PETROLEUM HARVEST: FARMING, OIL, AND POWER IN MONTANA'S CENTRAL AND EASTERN OIL BOOMS, 1919-1950s

by

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ABSTRACT

Montana history is marked by resource development. Today, Montana oil production predominantly occurs in the state's eastern half within the Williston Basin. However, state commercial oil development began in the small community of Cat Creek in central Montana in 1920, and oil production began in eastern Montana during the 1930s. Early decades of oil production in both central and eastern Montana engendered community infrastructure and identity shifts away from agriculture toward oil. However, Cat Creek oil production during the 1920s was more equitable for homesteaders than in eastern Montana because central Montana development began in the hands of locally operated companies and homesteaders rather than large corporations. Furthermore, homesteaders who remained in eastern Montana for the advent of early Williston Basin oil production settled under authorities that separated mineral from surface resource rights. Both factors resulted in central Montanans' comparatively positive collective memory of oil production. Oil is sunlight energy converted into social and economic capital. In both central and eastern Montana, homesteaders shaped, and were shaped by, oil as a finite energy resource.

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INTRODUCTION

On April 23, 1936, the *Fallon County Times* published a special edition with the bolded headline "OIL! OIL! OIL!" The shrill proclamation marked the discovery of a large petroleum reserve in eastern Montana's Baker-Glendive field. The publication's front-page content described the eager anticipation local homesteaders felt about the arrival of oil. One area farmer's wife went so far as to predict that "[w]e won't be needing to plant any wheat now."[1] Another homesteader proposed how his neighbors might celebrate: "Stuart Watt may buy a new car, [and] Marmarth may again have a newspaper after having been without one for several years."[2] Unfortunately, the farmer's wife, Mr. Watt, and the small eastern Montana community of Marmarth did not see the level of riches promised by the adulatory articles. Jubilance among area homesteaders waned nearly as quickly as it began. Through the 1940s and 1950s, local economic factors, a low national price for crude oil, and underground water within producing fields contributed to a steady decline in oil development in eastern Montana's Dawson, Richland, and Fallon counties.[3]

Like other carbon-based energy resources, oil is closely linked to patterns of extraction and exhaustion. James Young discovered that oil could be purified to higher grades in 1847.[4] Three decades later, explorers to Montana keenly watched for indications that the area could produce oil for industrial purposes. Between 1920 and

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[1] "Oil Driplets," *The Fallon County Times*, (Baker, Montana), April 23, 1936.
[2] Ibid.
[3] Gwynn, Thomas, "The Cedar Creek Anticline," in *The Third International Williston Basin Symposium, Saskatchewan Museum of Natural History* (Regis, Saskatchewan: The Societies, 1964), 196.
[4] Daniel Yergin, *The Prize: The Epic Quest for Oil, Money & Power* (New York: Simon and Schuster, 2011).

1980, aggressive oil extraction campaigns in central and eastern Montana highlighted changing patterns of how locals interacted with the land and its mineral wealth. Cat Creek oil development of the 1920s, the Treasure State's first commercial oil boom, helped some central Montanans remain in the area despite alarming patterns of crop failures. Likewise, eastern Montana oil development in Baker and Sidney during the 1930s and 1950s, respectively, offered farmers and ranchers alternate paths to economic well-being. However, in all cases, major corporate investment in oil development, tied to national trends toward widespread oil usage, signified an end to small-scale oil production and local oil employment. As oil attracted national attention, its benefit for Montanans waned. Nonetheless, today oil remains a powerful source of Montana identity and an integral actor in the state's twentieth century past.

In this paper, I argue that oil represents a source of energy, prosperity, and power for central and eastern Montana homesteaders. However, the modes by which Montanans related to, and identified by, oil were reflected in the degree to which they benefit from participation in its production. Ultimately, neither national nor local oil harvesters in Montana exerted complete power over Montana's unpredictable social and environmental realities.

Edmund Russell maintains that environmental and technological histories are united in their efforts to define the relationship between energy and power. Energy begins in the form of sunlight, which can be concentrated above and below the earth's surface in the form of mineral and agricultural resources that humans then seek to transform and apply. Because power is energy put to work, and because all organisms require energy to

survive, history represents the story of energy made power.[5] Oil and agricultural outputs are two sides of the same energy-power coin that defines central and eastern Montana identity.

Although compositely unique, oil and agriculture share some key attributes. First, both are sunlight-generated energies. Wheat, oats, and barley, historically dominant agricultural products of central and eastern Montana, used energy from the sun, which in turn was used by homesteading farmers and their draft animals for energy as they harvested it for profit. Agriculture and oil are sources of energy turned profit. Both energy and profit are forms of power: first homesteaders, then large corporations, sought to control social and economic capital by harvesting sunlight energies above (agriculture) and below (mineral) the earth's surface. Oil forms from the remains of plants and animals as they died and fell to the bottom of the sea, all of which needed energy to survive. Despite its subsurface existence, oil is thus represents a sunlight energy.[6]

Oil became a source of power and identity for central and eastern Montanans within the Cat Creek and Williston Basin oil booms of the 1920s and 1930s-1950s, respectively. In both cases, farmers manipulated the environment to extract energy in the form of crops. However, the northern Plains' harsh environment, including a devastating drought from 1918-1919, made harnessing available surface energies difficult. Therefore, central and eastern Montanans turned to an alternate source of organic energy: oil. In

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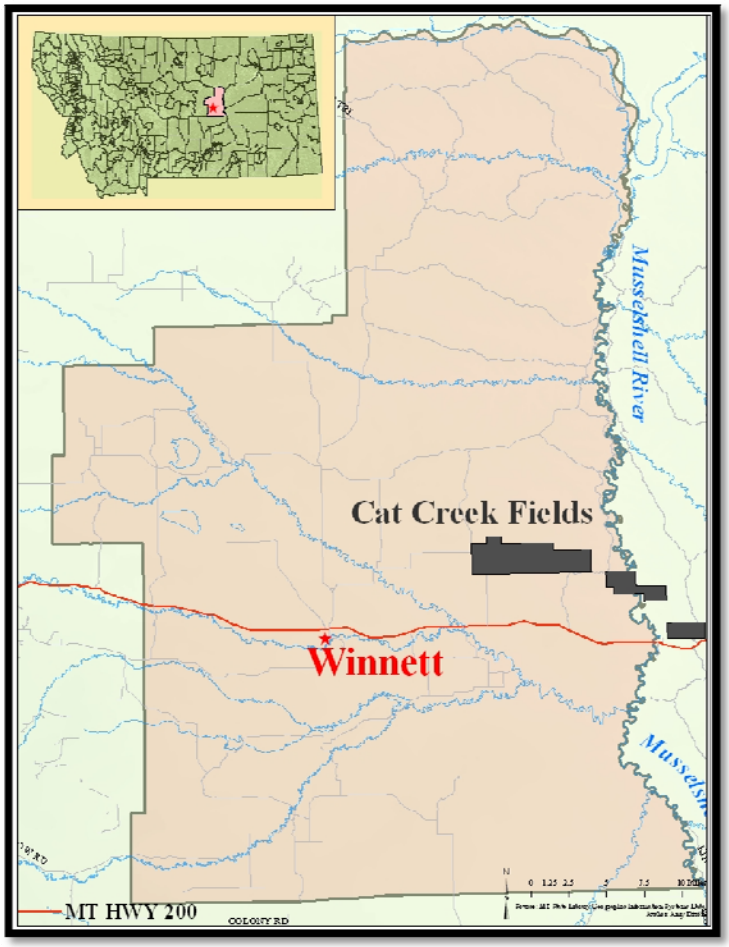
[5] Edmund Russell et al., "The Nature of Power: Synthesizing the History of Technology and Environmental History," *Technology and Culture* 52, no. 2 (2011): 248, doi:10.1353/tech.2011.0071.

[6] Thomas Andrews discusses the history of Colorado's early twentieth century coal wars by first exploring the resource's deep history: he describes the "life-giving rays of the sun" as the first engine of "coalification," after which underground processes ground mineral sediments, including peat, into what we recognize today as coal. Andrews' consideration of coal as "buried sunshine" methodologically informs my discussion of oil. See Thomas G. Andrews, *Killing for Coal: America's Deadliest Labor War* (Cambridge, Massachusetts: Harvard University Press, 2010), 31.

central and eastern Montana, homesteaders and their immediate descendants harvested shallow and deep mineral energies in the form of soil-growing crops and oil. In both cases, locals looked to oil as an economic savior.

Figure 1. Petroleum County Cat Creek Oil Field Boundaries. Created from Montana Board of Oil and Gas online data. April 21, 2015. Montana reference map: 1:10,000,000. Petroleum county boundary map and Cat Creek oil fields: 1:370,000.



Unfortunately, power, energy transformed, is desirable at local and national levels. While Cat Creek locals benefited from poorly defined federal policies delineating surface from subsurface mineral rights, eastern Montanans faced strong bureaucratic

hurdles that often prevented them from harvesting the liquid energy beneath the surface of their lands. While locals at both Cat Creek and eastern Montana longed to extract oil, Cat Creek homesteaders more directly benefited from it because they faced fewer national legal and corporate challenges. Today, residents of central Montana fondly recall the Cat Creek oil boom precisely *because* they are the descendants of homesteaders successfully harvesting above, and below, earth's surface. Conversely, in eastern Montana, oil has a far more negative reputation first because eastern Montanans hoping to extract oil were more successful as farmers than their central Montana predecessors and, secondly, had less direct access (and, in turn, power), over subsurface energies.

Cat Creek oil did not last very long, yet it remains a strong, positive postmark of local identity. Conversely, in the comparatively enduring oil booms in eastern Montana's Williston Basin, new technologies, initial mass corporate involvement, and a more complicated legal framework defining oil ownership rights made black gold increasingly less desirable to the descendants of homesteaders at the boom aged.

