1956, "Net farm prices had suffered a disastrous decline."²⁰ North Dakotans were leaving their farms. From 1950 to 1960, the state lost 18,629 farms.²¹ In fact, Robinson wrote, "Many small farms disappeared." The average size increased from 590 acres to 755 acres in what has come to be known as the dynamic of consolidation.

Third, Wemett believed that there would be an increase in income from taxes paid to the state and counties from leases, rentals, royalties, and real estate taxes. Campbell reported that by 1954 approximately 67 percent of North Dakota's acreage was under lease, leaving 33 percent of

¹⁹ Robinson, *History of North Dakota*, 443.

²⁰ Robinson, *History of North Dakota*, 452.

²¹ U.S. Bureau of the Census. U.S. Census of Agriculture: 1959. Vol. I, Counties, Part 18 North Dakota. U.S. Government Printing Office, Washington, D.C., 1960.

the state, and thus many farmers, unable or unwilling to sign a lease.²² By 1966, said Wemett, “all but five of the state’s 53 counties” participated in the economic benefit of the petroleum industry.²³ These were benefits, it should be pointed out, that were only realized in the short term. Were a landowner paid \$2 per acre on a 4-year lease of 160 acres, he would have received annual payments of \$320 dollars. If no well was drilled and the lease expired, that is the only benefit he would have received. Whether he made a mortgage payment, bought a new piece of equipment, or paid off some debt, it was a one-time opportunity. Few landowners were able to lease multiple times over the decade-and-a-half the basin saw activity. That an increase in taxes was paid to the state is indisputable, but what, if any, impact did that income have on counties outside the basin? None! There is no data that would suggest that of the counties not in the basin, their tax revenues increased because of the basin’s activity.

Fourth, Wemett asserted there would be a general increase in prosperity that would be reflected in better schools, roads, and other essential services. Again, while this general increase was seen in the basin, such as new hospitals in Tioga and Williston, many portions of the state saw no, or few changes to prosperity. The Garrison Dam and the building of the Air Force bases at Minot and Grand Forks notwithstanding, most citizens of the state saw no increases in prosperity from activity in the Williston basin.

Fifth, Wemett believed that more employment would be offered to college graduates seeking careers as geologists, engineers, chemists, mechanics, and stenographers. This may be the only assertion Wemett made that had merit. Jobs in the petroleum industry were plenty, but the prospective employee had to move to the basin, as there was little job growth outside the

²² Campbell, *Williston Report*, 103.

²³ *Bismarck Tribune*, August 15, 1966.

area. Amerada, in 1961, boasted 85% of its North Dakota work force were North Dakotans.”²⁴

There were also jobs available at the Mandan refinery, or with one of the many firms headquartered in Bismarck, but in Ellendale, Carrington, or Medina, opportunity remained scarce.

Sixth, Wemett thought that many new industries dependent upon petroleum products would develop. Many had hoped this would come to fruition, but it did not materialize. North Dakota boasted refineries in Williston and Mandan and a gas plant at Tioga. There had been a refinery in Dickinson, but financial difficulty forced it to close two years after opening. Leach, who had been working to develop several industries reliant on petroleum, worked to create a wood stain company, but plans were dropped. As discussed earlier, North Dakota was remote, and had a small population which made it hard for any industry to locate in the state.

Finally, Wemett concluded, an increased standard of living and improved type of life would become available to North Dakotans; he concluded, “Surely, the added income from oil is bound to furnish the great majority of our people with a springboard to greater opportunities and finer living.”²⁵ “The great majority” was a bit optimistic.

Dominic Schaff, in his master’s thesis, agreed with Wemett, writing, “While oil has made only a few men rich in North Dakota, it has generally bettered the standards of living for most others.”²⁶ However, “most others” was limited to those within or near the Williston basin, for outside the basin, throughout the remainder of the state, little changed. Schaff concedes, “Obviously the greatest effects of the oil industry would be in the impact areas.”²⁷

²⁴ *Fargo Forum*, April 2, 1961.

²⁵ Wemett, *Oil in North Dakota*, 5.

²⁶ Schaff, “History,” 114.

²⁷ Schaff, “History,” 114.

Of the several publications on life in the basin nothing was published on life outside the basin. The standard of living so touted by Schaff, and Wemett failed to materialize outside of the basin. How were things going in Emmons, Logan, or McIntosh counties? What was going on in Pembina, Richland, or Trail counties? Robinson wrote, “Throughout the state only those counties with large towns or oil wells grew.”²⁸ Towns like Grand Forks, Fargo, Valley City, and Jamestown grew as North Dakotans fled the countryside in search of employment, but those who remained behind saw little if any benefit from the petroleum industry.

In Bismarck, where many of the industries chose to headquarter their operations, one man continued to work tirelessly on behalf of the industry and the state he now called home: Leach. The discovery of oil in 1951 changed the lives of the Leachs forever. Newspapers and journals from around the country printed stories of the discovery, and Leach was interviewed for many of these articles, even writing one with the help of *Fargo Forum* newsman Lloyd Sveen. Sveen had sought out Leach for comment on a story and the two became friends. Sveen was a regular visitor to Leach’s Towner ranch, and Leach was a contributor to Sveen’s reports on the oil industry. Leach’s article for the *Fargo Forum* titled “Bonuses Vary From \$1,075 to \$1 An Acre,” was published on January 4, 1953.

Speaking in April 1953 to the North Dakota Geological Society in Bismarck, Roger D. Dennison, Vice President of Amerada, said, “If it weren’t for Tom Leach’s persistence in warning us about the Williston Basin, we’d never have been up there.”²⁹ North Dakota’s Senator, Milton R. Young, wrote Leach in 1953, “You are to be commended for your great achievements, Tom. I recall visiting with you years ago on oil possibilities in North Dakota.

²⁸ Robinson, *History of North Dakota*, 443.

²⁹ *Williston Basin Oil Review*, April 1953, 8.

You were about the only one I knew at the time who had any enthusiasm at all about finding oil out there. Your faith and persistence, fortified by your keen judgment as a geologist certainly has borne fruit and I am very happy for you.”³⁰

The Leach & Fruh partnership had purchased a ranch near Stanton, North Dakota, in the late 1940s. Leach had always wanted to be a rancher and raise cattle, but when the partnership dissolved, the ranch was sold. In the process Leach met a young Hereford rancher and real estate agent from Steele, North Dakota, John M. Kelsch. Kelsch was a former president of the North Dakota Hereford Association.³¹ Kelsch made an impression on Leach, and shortly after oil was discovered at Tioga, Leach offered Kelsch an equal share in a partnership that included the purchase of a ranch near Towner, North Dakota. Leach and Kelsch enjoyed their Hereford ranch, and while Kelsch handled the daily ranch business, Leach worked from Bismarck on the oil business.

Having a handful of companies, Leach decided to organize North American Royalties, NAR. On July 9, 1952, the properties previously held by the Rican Corporation, United Properties, Incorporated, Northwest Investment Company, Leach & Kelsch, Leach, and his wife Frances were formed into North Dakota’s first publicly traded company. The company and its subsidiary, Missouri Valley Minerals, Incorporated, now owned 86,300 mineral acres and royalties in about 490,573 acres of land, much of which was in the Beaver Lodge and Tioga fields.

By 1953 Leach and NAR had seventeen producing properties in the Beaver Lodge and Tioga fields and his reputation continued to grow. Fellow geologists and business associates

³⁰ Milton R. Young to Thomas W. Leach, April 14, 1953, Leach Papers.

³¹ *Bismarck Tribune*, March 18, 1953.

often relied on him for information. In a 1955 letter A. C. Regan, vice president of First National Bank of Minneapolis, wrote, “I have the feeling that you probably know more about this oil business than anybody in the area.”³²

In 1957 NAR under Leach’s direction opened a new field with the No. 1 Kalanek well. The well opened an asphaltic-based oil pool in Stark County.³³ Leach continued searching for oil, providing appraisals, and raising Hereford cattle until he suffered a heart attack en route to Bismarck, which led to his death on September 7, 1966, at the age of 70. The *Fargo Forum* ran a small article after his death which summed up what so many thought,

Tom Leach was quiet and unassuming. He was the last to claim credit for his vision and faith. Fortunately, he lived to see his predictions come true as an integrated oil industry gave the state a valuable economic supplement to its agricultural base. History will rank Tom Leach with the builders of North Dakota.”

The Leach’s live on through their creation, in 1955, of the Thomas and Francis Leach Foundation. The foundation awards grants to charitable organizations in support of the arts and humanities, education, human services, medical sciences, and health and social sciences. Their legacy is alive and active in the state.³⁴ In 2013, the foundation awarded the North Dakota Heritage Center a gift of \$600,000 to aid in an expansion. There are many men and women who deserve praise for their involvement during this period of North Dakota’s history, too many for this installment.

³² A.C. Regan to Thomas W. Leach, October 20, 1955, Leach Papers.

³³ *Bismarck Tribune*, August 29, 1957.

³⁴ Leach Foundation, accessed September 12, 2020, <https://www.leachfoundation.org>.

North Dakota's governmental institutions -- the legislature, the commission, and the survey -- put forward three consequential pieces of legislation during this period. First, the production tax, a product of the 1953 legislative session, was a 5% tax on the production of petroleum. Second, the state created the Fiscal Management Division in 1965 "for the purpose of promoting economy and efficiency in the fiscal management of the state government."³⁵ Specifically, this state agency is responsible for the preparation of state revenue forecasts, forecasts based on the production tax. Finally, unitization, passed in 1966. Unitization was the result of relentless efforts by Laird, who felt it necessary for the conservation of petroleum as a national resource.

The production tax was divided up amongst the state and the four affected basin counties of Williams, McKenzie, Mountrail, and Bottineau. The legislation directed that the first \$200,000 collected annually be divided 75/25, first to the counties and then to the state's general fund. The next \$200,000 would be split 50/50. Remaining collections would be split 75/25, first to the state's general fund and then to the counties. Of those funds delivered to the counties, forty percent was required to be spent on county roads and bridges, forty percent on school districts, and the remaining fifteen percent would be divided on a per capita basis among cities, towns, and villages.³⁶ When Governor Davis, elected in 1957, was asked about the production tax's fairness, he replied,

Since July 1, 1953, when our gross production tax was first assessed, we have collected considerably more than \$6,000,000 in taxes from this source alone. Of this sum, \$3,329,436 has been returned to the producing counties where the funds

³⁵ North Dakota Geologic Survey, Biennial Report, accessed 3/13/2020, <https://www.nd.gov/omb/sites/omb/files/documents/omb/biennial-report-2017-2019.pdf>.

³⁶ *Williston Basin Oil Review*, April 1952, 9.

have been used for roads and schools. Slightly more, 3,421,506 has gone into the state general fund. In summing up, North Dakota has a gross income of more than \$50,000,000 from oil each year – this is our gross production computed at the current well head price of crude.³⁷

In 1966, at the height of production, North Dakota produced 27,122,483 BBS, at an average price of \$3.10, creating revenue of approximately \$4,204,000.³⁸ The problem then, as now, is how does a legislative body predict the price of a commodity as volatile as petroleum, in order to develop a budget that must remain static for two years? The answer, as the state is often reminded, is that it is not easy. The state became accustomed to the additional and growing revenue generated over the first fifteen years of production. Laird had warned in 1952, that he, “would hate to see our state and local governments so dependent on oil revenue that . . . a reduction in tax revenue would cause serious interruption in essential public services.”³⁹

When production decreased, or when the price of oil fell, adjustments to the budget had to be made. This called for accurate forecasts, something that would elude the state indefinitely. The revenue forecasts were initially prepared by the State Budget Board, but the forecasts proved problematic, and so, beginning in the 1990s, responsibility for the forecasts was handed over to Moody’s. According to the Office of Management and Budget (OMB), “Moody’s and its predecessor companies have been involved in projecting state revenues since at least the early 1990s. In the 1950s and 1960s the State Budget Board was responsible for recommending budget and revenue estimates. OMB does not have information on the sources of revenue estimates used

³⁷ *Connecting Rod*, June 1954, 4-7.

³⁸ North Dakota Production Statistics, and Inflation Data, accessed 3/13/2020, <https://inflationdata.com/articles/inflation-adjusted-prices/historical-crude-oil-prices-table>.

³⁹ *Fargo Forum*, April 27, 1952.

by the State Budget Board.”⁴⁰ How the State Budget Board prepared their analysis of the markets and forecast the budget is not clear, as those records are apparently lost to time, but suffice to say they were doing the kind of job that required their replacement. Moody’s analysis of sweet crude oil prices and production, along with analysis of North Dakota’s major crop and livestock markets, are used for the forecasting process. This will be addressed further in the coming chapters.

As early as April 1952, Laird began calling for compulsory unitization, but could never get legislation signed into law, because, he argued, special interests such as independent producers and royalty owners in the industry did not want unitization. The 1965 Legislature amended North Dakota’s oil and gas laws to permit 80 percent of the leasehold interest to pool these interests in the development of a field. Prior to this, only voluntary unitization was possible and a single objector – there might be hundreds with mineral or other interests – could block unitization. Commission members in 1966 included Governor William L. Guy, Attorney General Helgi Johanneson, and Agriculture and Labor Commissioner Arne Dahl. State Geologist Dr. Wilson M. Laird acted as supervisor and was charged with enforcement of regulatory laws which control oil and gas development in the state.⁴¹

Since the 1965 amendment permitting compulsory unitization became law, approximately 14 oil fields in North Dakota have unitized. These fields are located primarily on the Nesson Anticline in northwestern North Dakota, but also include fields in McKenzie and Burke Counties and one in Bottineau County on the east side of the Williston basin production.

⁴⁰ Legislative council at ND.gov in response to email inquiry Friday March 13, 2020.

⁴¹ *Bismarck Tribune*, August 15, 1966.

In 1953, Will Hertz, *Minneapolis Sunday Tribune* writer, noted, “The Williston Basin settled down to the long, hard pull of developing its new mineral wealth.⁴² The long, hard pull, as it turned out, was much longer and harder than Hertz could have imagined. The industry, while attempting to develop the basin as America’s newest oil province, simultaneously brought in ever increasing amounts of cheaper foreign oil, sabotaging their own efforts nationally. Yergin notes, “Between 1960 and 1969, the market price for oil fell by 36 cents a barrel, a drop of 22 percent.”⁴³ The communities of the basin, now addicted to the revenue produced from petroleum, had to find how to do more with less. As production slowed in the late 1960s, the population declined, employment declined, and tax revenues declined. While some North Dakotans would have to learn to make do with less, even more never knew what abundance was as the state continued to lose population. In the end, North Dakota’s governmental institutions developed an enviable bureaucracy capable of overseeing an industry that found itself in decline. By 1966, the state’s production peaked, thereafter diminishing production, and exploration slowed to a standstill. Foreign oil, cheaper to produce, replaced domestic stocks at an alarming rate, and as many in the industry lamented the US would rue the day, they relinquished control over production, to those who would use oil as a weapon against them.

The *Fargo Forum* reported, “The boom came to an inevitable end when the major fields on the Nesson Anticline were drilled out and the oil play turned from exploration to production. Drilling contractors and their rigs moved on to other oil areas, but oil field service establishments remained at Williston and Tioga. The boom was gone, but not busted.”⁴⁴

⁴² *Minneapolis Sunday Tribune*, October 18, 1953.

⁴³ Yergin, *The Prize*, 511.

⁴⁴ *Fargo Forum*, October 24, 1971.

CHAPTER EIGHT: OPEC AND THE ENERGY CRISIS

On March 17, 1951, less than a month before Amerada discovered oil on Clarence Iverson's farm, the Iranian government nationalized its petroleum industry. Iran had seized control of production from England's Anglo-Iranian Company, a fifty-one percent owner since 1914. In response, an embargo ensued. England along with the US and other European powers blocked Iranian oil from international markets. This blockade quickly forced Iran to make concessions. The result was the Consortium for Iran, a cartel consisting of the Anglo-Iranian Oil Company, Royal Dutch Shell, Standard Oil Company of California, Gulf Oil, Texaco, Standard Oil Company of New Jersey, and Standard Oil Company of New York.¹ The cartel, popularly referred to as the Seven Sisters, would control not only Iran's oil, but 85% of the world's oil production. That is, until the formation, of the Organization of the Petroleum Exporting Countries, OPEC, in 1960.

It was the dawn of a new era in the petroleum industry when OPEC's charter members -- Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela -- held their first meeting in Baghdad, Iraq, from September 10-14, 1960. OPEC's intent was to control price through a reduction in production, something the United States had been doing since the 1930s. Early attempts at this by OPEC had failed because the United States, specifically Texas, had historically been able to increase production to stave off OPEC's attempts to increase price. OPEC's failures, however, proved temporary, as global petroleum markets continued their transformation. The transformation of petroleum markets had several factors that contributed to the rise of OPEC and the supply shocks of the 1970s. These factors are too numerous and complex to discuss here, but

¹ The Anglo-Iranian Oil Company became British Petroleum, and is now referred to as BP. Royal Dutch Shell is now simply Shell. Standard Oil Company of California, Gulf Oil, and Texaco is now Chevron USA. Standard Oil Company of New Jersey and Standard Oil Company of New York is now Exxon.

Yergin does a remarkable job identifying these factors over several chapters of his work, *The Prize*.

Consumers in the United States led a global increase in demand for petroleum products while domestically members of the Seven Sisters decreased exploration and production. The energy policy established by the United States in the 1930s, to reign in overproduction through prorationing, forced investment by the Seven Sisters in foreign exploration rather than domestically. This allowed the Standard oil companies of California, New Jersey, and New York, as well as Gulf, and Texaco, to invest heavily in the Middle East where production was not limited by the government's intervention in markets. Remember that production was limited in the United States by demand, the result of the Seven Sisters importing oil from the Middle East, which forced smaller independent producers to share an ever-shrinking piece of regulated production. Without revenue from the sale of production these smaller, independent companies, many of whom were active in the basin, saw their exploration efforts severely hampered.

In the basin oil imports slowed but did not stop exploration. The energy policy of the United States, and the global transformation of the petroleum industry began to have a negative impact on large and independent companies working in the basin, and many ceased activities. Contrary to decades of assertions by reporters in local and national press coverage, there was no bust to mark the end of the discovery boom. Instead, the industry continued to explore for and discover new supplies of oil into the 1980s. During this period the industry saw little, but significant change. Supply shocks of the 1970s led to increased prices and with the discovery of the Little Knife field by Gulf Oil in 1976, an increase in leasing activity within the basin kicked off a lease play generally referred to as North Dakota's second boom. However, approximately one third of these leases, taken in 1976, matured in 1981. As oil prices began to fall in the spring

of 1982, companies again began leaving the basin. This exodus, the first in 1982, the second and deeper bust in 1986, devastated North Dakota's oil industry, communities, and government.

