
Thematic Survey of Historic Barns in Northeast Oklahoma

Adair, Cherokee, Creek, Craig, Delaware, Mayes, McIntosh, Muskogee, Nowata, Okfuskee, Okmulgee, Osage, Ottawa, Pawnee, Rogers, Sequoyah, Tulsa, Wagoner, and Washington Counties

Prepared for:



OKLAHOMA HISTORICAL SOCIETY
State Historic Preservation Office
Oklahoma History Center
800 Nazih Zuhdi Drive
Oklahoma City, Oklahoma 73105-7914

Prepared by:



Brad A. Bays, Ph.D.
Department of Geography
337 Murray Hall
Oklahoma State University
Stillwater, Oklahoma 74078-4073

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I. ABSTRACT

Under contract to the Oklahoma State Historic Preservation Office, Brad A. Bays of Oklahoma State University, Stillwater, conducted the Survey of Historic Barns in Northeastern Oklahoma (OK/SHPO Management Region Three) during the fiscal year 2012-2013. That survey encompassed 19 counties and required the project director to log over 12,000 miles in 30 field trips. The goals of the survey were: (a) to develop an historic context of barns in the region; (b) to sample each county in the region to collect empirical data and report general (thematic-level) patterns of historic barn resources that will assist the preservation planning process; (c) to substantially increase the number of historic barns recorded in the Oklahoma Landmarks Inventory (OLI); and (d) to identify historic barns in the region that are eligible for National Register listing.

II. INTRODUCTION

This report represents the results of a thematic historic and architectural survey conducted by Brad Alan Bays for the Oklahoma State Historic Preservation Office under Project 12-402. This study of barns represents the fourth phase of a statewide survey of barns and a first approximation of the patterns of barn survival, condition, and forms in a 19-county area covering 13,939 square miles in northeast Oklahoma. Aerial photo mapping produced 9,456 targeted sites, of which a portion was visited over 30 field days during the first half of 2013. Most targeted sites did not contain properties worth recording. In all, 326 barns were photographed; of these 181 barns were recorded at a minimal level of documentation for the Oklahoma Landmarks Inventory. Twenty-five of the 181 recorded properties were determined to be National Register-eligible.

Property-specific research was not a component of this survey, so only preliminary assessments of National Register eligibility were made. Historic property names were only recorded when it was possible to ascertain them from an informant who happened to be on site during documentation; usually these were residents of farm houses or ranchers tending cattle. Final determinations of National Register eligibility may require additional fieldwork to find surviving informants, examine county records, and probe local archives pertinent to each resource. This barn survey met the specifications of the Secretary of the Interior's Standards and Guidelines for Historic Preservation. The project Principal Investigator, Brad Bays, meets the qualifications described in the Secretary of the Interior's Professional Qualifications Standards.

III. RESEARCH DESIGN

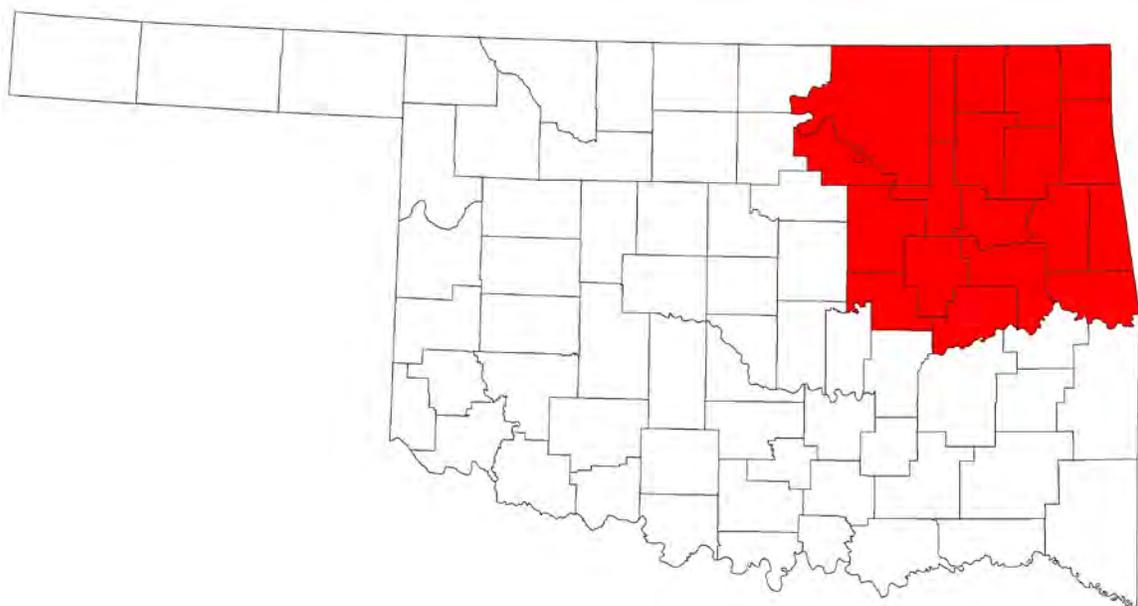
The research design of the project was based in the discipline of historical geography. It is a project guided by the scholarship of historical geographers like Andrew H. Clark and Leslie Hewes, scholars who examined regional economic change over time using empirical data supported by close field investigation. For a study of this type—sampling individual properties scattered across a 14,000 square mile study area—few primary sources were very helpful. USDA individual county soil surveys were consulted to identify areas of optimum soil quality, which held potentially higher settlement densities over time. Secondary sources used in this study were primarily writings in local history, especially commercially-produced county histories, which provided information on local families, broad patterns of past farm activities, and important local events. By far the most important secondary sources were scholarly books and journal articles on barns and regional culture, which described diffusion patterns and provided guidance in the identification and classification of barns and their architectural components.

IV. PROJECT OBJECTIVES

The basic objective of the Thematic Survey of Historic Barns in Northeastern Oklahoma was to identify, through a reconnaissance-level survey, those individual properties in the 19-county study area which, because of construction before 1960, design, and retention of integrity, warrant an intensive level survey to determine their eligibility for listing in the National Register of Historic Places and to substantiate such assessments. A second objective was to record and photograph those individual properties in the project area. Finally, to enable completion of National Register nominations of properties and districts identified in the study area, the project sought to provide an historical and architectural context for the barn theme and to annotate all reference material relevant to the topic.

V. AREA SURVEYED

The Thematic Survey of Historic Barns in Northeastern Oklahoma encompassed OK/SHPO Historic Resource Management Region #3. Nineteen counties comprise this region: Adair, Cherokee, Creek, Craig, Delaware, Mayes, McIntosh, Muskogee, Nowata, Okfuskee, Okmulgee, Osage, Ottawa, Pawnee, Rogers, Sequoyah, Tulsa, Wagoner, and Washington Counties. As the map below illustrates, this 14,000-square mile area comprises 20 percent or one-fifth of the total area of the State of Oklahoma.

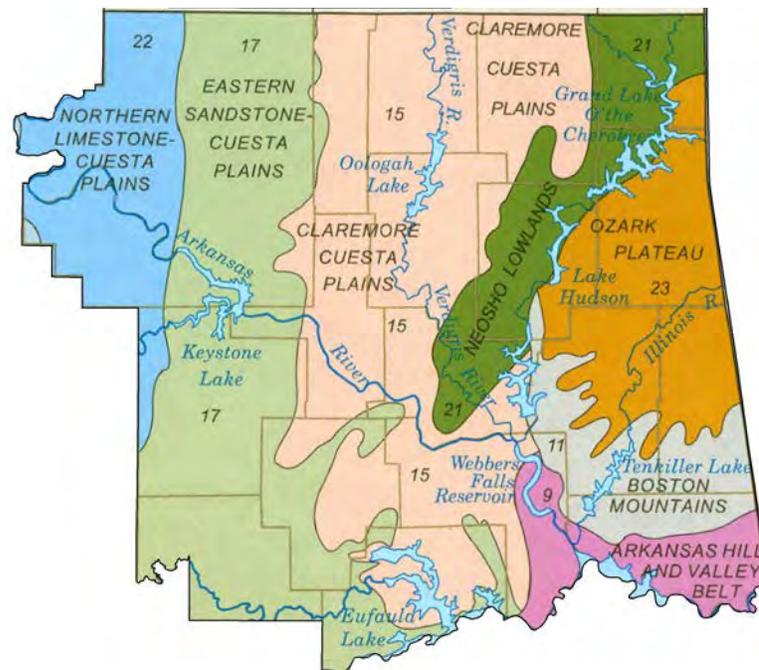


Study Area: Management Region 3 (Historic Component)

The physiographic qualities of Management Region Three are diverse. Elevation above sea level increases from a low point of 400 feet at the Arkansas River in eastern Sequoyah County to a high point of 1,500 feet above sea level in the Cookson Hills of

northern Sequoyah County. Local relief of more than 50 feet exists in many parts of the study area.

Management Region Three contains a variety of terrain types and spans seven geomorphic provinces. These regions may be best comprehended relative to the location of the study area's region of superior farmland, the Neosho Lowland. West of the Neosho Lowland are three regions of rolling rocky uplands and hardscrabble hills that cover the western two-thirds of the study area. From west to east these include the Northern Limestone Cuesta Plains, the Eastern Sandstone Cuesta Plains, and the Claremore Cuesta Plains. East of the Neosho Lowlands are three physically distinctive regions that include, from north to south, the Ozark Plateau, the Boston Mountains, and the Arkansas Hill and Valley Belt.



Physiographic Provinces of Management Region 3. Source: Johnson, Kenneth S., "Geomorphic Provinces," in Goins, Charles R. and Danney Goble, *Historical Atlas of Oklahoma*, Fourth Edition (Norman: University of Oklahoma Press, 2006), p. 5.

The Neosho Lowlands region covers most of Ottawa, Mayes, and Wagoner Counties and small parts of southern Craig and Rogers Counties. Although the region covers only nine percent of Management Region Three, it has the highest proportion of land suitable for intensive cultivation. The gently-rolling to flat terrain of this region contains thick, fertile Mollisol and Alfisol soils, many of which are well-drained sandy loams that were prized by early settlers because they could be worked easily with horses. Crops of winter wheat, soybeans, corn, grain sorghums, alfalfa, and prairie hay are raised throughout the region; crop cultivation is most intensive in north-central and southwestern Ottawa County, where sandy loams prevail. Soybeans, corn, and sod grass crops are grown in the bottomlands of the Verdigris and Arkansas Rivers in Rogers and Wagoner Counties. Prairie hay, alfalfa, and cow-calf operations are ubiquitous in the region.

West of the Neosho Lowlands, the three cuesta regions contain some riparian lowlands that support grain production, but most of the soils of these regions are stony and most suitable for ranching. Likewise, the heavily-forested regions east of the Neosho Lowlands, due of their steep slopes and thin, stony soils, are also most suitable for ranching. Historically, subsistence-scale farming existed, but was focused on the narrow valley floors of the Ozark Plateau and Boston Mountains and to a greater degree in the broad, sandy, alluvial bottomlands of the Arkansas Hill and Valley Belt. Today, most of the upland parts of these regions are no longer cultivated and are used for grazing or have reforested.

The Northern Limestone Cuesta Plains region covers 10 percent of the study area. This includes the western one-third of Osage County, most of Pawnee County, and a narrow strip in western Creek County. This rolling prairie region is structurally related to the Osage and Flint Hills of Kansas and contains stony, droughty soils that support excellent grazing

land that has long been devoted to beef cattle and horse ranching. A common construction characteristic of barns in the region is the incorporation of the common buff-colored limestone, which is cut from numerous thick outcrops.

The Eastern Sandstone Cuesta Plains is a broken, hilly upland region that covers 27 percent of the study area, including all of Okfuskee County, nearly all of Creek County, central and eastern Osage County, about half of Okmulgee County, and significant parts of eastern Pawnee County, western Tulsa County, and southwestern McIntosh County. The terrain is very rough in places and upland sections of the region are covered by Post Oak and Blackjack Oak woodland, some of which is classed as old-growth forest. Lowlands usually contain clayey soils of poor quality developed from shale bedrock. Although cotton was farmed in the area during the first half of the twentieth century, today it is agriculturally marginal and supports mostly small cow-calf operations. That part of the Eastern Sandstone Cuesta Plains region within the study area was underlain by several giant oil fields developed between the 1920s and 1940s. The older term “Sandstone Hills” refers to both the Eastern Sandstone Cuesta Plains region and the Claremore Cuesta Plains to the east.

The Claremore Cuesta Plains region covers 32 percent all of the study area. The region includes all of Nowata County, most of Washington, Craig, Rogers, Tulsa, Muskogee, and McIntosh Counties, significant portions of Okmulgee and Wagoner Counties, and small areas of Osage and Mayes Counties. Compared to the Eastern Sandstone Cuesta Plains to the west, the Claremore Cuesta Plains region is more gently rolling with small, dispersed areas of hilly land that contains a significant amount of limestone bedrock that provides somewhat better soil fertility and moisture retention. Uplands are famous for their excellent prairie hay

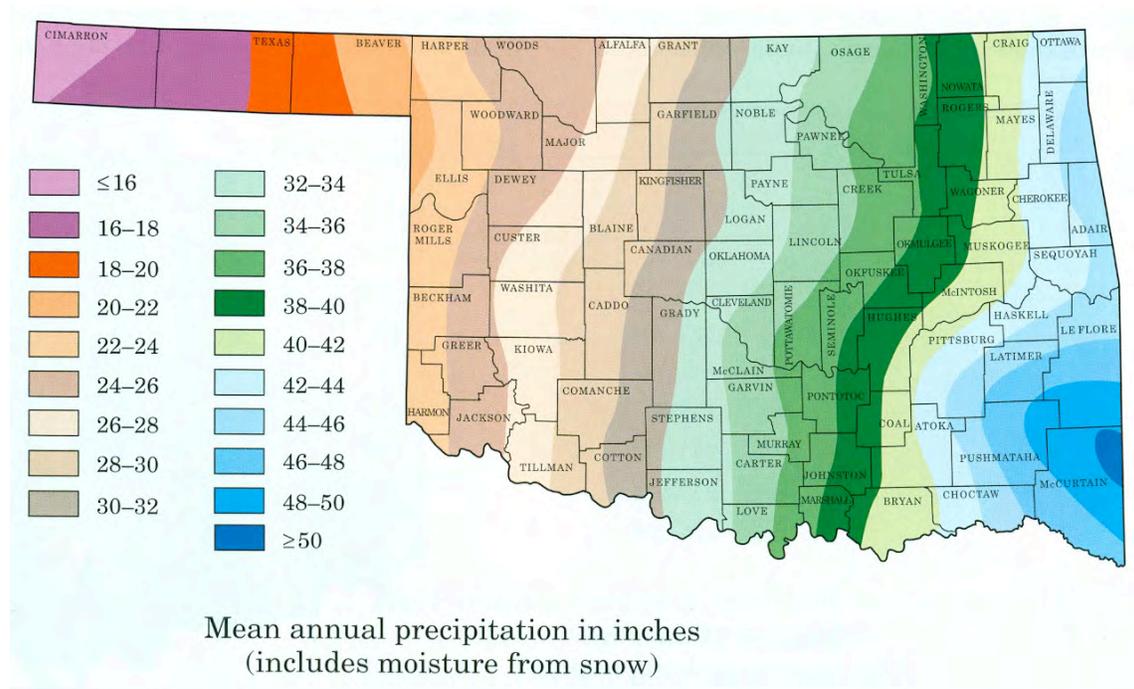
and cattle production, and the Verdigris and Caney River bottomlands produce some wheat, corn, alfalfa, and soybeans.

The Ozark Plateau region covers 12 percent of the study area and includes most of Delaware and Adair Counties, about half of Cherokee County, and parts of Mayes and Ottawa Counties. The Boston Mountains region covers about six percent of the study area and is the most rugged region of the study area. The Boston Mountains consist of the most-dissected section of the greater Ozark Plateau and extends into southern Adair County, southern and western Cherokee County, the northern half of Sequoyah County, and small parts of Muskogee County and Mayes County. Both the Ozark Plateau and Boston Mountains are heavily timbered by oak-hickory forest and patches of oak-pine forest. Agriculture is tightly restricted to the many small incised valleys—termed hollows—within these regions. Market inaccessibility and severely limited farm size retarded mechanization and commercialization of agriculture in the region well into the twentieth century; as a result, the region contains the highest concentrations of rare folk buildings, especially log buildings, within the entire study area. Today the primary commercial agricultural land uses in the Ozark Plateau and Boston Mountains regions are nurseries and poultry CAFOs.

The Arkansas Hill and Valley Belt region makes up five percent of the study area. It is the smallest and lowest-elevation region and covers eastern Muskogee and southern Sequoyah Counties. The area is a broad alluvial bottomland zone with a few scattered patches of sandy hills. Most of the region contains a mosaic of forest and prairies used for cattle ranching. The exception is the southeastern corner along the north bank of the Arkansas River, where large crops of corn and soybeans are cultivated.

In addition to these regional patterns of land use, before 1960 urban settlements supported local dairy operations according to each town’s market size; regardless of a region’s predominant land use, barns can almost always be found on former dairy farms within a few miles of the larger towns.

Management Region Three is located along the western periphery of North America’s humid subtropical (Cfa) climate. Annual precipitation in the study area declines from southeast to northwest. The highest annual precipitation is 45 inches in eastern portions of Delaware, Adair, and Sequoyah Counties. The lowest annual precipitation is 34 inches in western Osage and Pawnee Counties (see map below).



Source: Johnson, Howard L., “Precipitation,” in Goins, Charles R. and Danney Goble, *Historical Atlas of Oklahoma*, Fourth Edition (Norman: University of Oklahoma Press, 2006), p. 19.

Since annual precipitation largely determines natural vegetation patterns, a noticeable vegetation transition exists in the study area. Indeed, most of the study area straddles the ecotone between the easternmost grasslands of the Tallgrass Prairie region of the Great Plains and the westernmost extension of the Oak-Hickory Forest of the Ozark Plateau. Between these two contrasting vegetation regions lay the Post Oak and Blackjack Oak-dominated Cross Timbers woodland region, which is a mosaic of small prairies and dense scrub timber forests. The only other vegetation association is the Bottomland riparian complex of the larger rivers. Today, of course, natural vegetation has largely been replaced with a human-created mosaic of reduced woodland, improved pastureland, cultivated farmland, and urban development.

VI. METHODOLOGY

The methodology employed by the PI to locate, identify, and record historic resources followed professional research standards. Prior to beginning fieldwork the PI developed a bibliography on the subject of barns relative to the American Middle West, South, and Great Plains regions. Most of this research was conducted at the Edmon Low Library at Oklahoma State University in Stillwater, which is ideal for researching Oklahoma's agricultural history and farm buildings.

After developing the bibliography, the PI read extensively in the secondary and primary sources. This allowed the bibliography to be annotated and provided essential knowledge regarding barns in the context of central and south-central Oklahoma's agricultural history. This led to an understanding of the diagnostic traits of certain barn types, the architectural features of barns, their basic components and basic functions, and how barns became obsolete in the wake of technological innovations and agricultural change. On the basis of this information, the PI developed an essay examining the architectural significance and historical development of barns in Management Region Three.

Time and financial limitations of the study required systematic sampling of the study area rather than a complete inventory of properties within the 14,000 square mile study area. The PI was directed by OK/SHPO personnel to attempt, if at all possible, to locate and record a sample of 10 properties in each county that met the 50-year age criteria.

Having no basic list of properties to seek in the field, the PI developed his own method for prospecting for barns. He began by examining high-resolution orthophotographs of the study area to locate potential barns. Each of the 19 counties was visually scanned,

quarter section by quarter section, for objects that were likely to be historic barns. Using a geographic information system (GIS), each such “target” was mapped. This produced 9,456 targeted sites, far more than could be feasibly surveyed. The best alternative was to direct field inspection to clusters of targets in order to maximize the number of barns that could be visited within the one to three days the PI had to visit each county. This resulted in visits to well over 1,000 target sites that led to the GPS recording and photographing of 326 barns. While only a selection of 181 of these properties were eventually recorded at a minimal level of documentation, the 326 photographed properties and the hundreds of others visited contributed to the understanding of the field observations discussed in the results below.

Examination of OK/SHPO records was conducted in October 2012. To date, only three barns are National Register-listed within the study area. These include the 1923 Wolverine Oil Company Drayage Barn (NR 97001152, 1997) located in the Avant vicinity of Osage County, the 1893 John Patrick McNaughton Barn (91001903, 1991) located in the Quapaw vicinity of Ottawa County, and the 1913 Hines Round Barn (84003432, 1983) located in Sallisaw in Sequoyah County. The PI also went through the files of the Centennial Farm and Ranch Program and discovered that only a handful of barns were ever documented in that program. Site visits revealed that the Hines Round Barn in Sequoyah County has been completely destroyed by fire. The Wolverine Oil Company Drayage Barn in Osage County was visited and re-recorded, but it was ascertained from the current landowner that the property is scheduled for demolition due to safety issues resultant from a compromised foundation. The John McNaughton Barn in Ottawa County was observed but not re-recorded survey.

Field survey began in January 2013 in Adair County. A GPS-GIS guidance system was used to navigate to target sites and prevent backtracking on county roads by recording routes. Approximately 200 square miles can be covered this way during a single 7.5 hour winter field day when road conditions are dry. Quality elevation photography is limited in the winter due to low sun angle. At Oklahoma's latitude, the best conditions occur between 9:00AM and 4:30PM during winter months. Over the course of 30 days in the field the survey crew logged nearly 3,800 miles of county roads and completed a reconnaissance-level inspection of approximately 30 percent of the rural area of Management Region Three.

The study area contains tremendous variation in the distribution density of barns. Large frame barns are most abundant, diverse, and interesting in the northeastern corner of the study area, particularly Ottawa County. Barns of durable native sandstone construction are common in Pawnee County and parts of Osage County. Barns of durable limestone and rubble construction can be found in Delaware County and Ottawa County. Log crib barns of varying degrees of workmanship were recorded in eight counties: Adair, Cherokee, Craig, Delaware, Mayes, McIntosh, Okfuskee, and Sequoyah.

On the other hand, barns are rare in the Eastern Sandstone Cuesta Plains and generally south of the Arkansas River. Large areas in many counties seem to have no large barns at all due to historical agricultural patterns and/or urbanization. Tulsa County and Rogers County are especially devoid of barns due to suburban and exurban sprawl. While counties like Ottawa and Craig offered large selections of barns to document, the PI was unable to locate even 10 barns worthy of recording in Rogers, Sequoyah, Tulsa and Washington Counties.

At each barn site the surveyor inspected around the building and, where possible, measured exterior wall dimensions and took notes on primary features. When the occasion allowed he visited with occupants to learn about the building's history. He then took at least two elevation photographs and recorded the location using a GPS receiver.

After each field session photographs and GPS waypoints and tracks were uploaded to a GIS. Photo information and notes were input into Historic Preservation Resource Identification Forms in the Microsoft Access database. Resource location data (section, township, range) were derived from the GIS, entered into an Excel spreadsheet, and uploaded to the OK/SHPO Access database. The recorded properties were then mapped in conjunction to other data layers for spatial analysis.

One complication of conducting a survey of rural properties in 19 counties was determining appropriate historic resource names of recorded properties. These were elicited from occupants whenever available, but it was more often the case that historic owners were unknown. To standardize the naming system, a "Resource ID" number was assigned, since identifying actual historic resource names would require conducting chains of title in 19 different courthouses. The Resource ID is provided on the forms as the Property Name. The Resource ID is coded using the specific county's FIPS code (i.e., "147" for Washington County) followed by an alphabetical letter (i.e., A-J) indicating the chronological order in which the resource was recorded.

At the conclusion of field recording and data processing, photograph prints were ordered, labeled, and filed. Photos were also uploaded to an internet file-sharing site that allowed the architectural consultant, Jana Phillips, AIA, to view them online. Her written assessment is included in Section 7, or "Results," of this report.

VII. RESULTS

The Thematic Survey of Historic Barns in Northeastern Oklahoma was successful in sampling the types of extant barns in the 19-county, 14,000 square mile study area.

Approximately 1,000 sites were visited. However, a majority of these failed to warrant close inspection because they either: (a) did not meet the minimum age requirement of 50 years, (b) were confirmed not to be barns, or (c) had lost integrity through recent alteration or were in a state of major dilapidation or ruins. Indeed, barns are so rare in some counties of Management Region Three that in some counties the PI recorded whatever he could find, which resulted in the recording of very marginal resources. In all, some 181 resources were recorded at a minimal level of documentation for the Oklahoma Landmarks Inventory. Of the 181 recorded resources, all were determined to be constructed before 1960. **Among the 181 properties recorded are 25 barns in 15 counties were determined to be eligible for National Register listing.**

National Register eligibility was determined using the National Register Criteria for Evaluation. Properties were evaluated to: (1) have been built before 1960; (2) represent an outstanding example of style or workmanship; and (3) have retained historical and architectural integrity. OK/SHPO survey forms and elevation photographs were prepared for all 181 resources. Survey form data were entered into the OK/SHPO Access database for uploading to the Oklahoma Landmarks Inventory.

The survey revealed a number of significant observations regarding barns in central Oklahoma:

- 1. The most important finding was that the vast majority of historic barns surveyed are in a state of neglect, abandonment, or ruin.** As the survey data (Historic Resource Identification Forms and accompanying photos) reveal, some of the most architecturally significant properties recorded are in a state of severe dereliction. Certainly many extant properties have the potential for rehabilitation, but unlike residential or commercial buildings, historic barns are functionally antiquated. Neither are they often visible to a wider public; they suffer the fate of obsolescence quietly, out-of-sight and out-of-mind in the ever-depopulating, rural Oklahoma landscape. The few properties that have been rehabilitated are exceptions representing significant private investment made out of affinity for the historic building or for commercial use. Most of these are rare exceptions that have survived near the fringe of growing metropolitan and micropolitan zones. Notable examples include: (a) resource 115-D [183] (Bar-T Ranch Barn), Ottawa County; (b) resource 101-I [336], Muskogee County; (c) resource 143-A [271], Tulsa County; and (d) resource 147-I [053] (Richardson Ranch Barn), Washington County. Historic barns located within Management Region 3 are especially endangered by suburban sprawl and leapfrog development extending outward around the Tulsa metropolitan area.
2. Interviews revealed that historic barns are endeared components of the rural landscape. In many conversations with rural residents the PI was able to garner the idea that **residents of Management Region 3 consider historic barns significant components of the rural landscape and most wish to preserve their integrity.** Many longtime residents have strong attachments to these local icons of their agricultural heritage, and many want to

keep them even if they do not own them or have direct family connections to them. The PI, however, rarely encountered owners who understood how their barns might be preserved.

3. **Field investigation revealed much about the human and natural processes that are leading to the rapid disappearance of historic barns.** Although most barns were covered with corrugated metal sheeting after 1945, the frequent stress of high winds eventually peels it away, sheet-by-sheet, opening the walls or roof to moisture. The penetration of moisture into the interior leads to rot and foundation stresses so that a wall will bow or even collapse and compromise the roof. Then, during a severe wind event or under the weight of a heavy snow, the roof or remaining walls eventually buckle. Tornadoes pose a tremendous threat to barns in the study area. Indeed, Oklahoma is part of the zone with the world's highest tornado frequency. Anecdotes about tornadoes invariably spin their way into property owners' stories about old barns, and one wonders how many have actually been destroyed over the decades in "Tornado Alley." Another threat is fire. Since much cultivated land has been converted to cattle pasture, many abandoned barns are now surrounded by tall grasses that fuel wildfires. The threat is less severe if a cow shed has been attached to the barn or if ranchers feed cattle at the old barn location, since cattle tend to crop grasses low around the vicinity of the barn. But the days are numbered for abandoned barns surrounded by tall, dry weeds and brush.



Barn in ruins, Pawnee vicinity, Pawnee County (117-F). This offset-Transverse-crib barn has seen better days and has taken its share of beatings from relentless Oklahoma weather.

4. Plainly, **there is a dearth of authoritative, classification-oriented secondary sources available to guide the study of barns west of the Mississippi River.** The most-popular field guide, Noble and Cleek (2005) was not very relevant to the study area, as it is derived from data in the eastern one-third of North America. For this study the most useful book-length analyses were: Vlach (2003), which is a coffee table-type selection of archival photos, but usefully organized by region; Visser (1997), which is an exceptionally well-done field guide that focuses on New England; and Ensminger (1992), which is an extensive classification of the Pennsylvania Barn. Nevertheless, fieldwork in northeastern Oklahoma reveals interesting regional and local patterns that warrant further study.

5. Fieldwork suggests that **patterns of barn design are often highly localized.**

Curious patterns of similar construction features were observed in relatively small areas, a fact that supports the idea that individual barn builders left their marks on local landscapes.



Braced hanging-gable hay hoods Ozark Barns, Property 041-C, Delaware County (above) and the Tillery Barn, 001-B, Adair County. (below), like many other barns in the Oklahoma Ozarks, are equipped with gabled hay hoods supported by wall braces.

6. Despite a pervasive affinity for barns, **most people, even longtime locals, rarely know much about isolated barns in their locales or their histories.** Younger residents usually know very little about architecturally significant properties within a few miles of their homes. Data on barn construction and uses before 1960 may only survive in the memories of elderly farmers and ranchers living in Management Region Three.

7. **Among the 19 survey counties, architecturally-exceptional properties were located in most counties.** Higher densities of large, elaborate barns were located in the Neosho Lowlands, particularly in Ottawa County. However, small examples of very significant properties were recorded in the mountainous counties with relatively poor farmland, such as Adair, Cherokee, and Delaware Counties, as well as counties along the Canadian River, such as McIntosh and Okfuskee. It would be inaccurate and arbitrary to rank the counties of Management Region Three according to architectural resource significance.

8. **Transverse-crib barns are the most common barn type in the study area.** Transverse-crib barns of all sizes and uses are found throughout the study area. They are extremely common in the Ozark Plateau. Transverse-crib barns represent cultural diffusion from the Midland culture region (Upland South and Midwest). The average Transverse-crib barn is smaller than the average Midwest feeder barn and the proportion of its volume devoted to hay storage is considerably less. The secret of the Transverse-crib barn's success is its simple design and adaptability to a variety of uses, and this is especially the case in the subsistence-farming areas of northeastern Oklahoma.



Typical Transverse-crib Barn, Bowlin Spring vicinity, Craig County (035-A). This typical example from the Ozarkian-settled Claremore Cuesta Plains contains the three diagnostic traits identified by Jordan-Bychkov of: (a) stalls, (b) grain bins, and (c) hayloft, as well as a tack room. The doors-optional central runway remains in use to store farm machinery.

9. **Very few large, Midwest Livestock Feeder Barns were recorded in Management Region**

Three. Midwest Livestock feeder barns are roughly defined as large barns that do not conform to the Transverse-crib plan and in which a large majority of the interior volume is devoted to hay storage.

10. **The original walls and roofs of historic barns throughout the study area are frequently covered by a skin of corrugated sheet metal.** Covering wood shake roofs and weatherboard or vertical barn board walls with sheet metal has definitely increased the lifespan of the study area's historic barns. In determining National Register eligibility, the integrity of a barn was not dramatically reduced by minimal application of sheet metal to the roof and walls, since the practice was usually done before 1960 to preserve the barn's functionality. The application of sheet metal disqualified a property from eligibility if it was determined that it dramatically altered the original appearance. However, application of modern materials, namely aluminum or vinyl siding, did disqualify a property from eligibility.

11. **Barns in the northern half of Management Region 3 are larger, more common, and in better condition than those in the southern half.** There appears to be a stronger influence of Midwestern culture in extreme northeastern Oklahoma—roughly associated with the Neosho Lowlands—which is absent throughout the rest of the study area. Barns are larger there and reflect a historically diversified and productive commercial agricultural economy compared to the subsistence-farming counties of the Oklahoma Ozarks or the historic cotton-cattle region south of the Arkansas River.



The Keeney Dairy Barn, Big Cabin vicinity, Craig County (035-C). The large Gothic-arched roof dairy barn and its matching silo were built in 1941 using terra cotta load-bearing tile blocks. The elaboration of this interesting building material and high integrity of this WWII-era barn make it National Register-eligible.

12. **Very few barns survive in the Eastern Sandstone Cuesta Plains region of parts of Creek, Okfuskee, Okmulgee, and eastern McIntosh Counties in the southwestern part of the study area.** The Eastern Sandstone Cuesta Plains are in places very rugged with thin, stony soils covered by dense stands of scrub oak woodland. Historically, much of this area suffered severe soil erosion during the 1920s before rapid agricultural decline during the 1940s and 1950s. A heritage of cotton production, followed by a half-century of reforestation, and frequent wildfires can be attributed to the small number of barns observed in the region. Still, some excellent examples were located, particularly around the oilfield boom town of Bristow.



Wisconsin Dairy Barn, Bristow vicinity, Creek County (037-H). This dairy barn, easily one of Oklahoma's largest barns, is located west of the Creek County oilfield boomtown of Bristow, which provided a large urban demand for milk before large-scale outmigration at midcentury. Note the four layers of roof materials on this western exposure: original wood shakes, green asbestos shingles, dark asphalt shingles, and modern sheet metal.

13. Many barns throughout Management Region Three, especially the southernmost tier of counties, are **pole barns**. Most barns observed in Okfuskee, Okmulgee, McIntosh, Wagoner, Muskogee, and Sequoyah Counties were pole barns. Pole barns lack lofts and are constructed by planting upright poles directly into the ground. Sometimes called "loafing sheds," pole barns are usually of recent construction and do not reflect style or craftsmanship, thus the PI made little effort to record them. Those pole barns that were recorded represent counties where pole barns were among the only historic resources that could be located.



Jim Angel Barn, Lone Oak vicinity, Sequoyah County (135-D). This 1943 pole barn is typical of the southern tier of counties in Management Region Three, where King Cotton rose and fell faster than perhaps any other part of the former Cotton Belt. After the Great Depression the region's ravaged soils began their recovery as beef cattle operations expanded in number. Most pole barns are not as old as this example, but all are utilitarian and most are in poor condition.

14. **Bank ("Basement") barns exist in small numbers across the northern half of the study area.** Many incorporated native limestone from outcrops in western Osage and Pawnee Counties, but other examples can be found from Washington County to Ottawa County. Most bank barns are of the gable-end type. Bank barns appear to be very uncommon south of the Arkansas River, which suggests they may be associated with Midwestern settlers. Although barn scholars have vaguely noted this tendency west of the Mississippi River, no study has specifically examined gable-end bank barns.



Gable-end Bank Barn, Ochelata vicinity, Washington County (147-J). This handsome NR-eligible specimen overlooks a branch of the Cimarron in the Northern Limestone Cuesta Plains, from which its stone base was quarried. The small attached building (left) is a milk house, indicative of this resource's function as a dairy barn. Bank barns are relatively uncommon but widely distributed in central and northern Oklahoma.

15. **Several Amish barns were recorded in the Amish Triangle of southwestern Mayes County.** Hubert Wilhelm documented a type of barn found in Madison County, Ohio that resembles several barns recorded in this survey. These barns are characterized by an off-center wagon entry under a projecting gable and a pent roof along the front of the barn rather than a forebay, as in a Pennsylvania barn. This type also tends to have Dutch doors and right-angle straw or hay sheds. The resources documented in this survey are located in the Old Order Amish area of southwestern Mayes and southeastern Rogers Counties, where a group from Holmes County, Ohio settled around 1910.



Amish barn with eave-side bank, Mazie vicinity, Mayes County 097-A [123]. Although seemingly not that different from the exterior, this barn is constructed of milled timbers and in the Amish tradition. Such eave-side bank barns are exceptionally rare in Oklahoma; this barn would be much more at home in Pennsylvania or Ohio.

16. A few barns clad in structural terra cotta load-bearing wall tile were recorded.

Although not as common as in central Oklahoma, the use of structural terra cotta load-bearing wall tile was observed in several barns and even a few silos. In particular was one outstanding example in Craig County. Certainly these barns will persist longer than frame examples. Further research on the origin and use of this interesting material is needed.



Terra cotta load-bearing wall tile. The Keeney Dairy Barn 035-C [155], Big Cabin vicinity, Craig County, was constructed in 1941. It is the finest example of a barn constructed completely of this material. The survey recorded several other smaller barns and structures built of this material throughout the study area.

17. **Use of native stone in barn construction is very common in the northern tier of counties of the study area.** Utilization of native stone in every case observed involved locally-quarried sandstone. Substantial use of native stone for other than foundations was observed in Pawnee County. Native stone generally transitions in shade from west to east across northern counties: a buff-colored limestone prevails in western Osage County and this gradually turns to a dark brown and polychromatic sandstone in Ottawa County.



Use of Native Sandstone, Maramec vicinity, Pawnee County, 117-J [248]. This specimen is located on the broken cuesta uplands along the western edge of the Eastern Sandstone Cuesta Plains. Use of native stone is not uncommon in the northern tier of counties of the study area, and it is especially common in Pawnee County.

