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# Bibliography of Abandoned Coal-Mine Lands in Oklahoma

Compiled by Kenneth S. Johnson, Claren M. Kidd  
and Rachel C. Butler



BIBLIOGRAPHY OF ABANDONED COAL-MINE LANDS  
IN OKLAHOMA

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## Special Publication Series

The Oklahoma Geological Survey's Special Publication series is designed to bring new geologic information to the public in a manner efficient in both time and cost. The material undergoes a minimum of editing and is published for the most part as a final, author-prepared report.

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## A. INTRODUCTION

Large reserves of bituminous coal are present in an area of 10,000 square miles in eastern Oklahoma, and these resources have been mined continuously since 1872. Early-day production was almost entirely from underground mines, but surface mining assumed some importance from 1915 to 1930 and then became the dominant method of mining coal after 1943. From the middle 1950's until the present, surface mining has accounted for 80 to 100 percent of Oklahoma's annual coal production. Total cumulative production of coal in the State is in excess of 200 million short tons, and the annual production has been about 5 million tons during the last several years.

About 35,400 acres had been disturbed by surface mining for coal through mid-1973 (fig. 1); at that time, 3,400 acres were reclaimed, 5,000 acres were partly reclaimed, and 27,000 acres remained unreclaimed. Coal mining since then has probably disturbed an additional 8,000 to 9,000 acres, but these newly mined lands have been reclaimed under the State's 1971 Mining Lands Reclamation Act. If we assume that about 2,000 acres of unreclaimed and partly reclaimed lands have been voluntarily reclaimed since mid-1973, that leaves approximately 30,000 acres of disturbed lands that are in need of restoration.

To assist in setting up a program for reclamation of these abandoned (or orphan) coal lands, the Oklahoma Geological Survey undertook compilation of this annotated bibliography at the request of, and with funding from, the Oklahoma Conservation Commission and the U.S. Department of the Interior, Office of Surface Mining. The bibliography contains not only published reports and maps, but also unpublished reports, computerized data, and collections of maps, charts, and other raw data in the public or private files of agencies and individuals. Items entered in the bibliography are then indexed according to the subjects with which they deal.

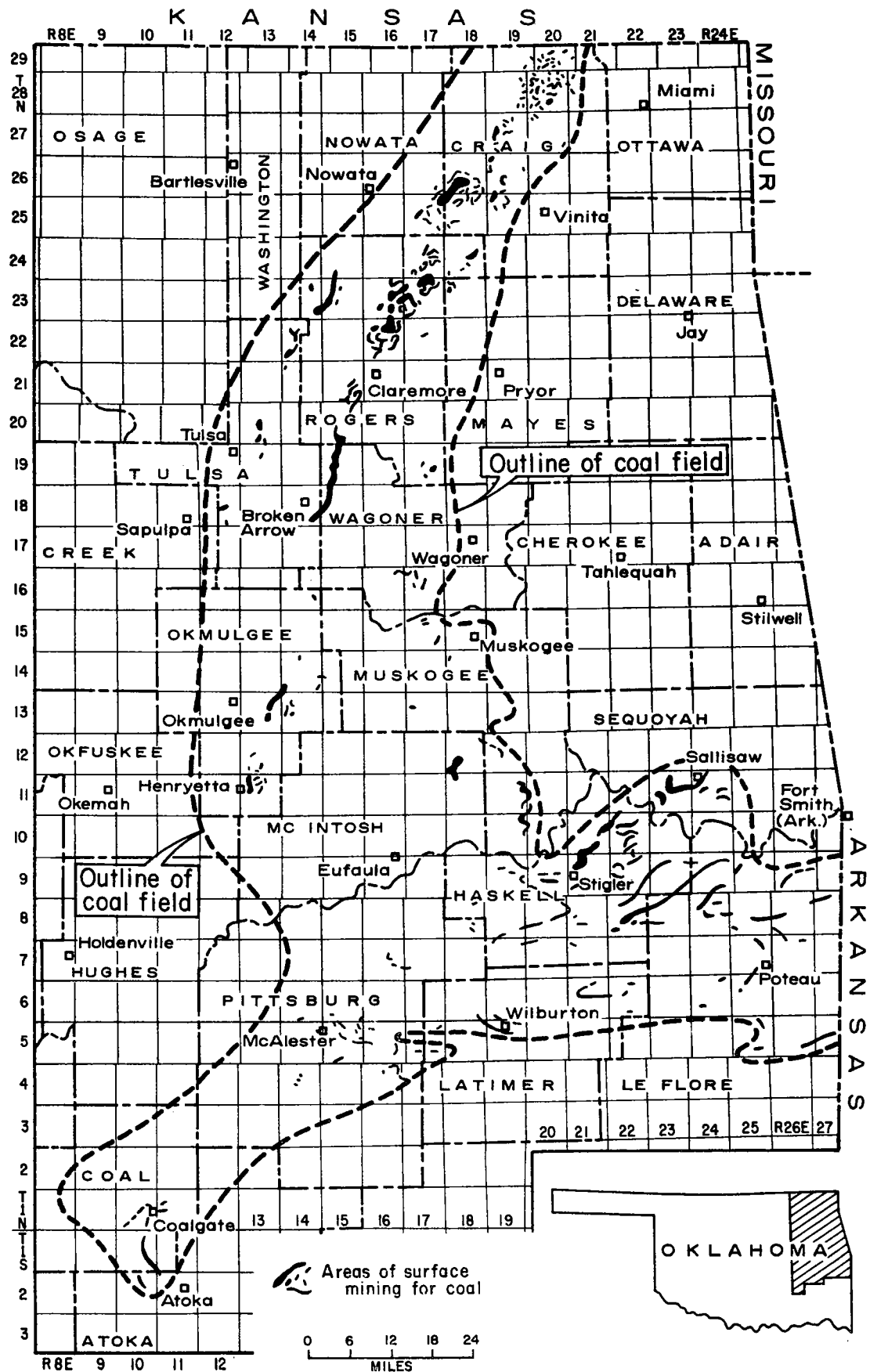


Figure 1. Map showing outline of eastern Oklahoma coal field and areas that were disturbed by surface mining for coal through June 30, 1973. This represents the principal areas of abandoned mine lands in Oklahoma. From Johnson, K.S., 1974, Description of disturbed and reclaimed surface-mined coal lands in eastern Oklahoma, published by Oklahoma Geological Survey as Map GM-17.

Some of the bibliographic entries were identified by searching various relevant indexes and bibliographies, such as Bibliography and Index of Geology (and its predecessors), Selected Water Abstracts, Engineering Index, Biological Abstracts, Biological and Agricultural Index, Dissertation Abstracts, Pollution Abstracts, etc. In addition, private individuals, and federal, state, and local agencies were consulted both for their holdings and for suggestions of other sources of information.

Although the emphasis of this bibliography is on abandoned coal lands in eastern Oklahoma, we have also included a number of entries that provide basic information needed for understanding and resolving the reclamation needs of the region. These entries, which may be regional or site-specific in nature, cover such subjects as coal resources, mining methods, hydrology, climate, soils, land use, vegetation, wildlife, history, and others.

We have subdivided the non-computer-based data into two major categories, depending upon the accessibility of the data and the ease of reproduction. The first category, "Unpublished Material in Restricted Files," includes those data that generally are one-of-a-kind collections in an agency's or individual's file; these files generally may be examined at the site indicated, but many of the data may be difficult to reproduce, and some of the data may be confidential. The second category, "Published and Unpublished Material Generally Available," includes those monographs, reports, theses, maps, and other data that are available to the public in one or more major libraries, or that can be purchased or ordered from a company, agency, or individual.

2. Combined (narrative, tabular, graphic)

7. Oklahoma Foundation for Research and Development Utilization, Inc.,  
Computer data base with mapping capability.

This single information system, intended to aid in making planning decisions, uses information collected by numerous state and federal agencies. Data are given geographic coordinates so they can be retrieved in conversational and graphic form, and data are frequently updated. Currently there are 21 data bases in the system: soil and land use data based on 40-acre tracts for the entire state of Oklahoma; elevation contours; county, state and federal highway systems; township and range boundaries; water basin and watershed boundaries; railroad system; urban areas; roadside erosion; industrial and sanitary landfill sites; soil limitation analyses; eroded areas; soil slopes; identification of soil potentials for agriculture; municipal profiles, including water, waste-water sites, effluents and treatment facilities, and demographic data. Variables may be used in combinations for desired analysis. Usual product is a single, colored map from a color copier, or individual colored transparencies for overlays.

Contact James Dawson, Oklahoma Foundation for Research and Development Utilization, Inc., P.O. Box 1328, Edmond, OK 73034.



C. NON-COMPUTER-BASED DATA AND INFORMATION

1. Unpublished Material in Restricted Files

a. Narrative

8. Archaeological Research and Management Center has a data base of Oklahoma cultural resources.

A proposed data base to make available information from field notebooks, photographs, field maps, reports, and other open-file data collected during surveys of proposed mining areas. Information added as collected.

Contact Jerry R. Galm, Archaeological Research and Management Center, 1808 Newton Drive, University of Oklahoma, Norman, OK 73019.

9. Archaeological Research and Management Center, Open files.

About three file drawers containing field notebooks, Oklahoma Archaeological Survey Data Records, photographs, and working maps showing proposed pipelines, roads, etc. This material is collected during pre-mining field studies to assess the possible cultural impact of proposed mines and other construction activities. (Similar files exist in other private archaeological research organizations in Oklahoma City, Tulsa, etc.)

Contact the Archaeological Research and Management Center, 1808 Newton Drive, University of Oklahoma, Norman, OK 73019.

10. Coal meeting programs, 1976-1979, convened by C. E. Henderson, Area Rural Development Specialist, Cooperative Extension Service, Oklahoma State University.

Educational meetings were held to inform land owners, county officials, and concerned citizens about new information on coal production and its effects on the economy, leasing arrangements, the effects of Public Law 95-87, etc. Two meetings were conducted each year with emphasis on Rogers, Craig, and Nowata Counties, and secondarily, on Okmulgee and Mayes Counties. Representatives of the U.S. Soil Conservation Service, Oklahoma State University Agricultural Economics Department, U.S. Bureau of Mines, Oklahoma Department of Mines, coal companies, a minerals attorney, etc. were among the panel participants.

Information is available from C. Edward Henderson, Area Rural Development Specialist, 801 State Office Building, Second and Court Street, Muskogee, OK 74401.

11. Forrest Johnson of the Oklahoma Biological Survey has a file on the vegetation found on 11 old strip mines in eastern Oklahoma. About 75 pages of data.

Data collected by field inspection during summer 1977. Sampled mines are located in these counties: Okmulgee, Coal, Pittsburg, Wagoner, Rogers, Sequoyah, Le Flore, McIntosh, Muskogee, Tulsa, and Craig. General data for each site include location, with sketch map; history (whether cut over, burned, grazed, and when mined); topography; slope angle; ridge-valley orientation; soil; geology; site condition; plant reproduction; present land use; apparent dominant species; other species of interest. Sampling was done on both ridge tops and valley bottoms. Detailed data records species, frequency, density, and other statistics of the trees, and of the seedlings and saplings found at each site. Percent cover and percent frequency for ridge top and for valley bottom locations are given for each species of ground cover found. Approximately 12 soil samples were taken at each mine and identified as to ridge or valley soil. Soil analyses give percent gravel, percent sand, percent silt, percent clay, pH, and calcium, potassium, nitrogen, manganese, phosphorus, iron, copper and zinc in ppm.

Contact Forrest Johnson, Oklahoma Biological Survey, University of Oklahoma, Norman, OK 73019.

12. Kali-Inla Coal Company, 1904-1944, Documents of the company held in the University of Oklahoma Western History Collections, Norman, Oklahoma, 461 boxes.

Complete records of the company contain all phases of the business. Box 112 houses correspondence concerning stripping leases, analyses of coal samples, general information, and a bibliography of coal deposits. Box 302 contains daily reports of stripping operations 1904-1910 and January 1944-July 1944. Box 303 contains stripping operations records for August-December 1944. Mines are located in Pittsburg and Latimer counties.

Available at University of Oklahoma Libraries, Western History Collections, 630 Parrington Oval, Room 452, Norman, Oklahoma 73019.

13. Oklahoma Archaeological Survey has Data Record files, recorded on a standard form, for hundreds of archaeological sites around the state.

Archaeological site inspections are organized by county according to site name and site number. Information given on the form includes location, owner's name, site description (including erosion, vegetation, water supply, handicaps to excavation) and other

remarks relating to the examination of archaeological material. Each file has a large-scale map of the site attached, such as a xeroxed portion of a topographic quadrangle or soil survey sheet. Some sites are in coal mine areas.

Total number of sites inventoried in each Oklahoma coal area county is as follows: Washington (90), Nowata (9), Ottawa (40), Craig (17), Tulsa (19), Rogers (60), Mayes (193), Wagoner (116), Creek (70), Okmulgee (16), Muskogee (171), Sequoyah (117), Okfuskee (29), McIntosh (94), Haskell (124), Hughes (50), Pittsburg (122), Latimer (118), Le Flore (268), Coal (54), and Atoka (211). New sites are continually being added to the files.

Contact Oklahoma Archaeological Survey, 133 S. Asp, Norman, Oklahoma 73019.

14. Oklahoma Department of Mines, 1968-present, files containing plans for coal mining and reclamation in eastern Oklahoma, submitted for permit purposes.

Approximately 15 legal-sized drawers. Files begin with passage in 1968 of the first Oklahoma mining and reclamation law. Folders contain correspondence, applications for permits to conduct open-cut mining, large scale (1" = 400') maps, bond arrangement details, 8" x 8" aerial photos, and other photographs.

Information submitted for permit applications since January 1, 1978, is much more detailed and comprehensive than that contained in the files from earlier years. Part of the application is a usually lengthy mining-impact-assessment document, including a description of existing environment which will be impacted (social profile, land and water use, both before and after mining, geology, soils, hydrology, meteorology, ecology, archaeology), mining plans, lease documents from each owner, reclamation plans, discussion of prime farmlands to be affected, and various supporting evidence. Large-scale mine maps show property owners and boundaries, ponds, mine pit areas, utilities, abandoned open strip pits, haul roads, topographic contour lines, etc. Mining plans submitted before 1978 consist of similar information but without a long description of the existing environment; and not all companies submitted all data requested. Files are organized by company name.

Available for inspection at the Oklahoma Department of Mines, 4040 N. Lincoln Blvd., Suite 107, Oklahoma City, OK 73105.

15. Oklahoma State Department of Health, Solid Waste Division, Industrial and Solid Waste Service has permit folders for each of the approximately 20 applications which have been made to operate solid waste disposal systems in eastern Oklahoma abandoned coal strip pits.

Each file includes a permit application, engineering reports, large scale topographic maps (1" = 100', 5-foot contour interval), post-reclamation surface profiles, and water analyses

(about 15 different parameters). A written report contains information about geology, soil profile, hydrology, cover material, equipment to be used, land use planning, and proposed access roads, operating procedures and monitoring methods. Some files have air photos taken with hand-held camera; also, some have blueprints of large-scale aerial photography. As of July 1979 applications have been received to use strip pits in these counties: Wagoner, Sequoyah, Haskell, Latimer, McIntosh, Okmulgee, Pittsburg, Rogers and Tulsa.

Can be inspected at the Oklahoma Department of Health, Industrial and Solid Waste Service, NE 10th and Stonewall, Room 803, Oklahoma City, OK 73105. Contact Richard Thompson.

16. U.S. Geological Survey, Conservation Division, has approximately twenty (20) file drawers of lease documents on active and inactive underground and surface mines.

Lease reports for federal and Indian lands leased for coal between 1947 and 1971. Drawers contain production reports, information on royalties, and on coal seam thickness and rank, etc., that are updated monthly or quarterly. Reclamation information is provided in the mining plan submitted before mining starts. Files are organized by company name and lease number.

Files located in U.S.G.S., Conservation Division office, 6136 E. 32nd Place, Tulsa, OK 74135; contact Dave Stewart.

17. U.S. Soil Conservation Service has a total of 50 files of applications made in early 1979 for the Rural Abandoned Mines Program.

Applications have come from landowners in Rogers, Le Flore, Pittsburg, Haskell, Craig, Sequoyah, Wagoner, Okmulgee, and McIntosh counties. Application worksheet has number of acres needing treatment, and a description of each problem or benefit; for example, acid drainage into 4-mile Creek. Information includes number of acres of spoil piles that are high sediment areas; number of acres of pits; number of acres of highwall; number of acres of acid mine drainage and the water's pH; and a sketch map of the area, prepared by the county soil conservationist, with the landowner, after a field investigation. Files will contain a reclamation plan, with engineering surveys, bids for doing the work, detailed information on quantities and qualities of work to be done, and supporting data for cost verification of the actual reclamation. Also included will be a pre-reclamation soil survey and description of what the soils will be like after reclamation.

These files are located in the State S.C.S. office in Stillwater, and in the appropriate District offices, though the District offices will ultimately have the more complete information. As of July 1979 there has been only one period open for applications; however, this is a continuing program and there should be other opportunities to present applications.

Contact Billy Littlefield, State Conservationist, Soil Conservation Service, Stillwater, OK 74074.

b. Tabular

18. Oklahoma Water Resources Board, Water Quality Division, 1976 to present, has approximately 150 files on water quality of active and inactive mines in the Oklahoma coal field.

Files contain a copy of the federal and state permits to discharge water, and any reported violations of the permit. There are also lab analyses of mine water sampled by Water Resources Board employees in response to complaints to see if the company is in compliance with its permit. Ordinarily these reports analyze suspended solids, manganese, iron, pH, and water flow; sometimes other parameters are also included. This information is filed by company name. Most of the files were started about 1976-77; some are from as early as 1969, when permitting first started.

Contact Margaret Graham, O.W.R.B., NE 10th and Stonewall, Oklahoma City, OK 73105.

19. U.S. Soil Conservation Service, in preparation, Basic statistics [showing] status of land disturbed by surface mining in the U.S. as of July 1, 1977, by states: Soil Conservation Service Technical Publication in process, 97 p., 1 fig., 57 tables.

Inventory for the entire U.S., showing the status of land needing reclamation, land not requiring reclamation, and total land disturbed by surface mining. The section on land needing reclamation covers both acreages for which reclamation is not required and that required by law. Each of these parts shows the status of disturbed acreages by kind of material mined (coal, sand, and gravel, and all other mined areas).

