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THE OIL SHALE BOOM & BUST IN THE AMERICAN WEST

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ГОРЮЧЕСЛАНЦЕВЫЙ БУМ И ЕГО КРАХ В ШТАТЕ КОЛОРАДО

Boom and bust cycles have perennially plagued the resource-rich American West which has depended upon capital from the eastern United States to finance expansion, industrialization, and community settlement. The initial booms in the nineteenth century were for hardrock minerals like gold and silver, but an international thirst for oil created the recent energy boom. The epicenter of that boom was the oil shale region in western Colorado. Historians will note that one of the most important dates in the history of the twentieth century West was May 2, 1982 when the largest corporation in the world, Exxon, U.S.A., ceased Colorado oil shale development.

Known in western Colorado as "Black Sunday", on that date Exxon, according to *Fortune* magazine, abandoned its expensive commitment to oil shale "with all of the abruptness of a teenager making a u-turn" [1]. The corporate guillotine had fallen, and though it would take months and even years for the shock waves to topple major banks in Dallas and Houston, Texas, the oil bubble had burst. Coloradans on the Western Slope were the first to feel the bust because they had ridden the crest of the boom.

Oil shale has a definite attraction for a nation which annually consumes thirteen billion barrels of oil [2]. The energy crisis of the mid-1970s produced two hundred boomtowns throughout the northern Rocky Mountain states including twenty-five in Colorado [3]. Contemporary boomtowns replicated their historic predecessors. In the late nineteenth century, gold and silver camps sprung up on the sides of mountains far removed from civilization, whereas in the late twentieth century, boomtowns rapidly evolved from quiet communities of third and fourth generation farmers and ranchers who were not at all prepared for the influx of in-migrants and the demands they placed on antiquated and over-taxed municipal systems. Thus rural communities previously characterized by stability encountered the disruptive elements of boomtown growth: drunkenness, drugs, depression, and divorce. "The Gillette Syndrome" of social discord and population impact became a generic label applied to rural western boomtowns. Gillette, Wyoming, in the 1970s featured "drunkenness, anomie, mental discord, suicide attempts and teenage rebellion" [4].

Then, just when city planners, school teachers and social workers had begun to stabilize and improve boomtown life, the boomtowns became bust towns, and thousands of newcomers left as quickly as they had arrived. The value of oil had declined and with it the market value of other forms of energy such as coal and uranium. This paper focuses on how oil shale development transformed the towns of New Castle, Silt, Rifle, Parachute, and Grand Junction in the Colorado River Valley. A key factor in any analysis of boom and bust cycles in the Rocky Mountains is physical isolation.

Sociologist William Freudenburg wrote in 1984, "The communities experiencing rapid growth are among the most geographically isolated in the nation" [5]. Because of their isolation and the homogeneity of the farmers and ranchers who have lived for generations on the same land, rapid energy development by outsiders creates community conflict. Isolation of ranching communities has meant the establishment over time of rural attitudes, traits, folkways and values which run deep and often counter to the heady boomtown atmosphere of financial speculation on leveraged real estate options and investments. Yet the many long-timers enjoyed what this author defines as "boomtown euphoria", and now they miss the hustle and excitement. The appeal to rural westerners of a quickened boomtown pace has not adequately been described, though "boomtown euphoria" was a definite and interesting phenomenon in the oil and energy boomtowns.

Small towns were being changed overnight by rapid growth, and the feeling of excitement, of being a part of a larger whole, was an urban attitude new to longtime rural residents. From the family practice physician to the grade school janitor, in an boomtown situation everyone works hard just to keep up. In Parachute, Colorado, during the height of the boom, one of the gas station proprietors pumped more gas in a week than he usually pumped in two months. Residents enjoyed the commotion and everyone with a job felt needed — though often overworked and overwhelmed. Even Danny the Bum who slept in the alleys of Parachute made a dollar or two by sweeping out O'Leary's Saloon.