Pressure from imported oil on domestic markets did not arise because of OPEC, but rather because of the Seven Sisters' imports and the United States government's intervention in domestic markets. Independent oil producers in the United States, and those working in the basin, complained about the effects of imports on domestic prices as early as the 1950s. The *Bismarck Tribune* reported, "As the volume of imports grew, conservation bodies in such major oil producing states as Texas and Oklahoma ordered cuts in domestic production. There were angry cries from independent oil producers whose incomes depend[ed] solely on domestic operations."² The report concluded,

Recent months have brought evidence of the crippling effects of unrestrained imports. Prices are inadequate in the face of higher costs. Production rates are being forced downward. Tax revenues and the economy in the oil producing states are being adversely affected. Drilling activity has slowed down.³

When asked about the veracity of the claims against imported oil, Eugene Helman, president of Standard Oil of New Jersey, a Seven Sisters member, predictably and emphatically denied the allegation. Members of the Seven Sisters could only increase their revenue by importing oil, which, because of their relative size, displaced the production of independent producers. Independent producers like Rudman, Leach, and Goldman could drill several wells, but only produce a finite amount of oil each day. For every well they brought online, the oil

² *Bismarck Tribune*, May 12, 1953.

³ *Bismarck Tribune*, May 12, 1953.

produced from all other wells had to be reduced to enforce prorationing. The return to investors continued to fall, prompting many, but not all, to leave oil exploration for better opportunities.

The United States, in 1951, produced roughly one third of global oil production and exported 156 MBOPD. By 1965, global markets flipped as the Middle East's production outpaced that of the United States. In her work *Panic at the Pump*, Meg Jacobs delivers some stark statistics writing, "While Americans made up only 6 percent of the world population, they consumed one-third of its energy."⁴ Consumption which was the product of the automobile industry. Jacobs continues, "Since World War II, the number of cars had risen from 34 million to 118 million."⁵ In North Dakota, production peaked in 1966, when 1,826 wells produced 27 MBBLs annually. By 1974, that number had fallen by over 7 MBBLs to 19.5 MBBLs annually. It was predictable; according to Yergin, the number of rigs exploring for oil in the United States had decreased steadily since the mid-1950s, reaching its lowest point in 1971.⁶

As the United States continued to increase imports it became a matter of necessity, rather than choice. In the past Texas, when asked, had always been capable of increasing its production to ward off increases in price. Whether during wartime, or to thwart OPEC's attempts to raise prices through a reduction in production, Texas had always been able to rise to the occasion. However, in March of 1971, alarms sounded. The Texas Railroad Commission removed production restrictions by eliminating prorationing.⁷ As demand for petroleum products like heating oil continued to climb, chronic shortages began to emerge in the late 1960s, prompting discussions by Nixon's administration. While Americans discussed how government could best

⁴ Meg Jacobs, *Panic at the Pump* (New York: Hill and Wang, 2016), 29.

⁵ Jacobs, *Panic at the Pump*, 29.

⁶ Yergin, *The Prize*, 571.

⁷ Yergin, *The Prize*, 549.

help deal with the evolving “energy crisis” it became complex and nearly undecipherable.⁸

There is not enough room in this discussion of North Dakota’s petroleum history to deal with the national energy crisis, or the global supply shocks of the 1970s, but Jacobs does a remarkable job explaining it in detail in her work. The crisis, created by government intervention in the free market by restricting production, and an increasing necessity of importing oil, was that investors had stopped financing domestic exploration. The result was growing amounts of cheap foreign oil, which caused a notable and troublesome reduction in natural gas. The global appetite for oil was insatiable and growing and the United States led all nations in demand. Imports, largely from the Middle East, grew from 2.2 MBBLS daily in 1967 to 3.4 MBBLS in 1970, and then to 6.2 MBBLS in 1973.⁹ An astonishing two thirds of the United States daily oil consumption was supplied by the Middle East.¹⁰

North Dakota, experiencing slowed exploration, falling prices, and a continued lack of access to markets, trudged on through the late 1960s and early 1970s, sporadically opening new oil fields in several basin locations. Between 1960 and 1969, most drilling was in defined fields, and not wildcats, although the Red River formation in Bowman County opened seven new fields between 1958 and 1972.¹¹ During the 1970s, there were over a dozen fields discovered in Bottineau, Burke, Divide, Renville, and Williams counties. In 1970 and 1971, there were 316 wells drilled, of which 176 were wildcat wells that discovered ten new oil fields.¹² By 1972 as few as nine rigs worked the basin drilling 103 wells for oil that sold for as little as \$4 a barrel.

⁸ Yergin, *The Prize*, 572.

⁹ Yergin, *The Prize*, 573.

¹⁰ Yergin, *The Prize*, 550.

¹¹ Lee C. Gerhard, and Sidney B. Anderson, *Oil Exploration and Development in the North Dakota Williston Basin*, (Grand Forks: North Dakota Geological Survey, 1979), 1; *The Williston Basin – 1980*, (Petroleum Information Corporation 1980), 66.

¹² *The Williston Basin – 1980*, (Petroleum Information Corporation, 1980), 67.

Among these 103 wells was the discovery well at Red Wing Creek field in McKenzie County. The well brought renewed interest in the basin, and by 1975, production in North Dakota began once again to climb.¹³ Production grew to 20.5 MBBLs in 1975, from an additional forty-four wells and the drilling of new wells continued as companies increasingly returned to the basin. In 1976 Gulf Oil discovered the Little Knife field in Dunn County, North Dakota. Gulf's well drew the attention of the majors including Amoco, formerly Standard Oil of Indiana. It is this well that is often credited with starting North Dakota's second boom, but while it did create a land play, drilling activity remained steady until 1980, when, faced with expiring leases, the number of wells drilled grew dramatically, reaching a high of 832 in 1981. Independent drillers were also active. Men like Golden and Land continued to search for oil in several basin counties. Unfortunately for these two men, the seven wells they drilled between 1984 and 1990, were all dry holes.¹⁴

North Dakota's second oil boom was, according to Wes Norton, director of the Oil and Gas Division of the Industrial Commission, a price boom, i.e., the increased price of a barrel of oil caused an increase in activity, not just in the Williston basin, but throughout the United States.¹⁵ Or was it? Neil Allen, production supervisor at Amoco, believed the renewed interest in exploration and development of the basin was the result of free market economics as the industry worked its way through deregulation by the Reagan administration.¹⁶ Still others associated the increased activity with the success of wildcat drilling. Nationally that ratio was

¹³ Gerhard, *Oil Exploration*, 1.

¹⁴ Unknown author, *A Brief History of North Dakota Oil Production*, accessed 6/28/2020, <https://northdakotaoil.wordpress.com>.

¹⁵ Unknown author, *A Brief History*.

¹⁶ *Williston Basin Oil Reporter*, March 17, 1982, 9.

eleven percent, but in the basin, wildcats struck oil thirty-four percent of the time, lowering the risk of a dry hole significantly.

Having reviewed the well drilling statistics it would appear the reason was closer to that of Golden, who believed it was the conclusion of lease terms, usually five years, that created the boom. Leaseholders eager to hold their leases with production, pulled out all stops to get those leases drilled before they expired, creating a frenzy of activity into the fall of 1981.¹⁷ Well completions went from the 200s in the late 1970s, to almost 600 in 1980, and near 800 in 1981. Well completions continued at a high pace after the bust of 1982, as companies drilled out their held leases lowering significantly after 1985.¹⁸ It is quite possible that instead of a second boom created by price, it was merely an expansion or resurgence of exploration once governmental barriers were removed up to and until the leaseholds were drilled. There were never zero rigs working in the basin, nor was there a bust in the late 1960s. Exploration slowed, but did not stop. It was these factors, ironically, that would also bring an end to exploration in March of 1982. As the free oil market led to lower and lower oil prices, and lease terms expired activity slowed abruptly.

Regardless of what caused the increased activity, the industry quickly returned to the basin, an industry that was little different from the one that arrived in 1951. The basin, since discovery, experienced problems associated with marketing oil. The basin's production was far from the necessary refining capacity capable of handling excess production. Without access to a pipeline, producers were forced to transport their oil to distant refinery markets via railroad systems. This led to the basin's oil being discounted, sometimes as by as much as \$4 dollars per

¹⁷Sheldon Green, "Booming Giant," *Horizons* (Fargo: The Greater North Dakota Association) Fall 1981.

¹⁸Drilling Statistics, accessed April 27, 2021, <https://www.dmr.nd.gov/oilgas/stats/DrillStats.pdf>.

bbl. The problem was not an easy one to fix. The basin's total production needed to be much larger to warrant the expenditure necessary for a pipeline.

The changes made by the petroleum industry were small, but significant. They included the addition of women and minorities to the work force, advancement in seismic technology, transformation of industry organizations, and an increased attention to the growing demands of the environmental movement. Much of the industry remained unchanged, especially regarding the relationship between the industry and the communities in which they lived and worked.

There is an old saying that the more things change, the more they stay the same. So it was that barriers to women in North Dakota's petroleum industry were finally coming down, while minorities, were still very much precluded. As early as 1918 the American Association of Petroleum Geologists (AAPG), founded in 1917, allowed its first female member.¹⁹ Women geologists became more prevalent during both the first and second world wars, as they entered the workforce in place of fighting men, but as the boys came home, those women often married and began raising families; removing themselves, sometimes involuntarily, from the workforce. It was not until the women's and civil rights movements that an increasing number of women geologists and minorities began working in the industry.

The Civil Rights Act of 1964, signed into law by President Johnson, called on companies to "take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, color, or national origin." The act did not initiate but led to the establishment of the Equal Employment Opportunity Commission (EEOC), which responded to complaints and enforced the law. What followed was popularly referred to

¹⁹ Gries, *Anomalies*, 13.

as affirmative action, which when enforced by companies allowed women and minorities to participate in previously excluded industries like petroleum. Gries writes, “Texaco Inc. was one woman short of their quota in the Denver office. I was hired. I packed up my child, my belongings and headed off to start my oil industry career.”²⁰ Gries was among many who benefitted from affirmative action, although the experiences varied, as the transition for women into the petroleum industry was never easy.

Geologist Marsha Findlay Bourque, an African American woman, shared her experience overcoming barriers, some purposefully placed, in her way when she entered the industry.²¹ She cites several instances of unwelcoming behavior including hateful notes, unwelcome comments by fellow employees, and missed opportunities because of her race. Bourque’s stories disclose in a general way what racism and sexism looked like for a young black woman in the 1970s petroleum industry. Women in the industry were rare, as were African Americans, but an African American woman in the industry was exceptionally rare.

Kathleen Neset, a well-known figure in North Dakota’s petroleum industry, came to North Dakota in 1979, where she worked on the Horner #1 well east of Linton, North Dakota. It was here she fell in love with both North Dakota and her husband Roy Neset, with whom she married in September of 1980. During the early 1980s, Neset became an independent wellsite geologist eventually creating her own company, Neset Consulting, which is active in the basin to this day.

By 1979 women were in many more positions throughout the industry, even in the basin. One story that attracted attention was regarding not one, but three women working on the same

²⁰ Gries, *Anomalies*, 250.

²¹ Gries, *Anomalies*, 264-267.

rig. The women -- Terry Rau, Nancy Lane, and Pat Rowe -- were geologists working for Continental Laboratories of Billings, Montana. The trio were responsible for analyzing core samples. According to Earle Dodd, reporter for the *Williston Basin Oil Reporter* the “gals” were “working under the watchful eye of consulting geologist Herb Kane.”²²

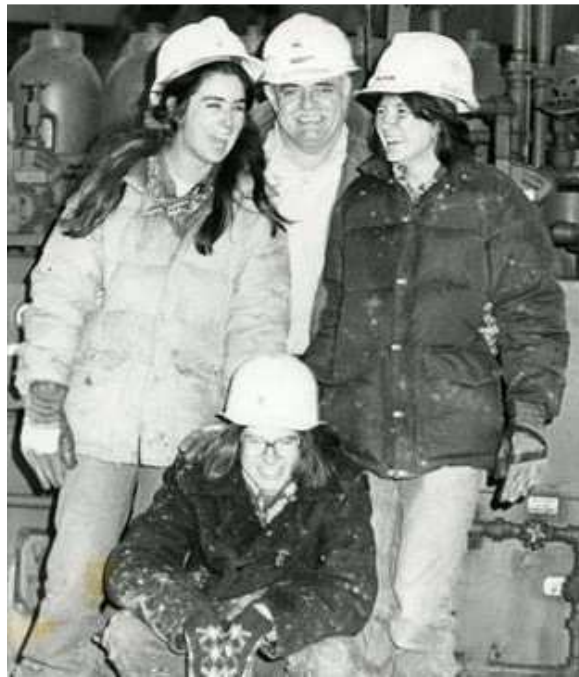


Figure 14. Three women geologists. Photo taken from *Bismarck Tribune*.

Even though North Dakota was a bit removed from the national fight for civil and women’s rights, it did not stop at least one local girl from getting into the industry, not as a geologist, but as a roustabout. A roustabout is a person who does odd jobs here and there where and when needed in support of exploration and production. Linton, North Dakota, native Rhonda Schatz Monroe worked for Nelco Chemicals from 1981 to 1984, in the Little Knife field near Killdeer, North Dakota.²³

²² *Williston Basin Oil Reporter*, January 3, 1979.

²³ Ronda Monroe, in discussion with the author, February 4, 2021.

Monroe's task, for which she was paid \$8.50 an hour, was to routinely treat wells with corrosive chemicals. North Dakota's petroleum contains varying amounts of paraffin wax. When the oil is hot the wax is dissolved, but in the cold North Dakota winters, when the oil is brought to the surface, it cools, and the wax hardens clogging up the pipes that carry it to the storage tanks. According to Monroe the chemicals used were potent and the work was hard, dirty, and extremely cold, but she says, she was young, had children to raise, and needed the money. Monroe conceded there had been some sexual harassment but did not remember anything specifically. Her working partner, she admits, may have gone easy on her because she was a woman, but again could not remember any specific action he took. After losing her daughter, Amanda, to Sudden Infant Death Syndrome, Monroe left the industry in 1984, and moved to Dickinson to return to college.

Traditionally women in the industry worked in clerical positions as typists and stenographers, and they joined groups like the Desk and Derek Club, or the Petroleum Wives Club, but by the late 1970s, women were also entering the industry as landmen, working in the courthouses of North Dakota, and as cooks out on the rigs.²⁴ New Hampshire native Donna Sullivan, a cook for an oil rig crew, said, "There aren't many women roughnecks, but the spirit of adventure holds other opportunities for women." Sullivan advised, "You can always get a job cooking."²⁵ Sullivan, 25, worked for room and board, plus \$3 to \$4 an hour. She was required to stay on site for three weeks before getting a week off.

While women gained marginal entry into geoscience positions within the industry with the help of affirmative action, people of color were still largely absent from the basin. As with

²⁴ The *Bismarck Tribune*, Feb 8, 1982, and Green, "Booming Giant"..

²⁵ Green, "Booming Giant".

any broad claim there are exceptions, but as true as it was in the 1950s and 1960s, industry photographs in books, North Dakota's press reports, and the historical record precluded all but white men and a few women. This was not true outside of the basin. In Texas, beginning in the 1970s, several prominent African American geoscientists, living and working in the Houston and Dallas areas, worked as geoscientists in the petroleum industry.

In June of 1981, a group of these geoscientists, led by Dr. Mack Gipson, created the National Association of Black Geologists and Geophysicists (NABGG).²⁶ Gipson earned his PhD in 1963 and was the first African American man to earn a PhD in geology in the United States.²⁷ Gipson was also among a handful of black geologists, men and women, who worked for major oil companies during the 1970s. Also getting her start in the oil industry was Zelma Maine Jackson, a member of the Gullah-Geechee Nation. Jackson worked for the Atlantic Richfield Oil Company monitoring core samples in the 1970s before moving into higher education. This is not to say that black men and women were only employed as geologists, they were present in many facets of the industry, they just were not present in North Dakota's historical record. Not as geologists, roughnecks, roustabouts, or seismic crews.

Seismic work, long used to locate oil traps far beneath the earth's surface, also saw small but significant change. The advent of computers allowed seismic reading to become much more accurate, leading to a higher percentage of successful wildcat wells. The computerized seismic techniques were largely responsible for the discovery of sixteen new fields in the Red River horizon between 1975 and 1978.²⁸ This new seismic technique allowed exploration in the basin

²⁶ National Association of Black Geoscientists, accessed January 31, 2021, <http://www.nabg-us.org/about-us.html>.

²⁷ Marguerite Williams was the first African American to receive her PhD in geology in 1942. She was a lifelong educator.

²⁸ Gerhard, *Oil Exploration*, 11.

to go ever deeper in search of production. Despite women on the rigs, and computers in the seismic offices, much of the drilling process remained unchanged. Rigs were still set up and taken down the same way. Wells, drilled vertically, were still drilled the same way. Oil was stored, shipped, refined, and used in much the same way. Most significantly, the Williston basin still had marketing problems, just as they had in the 1950s, and so production was still subjected to the same transportation cost discount.

Unlike the discovery period many companies, due to an increased ability to communicate effectively over long distances via telephone or the newly invented fax machine, chose not to relocate major administrative resources back to the basin, but supply companies once again began reorganizing in Williston, Tioga, and Dickenson. As McKenzie County led drilling in 1978, 1979, and much of 1980, population, and oil field traffic no longer centered around Williston and Tioga. The industry moved south and west into Billings, Bowman, Dunn, Golden Valley, and Stark counties where many of the new fields had been discovered.

When companies returned to the basin, they again joined organizations like the North Dakota Oil and Gas Association, the North Dakota Petroleum Council, and others. Each organization required them to pay dues, and so it was that several companies were required to pay dues to multiple petroleum councils and multiple oil and gas associations. Some companies could end up paying dues in several different regions: California, Colorado, North Dakota, and Texas. As a result of this the American Petroleum Institute, in 1970, called for several changes nationally including the merger of like organizations. One such change affected North Dakota's Oil and Gas Association.

The North Dakota Oil and Gas Association (NDOGA), as was discussed in a previous chapter, was founded in August of 1952. The NDOGA was the industry's voice within the

industry, to members of the communities, and to the government. In January of 1972 the NDOGA, upon the API's suggestion, merged with the RMOGA. It was during this period that the NDAGA began sharing office space with the North Dakota Petroleum Council (NDPC). The NDPC was founded in 1958, when two organizations, the North Dakota Petroleum Industries Committee and the North Dakota Oil Information Committee, were merged.²⁹ The two agencies, the RMOGA and the NDPC, in their shared office space, jointly produced the newsletter *North Dakota Oilmen's News*. The newsletter was published to "provide oil industry representatives a capsule view of what [was] going on of interest to the petroleum industry in North Dakota."³⁰ Since their beginnings, both organizations had steadfastly defended the industry against adverse legislation and increased taxation. They had always worked to inform the community and government about legislation that would affect them, from the size of spacing units to unitization, and continuous efforts to raise production tax rates. The industry's organizations had successfully defended the industry against increases in the production tax for nearly three decades, when in 1979, the call for an increase came once again. After exhausting all efforts, however, the extraction tax was increased by 6.5% through an initiated measure.

