APPENDIX I

BARTLESVILLE PERSONNEL
Partial Listing

This appendix shows personnel at Bartlesville who are mentioned in the text. The listing includes (if available) the year of beginning service, the field of work or administrative title, and the year of departure. It should be noted that many of these individuals had prior or later government service at other facilities or offices. This listing does not include all Bartlesville staff members, only those discussed in the text.

Personnel	Year begun	Field of work or title	Year left
A. W. Ambrose	1918	Superintendent	1920
F. E. Armstrong	1949	Electronics Engineer	1977
John S. Ball	1963	Research Director	1978
W. H. Barlow	1936	Associate Petroleum Engineer	1942
Barbara Barnett	1978	Special Assistant to Director	—
E. O. Bennett	1924	Technologist	1934
W. B. Berwald	1926	Senior Petroleum Engineer	1939
O. C. Blade	1926	Petroleum Chemist	1969
Dennis Brinkman	1976	Research Chemist	1983
Larry Burman	1944	Petroleum Research Engineer	1960
E. P. Campbell	1925	Superintendent	1925
Herb Carroll	1967	Petroleum Engineer	1983
R. A. Cattell	1921	Superintendent	1925
Alton Cook	1935	Petroleum Engineer	1969
Mike Crocker	1970	Research Chemist	1983
Thomas Curtin	1918	Field Agent	—
Ted dePalma	1980	Supervising General Engineer	1982
Gordon Dean	1982	Interim Administrator	1983
John Devine	1925	Associate Petroleum Engineer	1933
E. J. Dewees	1924	Natural Gas Research Engineer	1956
D. R. Douslin	1952	Physical Chemist	1976
D. B. Dow	—	—	—
H. N. Dunning	1951	Physical Chemist	1960
W. P. Dykema	1918	Superintendent	1920
J. L. Eakin	1949	Petroleum Engineer	1974
W. E. Eckard	1965	Petroleum Engineer	1970
C. K. Eilerts	1930	Physical Chemist	1973
R. L. Folstein	1979	Deputy Director/ Director	—
H. C. Fowler	1923 & 1944	Safety Engineer & Director	1928 & 1963
W. D. Good	1952	Research Chemist	1983
Pete Grandone	1926	Petroleum Engineer	1956
Boyd Guthrie	1927	Refining Engineer	1944
L. J. Heath	1953	Petroleum Engineer	1979
R. E. Heithecker	1926	Senior Petroleum Engineer	1945
H. H. Hill	1920	Superintendent	1922
W. D. Howell	1958	Petroleum Engineer	1980
H. M. Huffman	1943	Physical Chemist	1950
K. J. Hughes	1943	Superintendent	1983
G. A. Humason	—	—	—
R. W. Hurn	1948	Mechanical Engineer	1980
R. T. Johansen	1951	Research Chemist	1981
Harry Johnson	1978	Director	1982
T. W. Johnson	1926	Natural Gas Engineer	1936
K. H. Johnston	1942	Petroleum Engineer	1972
Ray Jones	1963	Petroleum Engineering Technician	1983
M. J. Kirwan	1921	Superintendent	1929
J. W. Knowlton	1943	Physical Chemist	1948
E. C. Lane	1919	Assistant Petroleum Chemist	1942
F. W. Lane	1924	Petroleum Chemist	1928
J. D. Lankford	1942	Chemical Engineer	1944
J. O. Lewis	1917	Superintendent	1919
Ed Lievens	1982	Interim Administrator	1983
Joe Lindley	1948	Information Specialist	1983
B. E. Lindsly	1924	Senior Petroleum Engineer	1934
C. C. Linville	1967	Technical Information Officer	—
David Logan	—	—	—
John P. McCullough	1949	Supervisory Chemist	1963
R. O. Neal	—	Chemical Engineer	—
Ron Olson	1980	Attorney/Advisor	1983
Ann Osborne	1957	Research Chemist	1983
J. P. Powell	1947	Petroleum Research Engineer	1959
Cleo Rall	1943	Chemist	1953

(This table continued on next page.)