18. **A large number of single-crib and double-crib barns were observed in the southern counties of Management Region Three.** Single-crib barns were often the only barn-related resources that the PI could locate in the southernmost counties. Double-crib barns of both frame and log construction were recorded. Presumably, the smaller scale of farm operations in central Oklahoma, and perhaps the area's lesser need for winter hay, made small crib barns satisfactory in the corn and cotton system of that region. The ubiquity of small, frame single-crib and double-crib barns along the Canadian River is geographically striking. East of the Ninety-Sixth Meridian, and especially east of the Grand River, frame crib barns become mixed with log crib barns. The cultural landscapes of the Ozark counties of Management Region Three are clearly Upland Southern in character.



Single-crib log barn, Westville vicinity, Adair County, 001-H [017]. Deep in the heart of the Cherokee Ozarks, the cultural landscape is undeniably older and Upland Southern. Century-old log buildings such as this survive against the odds, often abandoned and unprotected. This specimen exhibits V-notching and contains a small hayloft.

19. **A few interesting hay hoods are found on barns in the Ozark counties of Management Region Three.** Hay hoods are the familiar triangular extensions at the top of a barn's gable that shields the block and tackle system of the ridgeline hay trestle. In addition to simple hay hoods, several examples of hanging gable and boxed hay hoods were located in Management Region Three. An unusual pattern observed was the clustering of bracketed hanging-gable hay hoods in Delaware County.



Large, braced hanging-gable hay hood, Colcord vicinity, Delaware County, 041-C [061]. For some unknown reason, the type of hay hood on this Cherokee Ozark barn is exceptionally common in a zone between the upper Illinois River and the Grand River Valley in Delaware County.

20. **There appears to be no geographic or chronological pattern in the original use of horizontal versus vertical wood cladding on the historic barns in the study area.** Both older and newer resources utilize horizontal weatherboard, and some combined both vertical and horizontal boards.

21. **Almost no barns in the study area contain murals or painted designs.** The most common of ornamentation on barns was a painted or attached metal five-pointed star on a gable facing the road. Barn murals and motifs, which can be found in the eastern United States, are not to be seen in northeastern Oklahoma.

22. **Barns with ridge top cupolas and metal ventilators are found in small proportions throughout Management Region Three.** Ridge top cupolas, sometimes referred to as “pigeon houses,” are ventilators, which were a necessity to ensure adequate airflow for confined livestock. Such cupolas were built on-site by carpenters. Prefabricated metal ventilators that pivot with wind direction were a later innovation. Both ridge top cupolas and metal ventilators are found on larger frame barns in the study area.



Ridgetop Cupola or “Pigeon House,” Bristow vicinity, Creek County. These roof components provide essential ventilation for livestock and reduce the risk of spontaneous combustion that can result from fresh hay composting.

23. **A good number of folk log buildings are present in the historic settlement districts of the Cherokee Nation in the eastern counties of Management Region Three.**

The survey recorded over 20 log buildings. Most log buildings were located in the Ozark counties of Adair, Delaware, Cherokee, and Sequoyah. A few were located in the former Creek Nation. The condition of log buildings ranges from ruins to very good.

VIII. ARCHITECTURAL REVIEW

Jana Phillips, AIA

The barns in this survey show a variety of size and materials across the nineteen (19) county survey area. This survey area spans a wide topography, climate and soil variation. Notable trends are seen in this survey area, including transverse crib barn layouts, stone construction, log/heavy timber construction, hay hoods, cupolas, and perimeter foundations. This region has a rich portfolio of varied construction types, materials and sizes of barns.

Barns are the signature building on a farm. They are the essence of farm life, utilitarian structures that are a reflection of the agrarian lifestyle. They can signify the business of a farm, whether cultivation of crops or ranching is the main enterprise. Barns tend to be the first permanent structure erected on a farm. The success by which a barn serves those living on a farm directly impacts the success of those individuals and their livelihood. A successful barn structure protects investments of livestock, feed and crops. In some cases, barns provide living quarters for people until a more permanent house structure can be erected. Barns suffice as the required improvements on the land claim to establish ownership in the areas of the land runs. They can also be indicators of the seasonal, economic, and cultural changes that occur in a region. Agrarian buildings more than most other building types, follow the “form follows function” mantra of American Architect, Louis Sullivan.

One of the first observations made of a barn is its size. The size is dependent on many factors. Often the most significant factor is the size of the farm. Barn size is typically directly proportional to the size of the farm/scale of operation. Other factors effecting size of

a structure include; how much the land owner could invest in the barn at the time of its erection; what materials are available locally; was the structure to provide shelter for large farm animals, smaller poultry, or for crops; did the requirements stipulate a hayloft? Often a smaller scale barn is complemented by smaller specialized support buildings. Large barns allow all the activities of the farm requiring shelter to occur under one roof. This may have been done for convenience's sake. In inclement weather this proves especially economic. Smaller barns allow for specialization of tasks. Separating Granaries from Livestock Barns can provide a more hygienic environment for feed or cash crops.

It is interesting to note some of the trends observed in Northeast Oklahoma. The Transverse Crib appears most often. There are many gambrel profile roofs, hay hoods, cupola or ventilator, wood siding is the dominant cladding system, and most of the survey subjects have some type of foundation. As observed in Northwest Oklahoma, there are a large percentage of multipurpose barns, referred to in this survey as Midwest Livestock Feeder Barns.

Even more barns than noted in the Central Oklahoma survey, have perimeter foundations. A fair percentage of cupolas or ventilators exist in this survey area, similar to Central Oklahoma. It is worth noting that the climate in Eastern Oklahoma tends to be more humid, thus requiring more air circulation to preserve both the goods and implements housed in the structure, the well-being of livestock, as well as the structure itself.

The architectural features of cupola, ventilator, and perimeter foundation contribute to the longevity of many of these structures. The cupolas allow air to flow effectively through the structure. This is especially important when storing hay. Hay needs to be protected from moisture to remain a viable food source for animals. The circulation of air allows the hay to

stay dry, and not overheat. This keeps the hay from molding and becoming unfit for animal consumption. There are a large number of barns with hay hoods which support the theory of much hay storage in this region. The benefit to the structural and cladding systems are similar. Proper air flow allows building components to maintain their integrity and function as intended.

Having a perimeter foundation constructed from an impervious material such as stone or concrete provides stability, as well as protection from moisture for the structural and cladding components. A perimeter foundation which runs continuously around a structure, except for door openings, allows an even distribution of gravity and wind forces to the ground.

The materials and style are common characteristics of the structures. Most of these barns still have wood siding as the cladding system. The above mentioned architectural features of cupola, ventilators, and perimeter foundations are a likely factor in the longevity of the original cladding material. By keeping the cladding well drained and ventilated, protective coats of paint are all that is needed to maintain the system. The traditional barn paint colors of red or white are the predominate paint colors used. Architecturally, one might anticipate seeing more metal siding, as it is a “newer” technology, being more moisture resistant than the wood siding, especially in a more moist climate than the western areas previously surveyed. When the need arises for replacement, wood cladding is more readily available from local sources than in the western areas of Oklahoma. This difference in topography is likely as much a factor of the wood siding as the architectural features to preserve the materials. Further observations of metal roofing replacing original wood shingles; support this theory of using locally available materials.

It is also possible that other contributing factors to the continued use of metal siding rather than making the switch to metal siding are the size of the farms, type of farming/ranching, and the more mild climate. Farming can be more time intensive, time specific according to the growing seasons than ranching. The more area the agricultural endeavor requires, the more time it takes to perform the livelihood tasks, which leaves less time for maintenance. The topography of the western areas has less productive soil which requires more acreage to ensure a viable profit margin. Therefore, the crop farms in the northwestern areas of the state likely have less time for maintenance than their ranching counterparts in the milder climate to the east. A mild climate provides more days of opportunity for maintenance of structures than one with greater temperature and moisture differentials. The greater the amount of changes, moisture/humidity, temperature, and greater winds will deteriorate materials quicker. The climate in these areas is much milder than any of the previous areas surveyed. This combination of climatic conditions lends itself to material longevity as well as the architectural features of the structures.

A couple of symbiotic features noted in this survey area are the large number of barns that have both a foundation and some sort of passive venting technique employed. As previously mentioned, this area has more annual rainfall than previous areas surveyed. Yet it does not experience the range of high and low temperatures of the other regions. This more mild climate and the availability of wood materials, both likely contribute to why a majority of the structures still have wood siding when compared with the number of barns especially in Northwest Oklahoma that have metal siding. The configuration of a masonry type of foundation with the ventilation benefits of either a cupola or ventilator hood, help protect the construction materials and contribute to the number of barns in relatively good condition.

A vast majority of the barns have a wood structural frame in common. A particularly interesting observation to note is the use of the heavy timber and log structures that are cataloged in this area. The topography changes across this area from plains to wooded areas. This distinction is likely impacted from the settlers and early inhabitants migrating from forested areas that were familiar with these construction techniques.

Wood frames can only survive if protected from moisture. Moisture whether from above or below, is the most damaging single decomposition agent of structures. Many of these have a composition of stone base/foundation that supports the wood frame. There is an observed increase in the depth of overhang in these subjects compared to other studies, especially in the Northwest counties. This is no doubt due to a need to shed water off the barn. The lesser winds in this region do not exert as much uplift on these overhangs; therefore they were not evolve to small or no overhang as seen in Northwestern counties.

A significant number of the survey subjects have load bearing masonry construction. The masonry varies greatly across the area from native sandstone, ranging in color from red to tan to shades of brown, to slate and what appears to be a limestone. The masonry construction also includes an example of terra-cotta clay bricks, and some concrete blocks. This type of construction allows the opportunity to express the masonry lintels in various forms for detail. Some lintels are constructed as keystone arches, both flat and curved, some lintels are longer pieces of stone, while others have used wood timbers for the lintels. A few of the lintels are constructed in contrasting materials and express some architectural detailing, adding character and interest to the survey subjects. These details require specific knowledge, artistry and skill in the craft of masonry.

The barns in the survey that incorporate native stone use a variety of coursing techniques. Some are “rubble style” that is the precursor to the popular “dry-stack” style currently seen in new construction. A large subject in Adair County is a good example of this construction method. Some of the stone has been chiseled into regular shapes, resulting in a regular pattern of shape and size in the masonry coursing. Others have been left in a natural quarried shape and oriented such that the irregular shapes of the stone are exposed, providing a very distinctive connection to their location on the planet. They are most definitely of their place.

Several barns in the eastern areas of the survey are log structures. This area has more native forest, and is an extension of the Ozark regions of Missouri and Arkansas. The logs were likely harvested on location. The true log structures are some of the smaller structures, limited by the size of the timber, available tools, and method of construction. Much older, handheld tools appear to have created these structures. Saddle-joint and V-groove joinery are used in some of these barns. The best preserved examples of the log structures is a square cut notch with the chink intact in Adair County. It has lean-to spaces on the sides which have no doubt helped protect it, as well as a simple rock foundation. Both Cherokee and McIntosh counties, have examples of both split logs with chink, and whole log construction. These are bearing wall construction, similar to the masonry structures, but using a more primitive method of this construction type.

There are some wonderful examples of heavy timber construction in the survey area; most of which likely was harvested and milled on site. There are examples of heavy timber frame construction in Washington, Ottawa, Mayes, and Cherokee counties. This type of construction is more sophisticated than the bearing wall log structures in other areas.

There is one example of a kit barn that was brought in by railcar, according to the current owner in Nowata County. The structural integrity of this barn has been kept in good condition. It was laid out with large members allowing for maximum open floor space under the broad broken gable roof. This is a concept that is prevalent in structural design today, especially in utilitarian uses of storage or manufacturing.

There are larger number of bank barns observed in this survey area when compared with the previous areas of Southwest, Northwest and Central Oklahoma. This may be attributed to the greater variation in terrain in Northeastern Oklahoma. These bank barns can be found in Washington, Mayes and Osage counties; typically these are masonry bearing wall type of construction to the eave with gable eaves. One atypical subject is a large masonry side bank barn with a hybrid round/gothic roof profile.

The various styles of pitched roofs aid in the longevity of these structures. The roof configurations are not as of much significance as the interior configuration of the barns in telling us about life on these farms. The configuration of the roof may or may not give clues as to the background of the builder, and the connection methods of which the builder was familiar. Gambrel rooflines are the most prolific in this area. There are some variations of a bit of gothic exaggeration to some of the gambrel roofs. Simple gable roofline was the next most common; many had a lower pitch at the end to create a broken gable over the outside bays. The “Witches Hat” profile was also a common trend, more prevalent in the eastern counties in the survey area than others. There are a handful of true arched rooflines also noted in this survey. Many barns had shed roofs added to one or more sides to provide covered mangers/feeding areas.

Northeastern Oklahoma, similar to Northwestern Oklahoma, has a large number of the survey subjects which are large, multipurpose barns , providing shelter for animals, feed, and workspace for the farmer. A fair number of dairy barns are documented along with the Midwestern Feeder style, as well as the transverse crib barn. This area receives more rainfall than previous areas. This would generate a greater need to keep feed dry and provide the farmer with work space protected from the elements. This hypothesis is also substantiated by the four crib log structures observed which employ similar materials, and types of spaces with very different construction techniques. The topography in this area is more wooded, as evidenced by the number of log and heavy timber structures. This wooded area also means that clearing must occur for grazing and farming. This yields a great deal of lumber to use in building large multipurpose structures, as well as achieving economy of space by including protected activities in a single structure rather than sacrifice grazing area to build more out buildings.

As observed around the metropolitan area of Oklahoma City, the areas around Tulsa and its environs, including Rogers County, have few older barns to observe. This can likely be attributed to the urban and suburban development of these areas. It is interesting to note some of the oil rich counties that prospered during the glory days of the oil boom, still have some wonderful examples of substantial barn structures. (Washington County, which includes Bartlesville - home of Phillips Oil Co, has some very sizable structures that have been well maintained.)

The more southern counties of Muskogee, Okfuskee, Okmulgee, and McIntosh are areas that were cotton producers prior to the Dust Bowl days. These areas reflect that history

with smaller barns that indicate primary usage by horses or mules for farming, and as all number of livestock to provide subsistence by a sharecropper family.

Very few standalone Granaries were observed in this survey area. This is indicative of the fact that this area of Oklahoma is not considered to be part of the “Bread Basket” which produces a substantial amount of grain for both human and livestock consumption. There are some Granaries that are observed as elements in larger Midwest Feeder Barns. One of the few standalone Granaries is a hexagon floor plan in McIntosh County. Its interior structure is quite unique and appears to be constructed with a specific use in mind. This was one of three nearly symmetric floor plans observed in this survey. Nearly every region surveyed has discovered at least one symmetric floor plan. This is not surprising as barns are utilitarian structures. There are very few activities in the agrarian endeavor that are equal in their support or outcome that would find a symmetric structure the best vehicle to aid in prosperity.

In the case of Dairy Barns, granaries were often located adjacent in the form of a round, often metal silo type. This observation is in accord with the attention to hygiene that is imperative in a commercial dairy operation. Dairy Barns also enjoy longevity due to their inherent design. They are designed to protect raw milk by incorporating impervious wall surfaces that will meet government standards for milk purchase. Typically plaster is applied to masonry or stone structures. This type of construction weathers against the elements better than wood frame/wood sheathing. Dairy Barns house the milking of cows.

Another contrast to note is that few of the barns surveyed in Northeast Oklahoma, have lean-to additions built on them for shade compared to the barns surveyed in more western, less wooded areas of Oklahoma. While Central Oklahoma barns tend to have

loafing sheds added to their sides, less of this is noted in Northeast Oklahoma. The Midwest Livestock Feeder Barn is adaptable by its very nature. Often times the weather or the markets will dictate if ranching or cultivating is the more lucrative endeavor. There are other adaptations that have occurred when horse, mule, or oxen power was no longer the most efficient means of farming, and the barns become home to tractors, combines, and other farm implements. The introduction of large round hay bales also lessens the need for sheltered hay storage.

A significant factor in their survival is that many of these barns have remained a vital part of farm life. These subjects have been well preserved by maintenance, and timely repairs. In the cases where the barns have become antiquated and not adapted to a modern use, many of them exist due to the attachment that the current land owner has to the ideal of the structure. These large barns are landmarks, and have been maintained when a smaller structure would suffice. Cultures identify with their structures. The obvious clumping of styles and construction techniques are indicative of settlers bringing their techniques and skills from previous locations to the Oklahoma landscape. This is illustrated most notably in this survey in the masonry structures.

The well-kept stone masonry barn in Ottawa County that bears the name of the Bar T Ranch is a wonderful example of a landmark structure. The tall round-top structure of gray stone with sandstone window lintels definitely has its own sense of character. The barn has been maintained with a metal roof, glass windows, and traditional red paint on the doors and round gable ends. The interior structure has also been well maintained to retain its very efficient longitudinal trusses that allow maximum storage in its hayloft. A neighboring barn with similar stone construction doesn't have the masonry details of the Bar T Ranch Barn,

but is no less an impressive masonry structure of large scale that has also been well maintained. By contrast it has more typical features of a gambrel roof profile, and has been retrofitted with metal wall panels in traditional barn red color.

Another sizable masonry structure in Ottawa County is a cut stone barn. It has concrete lintels of the large openings and has been maintained with a metal roof in dark brown which handsomely complements the native stone structure. It is adjacent to a pair of stone kiosks which seem to signify an entry point. It is easy to imagine the glory days gone by when this barn was the pride of the landowner, likely housing wagons, carriages as well as the horses and mules which provided the transportation power.

Craig County has a couple of examples of masonry construction of note. One appears to be hollow clay brick that is of substantial size with flanking lean-to's and a matching silo. It appears to be continuing to serve as a Dairy Barn. Another masonry structure in Craig County is made of a greenish-gray slate with contrasting insets of the letter "T", supposedly the first letter of the original owner's surname.

Tulsa County has a handful of masonry structures. It is interesting to note the limestone colored barn observed, as that material isn't seen a lot in this area. It is indicative of the limestone found in the eastern Kansas or Central Texas. There a couple of sandstone barns that survive near urban development in the Sand Springs area. They are reported to have been built by Charles Page, a community leader in Sand Springs' history. They do have some crude, but proportional keystone lintels of stone on the larger building.

Pawnee County has a few masonry structures of sandstone which have color ranges from pinkish-red to golden-rust, indicative of the variation of deposits across that area. Some are more refined than others. A particular one, which can be observed from the Cimarron

Turnpike, has lintels in the round gable ends articulated with elongated sandstones in a keystone pattern. It appears to be a carriage house type of barn with its very regular large openings that look much like a modern day garage. There is an abandoned house nearby that is of the same stone, but the carriage house size and configuration is still of practical use. This is likely why it has been maintained.

Less of the barn structures in the Northeastern Oklahoma area have been adapted to remain relevant in daily farm life than in Central, or Southwestern Oklahoma, but more so than Northwestern Oklahoma. This may be a reflection of society in more recent times than industrialization on the farm. Much of the population in rural areas will maintain their rural residence and its proximity for outdoor recreation when their livelihood relocates to a community. Many people raised in the solitude of country life prefer that familiarity when their lifestyle changes to one of an employee rather than a self-employed farmer/rancher. This region of Oklahoma is known for its abundance of outdoor activities with more opportunities to hunt, fish and/or water sports.

The condition of the barns is reflective of how the current landowner views the viability of the structure. Current agrarian practices do not typically require one large structure to contain all the daily activities of farm/ranch life. In many instances, only portions of the surviving barns are used in day to day activities. Others are simply kept up due to their iconic nature and the inherent attachment the rural community has to them.

Trends in these barns are a wonderful study in form following function. The rationale for their continued existence is due to their continued viability to the landowner. Buildings with large open spaces to shelter livestock, equipment, cash and feed crops, or provide space for repairs are useful regardless of current technology. This utility is seen in modern

commercial buildings by a continued request for clear spans that adapt to a variety of uses. This adaptability of a barn structure in a rural setting is similar to the reclaimed brick warehouses in many older urban neighborhoods. The revitalization of Bricktown just east of downtown Oklahoma City, or of warehouses in the Brady District and areas to the north of downtown Tulsa, are perfect examples of sturdy building stock, with an open floor plan being adapted for a redefined viability. Just as the brick warehouses provide history and pride for the urban dwellers; the surviving barns provide a sense of history of survival in rural areas.

Barns can also be used as examples of sustainable design. Sustainable design is far from a new concept on the farm. Study of the daily workings on a farm will quickly indicate much labor is required even when using the latest technology available. Any methodologies that conserve energy, labor, and maintain material resources are considered sustainable. Structures are to aid the building users in their activities, even if those activities seem mundane. Often it is the mundane tasks for which buildings can be the most useful. For the majority, their materials come from local resources. They are designed for natural ventilation; most taking advantage of prevailing winds, and providing large overhangs only along the southerly exposures. They are designed to use a minimum amount of energy to serve their daily purposes. All of these are concepts architects incorporate into sustainable building design. Sustainable buildings are unique to their time and location on the planet. Successful sustainable buildings are also simplistic. Minimal input for maximum output is the goal of sustainability. A goal shared by any agrarian endeavor.

Barns show us that ingenuity can find adaptive uses for existing structures. It is almost always more advantageous to remodel an existing structure, capitalizing on its kinetic

energy, rather than removing and replacing it. Farm life is the epitome of sustainability and efficiency. Preservation and rehabilitation of these structures also preserve history of a region. The barn structures can be indicators of what was successful in the past, as well as what activities became obsolete. Barns by their sheer personality, typify the values of their communities. Farming and Ranching communities value economy, and stewardship of the natural resources available in the region. Cultures thrive when they know and understand their history.

IX. KINDS OF HISTORIC RESOURCES IN THE SURVEY AREA

A National Park Service Preservation Brief by Michael J. Auer, titled *The Preservation of Historic Barns*, is available on the Internet. This site offers descriptions of five barn types (Dutch, Bank, Crib, Round, and Prairie) found in the American landscape. Unfortunately, this site is inadequate for gaining much of an understanding of the breadth of extant barn types in the study area. Auer's site defines the "Prairie barn" as containing a "hay hood," yet such features are common on several barn types. Nowhere in the extensive literature on North American barns is there mention of a "Prairie" or "Western" style barn, although websites like Wikipedia have replicated this schema. In this survey I have chosen to not use the term. Round barns and Dutch barns, likewise, are intriguing forms, yet both are exceptionally rare. Round barns have always been idiosyncratic and are found mostly in Corn Belt states. Dutch barns are confined to a few Middle Atlantic states and are extremely rare. Crib barns are common in southern Oklahoma, but they come in an array of types. Where they are common, barns with subterranean basements or 'banks' can be classified into any number of varieties (English bank barns, Pennsylvania German barns).

Auer's limited classification is odd because there is an academic literature on North American barns. These works are mostly by a small group of folklorists and cultural geographers and almost all of it focuses on the eastern one-third of North America. The most significant scholarship on North American barns and farm outbuildings is found in several periodicals published by the Pioneer America Society. Geographers Fred B. Kniffen and folklorist Henry Glassie are regarded as having influenced second- and third-generation barn researchers. The most prolific barn scholars of recent decades include Allen G. Noble, Alvar

W. Carlson, Hubert G. H. Wilhelm, Keith R. Sculle, Robert Ensminger, Terry G. Jordan-Bychkov, John B. Rehder, Charles F. "Fritz" Gritzner, Malcolm L. Comeaux, John Morgan, Matti Kaups, Karl B. Raitz, John Fraser Hart, H. Wayne Price, Peter O. Wacker, James Shortridge, Richard V. Francaviglia, and Wilbur Zelinsky. Because they focus on Texas, the mountain West, and Kansas, the works of Jordan-Bychkov and Shortridge are most relevant to this study of Oklahoma. Their useful works are listed in the annotated bibliography of this report.

Most barn scholarship has focused on the eastern United States and researchers in western states have few guideposts in the way of typologies or terminology. In 1995 cultural geographers Allen G. Noble and Richard Cleek published a much-reprinted field guide to barns and outbuildings titled *The Old Barn Book*, which contains many good drawings and is helpful in understanding the basics of pre-1890 barns east of the Great Plains. While this work is not the best source for identifying barn types in the field in Oklahoma, it is very useful as a guide to barn components, and is analogous to *A Field Guide to American Houses* by McAlester and McAlester. The Noble and Cleek guide is used only minimally in this survey to suggest typologies; many properties do not conform in any way to those presented in *The Old Barn Book*.

A very helpful, though less-authoritative, work is John Michael Vlach's simply-titled *Barns*, is quite useful because it is a regionally-organized collection of Depression-era barn photographs housed at the Library of Congress. Vlach downplays barn typology, arguing that, upon close inspection, barns are rarely identical, and by so doing he implies that barn classification is a complicated endeavor. He makes no distinction between the Midwest livestock feeder barn and the transverse-crib barn. Other accomplished barn scholars,

notably John Fraser Hart, Terry Jordan-Bychkov, and James Shortridge, generally concur that only the most basic typology of barns is useful. They are reluctant, due to their own years field experiences, to “split hairs” in classifying barns in the manner of Noble and Cleek.

For this survey I have attempted to arrive at a compromise between being too general and too specific regarding barn typologies. The following barn typology was developed after weighing Noble and Cleek’s field guide with my own field observations. What I hope to provide is a consistent, simple-to-use, first approximation of barn types of Oklahoma.

A. Transverse-Crib Barns

The transverse-crib barn has been well-documented as an American barn type that originated around 1800 in the Great Valley of southwestern Virginia and Upper East Tennessee. Some barn scholars believe that it is the direct descendant of the archaic four-crib log barn with a gabled roof in which the ridgeline was perpendicular to the main entry (similar in form to a double-pen dogtrot house with a connecting passageway). The theory is that Upland Southern Appalachian farmers developed the transverse-crib barn by merely rotating the ridgeline 45 degrees so that the central aisle or “runway” ran parallel to the ridgeline. The eave sides of the resulting structure were enclosed to create six cribs, which allowed additional cribs to be added, as needed, to the gable ends. No other scholar has studied the transverse-crib barn more than cultural geographer Terry G. Jordan-Bychkov. Jordan-Bychkov remains skeptical about the evolution of the barn, but he is fairly certain of its geographic origins.

Jordan-Bychkov defines the Transverse-crib barn as containing:

- (a) gables facing front and rear;
- (b) a central runway beneath the roof ridge having wagon access at both ends;
- (c) four to ten cribs (typically six) on either side of the runway;
- (d) a loft positioned above the cribs;
- (e) multipurpose functions, essentially granaries, stalls, and hay storage.

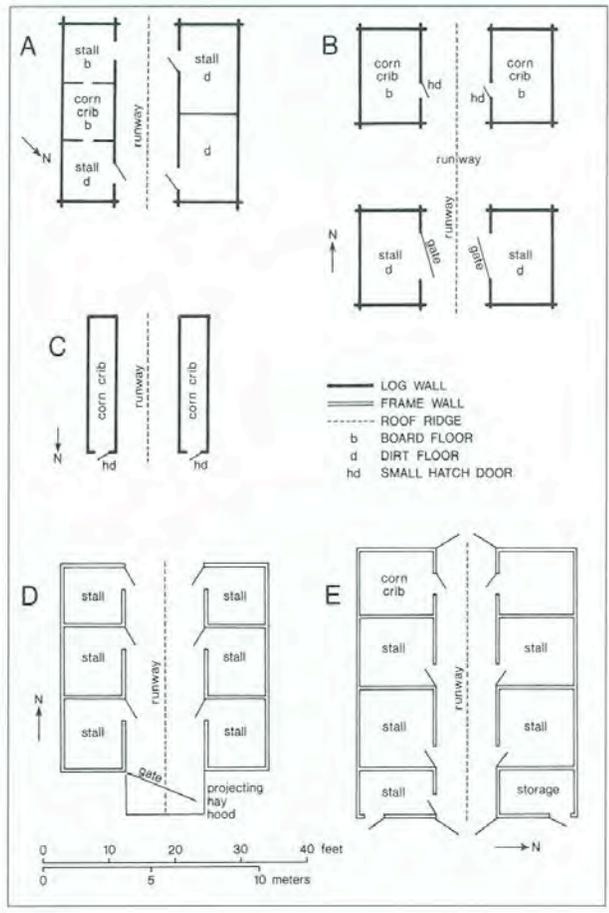
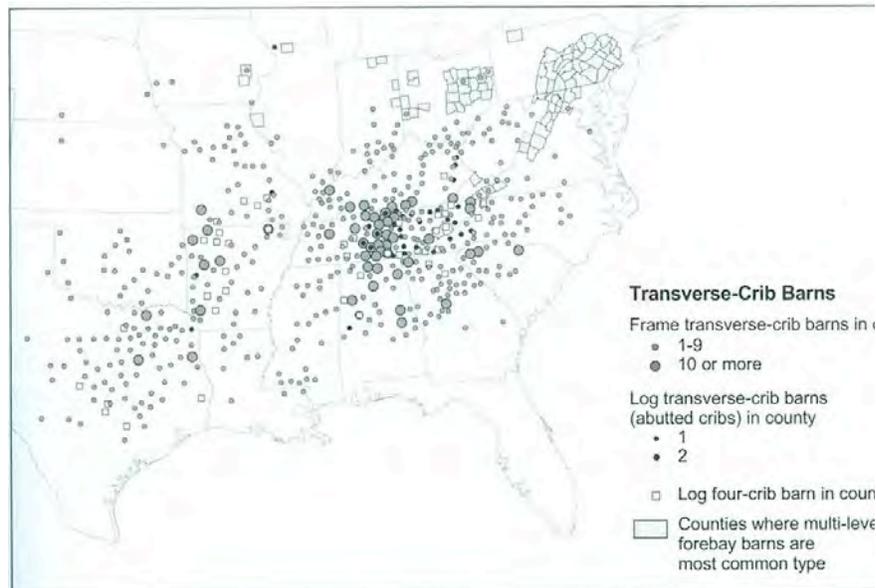


FIGURE 4.5 Plans of representative barns: A = transverse-crib near Paintsville, Johnson County, Kentucky, built of saddle-notched, round poplar logs; B = four-crib barn near Flower Mound, Denton County, Texas, ca. 1880, with elongated cribs made of saddle- and V-notched post oak logs; C = drive-in corner crib at Brattonsville, York County, South Carolina, consisting of heavy, half-dovetailed logs; D = frame transverse-crib, Hardin County, Illinois; and E = frame transverse-crib, ca. 1850, near Yates, Howard County, Missouri. All shed additions and frame additions to log barns have been deleted from the plans, to emphasize the basic barn. (Sources: Marshall 1981, 73; Sculle and Price 1993, 18; Jordan-Bychkov 1998, 8.)

Transverse-crib barn plan evolution. Source: Jordan-Bychkov, *The Upland South*, p. 47



Transverse-crib Observations. Source: Jordan-Bychkov, *The Upland South*, p. 55.



Typical Northeast Oklahoma Transverse-crib Barn, Coweta vicinity, Wagoner County. Note squat size, prominent open runway and loft door in gable wall. Eave-side lean-to additions are common.

Transverse crib barns became widespread in the Upland South by the latter 1800s and diffused widely to the southern section of the Middle West. Indeed, Jordan-Bychkov declared the transverse-crib barn to be a “diagnostic” trait of the Upland Southern landscape. After 1890 most transverse-crib barns were built with sawn lumber rather than logs. Presumably, the transverse-crib barn was taken wherever Upland Southerners and Midwesterners settled, including all of Oklahoma. The transverse-crib barn’s simple form allowed many practical alterations. One of the most common was the addition of flanking sheds to the eave sides.

A transverse-crib barn with flanking eave-side sheds creates a variety of ‘broken gable’ or ‘broken gambrel’ forms. Transverse-crib barns containing only one flanking shed have the appearance of a saltbox roof.

Transverse-crib barns are ubiquitous in the central and south-central Oklahoma study area. Barn scholars do not agree on how to distinguish a transverse-crib barn from the larger, more complex Midwest livestock feeder barn that retains the transverse-crib form. For this survey, then, I have opted to define a transverse-crib barn as any small to medium-size, multiuse (not complex), rectangular, end-entry barn originally containing granaries, stalls and a hay loft. Roof types, wall-cladding, color, and other consideration employed on the classification of domestic architecture are—following many statements in the literature—inconsequential; even door placement is not such an important factor for most barns constructed after 1890. Alternatively, the relatively large, (especially tall) barns that retain the general plan of the transverse-crib barn are classified in this survey as Midwest livestock feeder barns.

B. Midwest Livestock Feeder Barns

Cultural geographers tend to agree on the existence of a barn type known as the Midwest 'livestock feeder barn' that evolved from the transverse-crib barn in Kentucky and the Ohio Valley. By 1870 these large livestock feeder barns came to dominate the Corn Belt from Ohio to Nebraska. While no formal definition exists, feeder barns often follow the form of the subsistence-derived transverse-crib barn, but they are larger. They are larger because Midwest farms endured longer winters and were larger in scale than Appalachian farms. They required more interior space for housing work stock, milking cattle, and sheltering cows and calves; they required huge haymows for large amounts of winter hay and feed grains (oats, corn); and they were occasionally used to store cash grains (wheat). Barns also functioned to store expensive tack and provide sheltered workspace for the Corn Belt farmer. As such, the Midwest livestock feeder barn is the landscape expression of the highest level of non-mechanized farm productivity that ever existed in the United States. For this survey, a Midwest livestock feeder barn is defined as any large, tall barn with a relatively large hay capacity and a relatively complex interior design (if known) which is not dominated by diagnostic traits of other barn types. Roof type, wall-cladding, and color are inconsequential. Door placement on Midwest livestock feeder barns may resemble distinct types noted in the literature as "three-bay barns," "three-portal barns," "Appalachian barns," and these distinctions are noted on their individual historic property identification forms. Nevertheless, functionally they are regarded as feeder barns and are classified here as such.



Midwest Livestock Feeder Barn, Guthrie vicinity, Rogers County. This large a large, native sandstone giraffe-clad, Gothic-arched specimen has a huge haymow to support a large herd of beef cattle through the winter.

C. Crib Barns

Single-crib and double-crib barns are the oldest, smallest, and simplest form of American barn. Originally constructed of logs, these rectangular gabled buildings continued to be built of lumber well into the twentieth century. The only difference between a single-crib barn and a mere cornercrib or granary is that the single-crib barn is always constructed of wood and has more uses than simply storing grain. It must also shelter livestock, store hay, or provide workspace for the farmer.



Single-crib barn, Hulbert vicinity, Cherokee County. Small, single- and double-crib barns, including log specimens such as this one, are especially common in the Ozark sections of the study area.

D. Bank Barns

According to Noble and Cleek, the English bank barn is essentially a three-bay threshing barn with an excavated lower level. The upper level is used for feed storage and subterranean level is for housing livestock. Importantly, the main banked entry of this barn type is on the eave side, and the lower walls are constructed of stone or masonry. Some examples recorded in the study area conformed to this description, but others contained gable-end banks, and I have yet to find a source that examines gable-end bank barns.



Bank Barns, (above) Evening Shade vicinity, Cherokee County; (below) Caney, Kansas vicinity, Washington County. Bank barns are uncommon, but found throughout the study area. Both front-gabled and eave-front examples can be found. Note erosion of earthen ramp on the older, abandoned lower specimen.

E. Wisconsin Dairy Barns

Noble and Cleek define the Wisconsin dairy barn as a large (36' by 100' or larger) barn with a gambrel, round, or Gothic-arched roof, gable-end doors, and a long row of windows along the eave side. These barns often have metal ridge ventilators. They are common in the western Great Lakes dairy belt.



Wisconsin dairy barn, Bristow vicinity, Creek County. This massive dairy barn is the largest recorded in Management Region Three and is among the ten largest barns in the entire state.

F. Raised Barns

Raised barns are similar to three-bay threshing barns and are characterized by lower walls constructed of stone or masonry. They are frequently used as dairy barns and are found on level terrain.



Raised barn, Quapaw vicinity, Ottawa County. Raised barns tend to be aligned to the east and west, with a single row of milking stanchions along the south wall in order to utilize light during cold winter mornings.

G. Log Barns

The most intriguing resources found in the study area were those of folk log construction. Most folk log buildings were found along the eastern fringe of the study area, especially the eastern counties of Management Region Five, which was part of the Chickasaw Nation. Library research indicates that there is essentially no published work on log construction in this area of Oklahoma, and nothing specific on the Chickasaw Nation. A thematic survey focusing on barns and/or log construction in eastern Oklahoma (former Indian Territory) would locate numerous folk log buildings for OLI and National Register.



Double-crib log barn, Wetumka vicinity, Okfuskee County. Over two dozen log buildings were located in Management Region. Most were single-crib log barns, usually with a loft. A few examples of double-crib log barns, such as the one pictured above, were also located. V- and saddle-notches are the most common type of corner-timbering.

X. SPECIFIC PROPERTIES IDENTIFIED

During the course of the Thematic Survey of Historic Barns in Central and South-Central Oklahoma, some 181 resources over the age of fifty years were identified and recorded at the minimal level of documentation. Each property is listed and illustrated below by county according to its Resource ID number, cross-referenced GPS waypoint, and a legal description of its location to the nearest 160-acre quarter-section.