Contact Dale Davis, S.C.S. State Office, Stillwater, OK 74074.

20. U.S. Soil Conservation Service District Offices, Strip-mine land acreages.

Current acreages of strip-mined land are available from the county Soil Conservation Service agents (Rogers, Nowata, Craig, Mayes, and Wagoner counties).

c. Graphic

21. Friedman, S. A., 1971-1979, Files showing active and inactive coal mines in eastern Oklahoma by company name, and township, range and section: located in office of S. A. Friedman, Oklahoma Geological Survey, Norman, OK 73019.

The files consist of xeroxed parts of U.S.G.S. 1:24,000 topographic quadrangles which were used in the field as bases for outlining newly mined areas. Reclaimed areas are marked by cross-hatching. Some of these are not dated; those that are dated were done about 1974-77. Files for about 60 mines. The files are not complete, and some are not available for public inspection.

22. Friedman, S. A., 1977-1979, Map locating coal mining activity in eastern Oklahoma coal field occurring in 1977, 1978, and 1979: located in office of S. A. Friedman, Oklahoma Geological Survey, Norman, OK 73019.

Map covers entire Oklahoma coal area, using several U.S.G.S. 1:250,000 topographic maps for a base. Identifies area where mining has occurred since January 1, 1977. Colored pins are used to locate the approximately 70 mining areas. Some are still active, some mines may have become inactive since pinned on the map. Map is continually being updated with the new active coal mines.

23. Friedman, S. A., 1971-1979, Color 35 mm. slides taken in 1971: located in office of S. A. Friedman, Oklahoma Geological Survey, University of Oklahoma, Norman, OK 73019.

Ten slides showing reclaimed land, about 80 showing mining and equipment, and orphan lands. Slides to be used in office at owner's convenience.

24. Indian Nations Council of Governments, 1970, Regional Base Mapping Program.

Consists of 4 types of maps at scales of 1:200 and 1:600 of incorporated areas of Creek, Osage, Tulsa, and Rogers Counties. Base maps are updated when new subdivision plats are approved. Include planimetric, ownership, and water and sewage maps also. An index sheet shows available maps and their scales.

Contact Indian Nations Council of Governments, 200 Civic Center, Tulsa, OK 74103.

25. Johnson, K. S., 1970-1975, Color 35 mm. slides; located in office of Kenneth S. Johnson, Oklahoma Geological Survey, University of Oklahoma, Norman, OK 73019.

Approximately 40 slides of eastern Oklahoma coal mining, reclamation, and orphan lands. Slides to be used in office at owner's convenience.

26. Oklahoma Department of Health, Solid Waste Division, 1979, has 35 mm. color slides of abandoned strip pits being used for sanitary landfills.

Fifteen color slides, of a site near Henryetta (Okmulgee County), taken hand-held from an airplane and from ground level, of abandoned strip pits, trash dumping in the landfill operation, reclaimed land, and revegetation. In addition there are 8 slides, also hand-held air photos, showing pits used as landfills near the city of Tulsa, and 2 color infrared 35 mm. slides of a similar operation in Wagoner County.

Can be inspected at the Oklahoma Department of Health, Solid Waste Division, Industrial and Solid Waste Service, NE 10th and Stonewall, Oklahoma City, OK 73105. Contact Richard Thompson.

27. Oklahoma Department of Mines, 1978-present, has in one cabinet, approximately 650 large-scale maps showing areas permitted for coal mining.

Maps submitted by mining companies prior to May 3, 1978 and retained by the Department of Mines show the status of mining, all lands within permit area mined during the previous year, lands reclaimed, and those areas still covered by their surety bond. Maps submitted after May 3, 1978 show on one sheet areas to be mined under that permit application; another sheet shows grading. Map scale is 1" = 200', and separate sheets are required for each section of land to be affected in any part by mining.

Maps are available for inspection at the Oklahoma Department of Mines, 4040 N. Lincoln Blvd., Suite 107, Oklahoma City, OK 73105.

28. U.S. Bureau of Land Management has numerous (approximately 25) map overlays for its Unit Resource Inventory of Federal Coal Lands in the southeast Oklahoma coal area.

Overlays were compiled during 1977-79 from already available information. At a scale of 1/2" = 1 mile, the overlays show mining history, leases (active and relinquished), several wildlife-related topics, surface water, aquifers, vegetation, transportation, utilities, federal ownership, intensive land use, areas of abandoned mines (strip, slope, shaft), and various mineral-related subjects. This resource inventory of Atoka, Coal, Haskell, Latimer, Le Flore, and Pittsburg Counties will help define those potentially strippable areas that should not be stripped for various reasons.

Available for inspection at U.S. Bureau of Land Management, Oklahoma Project Office, 200 NW 5th, Room 548, Oklahoma City, OK 73102. See Homer G. Meyer, Project Director.

29. U.S. Bureau of Land Management has an incomplete set of about 10 orthophotoquads (1977) covering parts of the federal coal reserve area in southeastern Oklahoma.

These are 1:24,000 scale advance prints which BLM is accumulating as they are published by the U.S. Geological Survey. The federal coal reserve area covers parts of Atoka, Coal, Latimer, Le Flore, Haskell, and Pittsburg Counties.

Available for inspection at U.S. Bureau of Land Management, Oklahoma Project Office, 200 NW 5th, Room 548, Oklahoma City, OK 73102. See Homer G. Meyer, Project Director.

30. U.S. Bureau of Land Management. 1974-1978, Color 35 mm. slides of Oklahoma's federal coal lands (parts of Atoka, Coal, Haskell, Latimer, Le Flore, and Pittsburg Counties).

- a) Approximately 580 slides (both ground-based and hand-held air photos) in 2 binders. Show old mined areas and strip lakes, natural revegetation of spoil banks, refuse piles, reclamation work, reclaimed areas, current mining, areas available for releasing, potential strippable areas, etc.
- b) Approximately 500 miscellaneous slides in 3 binders. Show public lands in coal area, land use patterns, abandoned strip mines, trespassing on federal land, revegetation and reclamation, wildlife and wildlife habitat, etc. These, also, are a combination of ground and air photos.

Available for use in the offices of the U.S. Bureau of Land Management, Oklahoma Project Office, 200 NW 5th, Room 548, Oklahoma City, OK 73102. See Homer G. Meyer, Project Director.



31. U.S. Geological Survey, Conservation Division, has approximately ten (10) surface mine maps of federal and Indian lands leased for coal mining between 1947-1971.

To comply with operational requirements, active lessees submit updated yearly mine maps prepared by a consulting surveyor or the company surveyor. The maps are of various small scales.

Maps held in office of U.S.G.S., Conservation Division, 6136 E. 32nd Place, Tulsa, OK 74135. Contact Dave Stewart.

d. Combined (narrative, tabular, graphic)

32. U.S. Soil Conservation Service data on orphan lands with environmental problems.

Agency is compiling data on specific tracts of orphan lands where environmental problems are most severe (e.g., acid drainage or highwall near public road). Data include an air photo, and brief report showing soil type, fragment size, acidity, current vegetation, potential crops, water table and other information. Currently they have data on five tracts that range in size from 5 to 90 acres, and more tracts will be examined later.

Data available at the State Office, Soil Conservation Service, Stillwater, OK 74074.

C. NON-COMPUTER-BASED DATA AND INFORMATION

2. Published and Unpublished Material Generally Available

a. Narrative

33. Agbe-Davies, V. F., 1978, The geology of the Hartshorne coals in the Spiro and Hackett quadrangles, Le Flore County, Oklahoma: University of Oklahoma unpublished M.S. thesis, 132 p., 7 figs., 15 plates, bibliography.

Using drillers' logs, field work, and literature search, the author investigated an area of approximately 90 square miles in northeast Le Flore County. Discusses stratigraphy, the depositional environment of the coal-forming peat, structure, original and remaining coal reserves, and uses of the coal. In passing, he mentions the location of the only active strip mine. Back pocket contains numerous cross-sections, isopach maps, chemical analysis and other maps.

Reproduction cost: 132 pages @ .10 each = \$13.20; 15  
plates @ \$1.00 each = \$15.00

Reproduction time: about 1 hour

34. Aldritch, Gene, 1952, A history of the coal industry in Oklahoma to 1907: University of Oklahoma unpublished Ph.D. dissertation, 297 p., 4 figs., 21 tables, bibliography.

Thorough discussion of early coal mining history, including the leasing of Indian lands for coal mining.

Reproduction cost: 297 pages @ .10 each = \$29.70

Reproduction time: less than 1 hour

Not available from University Microfilms International

35. Anonymous, 1973, Mined-land redevelopment. Kansas, Missouri, Oklahoma: An Ozarks Regional Commission Project, 14 p.

First year report of project funded by O.R.C. to demonstrate that strip-mined land in the Ozarks region can be reclaimed to productive use. Summary remarks for all 3 states. Appendix has tables showing reclamation costs for Kansas mined-land demonstration sites, first year wheat and nurse crop yields from reclaimed mined-land, summer 1972.

Order from: Ozarks Regional Commission Department  
of Commerce Building, Room 2099-B,  
Washington, D.C. 20230

Cost: 14 pages @ .10 each = \$1.40

36. Anonymous, 1978, Coal expands in Western Interior: Coal Age, v. 83, no. 5, p. 122-126, illus.

This summary article reviews Oklahoma's potential for increased coal mining, and describes Cherokee and Peabody Coal Companies' stripping procedures, markets, and reclamation efforts in Rogers and Craig Counties.

Reproduction cost: 5 pages @ .10 each = \$0.50

Reproduction time: less than 1/2 hour

37. Anonymous, 1978, Mid-continent coal gains momentum: Coal Age, v. 83, no. 5, p. 102-117, illus.

General report discusses Oklahoma coal production, and the distribution of productive coal seams.

Reproduction cost: 16 pages @ .10 each = \$1.60

Reproduction time: less than 1/2 hour

38. Ardmore Geological Society, 1954, Field trip, southern part of the Oklahoma coal basin, October 15-16, 1954: 29 p., illus.

A road log for a two-day trip into parts of Coal, Atoka and Pittsburg Counties. Locates strip pits, spoil banks, and underground shaft entrances visible from road along trip route near McAlester and Lehigh. Provides very little information on coals, though there are numerous cross-sections given showing coal beds. Basic geology and map in pocket (scale 1/2"=1. mi.) are based on T. A. Hendricks, et. al., U.S.G.S. Bulletins 874A and 874B, Oil and Gas Investigation Map #66.

Reproduction cost: 29 pages @ .10 each = \$2.90

Reproduction time: less than 1/2 hour

39. Arkhoma Regional Planning Commission, 1979, Nonpoint source management plan, work activity 268: Littleton, Colorado, Kellogg Corporation, 50 p., 1 map, 5 tables.

Assesses water quality problems related to agricultural, silvicultural, mining, construction and solid waste activities, and hydrology and sources affecting groundwater. Concludes that there are no nonpoint pollution sources in Le Flore and Sequoyah Counties, though data needed to determine low-flow problems are not now available. Lists and briefly discusses inactive, unreclaimed and reclaimed coal mine lands. Table 2 lists active mining operations in the region, county, type of operation, their receiving stream, and water quality.

Available from Arkhoma Regional Planning Commission.  
P.O. Box 2067, 523 Garrison Avenue, Fort Smith, AR 72902.

40. Austin, R. B., 1946, The Chelsea Sandstone and associated strata east and northeast of Claremore, Oklahoma: University of Oklahoma unpublished M.S. thesis, 35 p., 12 figs., 2 plates, bibliography.

Describes the general geology of parts of Rogers and Craig Counties, including stratigraphy and lithology. Provides thicknesses and locations of outcropping and previously mined coals. Appendix includes 42 measured sections, and one plate (scale 1" = 1 mi.) showing strip pit locations.

Reproduction cost: 35 pages @ .10 each = \$3.50

Reproduction time: less than 1/2 hour

41. Bell, Walton, 1959, Surface geology of the Muskogee area, Muskogee County, Oklahoma: University of Oklahoma unpublished M.S. thesis, 113 p., 20 figs., 2 plates, bibliography.

A report on the general geology of the north central part of Muskogee County. A 2-1/2 page discussion of coal under the economic geology chapter gives locations of coal outcrops and a few strip pits. Geologic map (3" = 2 miles) shows 3 small stripped areas.

Reproduction cost: 113 pages @ .10 each = \$11.30

Reproduction time: less than 1/2 hour

42. Bennison, A. P., ed., 1973, Tulsa's physical environment: Tulsa Geological Society Digest, v. 37 (1972), 498 p., 200 figs., 46 tables, 34 sketch maps, bibliography.

Discusses the Tulsa metropolitan area's weather, hydrology, geology, soils, vegetation, geologically-related problems with the environment, and plans for growth. The chapter on area coal and coal mining briefly mentions some of the problems with subsidence, acid runoff, and lowered water table. Written for the layperson.

Order from: Tulsa Geological Society, 2745 E. 15th St.,  
Tulsa, OK 74104

Cost: \$8.00

43. Bigda, Richard J., and Associates, 1976, Abandoned coal mines as a water resource, McAlester and Pittsburg County: published by The Fantus Company under contract with EDA, 52 p., 14 figs., 15 tables.

Report deals with underground mines in the area of McAlester (Pittsburg County), and was compiled from underground mine maps obtained from the Oklahoma Department of Mines and by sampling the quality of water in a few places where there was access to the deep mines. The intent of the survey was to determine whether such underground water reservoirs could be utilized by industry; therefore, the quantity and quality of water was significant.

Order from: Richard J. Bigda and Associates, 6216 S. Lewis  
Avenue, Tulsa, OK 74136

Cost: \$5.40

44. Bissonette, J. A., and O. E. Maughan, 1978, Southeastern Oklahoma coal investigation: endangered species: Oklahoma Cooperative Wildlife and Fishery Research Units, Oklahoma State University, completion report for Project No. 14-16-002-77-080 to the U.S. Fish and Wildlife Service, 101 p., 18 figs., 3 tables, bibliography.

Used literature search, correspondence, interviews, and field surveys to determine the presence or absence, distribution, habitat needs, and mining effects on threatened or endangered wildlife species on the federal coal lands. Investigation covered Atoka, Coal, Haskell, Latimer, Le Flore, and Pittsburg counties.

Reproduction cost: 101 pages @ .10 each = \$10.10

Reproduction time: less than 1/2 hour

45. Branson, C. C., 1955, Geologic features of the Vinita area [Okla.]: Hopper, v. 15, no. 5, p. 60-64.

Description written in field trip style, including some comments about the general locations where coal was being mined around Vinita (Rogers County) in 1955.

Reproduction cost: 5 pages @ .10 each = \$0.50

Reproduction time: less than 1/2 hour

46. Branson, C. C., G. G. Huffman, and D. M. Strong, 1965, Geology and oil and gas resources of Craig County, Oklahoma: Oklahoma Geological Survey Bulletin 99, 109 p., 36 figs., 2 plates, bibliography.

Covers geography, stratigraphy, structure, geologic history, and all mineral resources of Craig County. The location of abandoned and current (1965) coal mines is given in the chapter on mineral resources. Provides three 1:24,000 scale air photos, taken in 1958, of stripped areas in the county. Geologic map of Craig County, 1:63,360, shows strip pits as of 1965.

Reproduction cost: 109 pages @ .10 each = \$10.90

Reproduction time: less than 1/2 hour

47. Camin, K. Q., 1975, Mined land redevelopment. Kansas, Missouri, Oklahoma. Vol. 1; Overview, Vol. 2, Oklahoma mined land inventory; and Vol. 3, Individual demonstration site data: final report prepared for The Ozarks Regional Commission, Wichita State University, Wichita, Kansas, 216 p., 6 figs., 23 photos, 7 tables.

Covers entire eastern Oklahoma coal area. Vol. 2 provides detailed inventory of old mined areas in the nine counties (Craig, Haskell, Le Flore, McIntosh, Muskogee, Rogers,

Sequoyah, Tulsa and Wagoner) having 1000 or more acres disturbed by stripping as of 1973. Much of the data were obtained by field work. For the rest of the counties affected by coal stripping, the project used K. S. Johnson's 1974 Maps and description of disturbed and reclaimed surface-mined coal lands in eastern Oklahoma to determine acreages. Main data source for inventory was Soil Conservation Service aerial photos (8" = 1 mi.). Acreages of Oklahoma land stripped for coal prior to June 12, 1971, are given by county, showing both land and water areas. Tables summarize ownership of orphan spoil banks and give estimated reclamation costs per acre, by county. Provides acres and details of land reclaimed and unreclaimed, by county. Locates potential demonstration sites for reclamation practices (41 in 8 counties) and shows detailed sketch maps. Appendix contains detailed tables showing, for each mined site in the 9 main counties, individual owners, section location, mined acres (both land and water), tree cover, spoil bank characteristics (dominant grasses, composition of spoil, presence of large rocks, average height and spacing of piles), and estimated grading cost per acre.

Vol. 3 provides detailed data on reclamation and its costs for the demonstration sites; though they are all located in Kansas and Missouri, this may be useful also. Report inspected in the Oklahoma Geological Survey office, Norman.

Order from: The Ozarks Regional Commission, Department  
of Commerce Building, Room 2099-B,  
Washington, D.C. 20230

Cost: 216 pages @ .10 each = \$21.60

48. Campbell, D. G., 1957, Geology of the Jamesville area, Muskogee and Okmulgee Counties, Oklahoma: University of Oklahoma unpublished M.S. thesis, 91 p., 14 figs., 2 plates, bibliography.

Discusses the general geology of northwest Muskogee and northeast Okmulgee Counties, including a description of coal beds, coal outcrops, and a few stripping locations. Geologic map (3" = 2 mi.) shows outcrops and several small stripped areas.

Reproduction cost: 91 pages @ .10 each = \$9.10

Reproduction time: less than 1/2 hour

49. Catalano, L. E., 1978, Geology of the Hartshorne coal, McCurtain and Lafayette Quadrangles, Haskell and Le Flore Counties, Oklahoma: Oklahoma State University unpublished M.S. thesis, 61 p., 9 figs., 10 plates, 2 tables, bibliography.

Studies the structural geology of the Hartshorne coal, its distribution, depth, thickness, quality, resources, and reserves in parts of Haskell and Le Flore counties. Table 2 presents the remaining and recoverable Hartshorne coal resources by township and range. Appendixes contain coal analyses, coal thicknesses and six measured sections. Plates include 1:24,000 scale geology and structural contour maps. The geologic map shows strip pits. There are also maps (1 in. = 5/8 mi.) showing surface contour, net thickness, overburden and coal parting thicknesses, and isopleths of ash, sulphur and fixed carbon. The overburden thickness map shows underground, slope and strip mines.