Timothy Mitchell argues that oil development often engenders political, social, and economic structures antithetical to democracy. Oil is a strong example of how resource development both reflects *and* constructs social and economic relationships: he describes "democracy *as* oil- as a form of politics whose mechanisms on multiple levels involve the processes of producing carbon energy."[7] Oil and its low-level laborers are often lost in discourses about the resource. If people stopped focusing upon the negative social impacts of oil money and started looking at oil itself—as an apparatus, as Mitchell argues—they would see that the social and economic structures designed to facilitate oil

[7] Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil*, (London: Verso, 2013), 5.

production are frequently antithetical to democracy.[8] Indeed, the introduction of new technologies to oil production increasingly minimized the need for workers' direct involvement with the resource, which better guaranteed the capital interests of large production companies. This is true in the context of both Cat Creek and eastern Montana oil production: as new technologies emerged in the twentieth century, the need for local workers diminished. This directly affected oil's role in fostering local identities. When oil offered an alternative means of subsistence to agriculture, homesteaders and their descendants in central and eastern Montana readily adopted it. However, the degree of local monetary and cultural investment in the resource waned when large, national production companies bought many of the small companies, leading some Montanans to pay less attention to oil's economic benefits. Montanans who owned or worked closely with oil deposits were far more likely to extract their cultural identity from the resource than those who only earned wages from oil work or in secondary support industries.[9]

Central and eastern Montana's shift from locally to nationally owned oil production mimicked patterns of resource use across the United States during the first half of the twentieth century. Energy consumption patterns of wood and coal developed in the eighteenth century were coupled with ever-democratized modes of living, underscoring a close relationship between political and economic life.[10] These patterns of economic and social development were as true within Montana as the rest of the nation.

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[8] Ibid., 2.
[9] *Killing for Coal* frequently discusses how skilled coal miners, or colliers, felt strongly connected to their work and were thus thought to be dangerous by mining corporations seeking to increase company profits by hiring unskilled workers. Mining knowledge is mining capital. Likewise, skilled oil laborers who originally began as homesteaders were more common at Cat Creek than in eastern Montana. See Andrews, *Killing for Coal*, 168.
[10] Mitchell, *Carbon Democracy*, 18.

The difficulties of dryland farming, coupled with the need of oil producers to court environmental and political capital in Montana, initially created an atmosphere of mutual cooperation between oil interests and Montana locals. However, the relationship between Montana homesteaders, their descendants, and the powerful technological forces that large-scale oil development engendered became less equitable through time.

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MONTANA'S OIL BOUNTY

Understanding oil as a catalyst for new local and national power relations in Montana first requires stepping back to view the conditions that first created the resource. About 145 to 100 million years ago, during the late Cretaceous, Montana was volcanically active, humid, and, within its eastern stretches, covered by water. The Cretaceous Western Interior Seaway ebbed in and out over what became central and eastern Montana, and underwater ecosystems abounded. Petroleum formed when the remains of tiny plants and animals perished and decayed within the seaway's sedimentary layers, with little to no oxygen present.[11] As new sedimentary layers deposited, they put pressure and heat on the source rock, distilling the dead, organic material into crude oil and (sometimes) natural gas. Central and eastern Montana oil is trapped within anticlines: geologic folds that convex upwards with older layer beds at their cores. As sandstone outcrops folded under the dual forces of pressure and time, oil flowed from its source through porous surrounding sedimentary rock. Oil is lighter than water, so it moved upward through surrounding rock layers until reaching the crest of an anticlinal arch, or impenetrable rock layer, and could migrate no further.[12] Thus it rested until discovered by men sixty million years later. Terrestrial ecosystems during the Cretaceous supported a wide variety of flora and fauna, from the formidable, famous *Tyrannosaurus rex* to humble plankton: ironically, the latter would become the Treasure State's most valuable.

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[11] David D. Alt and Donald W. Hyndman, *Roadside Geology of Montana* (Missoula, Montana: Mountain Press Publishing Company, 1986), 284.
[12] Ibid.

Quiet millennia would pass before land and resource hungry settlers realized Montana's surface and subsurface mineral bounties.

Montana has long attracted attention as a primary site for natural resources. Copper, gold, and silver marked Montana's early identity, and the state's motto, *oro y plata* (gold and silver) implies an identity inseparable from resource production. The stark contrast between western Montana's densely forested landscape and the scarring effects of destructive resource extraction and development technologies, including cyanide open-pit mining, makes a compelling story that plays to the apparent contrast between nature and man.[13] Western Montana's natural appeal attracts outdoor aficionados and the attention of environmental and other historians. However, explorations of the relationship between above and below ground resource development in eastern Montana are scarce. Even less attention has been paid to the relationship between rural oil development and farming practices, although many historians have examined the intersection of human society, environmental destruction, and oil development on a global scale.[14]

Central and eastern Montana oil development produced triumphs and losses for players at both local and national levels. Wide scale technological developments, state

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[13] See Timothy J. LeCain's *Mass Destruction* for a detailed look at the environmental consequences of copper mining in western Montana's Deer Lodge Valley and Fredric Lincoln Quivik's "Smoke and Tailings" for more information about copper's impact upon western Montana peoples and spaces. Professor Timothy J. LeCain, *Mass Destruction: The Men and Giant Mines That Wired America and Scarred the Planet* (New Brunswick, N.J: Rutgers University Press, 2009) and Fredric Lincoln Quivik, "Smoke and Tailings: An Environmental History of Copper Smelting Technologies in Montana, 1880--1930," (Ph.D. dissertation, University of Pennsylvania, January 1, 1998).

[14] See Daniel Yergin's seminal *The Prize* for a comprehensive overview of oil's history as a developed resource. Also, Brian Black's *Crude Reality*, argues that oil has bred endemic social and environmental conditions that shape human behavior: Brian C. Black, *Crude Reality: Petroleum in World History* (Lanham, Md.: Rowman & Littlefield Publishers, 2012). Finally, see Nancy Quam-Wickham, "'Cities Sacrificed on the Altar of Oil': Popular Opposition to Oil Development in 1920s Los Angeles," *Environmental History* 3, no. 2 (April 1, 1998): 189–209, doi:10.2307/3985379.

and national mineral legislation, and the hardships of dryland farming created cultural and environmental conditions that made oil an attractive economic alternative to agriculture in central and eastern Montana. Central and eastern Montana homesteaders sought active roles within oil development, and the booms initially invigorated locals. Hopes ran high that oil-fueled prosperity would last. Cat Creek is distinct from eastern Montana because it involved more local and small-scale producers than eastern Montana oil production. However, in both central and eastern Montana, oil meant a new source of identity: the organic wealth of farming and ranching became, at least temporarily, less important to homesteaders and their descendants than did black gold. Front-page headlines adopted derricks in their mastheads, and crop reports came second to news from the tar fields.

Although resources obviously do not have the capacity to think or act independently, they can at times act as powerful historical agents. Oil stands at the juncture of a complicated net of social, environmental, and technological realities that place it within a mutualistic, sometimes even symbiotic, relationship to people. Thomas Andrews contextualizes coal as both a resource that is used *and* an agent that uniquely acts. Although fossil fuels existed above and below ground for millennia before the age of industry, categories of modern human society, including identity and culture, are inextricably moored to resources. People are not separate from the material world: the technologies that allowed dryland farming in central and eastern Montana in the early twentieth century were fueled (metaphorically and literally) by men, animals, and fossil fuels in a symbiotic web of dependence. Therefore, why explore oil development solely

as a product of human invention rather than actor that was made by—and made—identities in central and eastern Montana?[15]

Oil is a complicated resource: from its developmental origins, to the dry plains of central and eastern Montana, to the hearths of homesteaders and their descendants pitted both for and against oil production, it is bound—and binds those dependent upon it—to time and place. Initial development of oil at Cat Creek in the 1920s was significantly different than within Montana's Williston Basin beginning in the 1950s. But at the center of both stories is the humble liquid energy that drove men and machines toward shared visions of bright economic futures that never quite came to pass. In central and eastern Montana, people were, and continue to be, shaped by oil in ways both expected and unexpected.

To a degree, central and eastern Montana oil fit within the historical patterns of the state's wider resource developments. In 1953, when first outlining historic Montana oil development, Montana historian Michael Kennedy proclaimed that "[t]he whole future development of the Treasure State appears to be vitally interlocked with the future of oil."[16] National oil demands were high between 1920 and 1960, as the introduction of

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[15] Environmental historian Tim LeCain explores neo-materialism, which proposes that hard determinisms (toward and against traditionally anthropocentric historic interpretations) are fundamentally flawed because they fail to place matter on equally important footing with categories like culture and identity. LeCain argues that material things need to be considered as critical agents to shaping "the human animal in all its cultural diversity." See Timothy James LeCain, *The Matter of History: How Things Create the Past* (New York: Cambridge University Press, forthcoming). LeCain appropriates other neo-materialists' work, including Tony Bennett and Patrick Joyce: see *Material Powers : Cultural Studies, History and the Material Turn*: *Culture, Economy and the Social* (London ; New York: Routledge, 2010). Also refer to Ian Hodder, *Entangled: An Archaeology of the Relationship Between Humans and Things* (Malden, Massachusetts: Wiley-Blackwell, 2012).

[16] "Oil Begins," *The Independent Record*, (Helena, Montana), October 4, 1953.

gasoline-powered automobiles in 1886 spurred drilling across the United States.[17] Oil production in the late 1800s resulted in a market glut that drove business tycoon John Rockefeller to create joint stock companies and consolidate control over available supply, eventually creating the powerful Standard Oil Company.[18] At the turn of the century, Standard Oil pioneered the process of horizontal integration, buying out small- and mid-scale oil production and transportation companies to reduce competition in many regions. However, small-scale oil production companies were still common at the turn of the century, including in Montana.