The first oil shale boom before World War I also went bust; not unlike the story told about Parachute pioneer Mike Callahan for whom Mt. Callahan, the prominent peak which rises north of the Colorado River, is named. According to legend, Mike settled near Parachute in the early 1880s and built a log cabin from indigenous materials. Afterwards he invited all his friends over for a housewarming. Whites and Indians alike complimented Mike on his new cabin and warmed their backsides by the fireplace until the housewarming got too hot. Mike had built the fireplace out of shale rock; it started to drip, caught fire and the cabin burned to the ground. Like Mike's cabin, the first oil shale boom flamed brightly but then became ashes almost as quickly as the cabin.

As war clouds loomed in 1914, the nation took stock of its strategic resources and experts announced that the country had only a nine-year supply of oil reserves. Then the United States Geological Survey published a bulletin in 1916 by Dean Winchester stating that Colorado shales contained an incredible 20 billion barrels of oil. That year President Woodrow Wilson withdrew 45,444 acres of Colorado oil shale lands and 86,584 acres of shale lands in Utah for a permanent Naval Oil Shale Reserve. An astounded scientific community reacted with skepticism to Winchester's report, and the U.S. Geological Survey sent him back into the field to check his calculations because it felt he had erred. His superiors were correct. Winchester had incorrectly estimated recoverable barrels of oil. A second edition of Winchester's bulletin published in 1917 clarified that the amount of available oil was not 20 billion barrels, but 40 billion barrels; the shale rush was on [6].

In 1919 and 1920, prospectors filed 30,000 oil shale claims on four million acres, yet no technology emerged to process shale, which was nicknamed "rubber rock" because once heated it would flow for a short time and then solidify in shale retorts. With the discovery of millions of gallons of liquid crude in the Permian Basin of Texas and Oklahoma, the oil shale boom abruptly ceased in the early 1920s, but not without changes in land ownership. Corporations consolidated their holdings up and down Parachute Creek. They put up a few fences, stocked the pastures with cattle, and waited. Half a century later, the shale boom recurred only this time with significant community and social impact.

Price fixing by the Organization of Petroleum Exporting Countries (OPEC) in 1973 precipitated a worldwide energy crisis. Americans were furious about waiting in line to buy gasoline. A host of political scientists, economists, and national defense experts predicted dire consequences because of dependence on foreign crude. Nineteenth century gold and silver booms may have pumped millions of dollars into the American economy and helped to fuel a young nation's expansion, but the energy crisis of the 1970s had a worldwide ripple effect that toppled governments, shifted billions in assets around the globe, and rearranged American political constituencies.

In a decade characterized by double digit inflation and rising unemployment, residents of western Colorado did not worry about layoffs. "The nation needs oil", they were told. "America's dependence on foreign oil must stop," the experts said [7]. Boomers on the Western Slope knew they lived near a "black gold mine" of shale oil, and they took comfort in those vast reserves. Though oil shale is distributed throughout the globe, our nation's best deposits are located in Colorado, Utah, and Wyoming. By 1974 estimates, the richest oil shale deposits in the world are located in one small area of Colorado, the Piceance Creek Basin, which contains two trillion barrels of oil. In some deposits, 2,000 foot thick oil shale seams yield 25 gallons to the ton [8].

Best of all, the richest oil shale deposits were on federal lands available for long term lease under the Mineral Leasing Act of 1920. The location of these deposits in the heart of the American West seemed the perfect answer to high oil prices from the unstable Middle East. The national mood called for action, and prospect of high profits whetted the oil companies' appetites for major, crash development of synthetic fuels, with healthy federal subsidies to sweeten the pot. Companies bought oil shale leases worth \$ 210 million in 1974, and soon roads needed to be built, apartment buildings constructed, schools enlarged, and telephones installed. Into rural Western Colorado came the industrial giants to begin heavy construction. With the arrival of major construction firms, thousands of workers flooded Garfield County, Colorado, from Michigan, Illinois, North and South Carolina, and every depressed state in the nation.