Reproduction cost: 61 pages @ .10 each = \$6.10;  
10 plates @ \$1.00 each = \$10.00  
Reproduction time: less than 1 hour



50. Chance, H. M., 1890, Geology of the Choctaw coal field: Dallas, Texas, American Institute of Mining Engineers, Transactions, v. 18, p. 653-661, 2 plates.

This is the first detailed account of the coal-bearing rocks of Indian Territory. It reports the result of a survey of the coal resources in what are now Pittsburg, Latimer, and Le Flore Counties, and locates the coals, provides analyses, and gives a stratigraphic column of Cavanal Mountain. Map of McAlester to Poteau area shows the railroad, mine sites, communities, and hachured topography. A second map of the Grady Coal Basin shows contoured topography, mines, cultural features, a cross section and a columnar section.

Reproduction cost: 9 pages @ .10 each = \$0.90

Reproduction time: less than 1/2 hour

51. Chandler, P. P., 1950, The geology of the McBride Area, Cherokee and Wagoner Counties, Oklahoma: University of Oklahoma unpublished M.S. thesis, 69 p., 14 figs., 1 map, 14 tables, bibliography.

Describes the stratigraphy, structural, historical and economic geology of eastern Wagoner and western Cherokee counties prior to the inundation by water behind Fort Gibson Dam on the Grand (Neosho) River. Mentions thin Bloyd Formation coals and their mined areas. Geologic map, scale 1:21,120, shows surface outcrops of coal. Contains very little information about coal or coal mining.

Reproduction cost: 69 pages @ .10 each = \$6.90

Reproduction time: less than 1/2 hour

52. Chapman, A.G., 1947, Rehabilitation of areas stripped for coal: Central States Forest Experiment Station, Technical Paper No. 108, 14 p.

Consists of general remarks about reclamation on coal mine lands in the Central States Forest Experiment Station region, which includes Oklahoma. The station began experiments in the mid-1930s to discover the best ways to reclaim the land.

Reproduction cost: 14 pages @ .10 each = \$1.40

Reproduction time: less than 1/2 hour

53. Clark, F. B., 1954, Forest planting possibilities on strip mined lands in Kansas, Missouri, and Oklahoma: U.S. Forest Service Central States Forest Experiment Station, Technical Paper 141, 33 p., 13 figs., 9 tables, bibliography.

Studies by this Experiment Station began in 1947 to find out which tree species are suitable for planting on stripped areas in the 3 states. Twelve experiment areas were used with 14 different tree species planted. Table 1 lists mined acres as of 1946 which were barren, in herbs and shrubby plants, in forest (natural and planted), and totals. Describes tree experiments, including environmental conditions in the spoil areas, and makes forest planting recommendations.

Reproduction cost: 33 pages @ .10 each = \$3.30

Reproduction time: less than 1/2 hour

54. Claxton, C. D., 1952, The geology of the Welch area, Craig County, Oklahoma: University of Oklahoma unpublished M.S. thesis, 43 p., 3 figs., 1 table, 1 plate, bibliography.

Discusses the stratigraphy and regional geology of northeast Craig County. Describes coal outcrops and several locations of stripping. Geologic map (3" = 1 mi.) shows strip pits.

Reproduction cost: 43 pages @ .10 each = \$4.30

Reproduction time: less than 1/2 hour

55. Coleman, W. F., 1958, Surface geology of the Rentiesville area, Muskogee and McIntosh Counties, Oklahoma: University of Oklahoma unpublished M.S. thesis, 100 p., 22 figs., 2 plates, bibliography.

Describes the stratigraphy, historical, structural and economic geology of southern Muskogee and northeastern McIntosh Counties. Locates and describes abandoned and current (1958) strip mining operations. Describes coal bearing formations. Geologic map, scale 3" = 2 mi., shows stripped areas and coal exposures. Appendix provides 23 descriptions of measured sections.

Reproduction cost: 100 pages @ .10 each = \$10.00

Reproduction time: less than 1/2 hour

56. Coling, J. F., 1966, The historical geography of Coalgate, Oklahoma: University of Oklahoma unpublished M.A. thesis, 90 p., 23 figs., 8 tables, bibliography.

Discusses Coalgate's physical environment, including vegetation, and mining history, which includes coal production, the decline of coal mining, effects of mining on local people through 1966, and some early photographs. Sources included old documents, contemporary maps and personal interviews.

Reproduction cost: 90 pages @ .10 each = \$9.00

Reproduction time: less than 1/2 hour

57. Cook, G.L., 1973, Land-resource capability units of the Wagoner County area, northeastern Oklahoma: Oklahoma State University unpublished M.S. thesis, 55 p., 2 figs., 4 tables, 5 maps, bibliography.

Report provides information useful in land-use planning in Wagoner and part of southern Rogers Counties. Text discusses the area's physiography, geology, land-resource activities, environmental geology, relief, current land use, vegetation, minerals, water resources, and resource capability (based mainly on soils). Five 1:62,500 scale hand-colored maps showing (1) environmental geology, (2) relief, (3) current land use and vegetation (including mined areas), (4) mineral-energy and water resources, and (5) land resource capability. Base maps were 1:24,000 U.S.G.S. quadrangles, reduced and composited. A table describes properties of the capability units and evaluates their favorability for various activities.

Reproduction cost: 55 pages @ .10 each = \$5.50

Reproduction time: less than 1/2 hour

58. County Soil Conservation District, Long range total resource conservation program.

Includes information on district responsibilities, an inventory of all renewable resources, and detailed proposed plans for a county resource conservation program. During the 1970s county districts have developed such documents, containing an estimated average of 60 pages, with figures and tables.

Available from each County Soil Conservation District office.

Reproduction cost: variable, depending on report length

Reproduction time: less than 1/2 hour per report

59. Crane, W.R., 1907, Asphaltic coals in the Indian Territory: forms of the deposits, methods of prospecting and mining: Mines and Minerals, v. 26, no. 6, p. 252-254, 6 figs.

Describes and pictures the distribution, occurrence, character, and origin of coals found in south central and southeastern Oklahoma. Also describes prospecting methods, and subsurface mining costs, markets and coal uses.

Reproduction cost: 3 pages @ .10 each = \$0.30

Reproduction time: less than 1/2 hour

60. Craney, D. L., 1978, Distribution, structure, origin, and resources of the Hartshorne coals in the Panama Quadrangle, Le Flore County, Oklahoma: University of Oklahoma unpublished M.S. thesis, 126 p., 22 figs., 5 tables, 9 plates, bibliography.

Discusses stratigraphy, structure, historical geology, estimated resources, and recommendations for mining in this part of north-central Le Flore County. Table 2 is a history of coal mining in Panama Quadrangle area, showing company name, mine location, and duration of mining. Other tables show well-log data and coal analyses. Pocket contains 1:24,000 structure map, and various other plates including a 1:24,000 map showing coal thickness, and surface and underground mined areas.

Reproduction cost: 126 pages @ .10 each = \$12.60;

9 plates @ \$1.00 each = \$9.00

Reproduction time: less than 1 hour

61. Crumpley, B. K., 1949, A field reconnaissance of the geology of southeastern Sequoyah County, Oklahoma: University of Oklahoma unpublished M.S. thesis, 34 p., 14 figs., 2 plates, bibliography.

Covers the geology of southeastern Sequoyah County, including one chapter on the location and development of the strip pits. Has 2 photographs of strip pits. Also has a geologic map, scale 3" = 2 mi., showing coal outcrops, outcrop thicknesses, and areas stripped for coal.

Reproduction cost: 34 pages @ .10 each = \$3.40

Reproduction time: less than 1/2 hour

62. Disney, R. W., 1960, The subsurface geology of the McAlester Basin, Oklahoma: University of Oklahoma unpublished Ph.D. dissertation, 116 p., 7 figs., 2 tables, bibliography.

Covers stratigraphy, structure and geologic history. Area studied is about the southern half of Oklahoma's coal area, or the Arkoma Basin. Cross sections, structure, and paleogeography maps are in pocket. Contains no information on reclamation or strip mining.

Order from: University Microfilms International, 300 N. Zeeb Road, Ann Arbor, Michigan 48106. Use order number 62-05724.

Microfilm cost: \$11.00

Hardcopy cost: \$22.00

63. Disney, R. W., B. O. Andress, P. A. Chenoweth, and M. W. Schramm, Jr., 1968, The mineral industry in Oklahoma: Tulsa Geological Society Digest, v. 36, p. 89-90.

Starts with comments on the presence of minerals other than coal, then makes general summary remarks about the Oklahoma coal and coal mining situation in 1968. Mentions effect of Arkansas River Navigation System on coal company stripping activities.

Reproduction cost: 2 pages @ .10 each = \$0.20

Reproduction time: less than 1/2 hour

64. Dobervich, George, 1951, Areal geology of the Hulbert area, Cherokee and Wagoner Counties, Oklahoma: University of Oklahoma unpublished M.S. thesis, 93 p., 9 figs., 1 plate, 10 tables, bibliography.

Within this general geology there is a section on economic geology which includes two paragraphs that describe and locate the coal outcrops of the area. A geologic map, (1:20,000) is included; no coal strip pits shown.

Reproduction cost: 93 pages @ .10 each = \$9.30

Reproduction time: less than 1/2 hour

65. Doerr, A. H., 1961, Coal mining and landscape modification in Oklahoma: Oklahoma Geological Survey Circular 54, 48 p., 13 figs., bibliography.

Discussion of the physical and cultural changes occurring with strip mining in Oklahoma. Appendix has set of formalized field notes upon which the text generalizations are based. It describes mined areas by county, township, range and section, and notes the environmental features observed (slope angles, vegetation, overburden, relief, pH of strip lakes, erosion). Good introduction to the impacts of Oklahoma coal mining.

Order from: Oklahoma Geological Survey, University of Oklahoma, 830 Van Vleet Oval, Rm. 163, Norman, OK 73019.

Cost: \$1.00 paperback.

66. Doerr, A. H., 1962, A preliminary survey of plant succession on coal mine spoil in Oklahoma: Journal of Geography, v. 61, p. 301-309, 12 figs.

Touches on areal distribution of coal mining in state, describes significant spoil characteristics associated with underground and surface mining, summarizes environmental changes due to coal mining and assesses original vegetation succession on spoil banks. Very similar to the 1962 Colorado School of Mines Quarterly article by Doerr.

Reproduction cost: 9 pages @ .10 each = \$0.90

Reproduction time: less than 1/2 hour

67. Doerr, A. H., 1962, Coal mining and changing land patterns in Oklahoma: Land Economics, v. 38, p. 51-56.

Discusses Oklahoma coal mining and its effects on the landscape and people. Has sketch map showing railroad abandonments in Oklahoma.

Reproduction cost: 6 pages @ .10 each = \$0.60

Reproduction time: less than 1/2 hour

68. Doerr, A. H., 1962, Coal mining, landscape changes, and reclamation recommendations for Oklahoma: Colorado School of Mines Quarterly, v. 57, no. 4, p. 97-111, 10 figs., bibliography.

Good discussion of the environmental effects of surface and underground coal mining in eastern Oklahoma. Comments on topographic changes, spoil banks, natural revegetation of spoil banks, water quality, soil changes, and various reclamation efforts. Suggests other possible uses of the mined land.

Reproduction cost: 15 pages @ .10 each = \$1.50

Reproduction time: less than 1/2 hour

69. Doerr, A. H., 1962, Oklahoma's coal industry, past, present and future: Northwestern University Studies in Geography, No. 6 (The C. F. Jones Festschrift volume), p. 63-77, 8 figs.

General article which briefly discusses Oklahoma's coal resources, evolution of the state's coal industry, current (1960) mining techniques and characteristics, environmental impacts and revegetation of spoil areas, coal markets, and some expectations for the future.

Reproduction cost: 15 pages @ .10 each = \$1.50

Reproduction time: less than 1/2 hour

70. Donica, D. R., 1978, The geology of the Hartshorne coals (Desmoinesian) in parts of the Heavener 15' Quadrangle: University of Oklahoma unpublished M.S. thesis, 128 p., 9 figs., 17 plates, 1 table, bibliography.

Discusses stratigraphy, structure, the Hartshorne coals, and depositional environments in central Le Flore County. Used bore hole and drill log data, air photos, oil and gas well data, and published information. Mapped the distribution, outcrop, structure, thickness, and stratigraphic positions of the coals. Includes structure and isopach maps at scales of 1:24,000; all other maps at scale of 1:63,360. Text mentions numerous old mine locations. Table 1 lists mines, including location and dates mined, in the Lower Hartshorne Coal (data from Oklahoma Department of Mines).

Reproduction cost: 128 pages @ .10 each = \$12.80;  
17 plates @ \$1.00 each = \$17.00  
Reproduction time: less than 1 hour

71. Douglass, H. M., 1951, Geology of the Yonkers area, Wagoner and Cherokee Counties, Oklahoma: University of Oklahoma unpublished M.S. thesis, 149 p., 27 figs., 1 plate, 9 tables, bibliography.

This general geology, which includes a 1-paragraph chapter on economic geology, mentions the prevalence of near-surface coal and abandoned strip pits at Lost City. Geologic map (2" = 5/8 mi.) shows no strip pits.

Reproduction cost: 149 pages @ .10 each = \$14.90  
Reproduction time: less than 1/2 hour

72. Drake, N. F., 1897, A geological reconnaissance of the coal fields of Indian Territory: American Philosophical Society, Proceedings, v. 36, p. 326-419.

This comprehensive, early investigation of Oklahoma's coal fields, often cited in the literature, provides descriptions of previous investigations of the area, the hydrography, topography, geologic structures, lithology and stratigraphy. Describes each stratigraphic unit's areal extent, structure, and lithology, prior to the section which covers the coal beds themselves, in greater detail. Gives geologic and topographic sketch maps, cross sections, correlation charts, and coal analyses. Article based on Drake's 1897 Ph.D. dissertation, Leland Stanford University.

Reproduction cost: 93 pages @ .10 each = \$9.30  
Reproduction time: less than 1/2 hour

73. Dunham, R. J., and J. V. A. Trumbull, 1955, Geology and coal resources of the Henryetta mining district, Okmulgee County, Oklahoma: U.S. Geological Survey Bulletin 1015-F, p. 183-225, 4 figs., 3 tables, 2 maps, bibliography.

Text discusses stratigraphy, coal chemical analyses, and coal reserves in the southern half of Okmulgee County. Has a table which describes both strip and underground mines in the area, including operation and mine name, dates of operation, entry location, etc. As of January 1, 1952 there had been 91 mines in the Henryetta area. Includes 1:48,000 geologic map, and cross sections of the Henryetta Mining District. This map shows stripped areas and outcrops of coal. Another 1:48,000 map shows the thickness of the Henryetta and Morris coal beds, the extent of active mining and abandoned underground mining, location of entry, and areas stripped. Keys 114 graphic sections of the coal beds to this map. Large generalized south-north stratigraphic diagram. Report based mainly on 1:20,000 air photos and field work.

May be available from Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, VA 22202

74. Eastern Oklahoma Development District, 1977, Land use element: Department of Housing and Urban Development, Grant No. CPA-06-56-1070, 54 p., 6 maps, 7 tables.

Discusses on one page the presence and future of strip mining in Muskogee, Wagoner and Sequoyah Counties. The remainder of the report considers other critical areas of land-use management.

Available for inspection at Department of Economic and Community Affairs, 5500 N. Western, Oklahoma City, OK 73122.

75. Everest, H. A., 1906, The coal fields of the McAlester Quadrangle, Choctaw Nation, Indian Territory: University of Oklahoma unpublished B.A. thesis, 42 p., 4 plates.

Describes the geology, structure, chemical analysis, 1903 production statistics by mine, mine operators, mining procedures, and labor requirements of the coal fields of Pittsburg and western Latimer Counties.

Reproduction cost: 42 pages @ .10 each = \$4.20  
Reproduction time: less than 1/2 hour



76. Friedman, S. A., 1973, Oklahoma, in State-by-state reports on coal west of the Mississippi, including Canada: Coal Age, v. 78, no. 5, p. 142-145, p. 148-149, 2 figs., 2 tables, bibliography.

Discusses Oklahoma's coal resources, present mining practices, and individual operations by company. Lists active coal mining companies as of January 1, 1973, with reference to map location. Sketch map shows, by county, quantity of bituminous coal resources in Oklahoma, and active mine locations in 1973.

Reproduction cost: 6 pages @ .10 each = \$0.60

Reproduction time: less than 1/2 hour

77. Friedman, S. A., 1974, An investigation of the coal reserves in the Ozarks section of Oklahoma and their potential uses, final report to the Ozarks Regional Commission, July 10, 1974: Oklahoma Geological Survey, 117 p., 24 figs., 77 tables, bibliography.

Provides results of a 3-year project to re-evaluate estimated coal reserves in the Oklahoma coal area. Sources of coal information were bore hole data, chemical analyses, and previous publications. Contains a discussion of mining methods and coal economics. Tables show original and mined coal resources by county and name of coal, and state coal production by county from 1873-1973. Sketch map shows approximate outcrop patterns of coal beds. Bar graph shows percent of coal stripped and percent underground mined by county from 1953-1973.

Order from: Oklahoma Geological Survey, University of  
Oklahoma, 830 Van Vleet Oval, Room 163  
Norman, OK 73019

Cost: \$2.00

78. Garner, R. V., 1953, Revegetation of strip-mined areas in Oklahoma: Oklahoma Academy of Science, Proceedings, v. 34, p. 208-209.

A generalized, popular discussion, including remarks on coal stripping in the U.S. and revegetation in Oklahoma. Makes reference to 11 Oklahoma counties which had had stripping, and in 1953 had a revegetation problem.

Reproduction cost: 2 pages @ .10 each = \$0.20

Reproduction time: less than 1/2 hour

79. Ghebremedhin, Tesfa, and M. S. Salkin, 1978, An analysis of Oklahoma's coal industry: Oklahoma State University Agricultural Experiment Station Research Report P-780, 41 p., 6 figs., 19 tables, bibliography.

Report covers Oklahoma coal resources, mining costs, reclamation laws and their impacts, coal mining employment analysis, coal distribution, and potential uses.