During the 1979 legislative assembly North Dakota's State Tax Commissioner, Byron Dorgan, called for an increase in the production tax from 5% to 10%, arguing that the additional revenue could be used to offset the cost of fuel.³¹ Dorgan was instrumental in the 1979 passage of legislation creating Chapter 57-51 of the North Dakota Century Code that allowed the state tax commissioner to administer the oil and gas gross production tax law including to "determine

²⁹ *Bismarck Tribune*, December 17, 1958.

³⁰ *North Dakota Oilmen's News*, July 25, 1979, North Dakota Petroleum Council, #11020, State Historical Society of North Dakota, Bismarck.

³¹ *North Dakota Oilmen's News*, July 25, 1979, North Dakota Petroleum Council.

the gross value of oil or gas.” Initially the law was expected to begin January 1, 1980, but problems with the language of the law delayed, and then displaced the authority, basically making the law null and void.³² Dorgan, and supporters of an increase in the tax, continued to lobby for an increase. Rather than waiting on legislation, which would have had to wait until 1981, backers quickly turned to the initiated measure process.

North Dakota is one of twenty-six states that have initiated measures. The *North Dakota Oilmen's News* reported, “A coalition comprised of the North Dakota Education Association, the state Farmer's Union, the state AFL-CIO, the state Association of Rural Electric Cooperatives, the state Migrant Council, and the Democratic Party,” sought the initiated measure to increase the production tax from 5% to 11.5%.³³ Opposition to the measure, according to the *North Dakota Oilmen's News*, came from “most of the daily newspapers, as well as numerous weekly papers, the North Dakota Stockman's Association, North Dakota Farm Bureau, the Greater North Dakota Association, several local chambers of commerce, royalty owner organizations, a few school boards, and several leading legislators.”³⁴ Opposition from the industry was organized quickly.

The industry, through the NDPC and the RMOGA, hired Joe Hendrickson Associates of Minneapolis, Minnesota, to fight against an increase through public relations. The public relations program attempted to convince North Dakotans that an increase in the production tax was an injustice, that their state's economic future would be impaired, and that they should oppose any increase in the tax.³⁵ Joe Hendrickson Associates planned to, among other things,

³² *North Dakota Oilmen's News*, February 15, 1980, North Dakota Petroleum Council.

³³ *North Dakota Oilmen's News*, May 2, 1980, North Dakota Petroleum Council.

³⁴ *North Dakota Oilmen's News*, June 13, 1980, North Dakota Petroleum Council.

³⁵ *North Dakota Oilmen's News*, June 13, 1980, North Dakota Petroleum Council.

“Stimulate an aggressive ‘letter to the editor’ campaign, initiate and perpetuate a word-of-mouth campaign, and distribute news stories to newspapers, radio, and television.”³⁶ Despite the failure of the program, it showed that the industry was not going to take a tax increase, or any legislation they deemed unnecessary or costly, lying down.

The results of the election were in, and it was decisive. Republicans ruled the day. After twenty years North Dakota had finally elected a republican governor. All statewide office elections went to Republicans as well, except for one, the tax commissioner. Byron Dorgan, having successfully run for North Dakota’s sole house seat, had been replaced by Kent Conrad. Despite Republican’s success, measure number 6 was approved by the voters 57% to 43%; the production tax had risen to 11.5%.³⁷ Once adopted by the legislation on July 24, 1981, the increased revenue totaled 336 million, which temporarily displaced agricultural taxes as the state’s main source of revenue.³⁸

By 1981 the NDPC and the RMOGA were issuing a different newsletter titled the *Petroleum Update*. In the *Petroleum Update* readers were told the newsletter was “designed to keep members of North Dakota’s news media updated on the petroleum industry,” rather than industry members.³⁹ Publication of the *North Dakota Oilmen’s News* was terminated and the *Petroleum Update* was published monthly from January of 1981 until February of 1999. The *Petroleum Update* offered industry news, and despite some lean years when the news could barely cover a single page, there was always room at the bottom for a little hope. One of the many subjects discussed within the pages of the newsletter was the growing concern over the

³⁶ *North Dakota Oilmen’s News*, June 13, 1980. North Dakota Petroleum Council.

³⁷ *North Dakota Oilmen’s News*, June 13, 1980. North Dakota Petroleum Council.

³⁸ Sidney B. Anderson and Bluemle, John P. *Oil Exploration and Development in the North Dakota Williston Basin: 1982 – 1983 Update*, Miscellaneous Series No. 65, (Grafton: Associated Printers, Inc., 1984), 23.

³⁹ *North Dakota Oilmen’s News*, June 13, 1980. North Dakota Petroleum Council.

environment and how the industry would handle both a public outcry and an increase in government regulation.

On January 28, 1969, the California coast experienced a massive oil spill in the Santa Barbara channel. Hillhouse platform “A” experienced a blowout. The well was immediately capped, but oil began surging up through fissures in the sea floor. It was an environmental disaster. Pictures of oil-covered coastlines, dead birds, and sea life cloaked in the black goo led to the formation of several environmental groups that would push back against development of petroleum reserves on and offshore within the United States. The Nixon administration’s Interior Secretary, Rogers Morton, rejected requests for additional platforms in the Santa Barbara channel, citing “overriding environmental considerations.”⁴⁰

As environmentalists organized, drawing national attention to the dangers of petroleum production on the environment, the industry offered few solutions for preventing further disasters, deflecting and defending their practices instead. Speaking in 1971, at the final NDOGA annual conference, Keith G. Hay, API wildlife director, said, “Unless the environmental movement can shift from the emotional to the specific and the doable, then much of the emotion and rhetoric of the last few years will have been wasted.” Expressing hope that the “manic phase” of environmental concern had passed, Hay said, “It is now the task of the practical minded, socially responsible people and organizations to make the crucial decisions, and to launch the costly programs of action that will prove successful.”⁴¹ The environmental movement wanted action, according to Hays, but the action they wanted would severely hamper exploration efforts by the industry. Hays, who had nearly fifteen years’ experience in state and

⁴⁰ *Bismarck Tribune*, September 21, 1971.

⁴¹ *Bismarck Tribune*, September 13, 1971.

federal conservation work, said that one of the most critical environmental concerns was meeting the nation's expanding energy needs while at the same time improving the quality of the environment. Hays explained, "Oil, of course, is and always has been an integral part of our environment. It is a natural, biodegradable resource that was spilling into our oceans and onto our land for millions of years before we knew how to utilize it. It is still being spilled by nature, through countless natural seeps, but this does not mean that we should add to such spills." Concluding his remarks, Hays added, "With the age of ecology the American people have finally come to realize that nature does have limits and that the system which produced the highest standard of living known to man also exploited both natural and human resources and that if the system were not altered, it has the capacity of its own destruction." Understanding this, Hays said, "the petroleum industry has embarked on a new era of environmental management and future decisions will be made on the basis of the economic, social and environmental impact."⁴²

The industry, for its part, often misunderstood or discounted the concerns of environmentalists, and pushed back against any legislation that would lead to an increase in the cost of production. When responding to a question posed him in a senate hearing on the Santa Barbara disaster, Fred Hartley, president of Union Oil, quipped, "I don't like to call it a disaster, because there has been no loss of human life. I am amazed at the publicity for the loss of a few birds."⁴³ The statement drew the ire of many Californians and is often quoted by environmentalists when pointing out how little the industry cares for wildlife and the environment.

⁴² *Bismarck Tribune*, September 13, 1971.

⁴³ Oil Spill History and Ecotoxicology, accessed 3/31/2021, <https://oil.piratelab.org/1969-santa-barbara-spill/1969oralhistory>.

While often claiming to be better stewards of natural resources, the historical record would cast doubt on that claim. Contrary to the what the industry has said in public, the actions of individual corporations continued to be that of polluters. With no beaches to pollute, and nothing but a vast expanse of wide open sparsely populated prairie, the environmental impact of the industry was of little concern to the industry in North Dakota. Despite the creation of the Environmental Protection Agency by Nixon, the survey offered little by way of environmental protection. In North Dakota, the petroleum industry could act as they saw fit regarding wildlife and the environment. Leaking pipelines, burning sludge pits and flares, rutted roads, and dead cattle raised serious concerns among both urban and rural communities, but drew no rebuke from the commission or the survey.

Complaints began to surface about the odor emitted when the Mandan refinery burned its sludge pits. Eventually the refinery would stop the practice and have the sludge removed to disposal wells. Ranchers began to find dead cattle, cattle that had wondered too close to equipment or too close to leaking pipelines, or who drank contaminated water. In 1981 an Amoco Oil Company pipeline ruptured, spilling oil into a nearby creek that drained into Lake Sakakawea. The ranch owner, Andrew Voigt, found several dead cattle near the creek.⁴⁴ In another incident, investigators in 1984 found that a trucking company north of Belfield had dumped between 10,000 and 30,000 gallons of an acidic sludge, hauled from drill sites, into a pond located on the company's property.⁴⁵ There were also complaints about the noxious fumes produced from the gas flares. When North Dakota's Department of Health attempted to pass regulations requiring the industry to install vapor recovery systems, the industry balked, saying if

⁴⁴ *Bismarck Tribune*, March 30, 1981

⁴⁵ *Bismarck Tribune*, April 10, 1984.

the legislation were passed, they would be forced to abandon their marginal oil wells, costing the state tax revenue.⁴⁶

Changes the industry was forced to make, because of the NDIC's newly created Oil and Gas Division, as well as those regulations passed by the newly created Environmental Protection Agency (EPA), made the petroleum industry safer, but not necessarily in North Dakota. The state's regulatory agency, the newly created Oil and Gas Division, was underfunded, understaffed, and ill equipped to regulate the industry. As a result, polluters were often able to continue polluting due to the state's laissez-faire attitude toward the industry.

North Dakotans are a hard-working bunch, but they have always managed to have a good celebration every now and then. Ever since its humble beginning on the Blum farm in 1917, the industry, and the people who support it, have thrown barbeques, picnics, and celebrations. In the early years this was to raise money for a prospective well, but once oil was discovered it was a celebration of success and an expression of gratitude. Festivities always included a speech, entertainment, and food, and maybe even some dancing. Once oil was discovered the communities of Tioga and Williston hosted discovery days and other celebrations, but in 1981, it was the RMOGA, who on behalf of the industry, organized the Williston Basin Energy Festival.

The festival took place in Williston on June 26 & 27, 1981. The festivities started with the dedication of a petroleum monument in Williston's Harmon Park. Soon after, an energy forum was held, with several industry leaders speaking about the industry and its future. The following day began with an energy equipment parade. Once the parade concluded, the equipment was featured in an energy exhibit at the fairgrounds. Headlining the entertainment

⁴⁶ *Bismarck Tribune*, November 25, 1986.

from 4:00 to 6:00 p.m. was the Kendalls, who performed their hit single, *Heaven's Just a Sin Away*. The concert was followed by a barbeque, and the night ended with a free barn dance. Lest anyone doubt the significance of the event, and the importance of the industry to North Dakota, Governor Allen Olson attended as the master of ceremonies, speaking briefly about the industry and its importance.

North Dakota's discovery boom had not ended with a bust. Arley Bjella, chairman of the Williston Chamber of Commerce's newly formed Oil Committee, said, "We had no bust, Williston planned soundly, there was no overbuilding. We're better off than we were in 1950 in every way."⁴⁷ In fact, the discovery period did not end. The industry, despite a decrease in exploration and production, continued to explore for and discover new sources of oil in the basin.



Figure 15. The Kendells. Photo taken by author.

⁴⁷ *Fargo Forum*, October 24, 1971.

Unfortunately, the marketing problems so prevalent during the previous two decades still existed, forcing North Dakota's producers to pay transportation costs out of the basin to distant markets. The increased activity in the late 1970s and early 1980s, the resurgence of the discovery boom, took off like a rocket as the price of oil continued to rise. When a global recession, deregulation, and a global oil glut shut down exploration, there was most certainly a bust. It was a hard, painful bust, but the industry had, from 1951 to 1982, continued as it always had with a few, but significant changes. Such changes included the admission of women in the basins work force, and changes brought about by the advent of computerized seismic work. The industry also saw structural changes to its organizations and an increase to its tax burden but continued to explore for and produce oil. The consequences of Reagan's deregulation were lower prices that, unfortunately, brought an end to the boom. Nixon's newly formed Environmental Protection Agency and environmental regulations of the newly formed Oil and Gas Division had a limited impact, as the number of inspectors were limited. The industry continued, as it always has, to have an enormous effect on the communities in the basin, but now the number of counties, and thus communities that produced oil in the state, continued to grow.

CHAPTER NINE: COMMUNITY

Nearly blinded by the setting sun, the man headed west. As he passed Bismarck on interstate 94, he saw the newly installed solar panels in front of the Basin Electric building. Basin Electric was North Dakota's biggest producer of energy from the burning of coal. The energy crisis had spurred North Dakota to an, all-of-the-above, energy approach. The speed limit on the interstate, fifty-five miles per hour, had been reduced in 1974, to conserve energy. It made any travel seem long, but from Minneapolis to Dickinson, seemed an eternity. The radio played forgotten songs, and by the time the car slowed for the Bellfield exit, it had turned dark. What remained, a two-hour drive north on US highway 85, was the last leg of a fourteen-hour, 661-mile trip from White Bear Lake, Minnesota, to Williston, North Dakota. Just days before Thanksgiving of 1980, John Schletty was offered a job by his cousin, the driller on Bomac's rig #27 near Williston.¹ Schletty, an eighteen-year-old high school graduate, had left everything he knew for a job he knew little if anything about.

Having graduated in the spring, Schletty's first job was that of a lot attendant for a local automobile dealership, Towsley Ford. The starting wage? The minimum of \$4.00 per hour. Things were going well for the new grad when he received a midnight phone call from his cousin, "Be in Williston by three o'clock, day after tomorrow, and you have the job," his cousin said.² Thoughts of the life he left -- his parents, his job, his friends, and lost love -- passed the time as he drove. Going to a place he had never been, to do a job he had never done, for a cousin he barely knew would give most men pause, but on he drove.

¹ Conversation with John Schletty, February 27, 2021.

² *Minneapolis Tribune, Picture Magazine*, February 15, 1981.

Schletty, like men had for over a century, jumped at the opportunity, with no previous experience, to work in the petroleum industry. His first job title was a worm: the lowest man on the drilling crew, for which he was paid \$10.00 an hour. Along with Schletty there was the driller who got him the job, his cousin on his mom's side. The motorman was from Colorado, Michael Rusin III, who, according to Schletty, had stolen a car and drove it to Williston for the job only to be hauled off to jail later.³ The derrick man, Gilmore Knutson, was from Kenmare, a small community northwest of Minot. These men and their story were featured in the *Minneapolis Star Tribune* in 1980, and those reading it received a clear signal that it was possible to hop in your car and drive to North Dakota for a job, and that is exactly what they did.

North Dakota's basin communities were made up of diverse groups, some native to North Dakota, some not, who began working in the industry during the discovery boom and never left. Men like Walter Braun and Al Golden continued to work as landmen long after the slowdown in 1966. Still others, like the men on Schletty's crew, were new to the basin. Some were native North Dakotans, some not. Members of the community were also farmers, ranchers, and businesses who supported the agricultural industry, not just in the basin, but statewide. These disparate groups consumed the same news reports sharing learned information, information that led to the belief they could expect the oil boom to continue for several years. It was this reported information that called people from across the nation to come to the area in search of jobs and subsequently the continued influx of people and continued reports of economic success, in turn, led to two significant events. The first was the initiated measure to increase the production tax by 6.5% in 1981, and the second was that basin communities would aggressively finance new

³ Conversation with John Schletty, February 25, 2021.

public works and housing developments. Having secured both, the boom abruptly ended in March of 1982. Not all, but a considerable number of jobs ended immediately, and a wholesale exodus from the region followed, seemingly overnight. Those remaining after the bust would long remember the mistakes made and the hardships to follow.

Benedict Anderson, in his work, *Imagined Communities*, writes, “These fellow-readers, to whom they were connected through print, formed, in their secular, particular, visible invisibility, the embryo of the nationally imagined community.”⁴ The readers of the *Dickinson Press*, *Williston Plains Reporter*, *Bismarck Tribune*, and other publications and newscasts, were informed each day, as their neighbors were, of developments in the basin. This information was shared at local coffee shops, implement dealerships, and church socials not only in the basin, but standing in line at the post office in Fargo, at the grocery store in Minneapolis, and any place that people with shared information gather to visit. But where was the information coming from? From the industry itself.

Beginning in January of 1981, Lowell J. Ridgeway, Executive Director of the NDPC, and Al Golden, head of the RMOGA, began jointly disseminating “facts and figures about the oil and gas business” in a monthly press release. According to the publication the releases were an attempt to keep the public “informed of upcoming events and detail the industry’s position on selected national and state issues.”⁵ Entire segments of these reports often appeared in state newspapers, especially in the *Williston Basin Oil Review*.

In addition to the NDPC, and the RMOGA, others in the industry were regularly interviewed for journal articles and the nightly news report. In February 1981, news reports

⁴ Benedict Anderson, *Imagined Communities Reflections on the Origin and Spread of Nationalism* (New York: Verso, 1983), 44.

⁵ *Petroleum Update*, January 19, 1981, North Dakota Petroleum Council.

were heralding a “healthy, rejuvenated oil and gas industry,” claiming “the boom is just beginning.”⁶ Ridgeway suggested, “In all, the current boom promises to last longer and be more productive than the boom of the early 1950s,” concluding that “the current pace of exploration will continue in the early 1980s.”⁷ The Greater North Dakota Association, in its magazine *Horizons*, suggested, “The boom will continue at this record pace for several years.”⁸ Even Golden believed things were only getting started, proclaiming, “A number of industry observers believe the current high level of exploration and production could continue for two to four years before gradually leveling off and declining.”⁹ Those reading and sharing this information had no reason to believe the boom would end anytime soon. These assurances meant different things to different people, but to city planners, who tried in vain to handle the steady and sometimes overwhelming flow of newcomers, they did not bode well.