Commercial producers had looked to Montana as a possible source of oil development well before 1919. In 1864, homesteaders greased the wheels of their wagon with naturally exposed crude oil in the Big Horn River Valley. Granville Stuart, dean of pioneer cattlemen, early explorer of the West, and self-professed vigilante, optimistically predicted Montana's future as an oil-producing state. In an 1880 journal entry, Stuart recounted that he and his party:

> "…went five miles to the Musselshell where the country is black with buffalo and crossed and camped one half mile below. The country, both bottom and hills, is covered with stunted sage and greasewood and but little grass. There are petroleum indications all through here and some day Montana will produce oil but it is worthless now."[19]

By chance, Stuart had passed through central Montana a few miles near what would later be described as the Sumatra, Melstone, and Ivanhoe oil fields. Pioneer oil discoveries and development in Montana are poorly documented. Although the earliest documented oil

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[17] Yergin, *The Prize,* 63.
[18] Ibid., 24.
[19] Paul J. Lewis, *Frontmatter: Guidebook: Sixth Annual Field Conference: Sweetgrass Arch-Disturbed Belt, Montana* (Billings, Montana: Montana Geological Society, 1955).

discovery in Montana is the 1864 immigrant train's use of a heavy crude scum near the Bozeman Trail, many more occasions of oil's spontaneous use by pioneers and homesteaders for lubricant and lighting probably went undocumented. In 1876, oil was reported in what became Carbon County, in southeastern Montana. Thomas Cruse, famous for founding the Drumlummon Mine near Marysville in 1876, quickly acquired claims in the region for oil production. However, Cruse abandoned his unsuccessful test well drilled in 1889. This was probably the first attempt to commercially produce oil in the state. Cruse relentlessly pursued oil, drilling eight more dry wells in 1890.[20]

By 1910, before a major oil boom in the state, stimulus for producing crude oil in Montana nevertheless reached a fever pitch when the Great Northern Railway began refitting its wood- and coal- burning locomotives to oil.[21] Railroads and oil went hand-in-hand in the Treasure State. Empire-builder James J. Hill's Great Northern capitalized on both superficial and subsurface Plains' bounties: while Hill focused upon marketing the Plains as ripe for agricultural production, his son, Louis W. Hill, advocated mining Montana's rich subsurface oil reserves.[22] The junior Hill eventually served as vice president of Mid-Northern Oil Company, which was active at Cat Creek during the 1920s. Excepting attempts to drill oil at Elk Basin, close to the Montana-Wyoming border, all oil exploration in the state was locally financed from 1915 1920.[23] Early investment by Montana locals in the state's resource industries underscored the initially

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[20] C. E. Erdman, "Outline History of Oil and Gas Development," *Mineral and Water Resources of Montana: U.S. 88th Congress, 1st Session*, Senate Committee on Interior and Insular Affairs, 1963, http://www.mbmg.mtech.edu/sp28/fuels.htm#out.
[21] Michael S. Kennedy and Don Douma, "Second Bonanza: The History of Oil in Montana. Part I," *The Montana Magazine of History* 3, no. 4 (October 1, 1953), 21.
[22] Oil Papers 1887-1950, Louis W. Hill Papers, Minnesota Historical Society Manuscripts Collection.
[23] Kennedy and Douma, "Second Bonanza," 22.

strong relationship between homesteaders and oil identity, especially in the face of disappointing agricultural yields as the result of a cyclic period of drought.

Though isolated from many of the technological and social conditions that made the eastern United States turbulent between the mid-1800s and early 1900s, America's western frontier became an attractive platform for resource development to fuel the nation's burgeoning industrial programs. Carbon-based resource development intensified Montana's progression from territory to state, including gold, silver, and copper extraction. The 1860s marked a modest rise in Montana ranching and farming settlement thanks to gold rushes in the western part of the state. But the early twentieth century's Enlarged Homestead Act saw a far more significant rise in agricultural migration to Montana. However, agriculturalists in eastern Montana were drawn in large part by national promotion campaigns that misleadingly advertised the plains as ripe for growth. The (in)famous "rain follows the plough" campaign was aggressively sponsored by major railroads and fed false hopes among area homesteaders. Furthermore, unusually high levels of precipitation from 1908 through 1917 exacerbated homesteader disappointment when wet conditions returned to their dryer average in 1918. It became increasingly evident that the semi- arid eastern and central Montana land, with an average rainfall of about fourteen inches in 1921, was difficult to successfully farm.[24] Farmers often either packed up and left or looked for alternate methods of economic survival.[25]

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[24] United States Weather Bureau, *Climatological Data for the United States by Sections* (Washington D.C.: U.S. Department of Agriculture Weather Bureau Office, 1921), 51.

[25] For additional information about Montana's twentieth century homestead boom, see Michael P. Malone's fifth chapter in *Montana: A History of Two Centuries*. See Michael P. Malone, *Montana: A History of Two Centuries* (University of Washington Press, 1991). Also, see Mary Murphy, *Hope in Hard Times: New Deal Photographs of Montana, 1936-1942* (Helena, Mont.: Montana Historical Society Press, 2003). See Wilma M. Hargreaves' seminal *Dry Farming in the Northern Great Plans, 1900-1925* (Cambridge:

Oil offered a new possibility. Although evidence of oil was noted within the region as early as the 1860s, Montana did not experience its first commercial oil boom until 1920 at the tiny community of Cat Creek in central Montana. Very small-scale oil development occurred earlier in Montana at Kintla Lake (around present-day Glacier National Park), and Elk Basin, near the Montana-Wyoming border. Yet Cat Creek was the first commercially viable oil discovery in the state.[26] Commercially productive wells frequently attracted strong external investment interests, providing essential capital and technical expertise for expansion. However, outside investments also tended to usurp the power and control of local production companies' power in favor of larger, national corporate growth. Although modern oil development, with strong emphasis upon technologically driven production, does not require many laborers compared to other extractive industries, historic oil development was not technologically well equipped to handle production *sans* workers. Therefore, early Montana oil development represented a powerful source of employment for faltering homesteaders. Smaller, homegrown petroleum companies often employed local homesteaders and their second-generation descendants to work. However, major, nonlocal companies frequently imported their own sources of labor to work as they increasingly became involved with Montana oil development.

Early twentieth-century oil drilling was messy work. Today's high-tech methods of hydraulic fracturing obscure the difficulties that underscored early Montana oil

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Harvard University Press), 1957. Finally, refer to Milburn Lincoln Wilson and Montana State College Extension Service in Agriculture and Home Economics, *Dry Farming in the North Central Montana "Triangle"* (Montana State College Extension Service in Agriculture and Home Economics, 1923).

[26] Tom Stout, *Montana, Its Story and Biography; a History of Aboriginal and Territorial Montana and Three Decades of Statehood* (Chicago: The American Historical Society, 1921), 877.

development, though rapid technological developments also played a vital role within central and eastern Montana production. In order to understand Montanans' relationship to oil, one must first investigate the modes of production that, as a 1920s Cat Creek driller commented, soaked oil field workers "right to their skin."[27]

Figure 2. Drilling Cable and Spring Pole, unknown. From: Oil Stuff from the Oil Fields, San Joaquin Valley Geology, http://www.sjvgeology.org/old_stuff/drilling.html (accessed April 7, 2015).

Oil was initially harvested in eastern Montana with shovels well before the Cat Creek boom. The early days of oil production in North America involved drilling, or "making a hole," either by hand or with crude tools. Because oil and natural gas often develop together within the same geological strata, drilling could be dangerous. Natural

[27] May Anderson Vontver and Ester Johansson Murray, 1971, SC 958, May Anderson Vontver Memoirs, Montana Historical Society, Helena, Montana.

gas seeps sometimes ignited, a mysterious phenomenon that inspired a folklore of fearful "burning springs."[28] Drilling technologies advanced with spring pole harnessing in the early1800s: this method involved wielding a bent tree's resiliency to pummel a hole in the ground to find water or oil. A high tripod of poles, an anchor for the bent tree, was erected over a borehole and sheaves (drilling implements) hung from the apex of the tripod (see Fig. 1).

This method was still labor-intensive, and the Montana Plains' barren landscape made finding suitable tree-anchors difficult. However, the tripod-pole structure initially used in spring-pole drilling served as an early model for wooden derricks.[29]

The advent of cable-tool drilling and its signature wooden derrick changed America's oil production productivity. Iron beams replaced tree poles: steam engines powered metal beams supported by posts, which in turn lifted and dropped cables and drill bits suspended from derricks.[30] Hand augers, or hand-operated steel rods rotated by a handle, drilled shallow holes. However, at greater depths, the hand auger's drill bits became increasingly heavy and hard to pump.

In 1902, another machined-powered development redefined America's oil landscape. The Coalinga Oil Field in California's southern San Joaquin Valley experienced a new surge of oil production thanks to the introduction of rotary drill bits. Rotary drill bits functioned much like hand augers but were machine operated. Drilling operators gradually adopted machine-powered rotary drilling technologies, increasing the

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[28] "Making Hole - Drilling Technology," *American Oil & Gas History*, accessed February 22, 2015, http://aoghs.org/technology/oil-well-drilling-technology/.
[29] Samuel Pees, "Kicking It Down" Oil History," *PetroleumHistory.org,* accessed February 22, 2015, http://www.petroleumhistory.org/OilHistory/pages/Cable/kicking.html.
[30] Ibid.

speed of oil exploration and development. At roughly the same time, oil companies began to use drilling fluids, muddy mixtures of water and chemical additives that can increase oil well output. As drilling fluid is pumped down through drill pipes and through the mouth of a drill bit, the chemical cocktail pushed rock, water, and earth out of the way and carried cuttings to the surface for removal. Although the area lagged technologically compared to larger and more lucrative fields, by the1940ss, oil producers at Cat Creek had also begun to use rotary drilling.[31]

At both Cat Creek and the eastern Montana oil fields, oil-harvesting techniques helped to define how locals interacted with their environment. Oil extraction, especially at Cat Creek during the 1920s, was labor-intensive and required a strong commitment from locals to ensure productivity. Oil development at both sites capitalized upon the local desire to fully exploit oil production so as to maximize profits. But for Cat Creek drillers, oil also had a more tangible, material presence that in turn ignited a stronger local commitment to the resource as a visible mode of economic survival.

[31] *Pages of Time,* 189.

Figure 3. *The Winnett Times*, August 4, 1922.

Winnett Times

VOL. 9, NO. 11 WINNETT, MONTANA. FRIDAY, AUGUST 4, 1922 $2.00 PER YEAR

Sixth Gusher Goes To Mid-Northern

Mid-Northern Oldham No. 4 Drilled Ten Feet Into Sand---Well is Making 7,000 Bbls.

Seventh Gusher to L. O. & Ref. Co.

Second Independent Company to Get Gusher Production in the Cat Creek---Sand Scratched

FLATWILLOW ... GREEN NO. 10 WILL BE NEXT ... FLASHLIGHT TO BE DRILLED OUT ... JULY RANNER

On August 4, 1922, the *Winnett Times*, which was established in 1914, suddenly changed its masthead to include a stylized drawing of a large oil derrick. Placed front and center in the publication's headline, the symbol garishly represented the small central Montana community's newfound identity as the state's nexus for oil production.[32] Almost overnight, the towns of Winnett and Cat Creek expanded from struggling, dispersed ranching and agricultural communities to bustling centers for oil production. John S. "Curley" Meek recalled drilling Cat Creek's first discovery well in February 1920:

> We got a little oil, then excitement started, they tried to keep it a little quiet because it was all government land then- was mining claims- there was no such things as a lease law until they passed it on February 26. That is why they wanted to keep it a little quiet, but it was kind of hard. When I sent a wire to Frank Franz, the president of the company in Denver, I sent it to him in a code… The wire read, "Pine trees grow tall here, come ye men of war"…. There was a lot of excitement around Winnett. Everybody

[32] *The Winnett Times*, August 4, 1922.