COUNTY: ADAIR		
FILE [GPS]	PROPERTY	PHOTO
001-A [001]	FRANK DANIELS BARN (B. 1925) NE4 SECTION 06-T19N-R26E (IM) WEST SILOAM SPRINGS	
001-B [002]	TILLERY BARN NE4 SECTION 06-T19N-R26E (IM) WEST SILOAM SPRINGS	
001-C [004]	SW4 SECTION 06-T19N-R26E (IM) WEST SILOAM SPRINGS	
001-D [006]	NW4 SECTION 15-T19N-R25E (IM) WATTS	
001-E [008]	NW4 SECTION 34-T19N-R25E (IM) WATTS	
001-F [011]	C. W. HAMPTON BARN SE4 SECTION 29-T19N-R24E (IM) WATTS	
001-G [016]	NW4 SECTION 7-T17N-R24E (IM) PROCTOR	
001-H [017]	NE4 SECTION 27-T18N-R24E (IM) WESTVILLE	
001-I [027]	SE4 SECTION 36-T18N-R25E (IM) WESTVILLE	
001-J [033]	NE4 SECTION 28-T16N-R25E (IM) STILLWELL	

COUNTY: CHEROKEE		
FILE [GPS]	PROPERTY	PHOTO
021-A [015]	BOB SKAGGS BARN (B. 1945) NE4 SECTION 12-T17N-R23E (IM) PROCTOR	
021-B [034]	CARL ROBBINS BARN (B. 1954) NE4 SECTION 34-T15N-R23E (IM) COOKSON	
021-C [035]	ENOCH CARTER BARN (B. 1912) NW4 SECTION 12-T15N-R22E (IM) PETTIT	
021-D [036]	SW4 SECTION 06-T15N-R22E (IM) TAHLEQUAH	
021-E [037]	SW4 SECTION 5-T15N-R21E (IM) TAHLEQUAH	
021-F [038]	SE4 SECTION 17-T16N-R21E (IM) TAHLEQUAH	
021-G [040]	JACKSON CRIB BARN NE4 SECTION 17-T16N-R21E (IM) HULBERT	
021-H [056]	NW4 SECTION 33-T18N-R20E (IM) HULBERT	
021-I [057]	NW4 SECTION 32-T18N-R21E (IM) HULBERT	
021-J [079]	NE4 SECTION 22-T18N-R22E (IM) TAHLEQUAH	

COUNTY: CRAIG		
FILE [GPS]	PROPERTY	PHOTO
035-A [152]	SEC. 31 (SW4) T25N-R19E (IM) (CA. 1920) WHITE OAK	
035-B [153]	LAUCHNER DAIRY BARN SEC. 12 (NW4) T24N-R19E (IM) (CA. 1938) WHITE OAK	
035-C [155]	KEENEY DAIRY BARN (1941) SEC. 33 (NE4) T24N-R20E (IM) BIG CABIN	
035-D [158]	HARLEY ROGERS BARN (CA. 1945) SEC. 08 (SE4) T24N-R21E (IM) KETCHUM	
035-E [160]	PRUE BARN (CA. 1945) SEC. 23 (SE4) T25N-R21E (IM) BERNICE	
035-F [161]	SEC. 25 (NE4) T25N-R21E (IM) (1920) BERNICE	
035-G [163]	SEC. 01 (NW4) T24N-R20E (IM) (CA.1930) VINITA	
035-H [167]	SEC. 32 (SE4) T26N-R19E (IM) (1914) ESTELLA	
035-I [252]	SEC. 26 (SW4) T29N-R20E (IM) (CA. 1930) WELCH	
035-J [255]	SEC. 05 (NW4) T28N-R18E (IM) (CA. 1930) BANZET	

COUNTY: CREEK		
FILE [GPS]	PROPERTY	PHOTO
037-A [214]	SEC. 03 (NW4) T18N-R07E (IM) (CA. 1950) OILTON	
037-B [215]	SEC. 19 (SE4) T16N-R09E (IM) (CA. 1930) BRISTOW	
037-C [216]	SEC. 19 (SE4) T16N-R09E (IM) (CA. 1950) BRISTOW	
037-D [218]	REID MCCULLOGH BARN (CA. 1920) SEC. 23 (SW4) T16N-R08E (IM) BRISTOW	
037-E [219]	SEC. 20 (SW4) T14N-R09E (IM) (CA. 1945) BRISTOW	
037-F [221]	SEC. 07 (NE4) T15N-R09E (IM) (CA. 1945) BRISTOW	
037-G [222]	SEC. 10 (SE4) T16N-R08E (IM) (CA. 1950) BRISTOW	
037-H [223]	SEC. 14 (NW4) T16N-R08E (IM) (CA. 1930) BRISTOW	

COUNTY: DELAWARE		
FILE [GPS]	PROPERTY	PHOTO
041-A [058]	SEC. 19 (NE4) T20N-R23E (IM) (1946) LEACH	
041-B [059]	SEC. 24 (SE4) T20N-R23E (IM) (CA. 1900) KANSAS	
041-C [061]	SEC. 15 (NW4) T20N-R25E (IM) (CA. 1930) COLCORD	
041-D [063]	BRUCE DEYOUNG BARN (CA. 1920) SEC. 10 (NE4) T20N-R25E (IM) COLCORD	
041-E [074]	SEC. 03 (SE4) T21N-R24E (IM) (CA. 1930) JAY	
041-F [076]	SEC. 05 (NE4) T21N-R24E (IM) (CA. 1920) JAY	
041-G [078]	SLIM WHITBE BARN (1949) SEC. 27 (SW4) T20N-R23E (IM) OAKS	
041-H [080]	SEC. 36 (SE4) T22N-R23E (IM) (CA. 1950) EUCHA	
041-I [081]	E. F. HOUSTON BARN (CA. 1930) SEC. 31 (SE4) T24N-R24E (IM) GROVE	
041-J [082]	HUCKABY BARN (CA. 1920) SEC. 29 (NW4) T24N-R24E (IM) GROVE	

COUNTY: MAYES		
FILE [GPS]	PROPERTY	PHOTO
097-A [123]	SEC. 15 (SE4) T19N-R18E (IM) (CA. 1915) MAZIE	
097-B [124]	CHARLIE BUSSEY BARN (CA. 1915) SEC. 23 (SW4) T19N-R18E (IM) MAZIE	
097-C [125]	SEC. 10 (NE4) T19N-R18E (IM) (CA. 1945) MAZIE	
097-D [127]	SEC. 16 (NE4) T19N-R18E (IM) (CA. 1915) MAZIE	
097-E [128]	SEC. 09 (NE4) T19N-R18E (IM) (CA. 1955) MAZIE	
097-F [138]	SEC. 30 (SW4) T20N-R20E (IM) (CA. 1910) LOCUST GROVE	
097-G [143]	SEC. 18 (NW4) T19N-R20E (IM) (CA. 1950) CEDAR CREST	
097-H [147]	SEC. 36 (SW4) T19N-R20E (IM) (CA. 1920) PEGGS	
097-I [148]	SEC. 15 (SW4) T20N-R20E (IM) (CA. 1920) LOCUST GROVE	
097-J [149]	GODECKEE DAIRY BARN (CA. 1930) SEC. 22 (NE4) T23N-R18E (IM) ADAIR	

COUNTY: MCINTOSH		
FILE [GPS]	PROPERTY	PHOTO
091-A [085]	SEC. 02 (NW4) T10N-R15E (IM) (CA. 1900) STIDHAM	
091-B [087]	KYLE BUCK BARN (CA. 1950) SEC. 34 (SE4) T11N-R15E (IM) STIDHAM	
091-C [091]	SEC. 26 (SW4) T09N-R14E (IM) (CA. 1900) HANNA	
091-D [107]	SEC. 36 (SW4) T09N-R13E (IM) (CA. 1920) HANNA	
091-E [108]	SEC. 01 (NW4) T08N-R13E (IM) (CA. 1920) HANNA	
091-F [110]	SEC. 09 (SE4) T08N-R13E (IM) (CA. 1900) HANNA	
091-G [112]	SEC. 07 (SE4) T10N-R17E (IM) (CA. 1920) EUFAULA	
091-H [113]	SEC. 32 (SW4) T11N-R17E (IM) (CA. 1950) ONAPA	
091-I [115]	SEC. 03 (SE4) T11N-R17E (IM) (CA. 1950) CHECOTAH	
091-J [117]	RUSSELL DOBSON BARN (CA. 1920) SEC. 25 (SE4) T12N-R16E (IM) CHECOTAH	

COUNTY: MUSKOGEE		
FILE [GPS]	PROPERTY	PHOTO
101-A [196]	SEC. 31 (NE4) T14N-R17E (IM) (CA. 1950) WAINWRIGHT	
101-B [197]	SEC. 26 (SW4) T13N-R15E (IM) (CA. 1950) COUNCIL HILL	
101-C [198]	SEC. 34 (NE4) T13N-R16E (IM) (CA. 1950) WAINWRIGHT	
101-D [199]	SEC. 12 (SE4) T13N-R17E (IM) (CA. 1950) OKTAHA	
101-E [200]	SEC. 21 (SW4) T14N-R18E (IM) (CA. 1930) SUMMIT	
101-F [201]	SEC. 30 (NE4) T15N-R18E (IM) (CA. 1920) MUSKOGEE	
101-G [334]	F. M. BROCK DAIRY BARN (CA. 1920) SEC. 09 (SE4) T13N-R19E (IM) OKTAHA	
101-H [335]	SEC. 32 (SW4) T14N-R19E (IM) (CA. 1930) OKTAHA	
101-I [336]	SEC. 23 (SE4) T15N-R17E (IM) (CA. 1920) MUSKOGEE	
101-J [338]	SEC. 22 (SE4) T15N-R16E (IM) (CA. 1950) TAFT	

COUNTY: NOWATA		
FILE [GPS]	PROPERTY	PHOTO
105-A [284]	SEC. 23 (SE4) T27N-R15E (IM) (CA. 1920) DELAWARE	
105-B [285]	SEC. 07 (SW4) T27N-R16E (IM) (CA. 1920) LENAPAH	
105-C [286]	SEC. 26 (NW4) T27N-R16E (IM) (CA. 1950) DELAWARE	
105-D [287]	SEC. 29 (NE4) T29N-R15E (IM) (CA. 1920) SOUTH COFFEYVILLE	
105-E [288]	FRANK STRITZKE DAIRY BARN SEC. 20 (SE4) T29N-R15E (IM) (1938) SOUTH COFFEYVILLE	
105-F [289]	FRANK STRITZKE BARN (1904) SEC. 29 (SE4) T29N-R15E (IM) SOUTH COFFEYVILLE	
105-G [290]	FRANK STRITZKE SALTBOX BARN (1938) SEC. 29 (SE4) T29N-R15E (IM) SOUTH COFFEYVILLE	
105-H [291]	SEC. 22 (SW4) T29N-R15E (IM) (1904) SOUTH COFFEYVILLE	
105-I [294]	SEC. 35 (SW4) T27N-R17E (IM) (CA. 1930) CENTRALIA	
105-J [295]	SEC. 12 (NW4) T26N-R17E (IM) (CA. 1945) CENTRALIA	

COUNTY: OKFUSKEE		
FILE [GPS]	PROPERTY	PHOTO
107-A [296]	YORK BARN (CA. 1920) SEC. 22 (NW4) T13N-R10E (IM) HAYDENVILLE	
107-B [304]	SEC. 07 (SE4) T12N-R11E (IM) (CA. 1900) NUYAKA MISSION	
107-C [305]	SEC. 31 (SE4) T10N-R10E (IM) (CA. 1930) WETUMKA	
107-D [306]	SEC. 26 (SE4) T10N-R09E (IM) (CA. 1930) BEARDEN	
107-E [307]	SEC. 24 (SE4) T10N-R09E (IM) (CA. 1920) BEARDEN	
107-F [308]	SEC. 01 (NW4) T10N-R09E (IM) (CA. 1920) BEARDEN	
107-G [309]	SEC. 04 (SW4) T10N-R09E (IM) BEARDEN	
107-H [310]	MARY OTTS CRIB BARN (CA. 1910) SEC. 17 (NW4) T10N-R09E (IM) BEARDEN	
107-I [311]	MARY OTTS BARN (CA. 1920) SEC. 17 (NW4) T10N-R09E (IM) BEARDEN	
107-J [312]	SEC. 15 (NW4) T11N-R09E (IM) (CA. 1930) OKEMAH	

COUNTY: OKMULGEE		
FILE [GPS]	PROPERTY	PHOTO
111-A [313]	DORA MAY TAYLOR BARN (1937) SEC. 16 (NW4) T15N-R11E (IM) BEGGS	
111-B [314]	SEC. 29 (SW4) T16N-R12E (IM) (CA. 1950) MOUNDS	
111-C [315]	SEC. 14 (NW4) T13N-R14E (IM) (CA. 1950) MORRIS	
111-D [316]	SEC. 01 (SW4) T13N-R13E (IM) (CA. 1930) MORRIS	
111-E [317]	SEC. 03 (SW4) T13N-R13E (IM) (CA. 1920) OKMULGEE	
111-F [318]	SEC. 26 (SE4) T12N-R13E (IM) (CA. 1950) DEWAR	
111-G [319]	DEHART BARN (CA. 1910) SEC. 10 (SE4) T11N-R13E (IM) HENRYETTA	
111-H [320]	CURTIS PARTON BARN (1946) SEC. 11 (SW4) T11N-R13E (IM) HENRYETTA	
111-I [321]	SEC. 32 (NE4) T11N-R12E (IM) (CA. 1930) BRYANT	
111-J [323]	FLOYD GALE BARN (1929) SEC. 08 (NW4) T11N-R12E (IM) MORRIS	

COUNTY: OSAGE		
FILE [GPS]	PROPERTY	PHOTO
113-A [261]	GREG WOOTERS BARN (CA. 1920) SEC. 25 (NW4) T25N-R02E (IM) MCCORD	
113-B [263]	SEC. 12 (SW4) T25N-R03E (IM) (CA. 1945) MCCORD	
113-C [264]	HARDY BARN (CA. 1935) SEC. 05 (NE4) T25N-R03E (IM) MCCORD	
113-D [265]	SEC. 16 (SW4) T28N-R07E (IM) (CA. 1950) FORAKER	
113-E [272]	SEC. 16 (SE4) T23N-R12E (IM) (CA. 1945) AVANT	
113-F [273]	SEC. 05 (SW4) T23N-R12E (IM) (CA. 1930) AVANT	
113-G [275]	WOLVERINE OIL COMPANY DRAYAGE BARN (1923) NR 97001152 (1997) SEC. 24 (NE4) T24N-R11E (IM) AVANT	
113-H [277]	SEC. 16 (NE4) T24N-R11E (IM) (CA. 1920) BARNSDALL	
113-I [281]	GLEN JECH BARN (CA. 1920) SEC. 27 (NE4) T26N-R09E (IM) PAWHUSKA	
113-J [283]	SEC. 07 (NE4) T26N-R12E (IM) (CA. 1945) BARTLESVILLE	

COUNTY: OTTAWA		
FILE [GPS]	PROPERTY	PHOTO
115-A [171]	SEC. 03 (NE4) T28N-R22E (IM) (CA. 1920) COMMERCE	
115-B [175]	SEC. 09 (NW4) T28N-R22E (IM) (CA. 1920) COMMERCE	
115-C [182]	SEC. 17 (SE4) T29N-R24E (IM) (CA. 1945) QUAPAW	
115-D [183]	BAR-T RANCH BARN (1930) SEC. 32 (SW4) T29N-R24E (IM) LINCOLNVILLE	
115-E [184]	CLARENCE BACON BARN SEC. 35 (NE4) T29N-R24E (IM) (CA. 1945) QUAPAW	
115-F [185]	SEC. 10 (NW4) T28N-R24E (IM) (CA. 1945) PEORIA	
115-G [186]	SEC. 05 (NW4) T28N-R24E (IM) (CA. 1960) LINCOLNVILLE	
115-H [189]	SEC. 03 (SE4) T27N-R24E (IM) (CA. 1945) WYANDOTTE	
115-I [190]	SEC. 27 (NE4) T27N-R24E (IM) (CA. 1920) WYANDOTTE	
115-J [195]	SEC. 01 (NE4) T25N-R24E (IM) (CA. 1945) TURKEY FORD	

COUNTY: PAWNEE		
FILE [GPS]	PROPERTY	PHOTO
117-A [555]	SEC. 34 (SE4) T22N-R03E (IM) (CA. 1920) MORRISON	
117-B [227]	SEC. 19 (NW4) T21N-R05E (IM) (CA. 1945) PAWNEE	
117-C [231]	SEC. 14 (NE4) T22N-R06E (IM) (CA. 1920) BLACKBURN	
117-D [232]	SEC. 19 (NW4) T22N-R07E (IM) (CA. 1920) BLACKBURN	
117-E [235]	DEMERICK BARN (CA. 1900) SEC. 31 (NW4) T21N-R05E (IM) PAWNEE	
117-F [240]	SEC. 21 (NE4) T22N-R04E (IM) (CA. 1910) PAWNEE	
117-G [242]	SEC. 14 (NE4) T22N-R04E (IM) (CA. 1945) PAWNEE	
117-H [243]	SEC. 12 (SE4) T22N-R03E (IM) (CA. 1945) PAWNEE	
117-I [244]	SEC. 19 (SW4) T23N-R05E (IM) (CA. 1945) RALSTON	
117-J [248]	SEC. 10 (SW4) T20N-R06E (IM) (CA. 1920) MARAMEC	

COUNTY: ROGERS		
FILE [GPS]	PROPERTY	PHOTO
131-A [256]	SEC. 11 (NW4) T23N-R17E (IM) (CA. 1960) BUSHYHEAD	
131-B [257]	SEC. 24 (NE4) T23N-R17E (IM) (CA. 1920) BUSHYHEAD	
131-C [258]	SEC. 25 (NE4) T23N-R17E (IM) (CA. 1950) BUSHYHEAD	
131-D [259]	YODER BARN (CA. 1930) SEC. 12 (SE4) T19N-R17E (IM) INOLA	

COUNTY: SEQUOYAH		
FILE [GPS]	PROPERTY	PHOTO
135-A [084]	HINES ROUND BARN (1913) NR 84003432 (1984) SEC. 06 (SE4) T11N-R24E (IM) SALLISAW	
135-B [324]	ROBERT ANDREW JEREMIAH BARN (CA. 1950) SEC. 35 (NW4) T13N-R26E (IM) SHORT	
135-C [325]	SEC. 35 (SW4) T11N-R26E (IM) (CA. 1945) LONE OAK	
135-D [326]	JIM ANGEL BARN (1943) SEC. 34 (NW4) T11N-R26E (IM) LONE OAK	
135-E [327]	SEC. 31 (NW4) T11N-R25E (IM) (CA. 1945) GANS	
135-F [328]	SEC. 36 (NE4) T11N-R24E (IM) (CA. 1900) GANS	
135-G [329]	W. H. BRANSCUM BARN (1952) SEC. 26 (NW4) T12N-R22E (IM) VIAN	
135-H [330]	RONALD W. LEE BARN (CA. 1915) SEC. 23 (NW4) T12N-R22E (IM) VIAN	
135-I [331]	SEC. 05 (SE4) T12N-R22E (IM) (CA. 1955) BLACKGUM	

COUNTY: TULSA		
FILE [GPS]	PROPERTY	PHOTO
143-A [271]	SEC. 14 (SE4) T22N-R12E (IM) (CA. 1925) SKIATOOK	
143-B [339]	SEC. 20 (NW4) T20N-R14E (IM) (CA. 1945) TULSA	
143-C [341]	SEC. 28 (NE4) T21N-R13E (IM) (CA. 1955) OWASSO	
143-D [344]	SEC. 34 (SE4) T22N-R13E (IM) (CA. 1950) OWASSO	
143-E [346]	SEC. 07 (NW4) 7-T22N-R13E (CA. 1930) SKIATOOK	
143-F [347]	HADDOCK BARN (CA. 1940) SEC. 05 (NW4) T22N-R13E (IM) SKIATOOK	
143-G [349]	SEC. 20 (SW4) T19N-R12E (IM) (CA. 1940) RED FORK	
143-H [350]	J. C. GAINES BARN (1937) SEC. 15 (NE4) T19N-R10E (IM) LOTSEE	
143-I [351]	SAND SPRINGS HOME BARN (1938) SEC. 01 (NE4) T19N-R10E (IM) WEWIKA	
143-J [352]	SAND SPRINGS HOME TURKEY HOUSE (1938) SEC. 01 (NE4) T19N-R10E (IM) WEWIKA	

COUNTY: WAGONER		
FILE [GPS]	PROPERTY	PHOTO
145-A [202]	SEC. 16 (NW4) T16N-R17E (IM) (CA. 1940) PORTER	
145-B [203]	SEC. 03 (NE4) T17N-R17E (IM) (CA. 1930) WAGONER	
145-C [204]	SEC. 33 (SW4) T18N-R17E (IM) (1922) WAGONER	
145-D [205]	SEC. 32 (NE4) T18N-R17E (IM) (CA. 1940) WAGONER	
145-E [206]	SEC. 28 (NE4) T18N-R18E (IM) (CA. 1930) WAGONER	
145-F [209]	SEC. 13 (NE4) T17N-R17E (IM) (CA. 1915) WAGONER	
145-G [210]	SEC. 19 (NW4) T17N-R18E (IM) (CA. 1940) WAGONER	
145-H [211]	H. V. ROBERTS BARN (CA. 1915) SEC. 09 (SW4) T16N-R17E (IM) PORTER	
145-I [212]	HAROLD LEE BARN (1946) SEC. 33 (SE4) T17N-R16E (IM) REDBIRD	
145-J [213]	SEC. 02 (NW4) T17N-R16E (IM) (CA. 1910) COWETA	

COUNTY: WASHINGTON		
FILE [GPS]	PROPERTY	PHOTO
147-A [043]	SEC. 17 (NW4) T29N-R13E (IM) (CA. 1900) CANNEY, KS	
147-B [045]	GUY LEMMONS BARN (CA. 1925) SEC. 13 (SE4) T28N-R13E (IM) COPAN	
147-C [046]	SEC. 28 (SW4) T28N-R13E (IM) (CA. 1945) COPAN	
147-D [047]	STEVE LIVELY BARN (1909) SEC. 14 (NE4) T27N-R13E (IM) BARTLESVILLE	
147-E [048]	SEC. 17 (SW4) T27N-R13E (IM) (CA. 1910) BARTLESVILLE	
147-F [049]	SEC. 25 (NE4) T27N-R12E (IM) (CA. 1945) DEWEY	
147-G [051]	JACKSON CRANER BARN (1906) SEC. 14 (NE4) T25N-R13E (IM) OGLESBY	
147-H [052]	SEC. 11 (SW4) T25N-R13E (IM) (CA. 1940) OGLESBY	
147-I [053]	RICHARDSON RANCH BARN (CA. 1920) SEC. 21 (NW4) T25N-R13E (IM) OCHELATA	
147-J [054]	SEC. 04 (NW4) T24N-R13E (IM) (CA. 1945) OCHELATA	

XI. NATIONAL REGISTER ELIGIBLE PROPERTIES

During the course of the Thematic Survey of Historic Barns in Central and South-Central Oklahoma, some 25 properties were identified as eligible for listing in the National Register of Historic Places. For a resource to be National Register eligible, it had to meet both of the following criteria:

1. The resource must be at least 50 years of age;
2. The resource must retain its historical and architectural integrity, meaning that it must not have been relocated or significantly altered from its original form.

Resources that retained their integrity were classified as National Register eligible, since they met at least one of the following Criteria for Evaluation:

- A. Association with events that have made a significant contribution to the broad patterns of our history;
- B. Association with the lives of significant persons in or past;
- C. Embodiment of distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction;
- D. Have yielded or may be likely to yield, information important in history or prehistory.

All resources classified as National Register Eligible were determined as such under Criterion C: Architecture. The resources determined to be National Register-eligible retain a high degree of their architectural and historical integrity, having not been moved or significantly altered in appearance in the last 50 years. Resources that did not retain their architectural integrity, and were therefore ineligible for individual listing, were classified as “warranting further study” for possible inclusion as contributing resources to potential historic districts. Most log buildings recorded in this survey are in the latter category.

Historic barn properties in central and south-central Oklahoma that are determined to be eligible for listing in the National Register of Historic Places are set out below.



001-C (ca. 1890)
Adair County, West Siloam Springs vicinity



001-C, (ca. 1925)
Adair County, Proctor vicinity



001-H (ca. 1890)
Adair County, Proctor vicinity



001-I (ca. 1950)
Adair County, Westville vicinity



021-G Jackson Crib Barn (ca. 1890)
Cherokee County, Eureka Valley vicinity



035-C Keeney Dairy Barn (1941)
Craig County, Big Cabin vicinity



037-D [LM-037S, 218] Reid McCulloch Barn (ca. 1920)
Creek County, Bristow vicinity



037-H (ca. 1930)
Creek County, Bristow vicinity



041-G [078] Slim Whitbe Barn (1949)
Delaware County, Oaks vicinity



101-I [336] (ca. 1930)
Muskogee County, Muskogee vicinity



107-B [304] (ca. 1890)
Okfuskee County, Wetumka vicinity



111-E [317] (ca. 1930)
Okmulgee County, Okmulgee vicinity



111-J [323] Floyd Gale Barn (1929)
Okmulgee County, Morris vicinity



113-A [261] Greg Wooters Barn (ca. 1900)
Osage County, Ponca City vicinity



113-C [264] Hardy Horse Barn (ca. 1938)
Osage County, Ponca City vicinity



115-D [183] Bar T Ranch Barn (1930)
Ottawa County, Quapaw vicinity



117-J [248] (ca. 1925)
Pawnee County, Maramec vicinity



131-B [257] (ca. 1930)
Rogers County, Bushyhead vicinity



135-F [328] (ca. 1890)
Sequoyah County, Gans vicinity



135-G [329] W. H. Branscum Barn (1952)
Sequoyah County, Vian vicinity



143-A [271] (ca. 1925)
Tulsa County, Skiatook vicinity



143-I [351] (ca. 1925)
Tulsa County, Wewika vicinity



143J [352] (ca. 1925)
Tulsa County, Wewika vicinity



147-I [053] (ca. 1920)
Washington County, Ochelata vicinity

XII. HISTORIC CONTEXT

ABSTRACT

This historical context is a narrative history of the development and importance of agriculture, barns, and architecture associated with OK/SHPO Management Region Three in northeastern Oklahoma. The narrative provides an overview of the social and economic context in which agriculture developed and the influence agricultural development had on the study area to approximately 1960. The narrative takes into consideration information in other OK/SHPO historic contexts that examine agriculture, ranching, and architecture in Management Region Three.

Field observations of historic barns in the study area revealed significant diversity from north to south and east to west that reflect differences in natural resource distributions, periods of settlement, predominant culture groups, and twentieth century technological development and regional agricultural change. This thematic history of Management Region Three provide an outline of the region's more significant historical trends as they relate to the empirical data produced by the field survey of historic barns.

The study area, Management Region Three, is best approached as a mosaic of 11 regions settled during the nineteenth century by ethnic complexes of dislocated and culturally divergent Native American peoples, each of which was eventually overrun by Anglo-American settlers. The differential settlement of these areas, as well as their divergent agricultural histories, created quite different cultural landscapes. The analysis that follows attempts to account for these differences and provides an historical context relevant to an understanding of the material evidence uncovered by the survey.

LOCATION

This historic context surveys historical trends and changes relevant to barns in the OK/SHPO historical component Management Region Three, which covers the state's northeastern quadrant. Management Region Three focuses on the northern half of the former Indian Territory and consists of the area covered by the Cherokee and Creek Nations, the Osage Indian Reservation, most of the Pawnee Indian Reservation, the seven small reservations of extreme northeastern Oklahoma, as well as the "Triangle" of the eastern end of the Cherokee Outlet between the Pawnee and Osage Reservations. The study area is roughly bounded on the west by U.S. Interstate 35 and on the south by U.S. Interstate 40. The study area is 14,396 square miles in land area, or a little over one-fifth of the entire land area of Oklahoma.

ENVIRONMENTAL SETTING

TERRAIN

Management Region Three, like most of Oklahoma, contains a great deal of physiographic diversity. Elevation above sea level increases from a low point of near 400 feet above sea level where the Arkansas River departs Oklahoma in southeastern Sequoyah County. The highest elevation in the study area is around 1,500 feet above sea level in the Boston Mountains of northern Sequoyah County. The western edge of the study area rises toward the Great Plains at 1,200 feet above sea level in northwestern Osage County.¹

Management Region Three contains a variety of terrain types and spans seven geomorphic provinces. These regions may be best comprehended relative to the location of the study area's region of superior farmland, the Neosho Lowland. West of the Neosho

Lowland are three regions of rolling rocky uplands and hardscrabble hills that cover the western two-thirds of the study area. From west to east these include the Northern Limestone Cuesta Plains, the Eastern Sandstone Cuesta Plains, and the Claremore Cuesta Plains. East of the Neosho Lowlands are three physically distinctive regions that include, from north to south, the Ozark Plateau, the Boston Mountains, and the Arkansas Hill and Valley Belt.²

The Neosho Lowlands region covers most of Ottawa, Mayes, and Wagoner Counties and small parts of southern Craig and Rogers Counties. Although the region covers only nine percent of Management Region Three, it has the highest proportion of land suitable for intensive cultivation. The gently-rolling to flat terrain of this region contains thick, fertile Mollisol and Alfisol soils, many of which are well-drained sandy loams that were prized by early settlers because they could be worked easily with horses. Crops of winter wheat, soybeans, corn, grain sorghums, alfalfa, and prairie hay are raised throughout the region; crop cultivation is most intensive in north-central and southwestern Ottawa County, where sandy loams prevail. Soybeans, corn, and sod grass crops are grown in the bottomlands of the Verdigris and Arkansas Rivers in Rogers and Wagoner Counties. Prairie hay, alfalfa, and cow-calf operations are ubiquitous in the region.³

West of the Neosho Lowlands, the three cuesta regions contain some riparian lowlands that support grain production, but most of the soils of these regions are stony and most suitable for ranching. Likewise, the heavily-forested regions east of the Neosho Lowlands, due of their steep slopes and thin, stony soils, are also most suitable for ranching. Historically, subsistence-scale farming existed, but was focused on the narrow valley floors of the Ozark Plateau and Boston Mountains and to a greater degree in the broad, sandy,

alluvial bottomlands of the Arkansas Hill and Valley Belt. Today, most of the upland parts of these regions are no longer cultivated and are used for grazing or have reforested.⁴

The Northern Limestone Cuesta Plains region covers 10 percent of the study area. This includes the western one-third of Osage County, most of Pawnee County, and a narrow strip in western Creek County. This rolling prairie region is structurally related to the Osage and Flint Hills of Kansas and contains stony, droughty soils that support excellent grazing land that has long been devoted to beef cattle and horse ranching. A common construction characteristic of barns in the region is the incorporation of the common buff-colored limestone, which is cut from numerous thick outcrops.⁵

The Eastern Sandstone Cuesta Plains is a broken, hilly upland region that covers 27 percent of the study area, including all of Okfuskee County, nearly all of Creek County, central and eastern Osage County, about half of Okmulgee County, and significant parts of eastern Pawnee County, western Tulsa County, and southwestern McIntosh County. The terrain is very rough in places and upland sections of the region are covered by Post Oak and Blackjack Oak woodland, some of which is classed as old-growth forest. Lowlands usually contain clayey soils of poor quality developed from shale bedrock. Although cotton was farmed in the area during the first half of the twentieth century, today it is agriculturally marginal and supports mostly small cow-calf operations. That part of the Eastern Sandstone Cuesta Plains region within the study area was underlain by several giant oil fields developed between the 1920s and 1940s. The older term “Sandstone Hills” refers to both the Eastern Sandstone Cuesta Plains region and the Claremore Cuesta Plains to the east.⁶

The Claremore Cuesta Plains region covers 32 percent all of the study area. The region includes all of Nowata County, most of Washington, Craig, Rogers, Tulsa, Muskogee,

and McIntosh Counties, significant portions of Okmulgee and Wagoner Counties, and small areas of Osage and Mayes Counties. Compared to the Eastern Sandstone Cuesta Plains to the west, the Claremore Cuesta Plains region is more gently rolling with small, dispersed areas of hilly land that contains a significant amount of limestone bedrock that provides somewhat better soil fertility and moisture retention. Uplands are famous for their excellent prairie hay and cattle production, and the Verdigris and Caney River bottomlands produce some wheat, corn, alfalfa, and soybeans.⁷

The Ozark Plateau region covers 12 percent of the study area and includes most of Delaware and Adair Counties, about half of Cherokee County, and parts of Mayes and Ottawa Counties. The Boston Mountains region covers about six percent of the study area and is the most rugged region of the study area. The Boston Mountains consist of the most-dissected section of the greater Ozark Plateau and extends into southern Adair County, southern and western Cherokee County, northern Sequoyah County, and small parts of Muskogee County and Mayes County. Both the Ozark Plateau and Boston Mountains are heavily timbered by oak-hickory forest and patches of oak-pine forest. Agriculture is tightly restricted to the many small incised valleys—termed hollows—within these regions. Market inaccessibility and severely limited farm size retarded mechanization and commercialization of agriculture in the region well into the twentieth century; as a result, the region contains the highest concentrations of rare folk buildings, especially log buildings, within the entire study area. Today the primary commercial agricultural land uses in the Ozark Plateau and Boston Mountains regions are nurseries and poultry CAFOs.⁸

The Arkansas Hill and Valley Belt region makes up five percent of the study area. It is the smallest and lowest-elevation region and covers eastern Muskogee and southern

Sequoyah Counties. The area is a broad alluvial bottomland zone with a few scattered patches of sandy hills. Most of the region contains a mosaic of forest and prairies used for cattle ranching. The exception is the southeastern corner along the north bank of the Arkansas River, where large crops of corn and soybeans are cultivated.⁹

CLIMATE AND WEATHER HAZARDS

Management Region Three is located along the western transition zone of North America's humid subtropical (Cfa) climate. Average annual precipitation in the study area declines at a regular rate from east to west and ranges from a high of 44 inches in eastern Adair County to a low of 34 inches in western Osage County.¹⁰

The study area is located within the general region containing the world's highest incidence of tornadoes. Tornado Alley, as it is referred, exists because it is where conditions most often form to produce frontal thunderstorms, dry lines, and powerful wind shear. Tornadoes can occur any time of the year, but are most common during the spring months. Tornado damage is not an extraordinary sight within the study area and within the last two decades massive tornadoes have leveled large swaths of the study area's built environment. It is very unlikely that a barn located within the study area for more than 50 years would not have experienced at least one tornado.¹¹

The high winds and hail that accompany thunderstorms are to be expected every year within the study area. High winds are much more common than tornadoes, but they can be almost as severe. Large hail can severely damage barn roofs and introduce water damage.

Heavy snows do not occur frequently in the study area, but the infrequent snowstorm can place heavy burdens on historic barn roofs already weakened by winds and disrepair.