Communities, as they had in the 1950s, struggled with the sudden influx of people. The increased activity in the basin was continuing to strain already strained services. A Williams County Commissioner, Marlene Eide, noted several problems associated with the boom that were common to several counties. She explained that the county road system was being heavily damaged from the continuous use and abuse from oilfield traffic. She also reported that law enforcement and social services were operating with over-extended budgets, were short staffed, and were dealing with an increase in crime, traffic incidents, and numerous other family related issues. Despite her concerns Eide confided, “We gain the many fine people who have moved to our area. Most of these people are good citizens who take an active part in the community and

⁶ Green, “Booming Giant”.

⁷ *Bismarck Tribune* February 5, 1980.

⁸ Green, “Booming Giant”.

⁹ *Williston Basin Oil Reporter*, June 24, 1981.

contribute much to its development.”¹⁰ The basin’s city planners were growing increasingly concerned, and regional organizations were calling for meetings to address the problem.

One such meeting took place in Dickinson. In attendance were: Governor Arthur Link, Attorney General Allen Olson, and Agricultural Commissioner Myron Just who represented the commission. The meeting had been organized by the Roosevelt-Custer Regional Council (RCRC), a group of locally elected public officials from Dunn, Billings, Golden Valley, Slope, Adams, Hettinger, Bowman, and Stark counties. The two groups, along with state legislators, and reporters including one from the *Dickinson Press*, gathered to hear concerns developing in the southwest portion of the state, concerns rising from the ever-increasing oil development.

The concerns were numerous and near universal across all oil producing counties. The county roads were being heavily damaged by oil field traffic, and the counties could not afford to make repairs. Law enforcement throughout the region suffered shortages of deputies, jail space, and budget shortfalls. Schools were adding new students every day, overwhelming both teachers and facilities. Wages rose, creating shortages in crucial city and local government positions. A spokesman for Mott admitted, “We just cannot provide for all the people coming in.”¹¹ Two months later, as still more people had poured into the region, the *Dickinson Press* reported that Dickinson was “a hot spot for the nation’s unemployed to find work but a bad spot to find housing.” The unemployed were overwhelming the region’s social services, and Rod Landbom, director of the RCRC, responded by warning communities that the boom could last for as long as ten years.¹² This prediction would not age well.

¹⁰ *Williston Basin Oil Review*, June 24, 1981, 110.

¹¹ *Dickinson Press*, May 9, 1980.

¹² *Dickinson Press*, June 27, 1980.

The basin communities continued to be flooded with a human tide, for as in 1951, every available resource was pressed into service including grain bins, campers, and tents.¹³ Reluctant to make the kind of investment necessary for upgrading water and sewer systems, public buildings, and housing developments, city planners took solace in reports suggesting there was nothing to worry about.

Fine people though they were, there was often friction between petroleum workers and the locals. On February 6, 1981, the Dickinson Chamber of Commerce met with industry representatives “to help solve any problems that may come with rapid growth of exploration and production.”¹⁴ Community leaders throughout the basin were, as they had in the 1950s, doing their best to accommodate the industry. Chamber member Bob Heinz said, “We want to come across as a city that does not treat the oil industry as outsiders.”¹⁵ The effort put forth by the cities of Dickinson and Williston did not go unnoticed by the industry. Delegates from both cities were honored as oil center cities at the International Petroleum Exposition in Tulsa, on September 10-13, 1979.¹⁶ The cities were doing everything they could for the industry, even hosting celebrations.

As noted in the previous chapter, the industry organized the basin’s first energy festival in July of 1981. Many took time to celebrate, and the *Petroleum Update* reported the event was a huge success, claiming several thousand people had attended including many farmers and ranchers who came out to see the Kendalls perform, and participate in the barbeque and dance. Farmers, who often dealt with unpleasant and unnecessary circumstances created by the

¹³ Not the round steel grain bins so familiar to the travelers of the state, but the old schoolhouse and township buildings that were converted to grain bins. The park in Williston was filled with tents during the warmer months.

¹⁴ *Petroleum Update*, February 23, 1981, North Dakota Petroleum Council.

¹⁵ *Petroleum Update*, February 23, 1981, North Dakota Petroleum Council.

¹⁶ *North Dakota Oilmens News*, July 25, 1979, North Dakota Petroleum Council.

industry's activities, made the best of the situation. However, there were many instances when farmers had enough, like when gates were repeatedly left open. When a day is spent trying to get cattle back into pasture because someone forgot to or was too lazy to close the gate, a man can get quite upset.

Eugene "Pete" Veeder, his wife Edith, and their two sons Gene, twenty-five, and Wade, twenty-two, farmed their grandfather's farm in McKenzie County, first homesteaded in 1916. Veeder quipped, "You've got to have a lot of patience to make a living here. This area is pretty famous for its rocks."¹⁷ Veeder puts up with the oil industry (open gates, damaged crops, damaged water supplies, damaged county roads) because he would have trouble financially without the money from leases and seismic crews. "A guy is a lot easier to live with when he gets a check every month."¹⁸

Veeder was not alone; the number of farmers, those with and those without all or a portion of their mineral interests, had plenty to complain about besides open gates. Farmers, out of all community members, have the most difficulty dealing with the industry and the daily arrival of newcomers. Roads are choked with traffic making it difficult to move farming equipment safely from field to field. The county roads are at times impassable. With an increase in people and an increase in crime farmers, had to keep an ever-watchful eye for strange vehicles on their property. Farmland, cattle, and equipment could all be damaged by the drilling process, costing farmers much more than damage payments allowed for. The frustration many farmers felt, especially those without minerals, became increasingly difficult to manage as the boom progressed. Often farmers would refuse even to speak to a landman, hoping he, and the

¹⁷ *Grand Forks Herald*, October 13, 1981.

¹⁸ *Grand Forks Herald*, October 13, 1981.

company he worked for, would just go away, but as they say, be careful what you wish for.

Farmers were not the only people in North Dakota put out with the petroleum industry. There was a growing call for fairness in the distribution of the production tax.

During the 1979 legislative assembly North Dakota's State Tax Commissioner, Byron Dorgan, called for an increase in the production tax from 5% to 10%, arguing that the additional revenue could be used to offset the rising cost of fuel.¹⁹ The legislature held several hearings on energy taxation, but worked specifically on addressing the formulas for distribution of the 5% tax, with little discussion of raising the rate. In January of 1980, the State Tax Department issued an update to projected tax revenue from thirty-five million to seventy-five million. In response to the forty million increase Dorgan again called for an increase to the tax, saying that 5% was a "low, low production tax."²⁰ Dorgan, and supporters of an increase in the tax, continued to lobby for an increase. In the spring of 1980, as the legislature wrapped up its work without raising the production tax, those in support of an increase came to understand they would not be able to push an increase through the legislature. In May of 1980, the North Dakota Education Association, NDEA, the State Farmers Union, SFU, the American Federation of Labor and Congress of Industrial Organizations, AFL-CIO, the state's Association of Rural Electric Cooperatives, REC, the Migrant Council and the Democrat-NPL party formed a coalition calling for an initiated measure to increase the production tax to 11.5%.²¹

North Dakota is one of twenty-six states that have initiated measures. To put the measure on the ballot, organizers needed 12,356 signatures, which they obtained in short order. In 2 short

¹⁹ *Grand Forks Herald*, July 25, 1979.

²⁰ *North Dakota Oilmen's News*, January 17, 1980, North Dakota Petroleum Council.

²¹ *Bismarck Tribune*, May 2, 1980.

months the coalition had received 28,600 signatures.²² Proponents argued the increased revenue would be used to lower income and property taxes for all North Dakotans rather than relief going only to producing counties in the west. Oppositional lines were predictably drawn along political lines as Republicans opposed the increase and Democrats supported it, but there was also an East vs. West contingent. The North Dakota Stockman's Association, North Dakota Farm Bureau, the Greater North Dakota Association, several local chambers of commerce, royalty owner organizations, a few school boards, and several leading legislators all opposed the measure.²³ Opposition from the NDPC and the RMOGA was organized quickly.

The NDPC and the RMOGA hired Joe Hendrickson Associates of Minneapolis, Minnesota, to fight against an increase through public relations. The public relations program attempted to convince North Dakotans that an increase in the production tax was an injustice, that their state's economic future would be impaired, and that they should oppose any increase in the tax.²⁴ Joe Hendrickson Associates planned to, among other things, "Stimulate an aggressive 'letter to the editor' campaign, initiate and perpetuate a word-of-mouth campaign, and distribute news stories to newspapers, radio, and television."²⁵

The results of the election were in and it was decisive. Republicans ruled the day. After 20 years North Dakota had finally elected a republican governor. All statewide office elections went to republicans as well, except for one, the tax commissioner. Byron Dorgan, having successfully ran for North Dakota's sole house seat had been replaced by Kent Conrad. Despite republican's success measure number 6 was approved by the voters 57% to 43%, the production

²² *Bismarck Tribune*, August 4, 1980.

²³ *Bismarck Tribune*, June 13, 1980.

²⁴ Joe Hendrickson Associates, *A Preliminary Public Relations Program for The North Dakota Oil and Gas Association*, undated, North Dakota Petroleum Council.

²⁵ Joe Hendrickson Associates, *A Preliminary Public Relations Program for The North Dakota Oil and Gas Association*, undated, North Dakota Petroleum Council.

tax had risen to 11.5%.²⁶ The measure, soundly defeated in the West, passed easily with the support of the heavily populated East. Once adopted by the legislation on July 24, 1981, the increased revenue totaled 336 million which temporarily displaced agricultural taxes as the state's main source of revenue.²⁷ Shemorry, writing in 1991, says of the increase,

Jealousy of western North Dakota's oil wealth is nothing new. Ever since the beginning of oil production in the state, the have-not counties have been trying to “stick their finger in the pie” as the old saying goes. There have been numerous attempts in the legislature to change the laws so the have-not counties would get a larger share in oil production revenues. For nearly thirty years, western oil counties successfully resisted what they regarded as just one step below outright piracy. It was only in November of 1980 that the infamous Measure 6 was passed and raised the oil production tax from 5% to a whopping 11.5% of its gross value.²⁸

The impact of the measure would be blamed for the coming bust, but it was multiple factors including Reagan's decontrol of the industry, increased drilling, finance costs, and expiring leases that caused the sudden end to basin activity.

As the national economy continued to suffer, people from around the nation continued to pour into the state in the spring of 1982, but one day, just as quickly as it had begun, the boom was over. Ridgeway, who had been so sure of himself just two short years ago, now lamented the devastating news, “Crude prices have dropped sharply, from \$39 a barrel a year ago to about \$31 or \$32. Relatively high state taxes, high lease payments and high interest rates, have

²⁶ *North Dakota Oilmen's News*, November 12, 1980, North Dakota Petroleum Council.

²⁷ Anderson, *Oil Exploration*, 23.

²⁸ Shemorry, *Mud, Sweat & Oil*, 182.

combined to depress the state oil industry.”²⁹ There was no evidence that “high state taxes” had anything to do with the bust, but Ridgway could not restrain himself from the parting shot. The boom had gone bust nationally, and Texas was hit just as hard by the bust as North Dakota.

As the reality of the bust began to settle into the minds of the basin’s communities, people continued to flow into the basin, not yet aware that the boom had ended. The large influx of people arriving in Dickenson only added to problems being created by a considerable number of layoffs. Larry Bernhardt, Stark County Social Services director, said, “Please let them know, Dickinson is not the place where everything is wonderful.”³⁰ It is apparent by Bernhardt’s response that the sudden end to the boom shocked everyone. It should not have, for as is often the case, there were signs of trouble as early as 1981.

Signs of the coming bust began as early as July of 1981 but went unheeded. In his monthly *Petroleum Update* press release, Ridgway explained the growing over-supply of crude, saying the word “glut” was hardly the word to use, while acknowledging the effects of the glut on prices. Here was Ridgway’s opportunity to warn the basin communities of the real possibility of falling prices and slowing development, but instead Ridgway shrugged it off in an attempt to protect the industry. Ridgway rationalized his inaction by concluding that because 35% of United States oil supply came from the Middle East and that the Middle East was unstable supply interruptions, and a return to rising prices was possible. In other words, lower prices would be staved off by conflict -- hardly the basis for not warning North Dakotans of an impending calamity.

²⁹ *Williston Basin Oil Reporter*, March 31, 1982.

³⁰ *Bismarck Tribune*, May 1, 1982.

Once the cat was out of the bag, Ridgeway acknowledged what he already knew. In his March 1982 *Petroleum Update* Ridgeway wrote, “some recent figures indicate perhaps a flattening out of the tremendous growth rate of the last year or two.” This included a drop in the rig count by 17 rigs between November 2 and 23 of 1981. The rig count drop coincided with a drop in orders for work and oilfield equipment. Ridgeway believed this slowdown was the product of a decline in the price of crude, high interest rates, high drilling and exploration costs, and the state’s high extraction tax. The boom had begun to slow in the fall of 1981, but many companies were in such a hurry to secure their top leases, the signs went unnoticed. Even Wes Norton, Chief Enforcement Officer for the survey’s Oil and Gas Division, was sure the boom would continue. Despite the collapse of oil prices and a mass exodus from the basin, Norton was quoted as saying, “I think we will have as many wells drilled and completed [in 1982] as last year.”³¹

G. D. “Gerry” Christensen, regional manager for Armco Inc., an oil field supply store, told the *Williston Basin Reporter*, “Because of the work backlog the downturn only began to catch up to most companies in February, when the realization ‘hey, this boom is over,’ began sinking in.” The backlog, Christensen was speaking about, was in drilling leases. An oil company must first lease the minerals it proposes to drill. If there is no drilling, the lease expires after a term, usually five years. The minerals can then be leased to another company. To preserve the acreage of their field, companies will first drill a single well on all leases, tying them up with production. Once the leases are held with production, the oil company will drill the remaining portions of the field. In 1980-81, companies interested in getting in on the action

³¹ *Williston Basin Oil Reporter*, March 31, 1982.

top-leased acreage hoping the leases would expire without being drilled. A top lease is a lease taken from the day the previous lease expires. If the well is drilled it is void, but if there is no drilling a company can get a foot hold in the play. When a company first enters a field it wishes to drill, it secures enough leases to deter outside interference. Tens of thousands of acres can be leased by a single company in order to secure the area it wishes to develop. If the area it likes changes it can sell off a number of leases to another company that is interested in drilling. The first priority, after a discovery well, is to drill wells to hold those leases; once that is accomplished, the field is drilled in a slower, more methodical manner.

When Gulf Oil drilled the State #1-18-30 in Dunn County, it discovered the Little Knife field. Spudded in just after Thanksgiving, the well came in on Christmas Day 1976.³² The discovery kicked off an extensive lease play during 1977. Most leases were set to expire during the year 1981, which is why activity in 1980-81 was so intense. Companies were in a race against time. For example, if a farmer signed a five-year lease August 15, 1977, and no wells had been drilled, then a top lease could be signed beginning August 16, 1982. As a result of this top leasing, both drilling and leasing remained heavy through the end of 1981, as those acres not drilled were open to top leasing. As leases expired at the end of the year and going into the spring, there was no more rush to get the acres drilled. Regardless of whether prices fell in March or not, drilling activity was going to be slower in 1982. Falling oil prices coupled with expiring leases created a perfect storm, making the bust much more dramatic. Not only were landmen sent home for lack of leases to take, but many drilling rigs were sent home, because the

³² *Bismarck Tribune*, February 5, 1980.

frenetic pace of drilling was no longer needed. The companies could now take their time to drill the leases held by production.

Drilling activity, which had begun in Dunn County in 1976, moved out across the southwestern portion of the state in a much more disparate area including the counties of Golden Valley, Billings, Slope, Hettinger, Bowman, and Adams in addition to continued work in Williams, McKenzie, Dunn, and Divide. There was a predictable housing shortage, but rather than build company houses, as Amerada had done near Tioga, basin communities first created mobile home parks before developing permanent housing. Trailer home parks became much more prevalent, as industry workers learned to travel light. Trailer parks popped up in Killdeer and Grassy Butte to accommodate workers in the Little Knife Field, and in Williston. Those living in trailer houses could pack up and move out on a moment's notice, and that is exactly what they did. Neale and Joyce M. Hoots, Killdeer trailer park owners, built their trailer park in the early 1980s. After first building for fifty units, Neale added thirty additional spots to accommodate campers, but one morning, unbeknown to him, the boom had ended, and when he drove into the trailer park for his morning drive-through, it was empty, save for a few trailer houses owned by locals.³³ Storm sheds, personal effects, and even family pets were abandoned.

Killdeer, located in Dunn County, fared much better than most when the boom had ended. Gulf's well, drilled in 1976, gave the city more time to make improvements and build new housing than in other areas of the basin.

Dickinson, on the other hand, had an overabundance of problems associated with the oil boom, but the most vexing was its water shortage. In June of 1980, as people continued to arrive

³³ Conversation with Neal Hoots, June 9, 2006.

in the basin from throughout the United States, North Dakota was experiencing an unprecedented dry spell. Governor Link had declared the entire state a drought disaster, and farmers and ranchers began selling off their herds of cattle for lack of hay to feed them through the winter. In Dickinson, as the city moved forward with a new housing development, it also issued city-wide water restrictions. Unable to wash their cars or water their gardens, residents of Dickinson were asked to conserve as much water as possible. Their water supply, nearby Patterson Lake, was dangerously low, with just over 100 days of water remaining.³⁴ As people continued to arrive in the city, many were worried they would indeed run out of water.

In Williston, the city had welcomed the industry like the return of old friends. Having prospered from the location of Amerada's offices, city leaders believed the boom would last well into the 1980s. Eager to accommodate its new residents, the city built a one-million-dollar fire house, grew the police department, and was in the process of building a one-million-dollar library, a three-million-dollar water reservoir project, and a new city hall.³⁵ Williston had issued assessment bonds to help fund street and sewer development for several projects. They had erroneously believed that the contractors developing this infrastructure would repay the bonds as the work was completed and the properties were sold. However, it did not take long for the city to watch helplessly as the contractors fled the state leaving Williston saddled with debt. When the dust had cleared, Williston found itself with more than 300 lots that had reverted to city ownership, two trailer courts, houses, streets, and sewer systems that had been started but not

³⁴ *Dickenson Press*, June 3, 1980.

³⁵ Terry Atlas, "Oil Boom Goes Bust for Town," *Chicago Tribune*, October 17, 1982, 6.

finished, and unserviceable debt. Property owners, for decades after the boom had ended, would get painful reminders of the bust when they were forced to pay a 19.33 mill deficiency levy.³⁶



Figure 16. Trailer court west of Williston along US Highway 2. Photo courtesy of the State Historical Society of North Dakota.