> tried to get me drunk and everything else to try to find out if they got a well.[33]

Thus began central Montanans' high hopes for oil production. In 1922, U.S. Secretary of the Interior Albert Bacon Fall attracted national scrutiny for permitting the Lewistown Oil and Refining Company a contract to lease the government's Cat Creek oil shares without competitive bidding, echoing Meek's reflection upon oil drillers' concern about government mineral ownership. Fall was later convicted in the infamous Teapot Dome Scandal, arguably the most salient example of twentieth century political corruption until Watergate, although his successor, Hubert Work, renewed the Cat Creek contract without the Department of Justice's approval. In 1928, Attorney General John Sargent voided the contract as illegal. When confronted about the questionable Cat Creek lease, Work responded, "people are tired of hearing of these oil leases."[34]

Despite the volumes of homesteaders that poured into the state at the turn of the century thanks to aggressive railroad-driven promotional campaigns, Montana was hard hit by the return of a cyclic drought during the late 1910s and into the1920s. It became a nearly impossible location for sustainable dryland agriculture. Oil offered a promising alternative to the hopes of dryland farming that never materialized on the semi-arid plains of central Montana. Leases to drillers and producers working on an oil rig were promising alternatives for farmers hoping to bolster, or perhaps replace, agricultural subsistence. However, as the oil boom grew, national oil interests increasingly reduced the importance of local farmers as both rig workers and land lessors.

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[33] OH 182, Curley Meek Narrative [19--], Montana Historical Society Research Center. Archives, Helena, Montana.
[34] "Cat Creek Contract," *The Independent Record* (Helena, MT), October 20, 1928.

In 1872, the U.S. General Mining Law allowed citizens to explore, discover, and purchase "locatable minerals" for the first time on federal lands.[35] The law also allowed for the enactment of state laws governing mining claims. Prior to 1872, Congress directed courts to settle questions of contested ownership: in almost all cases, deference was given to miners in possession of the ground over federal ownership.[36] The law's definition of "locatable minerals" was deliberately vague, and it did not specifically mention oil. Until 1916, mineral rights were included in patented western lands.[37] In an effort to encourage dryland settlement, the Stock Raising Homestead Act of 1916 granted homesteaders one full section, or six hundred forty acres, of land. However, the federal government retained subsurface mineral rights. Furthermore, in 1920, the Mineral Leasing Act allowed for the sale of subsurface mineral leases and mandated royalty payments to the federal government and surface owner. The Stock Raising and Mineral Leasing Acts opened the door to external companies purchasing subsurface mineral rights from the federal government. However, at the time of Cat Creek's oil boom, most area homesteaders settled before 1916 and thus retained surface and subsurface mineral rights. Homesteaders sold oil leases to drilling companies: a lease was the agreement outlining basic terms of oil development including royalty rates, length of time, and land description.

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[35] U.S. Bureau of Land Management, "Mining Claims and Sites on Federal Lands" (Washington D.C.: BLM National Science and Technology Center, 2011).
[36] R.S. Morrison and Emilio D. De Soto *Mining Rights on the Public Domain*, (San Francisco: Bender-Moss Publishers, 1917), 6.
[37] James Muhn, Hanson R. Stuart, and Peter D. Doran, *Opportunity and Challenge: The Story of BLM* (Washington D.C.: U.S. Department of the Interior, Bureau of Land Management, 1988), 36.

Figure 4. Chicago, St. Paul, and Milwaukee Railway, "Montana: Along the New Line for the Pacific Coast, cover," *Archives & Special Collections — Maureen and Mike Mansfield Library*, accessed April 8, 2015, http://content.lib.umt.edu/omeka/items/show/780.

Cat Creek is nestled in the Mussellshell River breaks. In 1875, the U.S. Corps of Engineers had surveyed the area, and two subsequent surveys conducted in the late 1800s placed Cat Creek in entirely different locations. The tiny community's illusive history on maps was not lessened by the fact that it was originally referred to as "Shay community." Although Cat Creek's location was difficult to identify prior to 1920, however, that quickly changed following the advent of oil.

Some twenty miles west of the town of Cat Creek, the community of Winnett had developed after Walter J. Winnett established a successful sheep ranch in the region in

1909. Homesteaders had flocked to central Montana after the passage of the Enlarged Homestead Act of 1909, which doubled the size of homesteads from the previous 160 acres to 320 acres with the idea that this would help enable dryland farming. The act was widely promoted by cross-Montana railroads, including the Chicago, Milwaukee and St. Paul, or the Milwaukee Road, which published homesteading brochures peppered with wistful images of agriculturally productive plains. The Milwaukee Road's most famous promotional image displayed a farmer tilling gold up from the outline of Montana (Fig. 3). Though it perhaps appears silly today, the image accurately captured would-be farmers' firm belief in Montana's lands—indeed, it helped to create that belief. As a result, in 1910 alone over 12,500 new homestead entries were registered in the state.[38]

The first settlers to the area pressed upon Walter Winnett the need to build a post office and general store, two signs of community solidity on the scantly populated plains. Winnett was a shrewd businessman, and actively sought to capitalize upon the expansion of new industries in Montana. The sheep ranching magnate first built a freight business to haul ranching and agricultural supplies and eventually capitalized upon oil development in the region. Winnett, originally from Toronto, purportedly ran away from home as a boy to find adventure and fight Indians in Montana and was abducted by Sioux Indians and given the name "Eagle Eyes" for his shooting skills.[39] In 1910, Winnett's first post office was established. The Milwaukee Land Company paved the way for the Milwaukee and St. Paul Railroad in 1913 when it purchased linear land tracts for right-of-way access

[38] Greg Bradsher, "How the West Was Settled: The 150-Year-Old Homestead Act Lured Americans Looking for a New Life and New Opportunities," *Prologue* 44 (Winter 2012): 26-35.
[39] Laura Nowlin, "Historic Preservation in Deep Rural Places: A Historic Resources Study of Petroleum County, Montana," (Master's thesis, Oregon State University, 2008), 56.

from property owners to construct a railroad bed. The Milwaukee and St. Paul is entirely responsible for Winnett's selection as a townsite, and the company injected capital into Winnett to ensure rapid settlement. The *Winnett Times* was first published in September 1914, and an early headline heralded the arrival of thirty-two new businesses.[40]

Winnett grew significantly in 1917 after the arrival of the Chicago, Milwaukee, and St. Paul railroad. However, 1918 represented a devastating year for the small farming community when the beginning of a long period of drought drove hundreds of settlers away. The following year of 1919 was the coldest reported winter on record in central Montana. Water lines froze, and a coal strike in 1919 stymied adequate heating in local businesses or homes. However, central Montana fortunes changed with the arrival of a different type of resource.

On October 9, 1919, four strangers checked into Winnett's sole hotel. Frank Frantz, an ex-governor of Oklahoma Territory and former Rough Rider with Theodore Roosevelt, had sent the men to Winnett to explore oil drilling possibilities within the Mussellshell River Valley. In 1915, a US Geological Survey (USGS) survey of the Judith Mountain Basin described favorable formations for coal deposits and possibly oil reserves. In 1918, a follow up USGS report expounded upon the prospect of oil reserves around Cat Creek.[41] Frantz was experienced with oil, as he had been chief of the Cosden Oil Company's land department in Oklahoma. Frantz subsequently formed his own

[40] *Pages of Time: A History of Petroleum County* (Lewistown, Montana: New-Argus Printing, 1990), 181.
[41] Ibid., 139.

company, the Frantz Corporation, and convinced investors to fund oil exploration of the Cat Creek area.[42]

The four-man drilling crew headed twenty-five miles east of Winnett to begin their exploratory drilling. The road from Winnett to Cat Creek was merely a series of tracks and trails created by homesteaders. Drilling requires both manpower and equipment, so once the Frantz discovery team chose a promising location close to the Mussellshell River, they set up camp: a derrick, rig, casing, and drilling equipment were painstakingly hauled from Winnett to remote Cat Creek with horse-drawn wagons. The coal strike exacerbated poor working conditions, as coal-fired steam drilling engines had to be replaced with wood-fired engines. Worse still, it took almost five days to travel over land from Winnett to the drilling site at Cat Creek.[43]

In 1964, Frantz Company crewmember Curley Meek vividly recounted February 19, 1920, the day when he helped drill Cat Creek's discovery well. In stormy, freezing conditions, Meeks and three colleagues dug a hole and laid pipes, surrounded by small fires, on top of the ground surrounding the hole. They did this to ensure that, in cold winter conditions, water would flow away from the hole rather than freeze. Meek recounted that the temperature was "around 40 below and 1919 one of the longest and hardest winters that we ever had in Montana."[44] Although the team would have normally used a coal-fired engine to run the steam-powered drill, a coal strike prevented the team

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[42] Stephen A. Aaberg and Steven Davenport, *1996 Class III Cultural Resources Inventory of the Carrell Oil Company-Lewistown Bureau of Land Management Proposed Land Exchange,* (Petroleum County, Montana), consultants report prepared by ACRCS, Lewistown, Montana.
[43] *Pages of Time,* 141.
[44] Curley Meek Narrative [19--].

from using efficient, hot-burning coal. Therefore, Meek used wood to fire an engine filled with water hauled manually from the Musselshell River.[45]

Despite freezing conditions and few resources or laborers, by early January the small Frantz team had managed to bore a small exploratory well in December 1919. However, the well spewed water, not oil. Undeterred, Frantz drilled a second well in February 1920. This time, their luck held: excitement rose among drillers when the steel pipe began to groan in response to hot liquid expanding its metal. At last, black, tarry oil sputtered through the well casing.[46]

The drilling crew had clear instructions: if they found oil or suspected they would, they were to alert Frantz company headquarters immediately but with the utmost secrecy. The company created a code to designate the discovery of oil: "trees grow tall" indicated the presence of a large production well; "trees grow small" meant a small well; and "come ye men of war" indicated that many laborers were required.[47]

Despite the company's best attempts to keep its oil discovery secret, rumors rapidly spread. Six days following the discovery well's gush forth, the *Winnett Times* ran a headline, "FRANTZ WELL IN WITH BIG PRODUCTION."[48] The rush to Cat Creek had begun.