Available from: Oklahoma State University Agricultural  
Experiment Station, Division of Agriculture, Stillwater, OK  
74074

80. Gould, C. N., 1909, The Oklahoma coal fields: Mines and Minerals, v. 29, p. 275-276.

After describing the areal extent and quantity of coal, gives background information concerning the segregated coal lands in eastern Oklahoma. Discusses seven commercially valuable coal seams. In 1904, 50 coal companies operated 117 mines producing 3,320,000 tons of coal.

Reproduction cost: 2 pages @ .10 each = \$0.20

Reproduction time: less than 1/2 hour

81. Govett, R. W., 1957, The geology of the Cabaniss-Arpelar area, Pittsburg County, Oklahoma: University of Oklahoma unpublished M.S. thesis, 60 p., 13 figs., 2 plates, bibliography.

This report on the general geology of northwestern Pittsburg County mentions the presence of coal, its thickness, distribution and correlation. Geologic map (3" = 2 mi.) shows outcropping coal beds.

Reproduction cost: 60 pages @ .10 each = \$6.00

Reproduction time: less than 1/2 hour

82. Govett, R. W., 1959, Geology of Wagoner County, Oklahoma: University of Oklahoma Ph.D. dissertation, 182 p., 31 figs., 2 plates, 7 tables, bibliography.

A general geology of Wagoner County, which includes brief descriptions of the numerous coals and their mining. Text mentions strip pits and their locations. Photographs show coal seams. Several pages of the chapter on economic geology describe coal seams and locations of mines. Includes coals in the 45 measured sections, and outlines strip pits on the colored geologic map (3 in. = 2. mi.)

Order from: University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106. Refer to Order No. 60-01243, and type of copy desired.

Cost: \$22.00 Xerographic copy, \$11.00 microform.

83. Grandt, A. F., 1978, Mined-land reclamation in the interior coal province: Journal of Soil and Water Conservation, v. 33, no. 2, p. 62-68, 4 figs., 1 table, bibliography.

This is a general discussion of reclamation problems and methods in the 10-state area, including plants to be used for revegetation. Mentions Oklahoma examples several times, and one figure is an oblique air photo of a Rogers County coal mine.

Reproduction cost: 7 pages @ .10 each = \$0.70

Reproduction time: less than 1/2 hour

84. Gregg, J. M., 1976, Coal geology of parts of the Inola, Chouteau N.W., Catoosa S.E., and Neodesha Quadrangles, southeastern Rogers and northern Wagoner Counties, Oklahoma: Oklahoma State University unpublished M.S. thesis, 77 p., 10 figs., 6 plates, 7 tables, bibliography.

Describes mapped coal beds of the Krebs Group and associated rock units of the area, using information derived from examination of drillers' logs of coal test borings, cores, aerial photographs, and field mapping. Tabular data lists measured, indicated, and inferred coal resources, and original, remaining, and strippable coal. Appendices show completed standard coal analysis forms used by the Oklahoma Geological Survey, and measured sections. Plates include 2 correlation sections, structural contour map of 2 coals, isopach maps of 2 coals, and an overburden thickness map.

Reproduction cost: 77 pages @ .10 each = \$7.70

Reproduction time: less than 1/2 hour

85. Gregware, William, 1958, Surface geology of the McLain area, Muskogee County, Oklahoma: University of Oklahoma unpublished M.S. thesis, 101 p., 18 figs., 2 plates, bibliography.

Describes the surface geology of east-central Muskogee County, west of the Arkansas River. Provides detailed stratigraphic data on each geologic formation, most of which have coal-bearing strata. Locates and briefly describes strip mines. Appendix contains 22 measured sections. The colored geologic map (1-1/2" = 1 mi.) shows strip pits and coal exposures.

Reproduction cost: 101 pages @ .10 each = \$10.10

Reproduction time: less than 1/2 hour

86. Gruman, W. P., 1954, Geology of the Foyil area, Rogers and Mayes Counties, Oklahoma: University of Oklahoma unpublished M.S. thesis, 99 p., 12 figs., 2 plates, bibliography.

Describes the stratigraphy, structural, economic, and historical geology of east-central Rogers County and northwest Mayes County. Mentions coal thicknesses, characteristics, and mining activities. Appendix includes 26 measured sections. Shows coal mine locations on the colored geologic map (3" = 1 mi.).

Reproduction cost: 99 pages @ .10 each = \$9.90

Reproduction time: less than 1/2 hour

87. Haigh, M. J., 1976, Environmental problems associated with reclamation of old strip-mined land: Oklahoma Geology Notes, v. 36, p. 200-202, bibliography.

Comments on the effects on erosion rates of regrading revegetated coal spoil banks. Mentions 2 old mines near Henryetta (Okmulgee County), and N. H. Meleen's research results from northeast Oklahoma strip mines. Also comments on spoil bank reclamation.

Available from: Oklahoma Geological Survey, University of Oklahoma, 830 Van Vleet Oval, Room 163, Norman, OK 73019  
Cost: \$0.50

88. Haigh, M. J., 1977, Erosion of surface-mine-disturbed land at Henryetta, Oklahoma, some preliminary results: Oklahoma Academy of Science, Proceedings, v. 57, p. 173-175, 2 figs., bibliography.

Preliminary results from a study designed to discover the quantity and distribution of soil loss from two similar unreclaimed, unvegetated, ungullied, east-facing, but differently aged coal mine spoil banks near Henryetta (Okmulgee County). Experiment using 15 erosion pins on each of the two 8-meter-long slopes began March 26, 1976, and first data collection was July 14. Reports rate of surface lowering.

Reproduction cost: 3 pages @ .10 each = \$0.30  
Reproduction time: less than 1/2 hour

89. Haigh, M. J., 1978, Microerosion processes and slope erosion on surface-mine dumps at Henryetta, Oklahoma: Oklahoma Geology Notes, v. 38, no. 3, p. 87-96, 6 figs., 1 table, bibliography.

Using pins he compared erosion rates and slope changes on a 20-year-old and on a 53-year-old unvegetated spoil bank in Okmulgee County. Monitored for 16 months from March 1976 to August 1977.

Order from: Oklahoma Geological Survey, University of Oklahoma, 830 Van Vleet Oval, Room 163  
Cost: \$0.50

90. Hamilton, P. C., and D. D. Badger, 1977, Preliminary assessment of the Federal Surface Mining Control and Reclamation Act of 1977: Stillwater, Oklahoma, Oklahoma State University, paper presented at the 66th Annual Meeting of the Oklahoma Academy of Science, November 11, 1977; journal article J-3403 of the Oklahoma Agricultural Experiment Station, 10 p. (Submitted for publication in the Oklahoma Academy of Science Proceedings, v. 59, 1979, or available from Dr. D. D. Badger, Department of Agricultural Economics, Oklahoma State University, Stillwater 74074.)

Discusses main features of PL 95-87, passed in 1977, and compares that law with requirements of the Oklahoma Strip Mine Reclamation Act. General topics covered are abandoned mine reclamation, control of the environmental impacts, administrative and special provisions, and states' roles.

Reproduction cost: 10 pages @ .10 each = \$1.00  
Reproduction time: less than 1/2 hour

91. Indian Nations Council of Governments, and Community Planning Associates, 1970, INCOG Open space plan, 1990: financed through a Comprehensive Planning Grant from Department of Housing and Urban Development, Project Oklahoma P-117, 96 p., 5 figs., 18 tables, 7 maps, bibliography.

Describes the natural features, scenic and historic resources, and gives a plan for 1990 open-space and recreation needs. Briefly generalizes about the coal deposits in Rogers and Creek Counties and their mining. A generalized mineral resources map shows coal deposits.

Available from Indian Nations Council of Governments, 200 Civic Center, Tulsa, OK 74103.

92. Indian Nations Council of Governments, 1970, Inventory and analysis of community water supply and waste disposal systems: financed in part by a comprehensive planning grant from Department of Housing and Urban Development Project Oklahoma P-117, Working Paper IWS 4-5, 145 p.

Organized by county, the report discusses the water system, sanitary sewer system, storm sewer system, refuse disposal system, and financial capacity of each town. Mentions several towns (Claremore, Broken Arrow, Collinsville) which were dumping refuse into old spoil banks in 1970.

Available from Indian Nations Council of Governments, 200 Civic Center, Tulsa, OK 74103.

93. Ireland, J. L., 1973, Geology for land-use planning of western Rogers County and southern Washington County, Oklahoma: Oklahoma State University unpublished M.S. thesis, 53 p., 8 figs., 2 tables, 5 maps, bibliography.

General study evaluates the land and mineral resources of western Rogers and southern Washington Counties. Discusses stratigraphy, geologic structure, geomorphology, soils, environmental geology, land-resource capability, and hydrology. Five handcolored, 1:62,500 scale maps are included, with a descriptive text explaining preparation of and evaluation of each. The maps show: (1) environmental geology of the area; (2) land resource capabilities; (3) current land use; (4) relief, and (5) hydrology and mineral resources. The capability map has a table describing and classifying the soils by characteristics and rating them as to favorability for various uses. The original base map was constructed from U.S.G.S. 1:24,000 quadrangles joined and reduced photographically to a scale of 1:62,500.

Reproduction cost: 53 pages @ .10 each = \$5.30

Reproduction time: less than 1/2 hour

94. Johnson, K.S., 1971, Oklahoma's mineral resources and mining-reclamation practices, in Rose, W. D. (editor), Environmental Aspects of Geology and Engineering in Oklahoma: a symposium of the Oklahoma Academy of Science, co-sponsored by Oklahoma State University, Stillwater, Oklahoma, December 4, 1970, Oklahoma Academy of Science, Annals, No. 2, p. 23-35, 11 figs., 2 tables, bibliography.

This discussion of all of Oklahoma's mineral resources includes general remarks on coal, mined-land reclamation problems, and on potential benefits of open-cut mining.

Reproduction cost: 13 pages @ .10 each = \$1.30

Reproduction time: less than 1/2 hour

95. Johnson, K. S., 1971, Reclamation of mined coal lands in eastern Oklahoma: Oklahoma Geology Notes, v. 31, p. 111-123, 5 figs., sketch map, 2 tables.

Discusses Oklahoma's reclamation acts, characteristics of Oklahoma's unreclaimed mined lands, and reclamation work being done in Kansas. Recommends program for restoration of Oklahoma's mined lands. Basically same as text for Johnson's 1974 Maps and description of disturbed and reclaimed surface-mined coal lands in eastern Oklahoma. Tables show reclamation costs per ton of coal for coal beds 12 to 60 inches thick, and acreage disturbed by surface mining in Oklahoma coal fields prior to 1968.

Reproduction cost: 13 pages @ .10 each = \$1.30

Reproduction time: less than 1/2 hour

96. Johnson, K. S., 1977, Minerals, mineral industries and reclamation, in Morris, J. W. (editor), Geography of Oklahoma: Oklahoma City, Oklahoma Historical Society, p. 93-111, 5 figs., 2 tables, bibliography.

Discusses coal resources on 1 page. Includes sketch map showing coal area with other principal non-petroleum mineral resources. Two and one-half pages discuss mined-land reclamation in Oklahoma in general terms.

Reproduction cost: 19 pages @ .10 each = \$1.90

Reproduction time: less than 1/2 hour

97. Jones, J. G., 1957, Geology of the Ashland-Kiowa area, Pittsburg County, Oklahoma: University of Oklahoma unpublished M.S. thesis, 126 p., 15 figs., 2 plates, bibliography.

Describes thoroughly the stratigraphy and general geology of the area, making frequent reference to earlier reports. Includes locations and descriptions of coals and mined areas. Appendix includes 11 measured sections. Geologic map (2" = 1 mi.) identifies coal seams, and abandoned coal mines.

Reproduction cost: 126 pages @ .10 each = \$12.60

Reproduction time: less than 1/2 hour

98. Karvelot, M. D., 1973, The Stigler Coal and collateral strata in parts of Le Flore, McIntosh, and Muskogee Counties, Oklahoma: Shale Shaker.

Part 1, in Shale Shaker, v. 23, no. 5, p. 108-119, 16 figs., 1 table. Discusses stratigraphy and formation of rocks containing Stigler coal. Figure 2 is a generalized geologic map (scale 1:125,000) of parts of Haskell, Le Flore, McIntosh and Muskogee Counties.

Part 2, in Shale Shaker v. 23, no. 6, p. 128-141, 10 figs., 4 tables, bibliography. Characterizes the Stigler coal, its strippable reserves, and its suitability for use. Figure 24 shows prospective mining areas and transportation systems.

Reproduction cost: 26 pages @ .10 each = \$2.60

Reproduction time: less than 1/2 hour

99. Keasler, W. R., 1979, Coal geology of the Chelsea Quadrangle, in parts of Craig, Mayes, Nowata, and Rogers Counties: Oklahoma State University unpublished M.S. thesis, 58 p., 6 figs., 11 plates, 7 tables, bibliography.

Using data from coal-test borings, aerial photographs, and field mapping, the author mapped the coal geology of the Chelsea area. Includes estimates of coal reserves, and chemical analyses. Much information potentially useful for coal mining is shown on a geology map, structural contour maps, isopach maps, overburden thickness maps, and cross sections.

Reproduction cost: 58 pages @ .10 each = \$5.80; 11 plates @ \$1.00 each = \$11.00.

Reproduction time: less than 1 hour

100. Kiamichi Economic Development District, [197?], Review of potential coal leases within Haskell County: 11 p., 7 maps.

Briefly describes Haskell County physiography, soils, climate and transportation routes before making concise recommendations concerning the protection and reclamation of coal lands through lease agreements. Three photocopied portions of U.S.G.S. 7-1/2 minute topographic quadrangles show proposed mining sites. Copy inspected at Bureau of Land Management, 200 N.W. 5th, Room 548, Oklahoma City, OK 73102.

Reproduction cost: 11 pages @ .10 each = \$1.10

Reproduction time: less than 1/2 hour

101. Knechtel, M. M., 1949, Geology and coal and natural gas resources of northern Le Flore County, Oklahoma: Oklahoma Geological Survey Bulletin 68, 76 p., 2 figs., 2 maps, 3 tables.

This report describes the stratigraphy, structure and coal chemical analyses. Includes a 1:63,360 map showing geologic structure, coal beds and mine locations. Table 3 is a list of measurements of coal beds in the area, organized by township and range. There are 5 plates of measured outcrop sections.

Order from: Oklahoma Geological Survey, University of  
Oklahoma, 830 Van Vleet Oval, Room 163,  
Norman, OK 73019

Cost: \$3.50



102. Knox, L. G., 1949, Development of the coal industry in Oklahoma: Oklahoma State University unpublished M.S. thesis, 81 p., 7 figs., 8 tables, bibliography.

This general history of coal mining in Oklahoma summarizes geology, early history, location and occurrence of stripping, labor and labor problems, and the future of the industry, as of 1949.

Reproduction cost: 81 pages @ .10 each = \$8.10

Reproduction time: less than 1/2 hour

103. Limstrom, G. A., 1948, Extent, character and forestation possibilities of land stripped for coal in the central states: U.S. Forest Service Central States Experiment Station, Technical Paper 109, 79 p., 17 figs., 38 tables, bibliography.

Using information based on experiments begun in the 1930s, this report describes conditions on stripped lands in the Central States as they affect forestation practices. Gives tentative planting guides for three (3) soil types; each guide is broken down by soil acidity (acid, calcareous, mixed) and percent of soil on spoil surface (0-30%, 31-100%), and recommends different tree species for the various combinations of soil conditions.

Reproduction cost: 79 pages @ .10 each = \$7.90

Reproduction time: less than 1/2 hour

104. Limstrom, G.A., 1960, Forestation of strip-mined land in the central states: U.S. Forest Service, Agriculture Handbook No. 166, 74 p., 37 figs., 16 tables, bibliography.

General discussion of spoil bank conditions such as amounts of stone and soil, texture, chemical conditions, survival and growth of plants in acid soil, nutrient availability, topography, and vegetation. Refers briefly to 2 experiments on Oklahoma stripped land conducted in about 1950 showing the failure of black cherry trees but success of black locust on spoil dumps. Table gives conditions recommended for planting different plant species on 2 general spoil bank soil types in the Central States; table lists plant species, pH range, topography, ground cover, current crown cover, percent of black locust in seed mixture, and strip mine planting zones. The Oklahoma coal area is part of two planting zones. Appendix has sample "Planting Site Evaluation Record." Handbook is based on field experiments begun in the 1930s and 1940s, and discusses species planted and methods used in non-Oklahoma areas of the Central States.

Reproduction cost: 74 pages @ .10 each = \$7.40

Reproduction time: less than 1/2 hour

105. Lintz, Christopher, 1979, Cultural resource survey and assessment of the proposed expansion of the Tamaha Mine, Haskell County, Oklahoma: Norman, Archaeological Research and Management Center, 12 p., sketch map, tables, bibliography.

Conducted for Garland Coal and Mining Company, this survey fills a requirement for a permit to enlarge stripping operations at the mine. Data were collected from a record/literature search, interviews, and field investigations of land to be mined. Table describes all features in area.

Available from the Archaeological Research and Management Center, University of Oklahoma, 1808 Newton Dr., North Campus, Norman, OK 73019

106. Lohman, Clarence, Jr., 1952, Geology of the Whiteoak area, Craig and Rogers Counties, Oklahoma: University of Oklahoma unpublished M.S. thesis, 89 p., 2 figs., 2 plates, bibliography.

Discusses the stratigraphy, structural, historical and economic geology of northeastern Rogers County and southwestern Craig County. Numerous small strip pit locations are mentioned in the text. Geologic map (3" = 1 mi.) has stripped areas marked but not identified as such in the legend.

Reproduction cost: 89 pages @ .10 each = \$8.90

Reproduction time: less than 1/2 hour

107. Lontos, J.T., 1952, The geology of the Coweta area, Wagoner, Muskogee, and Okmulgee Counties, Oklahoma: University of Oklahoma unpublished M.S. thesis, 55 p., 16 figs., 2 plates, bibliography.

A study of the general geology, including several paragraphs on the area's economic geology which describe and locate strip-mined coals. Geologic map (3" = 1 mi.) shows strip pits.

Reproduction cost: 55 pages @ .10 each = \$5.50

Reproduction time: less than 1/2 hour

108. Luff, G. C., 1957, Geology of the Beggs Area, Okmulgee County, Oklahoma: University of Oklahoma unpublished M.S. thesis, 83 p., 25 figs., 2 plates, 3 tables, bibliography.

Describes the stratigraphy, historical, structural, and economic geology of northwestern Okmulgee County. References are made to the stratigraphic position of the coal, outcrop locations, abandoned strip pits, and mining possibilities. Geologic map (3" = 2 mi.) shows scattered small strip pits.