Personnel	Year begun	Field of work or title	Year left
H. T. Rall	1928	Research Chemist	1969
E. A. Rawlins	1925	Senior Petroleum Engineer	1936
C. E. Reistle	1930	Petroleum Engineer	1935
M. A. Schellhart	1930	Natural Gas Engineer	1944
Ludwig Schmidt	1921	Petroleum Engineer	1947
F. X. Schwarzenbek	—	—	—
D. W. Scott	1946	Research Chemist	1979
N. A. C. Smith	1925	Petroleum Chemist & Superintendent	1952
Harold M. Smith	1923	Petroleum Chemist	1967
R. V. Smith	1936	Physical Chemist	1954
Gene Smith	1969	Research Chemist	1983
T. E. Swigart	1914 & 1922	Chemical Engineer & Superintendent	1920 & 1923
D. B. Taliaferro	1928	Petroleum Engineer	1959
Sam S. Taylor	1929	Assistant Petroleum Engineer	1942
C. J. Thompson	1947	Research Chemist	1981
H. M. Thorne	1924 & 1933	Refining Engineer	1926 & 1935
E. M. Tignor	1938	Junior Natural Gas Engineer	1941
John Trevorrow	1925	Maintenance Engineer	1968
Guy Waddington	1943	Physical Chemist	1957
C. C. Ward	1935	Chemical Engineer	1974
D. C. Ward	1958 & 1979	Petroleum Engineer	1971 & 1983
J. Wade Watkins	1943	Petroleum Engineer	1962
C. J. Wilhelm	1929 & 1945	Petroleum Engineer	1942 & 1955
W. L. Williams	—	—	—
L. D. Wosk	1925	Asst. Natural Gas Engineer	1926
M. K. Youker	—	—	—

APPENDIX II

FUNDS - BARTLESVILLE ENERGY RESEARCH CENTER
FY 1919–1983

FY	Appr. Funds	Trust Funds	Working Funds	Total T & W	Total Fed. Funds	Oklahoma Funds 185	Oklahoma Funds 550	Total State Funds
1919	$ 25,000				$ 25,000			
1920	25,000				25,000		$12,500	$ 12,500
1921	35,000				35,000		12,500	12,500
1922	35,000				35,000		37,500	37,500
1923	95,000				95,000		37,500	37,500
1924	104,000				104,000		37,500	37,500
1925	104,000				104,000		37,500	37,500
1926	104,700				104,700		37,500	37,500
1927	96,908				96,908		37,500	37,500
1928	90,840				90,840		50,000	50,000
1929	111,500				111,500		50,000	50,000
1930	101,000				101,000		62,500	62,500
1931	102,000				102,000		62,500	62,500
1932	101,300				101,300		57,500	57,500
1933	94,600				94,600		57,500	57,500
1934	62,000				62,000		40,300	40,300
1935	64,000				64,000		40,300	40,300
1936	82,400				82,400		41,800	41,800
1937	109,424				109,424		41,800	41,800
1938	106,150				106,150		47,960	47,960
1939	107,380				107,380		47,960	47,960
1940	107,380				107,380		30,385	30,385
1941	103,260				103,260		30,385	30,385
1942	113,040				113,040		39,635	39,635
1943	191,303				191,303		39,635	39,635
1944	326,849 + 30,000 land pur-chase				326,849		39,635	39,635
1945	428,800				428,800		39,635	39,635
1946	369,435				369,435		50,405	50,405
1947	497,632				497,632		50,405	50,405
1948	354,500				354,500		60,230	60,230
1949	361,510			$ 143,116	504,626		60,230	60,230
1950	417,677			134,800	552,477		60,230	60,230
1951	578,529			153,550	732,079		60,230	60,230
1952	640,221			119,390	759,611		60,230	60,230
1953	670,357			191,904	862,261		60,230	60,230
1954	646,202			129,477	775,679		60,230	60,230
1955	618,330			152,893	771,223		60,230	60,230
1956	576,125			160,000	736,125		70,000	70,000
1957	559,448	$151,800	$ 160,130	311,930	871,378		70,000	70,000

(Table continues on next page.)