As bad as it was for Dickinson and Williston, and it was bad, it was worse for Belfield. During 1981-82, the city had sold \$2.1 million in bonds to improve its water and sewer systems.³⁷ In addition to that it had begun construction of a 96-unit subdivision, the Makaruk Addition, which also required bond sales. With just three homes completed, the developer, unable to install power, water, and sewer services, walked away. With approximately \$1 million dollars of unpaid property taxes, the city had two choices: increase taxes that would drive more people out, or file for bankruptcy. In 1987, Belfield fell \$147,000 short of the full \$290,893.92

³⁶ *Bismarck Tribune*, June 19, 1988.

³⁷ *Chicago Tribune*, December 29, 1987.

payment due on April 1, 1987. After an attempt to obtain another grant from the Energy Impact Office failed, the city was forced to file bankruptcy.³⁸

As if to add insult to injury, the state was simultaneously dealing with the farm crisis. In the early 1980s, the world was awash in oil and wheat. Over-production, brought on by high commodity prices in the 1970s, coupled with the Soviet Union's grain embargo, and the Federal Reserve's tight monetary policy and high interest rates, caused farm debt to skyrocket to a whopping \$215 billion by 1984.³⁹ In North Dakota, farm foreclosures rose, tax receipts to counties fell, and deteriorating budgets continued to crater.

With enormous debt, thousands of unemployment applications, and hundreds of houses and lots for sale in the basin, the region braced itself for the other shoe to drop, the agriculture industry. Enduring a drought, the likes of which had not been experienced since the 1930s, the state's agricultural industry spent the decade of the 1980s in its own crisis. Along with the drought came the farm crisis brought on by a sharp decline in exports and the value of land. This all happened in conjunction with increasing production costs, and rising interest on loans, so many of North Dakota's farms failed. Foreclosures and bankruptcies only exacerbated city and state budgetary woes.

The activity in the 1980s kicked off by the Gulf discovery at Little Knife field came to an end in March of 1982. Communities in the basin, who had been led to believe by press reports that the boom was going to continue for several years, were left reeling from the abrupt turn of events. Swimming in debt, cities like Belfield, Dickinson, and Williston struggled to find footing. Thousands of people simply picked up and left the basin, leaving unfinished and newly

³⁸ *Chicago Tribune*, December 29, 1987.

³⁹ *1980s Farm Crisis*, accessed March 3, 2021, <https://www.iowapbs.org/mtom/classroom>.

acquired homes in North Dakota. Some hung on to what jobs were left. Schletty continued working with Bomac's #27 rig until 1984, when in-field drilling began to wind down. Schletty then returned to his home in White Bear Lake, Minnesota, where he lives to this day. Of his time in North Dakota Schletty said, "I love the true people of North Dakota. It is a time I will cherish forever." Like Schletty, Monroe continued working as well until she was laid off. She however, stayed in Dickinson for a while before returning to Bismarck. By 1986 the basin once again fell silent, but not dead. There has never been a time when there were no rigs working the basin. At the worst, in 1986, there were seven rigs with crew, out drilling holes in the North Dakota prairie, trying to find that next discovery well. The double bust in oil and agriculture not only crushed the basin, but it brought North Dakota to its knees. Farmsteads like dry oil wells were left abandoned. Houses stood half built, without doors or windows, rotting where they stood. The main street of Williston began to look like a post-apocalyptic movie set. But it would not remain that way forever.

Communities throughout the basin, and indeed throughout North Dakota, had their eyes on the petroleum industry. While the industry continued to grow and activity continued to increase through the 1970s, it was during 1980 and 1981 that the basin boomed. During this period two significant events affected communities in the state: Measure Six, and communities who financed their growth. Measure Six, cast as a production tax to reduce income and property taxes, pitted the East against the West, the Republican party against the Democratic-NPL party, and created fodder among editorial pages and agitated coffee drinkers, but in the end, for North Dakotans, it was about sharing in the benefits of the state's natural resources, something

promised to them three decades earlier by Wemett and the NDOGA.⁴⁰ Basin communities needed desperately to expand, and listening to industry reports that the boom would continue, made those investments. When the boom ended abruptly in 1982, many were thrown into financial ruin, including Belfield, which was forced into bankruptcy.

⁴⁰ Wemett in his book *Oil in North Dakota* discussed the benefits to all North Dakota people, not just those in the western half of the state.

CHAPTER TEN: REGULATIONS GALORE

As a consequence of the October 1973, Arab-Israeli war, the United States policies toward oil production became a farrago of uncertainty. Each successive presidential administration added to an ever-increasing array of regulations, stifling domestic production when it was needed most. In April of 1973, in the face of increasing demand for oil, President Richard Nixon abolished the quota system.”¹ In August of 1974, shortly after taking office, President Gerald Ford, faced with high oil prices and a damaged economy, instituted his own set of policies. OPEC’s embargo against the United States caused the price of oil to jump from one to ten dollars. Ford, according to Andrew Crain, instituted price controls, “but their primary impact was to increase the country’s dependence on foreign oil.”² Just before leaving office Ford eliminated government controls on gasoline prices, but President Jimmy Carter immediately rescinded the action upon taking office, insisting that Americans pay more for oil and drive less.³ In a televised address to the nation Carter explained the problem,

I know that some of you may doubt that we face real energy shortages . . . our energy problem is worse tonight that it was in 1973 . . . It is worse because more waste has occurred, and more time has passed without our planning for the future. And it will get worse every day until we act. The oil and natural gas we rely on for seventy-five percent of our energy are running out. Unless profound changes are made to lower oil consumption, we now believe that early in the 1980s the world will be demanding more oil than it can produce.⁴

¹ Yergin *The Prize*, 572.

² Andrew Downer Crain, “Ford, Carter, and Deregulation in the 1970s”, *Journal on Telecommunications and High Technology Law* Vol. 5 2007, 441.

³ Crain, “Ford, Carter, and Deregulation”, 413-447.

⁴ President Jimmy Carter’s Televised address, April 18, 1977. Accessed January 24, 2022, <https://www.youtube.com/watch?v=FpEAefIT-d0>.

Could the world really run out of oil? Absolutely. Since the commodification of oil in 1859, the industry's greatest fear has been that one day, just over the horizon, the country will run out of oil. Forever haunted by the prospect, the industry was obsessed with finding new sources of oil, but simultaneously used it wastefully. This oil problem was never clearly articulated until Marion King Hubbert proposed what would come to be known as peak oil or Hubbert's peak. In 1956, Hubbert, a geophysicist working for Shell Oil, presented his findings to the API. Hubbert believed global oil production would decline "within decades." Kenneth Deffeyes, in his book *Hubbert's Peak: The Impending World Oil Shortage*, postulated that Hubbert's peak had indeed been reached in 1970. Hubbert's theory and the subsequent book by Deffeyes moved entire nations to begin work on alternative fuel sources, and environmentalists, weary of oil's pollution, celebrated the thought of a world without oil. However, Hubbert's theory and those who supported it did not consider the shale revolution, technological advances, and the marriage of horizontal drilling and hydraulic fracturing.

In the wake of the OPEC oil embargo, violence in the Middle East, and an increase in demand for petroleum products, governments were faced with an existential crisis. One day soon, just over the horizon, the country would run out of oil. In response, the federal government passed legislation to conserve remaining oil reserves and reduce the amount of oil consumed. In response to environmental disasters caused by the industry, the federal government passed legislation to protect the environment from further degradation. North Dakota also passed legislation and regulations to protect water resources and more closely regulate the industry. The volatility that grew from this complex set of circumstances not only ended North Dakota's second oil boom but it also wreaked havoc on the state's ability to forecast oil prices, frequently leading to dramatic budget shortfalls.

In response to OPEC's oil embargo, President Nixon abandoned the prorationing of production and instituted a rationing program in which he intended American oil supplies remain available at low prices. The result was the memorable lines stretching out from gas stations around the nation. Nixon's abandonment of prorationing induced exploration in North Dakota. This exploration increased gradually beginning in 1974, and by the time the Little Knife field was discovered by Gulf Oil in 1976, regulation in the industry had become a convoluted mess. Nixon was also responsible for the creating of the Environmental Protection Agency in 1970, an organization that attempted to control the petroleum industry's pollution.

It was in considering peak oil that President Carter first supported price controls, but in the aftermath of the Iranian Revolution in 1979, he announced his plan to phase out price controls, saying, "We still face the basic reality about America's use of oil: We must use less, and we must pay more for what we use." Carter also believed shareholders who had invested in oil were making excessive profits, so according to Andrew Cain, "he proposed a windfall profits tax of 50% of the difference between the price for which a barrel of oil sold on the market and the price at which it would have sold under the price controls."⁵ What drove the gas shortages and price hikes of 1979? According to Philip Verleger, it was the Department of Energy (DOE), and not OPEC, that was responsible. Verleger concludes, "Most agreed that DOE's allocation system worsened the gasoline shortage."⁶ Congress, prior to the election, passed, and Jimmy Carter signed into law, the windfall profit tax in March of 1980. Interference in the petroleum markets first by Nixon and Ford and then by Carter made matters worse rather than better for the industry and consumers. President Ronald Reagan, running on a platform of deregulation, called

⁵ Crain, "Ford, Carter, and Deregulation", 443.

⁶ Philip K. Verleger, Jr., *The U. S. Petroleum Crisis of 1979* (Brookings Institution: Brookings Papers on Economic Activity 2, 1979), 476.

for the removal of all controls on the petroleum market. When President Reagan began his first term in 1981, he, by executive order, eliminated price controls, but was unable to end the windfall profit tax.⁷ The immediate result was that those who finance oil exploration were not so keen to invest if the profits they sought would be taxed so heavily. This was not a main factor, but certainly a contributing one to diminished exploration in the early 1980s. Not until 1988 was Reagan able to win repeal of the tax. When price controls were removed by Reagan in 1981, the free market was unleashed and initially prices rose, but by the fall of 1981, prices began to soften as an oversupply of oil became apparent. By the spring of 1982, prices had fallen nearly ten dollars per barrel, causing North Dakota's boom to bust and continuing their slide through the mid- and late 1980s.

At the federal level the Reagan administration, in a pledged effort to reduce government intervention in business and dependence on foreign oil, decontrolled the industry. Initially, when news of the decision first got out, prices rose. The editors of *Energy Future*, Robert Stobaugh and Daniel Yergin, however reported, "Immediate decontrol likely would cause lower prices to exist on October 1, 1982, than if prices were gradually decontrolled." This was an effort by the Reagan administration to reduce world oil prices, but as world economies shrank in continued recession, an oversupply of crude resulted in a world oil glut. Lower prices resulting from an oversupply of crude oil, high drilling costs, and certain other economic factors resulted in a downturn in the exploratory drilling activity in North Dakota in March of 1982.⁸

With the increased activity in the basin came increased difficulty in regulating and policing the state. North Dakota's petroleum industry began in the oil fields of western North

⁷ Crain, "Ford, Carter, and Deregulation", 444.

⁸ Anderson, *Oil Exploration and Development*, 11.

Dakota and ended at the refinery in Mandan. From the Missouri river east to the Red river valley, there were no oil wells, no oil facilities, no refineries yet the organization that regulated the industry, the geological survey, sat in Grand Forks. This organization, tasked with policing the industry for the commission, was underfunded, and understaffed with no inspectors. As activity increased during the 1970s and peaked in 1981-82, the legislature amended the state's oil and gas statutes to separate the survey into two parts: the oil and gas division, located in Bismarck, and the survey, remaining in Grand Forks.

The idea was not new. Laird, as early as 1952, had called for the department to be split between a conservation side, which managed prorationing, and a geological side, that managed the core library and other survey duties.⁹ With prorationing gone, conservation meant environmental protection, something that was in desperate need as some in the industry began to willfully pollute.

The separation of the commission and the survey, even in the 1970s, made communication, enforcement, and access difficult, especially before the invention of the facsimile (fax) machine. One example of this difficulty in communication was the well permitting process. If a company wanted to drill an oil well, it would first make application with the survey. This application would include a check for \$25.00 made out to the commission. The survey would then have to send the check on to the commission. This had been the process ever since 1938 when the legislature passed laws requiring a permit to drill a well until 1981. To address problems such as this the legislature created the Oil and Gas Division (the division) and moved it to Bismarck. Wesley D. Norton was named the first Chief Enforcement Officer and

⁹ *Williston Basin Oil Review*, May 1952.

was directed to “transfer such personnel as may be necessary from the survey to perform” regulatory duties as prescribed by law.¹⁰ Field offices were established in Dickinson, Williston, and Minot for inspectors to work out of. All information and data necessary to effectively carry out the provisions of the oil and gas conservation laws were filed with the commission. The duties and responsibilities regarding oil and gas regulations previously performed by the survey would be carried out by the division’s staff.

In Grand Forks, the survey would continue to be run by the state geologist, who was appointed by the commission. The survey’s responsibilities included the storage and curation of cores and samples, making them available to the public at the core and sample library in Grand Forks. The survey would also continue to regulate the exploration for coal, geothermal resources, subsurface minerals, Class III underground injection control wells and fossil resource protection.¹¹

In Bismarck, the division’s responsibilities included the “administration of statutes and administrative rules, regulating the drilling and plugging of wells, the restoration of drilling and production sites, the disposal of saltwater and oil field wastes, the spacing of wells, and the filing of reports on well location, drilling, and production.¹² The division, as part of its duties, maintains and disseminates electronic storage of production, reservoir, well, and geophysical exploration data for use by the public, industry, and government. Additionally, the division conducts inspections in the field and regulates “drilling, geophysical exploration, development,

¹⁰ *Williston Basin Oil Review*, June 24, 1981, 98.

¹¹ Gale Rauschenberger, *Williston Daily Herald*, August 5, 2001.

¹² Rauschenberger, *Williston Daily Herald*, August 5, 2001.

production, abandonment, and reclamation operations, including public hearings on oil and gas matters.¹³

The commission would enforce two rules addressing environmental quality: the conservation of natural gas produced during production, and the protection of subsurface aquifers.¹⁴ Three things are produced from an oil well; oil, water, and gas. Oil, when pumped from the well, is taken by a single pipe from the well head to the top of the water tank (see figure 19). The production enters the tank at the well production inlet. Here the oil and water settle downward while the gas rises and exits to the treater out of the top of the tank (gas outlet). The water, referred to as produced water, collects at the bottom of the tank. The oil, which rises on top of the water, is drained off through a pipe near the top (oil outlet). A special water tanker comes to pick up the water taken from a drain at the bottom of the tank (water outlet), and it is then transported to a saltwater disposal site. A saltwater disposal site is a well drilled into a porous stratum that will hold the salt water indefinitely. The oil that is carried off of the top of the water is distributed to the tank batteries for storage to be picked up by the tanker trucks. The gas that rises out of the top of the tank then heads to a treater where impurities are extracted. Once it has gone through the treater, the gas is either flared (burned off) or transported in midstream collection lines to a gas plant.

¹³ Rauschenberger, *Williston Daily Herald*, August 5, 2001.

¹⁴ Gerhard, *Oil*, 16.

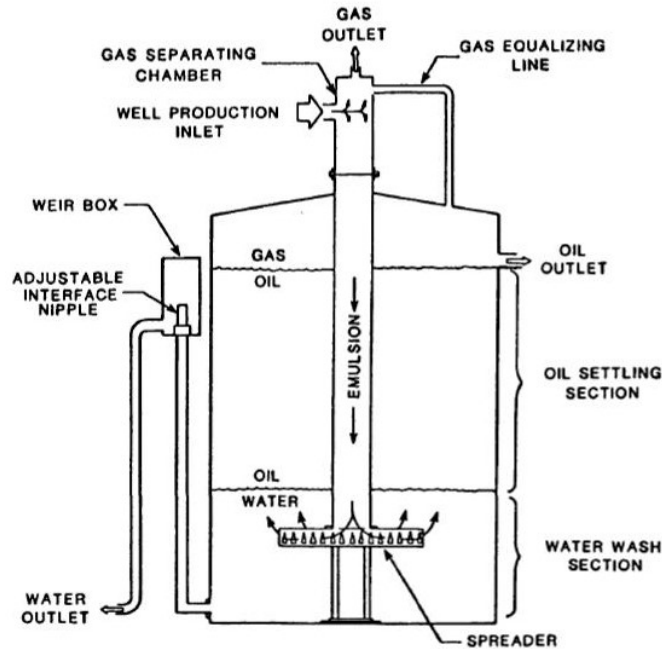


Figure 17. Water tank, the first tank in a tank battery.¹⁵

The commission, beginning August 12, 1975, insisted that producers capture their gas in midstream systems for processing at the Tioga gas plant and for use throughout North Dakota. The commission's gas rule allotted an amount of time, usually six months, that the operators must capture the gas, or the producer would face stiff penalties, usually reductions in production. During the initial development of an oil field, wells can be quite a distance from one another which makes transmission lines expensive and unreasonable, but as the field is developed wells are hooked up to the midstream lines one by one. The most remote wells, usually far from established production or deep in federal land where pipelines are not allowed, are among the few exceptions made, and for these wells the gas is flared in perpetuity.

In 1978 congress passed, and President Carter signed into law, the Natural Gas Policy Act. Many in the industry, including state regulators, bristled at the idea of the federal

¹⁵ Oil Field Tank Battery Diagram, accessed May 3, 2021, <https://schematron.org/oilfield-tank-battery-diagram.html>.

government telling states how they should regulate their industries. State Geologist, Lee Gerhard wrote, “In recent years ND has experienced, as have all states, the intrusion of the federal bureaucracy into the oil and gas regulatory affairs of the state.”¹⁶ Referred to as federal intrusion by the *Williston Basin Oil Reporter*, the act added a layer of regulation. The commission, designated as the “jurisdictional agency” in 1979, handled the applications from over 400 producers of which 398 were forwarded to the Federal Energy Regulatory Commission (FERC). The act created price ceilings, which meant that the gas produced could not be sold for more than an amount set by the government. The act was passed to deal with a shortage of natural gas in the United States. Demand for natural gas was increasing dramatically in the face of the high cost of heating oil as OPEC’s embargo forced oil prices higher. The act increased the price of natural gas to consumers, leading eventually to the FERC and the courts intervening and ending the practice.¹⁷

Along with natural gas the division also began regulating how the industry safeguarded water sources. There are three types of water in the production of an oil well: produced water, extracted along with the oil and gas; fresh water, used in the drilling process, usually in the form of drilling mud; and freshwater aquifers, which must be drilled through to get to the strata that contain petroleum. In 1979, the commission required producers to set surface casing through the Fox Hills aquifer, the deepest freshwater aquifer in western North Dakota. Displeased with being forced to add regulations, the survey wrote, “It must be emphasized that this rule was promulgated despite absolutely no evidence being presented that any damage to freshwater

¹⁶ *Williston Basin Oil Reporter*, June 24, 1981.