Although Cat Creek represents the starting point of commercial production in Montana, small-scale well drilling efforts near Kintla Lake, in western Montana, were

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[45] Ibid.
[46] Ibid.
[46] John N. DeHaas, "Ghost Town Profile: Cat Creek," *MT Ghost Town Quarterly: Newsletter of the MT Ghost Town Preservation Society*, (Winter 1988).
[47] *Pages of Time,* 142.
[48] *The Winnett Times*, (Winnett, Montana), February 25, 1920.

undertaken in 1901 by Butte Oil Company. Because of the region's remote location, drilling was not profitable, and the test well was abandoned. In 1905, oil from Switftcurrent Creek near what is today Glacier National Park was proudly displayed at the State fair in Helena. Some local would-be oil producers failed at developing oil but succeeded in finding natural gas, including M.D. Cassidy, who accidentally discovered natural gas while unsuccessfully drilling for oil. Cassidy funneled a 1-inch pipeline from the ground directly into his home. Gas flowed from the pipeline until 1914, when the hole caved in. Cassidy-Swiftcurrent well No. 1 is thus the first producing gas well in Montana, despite having only one customer.[49]

The 1920s marked a watershed moment for oil development in Montana, and Cat Creek would be the apex of subsequent corporate development. Significant oil reserves in the Kevin-Sunburst field and the subsequent discovery of the Cut Bank field in northern Montana in 1931 put Montana into the national spotlight as a petroleum giant.

The advent of coal-fired steam drilling technologies quickly followed these initial well discoveries, and eventual petroleum giants would cut their teeth in the oil sands of Montana. Drilling companies in need of increased housing and food for oil workers, and company models structured around maximizing the barrel per day production of men and machines, reflected increasingly large-scale oil production in the state. As the first commercially viable oil site in Montana, Cat Creek pioneered the development of methods to manage oil and the men and machines needed for efficient production in the unique environments of the Montana fields.

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[49] *Mining and Engineering World* (New York: Mining and Engineering World, 1906), 369.

After the discovery of oil at Cat Creek in February of 1920, the Frantz Corporation began to build the infrastructure needed to accommodate local and nonlocal oil workers, or "roughnecks," as they were typically called in the industry. The term roughneck originated in traveling carnivals during the nineteenth century and by the 1930s was applied to oil workers. The transient quality shared by carnival and oil labor likely contributed to the word's changing meaning. While the Frantz discovery well yielded merely thirty barrels of oil, by May 18, 1920, a second Frantz well was producing two hundred barrels per day. This well, located west of the initial discovery, became the primary site of oil production at Cat Creek. Coincidentally, these first wells happened to coincide with a growing crisis among earlier homesteaders struggling with an already challenging climate made yet more difficult now by a persistent drought. Faced with the prospect of potentially leaving central Montana, some homesteaders found new hope in oil. The citizens of Winnett, Cat Creek, and even central Montana more broadly began to think of themselves less as strict agriculturalists and more as what we might think of as "oil people." The Cat Creek boom capitalized upon local labor, but it also drew individuals throughout central Montana to the fields.[50]

Following its two successful wells, Frantz constructed large storage tanks in Winnett in anticipation of a significant boom. In the summer of 1920, the company added pipelines, housing, and a cookhouse to accommodate workers. The first pipeline from Cat Creek to Winnett was insufficient to accommodate the rapid rate of oil production, so Frantz constructed a second pipeline in a record twenty-one days. The boom also brought

[50] Alan H. Patera, "Cat Creek, Montana," *Western Places: A Chronicle of Western Settlement* (Winter 1993), 41.

improved transportation infrastructure to the area almost immediately. Rail transit increased from one to two scheduled trains per day in 1920. By 1921, eleven production wells dotted the Cat Creek field.

Rapid community, transportation, resource, and population shifts stemming from the Cat Creek boom contributed to the creation of a new county in central Montana. On November 24, 1924, Petroleum County became the last new county to be designated in the state. The creation of Petroleum County caused much controversy, as Fergus County officials lobbied aggressively to keep the areas new population and oil revenue. It is ironic that Fergus County resisted the establishment of Petroleum County, given Fergus County's own sustained efforts to split from Meagher County in 1895. Like Meagher County twenty years before, Fergus now fought to hang on to its suddenly increased population.[51]

While the Frantz Corporation represented the first to commercially extract at Cat Creek, by December 1920, six separate companies drilled in the area: Frantz, Mid-Northern, 56 Petroleum, Montacal, West Dome, and Great Western.[52] Frantz, Mid-Northern, 56, and West Dome were small production companies, with headquarters in Wyoming or Montana.

Housing and food were the top concerns among the six oil production companies at Cat Creek in the 1920s. Each company quickly established its own housing structures for workers, dubbed "man camps," although the Frantz Corporation would continue to

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[51] Clifton Worthen,"Fergus Carved Out of Meagher [County]," (Lewistown, Montana: Lewistown Public Library, 1936), The Montana Memory Project, accessed December 4, 2014, http://www.mtmemory.org/cdm/ref/collection/p15018coll36/id/12973.

[52] *Pages of Time,* 143.

own the largest. Although Winnett boasted a few restaurants, roughnecks and their families were primarily fed in a community cookhouse. The Frantz cookhouse fed over 150 workers per meal in the 1920s. Frantz also built a community hall, which quickly became the center for social activity at Cat Creek. Ray Ihde, Continental employee and son to Cat Creek homesteaders, recalled that oil workers volleyed for attention from single female schoolteachers at community hall events: "they'd all try to dance with those poor ladies!"[53] Indeed, the local oil companies had sponsored the construction of a three-room schoolhouse at Cat Creek in 1930, which accommodated over thirty students in 1933. Cat Creek homesteader May Anderson Vontver taught at the Cat Creek school for two years during the boom and recounted how local children's lexicon changed, perhaps in response to the ethos and vocabulary of oil: "[children] demanded to be "pumped" rather than "pushed" on swings at recess."[54]

As Cat Creek's landscape was increasingly dotted with oil shanties and word of the boom spread, the local appeal of central Montana oil blossomed into national attention. Frantz Corporation was neither a small nor local production company, and it depended upon labor, capital investment, and oil leases from area homesteaders. Most land around Cat Creek was privately owned, so oil companies seeking to drill first had to secure leases from homesteaders. Conversely, production companies also sought homesteaders facing the prospect of leaving central Montana due to poor crop conditions as oil laborers. Homesteaders were thus integrally involved with early drilling at Cat

[53] Interview with Ray Ihde, (Continental Oil Company oil worker: helped construct Cat Creek sign.) July 6, 2014.
[54] May Anderson Vontver and Ester Johansson Murray, 1971, SC 958, May Anderson Vontver Memoirs, Montana Historical Society, Helena, Montana.

Creek. But in the late 1920s and early 1930s, oil production slowed at Cat Creek, and the Frantz Corporation struggled to stay profitable.

The relatively large Frantz Corporation had always been somewhat anomalous. Instead, small, locally headquartered oil companies were far more common in Cat Creek for the first three years of production, from 1920 to 1923. However, in 1924, the Continental Oil Company (later to become Conoco) began purchasing many of the area's smaller oil holdings. Continental increased the pace at which it consolidated its local holdings and purchased most small production companies during the early 1930s, including local companies like Mid-Northern, 56 Petroleum, and eventually even the famous Homestake Oil Company. Founded by the Kendall, Montana gold miner E.B. "Hardrock" Coolidge, Homestake was well known at Cat Creek for enjoying strong productivity in spite of humble beginnings. Although Continental purchased most local oil holdings during the late 1920s and 1930s, Homestake remained a cherished "underdog" active in the area. For nearly twenty years, Coolidge refused to sell to Continental. However, he finally capitulated in 1938, though his reasons are not clear from the available record. Soon after, Continental Oil Company focused upon bringing its latest refining and drilling technologies to Cat Creek. The field's oil tended to be high gravity (meaning thick or viscous) crude oil. High gravity oil can be difficult to harvest, as it does not easily flow through pipes. By the latter half of the 1920s and 1930s, the oil began to grow even thicker, making it difficult to extract and steadily lowering productivity.[55]

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[55] *Pages of Time,* 145.

The development of the Cat Creek oil fields entailed more than resource extraction. Rather, Cat Creek is an early example of an oil company town, and it proved vital to the maturity of the petroleum giants Conoco, as well as Cenex, (the Farmer's Union Central Exchange) which later entered the field. In 1930, Dan Moran became president of Continental Oil Company. He sought to consolidate Continental's visible power at Cat Creek, and his efforts in the area made it increasingly look like a company town. Cat Creek's "company town" atmosphere resembled other types of fossil-fuel company towns in the early twentieth century but had important differences. Thomas Andrews' *Killing for Coal* reveals how Colorado coal companies like Colorado Fuel & Iron created stifling company towns that sought to direct the lives and leisure of diverse coal miners and their families through complete social and economic control.[56] Company towns first developed with the advent of mass extractive industries, including coal, metals, lumber, and eventually oil, in the late nineteenth century. Following the Pullman Strike of 1894, in which violence erupted between striking American Railway Union employees and the Pullman Company in response to poor wages and oppressive company control, government observers and social reformers sought to balance control and well-designed communities at sites of resource extraction.[57]

Continental Oil exercised considerable power over workers and their families However, no evidence suggests that, in the vein of Colorado's coal company towns, Continental consciously set out to repress worker culture. Perhaps this is due to Cat Creek's fairly homogeneous social makeup: most oil employees were local homesteaders

[56] Andrews, *Killing for Coal,* 227.
[57] Norman Fainstein, "Review, 'Planning the Capitalist City: The Colonial Era to the 1920s'" *American Journal of Sociology* 93, no. 2 (September 1, 1987): 457.

with families. Continental did not force oil workers to shop solely through a system of company stores, nor was a scrip system in place. However, in the 1930s, Continental's signature colors, in conjunction with unannounced company inspections of drilling operations, led some workers to question "where profits went, who controlled production, and why the price of crude was low."[58] However, life went on. Overall, Cat Creek oil employees and their families appear to have largely appreciated the structure afforded by companies' supervision of life in the oil patch. It is possible that Continental's "soft" company town model was a logical rejoinder to the lessons of the Pullman strike and Colorado Fuel & Iron's disastrous response to the Colorado Labor Wars, increased worker mobility, and perhaps a genuine sense of enlightened self-interest. Ultimately, were it not for the efforts of Frantz, and then Continental Oil, Cat Creek never could have boasted a PTA, horseshoe court, ladies' club, or baseball team.[59]