FY	Appr. Funds	Trust Funds	Working Funds	Total T & W	Total Fed. Funds	Oklahoma Funds 185	Oklahoma Funds 550	Total State Funds
1958	$ 708,580	$142,394	$ 235,000	$ 377,394	$1,085,974		$75,000	$ 75,000
1959	782,746	146,467	227,000	373,467	1,156,213*		75,000	75,000
1960	779,126	115,522	320,751	436,273	1,215,399	$12,500	75,000	87,500
1961	789,641	101,620	338,664	440,284	1,229,925	12,500	75,000	87,500
1962	1,050,220	89,521	374,950	464,471	1,514,691†	12,500	75,000	87,500
1963	1,040,620	93,275	593,000	686,275	1,726,895	12,500	75,000	87,500
1964	1,107,420	91,200	466,575	557,775	1,665,195	15,000	75,000	90,000
1965	1,140,000	93,450	542,780	636,230	1,776,230	15,000	75,000	90,000
1966	1,172,000	141,500	791,377	932,877	2,104,877	15,000	82,877	97,877
1967	1,007,125	422,268	852,390	1,274,658	2,281,783	15,000	82,838	97,838
1968	1,180,000	339,625	876,498	1,216,123	2,396,123	15,000	85,000	100,000
1969	1,225,000	422,822	841,305	1,264,127	2,489,127	15,000	86,530	101,530
1970	1,357,137	334,000	919,930	1,253,930	2,611,067	15,000	95,201	110,201
1971	1,365,000	306,193	1,246,961	1,553,154	2,918,154			114,536
1972	1,652,000	266,282	1,158,477	1,424,759	3,076,759			116,858
1973	1,666,521	n/a	n/a	1,220,063	2,886,584	n/a	n/a	116,858
1974	2,257,817	n/a	n/a	1,006,179	3,323,996	n/a	n/a	115,815
1975	3,652,405	n/a	n/a	1,070,054	4,873,577	n/a	n/a	122,917
1976	6,789,500	n/a	n/a	1,336,220	7,469,860	n/a	n/a	122,917
1977	5,897,078	n/a	n/a	683,166	6,850,244	n/a	n/a	125,957
1978	31,068,423	n/a	n/a	—	31,068,423	n/a	n/a	133,624
1979	26,000,000	n/a	n/a	—	26,000,000	n/a	n/a	144,421
1980	30,000,000	n/a	n/a	—	30,000,000	n/a	n/a	155,181
1981	24,130,000	n/a	n/a	—	24,130,000	n/a	n/a	170,061
1982	21,700,000	n/a	n/a	—	21,700,000	n/a	n/a	187,784
1983	14,005,000	n/a	n/a	1,264,000	15,269,000	n/a	n/a	208,507

*An additional $146,754 for plans & specs. New Bldg.
†$250,000 added building maintenance.

BIBLIOGRAPHICAL NOTE

The research for an institutional history necessarily engages the historian in a sequence of detective tasks, some enjoyable, some tedious. We began work with the document collection housed in the "vault" of the Bartlesville center. The vault was literally a concrete-lined, safe-door locked room about 8 feet by 12 feet, containing approximately 150 cubic feet of records, particularly rich through the period of the 1960s and early 1970s. Included were several photo albums and previously gathered "historical files," as well as the day-to-day divisional collections of correspondence, reports, memoranda, and financial records for the later period. Giebelhaus and Carlisle later returned to this collection, flagging and copying thousands of selected documents. If the document collection is preserved, future researchers would find rich sources for histories of certain research efforts, particularly the pollution control and enhanced recovery research.

Records from the period of Bureau of Mines administration of the center had been shipped to the National Archives and Records Service in Fort Worth, Texas, under records retention and disposal guidelines established by the Bureau. Some 35 cubic feet of these records were reviewed, with especially rich finds for the 1920s and 1930s. Again, future researchers may wish to track through our citations to these documents. Particular accession numbers which yielded excellent collections were:

Accession Number	Original FRC* Number	Years Documented
70-61-A-612	322232	1920s
	322255	
	322271-272	
68-A-200	326235-236	1960s
61-A-612	322281-282	1940s–1950s
	322250	1920s
	322235	1920s
65-A-855	224310-334	1920s–1930s

*Federal Records Center

The library at the center, under the direction of Vern Hutchinson, later Elizabeth Mohr, and, most recently, under Bill Linville, houses an excellent collection of petroleum-related publications. Of special use was the article reprint file, arranged by author, as well as the rich collection of journals, bibliographies, and Bureau of Mines reports and monographs.

In addition to extensive records at these sources and at the National Archives in Washington, D.C., the NARS records center in Suitland, Maryland, and the Hoover Presidential Library, the surviving group of "old timers" enhanced our understanding of the operation of the center. Present and former staffers interviewed for this study included:

John Ball	Harry Johnson
Barbara Barnett	Kenneth Johnston
Larry Burman	Bill Linville
Don Douslin	Elizabeth Mohr
Ken Eilerts	Cleo Rall
Robert Folstein	Harry Rall
Bill Good	R. V. Smith
Kenneth Hughes	C. C. Ward
Richard Hurn	J. Wade Watkins

These interviews verified details, gave us new leads to other questions, and offered varying points of view on a range of controversies and problems. The interviews also provided a sense of priorities as they evolved over the years and a wealth of anecdotes and insights that the historian can never gain from the documents alone. Yet, beyond these benefits, the most rewarding serendipity was the sense of the human story of the center—the intuitive knowledge of personality and character brought to us by each person interviewed. The authors hope that some sense of that personal side of the story has survived in the final work.