¹⁷ *Natural Gas Policy Act of 1978*, accessed April 30, 2021, https://www.eia.gov/oil_gas/natural_gas.

aquifers had occurred.”¹⁸ Figure 20 depicts a well’s casing. That portion of casing that is installed within the aquifer contains several layers of protection, including a layer of polyvinyl chloride (pvc) sandwiched between two stainless steel layers.



Figure 18. Well casing illustration.¹⁹

Along with regulations concerning gas and water, regulators needed some teeth in their penalties. It was not difficult to see, after suffering through the inflation of the 1970s, that a company paying over a million dollars to drill a well would not be bothered by the fine of one thousand dollars per day. It was with this realization that the commission increased the amount of fines from \$1,000 a day for each violation to \$12,500 a day. The commission, division, and survey did much to alter the industries behavior and protect the public from bad practices. They

¹⁸ Gerhard, *Oil*, 16.

¹⁹ *Operations and Environmental Protection*, accessed April 30, 2021, <https://www.chk.com/responsibility/environment/operations>.

made it mandatory, in all but a few cases, to capture produced gas; mandatory to protect North Dakota's aquifers from contamination; and they stiffened fines for violations of those and other regulations. Having transformed the way the commission dealt with the industry itself, the legislators turned their attention to helping communities affected by the industry's activity.

As mentioned in the previous chapter the commission and several legislators traveled to Dickinson in 1980 to hear about the impact of the industry from members of the Roosevelt-Custer Regional Council. Complaints varied, but most agreed the industry was costing counties large amounts of money. In response the state created the Energy Development Impact Office (EDIO), formerly the Coal Development Impact Office. This allowed affected cities and counties to apply for grants to help offset the impact of energy development.

When the legislature returned in 1983, it had its work cut out for it. Western North Dakota was burning, literally and figuratively. The drought continued unabated, leaving counties in oil-producing regions without the necessary resources to function. To make matters worse, the EDIO had less to give. The legislature, faced with shortfalls due to falling oil prices, decreased the amount for grants, benefits, and claims from 22 million to 19.875 million.²⁰ Budget shortfalls were becoming front-page news as the state was forced to make some drastic financial choices.

North Dakota's legislators had hoped that the oil industry would stabilize the state's economy, but it only made it more volatile. The volatility of oil prices, especially in relation to OPEC and violence in the Middle East, proved the state's inability to forecast oil prices effectively. Tax revenue from petroleum was not a panacea. As discussed in Chapter 8, the

²⁰ North Dakota Session Laws of 1981 and 1983.

production tax had been increased by initiated measure in 1980, from 5% to 11.5%. Despite the increase in amount of the tax budget, shortfalls due to falling prices would be the norm rather than the exception for much of the 1980s. Industry insiders like Ridgeway, after its passage, often blamed the tax increase as a factor in ending exploration, but the bust was national. Had it been the fault of the tax increase, the bust would have happened in the basin alone, but the fall of oil prices hurt the industry nationally.

The revenue forecasts projected by the office of management and budget were off by extraordinary amounts because of the sudden drop in oil prices. North Dakota's newly elected Tax Commissioner, Darrell Ohlhauser, at one point forecasted an additional \$20 to \$25 million shortfall.²¹ The *Bismarck Tribune*, in March of 1982, reported a 142 million shortfall, writing, "Lawmakers during the 1981 legislative session based general fund spending on anticipated income of 851 million."²² Forecasters, who assumed growing tax revenues from oil and gas production and the new production tax of 6.5% watched helplessly as an anticipated \$175 million surplus disappeared. Allen Olson, the state's governor, said, "Where before we were one of the blue-eyed Arabs, we've had to scramble to come up with money because the budget was based on \$42-a-barrel oil."²³ Forecasts assumed a steady price of \$32 per barrel through 1983, but the price fell below \$29 in 1982, creating a budgetary nightmare.²⁴ Not only were oil prices creating shortfalls, but North Dakota's farm economy was being damaged by the farm crisis and by unprecedented drought conditions. Forecasters for the state finally concluded, "Petroleum prices remain impossible to predict accurately – being heavily dependent upon world economic

²¹ *Williston Basin Oil Review*, March 31, 1982.

²² *Bismarck Tribune*, March 24, 1982.

²³ Terry Atlas, "Oil Boom Goes Bust for Town," *Chicago Tribune*, October 17, 1982, 6.

²⁴ *Petroleum Update*, December 30, 1982.

recovery, resultant energy consumer demand, and OPEC market prices.”²⁵ Their frustration continued as prices continued to fall, slipping to \$24 in March of 1986.²⁶ Despite the bust of 1982, drilling did not end. The number of wildcat, or exploratory wells dropped, but the number of development and extension wells continued at high numbers through 1983. The leases that had been secured by wells now had to be developed. Men like Schletty, Golden, and Braun, and women like Monroe and Neset, continued to work. Prices, however, continued to fall. As the price of oil fell, the number of rigs in the basin declined until one day there were only 7 rigs working the basin. The drop from 119 rigs in 1981, to 7 in 1986, proved once again, as Golden said, “As sure as the sun comes up in the morning, an oil boom will bust.”²⁷ This particular boom-bust cycle can be traced back to humble beginnings in 1974.

In 1972 North Dakota drilled ninety wells, the lowest number drilled since the year oil was discovered in 1951. Foreign oil was much cheaper domestically which continued until 1974. In 1974 North Dakota’s oil production fell to 19 million bbls, a low not seen since 1959, when North Dakota produced 17 million bbls. Had OPEC not instituted its embargo against the United States in 1974, it is likely those numbers would have continued to fall. In 1973 there were 117 wells drilled in the state, and the number continued to climb through the late 1970s. In 1980 there were 773 permits issued, 683 wells spudded in, and 571 completed wells.²⁸

Production exceeded 40 million bbls, and everyone was talking about an oil boom.

People began asking questions: How long is this thing going to last? How will we be able to handle all of the people coming here and using our services? The answers came in the

²⁵ *Petroleum Update*, December 30, 1982.

²⁶ *Crude Oil Prices*, accessed August 7, 2020, <https://www.macrotrends.net/1369/crude-oil-price-history-chart>.

²⁷ Al Golden Oral History, November 17, 2008, #11166, State Historical Society of North Dakota. Bismarck.

²⁸ Green, “Sleeping Giant”.

form of reporting and everyone was assured this boom would last, at a minimum, several more years. Although there were no indications that anyone was wrong in the assurance, conservation efforts by the federal government, including the National Maximum Speed Law, and a global recession put downward pressure on demand. Those analyzing the industry and forecasting price for the state budget assumed a static market with stable or rising prices discounting the volatility of the Middle East and the pressure by federal regulation or deregulation on the price of oil. The boom continued, rising unabated through 1981, with 1098 permits issued, 928 wells spudded in, and 475 completions. It appeared there was no end in sight. The boom, however, had already been showing signs of slowing as the industry entered 1982. The 1982 numbers seem, at first, a bit confusing. There were 623 permits with 704 completions. The 1982 completions exceed 1981, by over 200 wells. The Reagan administration had already deregulated the industry, and analysts were predicting the price of oil to fall. In North Dakota, those companies who were drilling expiring leases had finished. Some leases had expired without being drilled, but what was done was done. The pressure to get leases drilled up in time was over. It was a wonder, why so many missed the writing on the wall. It could be that everybody was so overjoyed with the revenue flowing in they did not want to acknowledge the possibility that it would all end, but end it did, at least the boom part. As difficult as it was for those living in the west to deal with the consequences of the short-lived boom, the industry did not just disappear. Drilling contracts were signed, work was organized and continued well into the 1980s. In 1983 the well numbers fell back to 487. A brief resurgence in 1984, gave some in the basin false hope before continuing to decline in 1986. Through the late 1980s, and into the 1990s, the west looked abandoned. In Williston, a community reduced to 15,200 souls, businesses such as Country Kitchen, Break

Away Car Wash, Flying J Refinery, and Trail's West Motel had all closed by 1987, with more to follow. Apartment buildings, seized by banks, had been boarded up with no one to rent them.

Golden commented that while there was never a time where there were no rigs, in the early 1990s, there was but one rig working the basin drilling wells.²⁹ Main street shops, once bustling, were shuttered. The population of western North Dakota began a steep decline as industry workers and farmers fled to other opportunities. Production peaked in 1984 with 52.6 million bbls and would not rise above that number until 2008. The price and production roller coaster was becoming clearer over the four decades of North Dakota's production history.

The boom of the 1950s was celebrated by the industry, community, and government for developing an industry where none had previously existed. While that development slowed in the late 1960s, the supply shock of 1974, at the hands of OPEC, spurred renewed activity. Exploration, production, and population slowly grew from 1974 into a crescendo in 1980. The boom, it had been said, would last longer than when oil was discovered. That, in hindsight, was incorrect; in fact it would appear from statistics that the boom lasted a scant three years, give or take a year. The industry, communities, and government all expected the boom to continue much longer than it did, despite having real information to the contrary. It seemed several of the same mistakes were made. The process by which companies financed, drilled, and produced were unchanged except for the inclusion of women and computers. Communities were still unprepared for the new arrivals to the state looking for housing. Communities were also unprepared for the bust, having made no plans as to the course of action when activity abated. It would seem the hardest thing to learn was forecasting the world's most volatile commodity.

²⁹ Al Golden Oral History.

Time and time again forecasters have fallen short, plunging the state into regular cataclysms as state agencies struggle to find the resources necessary to be able to do their jobs effectively. To top it all off, there was no resolution to the problem of North Dakota marketing its crude outside of the state, which meant basin oil was still being sold at a discount to adjust for the transportation costs of shipping it to distant refineries.

CHAPTER ELEVEN: A BOOM BY ANY OTHER NAME

The heavy diesel smoke from twelve engines running simultaneously attacked my senses. The thick smoke, held close to the ground by the cold morning air, burned my eyes, filled my lungs, and tainted my tongue. Ear protection offered little as we took refuge in the command trailer sealed from the smoke and noise. I had been invited by Russ Atkins, petroleum engineer for Continental Resources, to accompany him on a frack job. Frack is short for hydraulic fracturing, and Russ was responsible for overseeing the process for Continental Resources. Blue water tanks, capable of holding up to 300 bbls or 21,000 gallons of water; red Haliburton frack trucks, each with its own diesel pump; scattered men in red overalls dashing here and there in preparation; and pipe . . . everywhere pipe . . . from the water tanks to the blender, from the blender through the diesel-powered pumps, all twelve of them, in two rows of six, to a central pipe that connected the managed chaos to the well head.

The day's schedule included a two-stage frack of two laterals. A lateral is that portion of the well that is horizontally drilled into the producing zone. In this case there were two laterals into the upper Bakken formation. The Bakken formation occupies nearly 200,000 square miles in the Williston basin including portions of Montana, North Dakota, Saskatchewan, and Manitoba. Discovered by Amerada while drilling the H. O. Bakken #1 on Henry and Harry Bakken's farm. The Bakken name has largely come to replace the term Williston basin in most press and industry reports, although it is but one of twenty-six producing horizons within the basin.

The perimeter of the well site, except for an access road, was lined neatly with frack tanks. These big blue tanks, pulled on site by semi-trucks, were aligned so precisely one could barely fit a hand between them. Inside the perimeter of tanks were two parallel rows of six water

pumps. The pumps were connected, via a series of pipes, to the frack tanks, the frack sand, and the frack chemicals in what is called a mixer or blender. This machine simultaneously mixes the sand, chemical, and water before pumping it down into the well.

At the center of the site, overlooking the equipment and well head, was the command trailer. The trailer is climate controlled with comfortable seating, computers to monitor the frack, and most importantly insulated from the noise of the engines. From the command trailer Atkins could monitor the crew and equipment and give the signal to start and stop the process. Continental Resources had perfected its technique and technology in Franklin County, Montana, in the early 2000s before trying its hand in Divide County, North Dakota. Continental did not pioneer horizontal drilling, nor did it pioneer hydraulic fracturing, but it was the first company to do so simultaneously and effectively, kicking off North Dakota's oil boom in 2004.

Technology was responsible for the increase in drilling activity in Montana and North Dakota. The marriage of horizontal drilling and hydraulic fracturing, first by Continental and then by the remainder of the industry, created an increase in North Dakota's production, an increase that would exceed one million BOPD by 2014. As production surpassed one million bbls the industry, restrained only by its capacity to ship oil out of the basin began construction of the Dakota Access Pipeline, addressing a marketing problem that had plagued the industry since the 1950s. The price of oil rose and fell, creating several periods of frenetic activity, but it was not until the industry, community, and government were confident of the boom's longevity that things really took off. When oil prices recovered from the financial catastrophe of 2008, those involved knew the boom had legs. In 2009, assured the boom would continue, money and people poured into the basin. It was the boom to end all booms by every conceivable measure.

Horizontal drilling, in its current form, was first used in 1929, but records indicate the idea was around long before that. In a *National Oil Journal* article from April of 1873, the paper notes that a gentlemen had “perfected a device, by the use of which, when a well has been drilled to a sufficient depth, borings may be made in any direction, from the cent[er], for a considerable distance.” There is little else mentioned regarding this drilling technique until 1934, when drillers, banned from drilling on the California coast, devised a way in which they could, by the use of “deflecting tool,” slant their wells to reach the oil from a distance. Directional drilling, as it was called, was used to drill fifty secret wells before anyone was the wiser. The owners, brought promptly before a judge, had “filtched” fifteen million bbls annually before being caught, and were forced to pay royalties to the state.¹

By 1937 Leo T. Ranney, a mining engineer employed at one time by Standard Oil, had drilled a horizontal well in Morgan County, Ohio. Ranney, whose first attempts were in the Texas oil fields of the 1920s, would first prepare a vertical shaft or caisson from which he would drill horizontally into the pay zone. In Ohio, without funds for the caisson, Ranney drilled directly into an exposed rock face eight hundred feet into the pay zone. During the Sixteenth Annual Meeting of the Pennsylvania Grade Crude Oil Association in Pittsburgh, Pennsylvania, on June 15-16, 1939, he unsuccessfully pitched his idea to his peers. By first digging a caisson, twenty feet in circumference, the driller could then drill out horizontally, like the spokes of a wheel, into the pay zone thereby enjoying production from multiple horizontal wells while incurring the cost of only one caisson. Unfortunately, the price of oil fell dramatically, and oil

¹ “Slanted Oil Wells Work New Marvels,” *Popular Science Monthly*, May 1934.

companies never utilized the invention. The system has, however, been used frequently in what are known as Ranney collector wells which collect water for municipalities all over the world.²

Lynn Helms, director of North Dakota's Oil and Gas Division, in a 2008 newsletter, writes that the first "true horizontal oil well" was drilled near Texon, Texas, in 1929, followed by a 1944 well in Venango County, Pennsylvania.³ In North Dakota, the first horizontal well was drilled in 1987, by Meridian Oil, Inc.⁴ Meridian's 33-11MDI was initially drilled as a vertical well, but was a dry hole. Meridian, not ready to give up, backed up the hole and kicked off at 9,782 feet drilling horizontally. The well was completed on September 25, 1987, producing 258 BOPD. Since then the technology used and experienced gained has been the result of drilling wells horizontally and by utilizing hydraulic fracturing.

Hydraulic fracturing, like horizontal drilling, is nothing new. Some have credited Edward A. L. Roberts, who in 1866 patented his explosive torpedo, as being the first to fracture stimulate production, but it was Preston Barmore, the father of the natural gas industry, who first dropped gunpowder down a well hole, prior to the Civil War, creating the first frack job.⁵ In the 1930s drillers exchanged nitroglycerin for acid, which was what Amerada used on the Clarence Iverson well in 1951. During the 1940s several tests were done using gelled gasoline and sand and then water and sand before arriving at the modern iteration.

Hydraulic fracturing, referred to as fracking or frack, is defined by the United States Geologic Survey as a process of "injecting water, sand, and chemicals under high pressure into a

² Leo T. Ranney, "Horizontal Drilling", *Producers Monthly*, June 1939, 11-14.

³ Lynn Helms, "Horizontal Drilling", *Department of Mineral Resources Newsletter*, Vol.35, No.1, Winter 2008.

⁴ Julie LeFever, "Oil Production from the Bakken Formation: A Short History", *NDGS Newsletter*, Grand Forks, Summer 2015, 1-6.

⁵ *The History of Multi-stage Fracturing and the Future Ahead*, accessed October 20, 2020, <http://www.stagecompletions.com>.

bedrock formation via the well. This process is intended to create new fractures in the rock as well as increase the size, extent, and connectivity of existing fractures.”⁶

In North Dakota the first successful well to be both horizontally drilled and fracked was Continental Resource’s Robert Heuer in March of 2004. The monument to this well, dedicated in 2011, says in part, “Most importantly, it reversed the 40-year decline in American oil production, reduced America’s dependence on imported oil, and dispelled the myth that America was running out of oil.” Harold Hamm, CEO of Continental commented, “We first mapped this field in 1996 and we had to work at it a long time to break the code of the Bakken shale.”⁷ While Continental would focus on the development of the Bakken in Richland County, Montana, it continued to grow its lease hold in North Dakota, becoming one of the state’s largest lease holders.



Figure 19. Continental’s Crosby monument. Photo taken by author.

⁶ *What is Hydraulic Fracturing?* Accessed November 7, 2020, <https://www.usgs.gov/faqs>.

⁷ “A Monument of Horizontal Proportions”, *Williston Herald*, October 28, 2011.

While Continental worked at breaking the Bakken's code, others like Whiting and EOG worked on their own Bakken code. Whiting Petroleum, based in Denver, Colorado, drilled its first North Dakota well in Bottineau County. The Trelstad 14-27 #3 was spudded in February 19 and finished May 18, 2000, with 136 BOPD.⁸ Whiting then drilled a dry hole in Mountrail County before finishing another producer in McKenzie county, the Green 12-6. Several wells later it returned to Mountrail County, this time drilling a horizontal well just outside of New Town, North Dakota. This wildcat well, the Bartleson 44-1H, was fracked with 474,452 pounds of proppant (manufactured sand) and initially produced 104 BOPD. This well was the discovery well for the Sanish field. This initial success of Whiting has led them to become a leader in the basin with offices in Dickinson, Watford City, Robinson Lake (between New Town and Stanley), and Williston.

EOG, short for Enron Oil and Gas, the remnants of the disgraced energy powerhouse, had drilled a mere five wells in McKenzie and Bottineau counties, but had extensive experience drilling in the Elm Coulee field alongside Continental in Montana. EOG spudded in the Nelson Farms 1-24H well on July 14, 2005. This well, the first horizontally drilled Bakken well in Mountrail County, produced little. As of August 2020, it had produced a meager 115, 845.⁹ EOG, while unhappy with the well's performance, understood the possibility the Bakken held and purchased an interest in a 38,200 acre lease block.¹⁰ Much like the lease block put together by Leach and Fruh, this lease block was created by Michael S. Johnson, an independent petroleum geologist. In his book, *Obscurity to Success in the Oil Business*, Johnson details the process a 'play' goes through, from conception to the drilling of the first well. The process

⁸ North Dakota Oil and Gas Division, Well file. 14944

⁹ North Dakota Oil and Gas Division, Well File No. 15845, Well Files.