Severe ice storms, which are quite common, can produce even heavier loads that can cause historic barn roofs to collapse. It is a common seasonal occurrence for dry, high winds to blow during dry conditions in Oklahoma, and these often produce range fires that can raze historic barns. It should be no surprise that Oklahoma barns have, on average, shorter lifespans than those located in the milder sections of the eastern United States.¹²

WATER RESOURCES

Water resources are abundant in Management Region Three, which lies within the Arkansas River drainage basin. All of the state's northern rivers converge in the region. The Arkansas is a mature stream where it enters Management Region Three at Osage County. Soon after entering Oklahoma it gains water from its two highly-saline tributaries, the Salt Fork Arkansas River and the Cimarron River. The Arkansas's great looping meanders have leveled the terrain to form several broad alluvial plains, generally referred to as "bottoms," which have long contained the region's best farm land. The best example is Choska Bottoms, located between Haskell and Porter in Wagoner County, a huge, flat expanse that has been intensively cropped since at least the 1840s.¹³

Just to the east of Choska Bottoms is the main entrepôt of the French fur trade on the southern Plains: the Three Forks area where the Arkansas receives the Verdigris and Neosho Rivers. The spring-fed Verdigris and Neosho originate in the Flint Hills of Kansas, a limestone upland that feeds spring water to these southward-flowing rivers. In Ottawa County the Neosho bumps and skirts and rinses and exposes the western lobe of the Ozark Plateau to make the physiographic boundary obvious to the eye. The Oklahoma portion of the plateau is drained radially by a series of large, clear, limestone spring-fed creeks, and to

the east of these, the Illinois River. Management Region Three receives adequate rainfall for crop production and irrigation is very uncommon.¹⁴

NATURAL VEGETATION AND SOILS

In much of Oklahoma annual precipitation largely determines vegetation patterns, but this is not as true for much of the state's northeastern quarter. Declining precipitation levels west of the 96th Meridian (roughly the western one-third of Management Region Three) do mark central Oklahoma's natural vegetation transition from woodland to mixed grass prairie, but rainfall is more reliable in the eastern two-thirds of the study area. Here, geology, soils, and other natural forces, more than climate, determine natural vegetation patterns.¹⁵

The study area contains several distinctive natural vegetation regions. The rolling Ozark Plateau and rugged Boston Mountains contain Oklahoma's primary region of oak-hickory forest. This vegetation regime is the westernmost extremity of the true eastern deciduous forest and most similar in appearance and resource potential to the forests of the southern Appalachians, the original homeland of the Cherokee people. Upon their arrival in the 1830s, Cherokee settlers clung to this familiar upland setting of hardwood forested hills and clear, spring-fed creek valleys. They built their subsistence farms of small cornfields, garden plots, and free-ranging livestock in the hundreds of deeply-incised creek valleys, called hollows, throughout the Ozark portion of their nation. Canebrakes along streams served to carry horses and milk cows through the winter and hogs foraged on mast in the woods. By the time the Cherokees arrived in the 1830s, they had already embraced much of the repertoire of the Scandinavian-derived system of American backwoods forest settlement

introduced to the Delaware Valley during the 1640s. They depended on the forest for much of their material culture, which included the techniques of Midland log construction.¹⁶

At the time of Cherokee and Creek settlement in the 1830s, the area between the 96th Meridian and the Ozark Plateau was dominated by the natural vegetation region known as the tallgrass prairie. Here forest cover was sparse due to range fires that annually cleared huge swaths of rolling land. Big bluestem, little bluestem, Indian grass, and switch grass composed the majority of species. By the mid-Nineteenth Century, ranchers in the Cherokee and Creek Nations were exploiting this valuable resource to raise large herds of beef cattle that they drove northeast along the East Shawnee Trail to markets in central Missouri. Today true tallgrass prairie areas are few and far between, having been almost entirely replaced by scrub woodland—the result of fire suppression—and introduced pasture grasses.¹⁷

West of the 96th Meridian the historic tallgrass prairie transitions to another deciduous woodland known as the Cross Timbers. The Cross Timbers woodland is a transitional vegetation complex located between the eastern deciduous forests and the grasslands of the Great Plains. The region is geographically associated with the Eastern Sandstone Cuesta Plains region and is composed of a mosaic of small prairie and oak forest. Native hardwoods such as Postoak and Blackjack oak predominate amid riparian species like cottonwood and willow, invasive Eastern Redcedar, and understory trees, shrubs, and vines. As a rule of thumb, hardwoods in the Cross Timbers occupy the sandier uplands. Although the Cross Timbers contains areas of old-growth forest with some trees surpassing ages of 300 years, trees are relatively short and not economical as sources of lumber. Farmers have cleared forested areas to open farm land and cut timber for fuel, and some have even utilized Cross Timbers oak to construct log outbuildings and houses, but for the most part the area's

timber is not heavily utilized. In general the region is ranching country where small cow-calf operations predominate. In summary, the natural vegetation regime of much of the study area has largely been replaced with a human-created mosaic of reduced woodland, improved pastureland, cultivated farmland, and urban development.¹⁸

Four of the state's seven major soil orders cover significant parts of Management Region Three. While soil quality is highly variable at the local scale, it can be said that some major soil orders contain soils better suited for agricultural purposes than others.

Management Region Three contains three soil orders with good to excellent agricultural potential, and one with low agricultural potential.¹⁹

The best soils in Management Region Three are associated with the Mollisols, which is the most common soil order found in Oklahoma. Mollisols are most common in the Neosho Lowlands and adjacent Claremore Cuesta Plains. Mollisols develop in sub-humid temperate grassland environments and are the legacy of the native tallgrass prairie of these physiographic provinces. West of the Mollisols, within the Eastern Sandstone Cuesta Plains, are large areas of Inceptisols. Inceptisols are finely-textured soils that tend toward alkalinity and tend to be agriculturally productive. Interspersed within these two regions are smaller patches of Alfisols, which develop under deciduous forested regions. Like the Mollisols, Alfisols usually are productive for most types of cultivation. The fourth soil order—the Ultisols—develop under deciduous and coniferous forests and usually have high acidity, which makes them less useful for crop production. Ultisols cover most of the Ozark Plateau and Boston Mountains highland regions.²⁰

Perhaps the most important factors affecting soil quality and overall agricultural potential in Management Region Three are slope and rockiness. The terrain of northeastern

Oklahoma frequently dictates land use potential; areas of steep slopes within zones of productive soils have either been denuded of soil in the past or have been avoided by farmers. Many parts of the study area that once contained excellent soils have been intensively cultivated and stand abandoned because of erosion and the loss of topsoil. Likewise, areas of less-than-ideal soil containing extremely flat terrain may retain their productivity as farmers adjust with engineered drainage systems and chemical fertilizers. Unless it cannot be properly drained, flatter land tends to remain farmland.²¹

CONTEMPORARY LAND USE

With the exception of central Tulsa County, which contains most of the Tulsa metropolitan area, the micropolitan areas of Muskogee, Ottawa, Rogers, Washington, and Okmulgee Counties, and the rural industrial and mining sites of Mayes and Ottawa Counties, Management Region Three is rural and agriculture is the primary land use. In considering the relationship of land use to the types of barns found in the study area, Northeastern Oklahoma rural land use falls into four broad categories: intensive cultivated crop production, extensive hay production and extensive livestock grazing, undifferentiated forested land amid agricultural flux, and dairy operations orbiting urban and industrial markets.²²

Modern large-scale, highly-mechanized, intensively-cultivated cash crop production is only important in a few small areas of the Management Region Three. Historically, the most intensive zone of cultivation has centered on the Neosho Lowlands. Today the greatest concentration of cultivated crop production remains in western Ottawa County. This zone extends weakly and unevenly between the Neosho River and its western headlands

southwestward into southeastern Craig County, central Mayes County, and north-central Wagoner County. Other areas of significant intensive cultivation are found in the broad alluvial lowlands of the study area. These include, in order of size, the Verdigris Valley and Arkansas Valley lowlands of Wagoner, Muskogee, and Sequoyah Counties; the Arkansas Valley and its small tributaries in western Osage and Pawnee Counties; and the upper Verdigris Valley of Nowata County and the Caney Valley of Washington County. These four areas, which contain the flattest land and better drained-soils of Management Region Three, produce combinations of winter wheat, grain sorghums, corn, soybeans, and alfalfa.²³

The largest and most widespread land use type is that of hay production and extensive livestock grazing. The actual landscapes of these ranching activities vary from treeless tall grass prairie, as in west-central Osage County, to open woodland, as in the Cross Timbers of central Creek County. This land use is predominant in every region of the study area, and is the only rural land use throughout much of the stony uplands of the Northern Limestone Cuesta Plains, the Eastern Sandstone Cuesta Plains, and the Claremore Cuesta Plains. Beef cattle ranching is far the most important and predominant agricultural activity of the entire study area, and especially in the Neosho Lowlands region. Most of the study area's beef cattle production consists of two types: (a) cow-calf operations in which stocker heifers are bred to produce calves, which are sold after weaning; and (b) stocker cattle operations in which weaned calves are grazed and fed high-roughage diets in order to mature and gain weight to be sold to feed as heavier feeder cattle bound for feedlots. A third type of beef cattle operation, seed stock production, specializes in producing purebred breeding stock. These operations are significant in Ottawa County, which has long had ties to high-quality stock breeders in Missouri.²⁴

Undifferentiated forest land is the main land use type of the Boston Mountains, and it is significant in many parts of the Ozark Plateau. In both provinces settlement has long focused on the hollows--the narrow riparian lowlands--where small farms took advantage of alluvial soils and spring water. Today this land use also includes large agribusiness operations that specialize in nursery crops. Areas near the lakes have experienced intensive development associated with tourism and recreation and residential development. Rises in land values in recent decades have prompted large-scale agricultural decline, especially in the more-isolated hollows.²⁵

The final land use type relevant to this survey is historic, ubiquitous, but not at all widespread: dairy farming. Small dairy operations began to be supplanted by large commercial dairies after about 1960. Nearly all small dairies had disappeared by the late 1980s as agribusiness redefined dairy production and the scale of bulk milk markets (i.e., "milk sheds"). Prior to that, dairy farms operated outside towns large enough to support a grocery store. Around larger towns, where creameries processed various dairy products, a zone of dairy farms--miniature dairy belts--supplied the local market. Fresh milk is a bulky, highly-perishable commodity; while production, transport, and processing remained relatively slow and inefficient, dairy farming in the first half of the century was tightly bound to singular local markets. As a result, at least a few dairy barns constructed before mid-century can usually be found within a few miles of most towns in the study area. Moreover, settlements where large industrial workforces were based, such as oilfield boom towns and mining districts, appear to have supported larger dairy zones, more farms, and more and larger barns.²⁶

HISTORICAL BOUNDARIES

The political geography of Management Region Three took shape almost entirely during the nineteenth century. In 1800 the Treaty of San Ildefonso transferred Louisiana—including what would become Oklahoma—from Spain to France. It became a part of the United States after Jefferson's purchase of Louisiana 1803. By 1824, Jefferson's idea to remove peaceful Indians beyond the frontier so as to await American expansion began to take shape with the establishment of the Territory of Arkansas. That year the United States began creating incentives and applying pressure to induce the removal of the Cherokee, Creek, Choctaw, and Chickasaw to the region west of Arkansas. To assist removal and reduce violence with the region's tribes, the United States established Fort Gibson at the confluence of the Neosho and Arkansas Rivers.²⁷

Two of these regions, the Cherokee and Muskogee Creek Nations, had shaped their shares of Indian Territory for the better half of a century. These internal republics of the United States were territorially expansive, ethnically-complex, and self-confident enough to require white settlers to work as aliens within indigenous systems. These two nations, which make up a large portion of the study area, had a large role in affecting the geography of Management Region Three. The other nine regions, which were geographically peripheral to the Cherokee and Creek Nations, had a different political status; rather than Indian republics, they were Indian reservations in protectorate status, and some were economically dependent on the United States. The Quapaw and the Seneca-Cayuga, despite their early arrival to the far northeastern corner of Management Region Three, never had the territory or numbers to impact much of the study area. The Osage and Pawnee, both relocated to the northwestern

part of the study area in the 1870s, occupied a few localities a few years before their lands were allotted and opened to whites.²⁸

The Creek Nation of Indian Territory

After several years of treaty negotiation, rejection, and land swaps, the Lower Creeks selected a zone west of the Old Settler Cherokees in the Three Forks area and began a gradual immigration to the region in 1828. By the mid-1830s, some 3,000 Creeks had migrated west. The resulting settlement geography of the multiethnic Creek Nation in time reflected regional divisions that had emerged earlier in Alabama and Georgia. The more traditional tribal groups, collectively known as the Upper Creeks, who owned few slaves and maintained a largely subsistence economy, settled along the Canadian River and the remote, rugged forested hills of the Eastern Sandstone Cuesta Plains. The Lower Creeks, who tended to be more acculturated, owned the majority of slaves, engaged in cotton production and commerce, and wielded the bulk of political power, settled the excellent alluvial lands easternmost sections of the Creek Nation, particularly the Arkansas Valley west of the Three Forks area.²⁹

The Cherokee Nation of Indian Territory

As with the Creeks, the United States eventually gained a treaty from a minority faction of pro-removal Cherokees in 1835. This minority group removed west into the Canadian and Arkansas Valley of present-day Sequoyah County, where they joined an earlier contingent of Cherokees who had been living on the lower Arkansas River and had arrived in 1828, after the United States had forced the Osages to relocate to Kansas. After years of

legal resistance, the majority of Cherokees in Tennessee, Georgia and North Carolina were eventually rounded up by state militias, marched into camps, and forcibly removed on the infamous Trail of Tears during the winter of 1838-39. The survivors of the various routes to Indian Territory reestablished their settlements in the Boston Mountains and the Ozark Plateau. After a four-year civil conflict between the removal and anti-removal factions, the tribal government unified and established their capital at Tahlequah.³⁰

Following the Civil War in 1866 the United States required the Cherokees and Creeks to provide portions of their unsettled lands west of the 96th Meridian for the relocation of other tribes. This resulted in the creation of the Osage and Pawnee Reservations located in the northwestern part of Management Region Three.³¹

The Pawnee Reservation

Most of the former 283,070-acre Pawnee Reservation is located in Pawnee County. The reservation was purchased by the Pawnee in 1876 after they had suffered years of depredations from the Lakota on their earlier reservation in Nebraska. For 15 years after their removal to the south the tribe suffered drastic population losses from disease outbreaks. By the time their reservation was lumped into Oklahoma Territory, they put up little resistance to federal negotiators seeking to break up the reservation, which was allotted in 1892. The Pawnee allotment process opened 169,320 acres of the former reservation to white settlement, which were opened to homesteaders in the Cherokee Outlet land run on 16 September 1893.³²

Little landscape evidence relevant to historic barns survives from Pawnee County's reservation period, which, having been open with the Cherokee Outlet, shares a nearly

identical settlement history with Management Region Two. The history of agricultural settlement radically differs from most of the rest of the study area since the majority of settlers arrived all at once, ready to build their own farms, during the mid-1890s, and mostly from Midwestern states where they had been entrenched in commercialized agricultural economies. On the other hand, throughout most of Management Region Three Upland Southerners had filtered into Indian Territory over an entire generation, adapting to the terms of life as second-class resident aliens prohibited from owning land, and working as laborers and subsistence farmers.³³

The Osage Reservation

The Osage Reservation was established in 1872. The Osage tribe selected this hardscrabble southern extension of the Flint Hills reputedly because the soils were so stony and unsuitable for farming that white homesteaders would never covet the reservation as they had in Kansas. For over 40 years, the Osage Reservation served as a grazing resource for wealthy Kansas ranchers who hauled their herds by rail to Elgin, Kansas where they unloaded and drove them into "the Osage" to fatten on the excellent prairie grasses. The activity was formalized beginning in 1883 when the tribe began issuing individual leases, but for the most part the relationship between the small tribe and Kansas cattlemen was good.³⁴

As statehood neared, the Osage reservation underwent what was perhaps the model allotment of an Indian reservation. Each tribal member received 160 acres as a personal homestead and an additional 500 acres of surplus land that could be sold within a few years. The most significant term of allotment, of course, was that the tribe retained all mineral rights, so that when oil was discovered, the tribe received the royalties, which were

distributed in a share ("head right") system that more effectively protected tribal members from large-scale exploitation by the legions of swindlers and professional guardians that ran amok in the oilfields of the Creek and Cherokee Nations. By the 1920s the Osage people had become the wealthiest population on Earth, an early Twentieth Century version of the Saudi royal family. As such, they usually leased their surface holdings to ranchers or themselves became ranchers.³⁵

To this day Osage County remains a land of wide-open spaces and huge cattle ranches on par with those of the High Plains and Rocky Mountain West. The only major region of cultivation is an eastern extension of the Winter Wheat Belt within the two great meanders of the Arkansas River that create the county's western pro-rupture. There, large barns designed to shelter draft horses and to feed dairy cattle can be found. Elsewhere in the Osage, large-scale beef cattle ranching are the rule, and few barns are present.³⁶

An important exception is associated with the county's history of oil production in over 250 oilfields. Prior to the availability of heavy road construction equipment and the introduction of modern oilfield trucking in the 1940s, petroleum production relied on the use of draft horses to move pipe and drilling equipment. The need for draft horses usually required the construction of large drayage barns in the oilfields. An excellent example is the National Register-listed Wolverine Oil Company Drayage Barn at Wolco.³⁷

The Seven Reservations of the Far Northeast

In addition to these four political entities, a small area in what would become Ottawa and Delaware Counties had been assigned to the Quapaw tribe since the 1830s. Following the Civil War, this area was subdivided into half a dozen very small reservations that

remained administered by the Quapaw Agency. These included the Quapaw, Peoria, Ottawa, Shawnee, Wyandotte, Seneca-Cayuga reservations. Most of these were allotted in the late 1800s.³⁸

“The Triangle” of the Cherokee Outlet

In addition to the Indian republics and reservation lands that historically made up the area of Management Region Three was a small exclave of the Cherokee Outlet locally referred to as “The Triangle.” This area was located east of the Pawnee Reservation, south of the Osage Reservation, and north of the Creek Nation and Indian Territory. Like the Cherokee Outlet, the Triangle was opened by land run in 1893. Three towns were recorded within this small area, one near Maramec and two near Blackburn. Other towns in the area include Cleveland, Hallett, and Jennings.³⁹

PRE-STATEHOOD AGRICULTURAL SETTLEMENT

By the time large numbers of European settlers began arriving to Management Region Three, it had been shaped for more than half a century by the peoples of the two large internal native republics: the Cherokee and Creek Nations. These ethnically-complex nations were territorially expansive and self-confident enough to require white settlers to work as aliens within their indigenous systems. By midcentury the two nations had begun to develop similar commercial patterns and had realized their common situation, that American settlement would in time overwhelm them if they were not vigilant about their treaty rights. Groups within both nations tended to be development-oriented and realized the need for literacy, schools, a free press, and democratic representation. In a sense, these nations were

very much like frontier populations in neighboring Upland Southern states with whom they largely shared a common folk culture.⁴⁰

Beyond the two great nations were nine additional Indian enclaves, all peripheral and far smaller in population and influence, and of a fundamentally different political character. These were the Indian reservations in protectorate status: the Osage, Pawnee, and the small tribes on the northeast border of the Cherokee Nation. The Quapaw and the Seneca-Cayuga, despite their early arrival to the far northeastern corner of Management Region Three, never had the territory or numbers to impact much of the study area. The Osage and Pawnee, both relocated to the northwestern part of the study area in the 1870s, occupied a few localities a few years before their lands were allotted.⁴¹

The area of the intensive agricultural production during the Antebellum years focused on the flat alluvial lands of the Arkansas Valley that arched south and east from the lower Neosho and Verdigris Valleys toward Fort Smith. This was the geographical focus of the wealthier mixed-blood Creek and Cherokee slaveholding class who established plantations in present-day Mayes, Wagoner, Muskogee, and McIntosh Counties. It was the land of Creek and Cherokee plantations, the vast majority of Indian Territory slaves, and it remains the rural homeland of descendants of Creek and Cherokee freedmen, as many "All-Black" towns make evident. The city of Muskogee, established in 1871 on the Katy Railroad, centered on this region and acted as a de facto dual commercial capital for both Indian republics.⁴²

The actual Cherokee national capital, Tahlequah, located in the forested Ozarks near the Illinois River, remained rather isolated and inwardly-focused. Tahlequah was the town of the traditional Cherokees, most of whom never considered owning slaves. They made their living as farmers, stockmen, craftsmen, and merchants in dozens of rural Ozark communities

in what are now Delaware, Cherokee, Adair, and Sequoyah Counties. These counties remain the population and cultural focus of the Cherokee Nation. As such, the area was expected to harbor few large barns associated with ranching or large scale commercial agriculture, but more folk buildings exhibiting Upland Southern construction traditions.⁴³

Traditionalist groups in the Creek Nation tended to gravitate into the uplands along the Deep Fork, the North Canadian, and the Canadian Rivers. But unlike the Cherokee traditionalist homeland, the backcountry Creek Nation, especially the southern districts, were areas where free Blacks intermingled with Creeks. The Creeks also brought Upland Southern folk building traditions, but they were more oriented to stock-raising than the Cherokees.⁴⁴

Transport Routes

The history of railroad construction allows a better understanding of the pattern of farm settlement and the distribution of historic barns associated with commercial agricultural production. Road improvements did not begin until the 1930s and 1940s in much of the study area, and even then few rural families in the study area owned vehicles. Farmers located more than 10 miles from rail access in the region's hillier terrain had little choice but to be self-sufficient and unspecialized; this was particularly the case among Cherokee families living deep in the Ozarks and to a lesser degree Creek families in the Eastern Cuesta Plains. Their farms there were non-mechanized, small in scale, and subsistence oriented, producing only small cash crops of cotton, which was durable and valuable enough to be transported many miles overland.⁴⁵

Cattle Trails

Cattle ranching, on the other hand, offered a freer and more profitable living for those living beyond easy rail access. The Creeks in particular had become involved with stock-raising in Georgia and Alabama, perhaps through contact with the Seminoles, who were introduced to cattle ranching by the Spanish in Florida. Accounts by Antebellum travelers provide abundant evidence of large herds of cattle on the open ranges of the Creek Nation. After Union forces withdrew from Indian Territory in 1861 and tribal populations variously evacuated to Kansas and Texas, Creek and Cherokee herds were targeted by border looters who drove them east. After the war, Creek herds quickly recovered as Texas cattle crossed through on the East Shawnee Trail while Cherokee ranchers--most famously the Rogers family--established vast ranches in the excellent grasslands of the Cooweescoowee District. Creek and Cherokee herds, as with Texas herds, were driven northeast to Missouri markets and beyond. Cattle drives followed the Texas Road, which had directed Ohio Valley immigrants to Texas since the 1830s. To cattlemen the route became known as the East Shawnee Trail, which passed through the best lands of the Creek and Cherokee Nations.⁴⁶

The Civil War and Railroad Construction

The Civil War devastated the nations of Indian Territory, perhaps more so north of the Canadian River where Union and Confederate boundaries converged. Between 1862 and 1865 Cherokee and Creek plantations and cattle herds were heavily looted by border forces. Returning refugees found their nations devastated on a scale comparable to that of the border states to the east.⁴⁷

To make matters worse, the federal government considered the tribal governments to have violated their loyalty to the federal government and mandated reconstruction treaties in 1866. The treaties required war reparations that included confiscation of the tribes' western lands for the resettlement of the Plains tribes and they authorized the crossing of two railroads through their nations.⁴⁸

The first federally-chartered railroad to arrive in Indian Territory was the Missouri, Kansas and Texas or "Katy" Railroad, which began service in 1872. The Katy followed the long-worn route of the Texas Road and East Shawnee Trail. Originating in Dennison, Texas, it crossed into the Creek Nation near Eufaula and angled northeast to skirt the Cherokee boundary just south of the Arkansas River and a few miles west of Fort Gibson, where it established the terminus town of Muskogee. From Muskogee the Katy continued north through the old plantation district of the Neosho Valley again just west of the Cherokee boundary and gradually looped north-northeast across the grassland of Cooweescoowee District to Chetopa, Kansas.⁴⁹

In 1876 the Atlantic and Pacific (A&P) Railroad, chartered by Congress a decade earlier to cross Indian Territory as a new trunk line to California, began construction from southwest Missouri. But the A&P hit a legal quagmire in Washington and construction was halted only 36 miles into the Cherokee Nation. There it linked with the Katy at the new town of Vinita. The St. Louis and San Francisco or "Frisco" Railway eventually took over the line and in 1881 extended it southwest to Tulsa, in the Creek Nation, and a few years later connected to Sapulpa.⁵⁰

In 1889 the Kansas and Arkansas Valley Railway completed a line between Little Rock and Kansas City. This 160-mile railroad entered the Cherokee Nation at Fort Smith

and paralleled the Arkansas River to Fort Gibson. At Okay it crossed the Neosho and followed the Verdigris Valley north through Indian Territory to Coffeyville, Kansas. Along the way it gave life to some 18 railroad towns, including Sallisaw, Wagoner, Claremore, Oologah, and Nowata. Crossing the St. Louis and San Francisco at Claremore made the town a crossroads on par with Vinita, where the Frisco had intersected the Katy.⁵¹

ETHNIC GROUPS

Northeastern Oklahoma may be ethnically complex, but until very recently, this complexity remained mostly a tripartite mixture of Anglo-American, Native American, and African-American groups, all sharing folk cultures influenced, more or less, by the Upland South. Since the 1990s, a significant influx of Hispanics has arrived in the rural areas, but their contributions are not relevant to the history of barn construction before 1960.⁵²

Anglo-American Settlement

By the time the Kansas and Arkansas Valley Railway began service through the Cherokee and Creek Nations in 1889, David L. Payne's Boomer Movement had finally prevailed to schedule the opening of the Unassigned Lands to the west of Indian Territory. Intermarried whites, white traders and skilled workers on legal permits, and numerous illegal “intruders,” had been streaming into the Indian Territory for two decades and by 1890 outnumbered tribal citizens in the Cherokee and Creek Nations. These settlers had originated in many eastern states, but the majority was from Missouri, Arkansas, and Texas. Over two decades they had lived and intermarried with tribal citizens and reinforced the region as a western extension of the Upland South.⁵³

Old Order Amish

Only one area of Management Region Three provides a significant exception--the Old Order Amish area of southwestern Mayes and southeastern Rogers Counties. The Amish Triangle between Mazie, Inola, and Chouteau harbors the single largest Amish community in Oklahoma. The several hundred families in the area are mostly descended from a group who arrived around 1910 from Holmes County, Ohio. More than any other European ethnic group, the Mayes County Amish retain strong outward identities and traditions, including use of horse and buggy, plain attire, and Shenandoah beards. Like most Old Order Amish, the Mayes County Amish do not drive automobiles, but they have revised their particular *Ordnung* to allow for the use of small gasoline-powered tractors for farming and transport, with the rationale that tractors are a necessary means of keeping modern farms profitable enough to support families and encourage younger generations to remain in the community. Nevertheless, the Amish retain a 1950s-level of technology and continue to use their barns in ways that have been obsolete for about 70 years. Unquestionably, the barns of the Mayes County Amish are the best-built and best maintained within all of Management Region Three.⁵⁴

African-Americans

African-American slaves and freedmen made up part of the populations of the Cherokee and especially the Creek Nation. After the Civil War former slaves settled within the former plantation district of the Creek-Cherokee boundary and produced crops of corn and cotton. By the 1890s the white population increasingly discriminated against them by barring their business from the main (white) railroad towns. In time, small agricultural

service centers emerged at trading points within the rural Africa-American areas that later became known as "All-Black Towns." These towns included, among others, Boley, Grayson, Red Bird, Taft, and Tullahassee. Barns in these areas are characteristically small, single-crib barns used for sheltering one or two horses or mules used to produce cotton and corn on a subsistence level.⁵⁵

AGRICULTURE

Smallholder Semi-subsistence Corn and Cotton Farming

Agricultural patterns within the Ozark Plateau and Boston Mountains strongly conform to the pattern of settlement associated with the Upland South. Both Cherokee settlers and their Upland Southern Anglo neighbors established a Midland folk building tradition within the hardwood forests of the Cherokee Ozarks.⁵⁶

A similar pattern developed in the Creek Nation, although the natural vegetation there offered lesser resources for Midland folk building techniques. Many whites were attracted to the Creek Nation for its potential to produce cotton. After the Creek Nation began to be allotted to individual citizens after 1898, much of the land remained unsellable because of its status as restricted Indian land. Since restricted land could not be mortgaged, the majority of tribal citizens leased parcels to non-Indian farmers. This accounts for the fact that early in the twentieth century, Oklahoma—and especially eastern Oklahoma—had the highest rates of farm tenancy in the United States.⁵⁷

Tenant farmers, especially those engaged in cotton production, were prone to poor land use practices that eventually proved disastrous. Farmers who did not own the land and raised row crops—corn and cotton—in order to maximize short-term profits, usually cultivated as intensively as possible and without regard for the land. By the

1920s, it was clear that high rates of farm tenancy were ruining the land and causing some of the worst soil erosion problems in the country.⁵⁸

Smallholder semi-subsistence corn and cotton production became unprofitable throughout much of the South by 1920. By 1905 boll weevils had infested the state's cotton crop, but prices remained good through the First World War. In 1920, however, the bottom dropped out of the cotton market. Larger holdings were required for profitability, and many tenant farmers could not make a living by 1930.⁵⁹

Dairy Farming

Most of the larger barns found in Management Region Three were built for dairy production. These are often located within a short distance of urban markets.⁶⁰

Cash Grain Farming

Two areas of Management Region Three have historically significant levels of winter wheat production. These include Ottawa County and Pawnee County. Many of the larger barns in these areas were constructed between 1905 and 1930. Wheat farmers built barns to shelter valuable teams of draft horses, their fodder, feed, and sometimes wheat. Tractors became available in 1925 but were really not affordable until after 1945. While some farmers could afford tractors as early as 1925, the majority had not replaced their work stock with gas-powered tractors until after about 1945.⁶¹

After 1950 modernization and a transition to more emphasis on beef production had outmoded multi-use barns that sheltered horses, hay, feed, and cash grain under the same roof. Modernization encouraged construction of specialized buildings such

as machine sheds, pole barns for baled hay, granaries and sanitary milking parlors. Whenever possible, traditional pre-1940 barns were converted to provide storage of equipment and baled hay. The widespread adoption of using large round bales during the 1980s ended the usefulness of many barns that could not be converted for hay storage. In 2013 few pre-1940 barns in the study area were being used for more than storage or cattle sheds, and many were completely abandoned.⁶²

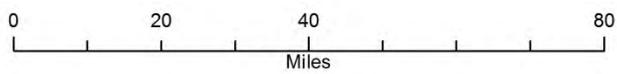
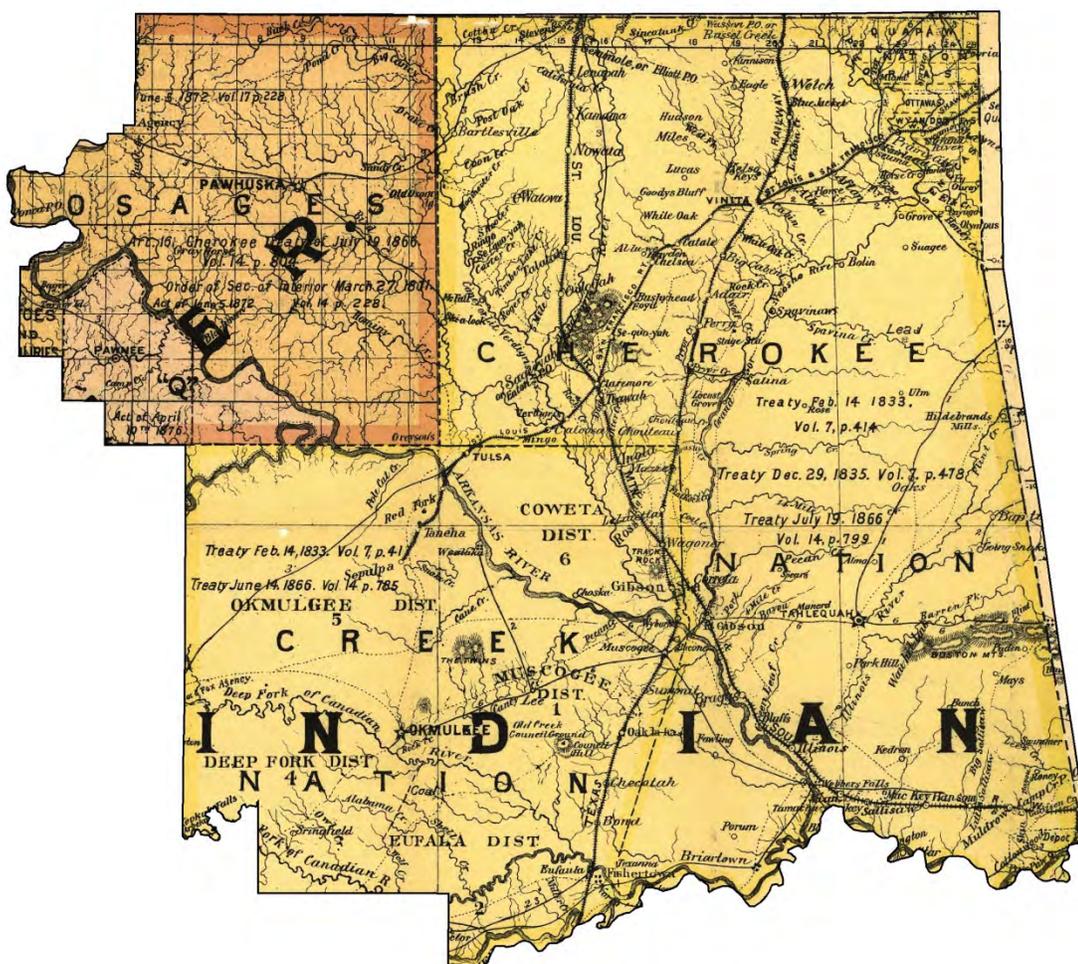
RANCHING

After 1950 modernization and a transition to more emphasis on beef production had outmoded multi-use barns that sheltered horses, hay, feed, and cash grain under the same roof. Modernization encouraged construction of specialized buildings such as machine sheds, pole barns for baled hay, granaries and sanitary milking parlors. Whenever possible, traditional pre-1940 barns were converted to provide storage of equipment and baled hay. The widespread adoption of using large round bales during the 1980s ended the usefulness of many barns that could not be converted for hay storage. In 2012 few pre-1940 barns in the study area were being used for more than storage or cattle sheds, and many were completely abandoned.⁶³

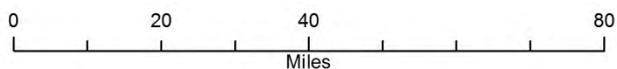
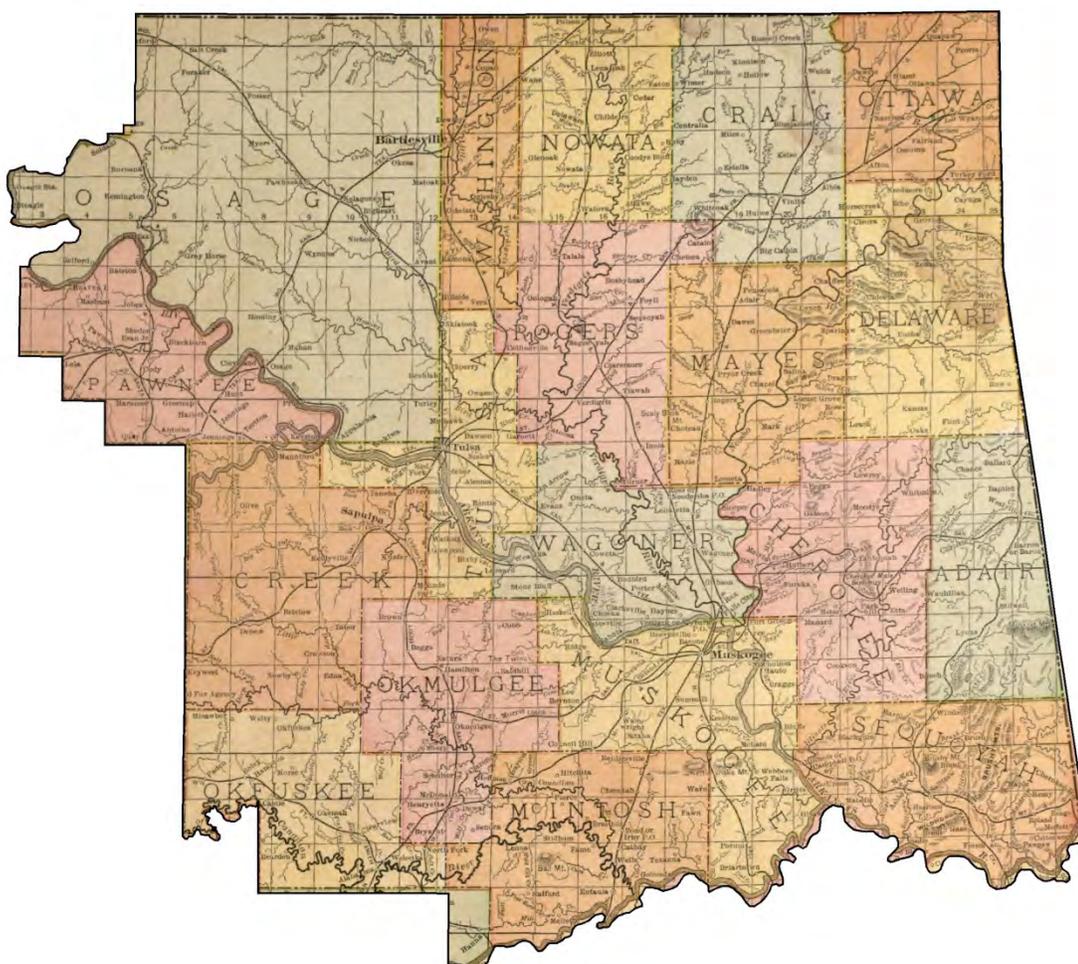
In the late 1940s John W. Morris, a University of Oklahoma geographer, classified most of Osage County and Pawnee Counties as “range grazing lands” where cultivation was almost entirely absent. The combination of rocky, limestone-based soils and relatively high rainfall produced incredibly productive grasses that allowed beef cattle to gain weight rapidly. With the exception of the Arkansas River lowlands and those of its larger tributaries like Black Bear Creek in Pawnee County, the region has never been intensively cultivated

and understandably contains very few barns. There has never been much reason in the area to put up large volumes of hay for the winter, nor was there ever much reason to store grain or shelter draft horses.⁶⁴

Management Region #3 (1894)



Management Region #3 (1910)



XIII. RECOMMENDATIONS

1. The most significant find of the survey was a large, limestone-clad round-roof English three-bay barn in Ottawa County that was built in 1930. This property warrants immediate nomination to the National Register.
2. A large number of folk log barns *and houses* were located in the eastern and southern counties of Management Region Three. A thematic survey of log buildings in Adair, Cherokee, Delaware, Mayes, and Sequoyah Counties is warranted.
3. Although most old barns are obsolete, most people *overwhelmingly* consider historic barns to be the most significant components of the rural landscape and would like to preserve their integrity. Many people have strong emotional attachments to these icons of place of heritage, even if they do not own them. Information about incentives and procedures for barn preservation should be better communicated with property owners and preservation groups in the study area.
4. There is no adequate publication that provides a guide to barns and other farm outbuildings and structures relevant to Oklahoma. The Oklahoma Historical Society should commission a published field guide to Oklahoma barns for researchers and others interested in barn preservation. Photographs and OLI data should be utilized to develop the field guide.