In 1931, Continental began weekly inspections of camp drilling and living sites, and wherever possible it painted the community with its signature green and white corporate colors. Local ranchers and farmers often assumed dual identities as oil workers and agriculturalists. Among both groups, complaints about the oil company abounded. To quell these criticisms, Continental regularly sponsored social events, including dances and picnics, which drew the local population together and fostered a tighter sense of community and pride. Social clubs for men and women were organized to prevent oil workers from succumbing to unsavory temptations such as drinking and roughhousing. The son of a Cat Creek homesteader articulated the malleability of boundaries between

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[58] *Pages of Time: A History of Petroleum County,* 145.
[59] Ibid.

local agriculturalists and Continental's oil workers: "even the ranchers worked on the oil fields."[60] Ihde remembers his father's reports of community dances and events at Cat Creek, hosted by Continental. The company continued to sponsor community dances and picnics throughout the 1940s, solidifying Cat Creek's reputation as a company town involved in all aspects of area residents' and roughnecks' lives. Keeping the town abreast of modern conveniences, Continental Oil Company even established Cat Creek's first telephone line to Winnett.[61]

In the 1930s, Continental Oil Company razed most hastily built tarpaper shacks constructed by an influx of oil workers during the early 1920s. The company replaced the shacks with finished frame houses, painted green and white as a comprehensive effort to makeover the town. Yet in spite of Continental's outward face of complete control at Cat Creek, Isabelle Schaeffer, wife to Cat Creek cookhouse chef Robert Schaeffer, recounted that some oil workers and their families would simply push multiple tarpaper shacks together and paint them green and white to avoid completely rebuilding.[62] This perhaps suggests that locals, and perhaps Continental, were willing to modify seamless business plans in the face of local social and environmental realities at Cat Creek. Continental also sponsored the arrival of electricity to Cat Creek, although not until 1950. As Continental grew, it played an integral and increasing role in bringing new trucking and tank companies to Cat Creek to transport oil from production sites to refineries in Lewistown and Billings. Oil was transported above ground in pipelines and truck. Frantz laid the oil

[60] Interview with Burt Bevis, (descendent of Cat Creek homesteaders), interview by author, Cat Creek, Montana, July 6, 2014.
[61] Ibid.
[62] Email exchange with Carol Ann Schaeffer, (daughter of Isabelle Schaeffer), December 31, 2014.

field's original pipelines, which extended from the oil fields to Winnett, in 1920. In the late 1940s, Continental primarily transported oil directly through surface pipelines from Cat Creek to a refinery in Billings.[63]

In 1946, another nationally recognized petroleum production company, the Farmer's Union Central Exchange, bought an oil well at Cat Creek. Farmer's Union, later dubbed Cenex in the 1970s, soon established itself as Continental's primary competitor at Cat Creek. Both Continental and Farmer's Union increasingly sought to mechanize their wells to maximize oil production, with a resulting decline in the need for oil workers. Continental continued to develop new technologies, including a new method of water-flooding wells to harvest oil from deep reservoirs. In 1959, Continental's deep water-injection program increased West Dome field output at Cat Creek from 11,913 barrels in July 1959 to 15,695 barrels in July 1960. Water was chiefly taken, first by tanks on wagons and then trucks, from the Musselshell River.[64]

Figure 5. Zane Fulbright, *Cat Creek Oil Field Sign No. 17*, March 2013.

[63] *Pages of Time: A History of Petroleum County*, 146.
[64] Ibid, 147.

Farmer's Union also adopted the Continental method of harvesting oil through deep-well testing and injection to guarantee success in Cat Creek. However, even technological developments could not stem the tide of oil depletion at Cat Creek: in spite of using breakthrough drilling technologies, including novel recovery programs, Cat Creek's pool of oil gradually depleted.

In 1969, Continental breathed its last in Cat Creek as Farmer's Union bought all remaining Continental holdings. Continental and Cenex transplanted some local employees to more productive oil fields elsewhere, including at Thermopolis, Frannie, and Elk Basin, Wyoming. By 1988, four men handled all field production at Cat Creek.[65] The boom had definitively ended. In 1994, Lloyd Carrell, descendent of a Cat Creek homesteader and longtime Cenex employee, purchased all of the Cat Creek Cenex holdings. The Carrell Oil Company is the primary operator of Cat Creek production wells today.

The Cat Creek oil boom began in the hands of small production companies before being subsumed by major oil interests, including internationally renowned petrol giants Conoco and Cenex. In its twilight hours, it reverted to the hands of one small, local production company. The intervening boom years represented a second chance for homesteaders on the brink of failure. Even following Continental's arrival in 1924, homesteaders still found consistent employment within the rapidly expanding social and economic infrastructure of Cat Creek. The small community and, more broadly, Petroleum County rapidly shifted from agricultural to oil identities as people consistently

[65] Ibid.

depended on the blessings of oil and found themselves at the mercy of large oil companies like Continental and Cenex. However, it was not simply oil companies to which locals answered: their livelihoods came to depend solidly upon the oil itself. As technological developments and waning resource reserves mitigated major companies' need for local employment, Cat Creek faded from national, and locals again faced difficult choices about whether to remain in central Montana.

Although little physical evidence remains of Montana's first oil boom, one cobblestone sign at the corner of Cat Creek Road and Highway 200 faintly displays the Cenex logo and directs travelers four miles north to the former oil field site (Fig. 4). Constructed in 1947 by a homesteader and Continental oil employee from Mussellshell River cobbles, the sign stood for nearly three decades as Continental's visible reminder on the desolate landscape of its drilling presence. In the mid-1970s, Cenex repainted the sign to signal its new ownership.

Today, the sign is faded. Locals use it as a landmark to direct newcomers toward the formerly bustling oil fields, although few travelers—save a handful of Carrell Oil Company family members and employees—travel old Cat Creek Road. The sign, like the people of central Montana responsible for its construction and oil development, is a faint reminder of Cat Creek's oil-rich past which stands in sharp contrast to its present realities: oil, though still an important source of Cat Creek's identity, no longer provides a viable livelihood for most locals.

On July 18, 2014, Winnett celebrated its one-hundredth birthday. Although the seat of Petroleum County reported only 182 residents in 2010, over four hundred people

celebrated the community's vibrant past.[66] Angela McLean, Montana's lieutenant governor, flew to the community to commemorate its history, and she mentioned oil's early importance to central Montana. She departed after brief comments about Winnett's history and quickly mentioned Cat Creek. Although her presence and reflections were not without meaning, the generations of homesteaders and oil workers within the audience perhaps serve as a more fitting reminder of Winnett's importance, visible reminders of the area's still inextricable relationship to a prized natural resource.

[66] U.S. Census Bureau, "Winnett, Montana Population Estimate," *American FactFinder*, 2010, http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml.

EASTERN MONTANA

In 1956, even as the Cat Creek fields were fading, Montana governor J. Hugo Aronson expounded upon eastern Montana's potential to produce oil. Aronson supported a feeder airline service for eastern Montana and western North Dakota under the pretext of supporting agricultural and extraction infrastructures:

> There is need for [this airline] by the agricultural economy. Then, too, we are in the infancy of a tremendous development of the Williston Basin oil discoveries, which promise to revolutionize the economy of this entire area for many, many years.[67]

Aronson's airline never came to fruition at the time, but his prediction that eastern Montana would produce oil did. Although today national attention focuses upon the booming Bakken oil fields, which stretch into neighboring North and South Dakota, eastern Montana has a much longer history of oil production. The communities of Baker, Glendive, and Sidney, were deeply affected by oil around the turn of the twentieth century. Roughly twenty years after oil extraction's dramatic arrival in central Montana, another series of resource booms swept across the state's eastern border. However, while oil meant a second chance at survival for central Montana homesteaders during the 1920s, it provoked less enthusiasm among eastern Montana homesteaders and their descendants from the 1950s onward. Economic benefits could not temper eastern Montanans' more negative feelings toward oil. Rising crime and growing tension between nonlocal oil roughnecks and local agriculturalists made eastern Montana's initial brushes with oil dramatically different than central Montana's. However, in both cases,

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[67] Transcript, J. Hugo Aronson Speech, 1956, box 16, folder 10, Coll. MC 338, J. Hugo Aronson Papers, Montana Historical Society, Helena, Montana.

oil still shaped socioeconomic changes. Oil molded eastern Montanans as deeply as their central Montana peers, but very differently.

In 1924, the *Baker Sentinel* proudly announced a successful oil well near the tiny community: "there has never been a well drilled in the entire country that has attracted so much general outside interest."[68] The article described the "magic influence of oil" using language remarkably similar to homesteaders around Winnett, Montana, a few short years earlier. The small publication's title was underscored by the addition: "published in the geographical center of the largest anticline in the American continent." This extraordinary, far-reaching geological language reflects eastern Montanans' sincere belief that oil would transform their lives, economically and socially, for the better. Subsurface resources comprised the identity of Baker's newspaper as oil fever swept across both central and eastern portions of the state. However, despite the *Sentinel's* front-page fixation upon black gold, its headlines still largely drew reader attention to improved agricultural updates—the *Sentinel* never introduced an oil derrick to its masthead as did the Winnett newspaper. Unfolding oil developments in Baker in the 1920s signaled the beginning of eastern Montana's longstanding love-hate relationship to oil.