¹⁰ Michael S. Johnson, *Obscurity to Success in the Oil Business* (Denver: Karras Publishing, 2016).

Johnson and his partners went through was not unlike the same process Leach and Fruh went through. The acreage was unproven, the technology new, and the prospect was a hard sell, but EOG, like Amerada, saw what others did not. Johnson highlights the discovery well, No. 1-36 Parshall, which was spudded in on April 11, 2006. Drilled horizontally, with a 1600-foot lateral, reservoir pressure was so high that EOG was forced to end drilling and finish the well. The unfracked well was completed on May 26, 2006, with an initial rate of 463 BOPD.

The discovery of the Sanish and Parshall fields kicked off a localized boom primarily in Stanley and New Town. Drilling in Mountrail County surged as most leases were for a period of four years and required a producing well to hold them. Resources began to flood into the basin, but many were reluctant to embrace the boom. Now was the time for the industry, community, and governmental institutions to come together and form a plan to handle the coming boom. Instead, the talk at the Cenex station was gossip about how long the boom would last. The memory of the 1980s bust lingered, and talk around town was not if the bust would come, but when. The industry held off on sending resources into the basin, the communities held off on needed infrastructure spending, and the city, county, and state governments hesitated to make needed road improvements as they waited for the other shoe to drop and drop it did.

The 2008 financial crisis brought the price of oil down from a June high of 166.60 to a January 2009 low of 51.39. Many, if not all, North Dakotans said, “See, I told you so.” This time, however, things were different. The activity in the basin had not been brought on by price, but rather benefited from higher prices. The boom had been brought on by technology, so the fall in price was not as significant a deterrent as it had been in the 1980s. This, coupled with the fact that the price did not stay low for long, brought confidence in the boom rather than fear. By April of 2009 the price of oil had rebounded and continued to climb, but then lightning struck.

When the work slowed in early 2009 and the price of oil fell, it was as if a giant was drawing in a deep breath. In the fall of 2009, clear through to 2013, that giant exhaled.

As noted earlier many companies had struggled to understand not just the geology of the Bakken but also how technology could maximize production within that geology. Horizontal drilling and fracking were the way to go, but questions remained about the best way to frack, how many laterals to drill, how many stages to frack each lateral. It was during this time of feeling around in the dark that Brigham Exploration Company completed its first multistage frack. Multistage fracking proved the boom's resiliency, creating an atmosphere where global petroleum companies were ready and eager to enter the fray as well as local industry leaders, community members, and governmental agencies. Everyone was on board for the boom to end all booms.

Brigham Exploration, of Austin, Texas, came into the basin early on with a leasehold of over 100,000 acres. Brigham drilled the Field 18-19H and Erickson 8-17H in Williams County in 2006. The Field and Erickson wells were horizontally drilled with two laterals each and were completed with a single frack in each lateral. The wells initially produced roughly 200 BOPD, but the production was reduced to 50 to 90 BOPD over time. Unhappy with the production, Brigham moved on to McKenzie and Mountrail counties to drill before returning to Williams County in 2008.

Brigham, like many companies drilling in the basin, was trying to figure out the best use of technology for each well. At costs in excess of a couple of million dollars per well, it was important to make each well count. It was on their return to Williams County that Brigham decided to attempt a multistage frack, spudding in a wildcat, the Olson 10-15 #1H, on September 7, 2008. Having fracked each lateral in twenty stages, the well's initial production was 1180

BOPD when completed January 27, 2009. Replying to reporters, Bud Brigham, the Chairman, President and CEO, stated,

We're excited about the very strong initial performance of our Olson 10-15 #1H. Importantly, we believe this high rate completion validates the transfer of completion technologies from Mountrail County, North Dakota to our sizeable acreage position west of the Nesson Anticline. Further, we believe we are the first company in the Williston Basin to have both run nineteen swell packers and fracture stimulate twenty stages in a long lateral. We believe the Olson's strong initial production rate, the strongest of any well we've completed to date, further validates our belief that increasing the reservoir exposed to the borehole while increasing the number of fracture stimulation stages enhances well performance and economics.¹¹

Brigham was not done breaking records and setting high bars. In March of 2011, its Sorenson 29-32 set a record with an initial flow of 4,661 BOPD. This well was brought in with a twenty-seven-stage frack.¹² In April of 2013, Brigham Exploration sold its holdings in the basin to Norwegian owned Statoil, but the multistage frack is here to stay and has now become the rule rather than the exception. These wells drilled by Brigham and the multistage frack technology used to finish them were the real powder behind the explosion in production. North Dakota climbed from the 9th largest producer to the 2nd largest producer sitting behind Texas. It was time for a good old fashion North Dakota barbeque.

¹¹ *Rig Zone*, February 3, 2009.

¹² Anne Leonard, *Breaking Records in the Bakken*, accessed April 12, 2010, <https://www.enverus.com>.

Barbeques are a big thing in North Dakota. There was a barbeque at the Blum well, and a barbeque at the Big Viking. There was a barbeque at Henry and Harry Bakken's, and on June 25, in celebration of a million barrels of oil being produced daily, the North Dakota Petroleum Council had . . . a barbeque. When North Dakota celebrated this important milestone, it did so in style. Held at the industry's birthplace of Tioga, the party had been advertised statewide for several months, and hundreds, including myself, attended. Speakers included Ron Ness, President of the Petroleum Council, and Governor Jack Dalrymple. They both spoke briefly on the significance of the event. There was much to celebrate: not only was North Dakota now producing over a million barrels of oil per day, but an updated USGS report in April of 2013 claimed a recoverable amount in the Bakken at 7.4 billion bbls.¹³

Producing a million barrels a day is significant, but what no one talked about was what they were going to do with all that oil as production continued to climb. Farmers were complaining they could not get their harvests out of the state because all available rail service was transporting Bakken crude. What the state needed now, and had needed since the 1950s, was a pipeline capable of transporting the oil to global markets. That opportunity came when the state authorized the completion of the Dakota Access Pipeline (DAPL).

The DAPL is a 1,172-mile pipeline that begins near Williston, North Dakota, travels through South Dakota, and Iowa, and ends in Illinois. In Illinois the DAPL joins Energy Transfer's pipeline that runs from Illinois to Texas. The DAPL will be joined by the Keystone Pipeline, now under construction in Montana that will run from Canada to Texas.

¹³ US Department of the Interior, "USGS releases new oil and gas assessment for Bakken and Three Forks," Press Release, April 30, 2013

Construction on the DAPL began in June of 2016, and the pipeline began carrying crude oil in June of 2017. After months of extensive and often violent protests from several groups gathered near the Standing Rock Indian Reservation, the election of 2016 brought an administration change in Washington, D.C. and in Bismarck. Newly elected governor Doug Burgum moved quickly to clear protestors from Army Corps of Engineers land along the banks of the Missouri River. DAPL brought a new era to North Dakota's oil industry. Oil produced in the basin had been sold at a discounted rate since 1951, discounted because of the transportation cost associated with moving oil by rail to market. With the completion of the DAPL much of the oil leaving the basin was now in a pipeline, and no longer subjected to a discounted rate.



Figure 20. DAPL in Emmons County. Photo by author.

The protests over DAPL came largely at the hands of an environmental movement, a movement that had gained considerable speed under the Obama administration. President Barack Obama, speaking on election night at his victory party in Chicago, Illinois, assured the

environmentalists, “this was the moment when the rise of the oceans began to slow and our planet began to heal.”

Movements against fossil fuels increased including protests over fracking technology, oil production in general, and an attempt to force culture and society away from fossil fuels to renewables such as wind and solar. It is important to understand how North Dakota’s petroleum industry reacted to the movement. In North Dakota companies like Hess, Continental, and Marathon moved to drill multiple wells into multiple horizons from a single well pad reducing costs, environmental impacts, and their physical footprint on the landscape. Companies like Marathon ensured that the midstream pipelines to capture gas were put in place before the wells were finished so as not to waste natural gas through the common practice of flaring. The commission passed new regulations in 2014 forcing companies to capture natural gas sooner rather than later in an attempt to lower the amount of gas being flared. Order No. 24665 became effective July 1, 2014, which requires “producers to submit a gas capture plan with every drilling permit application and at spacing hearings.”¹⁴ Penalties for failure to comply with the order could result in fines of \$1,000 per month to a maximum of \$12,500, or \$12,500 per well for each day the well is in violation of the order.¹⁵ The commission’s goal, in 2017, was to capture up to 85 percent and to date has been successful in reaching that goal. The industry took steps to mitigate the damage done to the environment while still providing a vital resource to the world.

By 2015 the basin settled down once again for the long hard pull of developing the field. The Bakken wells are commonly drilled with two 4,000 to 5,000-foot laterals on 1,280-acre spacing units. In 1953 there was a big discussion on increasing the spacing from 80-acre to 160-

¹⁴*North Dakota Natural Gas Flaring and Venting Regulations*, accessed 12/3/2020, <https://www.energy.gov>.

¹⁵ *North Dakota Industrial Commission Order*, accessed 11/6/2021, <https://www.dmr.nd.gov/oilgas>.

acre spacing units. The move from 640 to 1,280 in the early days of the boom garnered the same resistance. Many felt the industry wanted 1,280 spacing simply to be able to tie up more leases with less wells in the heat of the play, as many companies were moving into North Dakota and top leasing. Once drilled, the well is then fracked with a 650,000 to 1-million-pound gelled water-sand in either a single, double, or multi-stage pattern. According to Julie LeFever of the survey, each well costs approximately 2.2 million, “with the potential for the well to produce 500 to 700 BOPD initially, leveling off at 250 BOPD with virtually no water.”¹⁶ The industry had, in the Williston basin’s Bakken formation, transformed the western half of the state. Technology had changed the landscape. It had become, as Brian Black called it, sacrificial. Hills were moved, roads were made and unmade, water storage ponds created, and the horizon changed forever by the constant motion of the pump jacks, the lighted nights of the gas flairs, and the tank batteries dotting the hillsides. Like the western landscape, the cities and towns of western North Dakota were forever changed as well. Those who lived in communities such as Belfield, Dickinson, Killdeer, New Town, Stanley, Watford City, and Williston knew a thing or two about booms.

What made the Bakken boom, beginning in 2009, the greatest boom the world had ever seen? It was the greatest because it was not just an oil boom. It was a housing boom. It was a road construction boom. It was a community infrastructure boom. It was a service sector boom. It was a city, county, and state building boom. New roads, new houses, new hospitals, schools, sewage treatment, firehouses, everything new everywhere. Lastly, it was a beacon of hope to many Americans who dropped whatever they were doing wherever they were and came to

¹⁶LeFever, *Oil Production*, 1-6.

Williston. Many came to save their homes and families back where they came from. Williston was ground zero for anyone good or bad, looking for something to do legal or illegal to make money in the basin.

Those who lived and worked in the basin during this time, me included, experienced the boom on a level that could not be shared in a news story or book, or volumes of books. I was member of the AAPL, and LAND, as well as a notary in both Montana and North Dakota. I lived and worked in Dickinson, Killdeer, New Town, Sidney, Scobey, Stanley, and Williston; internally, as an in-house landman, and externally as an independent landman for Continental Resources, Penn Virginia, EOG, ONE OK, and Marathon. My experiences, as well as those who appeared in nightly news reports, are just too lengthy and sometimes unbelievable to record here. There is an extraordinary collection of nightly news stories, newspaper and journal reports, movies, documentaries, you tube videos, and books, both fiction and nonfiction, about the men and women who participated in the Bakken boom. The media paid lavish attention to those living in the man camps, recreational vehicles, and their cars. Some even stayed in a local church in Williston for a time, but they rarely spoke to those, unable to participate in the boom, who fled the region or were forced out as their rent skyrocketed because of the housing shortage. There are no interviews of the immigrants, legal and illegal, from Mexico, South America, or Africa. There are no interviews with those who came for work, but ended up in jail, or worse, dead. Or with the many industry workers who participated daily in the grind and had no time for reporters or story tellers. Interviews of the amazingly diverse types of work to be found, and the incredible amounts of pay one could earn doing that work.

Volumes could be written about these people, the transient people along with those who had lived in the basin their entire lives, and those that had moved there, like I did, near the

beginning in 2006. Several of my experiences may not be unique but offer evidence to the reader of daily life in the basin. During one such experience while running title in the Williams County courthouse, taking a lunch break from working (they close the recorder's office for lunch), I decided to try my luck fishing in the Little Muddy River, just outside of Williston along the western shore. As I was fishing a car pulled up and a gentleman got out and draped a towel over his windshield to dry. He informed me that he had just cleaned up at the local gas station and was going to take a nap. He parked by the water daily, he told me, and lived in his car, which was evident by the number of belongings he had stuffed into it. On another occasion very near the same place a white Cadillac with Michigan plates pulled in alongside me by the shore. The couple in the car had just arrived, having driven all night. They had no clothes, no place to stay, no job prospects -- nothing but the clothes on their backs and their credit cards. I asked them what possessed them to come to Williston, and they said that after a night of drinking they wanted to come check it out for themselves and see if they could find work. Now as strange as those stories seemed, they were not at all uncommon. Few came to the basin with a plan.

In their work, *The Bakken Goes Boom*, Caraher and Conway suggest three themes emerged regarding the impact of the boom on basin communities: "social disruption due to rapid population influx, loss of identity, and uncertainty and anxiety."¹⁷ While I am not necessarily discounting these themes, I believe they ignore the agency residents had in dealing with the boom, the complexity created by unfettered capitalism and economic growth, and the memory of the residents, many of whom had lived through the two previous booms. No one experienced the boom in a static environment, nor did they expect others to fix it for them. Each behaved, when

¹⁷ Caraher, *Bakken Goes Boom*.

they could, in their own self-interest. Some, like those living in Williston's affordable housing, were forced to move as their landlords steadily increased their rent. Others, rather than deal with the frenetic lifestyle of a boom town, simply moved away.

My aunt and uncle, Gary and Roberta Herz, moved to Williston during the late 1970s from Cheyenne, Wyoming. Gary worked for Black Hills Trucking, a company largely responsible for moving rigs from location to location, as their shop manager. Roberta had worked as a bank teller. In 2012 they, rather than stay and live in Williston, sold their house at peak market price, and moved first to Wilton, before settling in Bismarck. They had lived through the boom of the 1980s, nearly ruined by a business partnership in a well services business, and knew what was coming and wanted no part of it. Their two sons Jess and Charlie opened a Wallwork Truck center and make exceptional livings repairing diesel engines.

In 2012 I worked as a right-of-way agent negotiating agreements with landowners for ONEOK Rockies Midstream. A midstream pipeline carries the produced gas from the well into trunk lines that carry it to the gas plant in Tioga, among other places. I lived in New Town and traveled throughout western North Dakota speaking with landowners daily. There are several things worth noting.

First, if you are not a drug user, drinker, or person who frequents strip clubs, the prospect of committing crime or having crime committed on you is slim. That is not to say there was not an increase in crime, but it increased because there was an increase in criminals coming to North Dakota. It is an important distinction. However, after a drug addled teen shot an elderly woman in New Town before taking his own life, I, like many, began to lock the door and conceal carry.

Second, inexperienced truck drivers are a liability to everyone. If you had a commercial driver's license, just about anyone would hire you, regardless of your experience, or lack thereof.

Some drivers, especially those carrying produced water, gravel, or oil, would often fail to stop at the stop sign where the gravel roads met the blacktop. Laziness was the chief culprit, as the truck driver must gear down and then back up again, but inexperience was to blame as well. Rarely did a trip on Highway 1804 from New Town to Williston go by without one or two trucks blowing off a stop sign causing me nearly to rear end them. Blame cannot fall solely on truck drivers, for their rigs move slowly, especially when loaded, and the hills of western North Dakota can reduce a loaded truck's speed from 65 to 35 in a matter of seconds. Impatient drivers, attempting to pass, were often met by oncoming drivers, creating dangerous situations that ended badly. It is no surprise that highway deaths increased in North Dakota, and little could be done about it initially because of a shortage of highway patrolmen in the northwest corner of the state.

Third, it is not a road if you cannot drive on it. The two-lane highways were congested but passable. Once you left the blacktop and headed out onto gravel you had better be driving a four-wheel drive vehicle because the county roads were ruined entirely. Some roads appeared to have been strafed and bombed from above, with deep craters, and soft shoulders, and in some cases were impassable except for heavy equipment with large tires and patient drivers. It took me three hours one Saturday afternoon to drive 15 miles on a heavily damaged Williams County road. If the road is paved rather than gravel, there is a good chance of running into construction. It seemed the construction was everywhere simultaneously, from adding bypasses in New Town, Williston, and Watford City to increasing the number of lanes to let faster traffic pass. In addition to the oil boom and housing boom, there was a road construction boom, and every major highway saw construction.

Finally, it is true that you can go hungry for want of food with a pocket full of money in the middle of the basin. Attempting to get something to eat in a restaurant, especially a drive through, was an act of insanity. Weather it was Hardee's, McDonalds, or a roadside café, you would invariably wait an hour before even being able to place your order. To avoid the Williston Walmart, which was notorious for empty shelves and parking lot abductions, I would travel to the Walmart in Minot instead. It did not save any time, but the shelves in Minot at least had food on them. Food was a big thing in the basin. In Watford City, when the courthouse closed for lunch, the only place to get food fast was the grocery store. I would pop into the Super Value and grab a couple cold sandwiches, some Cheetos, and a drink and head back out on the road. Later, after I left the basin, they built a brand-new Cash Wise, bigger than any store I had ever seen in Fargo or Bismarck, but getting there, getting in and getting the food, and getting out took more time than lunch allowed. Food was always hard to come by, from empty grocery store shelves to lines that extended around fast-food stores. Employees who were willing to work for the lowest wages in the basin were rare, and everyone in the basin had to eat.

There was as diverse a labor pool as you can get in the basin. The oil industry employed laborers such as drillers, roughnecks, pipeliners, roustabouts, and truck drivers, while also employing petroleum engineers, geologists, and a myriad of upper management and landmen. Support industries included tank, crane, and other equipment rental companies, pipe, frack sand, and other equipment supply companies all with their own employees. Alongside the oil industry were all the other service industries: attorneys, doctors, dentists, optometrists, beauticians, chiropractors. Every single one of these occupations and many more boomed during this period. Everywhere prices went up as the shortage of labor and housing became acute. Also active in the basin were criminals. Criminals came for the same reason as everyone else, to make money.