Secondary literature on petroleum is extensive and growing because of renewed interest in issues of energy supply and the politics of oil. However, few studies of the details of petroleum research have been written by the historian of technology; historians of oil policy have not focused on the impact of policy upon particular research settings, especially in the federal government

The following bibliography, while not definitive, provides a list of those works we consulted for this study, and would provide the reader with more general interests, a number of excellent introductions to the issues of petroleum technology, petroleum pricing, petroleum policy, and some of the larger issues in the history of technology and science.

BIBLIOGRAPHY

Adams, Ernestine, "History and Analysis of the Bureau of Mines' Petroleum and Natural Gas Division," *The Petroleum Engineer* (December 1948; January, February, March 1949).

Atkinson, Charles and Michael A. Lekos, "Atomic-Age Fracturing May Soon Open Up Stubborn Reservoirs," *Oil and Gas Journal* (December 2, 1963).

Ball, Max, *This Fascinating Oil Business*. Indianapolis, 1940.

Bartlesville Energy Research Center. *Sulfur Compounds in Crude Oil*, by H. J. Rall and others. Washington Bureau of Mines, 1972. TN 870.5. B35 1972.

Bartlesville Energy Technology Center. *Draft for Second Review of Planning Framework for Liquid Fossil Fuel Cycle*. February 2, 1979. (B.E.T.C. - U.S. Dept. of Energy, Bartlesville, Oklahoma).

Berle, Adolf A. and Gardiner C. Means, *The Modern Corporation and Private Property*. New York, MacMillan, 1933.

Borkin, Joseph, *The Crime and Punishment of I. G. Farben*. New York, 1978.

Borth, Christy, *Pioneers of Plenty: The Story of Chemurgy*. New York, 1935.

Boyd, T. A., "Pathfinding in Fuels and Engines," *Society of Automotive Engineering (SAE) Quarterly Transactions*, 4, 2 (April 1950), pp. 182-95.

Boyd, T. A., "Gasoline Went to War and the Part Chemistry Had In It," *Record of Chemical Progress* (II) (January/April 1947): 11.

Brandes, Stuart D., *American Welfare Capitalism, 1880–1940*. Chicago, 1970.

Buck, Alice L., *A History of the Energy Research and Development Administration*. (DOE/ES--0001) Dept. of Energy, Washington, D.C., March 1982.

Bureau of Mines Petroleum Research Center. *Fifty Year History*. 1968.

"Bureau of Mines Research Related to Petroleum," *The Mining Magazine* (October 1955).

Bureau of Mines [Staff Office of Renewal Program] *Potential Oil Recovery By Waterflood Reservoirs Being Produced by Primary Methods*. I.C. 8455. Washington, G.P.O., 1970.

Calvert, Monte A, *The Mechanical Engineer in America, 1830–1910*. Baltimore, 1967.

Cattell, R. A., *Petroleum and Natural Gas Research Program, Bureau of Mines Fiscal Year 1953*. Bureau of Mines Information Circular 7717, June 1955.

Chandler, Alfred D. Jr., *Strategy and Structure: Chapters in the History of the American Industrial Enterprise*. Cambridge, 1962.

Chandler, Alfred D. Jr., *The Visible Hand: The Managerial Revolution in American Business*. Cambridge, 1971.

Clark, J. Stanley, *The Oil Century: From the Drake Well to the Conservation Era*. Norman, 1958.

Cochran, Thomas C., *American Business in the Twentieth Century*. Cambridge, 1972.

Conant, James B., Karl T. Compton, and Bernard M. Baruch, *Report to the Rubber Survey Committee*. Washington, D.C., 1942.

De Chazeau, Melvin G. and Alfred E. Kahn, *Integration and Competition in the Petroleum Industry*. New Haven, 1955.

Eilerts, C. Kenneth, *Phase Relation of Gas-Condensate Fluids*. Monograph 10, Volume II, 1959. Bureau of Mines and American Gas Association.

Engler, Robert, *The Politics of Oil*. New York, 1961.

Engler, Robert, *The Brotherhood of Oil*. Chicago, 1977.