Reproduction cost: 83 pages @ .10 each = \$8.30

Reproduction time: less than 1/2 hour

109. Maloney, M. M., 1942, Revegetation of coal stripped land near Henryetta, Oklahoma: Oklahoma Academy of Science, Proceedings, v. 22, p. 123-129, 3 figs., 2 tables.

An ecological study investigating the natural revegetation of an area 1-1/4 miles east of Henryetta (Okmulgee County) which had been stripped 30 to 40 years earlier (1900-1910). Table 1 shows results of soil tests (pH, nitrogen, organic matter, phosphorus, calcium, sulphates) run on 12 pit-derived samples. Table 2 lists all plant species found in the strip pits according to 6 categories of relative frequency.

Reproduction cost: 7 pages @ .10 each = \$0.70

Reproduction time: less than 1/2 hour

110. McGee, E. W., Jr., and J. P. Donahue, 1979, KEDDO Regional Coal Study: Wilburton, Oklahoma, Kiamichi Economic Development District of Oklahoma, 112 p., 7 figs., 19 tables, bibliography.

This study of Pittsburg, Haskell, Le Flore, Latimer, Pushmataha, Choctaw, and McCurtain Counties provides occasional data and information on other Oklahoma coal area counties. Includes a brief district history; history and future of coal; the location, type, production, uses and sulfur content of the coal; state and federal reclamation requirements; impacts of increased mining on employment, land use, tax revenues, and local government; and a coal company survey covering present and intended mining operations, and community relations. Appendix lists names and addresses of fifty-five coal companies operating in Oklahoma in 1975-77, derived from the Oklahoma Department of Mines Annual Reports.

Available for inspection at the Department of Economic and Community Affairs, 5500 N. Western, Oklahoma City, OK 73118

111. Meleen, N. H., 1977, Strip mines and fluvial systems; geomorphic effects and environmental impact in northeastern Oklahoma: Worcester, Mass., Clark University unpublished Ph.D. dissertation, 264 p.

A project using field work and air photo analysis to study sediment yields, runoff, and channel differences between mined and unmined creeks in the Spencer Creek basin, northeast Rogers County. Discusses the effect of reclamation activities on hydrology and sediment movement. Offers considerations for planning. (Annotation summarized from Dissert. Abstr. Int., v. 38, no. 5, p. 2100B, 1977.)

Order from University Microfilms International, P.O. Box 1764, Ann Arbor, MI 48106. Refer to Order No. 77-23419, and specify kind of copy wanted.

Cost: \$22.00 xerographic copy, \$11.00 microform.

112. Mileff, R.J., 1976, Geology for land-use planning of the Muskogee area, Muskogee County, Oklahoma: Oklahoma State University unpublished M.S. thesis, 58 p., 9 figs., 5 maps, 5 tables, bibliography.

A report on the general geology of north-central Muskogee County, it includes a discussion of soils, and is addressed toward planning questions and needs. Provides sample questionnaires sent out to gain background information. Five 1:62,500 scale maps detail environmental geology, land-resource capabilities, current land-use, relief, and floodprone areas. The capability map has a table describing and classifying the soils according to erodability, pH, seepage, favorability for various uses, etc.

Reproduction cost: 58 pages @ .10 each = \$5.80

Reproduction time: less than 1/2 hour

113. Northeast Counties of Oklahoma Economic Development Association, Substate Planning District One, 1978, Areawide land resource coordination report: 107 p., 13 sketch maps, 35 tables.

Discusses NECO's goals, policies and objectives, population and economic factors, existing and future requirements for land resources, and development constraints, including geology, soils, climate, subsurface water sources, mining operations, natural vegetation, slopes, etc. Includes sketch maps of coal area and of mining areas in Washington, Nowata, Craig, Ottawa, Rogers and Mayes Counties. Provides local governments with information for planning the district's growth.

Available from National Technical Information Service, 2285 Port Royal Road, Springfield, VA 22151.

114. Oakes, M. C., 1944, Broken Arrow Coal and associated strata, western Rogers, Wagoner, and southeastern Tulsa Counties, Oklahoma: Oklahoma Geological Survey Circular 24, 40 p., 1 map, 1 table.

Discusses stratigraphy, coal chemical analyses, and describes mine locations, systems of mining, and coals of the area. Provides a geologic map (scale 1:125,000) that outlines coals.

Order from: Oklahoma Geological Survey, University of  
Oklahoma, 830 Van Vleet Oval, Room 163,  
Norman, OK 73019

Cost: \$1.00

115. Oakes, M. C., 1952, Geology and mineral resources of Tulsa County, Oklahoma: Oklahoma Geological Survey Bulletin 69, 234 p., 12 figs., 4 plates, 15 tables.

General geology, with emphasis on the stratigraphy of Tulsa County. Section on economic geology briefly discusses coal and mentions 11 township and range sections that had been mined until 1936, and the coal thickness at each site. Geologic map of Tulsa County (scale 1" = 1 mi.) also shows coal outcrops and areas stripped as of 1952. Pocket also contains maps of oil producing areas and subsurface contours, and composite outcrop sections. Report includes a section on water resources, done by John H. Warren.

Reproduction cost: 234 pages @.10 each = \$23.40

Reproduction time: approximately 1 hour

116. Oakes, M. C., 1963, Geology and water resources of Okmulgee County, Oklahoma: Oklahoma Geological Survey Bulletin 91, 164 p., 19 figs., 2 plates, 7 tables, bibliography.

Describes the general geology and groundwater of Okmulgee County. Discusses coal on pages 73-78, and gives mine locations as of 1963 by quarter section and section. Geologic map (scale 1:63,360) shows locations of coal beds, shaft, slope and drift mines, and strip pits.

Order from: Oklahoma Geological Survey, University of Oklahoma, 830 Van Vleet Oval, Room 163, Norman, OK 73019.

Cost: clothbound, \$4.00; paperbound, \$3.00.

117. Oakes, M. C., 1967, Geology and mineral resources of McIntosh County, Part 1 of Geology and petroleum of McIntosh County, Oklahoma: Oklahoma Geological Survey Bulletin 111, 88 p., 13 figs., 4 plates, 5 tables, bibliography.

This general geology of McIntosh County describes coal outcrops in approximately 2 pages. Includes a 1:125,000 scale map of subsurface structure, and a 1:63,360 surface geology map showing location of coal beds, strip pits and quarries.

Order from: Oklahoma Geological Survey, University of Oklahoma, 830 Van Vleet Oval, Room 163, Norman, OK 73019

Cost: clothbound, \$6.00; paperbound, \$5.00.

118. Oakes, M. C., 1977, Geology and mineral resources (exclusive of petroleum) of Muskogee County, Oklahoma: Oklahoma Geological Survey Bulletin 122, 78 p., 8 figs., 2 plates, bibliography.

A discussion of coal on pages 45-46 mentions thickness and location of coal seams in county, and which townships and sections have had mining. Includes a geologic map (1:63,360) of Muskogee County showing strip pit locations.

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Cost: clothbound, \$11.00; paperbound, \$8.00.

119. Oakes, M. C., and M. M. Knechtel, 1948, Geology and mineral resources of Haskell County, Oklahoma: Oklahoma Geological Survey Bulletin 67, 136 p., 8 figs., 6 plates, 5 tables

This general geology of Haskell County discusses coal on pages 78-87. Table 3 lists by section the thickness of overburden and coal. Geologic map (1:63,360) shows areas stripped, outcrops of coal beds, slope mines and coal prospects. Another 1:63,360 map reveals geologic structure and coal beds, including mines and prospects.

Order from: Oklahoma Geological Survey, University of Oklahoma, 830 Van Vleet Oval, Room 163, Norman, OK 73019.

Cost: paperbound, \$3.50.

120. Obiechina, Chris, in preparation, Strip mining reclamation in Craig, Nowata, Rogers, and Okmulgee Counties, Oklahoma: will be a Ph.D dissertation at Oklahoma State University, Department of Agricultural Economics.

Using personal interviews with 5 categories of area citizens, surveys the practices, facts and attitudes concerning strip mining and reclamation in the four counties.

The five questionnaires used are addressed to:

- 1) professional - 5 pages of questions to assess possible changes in demographic characteristics, standard of life, and environmental quality;
- 2) county assessors and treasurers - 3 pages of questions to assess valuation of coal or trucking companies and real estate, and estimated tax collection from real estate;
- 3) coal companies - 5 pages of questions list dates, locations, and number of mines per county, mineral rights, data, reclamation preplanning and procedures;
- 4) landowners/producers - 9 pages list acreage and length of time land owned; presence, date, and mining arrangements made with coal mining companies, amount of reclaimed land use, management practices, labor requirements, land use inventory, net returns for coal mining rights or selling land to coal company, landowner labor input to coal company, and land swap deals;
- 5) county commissioners - 3 pages of questions to assess the importance of numerous reclamation and environmental factors during 3 mining stages.

The individual surveys are confidential but copies of the questionnaires can be obtained. Expected completion date is not known; much interviewing has occurred during two summers but is not yet complete.

Contact the author or Dr. Daniel Badger, Department of Agricultural Economics, Oklahoma State University, Stillwater, OK 74074.

121. Obiechina, C. O., and D. D. Badger, 1978, Some economic and environmental issues involved in the reclamation of coal-mined land in eastern Oklahoma: presented at the 67th Annual Meeting of the Oklahoma Academy of Science, Oklahoma State University, November 3, 1978, Professional Paper P-621 of the Oklahoma Agricultural Experiment Station, 13 p.

Data assembled from surveys of Rogers, Craig, Nowata, and Okmulgee County professionals, local government officials, land-owners, and coal company operators. Compares economic and environmental impacts (about 35 different parameters) for 4 alternative reclamation strategies. The impacts are given scores based on interviewees' responses, which are used to represent society's values.

Available from Dr. Daniel D. Badger, Department of Agricultural Economics, Oklahoma State University, Stillwater, OK 74074

122. Oklahoma Biological Survey and Oklahoma State University School of Biological Sciences, [1977], A report on the threatened and endangered plant species in the BLM southeast Oklahoma study area: Project No. NM-010-PH7-1142; submitted to the Bureau of Land Management, Albuquerque District Office, 123 p., 35 figs., bibliography.

Study area includes all or parts of Atoka, Choctaw, Coal, Haskell, Latimer, Le Flore, McCurtain, Pittsburg, and Pushmataha Counties. Using a literature survey, herbarium search and correspondence, the report provides information about plant habitat, specimens examined, and pertinent literature. Dot distribution maps show counties where threatened or endangered species exist, and line drawings picture each plant species.

Order from: U.S. Bureau of Land Management, P.O. Box 6770, Albuquerque, NM 87107.

Reproduction cost: 123 pages @ .10 each = \$12.30

Reproduction time: less than 1/2 hour



123. Oklahoma Biological Survey and Oklahoma State University School of Biological Sciences, 1978, Field study of the threatened and endangered plants of southeastern Oklahoma: Project No. YA-512-CT7-258; submitted to the Bureau of Land Management, Albuquerque District Office, 65 p., 4 maps, 5 charts.

A detailed study undertaken in the federal coal reserve counties (Atoka, Coal, Haskell, Latimer, Le Flore, Pittsburg) to determine the presence of any threatened or endangered plant species. Used field inventory, literature search, and herbarium specimens to determine species presence and environmental requirements. An appendix map names, describes, and locates species distributions. Text summarizes field and herbarium data, plant habitat requirements, relation of plant species to disturbance, population condition, species status, and, finally, makes recommendations. Includes photographs of plant species and legal descriptions of investigated sites. Part of a large effort by the BLM to assess the impacts of further coal mining on the federal coal lands in Oklahoma.

Order from: U.S. Bureau of Land Management, Albuquerque District Office, P.O. Box 6770, Albuquerque NM 87107.

Reproduction cost: 65 pages @ .10 each = \$6.50

Reproduction time: less than 1/2 hour

124. Oklahoma City Geological Society, 1974, Oklahoma and the world energy crisis: Shale Shaker, v. 25, p. 9-16, 8 figs., 1 table.

Discusses projected coal production, conflicting views of two Oklahoma Energy Advisory Council committees on the need for reclamation laws, and lists 18 state environmental rules and regulations applicable to Oklahoma. List does not include the Mining Lands Reclamation Acts of 1968 and 1971.

Reproduction cost: 8 pages @ .10 each = \$0.80

Reproduction time: less than 1/2 hour

125. Oklahoma Department of Mines and Southeastern State Oklahoma University, in preparation [1979], Oklahoma state mining and reclamation plan: approximately 12 volumes, 2200 p.

Plan assembles documents and information required by Public Law 95-87 for regulating coal exploration, surface coal mining, and reclamation operations on Oklahoma's non-federal lands. Program contents include copies of applicable state laws, supporting agreements, descriptions of proposed systems of operation, statistical data, job descriptions and titles of program staff, copy of operating budget, physical resources, etc.

Will be available for inspection at Oklahoma Department of Mines, 4040 N. Lincoln, Oklahoma City, OK 73105

126. Oklahoma Energy Advisory Council, 1974, Energy in Oklahoma: 2 vols., 336 p., 74 figs., 53 tables.

One section of the 2-volume work discusses the supply, location, and description of individual coals in Oklahoma, mining activities, and projected future demands for coal. Appendix A summarizes by coal company, the history and location of mines operating in 1973. The report of the Committee on Environmental Aspects (vol. 2) discusses the need for a strong strip-mine-reclamation law, and the effects of coal extraction upon the land, air, and water.

Order from: Governor's Office, State Capitol, Oklahoma City,  
OK 73105

127. Oklahoma Tourism and Recreation Department, 1974, Research statement on the recreational potential of Oklahoma's orphan and reclaimed mined lands: done as part of the Oklahoma Statewide Comprehensive Outdoor Recreation Planning Program, 16 p., 4 figs., 2 tables, bibliography.

This report consists of two parts: first, a discussion of the characteristics (topography, surface water impoundments, water quality, vegetation, accessibility, etc.), mining methods, and reclamation of Oklahoma strip mines; and secondly, recommendations for developing the spoil banks and strip lakes for recreational use (includes acquisition and management of the mined land). Appendix is a list of coal and copper mining companies in Oklahoma operating in 1974.

Available from the Oklahoma Tourism and Recreation Department, 500 Will Rogers Building, Oklahoma City, OK 73105.

128. Oklahoma Water Resources Board, 1969-1971, Appraisal of the water and related land resources of Oklahoma [by region].

Regions 5 and 6: 1969, Oklahoma Water Resources Board Publication 27, 159 p., 1 fig., 27 sketch maps, 18 tables. Includes Pushmataha, Choctaw, McCurtain, Coal and parts of Bryan, Johnston, Pontotoc, Hughes, Pittsburg, Atoka, Le Flore, and Latimer counties.

Region 7: 1970, Oklahoma Water Resources Board Publication 29, 141 p., 2 figs., 29 sketch maps, 15 tables. Includes parts of Le Flore, Latimer, Pittsburg, McIntosh, Haskell, Muskogee, and Sequoyah counties.

Region 8: 1971, Oklahoma Water Resources Board Publication 34, 141 p., 2 figs., 28 sketch maps, 17 tables. Includes Cleveland, Pottawatomie, Seminole, Okfuskee, and parts of Pontotoc, Garvin, McClain, Oklahoma, Logan, Lincoln, Creek, Okmulgee, McIntosh, and Hughes counties.

Region 9: 1971, Oklahoma Water Resources Board Publication 36, 149 p., 7 figs., 28 sketch maps, 21 tables. Includes Ottawa, Craig, Nowata, Washington, Tulsa, Rogers, Mayes, Delaware, Wagoner, and parts of Osage, Creek, Okmulgee, Muskogee, Cherokee and Adair counties.

Each volume in this series has a thorough but brief discussion of surface resources and their uses in that particular region, including many maps, tables, and graphs. Covers history, geology, soils, climatology, surface water, watershed protection and flood prevention, flooding, ground water, water quality, agricultural trends, manufacturing and industry, population and employment trends, economic geology, recreation and wildlife, among others.

Reproduction cost: approximately 150 pages per volume

@ .10 per page = \$15.00 per volume

Reproduction time: less than 1/2 hour per volume

129. Padgett, Ward, 1978, Annual report: Oklahoma Department of Mines, 54 p.

Summary of all mining activities in state, including historical production data. Contains short discussion of state reclamation activity. Sketch map of eastern Oklahoma coal field and areas that have been disturbed by surface coal mining. Has a directory listing coal company, mine, nearest town, name and address of mine company official, type of mining, coal seam name and thickness. Issued each year.

Order from: Oklahoma Department of Mines, 4040 N. Lincoln,  
Oklahoma City, OK 73105

130. Reed, E. W., S. L. Schoff, and C. C. Branson, 1955, Ground-water resources of Ottawa County: Oklahoma Geological Survey Bulletin 72, 203 p., 14 figs., 1 map, 14 tables, bibliography.

Discusses the water-bearing character of Ottawa County geologic formations, and the occurrence, behavior and utilization of groundwater. Tables show well log data and records of wells investigated.

Order from: Oklahoma Geological Survey, University of  
Oklahoma, 830 Van Vleet Oval, Room 163,  
Norman, OK 73019

Cost: clothbound, \$2.25; paperbound \$1.75

131. Richard J. Bigda and Associates, 1976, Abandoned coal mines as a water resource, McAlester and Pittsburg County: Tulsa, Richard J. Bigda and Associates, 52 p., 14 maps, 15 tables.

Survey designed to determine the feasibility of using the water found in abandoned underground coal mines in McAlester and Pittsburg County. Gives chemical analyses of water from 7 mines. Sketch maps showing mine locations appear to be photocopies of parts of T. A. Hendricks' coal map of the McAlester district, done in 1935.

Order from: Richard J. Bigda and Associates, 6216 So. Lewis Ave., Tulsa, Ok 74135

Cost: paperbound, \$5.40

132. Robison, C. R., 1978, A survey of the paleontological resources of southeastern Oklahoma: final report to the U.S. Bureau of Land Management, 146 p., 12 figs., 3 sketch maps, bibliography.