The unemployed came to put in applications with The Industrial Company, Daniels Construction, and Gilbert-Western. Then in mid-1980s the largest company in the world, Exxon, U.S.A., bought out Atlantic Richfield Company (Arco) and became partners with The Oil Shale Company (Tosco) to aggressively develop the Colony Oil Shale Project. Exxon hired Brown & Root, the second-largest contracting firm in the nation, to do the construction work. By 1981, in addition to Exxon's Colony Project, oil shale development included ventures or joint ventures by Union, Chevron, Mobil, Tenneco, and Occidental, as well as deve-

lopment by smaller firms like Equity, Paraho, and Rio Blanco Oil Shale Company.

In Colorado, on the western side of the Contential Divide two hundred miles from the Denver metropolitan area, the oil shale impact fell on the small towns of Parachute, population 300; Rifle, population 2,200; Silt, 900; and New Castle, 700. Exxon planned to build an entirely new community on Battlement Mesa, just south of Parachute, on land that was only marginal cattle range. Projected population for the town of Battlement Mesa was to be 25,000 people by the 1990s. Exxon was building a new town as large as the existing population of the entire county! Parachute was eventually to swell to 15,000 people and the other small towns in the valley were also expected to mushroom.

But the limitless West is a land of limitations. Despite the magnificent scenery and the soaring mountain peaks, the Rockies have remained sparsely settled and largely devoid of manufacturing and industry — for good reason. John Wesley Powell in his 1878 *Report on the Arid Lands West of the Hundredth Meridian* made clear that only an “oasis civilization” could survive in the West, for beyond the hundredth meridian precipitation is less than twenty inches a year [9]. Water has historically been a limiting factor. Yet the oil companies proceeded with oil shale development on the grounds that ample water supplies existed. Developers felt that water was being wasted on agriculture. Fortunes were made by farmers and ranchers who retained title to their land but sold their senior water rights for shale oil processes which required a barrel of water to produce each barrel of oil. Exxon USA had no expectations of increased water flow in the Colorado River. Instead, company officials planned to pipe water from the Missouri River basin to Piceance Creek.

Exxon's infamous “White Paper” titled “The Role of Synthetic Fuels in the United States Energy Future” (1980) stunned scientists and journalists alike [10]. John Gilmore, Senior Research Fellow of the Denver Research Institute at the University of Denver, has called the White Paper “a grand gesture to show that Exxon was serious” though the technical report became “one of the greater minor faux pas of corporate history” [11]. Among other prodigious plans, Exxon suggested rearranging the drainage system of the North American continent to suit the energy emergency. Officials insisted that costs could be kept to a minimum, but the proposals did not fully take into account that water is the lifeblood of the West and the unifying factor in Western economics, politics and culture. Exxon proposed an eight million barrel-per-day industry, but not a single barrel of shale oil had yet been processed at a competitive, commercial rate [12].

Such was the scope of the oil shale boom and the environmental frenzy in the late 1970s and early 1980s. Friends of the Earth proclaimed oil shale and massive synthetics fuels development as their primary environmental concern in the United States [13]. Quiet Colorado River Valley towns became polarized boomtowns, and an entire city was being built to accommodate the fastest development of a new industry in the history of the United States. But then in late 1981 and early 1982, tremors of doubt began to filter through the boomtown euphoria. There were warning signals within the industry, but in western Colorado this was the boom business people had dreamed about.

Many local people in the oil shale region thought differently. They felt overwhelmed and fatalistic about the impending energy development. Older citizens resigned themselves to the demise of their way of life, but they also hoped for employment opportunities for the young.