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This is a standard county history containing historical photos and focusing on the founding of the county's towns with emphasis on the roles of select individuals, especially early businessmen and their families.

Gibson, Arrell M. *Wilderness Bonanza: The Tri-State District of Missouri, Kansas, and Oklahoma*. Norman: University of Oklahoma Press, 1972.

Written by a prominent Oklahoma historian, this scholarly book chronicles the development of lead and zinc mining in Ottawa County and the surrounding areas. The large population industrial workers in the area produced a demand for dairy products and helps explain the presence of so many barns in Ottawa County.

Glass, Joseph W. *The Pennsylvania Culture Region: A View from the Barn*. Ann Arbor: UMI Research Press, 1986.

This study is both an examination of barn types and an examination of a formal culture region. The author utilizes the Pennsylvania forebay barn type as a diagnostic cultural trait to map and interpret the extent of the greater Pennsylvania folk culture region. His sample size is 530 barns extending from Pennsylvania to Virginia.

Glassie, Henry. "The Old Barns of Appalachia." *Mountain Life & Work* 40, (1965): 21-30.

Glassie was an eclectic, pioneering scholar in the area of landscape interpretation. This article inspired a generation of cultural geographers to classify barn forms emanating from the Upland South. The Transverse-Crib barn type, which is so common in the study area, originated here.

———. *Pattern in the Material Folk Culture of the Eastern United States*. Philadelphia: University of Pennsylvania Press, 1968.

This classic book is Glassie's seminal work on American folklife. In it he examines early American material culture and using examples to show how folk cultural patterns evolve. Among the most important chapters is the one on barns.

———. "The Variations of Concepts within Tradition: Barn Building in Otsego County, New York." *Geoscience and Man* 5, (1974): 177-235.

By far Glassie's most theoretically sophisticated examination of barns, this micro-scale study demonstrates many of the problems inherent in developing classifications of barn types based solely on visual exterior elements such as roof types.

Halberstadt, April. *Farm Memories: An Illustrated History of Rural Life*. Osceola, Wisc.: Motorbooks International Publishers & Wholesalers, 1996.

This trade book is actually very useful for its straightforward descriptions of farm activities (including activities centered on the barn) as well as historic photographs.

Hall, Charles L. "Stone Barns of the Flint Hills." *Kansas Country Living* (A Publication of the Kansas Electric Cooperatives, Inc.) 17, no. 9 (1972): 12-A, 12-D.

An early popular account of the native stone barns of eastern Kansas.

Hanou, John T. *A Round Indiana: Round Barns in the Hoosier State*. West Lafayette: Purdue U. Press, 1993.

This book is devoted to the non-orthogonal barn type. Round barns are perhaps the most visually striking and interesting of barns, yet their actual significance in terms of numbers and functionality is miniscule.

Hart, Arthur A. *Barns of the West: A Vanishing Legacy*. Boise, Idaho: Historic Idaho, Inc., 1996.

This coffee table book contains over 200 photos of from Alaska, Washington, Idaho, Montana, Oregon and California and touches on barn construction, regional features, and addresses why barns are endangered today.

Hart, John Fraser. "Types of Barns in the Eastern United States." *Focus* 43, no. 1 (1993): 8-17.

———. "On the Classification of Barns." *Material Culture* 26, no. 3 (1994): 37-46.

———. *The American Farm: How Farming Shaped the Landscape of America*. New York: Barnes & Noble, 1998.

———. *The Rural Landscape*. Baltimore: Johns Hopkins University Press, 1998.

Professor Hart is a longtime student of barn form throughout the United States. He has conducted fieldwork in the U.S. Southeast, Midwest, and Northeast. He is particularly knowledgeable about barn forms of the Corn Belt. His philosophy on barn classification, which reflects the realism and pragmatism of the American farmer, is to lump them together based on function, not subdivide them into myriad types based on external characteristics. His works are also respectful of the changing economic conditions of American farming.

Haystead, Ladd, and Gilbert C. Fite. *The Agricultural Regions of the United States*. Norman: University of Oklahoma Press, 1955.

Although now somewhat dated, this is an outstanding regional examination of agricultural economic geography of the United States.

Horsburgh, Patrick. "Barns in Central Illinois." *Landscape* 8, no. Spring (1959): 12-13.

This is an empirical study of Midland barn types in J. B. Jackson's premier journal.

Hromas, Irene. *The Barn Book, Including Pioneer Barns and Other Pioneer Structures*. Enid, Okla.: The Dougherty Press, nd.

This is a locally-published gem and one of the few books on Oklahoma.

Jordan, Terry G. *Texas Log Buildings: A Folk Architecture*. Austin, Texas: University of Texas Press, 1978.

———. *American Log Buildings: An Old World Heritage*. Chapel Hill, N.C.: University of North Carolina Press, 1985.

Jordan-Bychkov, Terry G. "Transverse-Crib Barns, the Upland South, and Pennsylvania Extended." *Material Culture* 30, no. Summer (1998): 5-31.

———. *The Upland South: The Making of An American Folk Region and Landscape*. Santa Fe, N.M.: Center for American Places, 2003.

Jordan-Bychkov probably knew more than any single scholar about European origins, overseas diffusion, and ecological adaptation to the new environment of most types of American vernacular buildings, including barns. Heavily influenced by Fred Kniffen and Henry Glassie, Jordan-Bychkov's major contribution to barn scholarship is his work on the Transverse-Crib form that developed in the Upland South.

Keitham, Mary. *Michigan's Heritage Barns*. East Lansing: Michigan State University Press, 1999.

This wonderful coffee table book of barn photos was developed during the 1990s and includes good field notes. Non-scholarly, commercially-produced books like these turned out to be some of the very best sources for studying barns in Oklahoma.

Kiefer, Wayne E. "An Agricultural Settlement Complex in Indiana." *Annals of the Association of American Geographers* 62, (1972): 487-506.

This innovative study inventoried farm buildings in a small Midwest study area in order to document the process of agricultural change from general farming to specialized cash grain production. Similar processes took place in the western Oklahoma study area.

Klamkin, Charles. *Barns, Their History, Preservation, and Restoration*. New York: Hawthorne Books, Inc., 1973.

One of the first attempts to examine the American barn and encourage adaptive reuse in the early days of the preservation movement.

Kniffen, Fred B. "Folk Housing: Key to Diffusion." *Annals of the Association of American Geographers* 55, no. 4 (1965): 549-77.

This groundbreaking article is among the most influential works in American cultural geography. It lays out the analytical framework for using empirical data from the built environment to understand regional migration and settlement patterns. It is one of the most-cited articles in the discipline.

Knobel, E. W., and O. H. Brensing. "Soil Survey of McIntosh County, Oklahoma." Washington, D.C.: U. S. Dept. of Agriculture, Bureau of Chemistry and Soils, 1938.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

———. "Soil Survey, Tulsa County, Oklahoma." Washington, D.C.: U.S. Dept. of Agriculture, Bureau of Plant Industry, 1942.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

Lambert, Paul F., Margaret Withers Teague, and Kenny Arthur Franks. *Washington County: A Centennial History*. Oklahoma City: Oklahoma Heritage Association, 1999.

This county history, written by three prominent Oklahoma historians, examines the development of Washington County, home of Phillips Petroleum, within the broader context of Cherokee and Oklahoma history.

Larkin, David. *Farm: The Vernacular Tradition of Working Buildings*. New York: Monacelli Press, 1995.

This photographic work examines European and American cultural traditions, building forms, and ethnic influences that may be seen in agricultural settlements.

Layton, M. H. and O. H. Brensing. "Soil Survey of Mayes County, Oklahoma." Washington, D.C.: U.S. Dept. of Agriculture, Bureau of Chemistry and Soils, 1937.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

Makoske, Lucy Jane. *Adair County, History, and Legend*. Stilwell, OK: Stilwell Chamber of Commerce, 1969.

This is a standard county history focusing on settlement, railroads, and the founding of the county's towns with emphasis on the roles of select individuals, especially early businessmen and their families.

Marshall, Howard W. *Folk Architecture in Little Dixie: A Regional Culture in Missouri* 1991.

Using a sample of about 100 folk buildings, this author attempts to define the boundaries of a small vernacular region in southeastern Missouri.

May, Jon D. "Osage County." In *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett, 1130-32. Oklahoma City: Oklahoma Historical Society, 2009.

This encyclopedia entry summarizes the county's location, physical geography, archeological sites, settlement history, properties listed on the National Register, lakes, parks, economic patterns, transportation, schools, famous citizens, and population change and includes a short bibliography.

———. "Washington County." In *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett, 1580-81. Oklahoma City: Oklahoma Historical Society, 2009.

This encyclopedia entry summarizes the county's location, physical geography, archeological sites, settlement history, properties listed on the National Register, lakes, parks, economic patterns, transportation, schools, famous citizens, and population change and includes a short bibliography.

Mayes County Historical, Society. *Historical Highlights of Mayes County*. Pryor, Oklahoma: Mayes County Historical Society, 1977.

This large volume is a standard county history focusing on settlement, railroads, and the founding of the county's towns with emphasis on the roles of select individuals, especially early businessmen and their families.

McMahan, Liz. "Wagoner County." In *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett, 1562-64. Oklahoma City: Oklahoma Historical Society, 2009.

This encyclopedia entry summarizes the county's location, physical geography, archeological sites, settlement history, properties listed on the National Register, lakes, parks, economic patterns, transportation, schools, famous citizens, and population change and includes a short bibliography.

Milbauer, John A. "From Unregulated to Systematic Settlement: The Impact of the United States Land Survey in Cherokee County." *Material Culture* 29, no. 3 (1997): 19-28.

This scholarly contribution by a cultural geographer examines the impact of the creation of survey lines associated with the allotment process affected the cultural landscape of the area around Tahlequah.

Mize, Richard. "Sequoyah County." In *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett, 1356-58. Oklahoma City: Oklahoma Historical Society, 2009.

This encyclopedia entry summarizes the county's location, physical geography, archeological sites, settlement history, properties listed on the National Register, lakes, parks, economic patterns, transportation, schools, famous citizens, and population change and includes a short bibliography.

Moffett, Marian, and Lawrence Wodehouse. *East Tennessee Cantilever Barn*. Knoxville: University of Tennessee Press, 1993.

This is a beautifully-done and fascinating book developed from a survey of 316 specimens of a rare type of barn found only in a few parts of southern Appalachia. It is filled with excellent photographs.

Mook, Maurice A., and John A. Hostettler. "The Amish and Their Land." *Landscape* 6, no. Spring (1957): 21-19.

This is a wonderfully insightful article on Amish and Mennonite agricultural landscapes and settlement tendencies that is relevant to several locales in the study area.

Mullins, Jonita. "Muskogee County." In *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett, 997-99. Oklahoma City: Oklahoma Historical Society, 2009.

This encyclopedia entry summarizes the county's location, physical geography, archeological sites, settlement history, properties listed on the National Register, lakes, parks, economic patterns, transportation, schools, famous citizens, and population change and includes a short bibliography.

Nall, Gary L. "King Cotton in Oklahoma, 1825-1939." In *Rural Oklahoma*, edited by Donald E. Green, 37-55. Oklahoma City: Oklahoma Historical Society, 1977.

This article is exceptionally useful for understanding the agricultural history of cotton production in southwestern Oklahoma. Cotton was the staple crop for a brief period, yet it had profound impacts on the land and settlement patterns. Areas where cotton dominated tended not to contain many barns other than single-crib types.

Newland, Claude Thurman, Joseph A. Icenhower and John B. Cox. "Soil Survey, Ottawa County, Oklahoma." Washington, D.C.: U. S. Dept. of Agriculture, Soil Conservation Service, 1964.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

Newland, Claude Thurman. "Soil Survey, Craig County, Oklahoma." Washington, D.C.: U.S. Dept. of Agriculture, Soil Conservation Service, in cooperation with Oklahoma Agricultural Experiment Station, 1973.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

Nieberding, Velma. *The History of Ottawa County*. Miami, OK: Walsworth Publishing Co., 1983.

This is a standard county history focusing on settlement, railroads, and the founding of the county's towns with emphasis on the roles of select individuals, especially early businessmen and their families.

Noble, Allen G. "Barns and Square Silos in Northeast Ohio." *Pioneer America* 6, no. July (1974): 12-21.

Allen Noble is one of the patriarchs of barn research who is considered a pioneer of field classification and research on rural ethnic landscapes in Ohio. This early article lays the groundwork for many other scholars.

———. *Wood, Brick, and Stone: The North American Settlement Landscape, Vol. 2: Barns and Farm Structures*. Amherst, Mass.: University of Massachusetts Press, 1984.

This is Noble's most careful and comprehensive work on barns and among the most important sources on barns in the eastern United States. No student of barns should overlook Noble's *Wood, Brick, and Stone*.

Noble, Allen G., and Richard K. Cheek. *The Old Barn Book: A Field Guide to North American Barns and Other Farm Structures*. New Brunswick: Rutgers U. Press, 1995.

This work is intended as a rough field guide to North American barns, but it is most useful for barns constructed east of the Mississippi River. Its utility is not ideal for barns constructed after 1890 and it is minimally useful for the Great Plains. Nevertheless, it is a useful guide to barn elements, such as door placement, hayhood types, and roofs.

Noble, Allen G., and Richard K. Cleek. "Sorting out the Nomenclature of English Barns." *Material Culture* 26, no. 1 (1994): 49-63.

This article provides a detailed, albeit perhaps not that useful, classification of barns related to the Three-Bay Threshing barn variety.

Noble, Allen G., and Victoria Hosler. "A Method for Estimating Distribution of Barn Styles: Indiana as a Case Study." *Geographical Survey* 6, no. July (1977): 14-31.

This is an excellent article outlining an approach that preservationists might use to plan efficient field surveys.

Noble, Allen G., and Gayle A. Seymour. "Distribution of Barn Types in the Northeastern United States." *The Geographical Review* 72, (1982): 155-70.

This academic article lays a foundation for understanding the major barn types found in the New England and Middle Atlantic regions. The region was a secondary source of barn types that diffused to the study area by way of Anglo-American settlers from the Midwest.

Noble, Allen G., and Hubert G.H. Wilhelm, eds. *Barns of the Midwest*. Athens: Ohio U. Press, 1995.

Professor Allen G. Noble has published more works on barns in the United States than any other scholar. A cultural geographer, his works are most useful in studying the eastern United States. Less of his work is relevant to states west of the Mississippi. The Old Barn Book, one of his collaborations with Richard K. Cheek, is a noble attempt to provide a useful field guide for the novice barn hunter, but it contains much overlap and is in places confusing regarding typologies. Noble and his collaborators have been accused of unnecessarily splitting hairs by John Fraser Hart.

Oakes, Harvey. "Soil Survey, Creek County, Oklahoma." Washington, D.C.: USDA Soil Conservation Service, 1958.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

O'Dell, Larry. "McIntosh County." In *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett, 924-25. Oklahoma City: Oklahoma Historical Society, 2009.

This encyclopedia entry summarizes the county's location, physical geography, archeological sites, settlement history, properties listed on the National Register, lakes, parks, economic patterns, transportation, schools, famous citizens, and population change and includes a short bibliography.

———. "Ottawa County." In *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett, 1137-38. Oklahoma City: Oklahoma Historical Society, 2009.

This encyclopedia entry summarizes the county's location, physical geography, archeological sites, settlement history, properties listed on the National Register, lakes, parks, economic patterns, transportation, schools, famous citizens, and population change and includes a short bibliography.

———. "Tulsa County." In *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett, 1514-16. Oklahoma City: Oklahoma Historical Society, 2009.

This encyclopedia entry summarizes the county's location, physical geography, archeological sites, settlement history, properties listed on the National Register, lakes, parks, economic patterns, transportation, schools, famous citizens, and population change and includes a short bibliography.

Okmulgee Historical Society. *History of Okmulgee County, Oklahoma*. Tulsa, OK: Historical Enterprises, 1985.

This is a standard county history focusing on settlement, railroads, and the founding of the county's towns with emphasis on the roles of select individuals, especially early businessmen and their families.

Perrin, Richard W. E. "Circle and Polygon in Wisconsin: Early Structures of Unconventional Design." *Wisconsin Magazine of History* 47, no. Autumn (1963): 50-58.

This early popular account examines round and non-orthogonal barn designs. Round barns are idiosyncratic freaks that attract much more attention than they deserve. According to John Fraser Hart, round barns never became popular with farmers because they rarely functioned as well as conventional barns.

Polone, Dock J., Claude Thurman Newland and Billy G. Swafford. "Soil Survey of Mayes County, Oklahoma." Washington, D.C.: USDA Soil Conservation Service, 1975.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

Polone, Dock J. "Soil Survey, Washington County, Oklahoma." Washington, D.C.: U.S. Dept. of Agriculture, Soil Conservation Service, 1968.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

- . "Soil Survey, Rogers County, Oklahoma." Washington, D.C.: U.S.D.A. Soil Conservation Service, 1966.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

- . "Soil Survey of Nowata County, Oklahoma." Washington, D.C.: U.S. Dept. of Agriculture, Soil Conservation Service, 1979.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

- . "Soil Survey of Wagoner County, Oklahoma." Washington, D.C.: U.S. Dept. of Agriculture, Soil Conservation Service, 1976.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

- Rader, J. L. "Oklahoma County Histories." *Chronicles of Oklahoma* 20, no. 2 (1942): 1.

Rader provides an early listing of county histories, many of which can only be found in special collections today.

- Ramsey, Lynda. "End of the Trail: The Barn." *Oklahoma Today*, Sept./Oct. 2009, 34-41.

This well-illustrated essay examines the history and preservation efforts of a selection of barns examined by the author in her Master's thesis.

- Ridlen, Suzanne S. "Bank Barns in Cass County, Indiana." *Pioneer America* 4, no. July (1972): 25-43.

This report examines bank barns in a single county resulting from a historic preservation survey. It links architectural form to ethnic diffusion.

- Roberts, Warren E. *Log Buildings of Southern Indiana*. Bloomington: Trickster Press, 1996.

This monograph examines folk building traditions and ethnic settlement history of southern Indiana using a database of over 400 log buildings observed over decades of field observation in the region.

Schlebecker, John T. *Whereby We Thrive: A History of American Farming, 1607-1972*. Ames, Iowa: The Iowa State University Press, 1975.

This is a highly valuable, chronologically and regionally-organized source of information regarding agricultural change in the United States. It explains the technological and political reasons for the largest changes in farming for the study period.

Schultz, LeRoy G. *Barns, Stables and Outbuildings: A World Bibliography in English, 1700-1983*. Jefferson, NC: McFarland and Co., 1986.

This is the largest and most extensive bibliography available for barns. It has international breadth, but a huge section includes U.S. sources in historical periodicals. It is an invaluable source for locating popular writings in the late nineteenth and early twentieth century.

Sequoyah County Historical Society. *The History of Sequoyah County, 1828-1975*. Sallisaw, OK: Sequoyah County Historical Society, 1976.

This is a standard county history focusing on settlement, railroads, and the founding of the county's towns with emphasis on the roles of select individuals, especially early businessmen and their families.

Shoemaker, Alfred L., and Don Yoder. *The Pennsylvania Barn*. Lancaster: PA Dutch Folklore Center, 1955.

The Pennsylvania forebay barn has been written about more than any other barn type, and this is the earliest attempt to provide a comprehensive overview of it.

Shortridge, James R. "Kansas Barns in Time and Place." *Kansas History* 22, no. 1 (1999): 2-25.

Shortridge is a cultural geographer who produced this article after a statewide survey of barns for the Kansas SHPO. This account devotes much discussion to the diffusion of Midland forms and especially to construction innovations of the early twentieth century, such as the introduction of prefabricated trusses.

Sloane, Eric. *An Age of Barns*. New York: Funk and Wagnalls, 1967.

Sloane provides an earthy, folklore-filled discussion of barn use and construction in this coffee table publication. It contains black and white illustrations of many North American types.

Soike, Lowell J. *Without Right Angles: The Round Barns of Iowa*. Iowa City: Penfield Press, 1983.

This is the standard book-length work on round barns in one of the states where they are most common.

———. "Affordable Barns for the Midwest: Beginnings." In *Barns of the Midwest*, edited by Allen G. Noble and Hubert G. H. Wilhelm, 80-98. Athens, Ohio: Ohio University Press, 1995.

This chapter in the Noble and Wilhelm anthology examines the introduction of commercially-manufactured components and the transformation of the barn from a folk building to various standardized designs.

Sparwasser, W. A., Vinson A. Bogard and Odos G. Henson. "Soil Survey, Okmulgee County, Oklahoma." Washington, D.C.: U.S. Dept. of Agriculture, Soil Conservation Service, 1968.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

Stauber, Rose. "Delaware County." In *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett, 397-98. Oklahoma City: Oklahoma Historical Society, 2009.

This encyclopedia entry summarizes the county's location, physical geography, archeological sites, settlement history, properties listed on the National Register, lakes, parks, economic patterns, transportation, schools, famous citizens, and population change and includes a short bibliography.

Swafford, Billy G. and Ferris Paul Allgood. *Soil Survey of McIntosh County, Oklahoma*. Washington, D.C.: U.S. Dept. of Agriculture, Soil Conservation Service, 1981.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

Teague, Margaret Withers. *History of Washington County and Surrounding Area*. Bartlesville, OK: Bartlesville Historical Commission, 1967.

This is a standard county history focusing on settlement, railroads, and the founding of the county's towns with emphasis on the roles of select individuals, especially early businessmen and their families.

Thollander, Earl. *Barns of California*. San Francisco: California Historical Society, 1974.

This monograph provides a first approximation of barn types in the Golden State.

———. "California Barns." *California Historical Quarterly* 53, no. Spring (1974): 41-51.

This article in the state's historical quarterly outlines some of the basic barn types to be found in California.

Thomas, Sarah C. "Rogers County." In *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett, 1306-07. Oklahoma City: Oklahoma Historical Society, 2009.

This encyclopedia entry summarizes the county's location, physical geography, archeological sites, settlement history, properties listed on the National Register, lakes, parks, economic patterns, transportation, schools, famous citizens, and population change and includes a short bibliography.

Trewartha, Glenn T. "Some Regional Characteristics of American Farmsteads." *Annals of the Association of American Geographers* 38, (1948): 169-225.

This article sampled farmsteads to develop a model of farm building layout and related characteristics for regions of the United States.

United States. Natural Resources Conservation Service. *Soil Survey of Okfuskee County, Oklahoma: Electronic Resource*. Washington, D.C.: U.S. Dept. of Agriculture, Natural Resources Conservation Service, 2007.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

United States. Natural Resources Conservation Service. "Soil Survey of Muskogee County, Oklahoma." Washington, D.C.: U.S. Dept. of Agriculture, Soil Conservation Service, 1987.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

Van Ravenswaay, Charles. *The Art & Architecture of German Settlements in Missouri: A Survey of a Vanishing Culture*. Columbia: University of Missouri Press, 1977.

This is a regional monograph of the folk culture and building traditions of the Germans in Missouri.

Visser, Thomas Durant. *A Field Guide to New England Barns and Farm Buildings*. Hanover: University Press of New England, 1997.

Although it does not pertain to the study area, this little field guide is an excellent source of information on barn form, components, and construction. It is filled with excellent photos.

Vlach, John Michael. *Barns*. New York: W. W. Norton & Company, 2003.

This source looks like a coffee table book, but it is probably the best single source on barns in the United States. It is a collection of HABS/HAER photos, organized regionally, which does not over-classify barn types. Excellent!

Wagoner County Extension Homemakers Council. *Wagoner County History*. Wagoner, OK: Wagoner County Extension Homemakers Council, 1980.

This is a standard county history focusing on settlement, railroads, and the founding of the county's towns with emphasis on the roles of select individuals, especially early businessmen and their families.

Warehime, Les. *History of Ranching the Osage*. Tulsa, OK: W.W. Publishing, 2000.

Nineteenth-century ranching in Osage County is the subject of this heavily-biographical source. Good coverage of Osage Indian land tenure.

Warkentin, John. "Mennonite Agricultural Settlements of Southern Manitoba." *The Geographical Review* 49, no. 49 (1959): 342-68.

Useful article for recognizing Mennonite settlement traits.

Warth, Peter Edwin and Dock J. Polone. "Soil Survey, Adair County, Oklahoma." Washington, D.C.: U.S. Dept. of Agriculture, Soil Conservation Service, 1965.

This source is a standard U.S.D.A. soil survey that describes the soil quality, terrain, water resources, and crops grown in the county. It contains a large map of the county showing general soil associations, transportation, and settlements.

Welsh, Roger L. "The Nebraska Round Barn." *Journal of Popular Culture* 1, no. Spring (1968): 403-09.

———. "Nebraska's Round Barns." *Nebraska History* 51, no. Spring (1970): 49-92.

Nebraska's best-known folklorist examines the state's collection of round barns.

West, C. W. "Dub". *McIntosh County Memories: People, Places, Events*. Eufaula, OK: McIntosh County Historical Society, 1993.

This is a well-written county history by a well-known historian from Muskogee.

Whitaker, Rachel. "Adair County." In *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett, 4-5. Oklahoma City: Oklahoma Historical Society, 2009.

This encyclopedia entry summarizes the county's location, physical geography, archeological sites, settlement history, properties listed on the National Register, lakes, parks, economic patterns, transportation, schools, famous citizens, and population change and includes a short bibliography.

Whitney, Stephen T. "Round Barns." *Vermont Life* 25, no. Summer (1971): 8-15.

This is one of the earliest sources on round barns. Round barns are the rarest type of barn. They are not as functional as the academics who invented them thought.

Wilson, Linda D. "Creek County." In *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett, 364-65. Oklahoma City: Oklahoma Historical Society, 2009.

This encyclopedia entry summarizes the county's location, physical geography, archeological sites, settlement history, properties listed on the National Register, lakes, parks, economic patterns, transportation, schools, famous citizens, and population change and includes a short bibliography.

———. "Okfuskee County." In *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett, 1052-53. Oklahoma City: Oklahoma Historical Society, 2009.

This encyclopedia entry summarizes the county's location, physical geography, archeological sites, settlement history, properties listed on the National Register, lakes, parks, economic patterns, transportation, schools, famous citizens, and population change and includes a short bibliography.

———. "Pawnee County." In *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett, 1164-66. Oklahoma City: Oklahoma Historical Society, 2009.

This encyclopedia entry summarizes the county's location, physical geography, archeological sites, settlement history, properties listed on the National Register, lakes, parks, economic patterns, transportation, schools, famous citizens, and population change and includes a short bibliography.

Whyte, Bertha Kitchell. "Octagonal Houses and Barns." *Wisconsin Magazine of History* 34, no. Autumn (1950): 42-46.

Some non-orthogonal barns were frequently intended to be used for milking. Many are hexagonal or octagonal in shape. Wisconsin has many because of its important dairy industry.

Wilhelm, Hubert G. H. "The Pennsylvania-Dutch Barn in Southeastern Ohio." *Geoscience and Man* 5, (1974): 155-62.

———. "Amish-Mennonite Barns in Madison County, Ohio: The Persistence of Traditional Form Elements." *Ohio Geographers* 4, no. 1-8 (1976).

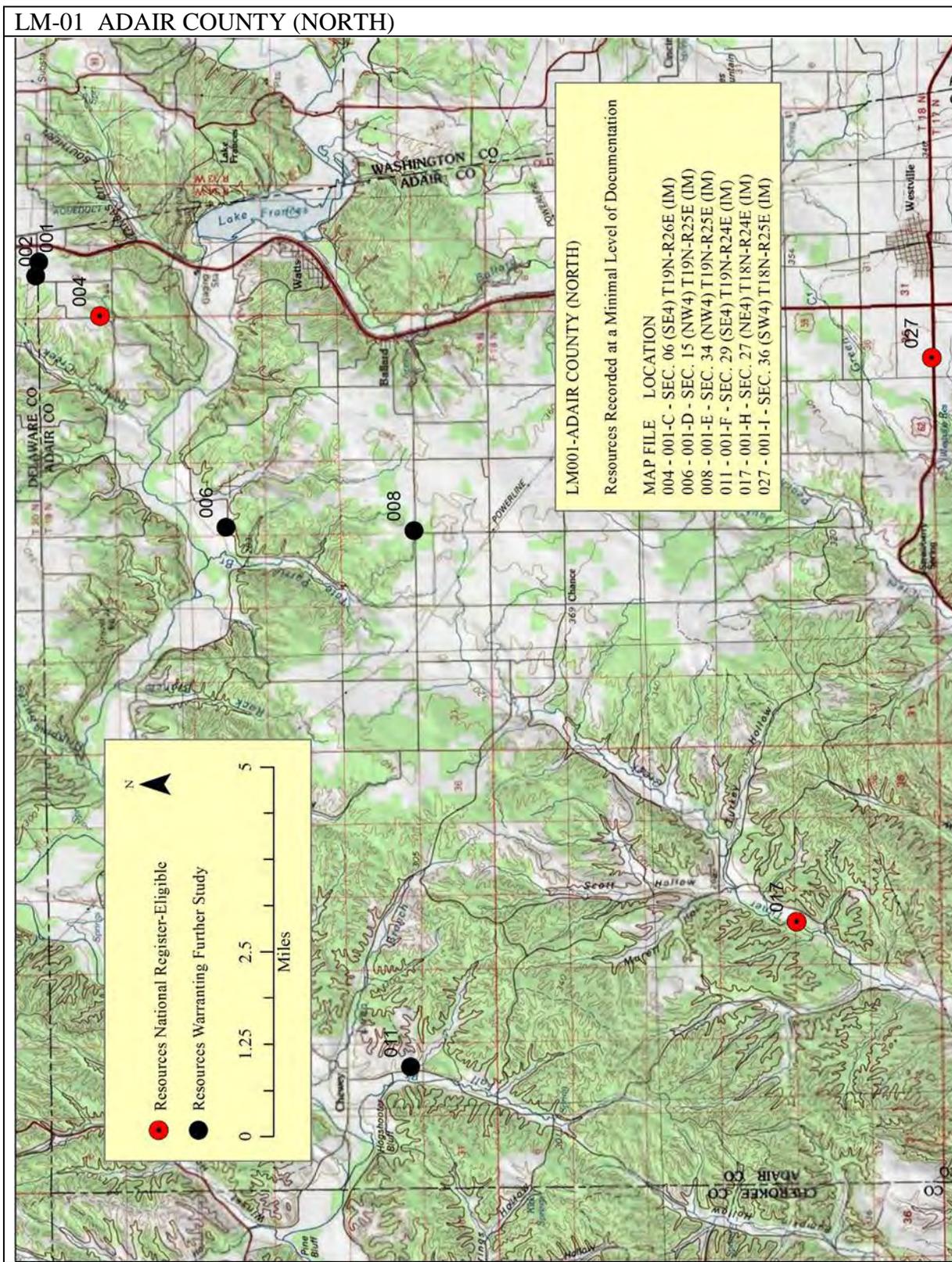
———. "Midwestern Barns and Their Germanic Connections." In *Barns of the Midwest*, edited by Allen G. Noble and Hubert G. H. Wilhelm, 62-79. Athens: Ohio University Press, 1995.

Hubert Wilhelm wrote extensively about German barns in his home State of Ohio. He was a professor of geography at Ohio University, from where he conducted fieldwork throughout the state. These three pieces are among his more influential works.

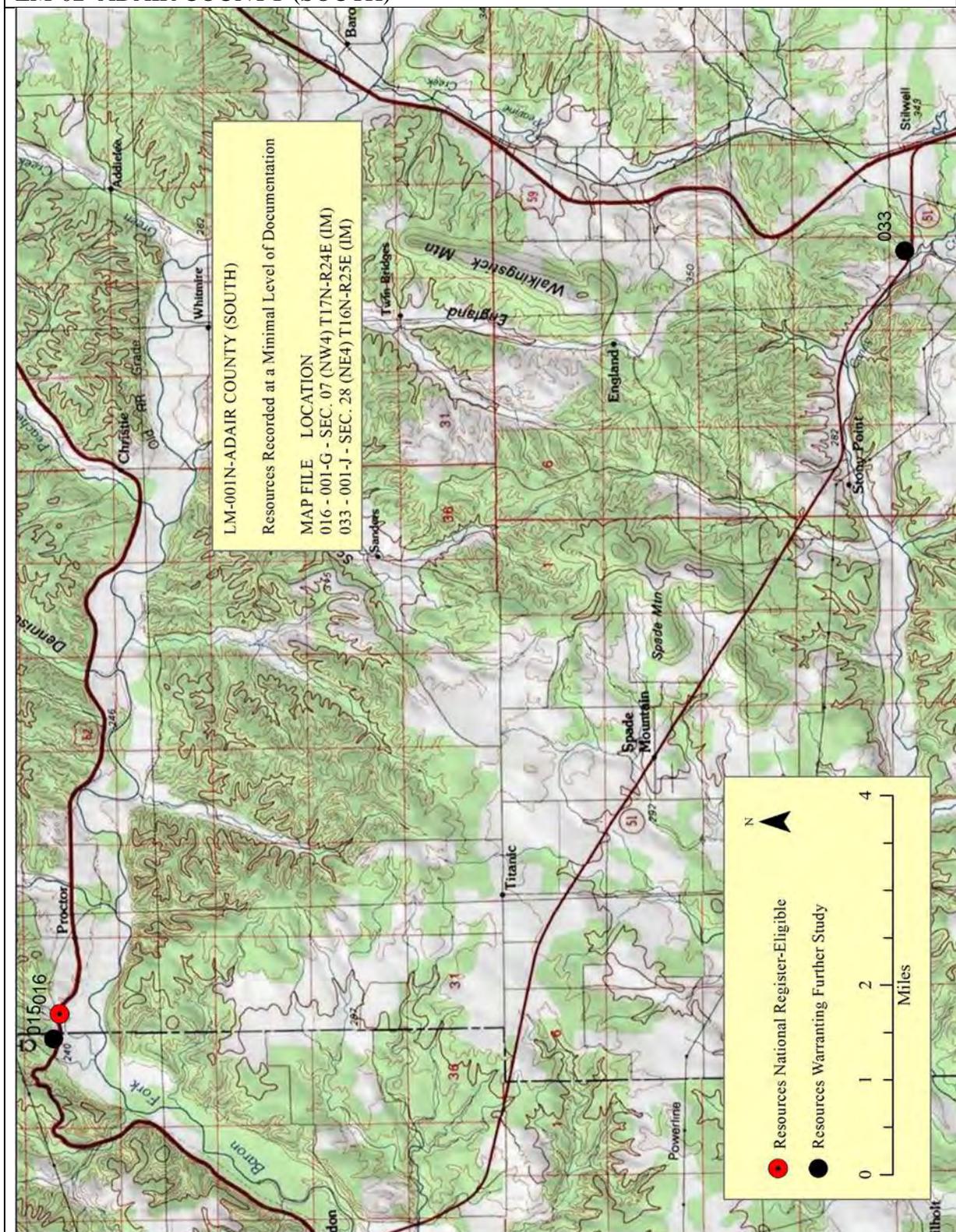
Zelinsky, Wilbur. "The New England Connecting Barn." *The Geographical Review* 48, (1958): 540-53.

Wilbur Zelinsky, a well-known cultural geographer examined barns in New England. His study was among the first geographical analyses of barns.