Using published and unpublished literature, aerial photographs and field investigation, Robison presents data on the location, quantity and quality of paleontological resources in the federal coal reserves of southeastern Oklahoma. Recommends measures to be taken during surface mining to avoid unnecessary destruction of fossils. The bibliography includes what the author believes to be the greater portion of the relevant literature from 1890-1978. Appendix A lists 212 localities (including old strip mines) by legal description, and gives stratigraphic data, mapping information, and lists fossils and locations of special fossil significance; Appendix B lists topographic sheets used in the study. Counties covered are Haskell, Pittsburg, Latimer, Le Flore, Coal and Atoka.

Available for inspection at the U.S. Bureau of Land Management, Oklahoma Project Office, 200 NW 5th, Room 548, Oklahoma City, OK 73102.

133. Rogers, N. F., 1951, Strip-mined lands of the western interior coal province: Missouri Agricultural Experiment Station, Research Bulletin 475, 55 p., 22 figs., 10 tables, bibliography.

Briefly discusses the strip-mining history of the Western Interior Coal Province, giving numbers of known operators and acreages mined. A thorough discussion of strip-mining covers topography, texture, acidity, nutrient content, weathering, plant cover, and correlation of coal seams in the 5-state province. The tables and figures that include data on Oklahoma provide descriptions and chemical analyses of selected coals, particle size within spoil banks, mined coal seams, and proportion of strip-mined land by vegetation class. Discusses use of mined lands. Three appendices list forest plantations, natural forest stands, and orchards and pastures found on Oklahoma strip-mined lands in 1946.

Reproduction cost: 55 pages @ .10 each = \$5.50

Reproduction time: less than 1/2 hour

134. Russell, D. T., 1958, Surface geology of the Robbers Cave-Lodi area, Latimer County, Oklahoma: University of Oklahoma unpublished M.S. thesis, 105 p., 24 figs., 3 plates, bibliography.

Discusses stratigraphy and lithology, structure, geologic history and economic geology of most of northern Latimer County. Text mentions location of various strip pits, which are also shown on the geologic map (scale 3" = 2 mi.).

Reproduction cost: 105 pages @ .10 each = \$10.50

Reproduction time: less than 1/2 hour

135. Russell, D. T., 1960, Geology of northern Latimer County, Oklahoma: Oklahoma Geological Survey Circular 50, 57 p., 12 figs., 1 map.

A report on the general geology of the northern one-third of Latimer County, which occasionally mentions coal bed locations and outcrops. Geologic map (scale 1:24,000) shows location of strip pits as of 1959.

Order from: Oklahoma Geological Survey, University of Oklahoma, 830 Van Vleet Oval, Room 163, Norman, OK 73019.

Cost: clothbound, \$2.50; paperbound, \$2.00.

136. Ryan, F. L., 1935, The rehabilitation of Oklahoma coal mining communities: Norman, University of Oklahoma Press, 120 p., 16 tables, 3 sketch maps, bibliography.

An Oklahoma coal mining history, 1873-1935, that includes various small-scale maps and tables. Discusses social, political and economic patterns, and gives 2 programs for rehabilitation. Pages 92-93 mention a program in 1933-34 in which 140 men were employed to fill in strip pits between Krebs and Adamson, and south of Haileyville (115 old shafts and slopes enclosed, 509 old openings filled, 18,378 feet of old strip pits drained and reconditioned, and 31,110 feet of ditches dug).

Reproduction cost: 120 pages @ .10 each = \$12.00

Reproduction time: less than 1/2 hour

137. Schnell, G. D., F. L. Johnson, and J. L. Gentry, Jr., 1979, Flora and fauna of Oklahoma abandoned mine lands: a grant from the Oklahoma Conservation Commission to the Oklahoma Biological Survey, 132 p., figs., tables, bibliography.

A report whose summary will be the basis for the biological-resources section of Oklahoma's Abandoned Mine Lands Program. Discusses terrestrial plants, aquatic plants, mammals, birds, amphibians and reptiles, fishes, endangered and threatened species, and the biological effects of past mining. Includes numerous species lists. Used in-house data and information, as the grant did not support field work.

Available from the Oklahoma Biological Survey, University of Oklahoma, Norman, OK 73019.

138. Sparks, B. J., 1955, The geology of the Marmaton Group of northeastern Rogers County, Oklahoma: University of Oklahoma unpublished M.S. thesis, 66 p., 18 figs., 2 plates, bibliography.

Report provides detailed stratigraphic information in the text and in 18 measured sections. Iron Post and Dawson coals and their mining along an outcrop are described in one paragraph. The geologic map (scale 3" = 2 mi.) shows Dawson coal outcrops and several large stripped areas.

Reproduction cost: 66 pages @ .10 each = \$6.60

Reproduction time: less than 1/2 hour

139. Spess, R. D., 1975, Revegetation of strip mine spoils: Oklahoma State University unpublished M.S. thesis, 66 p., 21 figs., 8 tables, bibliography.

Study of revegetation on coal spoils, with conclusions based mainly on greenhouse experiments using spoil material from near Stigler (Haskell County), and on a 2-year field test on a partially levelled spoil bank, also near Stigler. Seven species of grass and 4 of legumes were tested in both places with varying combinations and amounts of fertilizer. Topgrowth mean dry weights are measured and compared for the greenhouse-grown plants; growth in the field tests ranked the species qualitatively for field conditions. Spess checked the literature on revegetation, finding very little pertaining explicitly to Oklahoma mined lands. He discusses many spoil bank conditions, including acidity, nutrients, particle sizes, weathering, topography, stability, erosion and sedimentation, microclimate, grading, structure, fauna and flora. Figures include 6 photos.

Reproduction cost: 66 pages @ .10 each = \$6.60

Reproduction time: less than 1/2 hour

140. Stewart, Francis, Jr., 1949, A map of portions of Muskogee and McIntosh Counties, Oklahoma, with special reference to the Inola Limestone and Secor Coal: University of Oklahoma unpublished M.G.E. thesis, 81 p., 16 figs., 3 plates, 3 tables, bibliography.

Describes geology, stratigraphy, sedimentation, structure of coal-bearing formations, and locates and describes coal occurrences, thicknesses and mines. Measured sections show thicknesses and stratigraphic location of coals. Geologic map (3" = 2 mi.) shows location of strip pits with symbols.

Reproduction cost: 81 pages @ .10 each = \$8.10

Reproduction time: less than 1/2 hour

141. Stine, J. G., 1958, Geology of southern Muskogee County, Oklahoma: University of Oklahoma unpublished M.S. thesis, 89 p., 9 figs., 2 plates, bibliography.

Report describes area's geology, with emphasis on stratigraphy and lithology. Chapter on economic geology locates and describes former strip-mined areas and their coal. Appendix contains 28 measured sections. Strip pits and coal exposures are shown on the geologic map (scale 3" = 2 mi.).

Reproduction cost: 89 pages @ .10 each = \$8.90

Reproduction time: less than 1/2 hour

142. Stringer, R. S., 1959, The geology of the Krebs Group, Inola area, Rogers and Mayes Counties, Oklahoma: University of Oklahoma unpublished M.S. thesis, 63 p., 22 figs., 2 plates, bibliography.

Describes the stratigraphy, historical, structural, and economic geology of part of southeast Rogers and southwest Mayes Counties. Text mentions the location of strip pits. Includes 10 measured sections. Geologic map (3" = 2 mi.) shows coal exposures and areas stripped for coal.

Reproduction cost: 63 pages @ .10 each = \$6.30

Reproduction time: less than 1/2 hour

143. Taff, Joseph, 1899, Geology of the McAlester-Lehigh coal field, Indian Territory: U.S. Geological Survey, 19th Annual Report, Part 3, p. 423-583, 3 figs., 8 plates.

Describes the geology, structure, distribution, and composition of various coals found in parts of Coal, Atoka, and Pittsburg Counties. Illustrated with photographs of fossil plants and invertebrates found within the coal.

Reproduction cost: 161 pages @ .10 each = \$16.10

Reproduction time: less than 1/2 hour



144. Taff, J. A., 1902, The southwestern coal field: U.S. Geological Survey, 22nd Annual Report, Part 3, p. 367-413, 2 figs., 3 plates, 13 tables.

Describes geologic setting, and workable, commercial-size coal beds of eastern Oklahoma. Lists coal thickness and composition at various sites. A table lists company, mine, mine location, railroad station, name of coal bed worked and its thickness. Also reports on Arkansas and Texas coals.

Reproduction cost: 47 pages @ .10 each = \$4.70

Reproduction time: less than 1/2 hour

145. Taff, Joseph, 1905, Progress of coal work in Indian Territory: U.S. Geological Survey Bulletin 260, p. 382-401, maps, tables.

Describes the location, extent and stratigraphy of the coal fields, the character and extent of the coal beds, and summarizes coal developments during the year 1903-1904. Includes maps of both the northeast quarter and of the south-central part of Oklahoma. A 3-page table lists coal operators, shipping points, coal beds, number of mines, thickness of coal, depth of shaft, length of slope, and output.

Reproduction cost: 20 pages @ .10 each = \$2.00

Reproduction time: less than 1/2 hour

146. Taff, J. A., and G. I. Adams, 1900, The geology of the eastern Choctaw coal field: U.S. Geological Survey, 21st Annual Report, Part 2, p. 257-311, 7 figs., 3 maps, 2 tables.

Detailed description of the physiography, stratigraphy and structure of part of southeast Oklahoma (Le Flore, Haskell, Latimer, Pittsburg, Atoka, Coal and Hughes Counties). Describes several coal layers, the mining districts' development, and coal analyses. Provides sketch maps and cross-sections. Table lists 24 mines by township, range and section, giving company name, mine name, coal and its thickness, when mine opened, output during 1895-1899, total output, and remarks.

Reproduction cost: 55 pages @ .10 each = \$5.50

Reproduction time: less than 1/2 hour

147. Tillman, J. L., 1952, Geology of the Tiawah area, Rogers and Mayes Counties, Oklahoma: University of Oklahoma unpublished M.S. thesis, 65 p., 32 figs., 2 plates, bibliography.

This surface study of southern Rogers and west-central Mayes Counties discusses stratigraphy, regional and economic geology. Also describes and locates coal seams and strip pits. The appendix includes 20 measured sections, the geologic map (3" = 1 mi.) shows strip pits.

Reproduction cost: 65 pages @ .10 = \$6.50

Reproduction time: less than 1/2 hour

148. Trumbull, J. V. A., 1957, Coal resources of Oklahoma: U.S. Geological Survey Bulletin 1042-J, p. 307-382, 7 figs., 2 plates, 8 tables, bibliography.

Describes the stratigraphy, structure, and mining of the eastern Oklahoma coal field. Provides estimates of original coal reserves (based on coal beds 14" or thicker and within 3000 feet of the surface), and remaining reserves in 1953, using all available information. Table 2 summarizes by rank, county and coal bed an estimate of remaining Oklahoma coal reserves as of January 1, 1953. Text mentions where stripping had occurred by 1957. The map pocket contains a plate showing the stratigraphic position of Oklahoma coal beds, and generalized maps of various scales showing important coal beds. This report is frequently cited by others.

Reproduction cost: 76 pages @ .10 = \$7.60

Reproduction time: less than 1/2 hour

149. U.S. Bureau of Land Management, 1975, Southeastern Oklahoma coal region, environmental analysis record: Albuquerque district, BLM EAR No. 30-010-5-56, attachment 1, 173 p., 15 figs., 8 tables, bibliography.

Describes the existing environment on the federal coal lands in southeastern Oklahoma, including air, land, water, plants, animals, ecological interrelationships, and human values. Analyses the impact of anticipated coal development on each environmental component, possible mitigating or enhancing measures, and residual impacts. Includes two pages on Oklahoma unreclaimed mined lands.

Available from U.S. Bureau of Land Management, Oklahoma Project Office, 200 N.W. 5th, Room 548, Oklahoma City, OK 73102.

150. U.S. Bureau of Land Management, 1977, A social-economic profile of southeastern Oklahoma: 181 p., 80 tables, bibliography.

Provides detailed descriptions of social factors and infrastructure. Discusses resource industries of the southeast quarter of Oklahoma, including data on remaining coal resources, production, employment and wages, both in the general area and on the federal coal leased lands.

Available from U.S. Bureau of Land Management, Oklahoma Project Office, 200 N.W. 5th, Room 548, Oklahoma City, OK 73102.

151. U.S. Bureau of Land Management, 1977, Land use analysis, southeast Oklahoma, Planning Unit 1-08: 70 p., 7 illus., 14 tables, bibliography.

Describes the economic significance, population, land use demand, and special land uses in southeastern Oklahoma. In six pages it discusses leasable, locatable and salable minerals, their present and future significance to the region, and reclaimed areas. Analyzes social values, and describes infrastructure and BLM relationships. Mentions environmental aspects (wildlife and vegetation), and other problems and issues.

Available at U.S. Bureau of Land Management, Oklahoma Project Office, 200 N.W. 5th, Room 548, Oklahoma City, OK 73102.

152. U.S. Bureau of Land Management, 1978, Draft technical examination and environmental assessment record on proposed leasing of coal - competitive lease application (NM 24005): Albuquerque district, Oklahoma Project Office, 176 p., 3 figs., 8 maps., 5 tables, bibliography.

Environmental analysis record for 200 acres north of McCurtain (Haskell County) on which BLM holds coal rights. Includes a description of the proposed action and alternatives, a description of the existing environment, analysis of the proposed action, environmental impacts of alternatives, and various supporting information.

Reproduction cost: 176 pages @ .10 each = \$17.60

Reproduction time: less than 1/2 hour

153. U.S. Geological Survey, 1937-1939, Geology and fuel resources of the southern part of the Oklahoma coal field: U.S. Geological Survey Bulletin 874, 300 p., illus.

874-A, Part 1. The McAlester District; Pittsburg, Atoka and Latimer Counties, 1937, by T. A. Hendricks, 90 p., 5 figs., 2 maps, 8 plates.  
874-B, Part 2. The Lehigh District; Coal, Atoka and Pittsburg Counties, 1937, by M. M. Knechtel, 59 p., 2 figs., 1 map.  
874-C, Part 3. The Quinton-Scipio District; Pittsburg, Haskell and Latimer Counties, 1938, by C. H. Dane, H. E. Rothrock, and J. S. Williams, 104 p., 4 figs., 5 maps, 10 plates.  
874-D, Part 4. The Howe-Wilburton District; Latimer and Le Flore Counties, 1939, by T. A. Hendricks, 47 p., 6 figs., 1 map, 8 plates.

Each part discusses stratigraphy, geologic structure, and mineral resources, including coal. Describes the coal beds, locations of mines, chemical analyses, production figures for 1880-1927, and mining methods. Coal outcrop maps (scale 1:63,360) also show location of various kinds of coal mines and limits of mine workings. Another map, scale 1:63,360, shows geology and structure.

Reproduction cost: Part 1, 90 pages @ .10 each = \$9.00;  
8 plates @ \$1.00 each = \$8.00  
time: less than 1/2 hour  
Reproduction cost: Part 2, 59 pages @ .10 each = \$5.90  
time: less than 1/2 hour  
Reproduction cost: Part 3, 104 pages @ .10 each = \$10.40;  
10 plates @ \$1.00 each = \$10.00  
time: less than 1 hour  
Reproduction cost: Part 4, 47 pages @ .10 each = \$4.70;  
8 plates @ \$1.00 each = \$8.00  
time: less than 1/2 hour

154. U.S. Senate, 1910, Coal lands in Oklahoma: U.S. Senate, 61st Congress, 2nd session, Senate Document No. 390, 374 p., 9 plates.

An exhaustive early investigation, requested by the Secretary of the Interior, of the character, extent, and value of the coal deposits in the segregated coal lands of the Choctaw and Chickasaw Nations, Indian Territory. Includes the first five Circulars of the U.S. Department of the Interior, which provide detailed information by mining district.

Circulars give a description, analysis, location of each coal on leased tracts, and plates (1:63, 360) show lands leased and not leased, towns, coal outcrops, mines and mine prospects. Other text provides data on leased and unleased coal-bearing tracts, drilling operations, tonnage mined from segregated lands, and coal reserves of the southeast quarter of Oklahoma. Includes

correspondence between the Five Civilized Tribes and the Secretary of the Interior. Plates (scale 1:63,360) show lands leased and not leased, towns, coal outcrops, mines and mine prospects. The five circulars covering the Oklahoma coal field are also listed under J. A. Taff, 1904, in the "Combined (Graphic, Tabular, and Narrative)" portion of this bibliography.

Reproduction cost: 374 pages @ .10 each = \$37.40

9 plates @ \$1.00 each = \$9.00

Reproduction time: approximately 1-1/2 hours

155. U.S. Soil Conservation Service, various years, Soil Survey of \_\_\_\_\_ (county) \_\_\_\_\_, Oklahoma: approximately 100 p., maps, tables.

Atoka County, in preparation.

Coal County, 1974.

Craig County, 1973.

Creek County, 1959.

Haskell County, 1975.

Hughes County, 1968.

Latimer County, not published.

Le Flore County, 1931.

Mayes County, 1975.

McIntosh County, 1933.

Muskogee County, not published.

Nowata County, 1979.

Okfuskee County, 1940.

Okmulgee County, 1968.

Ottawa County, 1960.

Pittsburg County, 1971.

Rogers County, 1966.

Sequoyah County, 1970.

Tulsa County, 1977.

Wagoner County, 1976.

Washington County, 1968.

Each survey gives descriptions of the different soil series, and remarks on the use and management of the soils for cultivated crops, range, wildlife, woodlands, and engineering uses. Text includes some general facts about the county, especially climate, and contains a colored, general soils map, scale 1 inch = 3 miles. Each soil survey also contains soils maps drawn on 1:20,000-scale aerial photographs, for that entire county. Strip mine spoil banks and surface water impoundments are visible, and in some surveys marked as such. Pre-1960 surveys do not have these 1:20,000 aerial photos; instead there is a 1 inch = 3 miles soils map. However, many of these old surveys are being redone and some new versions are nearly complete.

Order from: The District Conservationist for each county  
in the coal field: see Appendix A for addresses.

156. U.S. Soil Conservation Service, 1978, Soil survey legends for important farmlands of the western interior coal province of Oklahoma: 54 p., 2 sketch maps. (See annotation for U.S. Soil Conservation Service, Important Farmland Maps, in "Graphics" of this bibliography.)

Intended for use with published S.C.S. soil survey maps for locating prime farmland areas in 21 Oklahoma coal counties. Includes a sketch map of Oklahoma showing the approximate percentage and approximate acreage of prime farmlands in each county. Sketch map of Oklahoma coal counties and counties where possible coal mining may occur (24 counties) does not include Sequoyah County. Also included are soil survey legends designating each soil type as Prime Farmland, or as Additional Farmland of State or Local Importance.