Retired Rifle schoolteacher Robert Wamsley succinctly expressed the views of many area senior citizens when he said, "Oil shale is here to stay. When you have companies which have committed a good many millions to development programs, they're not in here for fun. They're here for real." He expressed the patriotic sentiments of many Coloradans when he explained that oil shale is "badly needed by the nation. I have mixed emotions about what'll happen to the countryside, and you know they'll tear up the mountains and add pollution, but on the other hand we need the economic stimulus of industry" [14].

Despite fervent hopes for long term jobs, on Sunday May 2, 1982, Exxon announced it was closing down the Colony Project. The day of the decision is known locally as "Black Sunday", and almost everyone in Garfield County remembers what they were doing when they heard the news. By Monday morning, 2,100 people knew they were immediately out of work. The ramifications of Exxon's decision depleted \$ 85 million in annual payroll from the Western Slope economy and by summer's end approximately 5,000 people had moved out of the county.

Despite twenty-one months of intensive development on a project estimated to cost \$ 5 billion dollars, Exxon corporation stopped all work on the Colony project on May 2, 1982. In eighteen months, a brush-covered pasture had become a town of 1,700 people. The day Exxon ceased spending a million dollars a week on Battlement Mesa, four hundred apartments and condominium units were under construction, as were forty-six single-family homes. Foundations had been laid for an additional one hundred twelve more units. Workers who had moved hundreds of miles to the construction site received only two hours' extra pay. They went to work on Monday, May 3, to find locked gates. They were not even allowed to retrieve their lunch pails and coats; severance pay was a day's wages and mileage. Though Exxon promised state and county officials an "orderly shutdown", what actually happened was far from orderly. All rental trucks and trailers within a ninety-mile radius were leased within four days. The exodus began [15].

The bust occurred in May of 1982. Memories, both good and bad, are still fresh. Residents have faced foreclosures, bankruptcies, the loss of friends, and divorces because of emotional and financial stress. In twenty years they will have made their adjustments and mellowed their attitudes. At present the pain is real, for they acted in concert with what they felt were national needs and national priorities and they invested time and money in projects which rarely succeeded. Greed also became a prominent factor in the boomtown equation, and financial security for once prudent people vanished. Local newspapers have written about returning to a "pre-boom" economy, but that is not possible. Congress voted in December, 1985, to abolish the Synthetic Fuels Corporation, effectively dampening any immediate hope for a viable oil shale industry. For local residents, shock often gave way to deepening depression. Just as individuals must go through a grief process when faced with extensive personal loss, so too, must communities grieve. The few newcomers who have stayed consider themselves "survivors" exactly as if they had endured a natural catastrophe [16].

Now, nine years after the most recent shale collapse, eagles are returning to their nesting areas in Western Colorado, and Battlement Mesa has become a haven for retirees. Yet fossil fuels will always be a non-renewable resource. The recent energy bust is only a truce — not a lasting peace. An oil shale boom may come again. The economies of the world are still fueled by enormous appetites for oil, and the rock that burns lies deep in dark layers of shale.

РЕЗЮМЕ

Для промышленности западных американских штатов, богатых природными ресурсами, всегда было характерно чередование периодов подъема и спада. Так, XIX век оказался временем неоднократных «золотых» и «серебряных» бумов, а в XX столетии непрерывный рост потребностей в нефти стал причиной энергетических бумов. В центре внимания оказались горючие сланцы, залегающие на западе штата Колорадо. Для страны, которой ежегодно необходимо не менее 13 млрд. баррелей нефти, колорадские сланцы были лакомым куском.

Публикуемый материал представляет собой обзор событий, связанных с попытками освоения горючесланцевых месторождений в Колорадской долине.

Причиной первого сланцевого бума стало сделанное в 1914 г. заявление экспертов о том, что запасов стратегических источников в виде нефти в стране имеется всего на девять лет. Два года спустя был опубликован бюллетень Геологического общества США, в котором топливные ресурсы колорадских горючих сланцев были оценены в пересчете на нефть в 20 млрд. баррелей, а переоценка, произведенная в 1917 г., увеличила это значение вдвое.