Baker was established around 1908 as a Milwaukee Road station. Baker was chosen for its close proximity to a small lake, which provided constant water access for steam-powered locomotives. Although the Milwaukee Road's distinctive water stations dotted eastern Montana's early twentieth century landscape, the railroad appropriated yeoman farming's virtues to attract homesteaders. The railroad dubbed Baker the "city of

[68] "Montana Weekly Industrial Review," *Baker Sentinel* (Baker, Montana), January 4, 1924.

opportunity," and homesteaders responded to the promise of tillable, cheap land. Nor were these promises entirely unjustified. In1915 agricultural production around Baker reached more than one million dollars worth of grain, a seeming triumph of "scientific agriculture."[69]

Only a few years earlier, in 1912, oil and natural gas deposits were also discovered near Baker. By 1920, more than 1,000 new residents occupied the community, and most were more interested in its subsurface mineral wealth than in farming the surface. Baker sold copies of geological maps within issues of the *Fallon County Times*. Consolidated Oil and Gas Company (no relation to central Montana's Conoco) was the first to identify and map the Cedar Creek Anticline. This fold in the subsurface rocks would soon be recognized as the Bakken oil field's preeminent source of oil reserves. The anticline, a narrow geologic formation stretching about one hundred miles between Glendive and Baker, is a mere ten miles wide.[70]

In 1912, the locally owned Consolidated Oil and Gas Company bored a hole within Glendive's city limits in search of oil. None was found. The following year, the Midwest Oil Company also tried, but to no avail. Small gas reserves still drove interest in resource extraction, and gas production far surpassed oil development in Baker and Glendive after the initial subsurface discoveries. However, agriculture remained the primary source of local economic growth. In 1936, the Montana Dakota Utilities

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[69] *Baker, The City of Opportunity*, (Baker, Montana: Chamber of Commerce, 1915), 5.
[70] John W. Strickland, "The Cedar Creek Anticline, Eastern Montana," *American Association of Petroleum Geologists Bulletin,* 38, issue 5 (1954): 947, http://archives.datapages.com/data/bulletns/1953-56/data/pg/0038/0005/0900/0947a.htm.

Company struck oil within the Cedar Creek Anticline, marking the geographical apex of today's Montana Bakken boom.[71]

Most residents of Fallon and Dawson counties rejoiced at the discovery of oil. Like Frantz's 1920 Cat Creek discovery, cold, wet weather underscored early Baker-Glendive field production. Mechanical troubles and lost tools also marred initial well development. However, a local company's test well managed to produce a little oil. The Montana Dakota Utilities company followed suit, and drilled, or spudded[72], more productive wells. On April 21, 1936, the *Fallon County Times* issued an extra edition with over 1,000 additional published copies lauding the arrival of oil extraction in eastern Montana.

The special edition included several interviews with the descendants of early homesteaders descendants who reflected the resource hopes and a new regional identity prefaced upon oil. Longtime residents planned to buy cars and pipes and start new businesses. A farmer's wife excitedly proclaimed, "we won't be needing to plant any wheat now."[73] Bill McDonald, a homesteader who settled in Fallon County in 1915, exercised more caution than many of his fellow farmers: "his enthusiasm is worn out…he hopes no undue excitement will make peoples' imaginations run away with them but that they will all act in a way that will be beneficial to everyone."[74]

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[71] Gwynn Thomas, "The Cedar Creek Anticline," 192.
[72] In the oil and gas industry, "spudding" represents the moment at which a new well is drilled. It derives from the Middle English word "spudde," or "short knife." See "Spud Definition," *Investopedia*, accessed March 23, 2015, http://www.investopedia.com/terms/s/spud.asp.
[73] "Oil Driplets," *Fallon County Times*, (Baker, Montana), April 23, 1936.
[74] Ibid.

The *Fallon County Times* published a separate special edition in May 1936 following consistent production from the Baker-Glendive field. It quickly became the leading oil reserve in Montana. A 1936 promotion for legal advice about mineral rights was originally taken from 1919 central Montana newspapers.[75] Between 1936 and 1941, Montana Dakota Utilities (MDU) continued to aggressively drill in the Cedar Creek Anticline and Baker-Glendive field. By May 1941, MDU completed 175 producing gas wells and two oil wells in the region.

Despite these quick successes, it did not take long for the romance of early production to fade as the economic and geologic realities settled in upon the boom communities of eastern Montana. Despite the ballyhoo, MDU's initial wells were too small for long-term economic productivity. Coupled with low crude oil prices due the American government's efforts to artificially keep oil costs down during World War II, few transportation networks, and competition for scarce water resources, oil development rapidly waned.[76]

As in the case of Cat Creek, oil hopes were not proportional to technological, economic, and environmental realities necessary for sustained subsurface production. Farmers, including homesteaders and their descendants in the brief boom communities of Baker, Glendive, and Marmarth, returned to the fields, perhaps quietly awaiting another resource boom.

Eastern Montana's resignation to a future of dry farming was short-lived, and oil hopes rose afresh in the 1950s north of Baker and Glendive. Sidney, Montana is located

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[75] "Largest Oil Producer in Montana," *Fallon County Times*, (Baker, Montana), May 28, 1936.
[76] Gwynn Thomas, "Cedar Creek Anticline," 196.

about 130 miles due north of Baker. The seat of Richland County, Sidney, is just ten miles west of the Montana-North Dakota border. The community was founded in the 1870s, although its population burgeoned only after the Lower Yellowstone Irrigation Project (1909), which was authorized by the U.S. Secretary of the Interior in 1904 to divert water from the Yellowstone River for agricultural irrigation. Authorized as part of the Newlands Reclamation Act of 1902, Montanans firmly believed that President Theodore Roosevelt ranked the project on a par with the Panama Canal's construction as a highlight of his presidency. Roosevelt strongly believed that the United States was morally obligated to "make the desert bloom" through water reclamation projects.[77] His reclamation initiatives, coupled with aggressive railroad boosters, drew homesteaders to arid Sidney in the early 1900s. Like Cat Creek and eastern Montana communities including Baker, Marmarth, and Glendive, Sidney was established for agriculture. However, oil discoveries in the 1950s rocked the quiet farming town and set the stage for continuing oil developments.

On October 2, 1952, the *Sidney Herald* reported that "oil prospects in the great Williston Basin in general, and in the Sidney vicinity particularly, are gaining wide recognition."[78] *Montana Oil Journal* editor A. H. Raymond reported in early 1952 that oil production around Sidney would likely "surpass the famed Permian Basin in Texas." Following oil discoveries in eastern Montana in the 1930s, geologists and private national oil company surveyors actively drilled test wells around Sidney. However, by the early 1950s, drillers reported nine dry holes to one producer. The first significant oil discovery

[77] George Wharton James, *Reclaiming the Arid West: The Story of the United States Reclamation Service* (New York: Dodd, Mead, 1917), 149.
[78] *Sidney Herald*, (Sidney, Montana), October 2, 1952.

in Sidney flowed through a Richland County pipeline November 1953. Sidney had grown frustrated with earlier oil failures in eastern Montana between the late 1930s and 1950s, exacerbated by World War II's negative impact on local crude oil prices. However, a 1950s "mini boom" invigorated resource production in Richland County and lasted until the 1980s.

Still, perhaps people had become jaded in the wake of earlier oil busts. Oil discoveries clearly did not bring the same level of local excitement to Sidney as it did to Cat Creek.

Sidney citizens also did not respond as positively to oil development due to growing economic differences among homesteaders' families and the influx of nonlocal oil workers. Legislative realities tied to mineral rights were an additional factor. Sidney oil production in the 1950s signaled a new kind of Montana oil boom: one predicated upon the early involvement of major corporations, resulting in a far less economic opportunity and control for locals.[79]

After having served the region since 1954, Frontier Airlines finally ended its airline serve to Sidney in 1980. While the petroleum industry boosted business, it did not engender the same level of direct local investment as Cat Creek or the Baker and Glendive booms. Homesteaders at Cat Creek benefitted from direct mineral right ownership. Until 1920, most homesteaders enjoyed access to both surface and subsurface resources, thanks to the 1872 General Mining Act's broad definition of property rights on lands patented from the federal government. However, in 1920, the United States Mineral

[79] Charles P. Evanson, *Courage Enough: Mon-Dak Family Histories, Richland County, Montana,* Bi-Centennial Edition edition (Mondak Historical and Arts Society, 1975), 68.

Leasing Act withdrew oil, gas, coal, and hydrocarbons from the purview of the 1872 law. Under the 1920 act, the federal government reserved the right to lease oil on federal lands to operators. The act was passed in part to curtain wildcatters—oil drillers with no claim to the land or definitive geologic evidence of oil's presence—from wantonly drilling on federal lands. Fearing expenditures without guarantees, the federal government passed the 1920 act to encourage wise drilling. However, side effect was that fewer small-scale producers, including homesteaders-turned-roughnecks, profited from post-1920 oil drilling.[80]

At Cat Creek, most homesteaders-turned-oil workers "proved up," or satisfied federal guidelines to obtain complete fee-simple ownership of their oil lands before the1920 act was passed. As a consequence, if they made their land productive within the timeframe of the legal statute under which it was purchased, they were free to grant oil leases directly to prospective oil operators at whatever terms they wished. The same was not as true in Sidney, Montana, in the 1950s, primarily because fewer homesteaders purchased their land before 1920. Furthermore, the Stock Raising Homestead Act separated mineral from surface rights even though its acreage allotment—six hundred forty as opposed to the Enlarged Homestead Act's three hundred twenty—was substantial. Classification under the Stock Raising Homestead Act at Cat Creek was slow, so entries were not processed until around 1918, well after homesteaders who benefitted from oil leases in the area had settled.[81]

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[80] Lisi Krall, "US Land Policy and the Commodification of Arid Land (1862-1920)," *Journal of Economic Issues* 35, no. 3 (2001): 657. Also see Ida Kubiszewski, "Mineral Leasing Act of 1920, United States" The Encyclopedia of Earth (2006), accessed February 22, 2015, http://www.eoearth.org/view/article/154629.
[81] *Pages of Time: A History of Petroleum County,* 5.

In Sidney, few homesteaders' descendants retained complete rights to the oil and other minerals under their lands, and as a consequence, oil companies did not woo local landowners to secure leases to nearly the same extent as they had at Cat Creek. For example, in 1923, minor Minneapolis oil company president John H. Kremer courted Cat Creek homesteader Frank Zuern for months to secure exclusive lease rights to his oil property. In desperation, Kremer appealed to shared agricultural-to-oil identities: "we are not a bunch of slickers but just farmers who homesteaded and worked up from the ranks just as you did."[82] The Kremer-Zeurn correspondence also demonstrates the power wielded by small landholders and agriculturalists: early Cat Creek oil interests were often dependent on the good will of homesteaders.

