

OIL SHALE RESEARCH: A BRIEF HISTORY

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Participation in the study of western oil shales by the U.S. Government, the State of Colorado and Colorado School of Mines extend, at least, over the period from 1913 to 1976.

There are many people with long records of work in western oil shale and there are many newcomers. For all concerned, it seems only fitting, in view of so much effort, to give a brief chronological listing of some dates and events that represent milestones along the road to what eventually may be a new industry.

1855—In this year, the Mormons are reported to have constructed a retort and recovered shale oil near Juab, Utah.

1913—Woodruff and Day, USGS, begin field work on Bulletin 581, published in 1915. Woodruff reports he obtained “a sample from an *OLD* prospect entry on Conn Creek.”

1915—First Oil Shale Company, the Colorado Carbon Company.

1916—Dean E. Winchester, USGS, starts his oil shale field studies.

1916—M. J. Gavin, H. H. Hill and W. E. Perdew start studies on recovery of oil from oil shale. Gavin and Hill are with the U.S. Bureau of Mines; Perdew is an employee of Union Petroleum Company, Philadelphia.

1916—Naval Oil Shale Reserve #1 (Colorado) is withdrawn from mining entry (December).

1916—Department of Interior classifies oil shale lands as “valuable for petroleum and nitrogen.” Entries under mining law encouraged by Interior’s decision.

- 1917 Winchester, USGS, publishes Bulletin 641 on Colorado's shales.
- 1917—State of Colorado, R. D. George, State Geologist, publishes "Oil Shales in Colorado, Wyoming and Utah."
- 1917—Mt. Logan Oil Shale Company opens adit.
- 1918—First Colorado School of Mines reference: V. C. Alderson, President, in Colorado School of Mines Quarterly, April 1918 and October 1919.
- 1918—Winchester, USGS, publishes Bulletin 691—"Uinta Basin Shales."
- 1919—Colorado School of Mines issues Bulletin No. 8: "The Oil Shales of Northwestern Colorado."
- 1920—U.S. Government: The Mineral Leasing Act is amended to include oil shale. Before 1920 over 10,000 entries of 160 acres each are made.
- 1920—State of Colorado and U. S. Bureau of Mines enter into a cooperative agreement for laboratory studies of recovering oil from oil shale. Work is done in Boulder at Colorado University.
- 1920—Colorado School of Mines: V. C. Alderson, "The Present Status of the Oil Shale Industry," RR Red Book.
- 1921—State of Colorado: R. D. George, State Geologist, publisher "Comparison of Scotch and Colorado Oil Shales," also, "Oil Shale in Colorado, Part II," both in RR Red Book.
- 1921—First DD hole reported. Pure Oil Company diamond drills an 825-foot (252.3 m) hole in oil shales on Battlement Mesa, obtaining a 3½" core.
- 1921 Colorado School of Mines: V. C. Alderson, "Oil Shale—A Potential World Wide Industry," Mining Congress Journal and "Oil Shale—Resume for 1921," RR Red Book.
- 1922—USBM and State of Colorado: Gavin, Bulletin No. 210, "Oil Shale, An Historical, Technical and Economic Study."
- 1923—USGS: Winchester, Bulletin 729.
- 1923—School of Mines: Alderson, "Resume for 1922," RR Red Book.
- 1924—A quiet year. The USBM opens the Laramie Petroleum Research Center, on the University of Wyoming campus, to study petroleum, not oil shale.
- 1925—USBM starts initial planning for Rulison plant and mine.
- 1926-1929—USBM construction and operation on Bureau of Mines Experimental Oil Shale Plant, Rulison, Colorado; September 1926 to June 1927 and April 1928 to July 1929, Pumpherson Retort.

- 1930—USBM: Gavin and Desmond publish Bulletin 315 on Rulison work.
- 1930—East Texas Oil Field.
- 1930-1942—No actions of note.
- 1942—USBM: Gardner and Bell publish IC 7218, "Proposed Methods and Estimated Costs of Mining Oil Shale." (Start of what was to be Anvil Points Facility).
- 1944—Public Law 290: Synthetic Liquid Fuels Act, signed. Laramie Center expands and includes oil shale.
- 1944-1956—USBM: Construction and operation of Anvil Points Mine and plant.
- 1951—National Petroleum Council Subcommittee Report.
- 1956—USBM: Anvil Points Facility closes.
- 1956-1959—Union Oil Company: Operation of Union Oil Company mine and plant.
- 1964—USBM: Gardner and East, Bulletin 611 on Anvil Points mining.
- 1964—Colorado School of Mines: First Oil Shale Symposium.
- 1966—USBM: Bulletin 635—Retort Research.
- 1964-1968—Colorado School of Mines Research Foundation: Anvil Points Facility leased and operated by consortium of six oil companies.
- 1968—U.S. Department of the Interior: First offer of oil shale leases—no takers.
- 1965-1972—Colony Development Company Operation of mine and plant.
- 1971—U.S. Department of the Interior: Request nominations of proposed tracts for leasing (November).
- 1972—USDI: Six of twenty proposed tracts for leasing selected—two each in Colorado, Wyoming, Utah.
- 1972 to
present— Occidental Oil Company conducts in situ research.
- 1972—National Petroleum Council releases oil shale report.
- 1973—Final Environmental Statement for the prototype oil shale leasing program (August).
- 1973—COPC oil cargo.
- 1974—First federal oil shale leases.
- 1974—Project Independence Report.
- 1974 to
Present— Paraho Company: Operates Anvil Points Mine and Paraho retort.

1974 to

Present— Environmental baseline research on lease tracts in Colorado and Utah along with development planning.

One last reference: the following is from a letter written by George Otis Smith, director, U.S. Geological Survey:

“The day that some Company undertaking the production of oil through the distillation of oil shales in this country proves, through actual practice, that oil may be produced successfully and continuously on a commercial scale at its plant, a new page will be turned in the industrial history of the United States.”

The date, December 19, 1918—about 57½ years ago.

The papers that follow show that the Government interest in oil shale, begun in 1918, continues today, perhaps only because commercial production has not yet materialized.