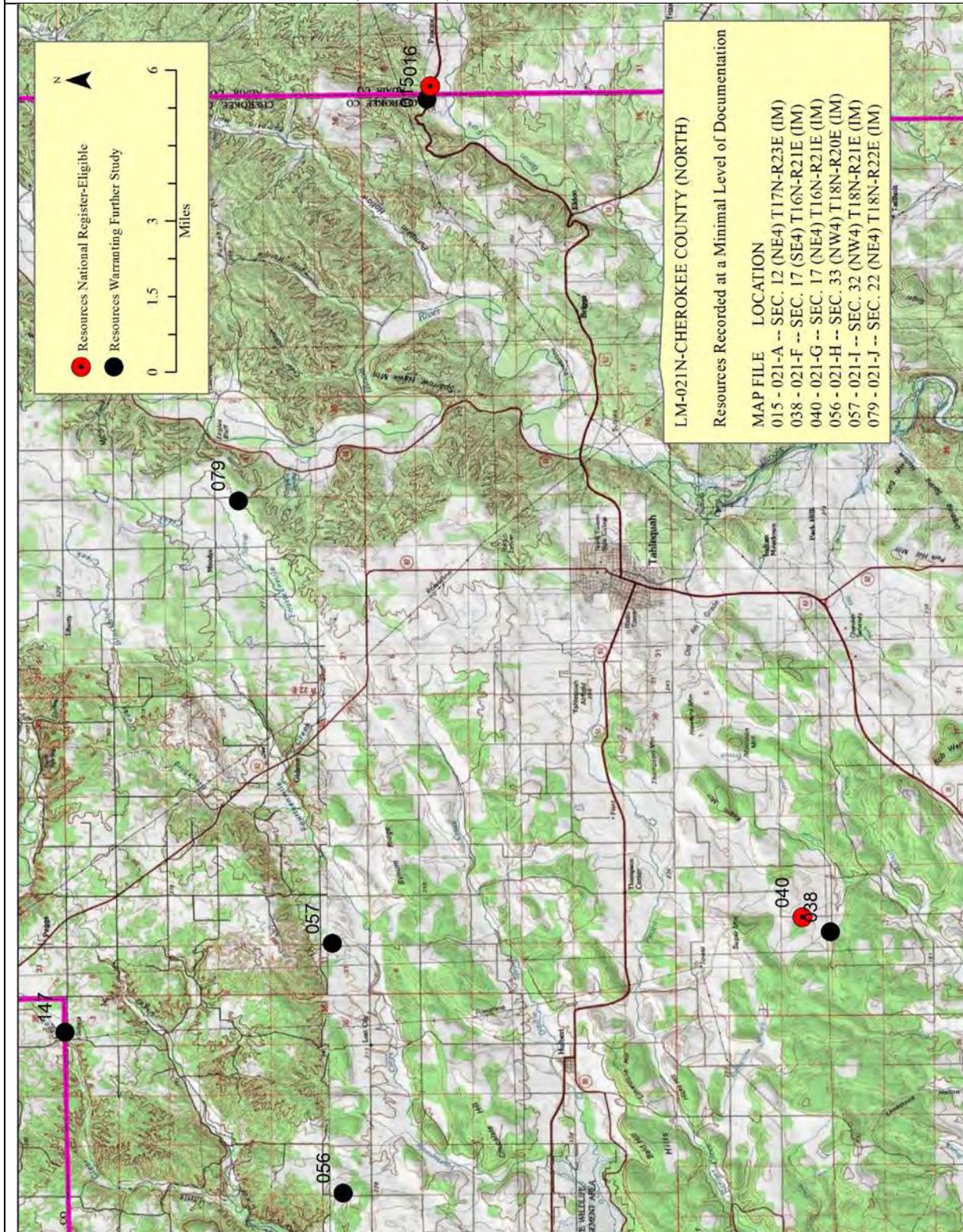
XV. APPENDIX A: PROPERTY LOCATOR MAPS



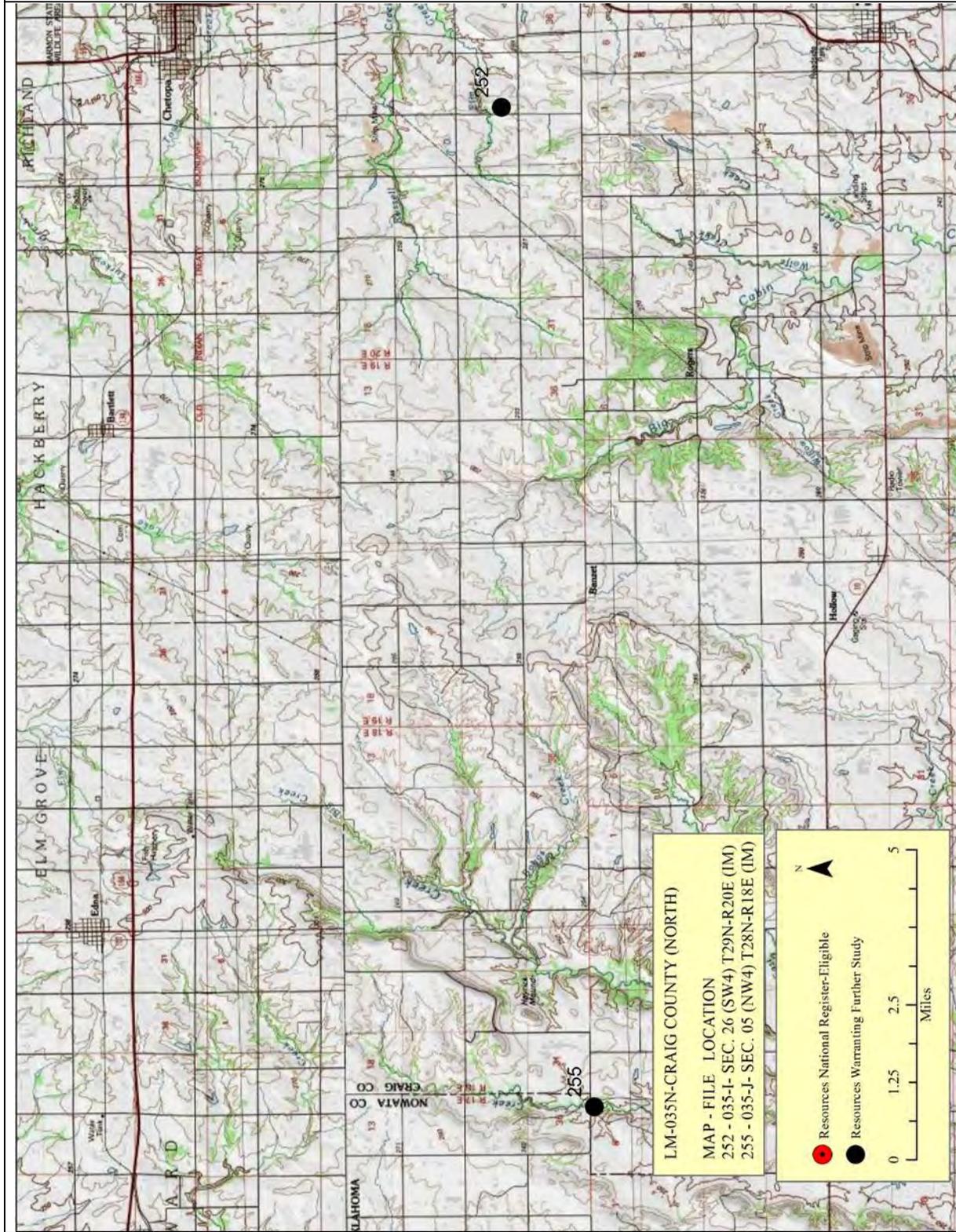
LM-02 ADAIR COUNTY (SOUTH)



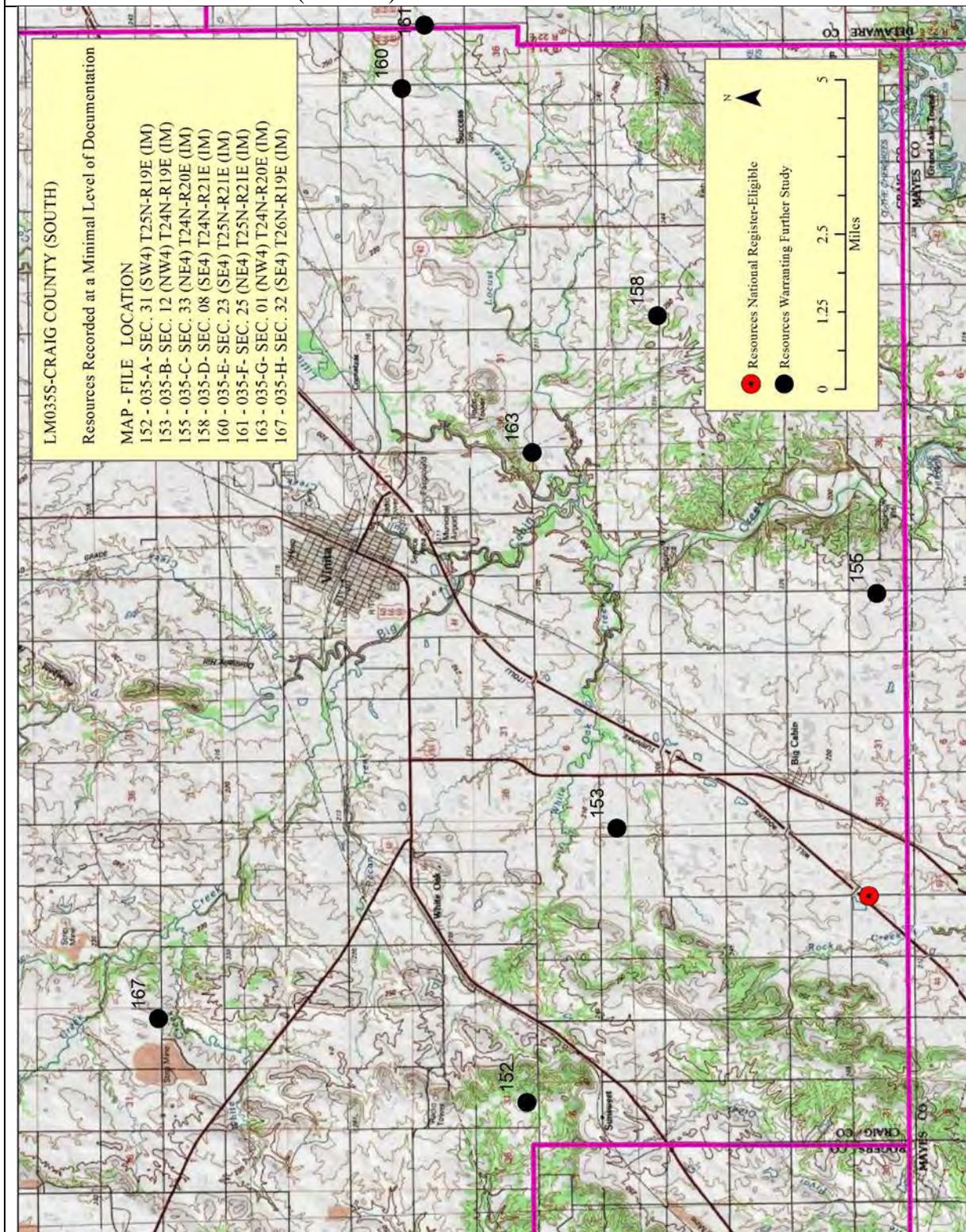
LM-03 CHEROKEE COUNTY (NORTH)



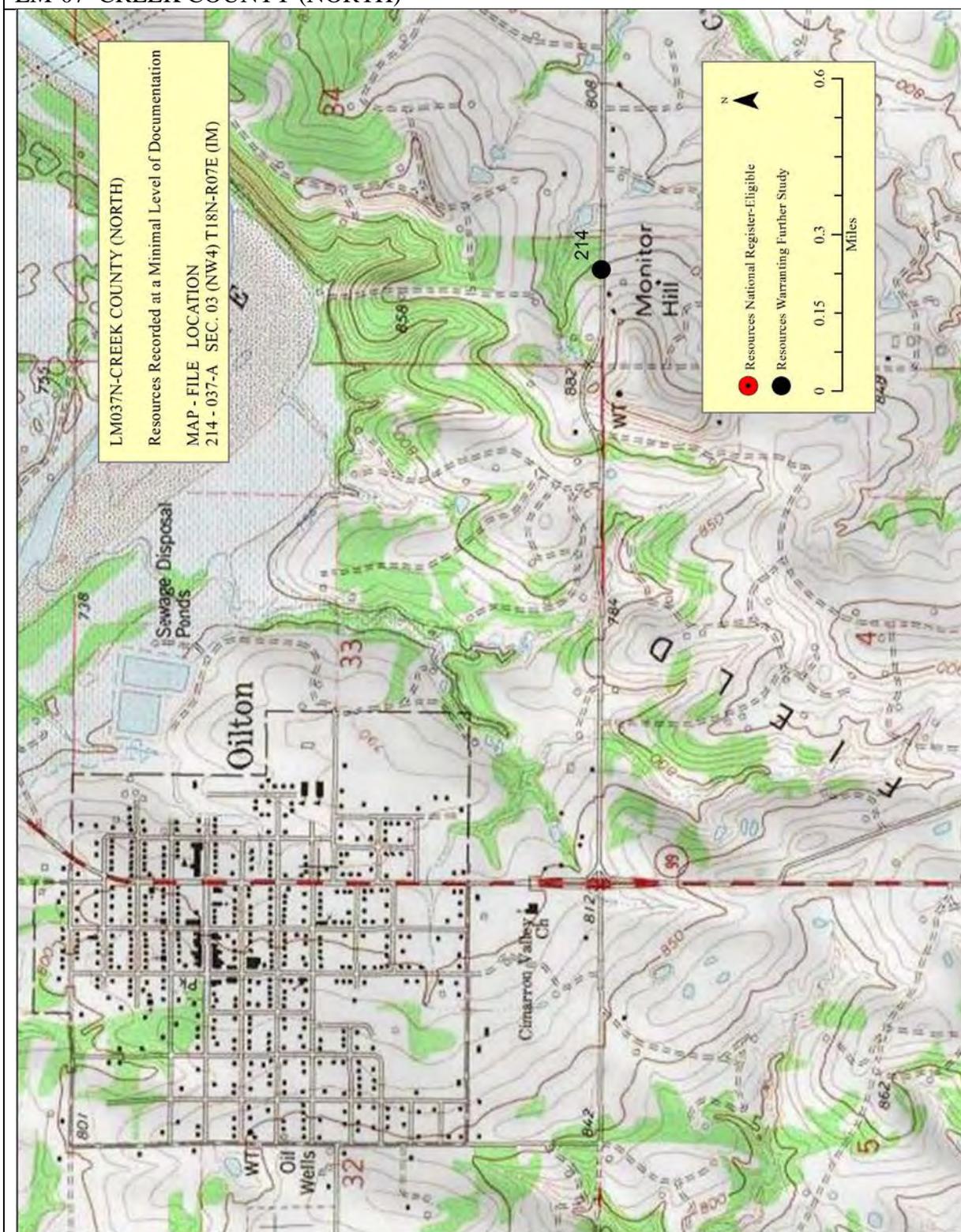
LM-05 CRAIG COUNTY (NORTH)



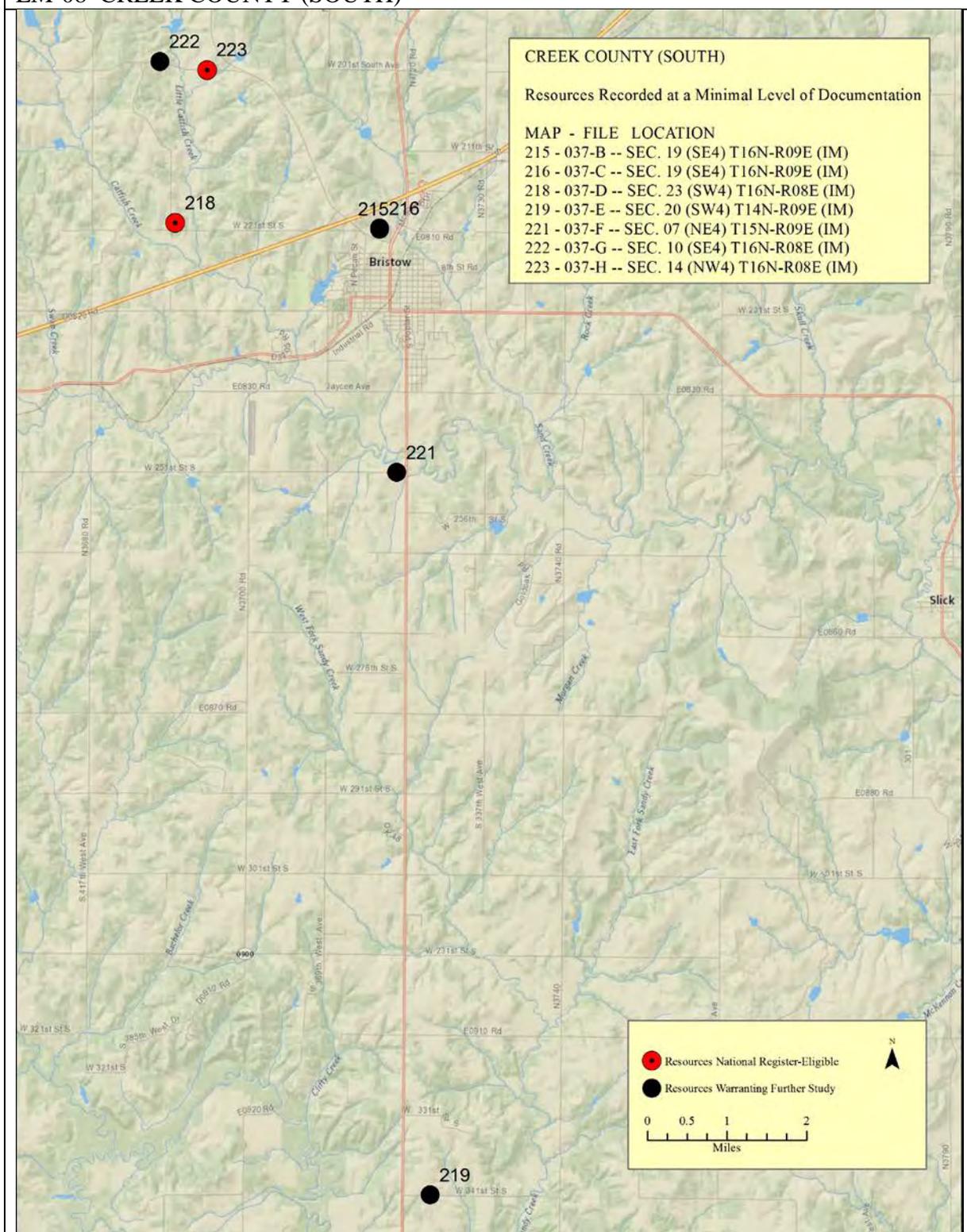
LM-06 CRAIG COUNTY (SOUTH)



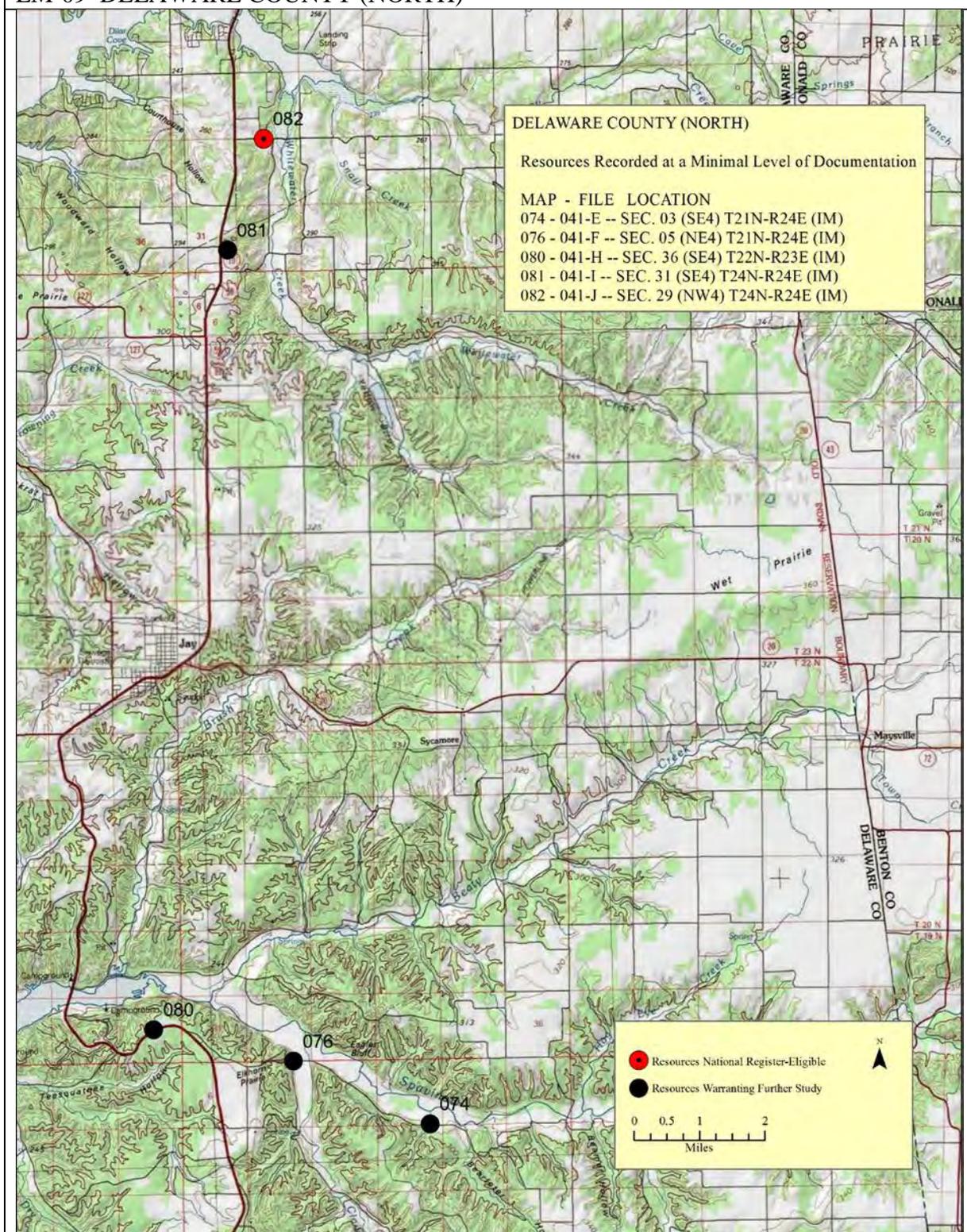
LM-07 CREEK COUNTY (NORTH)



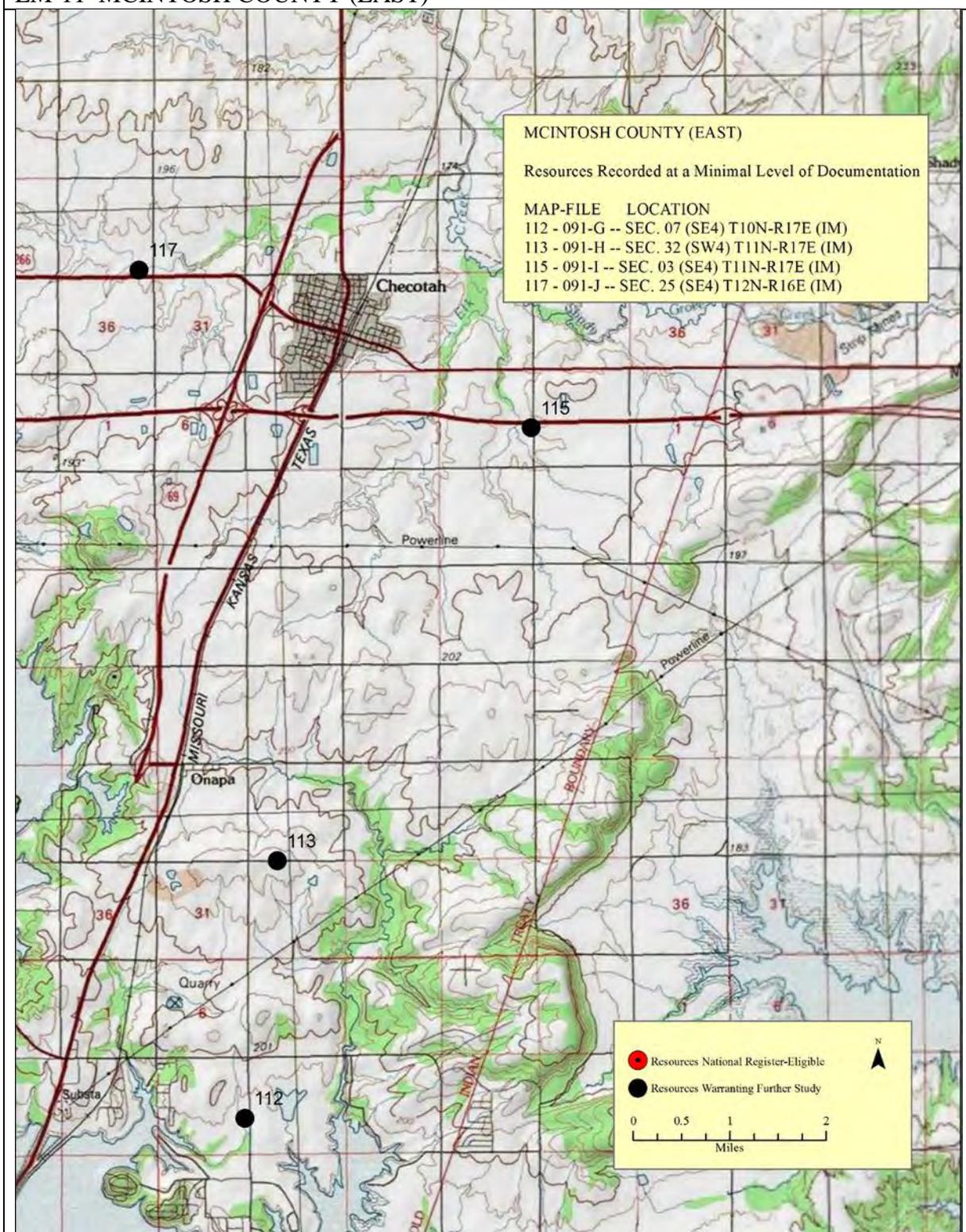
LM-08 CREEK COUNTY (SOUTH)



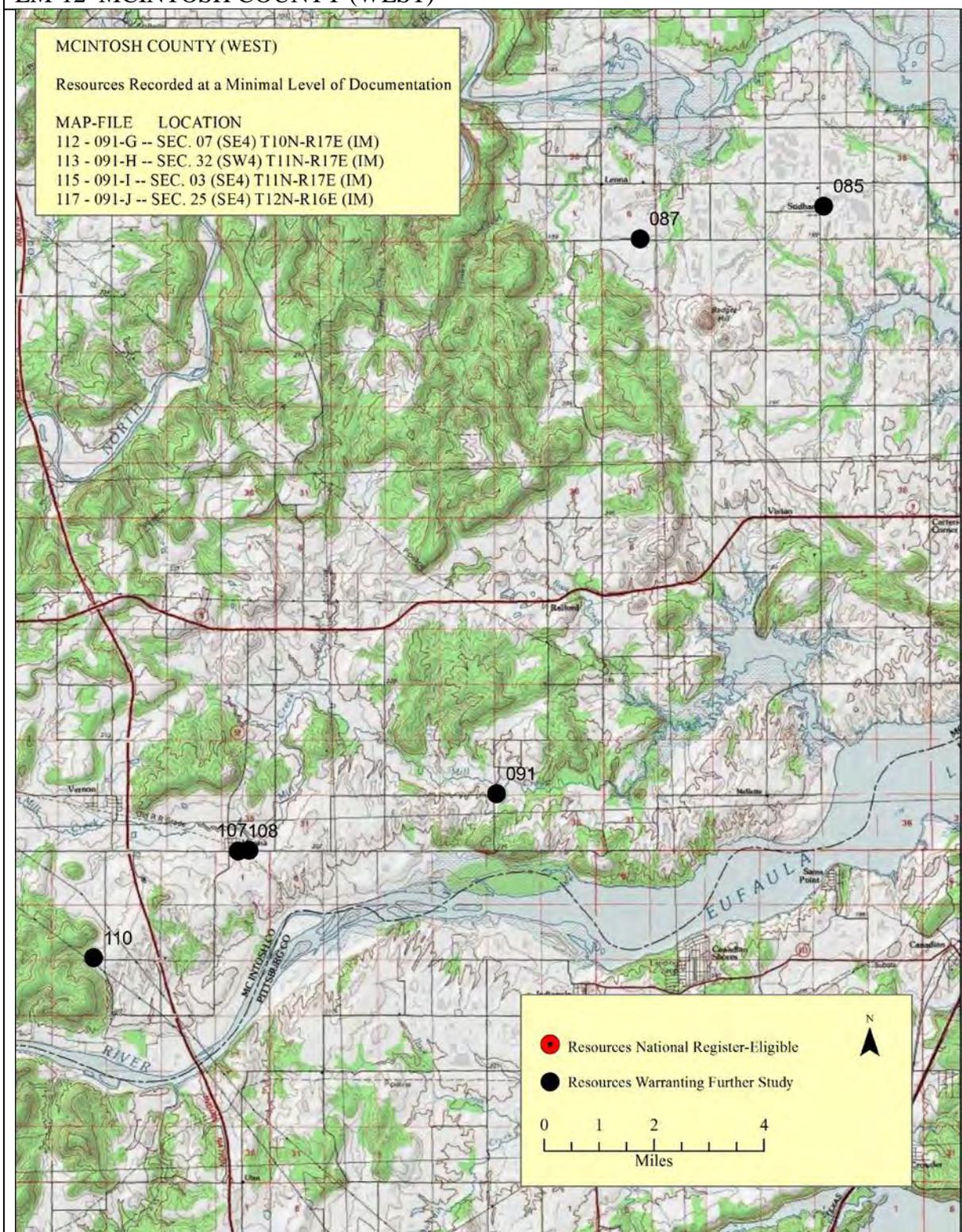
LM-09 DELAWARE COUNTY (NORTH)



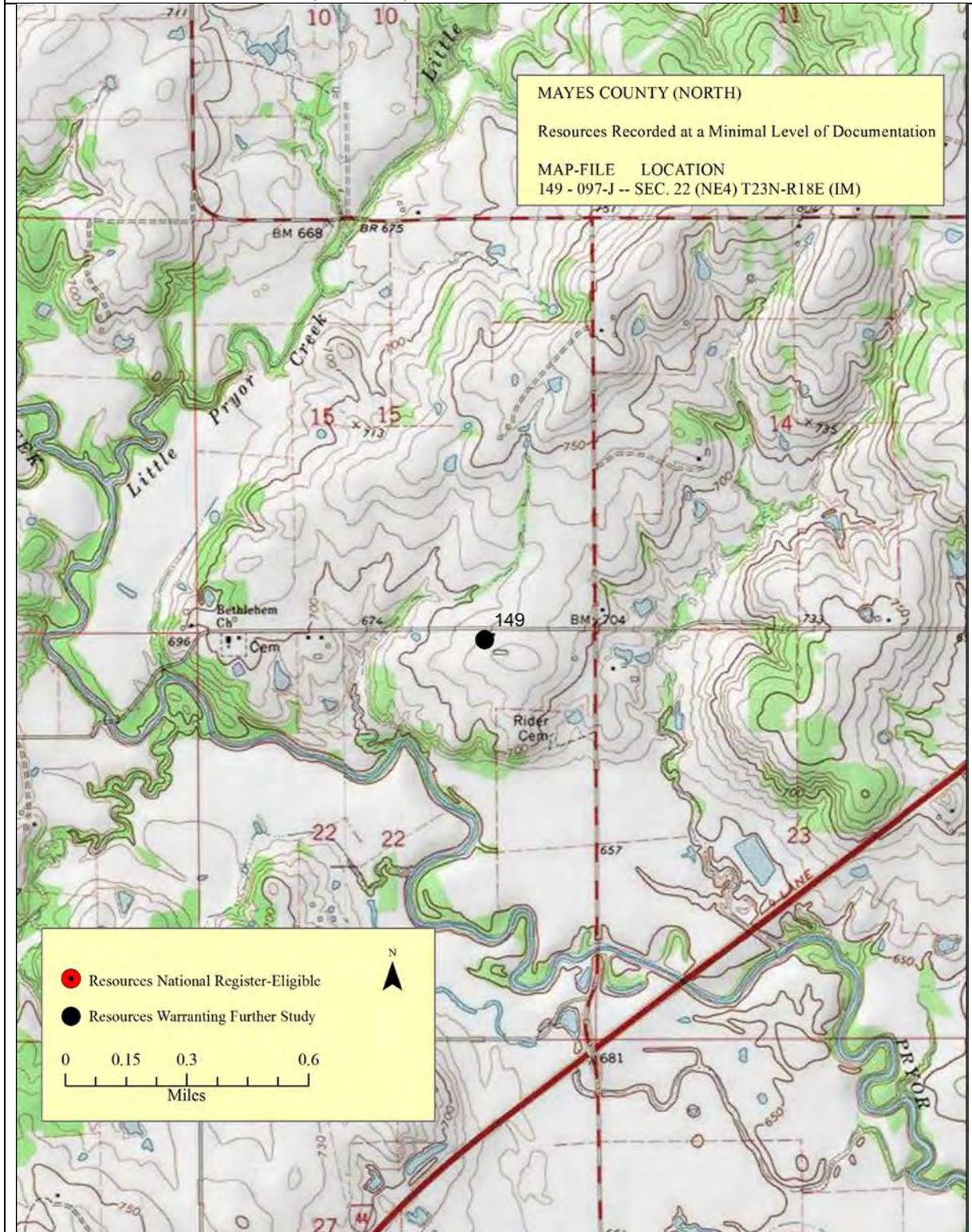
LM-11 MCINTOSH COUNTY (EAST)



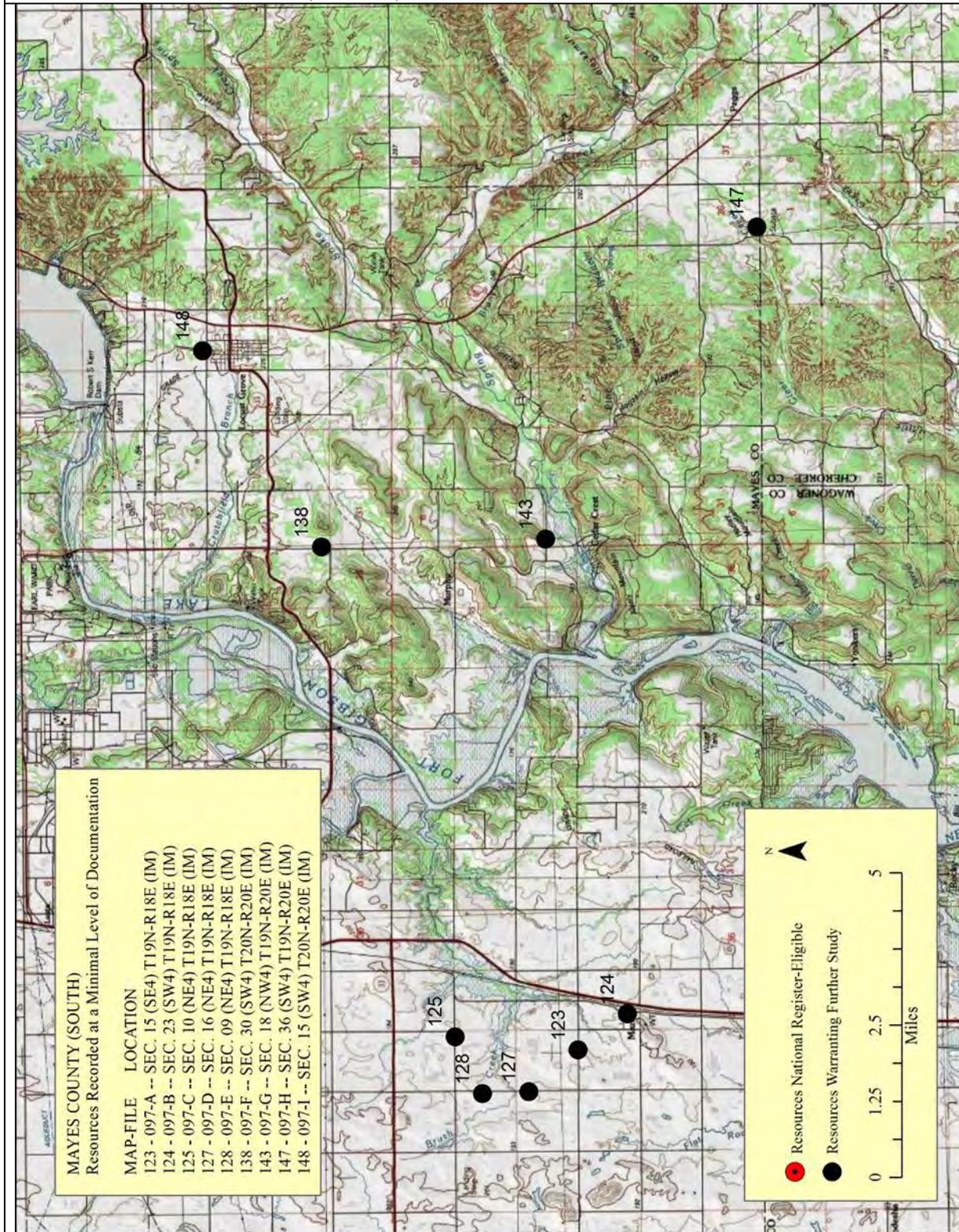
LM-12 MCINTOSH COUNTY (WEST)



LM-13 MAYES COUNTY (NORTH)



LM-14 MAYES COUNTY (SOUTH)



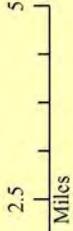
MAYES COUNTY (SOUTH)
Resources Recorded at a Minimal Level of Documentation

MAP-FILE	LOCATION
123 - 097-A -- SEC. 15 (SE4) T19N-R18E (IM)	
124 - 097-B -- SEC. 23 (SW4) T19N-R18E (IM)	
125 - 097-C -- SEC. 10 (NE4) T19N-R18E (IM)	
127 - 097-D -- SEC. 16 (NE4) T19N-R18E (IM)	
128 - 097-E -- SEC. 09 (NE4) T19N-R18E (IM)	
138 - 097-F -- SEC. 30 (SW4) T20N-R20E (IM)	
143 - 097-G -- SEC. 18 (NW4) T19N-R20E (IM)	
147 - 097-H -- SEC. 36 (SW4) T19N-R20E (IM)	
148 - 097-I -- SEC. 15 (SW4) T20N-R20E (IM)	