Available from: U.S. Soil Conservation Service, State Office, Stillwater, OK 74074.

157. Vanderpool, R. E., 1960, Geology of the Featherston area, Pittsburg County, Oklahoma: Oklahoma Geological Survey Circular 53, 36 p., 10 figs., 1 map, bibliography.

A general geological report on northeastern Pittsburg County, describing the stratigraphy, structural geology, geological history, and economic geology. Text also discusses coal seams, outcrops and mining locations. Appendix contains 12 measured sections. Geologic map (3" = 2 mi.) shows coal seams.

Reproduction cost: 36 pages @ .10 each = \$3.60

Reproduction time: less than 1/2 hour

158. Weaver, O.D., Jr., 1954, Geology and mineral resources of Hughes County, Oklahoma: Oklahoma Geological Survey Bulletin 70, 150 p., 13 figs., 4 plates, 6 tables, bibliography.

A study of the general geology of Hughes County, covering surface stratigraphy and structure. Discusses coal in one paragraph under the mineral resources section. Contains various plates, including a mineral resources map (1" = 16,000 ft.) of Hughes County that shows location of one coal pit in 1954. There is also a 1:63,360 geologic map.

Order from: Oklahoma Geological Survey, University of Oklahoma, 830 Van Vleet Oval, Room 163, Norman, OK 73019.

Cost: clothbound, \$2.60; paperbound, \$2.10

159. Webb., P. K., 1960, Geology of the Cavanal syncline, Le Flore County, Oklahoma: Oklahoma Geological Survey Circular 51, 65 p., 1 fig., 1 map, bibliography.

A general geological study of part of Latimer and Le Flore Counties. Describes coal seams and mentions that some mining has occurred. Geologic map (scale 3" = 2 mi.) shows coal outcrops but no strip pits.

Order from: Oklahoma Geological Survey, University of  
Oklahoma, 830 Van Vleet Oval, Room 163,  
Norman, OK 73019

Cost: clothbound, \$1.75; paperbound, \$1.25

160. Williams Brothers Engineering Company, 1972, Solid waste management study for the INCOG region, phase 1: U.S. Department of Housing and Urban Development grant, Project No. USE-OK-06-56-0002, 140 p., 40 figs., 10 sketch maps, 9 tables.

Reviews and recommends systems for the management of solid-waste production, storage, collection, transportation, processing, disposal, or utilization, in each town or city in Tulsa, Creek, and Osage Counties. Mentions that Pawhuska, Broken Arrow, Collinsville, and Tulsa use abandoned strip mines for solid waste disposal. Describes location, estimated remaining volume, equipment, number of employees, method of using spoil banks, and soil for one or more of the disposal sites.

Available for inspection at Oklahoma Department of Economic and Community Affairs, 5500 N. Western, Oklahoma City, OK 73122.

161. Williams, C. E., 1978, The economic potential of the Lower Hartshorne coal on Pine Mountain, Heavener, Oklahoma: Oklahoma State University unpublished M.S. thesis, 109 p., 10 figs., 5 plates, 12 tables, bibliography.

A report on the geology of the Lower Hartshorne coal in an area of about four square miles southwest of Heavener, Le Flore County, which is based on field work, air photos, drill log data, and coal chemical analyses. Pocket contains maps showing structural contours, coal thickness, overburden thickness, and sandstone thickness in the area.

Reproduction cost: 109 pages @ .10 each = \$10.90; 5 plates @ \$1.00 each = \$5.00

Reproduction time: less than 1 hour

162. Wilson, C. W., Jr., and N. D. Newell, 1937, Geology of the Muskogee-Forum district, Muskogee and McIntosh Counties, Oklahoma: Oklahoma Geological Survey Bulletin 57, 184 p., 5 figs., 7 plates, 10 tables.

Describes the stratigraphy, paleontology, structure, economic geology, and mineral resources of Muskogee and northeastern McIntosh Counties. Correlates and details the distribution and thickness of coal beds by township, range, and section. Provides chemical analyses, and mentions numerous mine locations. Appendix A charts preliminary water well data from many wells. Appendix B provides 82 measured sections. The geologic map (scale 1:62,500) shows strip pits and coal exposures.

Reproduction cost: 184 pages @ .10 each = \$18.40;  
7 plates @ \$1.00 each = \$7.00

Reproduction time: less than 1 hour



b. Tabular

Reports Generally Available

163. Goemaat, R. L., 1976, Ground-water levels in observation wells in Oklahoma, 1971-74; U.S. Geological Survey Open-File Report 76-664, 142 p., 1 fig., 1 table.

Counties in coal area having ground water observation wells during 1971-74 were Rogers (1), Tulsa (1), Wagoner (4), Creek (2), Okfuskee (1), Okmulgee (1), Muskogee (5), Sequoyah (4), Hughes (1), Pittsburg (1), Latimer (1), Le Flore (3), Atoka (1). Some wells were measured every five days for entire period, some discontinued after one or two measurements. Table describes well, gives owner, and lists observation date, and water level.

Available from: U.S. Geological Survey, Water Resources Division, 201 NW 3rd, Room 621, Oklahoma City, OK 73102.

164. Goematt, R. L., and D. E. Spiser, 1978, Selected water-level records for Oklahoma, 1975-1977: U.S. Geological Survey Open-File Report 78-721, in cooperation with the Oklahoma Water Resources Board, 54 p., 1 table.

Includes data for all counties in Oklahoma coal region, except Tulsa County. Each county has only one well. Table shows well location, principal aquifer, water level, and water level change. Part of long-term project to collect water level data; data have been collected since 1935, and are available from yearly U.S.G.S. Open-File Reports (1956-76) and from Water Supply Papers (1935-74).

Available from: U.S. Geological Survey, Water Resources Division, 201 NW 3rd, Room 621, Oklahoma City, OK 73102.

165. Havens, J. S., 1978, Ground-water records for eastern Oklahoma, part 2, water-quality records for wells, testholes, and springs: U.S. Geological Survey, Open-File Report No. 78-357, 130 p., 1 table.

Provides both published and previously unpublished records for about 1740 wells, etc., in 39 counties of eastern Oklahoma, some collected since 1934. Organizes tabular data by county, and gives well location, depth, aquifer, collection date, and numerous chemical characteristics of the water when recorded.

Available from U.S. Geological Survey, Water Resources Division, 201 NW 3rd, Room 621, Oklahoma City, OK 73102.

166. Havens, J. S., and D. L. Bergman, 1976, Groundwater records for north-eastern Oklahoma, part 1, records of wells, test-holes, and springs: U.S. Geological Survey Open-File Report (not numbered), 100 p., 1 table.

Provides published and previously unpublished records of approximately 3360 wells in Craig, Creek, Mayes, McIntosh, Muskogee, Nowata, Okfuskee, Okmulgee, Ottawa, Rogers, Sequoyah, Tulsa, Wagoner, and Washington counties. Reports in tabular form, some data as early as 1934, well location, owner, year drilled, depth, diameter, depth to water, date measured, well yield, and aquifer.

Available from U.S. Geological Survey, Water Resources Division, 201 NW 3rd, Room 621, Oklahoma City, OK 73102.

167. Havens, J. S., and D. L. Bergman, 1976, Ground-water records for south-eastern Oklahoma, part 1, records of wells, test-holes, and springs: U.S. Geological Survey Open-File Report (not numbered), 59 p., 1 table, bibliography.

Reports both published and unpublished records of 1780 wells, testholes, and springs in 16 counties of southeastern Oklahoma, including these coal counties: Hughes, Pittsburg, Haskell, Latimer, Le Flore, Coal and Atoka. Within counties, the wells are located by township, range and section. Data collection began in some counties as early as 1934, and provides information about owner, year drilled, depth, water use, well diameter, depth to water, date measured, well yield, aquifers, altitude of land surface, and miscellaneous remarks.

Available from U.S. Geological Survey, Water Resources Division, 201 NW 3rd, Room 621, Oklahoma City, OK 73102.

168. Stoner, J. D. (compiler), 1977, Index of published surface-water-quality data for Oklahoma, 1946-1975: U.S. Geological Survey Open-File Report 77-204, 212 p., 3 figs., 4 tables.

Information covers entire state, with data collection at some places starting as early as 1946. Has 2733 station-years of data from 527 stations. Frequency of collection ranged from one sample from a station once in 30 years to a continuously operating station where more than 100 samples were taken in a year. This index shows, by downstream order, county and alphabetically by stream or station name, what water quality information was collected in each year at each sampling station.

Order from: U.S. Geological Survey, Water Resources Division,  
201 NW 3rd, Room 621, Oklahoma City, OK 73102.

169. U.S. Geological Survey, 1947 to present, Water resources for Oklahoma, part 2. Water quality records: pages variable.

From 1947-62, data appeared yearly under the title "Oklahoma Water Resources Board Publications;" after 1962 it has been published under the U.S.G.S. title. Water quality data on chemical, physical and biological aspects of surface water are collected monthly or more often from designated sampling sites. These data become part of the U.S. Geological Survey's Water Supply Papers.

Order from: U.S. Geological Survey, Water Resources  
Division, 201 NW 3rd, Room 621, Oklahoma  
City, OK 73102.

c. Graphic

170. Friedman, S. A., 1977, Map of eastern Oklahoma showing active coal mines (January 1, 1977): Oklahoma Geological Survey, scale 1:500,000 1 sheet.

Shows location of surface and underground mines, coal preparation plants, and area of identified coal resources of the eastern Oklahoma coal region. Includes a tabulation of active coal mines and preparation plants, giving location, operator, mine or type of plant, description of mined coal, and annual production range.

Order from: Oklahoma Geological Survey, University of Oklahoma, 830 Van Vleet Oval, Room 163, Norman, OK 73019.

Cost: \$2.00

171. Hart, D. L., Jr., 1966, Base of fresh ground-water in southern Oklahoma: U.S. Geological Survey Map HA-223, prepared in cooperation with the Oklahoma Corporation Commission and Oklahoma Water Resources Board, scale 1:250,000, 2 sheets.

Area mapped on 1:250,000 topographic sheets with 100-foot contours includes all or parts of these Oklahoma coal-field counties: Atoka, Coal, Pittsburg, Hughes, Creek, Okfuskee, Okmulgee, and Tulsa. Areas covered in the coal field are on the Oklahoma City and Ardmore 1° x 2° quadrangles. Contour lines show altitude of base of fresh water; where data are too sparse, crosshatching across the townships is used to show altitude.

Order from: Branch of Distribution, U.S. Geological Survey, Box 25286, Federal Center, Denver, CO 80225.

Cost: \$1.25

172. Hendricks, T.A., 1935, Coal maps of the mining districts in Oklahoma: U.S. Geological Survey, 5 sheets.

Coal map of the Howe District, Le Flore and Latimer Counties, Oklahoma: scale 2 in. = 1 mi., 1 sheet.

Coal map of the Lehigh District, Coal and Atoka Counties, Oklahoma: scale 2 in. = 1 mi., 1 sheet.

Coal Map of the McAlester District, Pittsburg and Latimer Counties, Oklahoma: 2 in. = 1 mi., 1 sheet.

Coal Map of the Stigler-Poteau District, Pittsburg, Haskell, and Le Flore Counties, Oklahoma: 1 in. = 1 mi., 1 sheet.

Coal Map of the Wilburton District, Latimer County, Oklahoma: 2 in. = 1 mi., 1 sheet.

Each map shows outcrops of minable and thin coal beds, abandoned slope mines, abandoned shaft mines, operating slope mines, abandoned strip pits, limits of mine workings, and boundaries of segregated Indian coal lands as of 1935. Districts comprise only parts of the indicated counties.

Available for inspection at most major geological libraries.

173. Oklahoma Geological Survey, 1969, Hydrologic atlas 1, reconnaissance of the water resources of the Fort Smith quadrangle: Norman, University of Oklahoma, scale 1:250,000, 4 sheets.

Hydrologic Atlas 1 (HA-1) is the first of a series of maps depicting the general geology and hydrology of  $1^{\circ} \times 2^{\circ}$  quadrangles in Oklahoma. Maps now available in this series for the coal field include HA-1 (Fort Smith), HA-2 (Tulsa), HA-3 (Ardmore-Sherman), and HA-4 (Oklahoma City). Still to be released is HA-9 (McAlester-Texarkana). The maps graphically provide water-resource information on  $2^{\circ}$  U.S.G.S. quadrangles of the same names. Map sheet 1 for each quadrangle contains maps of bedrock geology, physiographic provinces, alluvium, terrace deposits of Quaternary age, an index to geologic mapping, and descriptions of water quality and water yield. Map sheet 2 shows availability of ground water and some representative hydrographs, using data from approximately 1000 wells and springs. Map sheet 3 shows chemical quality (hardness, sulfate, chloride, nitrate, total dissolved solids) of water, based on numerous water samples spread throughout quadrangle area. Map sheet 4 has a map (1:500,000) of precipitation isohyets, map (1:500,000) of gaging station locations, sampling sites and lakes, and tables summarizing streamflow records, chemical analyses of surface water, and the lakes of the quadrangle. (Until publication of the McAlester-Texarkana quadrangle, missing areas of the coal field include parts of Le Flore, Latimer, Pittsburg, and Atoka Counties.)

Order from: Oklahoma Geological Survey, University of  
Oklahoma, 830 Van Vleet Oval, Room 163,  
Norman, OK 73019

Cost: HA-1 and HA-2, \$3.00 per set; HA-3 and HA-4, \$5.00  
per set.

174. Oklahoma Geological Survey, The University of Oklahoma, and Phillips Petroleum Company, 1973, Energy-fuels map of Oklahoma: scale 1:2,000,000, 1 sheet.

Generalized small-scale map showing approximate area underlain by bituminous coal, as well as areas with oil and gas production, large oil fields, large gas fields, and natural-rock-asphalt deposits. Symbols show locations of 14 coal mines operated by 10 companies in 1973.

Available upon request from the Oklahoma Geological Survey, University of Oklahoma, 830 Van Vleet Oval, Room 163, Norman, OK 73019.

175. U.S. Agricultural Stabilization and Conservation Service county offices have black-and-white A.S.C.S. air-photo coverage (scale 1" = 660') of each respective county.

<u>County Office</u>	<u>Date Flown</u>	<u>No. photos in office</u>	<u>Photo size (in.)</u>
Atoka	10-68	268	24x24
Coal	11-27-68	145	22x22
Craig	10-23-64	211	24x24
	3-10-72	209	24x24
Creek	12-69	264	24x24
Haskell	3-17-73	167	24x24
Latimer	12-11-67	193	24x24
Le Flore	1-16-68	377	24x24
	11-19-69	377	24x24
Mayes	*	*	*
McIntosh	1967	250	24x24
Muskogee	4-72	250	24x24
Nowata	1972	158	16x16
Okfuskee	1968	179	24x24
Okmulgee	1970	200	24x24
Ottawa	1972	149	22x22
Pittsburg	*	*	*
Rogers	1964	204	24x24
	1972	204	24x24
Sequoyah	10-64	200	22x22
	4-72	200	22x22
Tulsa	*	*	*
Wagoner	*	*	*

\*Information not available

The photos may be examined in each county A.S.C.S office (see Appendix B for addresses), or may be ordered.

Order from: Aerial Photography Field Office, Agricultural Stabilization and Conservation Service - U.S. Department of Agriculture, 2222 W. 2300 South, P.O. Box 30010, Salt Lake City, UT 84125.

Cost: \$7.00 per photo, for 24x24 enlargement; also available at \$2.00 per photo for 9x9 contact print (3.2" = 1 mi.)

176. U.S. Bureau of Land Management has a complete set of 9"x9" color infrared air photos covering the federal coal lands in southeastern Oklahoma.

These photos are at a scale of approximately 1:24,000, and are from a 1977 flight. They show variations in water quality, lands that have been mined, reclaimed, or left orphaned, healthy and unhealthy vegetation, etc. Organized by township and range, they occupy 3 office file drawers. Each file contains a diagram of the flight path on a township and range grid. The federal coal lands cover parts of Atoka, Coal, Latimer, Le Flore, Haskell, and Pittsburg Counties.

Files are located in U.S. Bureau of Land Management office, 200 N.W. 5th St., Room 548, Oklahoma City, OK 73102.

Order copies from: U.S. Bureau of Land Management,  
Denver Service Center, Denver  
Federal Center, Bldg. 50, Denver,  
CO 80225

Cost: \$5.50 each

177. U.S. Bureau of Mines, various years, Mine map repository (MMR):  
Denver, Intermountain Field Operations Center, 5 reels of 35mm microfilm.

Five reels of 35mm microfilm show copies of Oklahoma underground-coal-mine maps held by the Oklahoma Department of Mines and other agencies and companies. An index to the mines shown on microfilm is also on the reels. Reels do not contain maps of currently active mines. Maps are of variable scales, and were submitted for inclusion in the repository by the agencies and companies.

Microfilm is available from U.S. Bureau of Mines,  
Intermountain Field Operations Center, Building 20,  
Denver Federal Center, Denver, CO 80225.

178. U.S. Fish and Wildlife Service, 1975, Index of selected aerial photography of the United States, prepared for the National Wetland Inventory, Region 2, Arizona, New Mexico, Oklahoma, Texas: 9 p.

Photography indexed on 1:750,000 scale maps of these states. Some of the criteria for inclusion were that the photos be from 1:24,000 to 1:130,000 scale, zero percent cloud cover, and no duplication of geographic coverage. Aerial photography acquired prior to 1970, or after September 1975 (for EROS data) or after February 1976 (other sources) not included.

Indexed coverage includes some or all of Ottawa, Mayes, Wagoner, Muskogee, Sequoyah, Le Flore, Latimer, McIntosh, Hughes, and Pittsburg Counties in Oklahoma's coal area. Gives type of coverage, film source, photo/scene ID, quality, percent cloud cover, date, etc.

Available from: U.S. Fish and Wildlife Service, Southwest Region, U.S. Court House, 500 Gold Ave., Albuquerque, NM 87103

179. U.S. Geological Survey, EROS Data Center, numerous years, EROS Data Center stores and reproduces National Aeronautic and Space Administration's Landsat imagery, aerial photography acquired by the U.S. Department of the Interior, and photography and imagery acquired by NASA from research aircraft and from Skylab, Apollo and Gemini spacecraft.