Homesteaders around Sidney reaped fewer oil lease royalties than their Cat Creek predecessors. Some area farmers viewed nonlocal roughnecks suspiciously. These compared the oil boom to the 1930s when the federal government brought diverse Civilian Conservation Corps members to help with construction projects, including the Fort Peck Dam. Housing the steady influx of oil workers needed to support the boom was a constant problem, and one resident recalled, "any hovel would be rented."[83] Things had not really changed a half-century later. In 1981, inadequate housing led to Richland county commissioners placing a time limit on camping at Richland City Park to prevent

[82] Frank J. Zuern, Globe Oil Company Correspondence, 1922, SC 1925, The Frank J. Zuern Papers, The Montana Historical Society Archives and Research Center, Helena, MT.
[83] Synove Bratberg Lalonde Transcript, May 1984, OH 791, The Montana Historical Society Archives and Research Center, Helena, MT.

the de facto establishment of a "tent city." At the time, Sidney boasted almost 0% unemployment.[84]

Racial tension also underscored Sidney oil development. Former Sidney mayor Harold Mercer, who largely supported oil production in Sidney to boost the community's infrastructure and economy, also compared the roughnecks to the supposed "tough street kids from New York City" who were brought to eastern Montana in the 1930s for New Deal public works projects.[85] Others made parallels with, the Lower Yellowstone Irrigation Project of 1909, which greatly expanded eastern Montana's sugar beet industry and brought an influx of Mexican-American sugar beet workers around Sidney. Reasonable criticisms of the disruptive overcrowding of oil boom workers could all to easily shade into white nativism and both racial and class prejudices.[86]

Local community authorities and homesteading residents would later have conflicting memories about Sidney oil development. Former mayor Harold Mercer reported that, in spite of "a few robberies and petty crime," authorities in Sidney from the 1950s to 1980s were "on top of [crime]," and he argued the boom's growth offset any negative social impacts of oil development.[87] By contrast, homesteader Synove Lalonde reported several occurrences of violent crime, including rape and murder.[88] Some residents concurred that oil produced a corrupt black market in eastern Montana in which

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[84] *Focus on Our Roots: The Story of Sidney,* (Sidney, Montana: MonDak Historical and Art Society, 1989), 73.
[85] Harold Mercer interview transcript.
[86] John A. Knoop Transcript, May 1984, OH 779, The Montana Historical Society Archives and Research Center, Helena, MT.
[87] Harold Mercer interview transcript.
[88] Synove Lalonde interview transcript.

companies paid homesteading families under the table or furnished commodity incentives, including fuel, to guarantee exclusive leases.[89]

The first attempt to drill oil in eastern Montana was in 1912 near Glendive. By the 1930s, Fallon and Dawson Counties generated a steady stream of oil revenue from oil production in the Cedar Creek Anticline[90] in the Williston Basin's Montana portion.[91] Nonetheless, articles from the 1930s' *Fallon County Times* like the special edition publication, suggest that local hopes inspired by the oil discoveries bear considerable resemblance to the oil hopes brought by the recent Bakken-area development in Montana. Twenty years later, an oil boom close to Sidney, Montana, also reflected the expectations and turmoil that rack the small community today. While Sidney Mayor Harold Mercer reflected that oil represented a positive economic force, locals commented upon the social upheaval that it also produced. For example, homesteader Synove Lalonde recalled seeing an out-of-town "roughneck," or oil laborer, shot in the middle of downtown Sidney during 1950s-era development. Oil brought hard economic and social realities to small Montana communities in Richland, Dawson, and Fallon counties from 1950 to 1980 that reflected—and perhaps predicted—contemporary oil production conditions in the Northern Plains.[92]

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[89] Eldon F. Kemmis Transcript, May 1984, OH 784, The Montana Historical Society Archives and Research Center, Helena, MT.
[90] An anticline is a ridge-shaped fold of rock in which the rock strata fold downward from a crest. Plunging and faulted anticlines commonly have oil deposits because the low density of petroleum causes it to migrate toward the highest parts of the strata's fold.
[91] "Oil and Gas History in Fallon County," *The Fallon County Times*, (Baker, Montana), May 28, 1936.
[92] Harold Mercer and Synove Lalonde interview transcripts.

CONCLUSION

While eastern Montanans generally agreed that oil produced positive economic benefits, Cat Creek's narrative of oil as an unalloyed social good was largely absent in the postwar period. Much of this shift in both realities and attitudes can likely be attributed to the growing dominance of heavily capitalized national and international corporations. Corporations that were largely independent of the need for local labor made oil development increasingly less equitable for eastern Montanans than their central Montana peers during the 1920s. While agriculture in the 1920s brought hardships, they were of a different variety than those suffered by eastern Montanans facing the onslaught of large-scale corporate expansion and diminishing chances to own minerals below the surface.

Oil development in Cat Creek, Montana during the 1920s and in the Williston Basin during the postwar years followed some similar economic and social patterns. At both sites, minor discoveries were followed by major corporate investment, which, in the instance of Cat Creek, temporarily created a "company town" atmosphere. Early oil booms in Montana demonstrated the same patterns of boom and bust that strongly affected local infrastructures. At both Cat Creek and eastern Montana, locals first eagerly attached themselves to oil as a method of economic survival in the face of otherwise difficult agricultural conditions. Cat Creek, in particular, may not have survived without the oil boom. However, oil's economic benefits never fully met expectations among either central or eastern Montanans. In both cases, oil as energy was always tempered by oil as power: when large-scale corporate interest in oil subsumed locals' ability to control

resource production, it ceased to represent an equitable source of identity. In all cases local and national oil interests failed to recognize the resource's limits. Expectations for oil's long-term sustainability and local identities predicated upon oil as an agricultural substitute were rapidly tempered by the technological and environmental limits of petroleum development. Sunshine energies above and below the earth's surface, including agriculture and oil, extend only as far as the limits of the environmental conditions that generate, and human production that harvest, them.

In some ways, central and eastern Montanans' hopes mirror unrealistic expectations tied to homesteading itself: while many families and individuals hoped to flourish economically by manipulating the environment for profit through farming, few could adequately contend with the harsh environmental realities of Montana's plains. Likewise, oil production was messy, difficult, and all encompassing: for better and worse, oil's labor-intensive quality made it socially, economically, and physically demanding for Montanans. The physical difficulties of oil development ironically tied central Montanans to the resource, as oil development companies relied upon local laborers to ensure economic profitability. From 1919 to 1950, central and eastern Montanans facing departure due to devastating drought turned to oil as an economic alternative. Today, crippling droughts on the Northern Plains are thought to be caused at least in part by fossil fuel, and primarily oil-driven, environmental pollution. Montana oil development represents but one stroke on a worldwide canvas of fossil fuel extraction and environmental impacts. In one of the great ironies of Northern Plains resource production, Montana today struggles to maintain its agricultural roots because of oil's

profound economic and environmental consequences. With the advent of new oil drilling techniques and dwindling subsurface reserves, neither homesteaders in central nor eastern Montanans enjoyed the level of prosperity for which they initially hoped.

Today's attention to oil development in Montana is trained upon the Bakken, the large rock unit on the subsurface of Canada, North Dakota, and Montana's Williston Basin that serves as a prolific source rock for rich oil shale. The advent of new drilling technologies, most notably hydraulic fracturing and horizontal drilling, made Bakken area oil development expand commercially from the mid-1990s through the present.[93]

Bakken shale production today engenders social upheaval, as small North Dakota and Montana communities struggle to accommodate new labor, investment, and infrastructure. As of yet, no large-scale environmental analysis has been offered about Bakken oil development, perhaps due to the region's relatively recent large-scale drilling initiatives underscored by controversial technologies like frakking. National media attention focused upon the small eastern Montana community of Sidney, Montana, in January 2013 when popular local high school teacher Sherry Arnold went missing. Her body was discovered three months later in a shallow ditch close to Williston, North Dakota, an apex area of Williston Basin oil production.[94] Locals from eastern Montana, including descendants of homesteaders who arrived at the turn of the twentieth century,

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[93] Hydraulic fracturing involves high-pressure injection of water, chemicals, and sand into a well and surrounding rock formation to open passages that allow for oil extraction where it was previously impractical. Horizontal drilling, one example of directional drilling, involves drilling at an angle beneath adjacent lands, structures, and surface features. Both alternate methods to traditional drilling are intended to maximize oil production. See Timothy Fitzgerald, "Frackonomics: Some Economics of Hydraulic Fracturing," *Case Western Reserve Law Review* 63, no. 4 (Summer 2013): 1337, for a detailed overview of recent drilling technologies used within the Bakken and the legal issues that surround them.

[94] Matthew Brown, "Sherry Arnold Missing: Kidnapped Montana Teacher Allegedly Choked And Buried In Random Abduction," *Huffington Post*, February 18, 2012, http://www.huffingtonpost.com/2012/02/18/sherry-arnold-missing-_n_1286381.html.

have mixed feelings about modern oil development in the area. On one hand, it brings local economic growth because of new businesses and state taxation upon oil production. On the other, oil brings new people and new troubles.

Communities in central and eastern Montana were dramatically affected by oil, changing the dynamics of community hopes and identity. Agriculture became less important than oil, even though Montanans remained tied to both resources for survival on the harsh northern plains. Homesteaders and their descendants at Cat Creek and in eastern Montana adapted socially and economically in response to oil. They testify to the constant synthesis between people and resources. Locals and nonlocals in Montana controlled oil. However, for better or worse, oil also controlled them. Even if not explicitly read as a cautionary tale against the ills of wanton resource extraction, the stories of Cat Creek and the nascent Williston Basin development still eerily herald Montanans' contemporary dependence upon oil.

Today, evidence of Montana's longstanding history of oil development seldom rises above local rumor. Former sites of oil production are sometimes hinted at within continuing threads of local identity. For example, residents of Sunburst, Montana, site of the once prolific Kevin-Sunburst oil boom of the 1940s, still cheer for their beloved Refiners in spite of dwindling crowds. A 2015 poll among seventh grade schoolchildren in Lewistown, Montana, close neighbor to Winnett and seat of Petroleum's neighboring Fergus County, found that none had heard of either Cat Creek or its 1920 oil boom.[95] All had heard of the Bakken.

[95] Poll by author, (Noah Vallincourt's Seventh Grade Class), Lewistown, Montana: March 13, 2015.

The rustle of the wind and lonely cobbled Conoco sign at the corner of Cat Creek Road and Highway 200 today stand as the only physical evidence of Cat Creek's historic oil boom. In eastern Montana, gaudy billboards promoting casinos, hotels, and opportunities dot Interstate Ninety Four east. Combines and oil trucks vie for space along eastern Montana's bustling roads. Both capture the rich resources above and below earth's surface. But few, if any, consider resources' capacity to capture them.

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