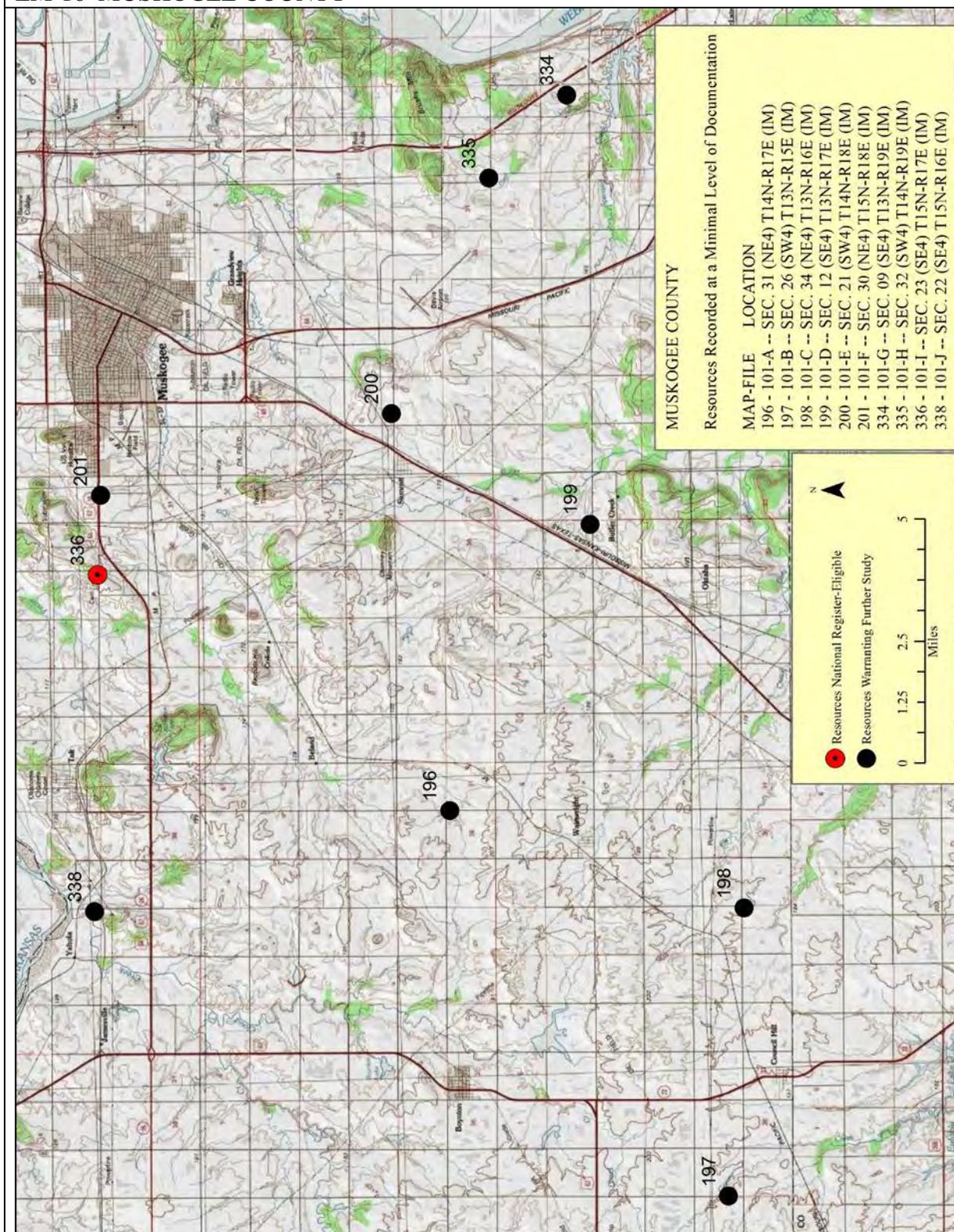


 Resources National Register-Eligible

 Resources Warranting Further Study



LM-16 MUSKOGEE COUNTY



MUSKOGEE COUNTY

Resources Recorded at a Minimal Level of Documentation

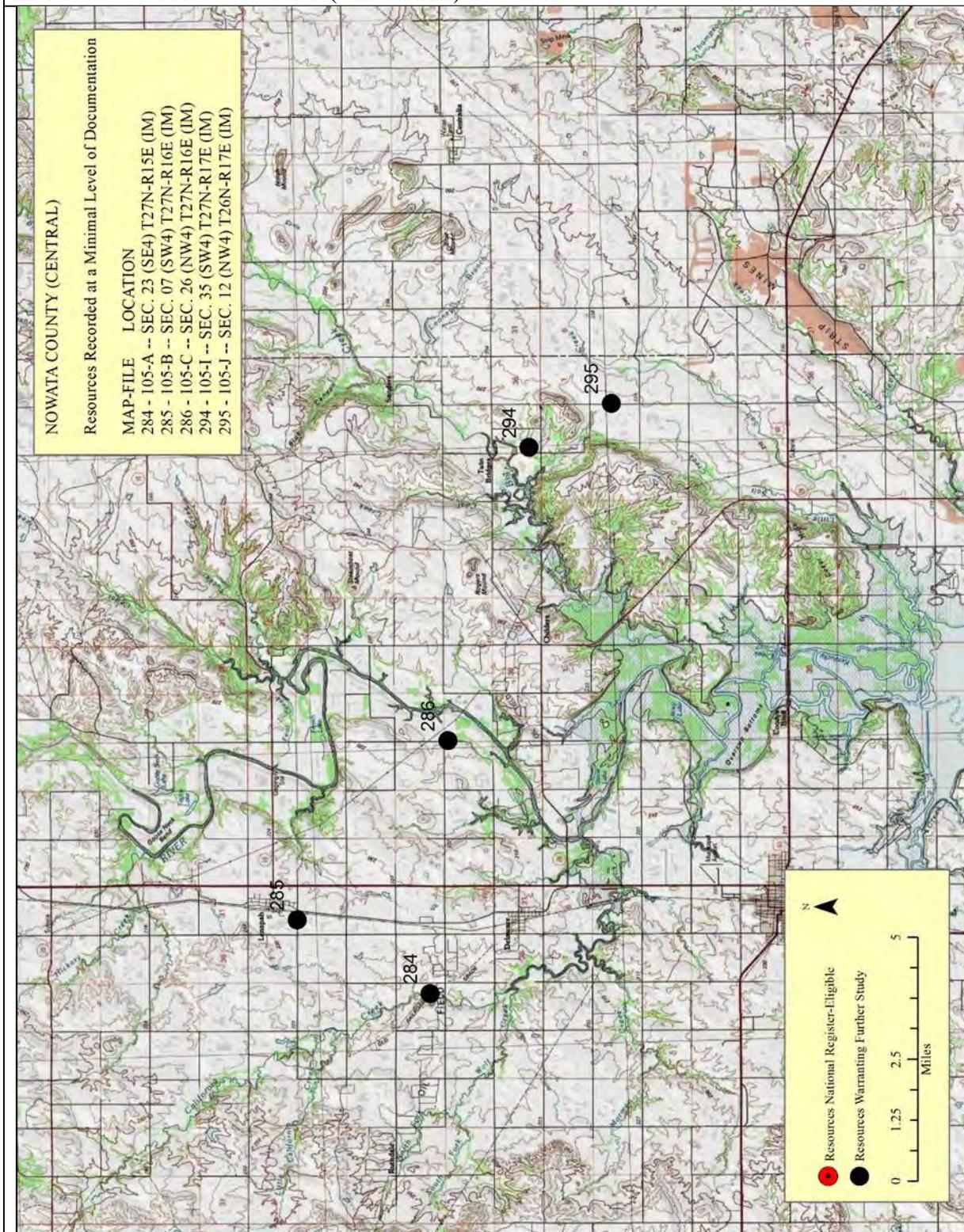
MAP-FILE	LOCATION
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197 - 101-B --	SEC. 26 (SW4) T13N-R15E (IM)
198 - 101-C --	SEC. 34 (NE4) T13N-R16E (IM)
199 - 101-D --	SEC. 12 (SE4) T13N-R17E (IM)
200 - 101-E --	SEC. 21 (SW4) T14N-R18E (IM)
201 - 101-F --	SEC. 30 (NE4) T15N-R18E (IM)
334 - 101-G --	SEC. 09 (SE4) T13N-R19E (IM)
335 - 101-H --	SEC. 32 (SW4) T14N-R19E (IM)
336 - 101-I --	SEC. 23 (SE4) T15N-R17E (IM)
338 - 101-J --	SEC. 22 (SE4) T15N-R16E (IM)

● Resources National Register-Eligible
● Resources Warranting Further Study

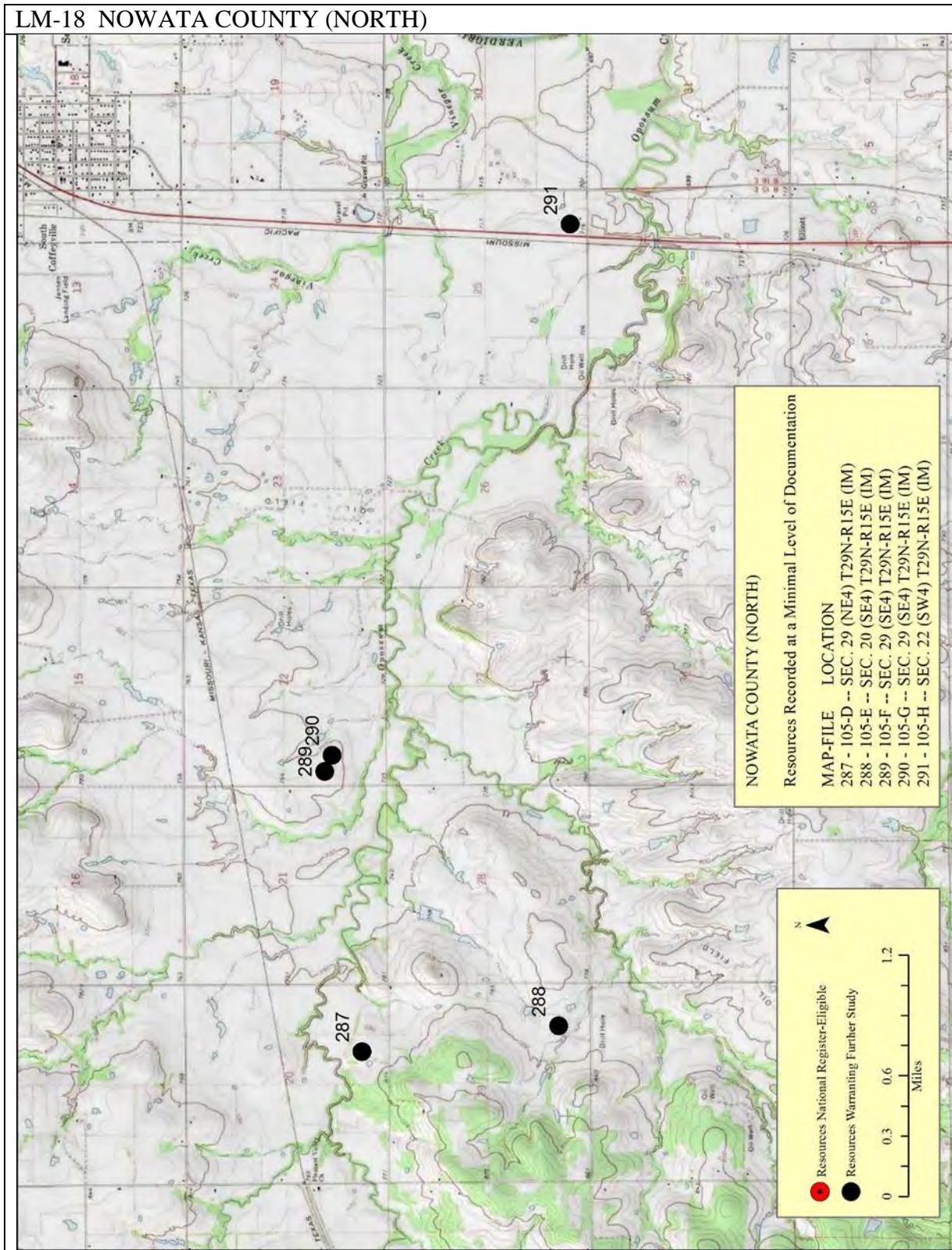
0 1.25 2.5 5
 Miles

N

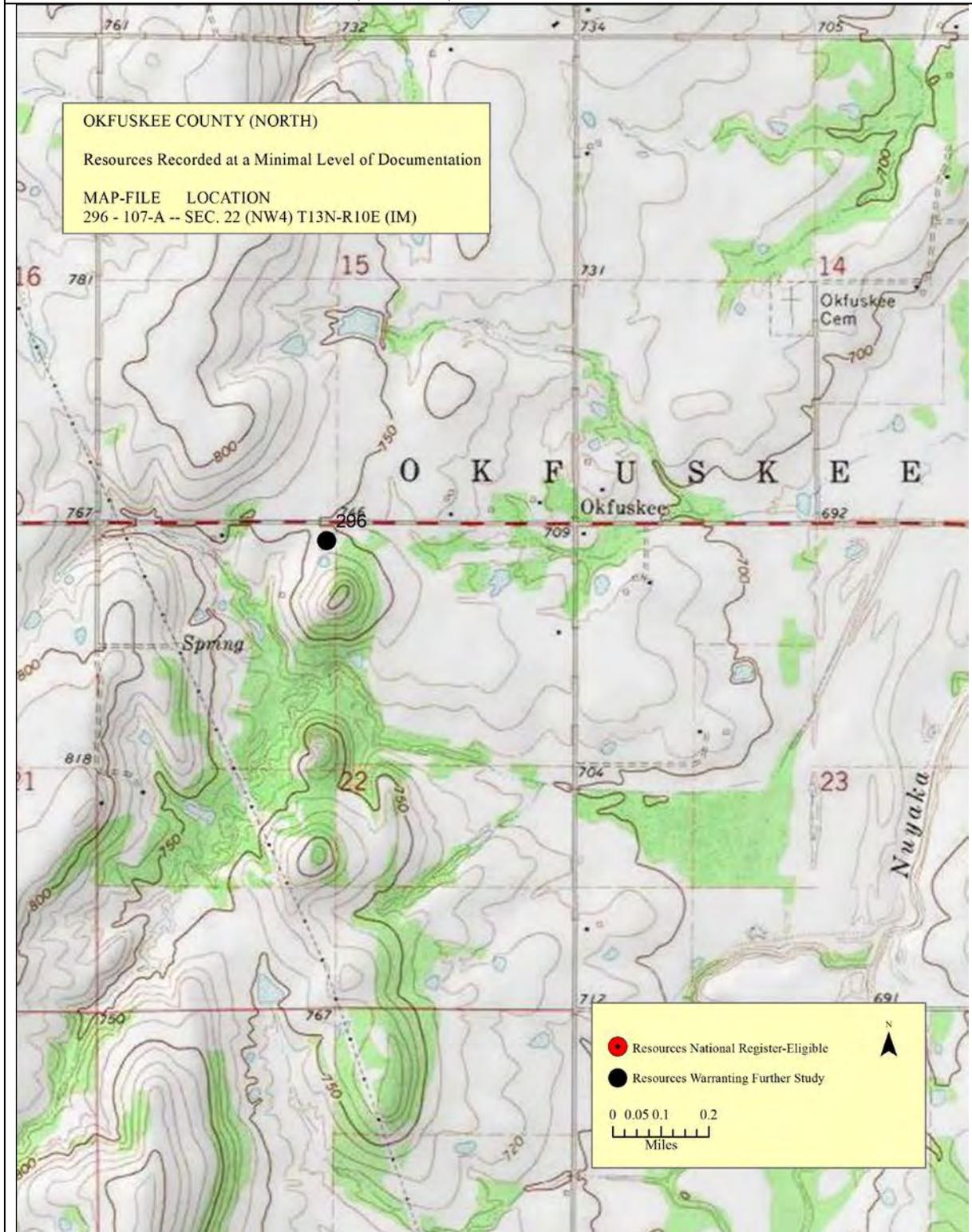
LM-17 NOWATA COUNTY (CENTRAL)



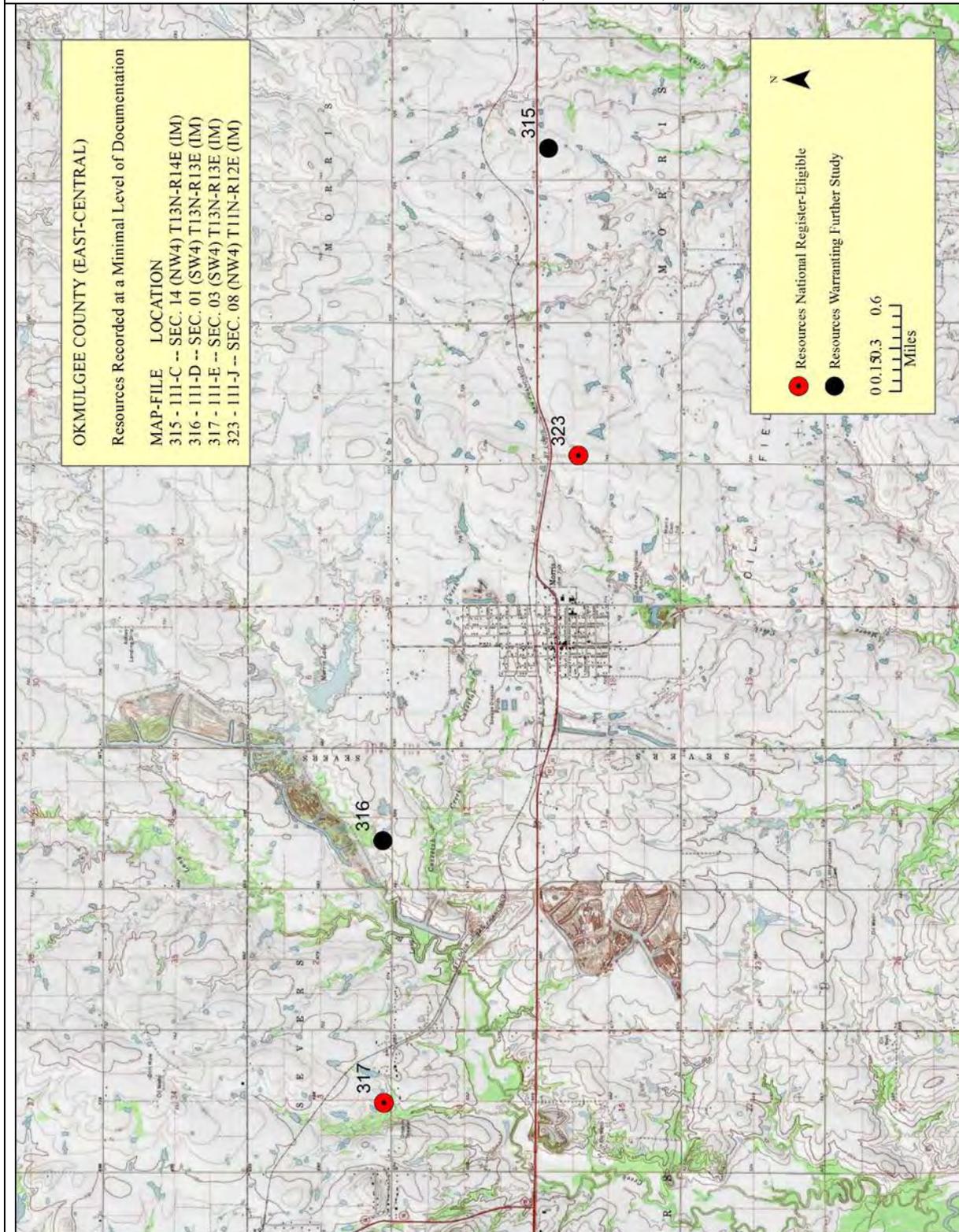
LM-18 NOWATA COUNTY (NORTH)



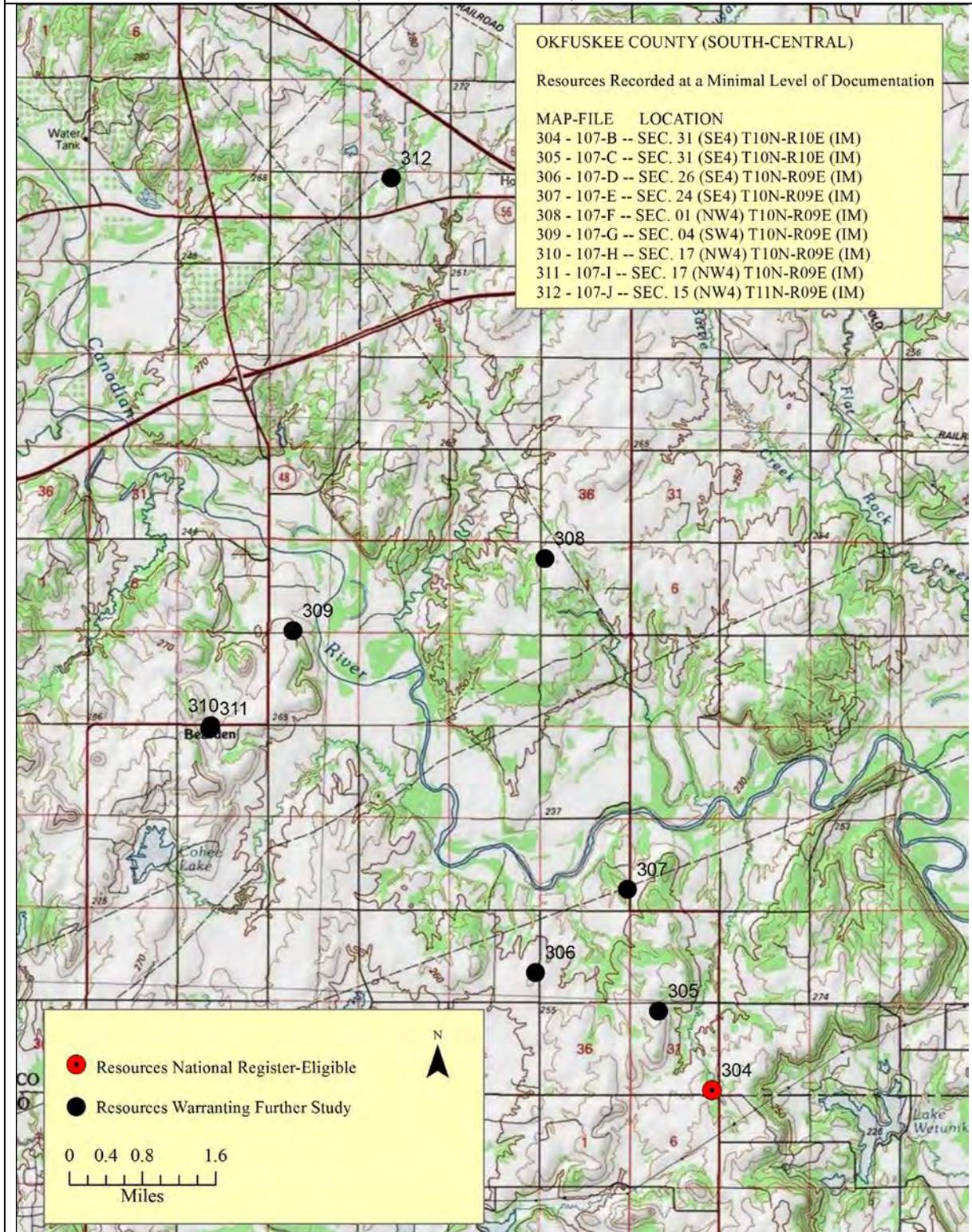
LM-19 OKFUSKEE COUNTY (NORTH)



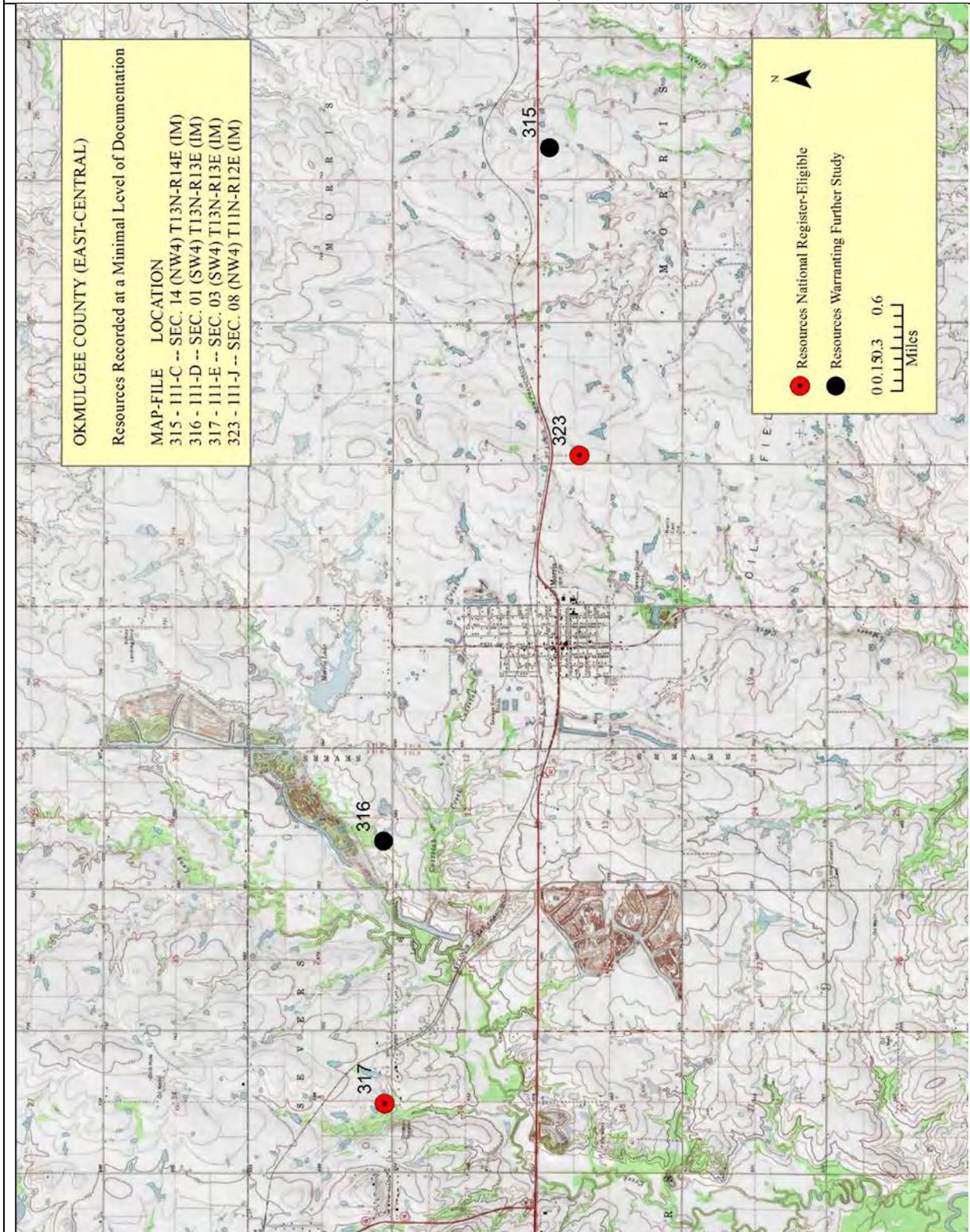
LM-20 OKFUSKEE COUNTY (EAST-CENTRAL)



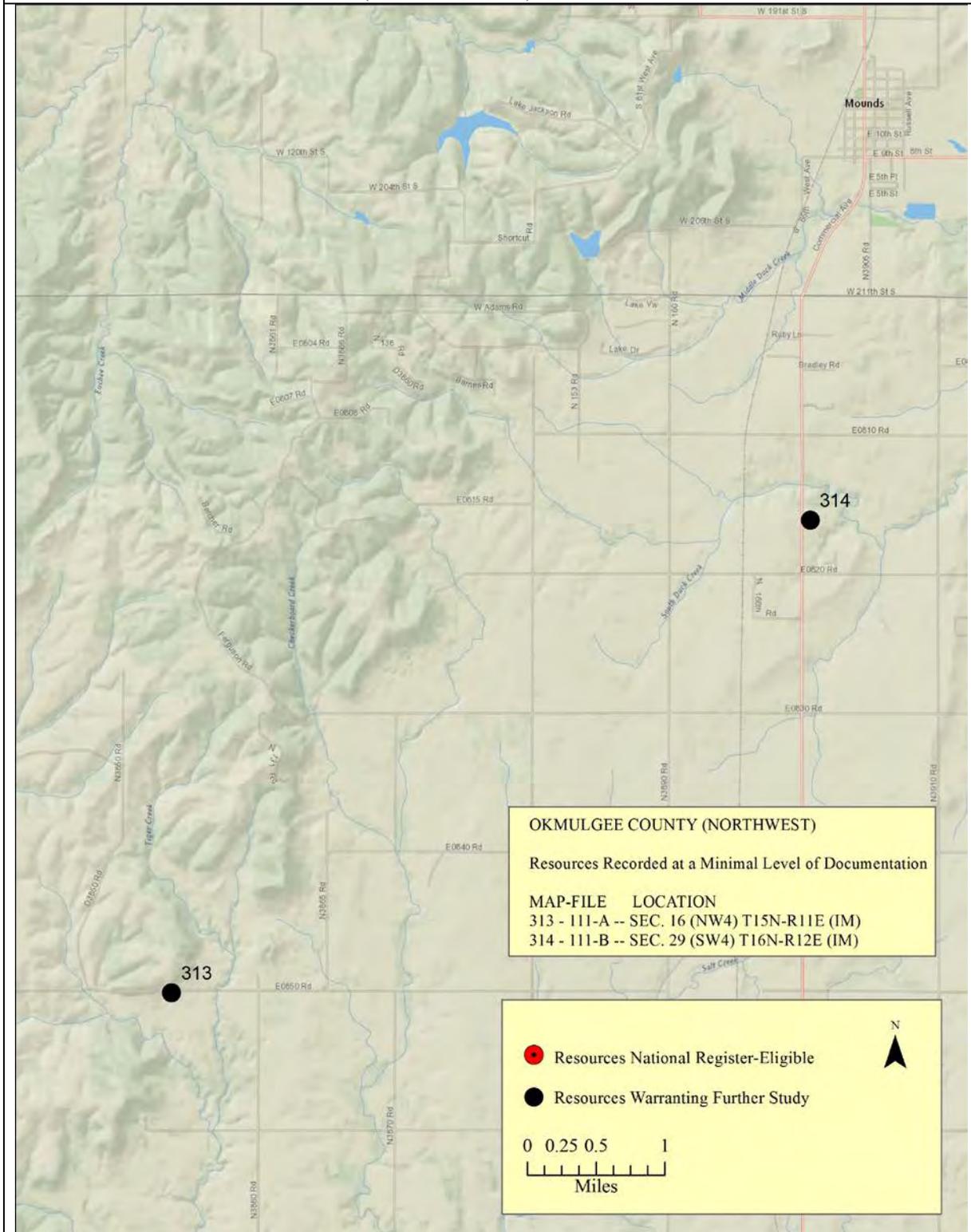
LM-21 OKFUSKEE COUNTY (SOUTH-CENTRAL)



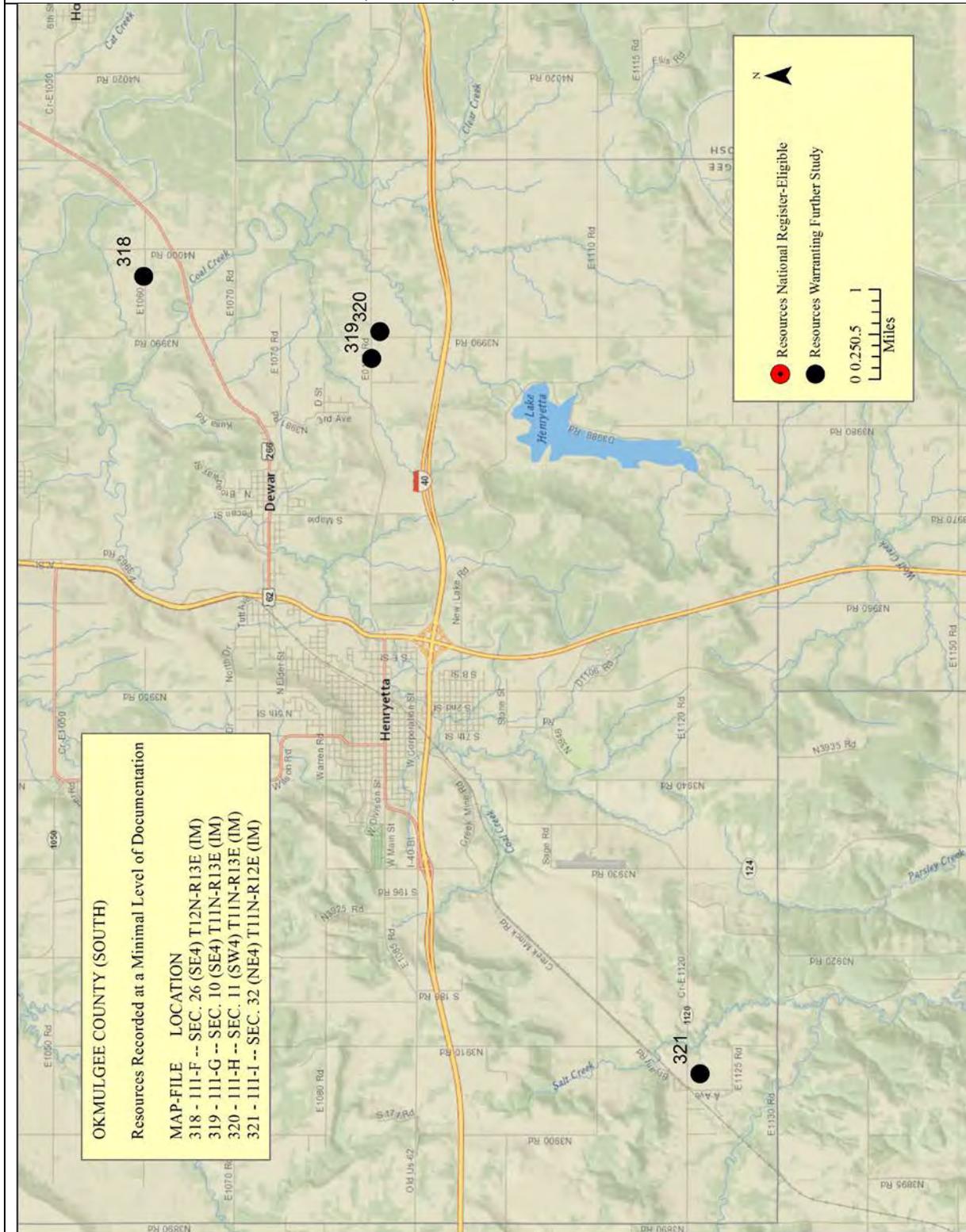
LM-22 OKMULGEE COUNTY (EAST-CENTRAL)