Enos, John L., "A Measure of the Rate of Technological Progress in the Petroleum Refining Industry," *Journal of Industrial Economics* (June 1958), pp. 180-93.

Enos, John Lawrence, *Petroleum Progress and Profits: A History of Process Innovation*. Cambridge, 1962.

Fortune. "Monsieur Houdry's Invention," *Fortune* (February 1939), 56-7 ff.

Foster, George, "An Examination of Process Innovation in Petroleum Refining," in *Technology Transfer*, pp. 165-174., ed. by H. Davidson, Marvin J. Cetran, and Joel D. Goldhas. Leiden, 1974.

Fowler, H. C., *Developments in the American Petroleum Industry, 1914-19: Exploration, Drilling, Production and Transportation*. Natural Resources Planning Board. August 1940.

Fowler, H. C., "Development of the American Petroleum Industry, 1914–1918: Exploration, Drilling, Production, and Transportation," Information Circular, Dept. of the Interior, Bureau of Mines, Washington, 1941.

Franks, Kenny A., *Early Oklahoma Oil*. College Station (Texas), 1981.

Frey, John W. and H. Chandler Ide, *A History of the Petroleum Administration for War*. Washington, D.C., 1946.

Gibb, G. S. and E. H. Knowlton, *History of Standard Oil Company [NJ] 1911-1927*. New York, 1956.

Giebelhaus, August W., *Business and Government in the Oil Industry: A Case Study of Sun Oil 1876–1945*. Greenwich, CT., 1980.

Goodwin, Crauford, *Energy Policy in Perspective - Today's Problems, Yesterday's Solutions*. The Brookings Institution, Washington, D.C., 1981.

Hawley, Ellis, "Herbert Hoover, the Commerce Secretariat and the Vision of an Associative State," *Journal of American History*, 61 (June 1974), pp. 116-40.

Hawley, Ellis, *The New Deal and the Problem of Monopoly*. Princeton, 1966.

Hilt, Luis, "Chronology of the Natural Gas Industry," *American Gas Journal*, Vol. 172, No. 5.

Holl, Jack M., *The United States Department of Energy: A History*. (DOE/ES-0004) Dept. of Energy, Washington, D.C. November 1982.

Hutchinson, V. Vern, *Selected List of Bureau of Mines Publications on Petroleum and Natural Gas, 1971–1975*. BETC/1C/75/2. Bartlesville Energy Research Center. September 1975.

Hutchinson, V. Vern, *Selected List of Publications on Petroleum and Natural Gas, ERDA-BuMines July 1, 1975–December 31, 1976*. BETC/1C/77/2. Bartlesville Energy Research Center, Energy Research and Development Administration. April 1977.

Hutchinson, V. Vern, *Selected List of Bureau of Mines Publications on Petroleum and Natural Gas, 1961–1970*. Supplement to

Information Circular 8240. IC8534 Bureau of Mines Information Circular/1972. U.S. Dept. of the Interior, Bureau of Mines, Washington, D.C., 1972.

Hutchinson, V. Vern, *Selected List of Bureau of Mines Publications on Petroleum and Natural Gas, 1910–1962*. Bureau of Mines Information Circular 8240. U.S. Dept. of the Interior, Bureau of Mines, 1964.

Ickes, Harold, *The Secret Diary of H. Ickes 1933–1936*. New York, 1953.

Ickes, Harold, *Fightin' Oil*. Repr. of the 1943 ed. [1976] New York, 1943; Westport, 1976.

Interstate Oil Compact Commission. *Oil and Gas Production: An Introductory Guide to Production Techniques and Conservation Methods*. Norman, 1951.

Johnson, Arthur Menzier, *Petroleum Pipelines and Public Policy, 1906–1959*. Cambridge, 1967.

Katz, Donald L., et al, *Handbook of Natural Gas Engineering*. New York, 1959.

Kelly, Patrick and Melvin Kranzberg, eds., *Technological Innovation: A Critical Review of Current Knowledge*. San Francisco, 1978.

Klose, Gilbert G., *The American Petroleum Industry: The Age of Energy, 1899–1959*. Evanston, 1963.

Kolko, Gabriel., *The Triumph of Conservation*. New York, 1963.

Kraemer, A. J., *Petroleum and Natural Gas Research, Bureau of Mines, Fiscal Years 1954–1955–1956*. Bureau of Mines Information Circular 7940. U. S. Dept. of the Interior, 1959.

Larson, Henrietta M. and K. W. Porter, *History of Humble Oil and Refining Co.* New York, 1959.