Этого оказалось достаточно для возникновения бума. В 1919—1920 гг. изыскателями было зарегистрировано 90 млн. сланцевых участков общей площадью 4 млн. акров. Однако технологий переработки сланцев тогда еще не существовало. К тому же вскоре были открыты богатейшие залежи нефти в штатах Техас и Оклахома, и горючесланцевый бум резко сошел на нет.

Цены на нефть, введенные ОПЕК (Организация стран-экспортеров нефти) в 1973 г., ускорили наступление общемирового энергетического кризиса, который в США привел к двукратной инфляции и быстрому росту безработицы. Однако жители штата Колорадо это не беспокоило: они не забывали, что их «черное золото» — горючие сланцы — у них под ногами. Ведь именно в Колорадо, в бассейне Пайсенс Крик сосредоточены сланцы одного из богатейших в мире месторождений — в 1974 г. его запасы, в пересчете на нефть, были оценены в два триллиона баррелей. Предвкушение огромных прибылей и поддержка развития сланцевой промышленности со стороны государства дали толчок новому буму.

В 1974 г. сланценосных участков было закуплено уже на 210 млн. долларов. Освоению месторождения сопутствовало широкомасштабное строительство жилья, дорог, школ, развитие средств связи. Вместе с крупными промышленными и строительными фирмами в преимущественно сельскохозяйственный до этого времени штат хлынуло множество безработных.

В середине 80-х гг. самая большая в мире компания «Эксон», скупив акции компании «Арко» и заключив соглашение о сотрудничестве с горючесланцевой компанией «Тоско», энергично приступила к реализации проекта по освоению месторождения горючих сланцев. Строительные работы были поручены одной из крупнейших американских фирм.

Однако в грандиозных планах не был учтен серьезнейший момент — в тех местах в год выпадает не более 50 мм осадков. Широкомасштабная сланцевая промышленность развертывалась на территории с мизерными водными запасами.

Компания «Эксон» не рассчитывала на увеличение полноводности реки Колорадо и потому предлагала перекачивать недостающие объемы из бассейна реки Миссури.

Среди чудовищных планов было намерение переустроить оросительную систему всего североамериканского континента, чтобы приспособить ее к нуждам нарождающейся энергетической промышленности. В расчетах «Эксона» было получение 8 млн. баррелей сланцевой смолы в день, хотя к тому времени не было получено ни одного барреля по цене, способной конкурировать со стоимостью других видов топлива.

Осознав бесплодность своих надежд, 2 мая 1982 г. компания «Эксон» объявила о закрытии своего проекта и прекратила все работы по нему, несмотря на то что на его осуществление было затрачено уже 5 млрд. долларов. Работу враз потеряли 2100 человек; при увольнении они получили лишь дневной заработок и деньги на обратную дорогу.

Таким был бесславный финал «одной из самых грандиозных и в то же

время самых удручающих ошибок в истории корпорации», как охарактеризовал случившееся научный сотрудник Денверского университета Джон Джильмор.

В наши дни, девять лет спустя после краха, природа Западного Колорадо постепенно залечивает свои раны. О пережитом все реже вспоминают жители Батлемент Месы — городка, выросшего в те бурные времена. Но нельзя забыть о том, что запасы сланца все-таки существуют.

Последний спад — всего лишь передышка перед новым всплеском интереса мировой экономики к топливу. Сланцы ждут своего часа, и при определенных обстоятельствах может вспыхнуть очередной бум.

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11. John S. Gilmore interview with author at the University of Denver November 1, 1985.
12. The eight million barrel-per-day or eight million bpd rate is from Exxon's "White Paper". Not even Union Oil, which has been struggling with oil shale since the 1920s has yet produced oil from shale in commercial quantities. See Frederick Rose, "Coming up Dry: Unocal Struggles on With Attempt to Get Crude Oil from Shale", *Wall Street Journal* 14 May 1986: 1.

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