From prostitutes to peddlers, every demographic was present in the basin. Soon, the sheriff's departments were investigating homicides and armed robberies, something extremely rare before the boom. Basin activity reached communities as far west as Billings, Montana, and as far east as Fargo and Grand Forks. It reached as far north as the Canadian line, and as far south as Belle Fourche, South Dakota. It was what people talked about while in line at the post office, and what they talked about at home while eating dinner. It was the experience of a lifetime, but it is important to remember that not everyone benefitted, and more than a few people were hurt financially, emotionally, and physically.

Whatever affected the communities in the basin affected the city, county, and state governments. It was nearly impossible for Williams, Mountrail, or Dunn counties to keep employees. The registers of deeds in Dunn and Mountrail counties had quit between 2006 and 2008, to work as landmen running title for the same companies whose leases they used to record. County road workers could make much more money building drill sites than maintaining county roads. Clerks, road crew men, firemen, policemen, and even postmen could make substantially more money working for the industry than in support of it, especially if they were natives of their communities who owned their own homes and did not have to worry about rising rent. It took some time for governments to identify problems and work to find solutions, such as raising salaries to retain key employees. Meanwhile oil companies were destroying county roads, spilling oil, salt water, and frack socks all over the place, creating environmental hazards by allowing wells to flare unchecked. The west was becoming quite a mess initially, before being brought back under control by the enforcement of commission rules.

Between the apex of the significant portion of the boom in 2012-2013 and 2017, much had changed in western North Dakota. In the first chapter I asked, "What does the history of

North Dakota's petroleum industry have to teach us about ourselves as a people? What has been the impact on the state from these successive waves of petroleum exploration?" It teaches us that we as North Dakotans are welcoming. Successive waves of newcomers from around the country have come to open arms and hospitality. Many newcomers have stayed, raised families, and now proudly call themselves North Dakotans rather than Ohioans or Californians. (Not Texans though, they will always be Texans). They come, to a state that is relatively young and used to welcoming strangers. In 1951, when oil was first discovered, many newcomers were welcomed to the state by people that had only been here fifty or sixty years themselves. The impact on the state has been significant, from the creation of an industry where one did not exist, to the growth experienced in a region with chronic population declines. A drive to Watford City and Williston will dispel any notion there has not been a deep and profound impact.

The cities in the basin, as they had in 1951 and 1979, struggled to cope with the immense influx of people. The problem, in 2012, was magnified by the overwhelming tide of humanity that descended upon the basin, but specifically in Williston, which was ground zero in the spring of 2012. The man camps, as the temporary housing had come to be called, were initially welcomed. City governments would rather have the commercial man camps rather than the haphazard, quickly thrown together arrangements many made including RV's parked haphazardly set up around the basin.¹⁸ There was even a brief time in which a local church took in homeless men during the night and turned them out on the streets during the day. An award-winning documentary, *The Overnighters*, a film about Williston's Concordia Lutheran Church,

¹⁸ At one point the city council of Williston had to ban RVs from city limits as people were renting spaces in front of their homes on the street and providing water and electric for a price.

brought the plight of Williston's migrants to the forefront and forced the city to act. Soon the word went out on national news, do not go to Williston, they are full.

One lesson learned from previous busts was how cities invested in the infrastructure necessary to accommodate new housing. Cities like Belfield, Dickinson, and Williston were stuck with an enormous debt when the 1980s boom ended suddenly. In the resurgence of activity in 2009, cities like Watford City were running out of options. They did not want to risk being saddled with debt if the boom once again ended abruptly, but they needed housing badly. Mayor Brent Sanford explained that at the beginning of the boom there were 1,700 people living in Watford City. There were two hotels, three apartment buildings, and about 600 dwellings. Rather than once again expose the town to debt, Watford City put the debt burden on the developers. They said, if you want to come into our town and build and sell houses, then you will have to pay for the infrastructure. It worked, and in 2014 alone there were 1,700 building permits. When the boom slowed in 2015, the developers were exposed, and not Watford City.¹⁹

The greatest financial impact of the industry on the state has been felt at the capitol. The state's budget has grown from \$5,752,673,790 in the 2005-07 biennial to \$14,200,396,794 in 2015-17, biennial.²⁰ To deal with the volatility in oil and gas tax revenues, legislatures asked voters to create the Legacy Fund. North Dakota voters, in the 2010, election, voted to amend the North Dakota constitution to create the Legacy Fund as Article X, Section 26. North Dakotans proudly created a "perpetual source of state revenue from the finite national resources of oil and

¹⁹ *Did North Dakota boom towns overbuild?* Accessed 12/1/2020, <https://www.youtube.com/watch?v=5lgW20aClkU>.

²⁰ Office of Management and Budget, accessed 12/3/2020, <https://www.nd.gov/omb>. A biennial, for example, runs from July 1, 2005, through June 30, 2007.

natural gas.”²¹ It would seem, at least initially, that the state of North Dakota has learned much from past mistakes, but while alleviating one problem another pops up.

One problem that did not exist in the state’s earlier booms, or was not reported, was that experienced by farmers and the agriculture industry in general. Farms located along major roads have had to deal with dust and lots of it. Diminished crop production due to dust settling on plants, health problems with cattle, like dust pneumonia, and significant damage to roads has caused economic hardship to many farmers in the western half of the state. Additionally, roads that were once used to move equipment from field to field have become nearly impassable and dangerous. In the fall of 2012 and 2013 farmers found it difficult to transport their harvests to market because there was a shortage of railroad capacity. Every train out of North Dakota was laden with oil, rather than wheat, and the farmers were not happy about it. This coupled with the two incidents of oil cars being derailed and one exploding near Casselton, North Dakota, caused concern.

²¹ North Dakota Legacy Fund, Office of State Treasurer, accessed 1/24/2022, <https://www.treasurer.nd.gov/north-dakota-legacy-fund>.

CHAPTER TWELVE: CONCLUSION

Employed as a landman in 2006, I was working in the Dunn County courthouse in Manning, North Dakota. I was preparing title abstracts in the hopes of finding and leasing open acreage when I came across a lease that was dated in 1926. Knowing that oil had first been produced April 4, 1951, I was confused as to how this lease fit into the historical record. I had never heard, read, nor been taught anything about North Dakota's petroleum history.

I began asking questions of those I worked with and for, but to my surprise no one could answer my questions. No one seemed to know anything about the early years of North Dakota's petroleum history. I continued to search for information believing someone, somewhere, must have written something and then I happened across a listing on Amazon for an out of print, unavailable book titled *Mud, Sweat, and Oil*. Written by Shemorry, *Mud, Sweat, and Oil* was about the industry's early years, and it was available at North Dakota State University's archives in Fargo.

So began my odyssey that has lasted over a decade. During this journey I have uncovered plenty of misinformation, but more importantly I have been able to find answers to many of the questions I first had. Why does no one know about all of this great North Dakota history? Like most historical questions, its complicated. When oil was finally produced in North Dakota, the state was experiencing an exodus of people and as the population continued to decline so did the demand for petroleum history, both among the general population and at institutions of higher learning. There were several small works of history here and there during the first two booms, but the technological boom of 2006 through 2017, produced documentary movies, books, even a made for television fictional miniseries, but still nothing about North Dakota's petroleum history in its entirety. In the first chapter I described this dilemma as a dry

hole, but now, I would hope the reader contemplates this work more like a discovery well. The first of many works to come on North Dakota's petroleum industry. An industry that has a humble beginning in Ward County.

High atop the Ward County courthouse in Minot, etched in stone, is the Daniel Webster quote, "Let us develop the resources of our land, call forth its powers, build up its institutions, and promote all its great interests, and see whether we also, in our day and generation, may not perform something worthy to be remembered." Such was the task given to North Dakota's first white settlers. During the second Dakota boom, according to Robinson, "two thirds of the population had been born outside the state."²² Most of these men, children of Swedish or Norwegian immigrants, were born, raised, and educated in Minnesota. Men like Algot F. Blum, Burr A. Dickinson, Edward E. Fredeen, Alfred M. Fruh, and Arthur C. Townley. These men, many of whom attended college in Minnesota left their homes and families to trek west in search of opportunity. Opportunity, they believed was their birth right. Believing they need only find a space in the West, put down roots, and they would be successful. They did find initial success, but as Robinson points out many faced a "slow and painful readjustment" in light of economic realities of the Great Plains. Blum became a successful farmer before losing his farm to the bank. Dickinson, a successful attorney would later serve in public office. Fredeen built and operated the Hotel Fredeen in Ryder but died shortly after it burned to the ground. Fruh purchased the bank in Tolley and began bringing settlers in from Minnesota, but his bank failed, and he sold insurance until meeting Leach. Townley realized great success near Beach as the flax king of North Dakota before going bankrupt and founding the NPL. Some of these men

²² Robinson, History, 236.

found immediate success only to suffer catastrophic failure, while others were successful their whole lives. Some men never found lasting success, but even in the face of failure they never gave up on their belief that success lay just over the horizon.

These men believed North Dakota's oil resources lay undiscovered just below the earth's surface and all that was necessary was for them to drill an oil well and find it. Blum and Fredeen both found small amounts of oil in water wells. These small discoveries grabbed the attention of the region and kicked off North Dakota's first lease play which saw several companies attempt but fail to find oil. In the search for oil from 1917 to 1937, locally organized companies, in the spirit and under the influence of the NPL, raised capital locally. This was an effort to keep the monied interests from profiting off of their labor. Each individual was urged to do their part in raising the necessary capital to drill a well. This was the case in nearly all of the early wells with the well drilled by Fredeen and the Prairie Oil Company being the exception.

It was also during this time that the drilling location of several wells was chosen, not by the science of geology, but by the use of a doodlebug and the process of salting a well. The fabulous story of a water well producing refined gasoline defines incredulity, and while the historic record lacks the necessary proof, there is an old saying about a quacking duck. First, the salted well. An unused water well near Robinson. Then, days later, Townley returned from Kansas, with a doodlebug in tow. Grabbing the only remaining unleased land Townley boldly told his fellow NPL members and investors, "loan me your money -- but kiss it goodbye."²³

Nearly as incredible as the claims of Townley were those of George W. Perry, who brought his mineral indicator to Turtle Lake on behalf of Herman Hanson. Predictably Perry's

²³ Fargo Forum and Daily Republic, March 4, 1926.

mineral indicator, had for a fee, found the greatest accumulation of oil the world had ever seen. Leonard, responding on behalf of the survey was not impressed with Perry's report writing, "I am sorry you believe the ridiculous stuff. His findings are almost too absurd to deserve notice."²⁴ Equally absurd were the claims made by John Dahlgren, a doodlebug in the employ of famous culturalist Alois P. Swoboda. Dahlgren assured Swoboda he had found an extensive oil pool near Edgely. The silver lining to the Swoboda cloud was that the money invested to drill came from New Yorkers rather than North Dakotans. Becoming instantly and fabulously wealthy for the investment of one dollar was a strong pull to those North Dakotans struggling to eke out a living on the Great Plains. What little money North Dakotans had to fritter away on crazy oil stocks would soon disappear as the Great Depression descended on the state.

In 1926, while touring Renville County's gas fields, a young man from Wisconsin, Thomas W. Leach, met Fruh. Fruh, having failed as a banker and land developer traveled to the oil fields of Montana. After successfully drilling several wells Fruh sold his interest in the wells and returned to North Dakota. Once home Fruh tried to develop a gas field near Mohall, where he met Transcontinental's geologist Leach. As a result of that trip and the encounter with Fruh, Leach opened an office in North Dakota and would become the father of North Dakota's petroleum industry. Responsible for assigning the leases necessary to drill the Nels-Kamp well in the 1930s, and the leases necessary to drill the Clarence Iverson well in 1951. Leach never faltered in his believe that North Dakota would one day be an oil producing state.

During the discovery period it is important to remember that North Dakota was rank wildcat territory. It possessed nothing the industry would need to develop the petroleum

²⁴ Leonard to Herman Hanson Oil Syndicate, September 17, 1925. North Dakota Geologic Survey Files, Elwyn B. Robinson Department of Special Collections.

resources. As a result, everything was new. History would record the first production, the first royalty check, the first pipeline, the first refinery and so on. When problems arose, such as insufficient housing in Tioga and Williston, those communities worked with the industry to find solutions. Amerada, faced with no housing, or office space built its own housing development to house workers in Tioga, and its own office building in Williston to house its staff. Homeowners opened their basements, garages, and even grain bins to renters. The most impressive development during the discovery phase was the coordination between the industry, community, and government. Everyone was on the same team, after the same goal, and working on the same problem. When a new problem popped up, the basin collectively tackled that problem in unison to ensure a prompt solution. Cooperation was the key to early development, even cooperation among the many different companies exploring for oil in North Dakota. These companies shared geological information, as well as drilling techniques to overcome problems associated with several encountered formations. They created an industry where none had previously existed. From pipeline infrastructure to refineries, the industry, government and communities removed barriers to ensure the industry would be able to operate without hindrance in the state.

The 1980s boom has been characterized as a price boom, because the high price of oil drove exploration. This is untrue. The 1980s boom was driven by expiring leases that needed to either be drilled or lost to competitors top leases. The discovery of the Little Knife field by Gulf Oil had brought several of the majors back to North Dakota, which kicked off a major lease play. Profits gained by the majors drove some, too late to acquire leases, to pursue a program of top-leasing. As explained in Chapter 9, companies were pressed to secure their leases with production, or face losing those leases to their competitors who had or would top-lease. This caused the boom of 1980-82, not price. Falling prices and a world awash in an oil glut was what

ended the boom with the first decline in 1982, followed by an even steeper decline in 1986. Having drilled their leases, companies slowed their drilling rather than continuing their exploration efforts in the face of lower prices. Those that had discovered new fields stayed in North Dakota to finish drilling in the mid-1980s.

Supply restrictions from OPEC, violence in the Middle East, regulation and deregulation from successive administrations had all forced volatility into the petroleum market. These interventions, once removed or relieved, caused the market to find an equilibrium at a much lower price. While the discovery boom was focused on cooperation, the lease boom was one of discord. The industry, going through its own changes, became troublesome to farmers rather than being partners in development. Communities continued, in some cases, to work with the industry to find solutions together, especially in Dickinson, but after the bust that relationship soured and mistrust and anger followed. The communities of the basin blamed the industry, not their leaders, for their dire financial situation. Government during the 1980s became much more aggressive in forcing the industry to behave. Communities were getting tired of the pollution and had a growing fear of damage to their water supplies, crops, and cattle, forcing increased government regulation and intervention. The history of the 1970s and 1980s oil industry will always be marred by the bust and the financial calamity that followed in the small western towns of North Dakota.

The most recent boom of 2006, with its beginnings in the Stanley field, created, in the communities of the basin, a hesitancy to engage with the industry for fear of a repeat of the 1980s bust. At the Cenex in Killdeer, men would gather daily, styrofoam coffee cups in hand, to discuss the industry's progress, the possible length of the boom, and how little interest they had in losing their shirts over the whole affair. When one person would say he heard the oil boom

would last a decade or longer, others would chime in with, "That's what they said in 1981." Communities like Williston, Watford City, and Dickenson put off desperately needed improvements to infrastructure, which negatively affected schools, hospitals, courthouses, and other institutions. Temporary housing in the form of man camps, temporary schools in the form of mobile trailer units, temporary fixes to roads and bridges littered the landscape. They delayed housing developments in favor of man camps, RV parks, and people sleeping in their cars, and even in churches. In Watford City they had learned from the 1980s bust not to finance housing developments, but to let the developers finance it. This knowledge spread to other communities as a solution to their fear of development. When it was clear the industry was not going to go away anytime soon money poured into the basin in a torrent.

Despite a national recession outside capital and local government funding came into the state in 2009, creating a super boom that lasted well past 2012. There were booms in road building, housing, schools, hospitals, libraries, and courthouses which brought ever more people to the state. It seemed there was no end to the growth brought to the state when nightly news brought stories of opportunity to a struggling nation. Yet, despite all the success, there was hardship. People -- low income, elderly, disabled -- were being cast out of their housing, dislocated to make way for those able to pay two, three, and four thousand dollars a month in rent for a single one bedroom apartment. Longtime residents who had secured housing were, at times, unable to get services because demand for the service outstripped their ability to receive it -- no available appointments for auto repairs, dentists, chiropractor care. Trucks and automobiles in need of repairs were sent as far away as Belle Fourche, South Dakota, for repairs. Lines formed in every store, during any time of day: in grocery stores, fast food establishments, social services, the library, hospital, and even the fitness gyms. Any place where services were being

sold, there was a line. It was difficult to obtain the simplest of things like haircuts, laundry services, and most egregiously, food. Those previously working in the service industry were leaving in droves to take higher paying jobs in the petroleum industry. The high-paying jobs of the industry had drained the pool of available workers from sheriff's departments, and courthouse clerk offices, and until grocery stores and gas stations could find employees, it was difficult to even get gas. Periodic slowdowns, such as the one in the fall of 2008, caused major problems with the legislature's forecasting. It would appear that lesson was a much harder one to learn. In response the state created multiple funds that they could draw on in times of falling petroleum prices.

Within all of this chaos, all of this development, North Dakotans adapted, adjusted, and continued on, but they still lacked the ability to get their petroleum out of the basin on anything but railroad cars, continuing the half century process of discounting Bakken crude. This situation ended with the completion of the DAPL which allowed the state to market its oil outside of the region earning what it was worth, without discounts.

In North Dakota, successive booms have forever changed the industry, community, and government of the state, altering the landscape and the language in the western half of the state. Having had a century of exploration from 1917 to 2017, what have we learned, if anything, from the experience? Are we still making the same mistakes? What, if anything, have we learned from the industry's seven decades in our state? One answer that stands out among all others is that you can never be over-prepared for an oil boom. Even now, the state should have people working on ways to help the industry, community, and government work together to reach common goals. The experience has also taught us some time-honored lessons: a bird in the hand is worth two in the bush; never put all of your eggs into one basket; do not through the baby out

with the bath water; and probably most important, never count your eggs before they are hatched. The petroleum industry has given the state plenty, but it has also caused harm. In the celebration of all the wealth created the increases to the standard of living, and the general economic health of the state we must acknowledge the harm that has been done to our landscapes, wildlife, and communities, and work together to mitigate that harm.

After seventy years of oil production lessons had been learned and mistakes continued to be made, which in the end, is the nature of being human and living in a republic. There are still multiple horizons of production in the basin, so exploration and production will not end anytime soon. As a state we must continue to work with the industry and community to ensure the mistakes are minimal and correctable.

North Dakota's petroleum industry has developed from its humble beginnings on the Blum farm to becoming the second largest producer in the United States. This did not happen as the result of several people acting independently from one another, but rather the industry, community, and government working generationally to ensure the industry's success.

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