Larson, Henrietta M., E. H. Knowlton, C. J. Popple, *History of Standard Oil Company [NJ] 1927–1950*. New York, 1979.

Layton, Edwin T., *The Revolt of the Engineer: Social Responsibility and the American Engineering Profession*. Cleveland, 1971.

Leeston, Alfred M., John T. Crichton, John C. Jacobs, *The Dynamic Natural Gas Industry*. Norman, 1963.

Leffler, William L., *Petroleum Refining for the Non-Technical Person*. Tulsa, 1979.

Leonardon, Eugene G. L., "Logging, Sampling, and Testing," in *History of Petroleum Engineering*. New York, 1961.

Linville, Bill, Contracts for field projects and supporting research in Enhanced Oil Recovery and Improved Drilling Technology. DOE/BETC-80-2. Progress Review, Quarter Ending March 31, 1980.

McKnight, David Jr., *A Study of Patents on Petroleum Cracking*. Austin, 1938.

McLean, John G. and Robert W. Haigh, *The Growth of Integrated Oil Companies*. Boston, 1954.

Marx, Leo, *The Machine in the Garden*. New York, 1964.

Matthews, John Joseph, *Life and Death of an Oilman: the Career of E.W. Marland*. Norman, 1951.

Miller, Kenneth, *Miller's Oil and Gas*. Chicago, 1973.

Mohr, Elizabeth and Marjean L. Gudgel, *Bartlesville Energy Technology Center Publications. January 19, 1975–September 30, 1979*. BETC/1C-/79/1. Bartlesville Energy Technology Center, Department of Energy. April 1979.

Nash, Gerald, *United States Oil Policy, 1890–1964*. Pittsburgh, 1968.

Nordhauser, Norman, "Origins of Federal Oil Regulation in the 1920s," *Business History Review*, 47, 1 (Spring 1973), pp. 53-71.

Parks, George Sutton and Hugh Martin Huffman, *The Free Energies of Some Organic Compounds*. New York, 1932.

Pettengill, Samuel, *Hot Oil, The Problem of Petroleum*. Repr. of the 1935 ed. [1976].

Rister, Carl Coke, *Oil: Titan of the Southwest*. Norman, 1945.

Rossini, Frederick D., *Chemical Thermodynamics*. New York, 1975.

Rossini, Frederick, Beveridge Main, and Anton Streiff, *Hydrocarbons from Petroleum*. (API Project 6) New York, 1953.

Sampson, Anthony, *The Seven Sisters*. New York, 1975.

Scott, Otto J., *The Professional: A Biography of J. P. Saunders*. New York, 1976.

Shannon, C.W. and L.E. Trout, *Petroleum and Natural Gas in Oklahoma*. (1915, 1917) Oklahoma Geological Survey.

Solberg Carl, *Oil Power: The Rise and Imminent Fall of an American Empire*. New York, 1975.

Stoff, Michael, *Oil, War, and American Security*. New Haven, 1980.

Stotz, Louis, *History of the Gas Industry*. New York, 1938.

Swigart, Theodore E., "Handling Oil and Gas in the Field," *History of Petroleum Engineering*. New York, 1961.

Tompkins, Walker A., *Little Giant of Signal Hill*. Englewood Cliffs, 1964.

Uren, Lester C., *Petroleum Production Engineering*. New York, 1950.

Utton, Albert E., *National Petroleum Policy*. Albuquerque, 1970.

Van Winkle, Matthew, *Aviation Gasoline Manufacture*. New York, 1944.

Watkins, Myron W., *Oil Stabilization or Conservation*. New York, 1937.

Wertman, William T., E. Mingnor and S. Taylor, "Secondary Recovery Research, U. S. Bureau of Mines," *Producers Monthly*, Vol. 20, No. 5, March 1956), pp. 20-25.

Whitby, G. S., C. C. Davis, R. F. Dunbrook, eds., *Synthetic Rubber*. New York, 1954.

White, Gerald T., *Formative Years in the Far West* (Standard Oil of California). New York, 1962.

Williamson, Harold, et al, *The American Petroleum Industry: The Age of Energy, 1899–1959*. Evanston, 1963.

Wilson, Joan Hoff, *Herbert Hoover: Forgotten Progressive*. Boston, 1975.

Winner, Langdon, *Autonomous Technology: Technology-out-of-Control as a Theme in Political Thought*. Cambridge, 1977.

Zimmerman, Erich, *Conservation in the Production of Petroleum*. New Haven, 1957.