Landsat imagery is available from 2 sensor types: the multi-spectral scanner (MSS), which responds to wavelengths in 4 selected spectral bands, and the return-beam vidicon in 3 bands. This small-scale imagery is useful for viewing regional patterns; land cover and spoil bank areas are visible. Most frequently used format is a 9x9 MSS image on film, at about 1:1,000,000 scale, covering a land area approximately 115 miles on a side. Both color composites, and black-and-white films of each separate band are available; computer-compatible tapes give scanner information in a digital form. MSS effective resolution is about 80 meters, but roads through vegetation, etc. can be distinguished to about 10 meters; RBV images have nearly twice that resolution. The Landsat program began in 1972, with each Earth location imaged once every 18 days, so a large amount of information is available showing different seasons.

Unlike Landsat, the Skylab data is neither complete nor systematic coverage of the Earth's surface. The Skylab data is at various scales (about 1:1,000,000 to 1:250,000) and various resolutions; it was taken during 1973-1974. NASA high-altitude aerial photography is available in a wide variety of formats from flights from a few thousand to 60,000 feet. It is generally available on 9"x9" film at scales of about 1:120,000 (17 miles on a side) and 1:60,000. EROS also has 50,000 photo-mosaic indexes to federal large-scale, black-and-white aerial mapping photography.

Requests for information about an area generate a free computer search and print-out of all imagery of a specified geographic area which meets user-specified criteria (such as percent cloud cover allowable).

Further inquiry or imagery ordering may be done from EROS Data Center, 10th and Dakota Ave., Sioux Falls, SD 57198.

180. U.S. Geological Survey, various years, Land use, land cover and associated maps, at a scale of 1:250,000.

The Tulsa and Fort Smith quadrangles, which cover most of the Oklahoma coal field area, are available as Open-File Reports. Each quadrangle is covered by a set of 5 maps: a land use and land cover map, a political unit map, a hydrologic unit map, a census county subdivision map, and a federal land ownership map. Production of a sixth map, showing state land ownership, is intended.

Available for inspection at U.S.G.S. Mid-Continent Mapping Center, 1400 Independence Road, P.O. Box 113, Rolla, MO 65401.



181. U.S. Geological Survey has the National Cartographic Information Center.

NCIC operates as a focal point for cartographic information of the U.S., including maps, charts, imagery, digital data, etc., produced by various federal, state and local governmental organizations and private companies. Could provide a variety of data showing land use, resources, mining, and reclamation topics.

Contact the Mid-Continent Mapping Center, National Cartographic Information Center, U.S. Geological Survey, 1400 Independence Road, Rolla, MO 65401.

182. U.S. Geological Survey, various years, Topographic quadrangles, 7-1/2 minute series: scale 1:24,000, all or parts of approximately 69 quadrangles.

Virtually entire area of Oklahoma coal field is available in this map series. Each quadrangle covers a ground area approximately 7 mi. x 8-1/2 mi. Dates of survey in the area range from 1954 to 1972, with some quadrangles having been photo-revised as recently as 1977. Most coverage is in 1960s or very early 1970s. The areas around Red Oak (Latimer County) and around Heavener (Le Flore County) are available only in the 15-minute map series (1:62,500); respective coverage of these two areas was in 1940 and 1959. These maps show cultural features, relief, water, woodlands, disturbed areas, topography, etc. Stripped areas show up very clearly.

Order from: Branch of Distribution, U.S. Geological Survey, Box 25286, Federal Center, Denver CO 80225.

Cost: \$1.25 each.

183. U.S. Geological Survey, various years, Topographic quadrangles: scale 1:250,000.

Entire area of coal in Oklahoma is covered by the Tulsa, Fort Smith, McAlester, Ardmore, and Oklahoma City quadrangles. Maps show cultural features, roads, relief, water, woodlands, etc. Mined areas are indicated by symbol, or the words strip mines (coal) or abandoned (coal).

Order from: Branch of Distribution, U.S. Geological Survey, Box 25286, Federal Center, Denver, CO 80225.

Cost: \$2.00 each.

184. U.S. Geological Survey, 1978-, 1:100,000 scale topographic quadrangle maps.

Planimetric editions of 5 of these quadrangles in the southern part of the Oklahoma coal area are available; the sheets cover Haskell, Latimer, Le Flore, and parts of Coal, Atoka, Hughes, Pittsburg, McIntosh, Muskogee, Sequoyah, and Okmulgee Counties. Quadrangles finished as of October 1, 1978, include: Eufaula, Fort Smith, Mena, McAlester, and Ada. Other quadrangles in coal field are in preparation.

Order from: Branch of Distribution, U.S. Geological Survey,  
Box 25286, Federal Center, Denver, CO 80225.

Cost: \$1.25 each.

185. U.S. Geological Survey, 1953, General availability of ground water and depth to water level in the Arkansas, White and Red River basins: Map HA-3, scale 1:2,500,000, 1 sheet.

Includes entire area of Oklahoma coal beds, and is based, as far as possible, on field investigations by the U.S. Geological Survey. Map intended as a convenient guide to the approximate depth to ground water and its general availability, with more detailed information available from U.S.G.S. district offices.

Available for inspection at most major geological libraries.

186. U.S. Soil Conservation Service, 1973-1976, Present land-use map: scale 1" = 2 mi., one map for each county in the state.

Map of each county generally shows cropland, horticulture, pastureland, forest land, rangeland, water, urban and built-up land, and strip mines, quarries and gravel pits. Maps are based on 40-acre cells.

Available from: U.S. Soil Conservation Service, State Office, Stillwater, OK 74074.

187. U.S. Soil Conservation Service county offices, 1974, Soil Interpretive Maps for the respective counties.

These are maps to be used for general planning. The maps show limitations for these parameters: septic tank filter fields, sewage lagoons, dwellings without basements, light industry, trench-type sanitary landfill. Other maps show potential cropland, potential pastureland, potential rangeland, soil slopes, and hydrologic groups.

Available from: U.S. Soil Conservation Service, State Office, Stillwater, OK 74074.

188. U.S. Soil Conservation Service, 1978, Important farmland maps, Oklahoma: scale 1" = 2 mi., 1 sheet per county.

Colored planimetric map of each county intended for general planning. Shows prime farmland (cropland, rangeland, woodland), and additional farmlands (farmland of statewide importance, farmland of local importance, and other farmland). Also shows urban lands (both prime and non-prime soil areas), water, and strip mines, gravel pits and quarries. The soil and land use data are generalized on 40-acre cells.

Available from: U.S. Soil Conservation Service, State Office, Stillwater, OK 74074

189. U.S. Soil Conservation Service county offices have black-and-white A.S.C.S. air-photo coverage of each respective county.

County Office	Date Flown	Scale	No. photos in office	Photo size (in.)
Atoka	10-27-68	8" = 1 mi.	270	24x24
Coal	10-27-68	8" = 1 mi.	145	24x24
Craig	1972	8" = 1 mi.	212	24x24
Creek	*	*	*	*
Haskell	11-73	8" = 1 mi.	185	22x24
Hughes	*	*	*	*
Latimer	11-67	8" = 1 mi.	30***	26x26
Le Flore	11-12-69	8" = 1 mi.	328	24x24
	3-20-77	3.2" = 1 mi.	33	26x26
Mayes	1-73	8" = 1 mi.	176	24x24
McIntosh	1963	8" = 1 mi.	199	22-1/2x22-1/2
	1969	4" = 1 mi.	60	14-1/2x20
Muskogee	1938	4" = 1 mi.	253	9-1/4x11-1/2
	1958	4" = 1 mi.	421**	11-3/4x11-1/2
	1972	8" = 1 mi.	258	24x24
Nowata	1972	8" = 1 mi.	3***	20x20
Okfuskee	10-26-68	8" = 1 mi.	205	22x22
Okmulgee	1-30-70	8" = 1 mi.	192	24x24
Ottawa	*	*	*	*
Pittsburg	1967	8" = 1 mi.	*	24x24
Rogers	2-72	8" = 1 mi.	182	24x24
Sequoyah	4-72	8" = 1 mi.	*	24x24
Tulsa	1972	8" = 1 mi.	162	24x24
Wagoner	3-72	8" = 1 mi.	168	22x24
Washington	*	*	*	*

\*Information not available

\*\* Stereopairs

\*\*\*Number covering mine areas in county.

The photos may be examined in each county S.C.S. office (see Appendix A for addresses), or may be ordered.

Order from: Aerial Photography Field Office, Agricultural Stabilization and Conservation Service - U.S. Department of Agriculture, 2222 West 2300 South, P.O. Box 30010, Salt Lake City, UT 84125.

Cost: \$7.00 per photo, for enlargements about 24x24" in size; also available at \$2.00 per photo for 9x9" contact print (3.2" = 1 mi.).

d. Combined (narrative, tabular, graphic)

190. Johnson, K. S., 1974, Maps and description of disturbed and reclaimed surface-mined coal lands in eastern Oklahoma, showing acreage disturbed and reclaimed through June 1973: Oklahoma Geological Survey Map GM-17, prepared in cooperation with the Oklahoma Department of Mines, 12 p., 9 figs., 3 map sheets, 2 tables, bibliography.

Text discusses Oklahoma's current (1973) mining and reclamation activity, unreclaimed mined lands and surface water impoundments, reclamation procedures, and costs. Map sheets (1:125,000) show areas and acreages of surface mined coal lands: Map 1 covers Craig, Mayes, Nowata, Rogers, Tulsa and Wagoner Counties; Map 2 covers Atoka, Coal, McIntosh, Muskogee, Okmulgee, and Pittsburg Counties; Map 3 covers Haskell, Latimer, Le Flore, and Sequoyah Counties. Maps were compiled using 7-1/2 minute U.S.G.S. quadrangles, and air photos flown in March and April 1972; they were not field checked.

Order from: Oklahoma Geological Survey, University of Oklahoma, 830 Van Vleet Oval, Room 163, Norman, OK 73019.

Cost: \$2.50

191. Knechtel, M. M., 1943, Map of northern Le Flore County, Oklahoma, showing geologic structure, coal beds, and natural gas fields: U.S. Geological Survey, scale 1: 48,000, 1 sheet.

Using a base map derived from General Land Office surveys and aerial photographs, this map shows coal outcrops 1-foot thick or more, strip mines, slope mines, coal prospects, drill holes, and boundaries of Choctaw and Chickasaw Nations' segregated lands. Table describes measurements of coal beds in northern Le Flore County, and text discusses coal and natural gas of the area.

Available for inspection at most major geological libraries.

192. Taff, J. A., 1904, Maps of segregated coal lands in the McAlester district, Choctaw Nation, Indian Territory, with descriptions of segregated coal lands: U.S. Department of the Interior Circular No. 1, 59 p., 2 maps.

Detailed description of coals and coal beds of unleased segregated coal lands in what are now Pittsburg and Latimer Counties. Two maps show lands leased and unleased, mine locations, and the approximate location of outcrops. Depth and outcrops of named coals are thoroughly described for each tract not already leased.

Reproduction cost: 59 pages @ .10 each = \$5.90

Reproduction time: less than 1/2 hour

193. Taff, J. A., 1904, Maps of segregated coal lands in the Wilburton-Stigler district, Choctaw Nation, Indian Territory, with descriptions of the unleased segregated coal lands: U.S. Department of the Interior Circular No. 2, 47 p., 2 maps.

Provides a detailed description of the locations and quality of coals found within the unleased, segregated coal lands in what are now Latimer, Haskell, and Le Flore Counties. Two small-scale maps show unleased lands, coal outcrops, and mine sites.

Reproduction cost: 47 pages @ .10 each = \$4.70

Reproduction time: less than 1/2 hour

194. Taff, J. A., 1904, Maps of segregated coal lands in the Howe-Poteau district, Choctaw Nation, Indian Territory, with descriptions of the unleased segregated coal lands: U.S. Department of the Interior Circular No. 3, 41 p., 2 maps.

Describes the unleased segregated coal lands of what is now Le Flore County, providing the geology and chemistry of the coals, tract locations, and descriptions of the coals within the unleased tracts. Two small-scale maps show coal outcrops, coal prospects, mines, roads, railroads, and towns on leased and unleased lands.

Reproduction cost: 41 pages @ .10 each = \$4.10

Reproduction time: less than 1/2 hour

195. Taff, J. A., 1904, Maps of segregated coal lands in the McCurtain-Massey district, Choctaw Nation, Indian Territory, with descriptions of the unleased segregated coal lands: U.S. Department of the Interior Circular No. 4, 54 p., 2 maps.

Detailed description of unleased segregated coal lands in what is now Le Flore County. Gives the geology and chemistry of coals, tract locations, and description of coals within unleased tracts. Two small-scale maps show coal outcrops and mine sites on unleased lands.

Reproduction cost: 54 pages @ .10 each = \$5.40

Reproduction time: less than 1/2 hour

196. Taff, J. A., 1904, Maps of the segregated coal lands in the Lehigh-Ardmore districts, Choctaw and Chickasaw Nations, Indian Territory, with descriptions of unleased segregated coal lands: U.S. Department of the Interior Circular No. 5, 39 p., 2 maps.

Gives a detailed description of the unleased segregated coal lands in what are now Carter, Love, Coal, and Atoka Counties. Describes the geology and chemistry of coals found in the area, and gives locations of the segregated tracts. Two small-scale maps show coal outcrops, and mine sites on leased and unleased lands.

Reproduction cost: 39 pages @ .10 each = \$3.90

Reproduction time: less than 1/2 hour

197. Taff, J. A., 1906, Description of the Muskogee quadrangle [Indian Territory]: U.S. Geological Survey, Geologic Atlas of the U.S., Folio No. 132, 9 p., 3 maps.

Quadrangle covers parts of Muskogee, McIntosh, Sequoyah, Wagoner and Cherokee Counties. The folio contains a descriptive text, topographic map, areal geology map, and structure-section sheet. Map scale is 1:125,000. The text covers physiography and geology, and locates eight coal prospects and strip mines by township, range and section. The areal geology map shows coal prospects with a symbol.

Reproduction cost: 9 oversize sheets @ \$1.00 each = \$9.00

Reproduction time: less than 1/2 hour

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APPENDIX A

U.S. Soil Conservation Service  
Addresses of County Offices  
in Oklahoma Coal Area

Michael Elliott (Atoka County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 220  
Atoka, OK 74525

Robert Holman (Coal County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 151  
Coalgate, OK 74538

Alvin Trissell (Craig County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 595  
Vinita, OK 74301

Charles Noyes (Creek County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 627  
Bristow, OK 74010

Stephen Hamilton (Haskell County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 408  
Stigler, OK 74462

John Upton (Hughes County)  
District Conservationist  
Soil Conservation Service  
417 E. Highway  
Holdenville, OK 74848

Francis Adam (Latimer County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 487  
Wilburton, OK 74578

Kenneth Taylor (Latimer & Pushmataha Counties)  
District Conservationist  
Soil Conservation Service  
P.O. Box 429  
Talihina, OK 74571

Kenneth Ferguson (Le Flore County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 459  
Poteau, OK 74953

Robert Blackman (Mayes County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 36  
Pryor, OK 74361

Sammy Viles (McIntosh County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 351  
Eufaula, OK 74432

Don Hubbard (Muskogee County)  
District Conservationist  
Soil Conservation Service  
125 S. Main, Room 3D14  
Muskogee, OK 74401

Danny Stone (Nowata County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 472  
Nowata, OK 74048

Anthony Boeckman (Okfuskee County)  
District Conservationist  
Soil Conservation Service  
14 W. Broadway  
Okemah, OK 74859

Patrick I. Bogart (Okmulgee County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 700  
Okmulgee, OK 74447

Freddie Schneider (Ottawa County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 350  
Miami, OK 74354

Jerry Mathiews (Pittsburg County)  
District Conservationist  
Soil Conservation Service  
Federal Building, Room 311  
Carl Albert Parkway  
McAlester, OK 74501

Arnold Hamilton (Rogers County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 1105  
Claremore, OK 74017

Barry Bolles (Sequoyah County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 218  
Sallisaw, OK 74955

Charles R. Freeland (Tulsa County)  
District Conservationist  
Soil Conservation Service  
4116 East 15th  
Tulsa, OK 74112

Gregory Kindell (Wagoner County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 307  
Wagoner, OK 74467

Carl Hunter (Washington County)  
District Conservationist  
Soil Conservation Service  
P.O. Box 129  
Dewey, OK 74029

APPENDIX B

U.S. Agricultural Stabilization and Conservation Service  
Addresses of County Offices  
in Oklahoma Coal Area

Executive Director  
Atoka Co. ASCS Office  
Box 550  
Atoka, OK 74525

Executive Director  
Coal Co. ASCS Office  
Box 308  
Coalgate, OK 74538

Executive Director  
Craig Co. ASCS Office  
Box 576  
Vinita, OK 74301

Executive Director  
Creek Co. ASCS Office  
Box 1139  
Bristow, OK 74010

Executive Director  
Haskell Co. ASCS Office  
Box 428  
Stigler, OK 74462

Executive Director  
Hughes Co. ASCS Office  
Box 471  
Holdenville, OK 74848

Executive Director  
Latimer Co. ASCS Office  
Box 529  
Wilburton, OK 74578

Executive Director  
Le Flore Co. ASCS Office  
Box 447  
Poteau, OK 74953

Executive Director  
Mayes Co. ASCS Office  
Box 397  
Pryor, OK 74361

Executive Director  
McIntosh Co. ASCS Office  
Box 896  
Eufaula, OK 74432

Executive Director  
Muskogee Co. ASCS Office  
Federal Building, Room 3010  
Muskogee, OK 74401

Executive Director  
Nowata Co. ASCS Office  
Box 546  
Nowata, OK 74048

Executive Director  
Okfuskee Co. ASCS Office  
Box 31  
Okemah, OK 74859

Executive Director  
Okmulgee Co. ASCS Office  
Box 548  
Okmulgee, OK 74447

Executive Director  
Ottawa Co. ASCS Office  
Box 430  
Miami, OK 74354

Executive Director  
Pittsburg Co. ASCS Office  
Box 400  
McAlester, OK 74501

Executive Director  
Rogers Co. ASCS Office  
Box 750  
Claremore, OK 74017

Executive Director  
Sequoyah Co. ASCS Office  
Box D  
Sallisaw, OK 74955

Executive Director  
Tulsa Co. ASCS Office  
4116 E. 15th St.  
Tulsa, OK 74112

Executive Director  
Wagoner Co. ASCS Office  
Box 70  
Wagoner, OK 74467

Executive Director  
Washington Co. ASCS Office  
Box 160  
Dewey, OK 74029