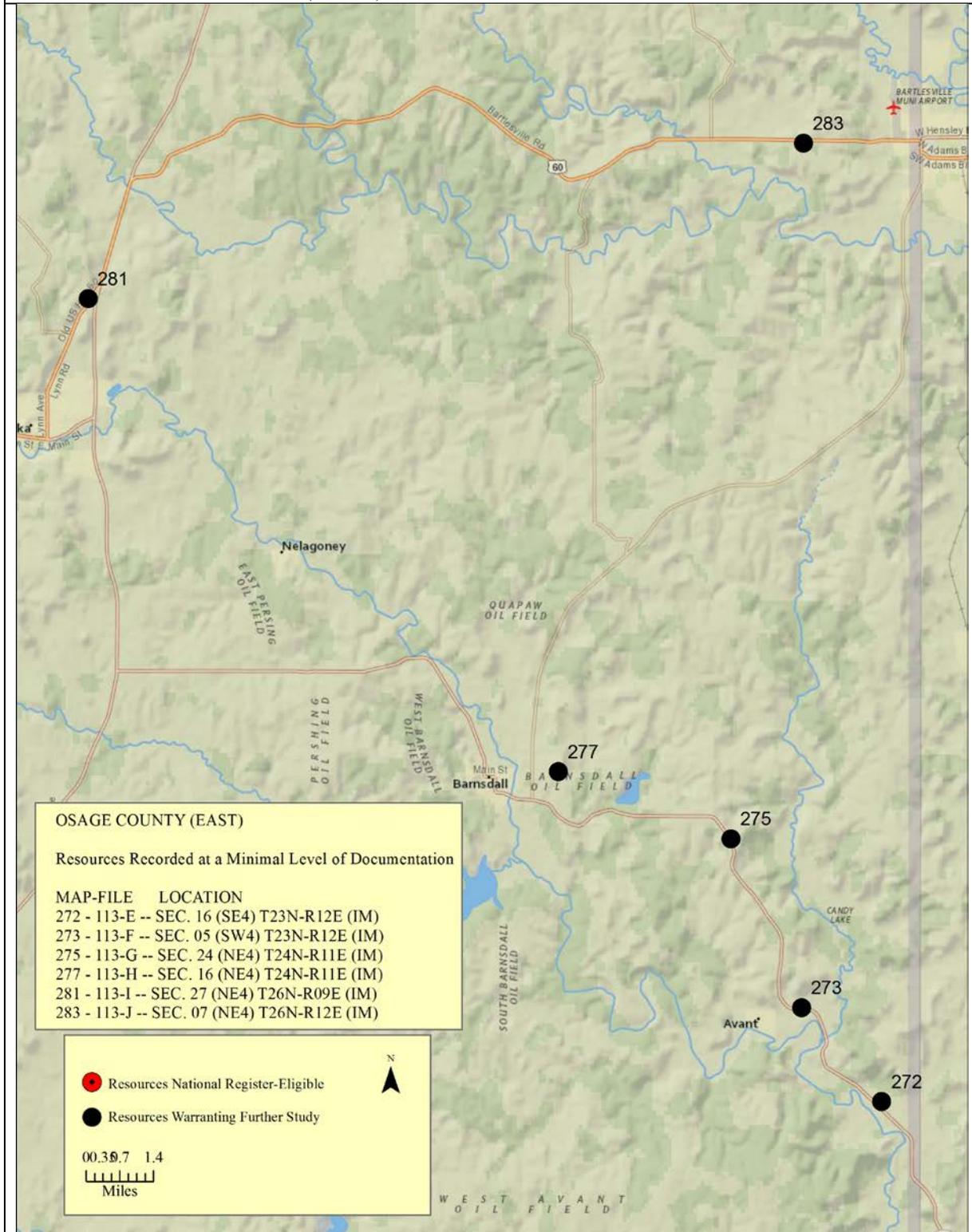
LM-23 OKMULGEE COUNTY (NORTHWEST)



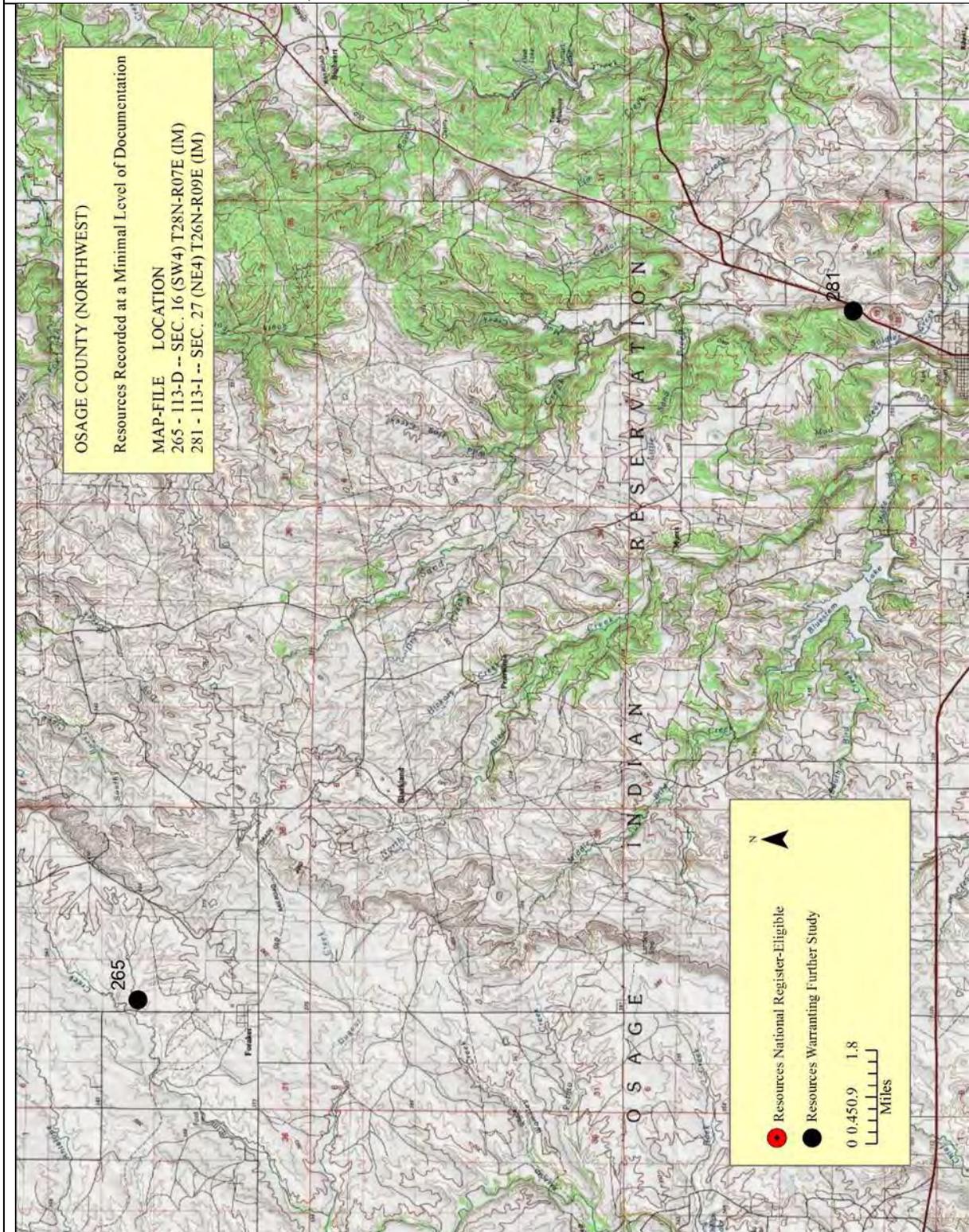
LM-24 OKMULGEE COUNTY (SOUTH)



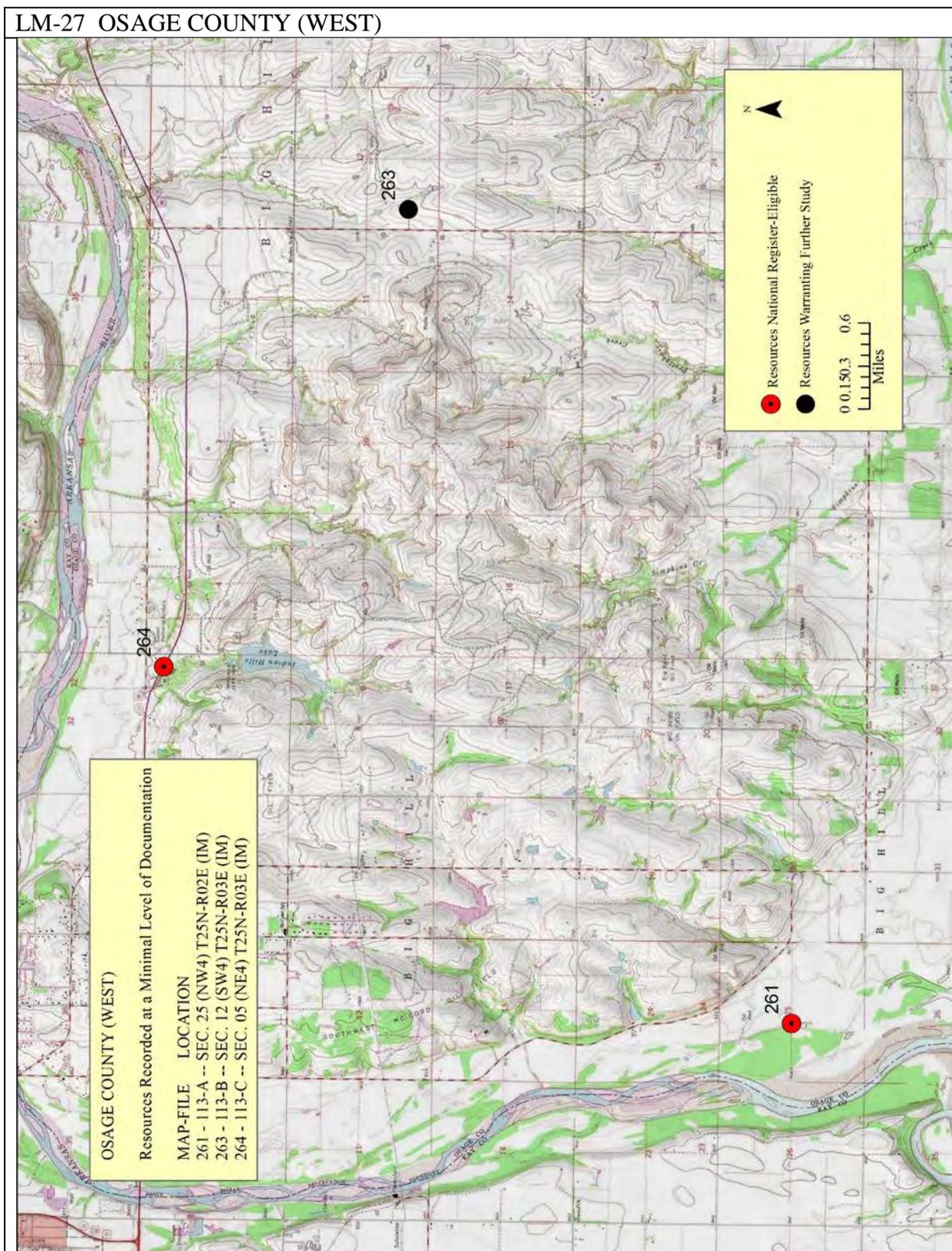
LM-25 OSAGE COUNTY (EAST)



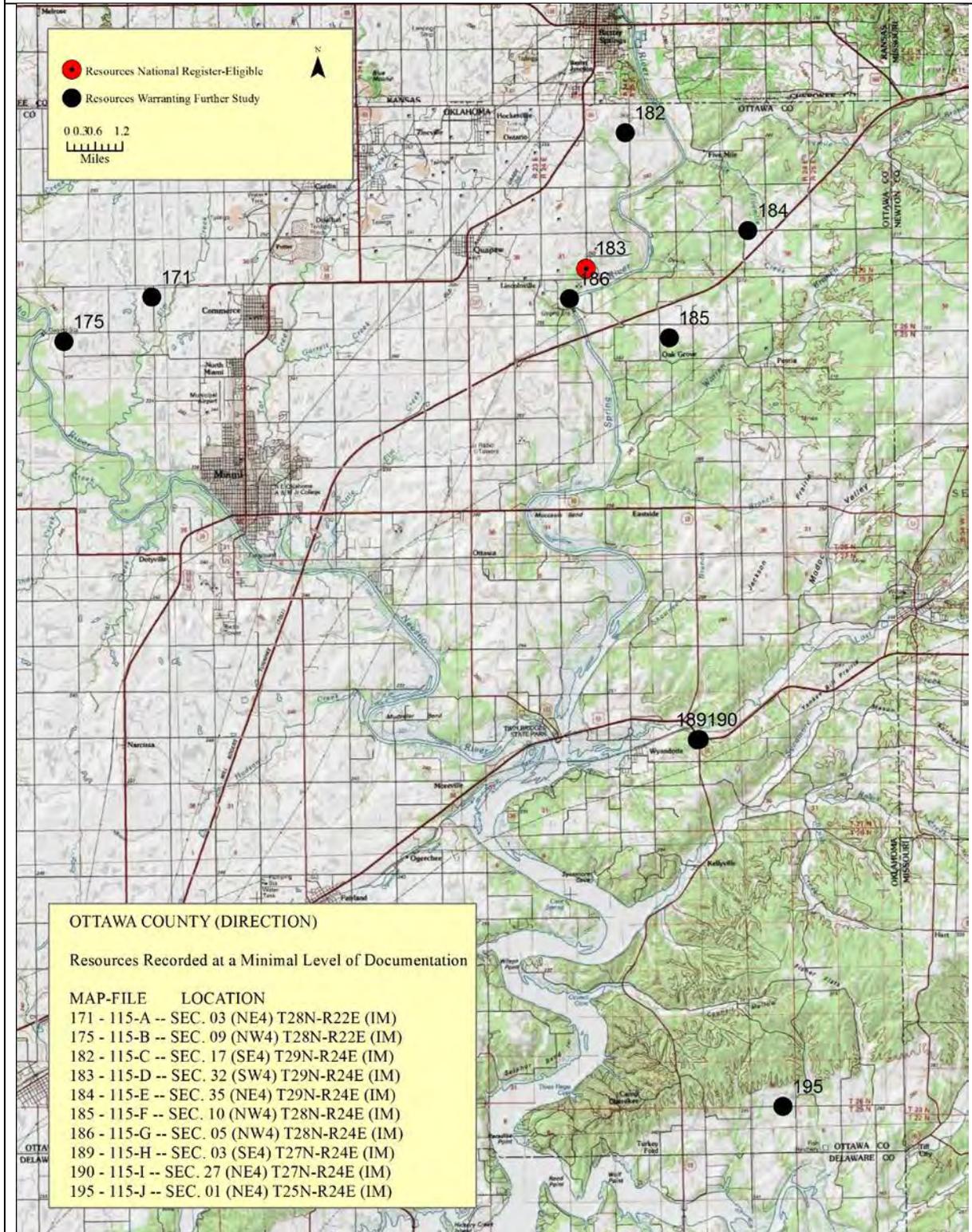
LM-26 OSAGE COUNTY (NORTHWEST)



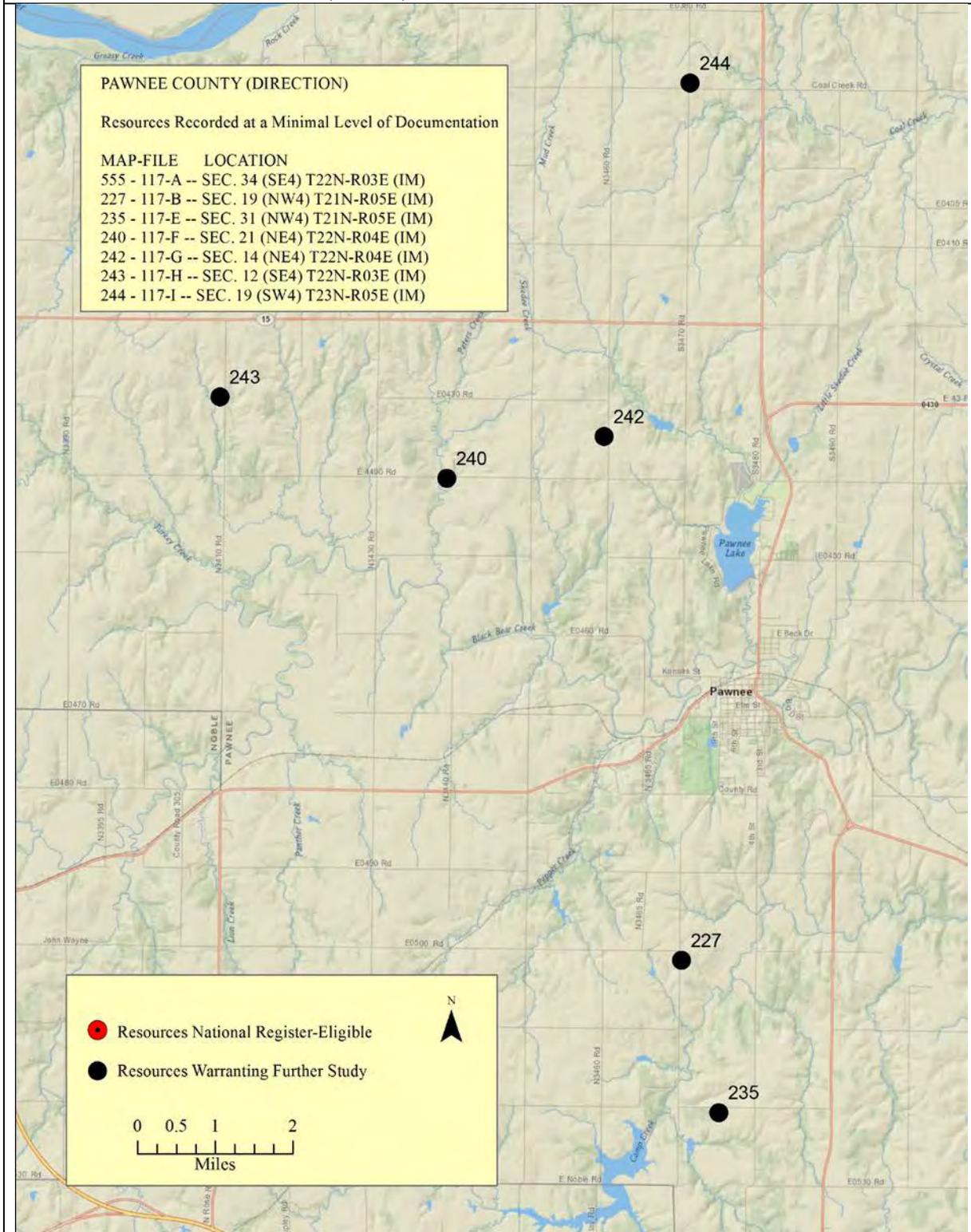
LM-27 OSAGE COUNTY (WEST)



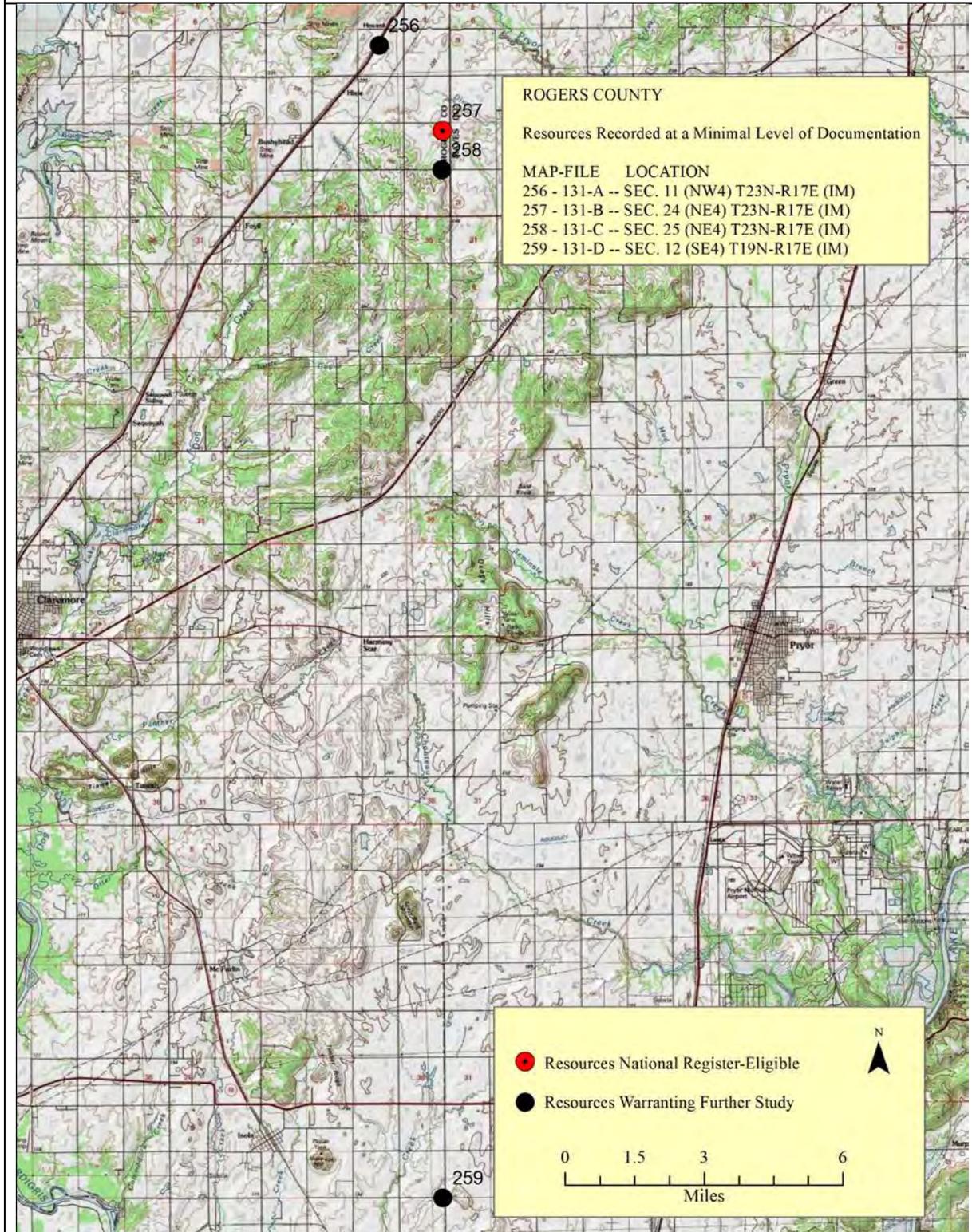
LM-28 OTTAWA COUNTY



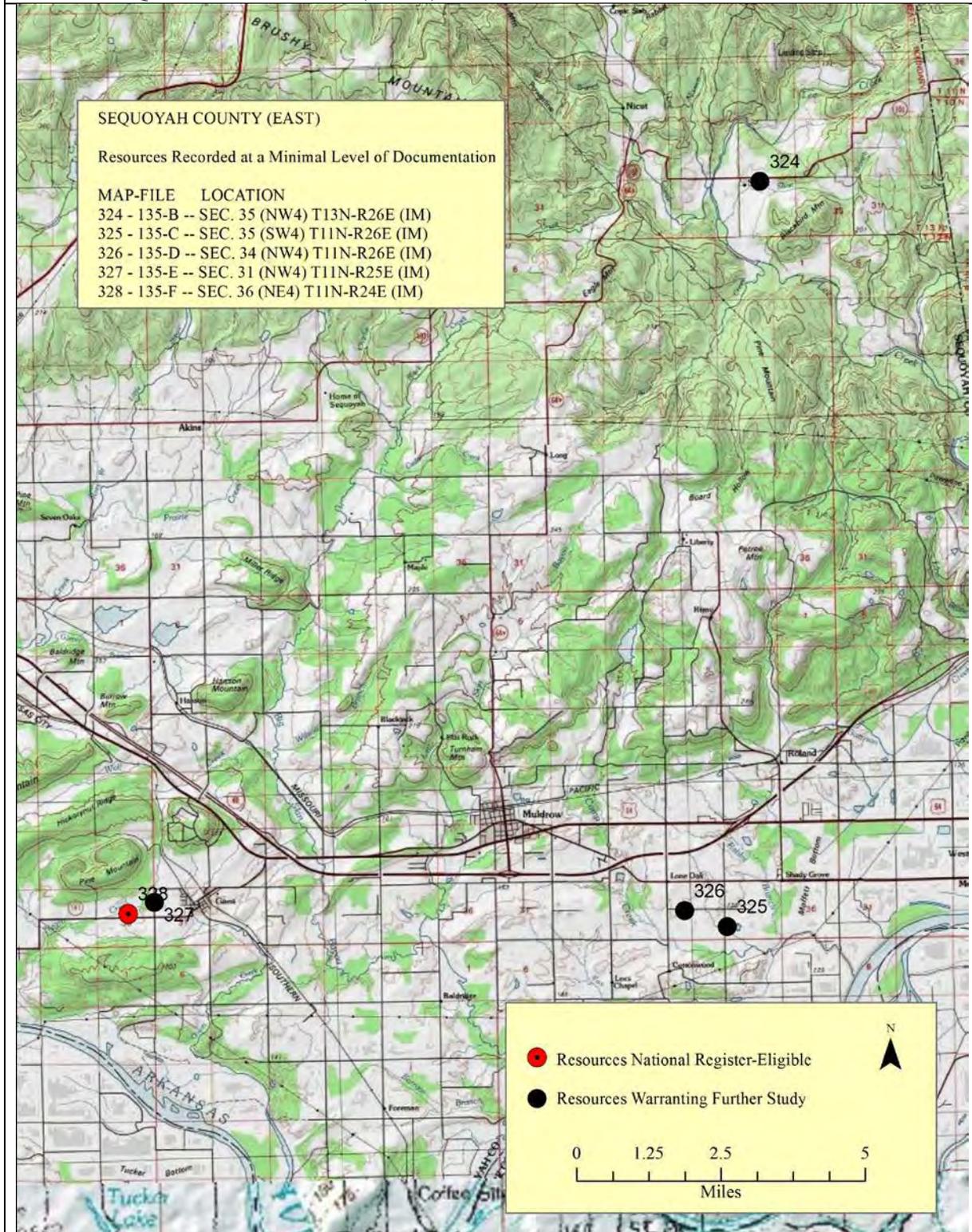
LM-31 PAWNEE COUNTY (WEST)



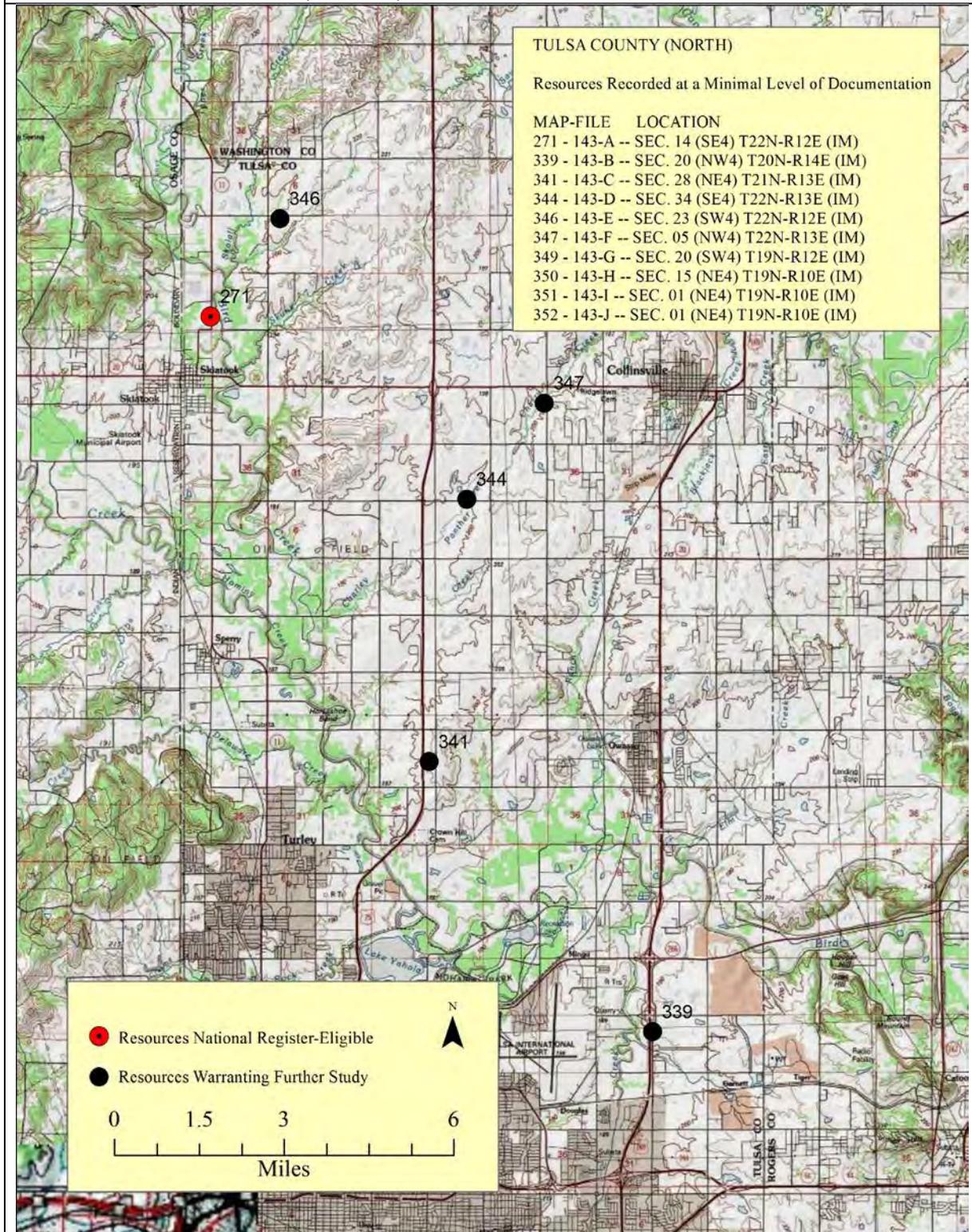
LM-32 ROGERS COUNTY



LM-34 SEQUOYAH COUNTY (EAST)



LM-36 TULSA COUNTY (NORTH)



TULSA COUNTY (NORTH)

Resources Recorded at a Minimal Level of Documentation

MAP-FILE	LOCATION
271 - 143-A	-- SEC. 14 (SE4) T22N-R12E (IM)
339 - 143-B	-- SEC. 20 (NW4) T20N-R14E (IM)
341 - 143-C	-- SEC. 28 (NE4) T21N-R13E (IM)
344 - 143-D	-- SEC. 34 (SE4) T22N-R13E (IM)
346 - 143-E	-- SEC. 23 (SW4) T22N-R12E (IM)
347 - 143-F	-- SEC. 05 (NW4) T22N-R13E (IM)
349 - 143-G	-- SEC. 20 (SW4) T19N-R12E (IM)
350 - 143-H	-- SEC. 15 (NE4) T19N-R10E (IM)
351 - 143-I	-- SEC. 01 (NE4) T19N-R10E (IM)
352 - 143-J	-- SEC. 01 (NE4) T19N-R10E (IM)

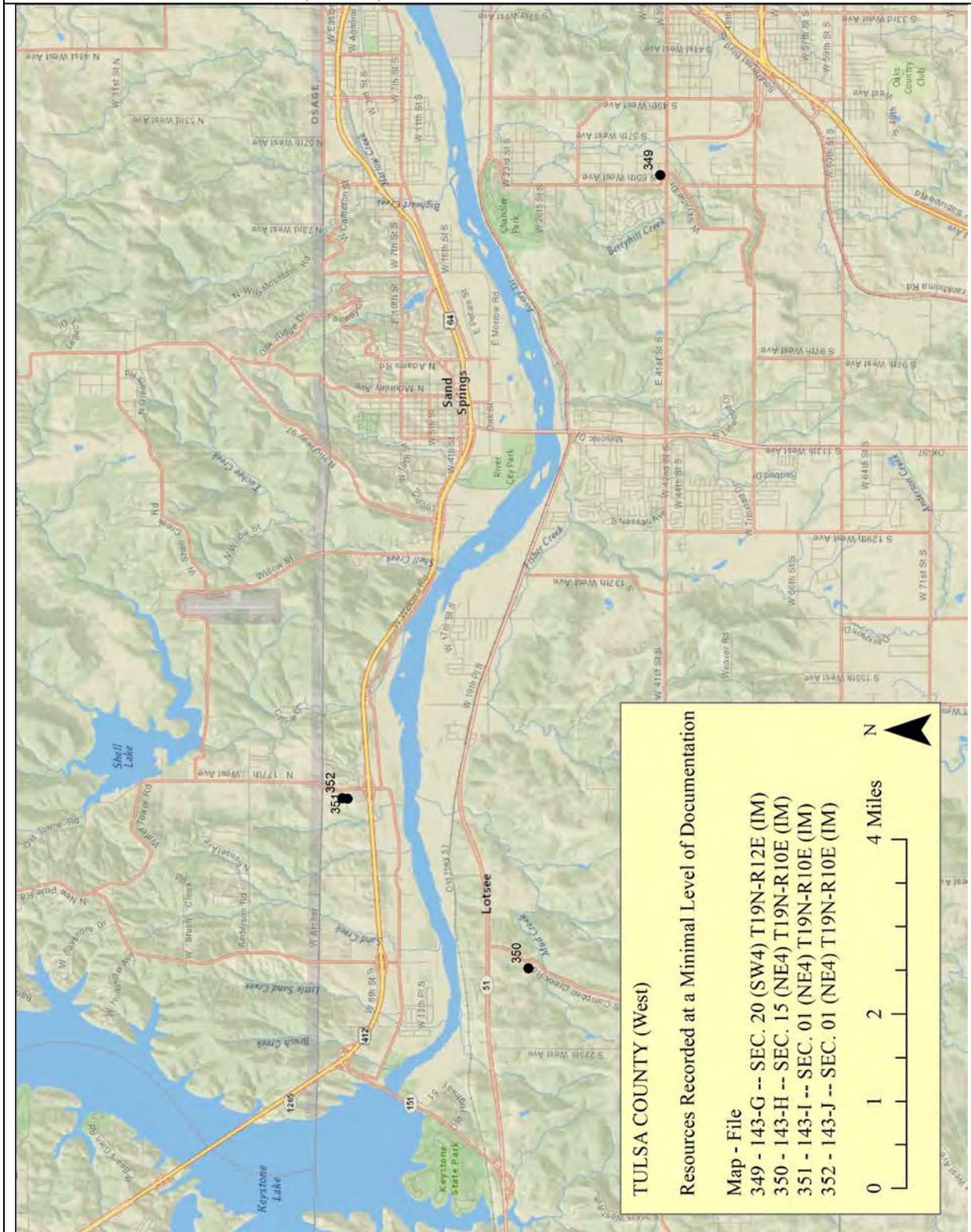
● Resources National Register-Eligible
● Resources Warranting Further Study

N

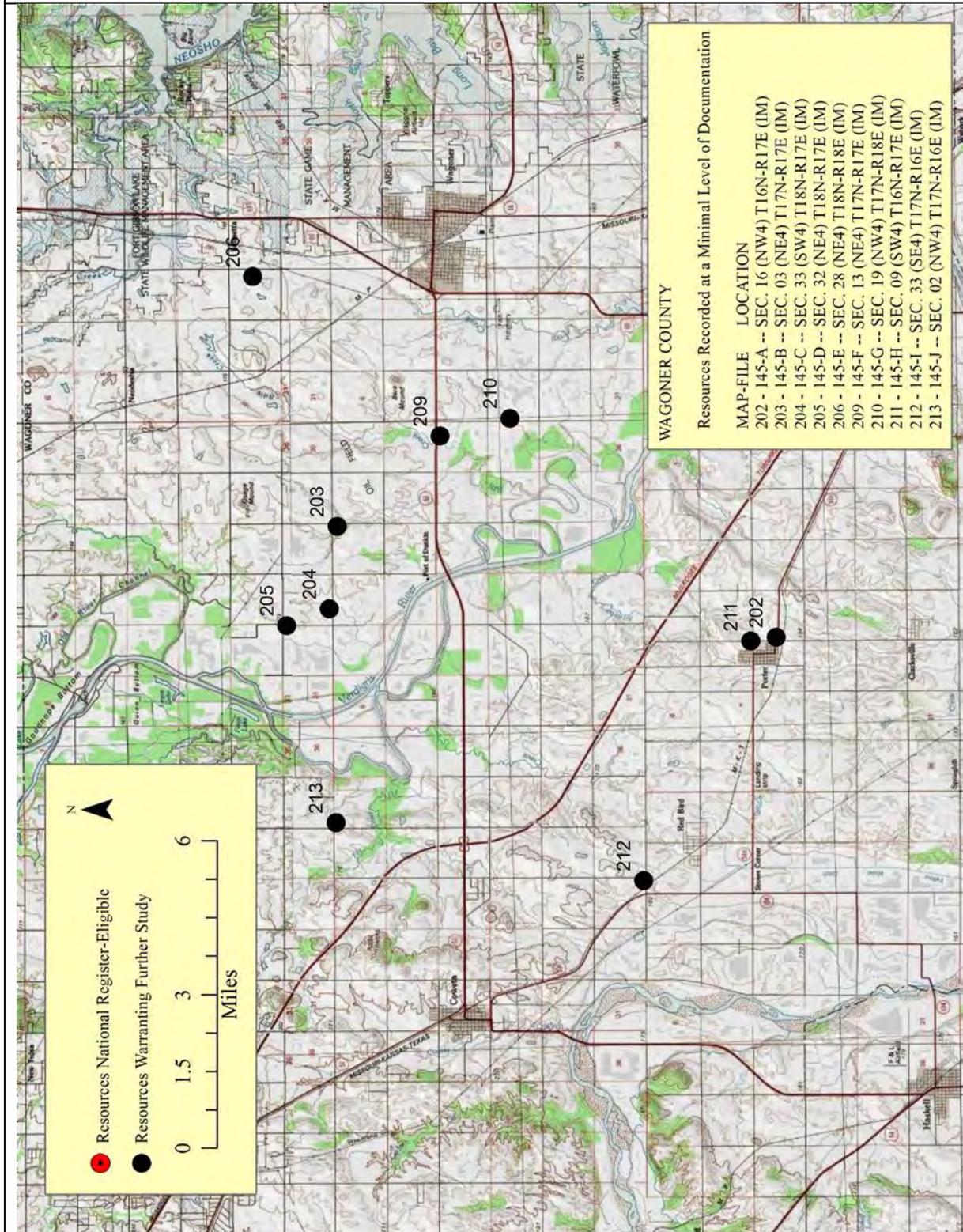
0 1.5 3 6

Miles

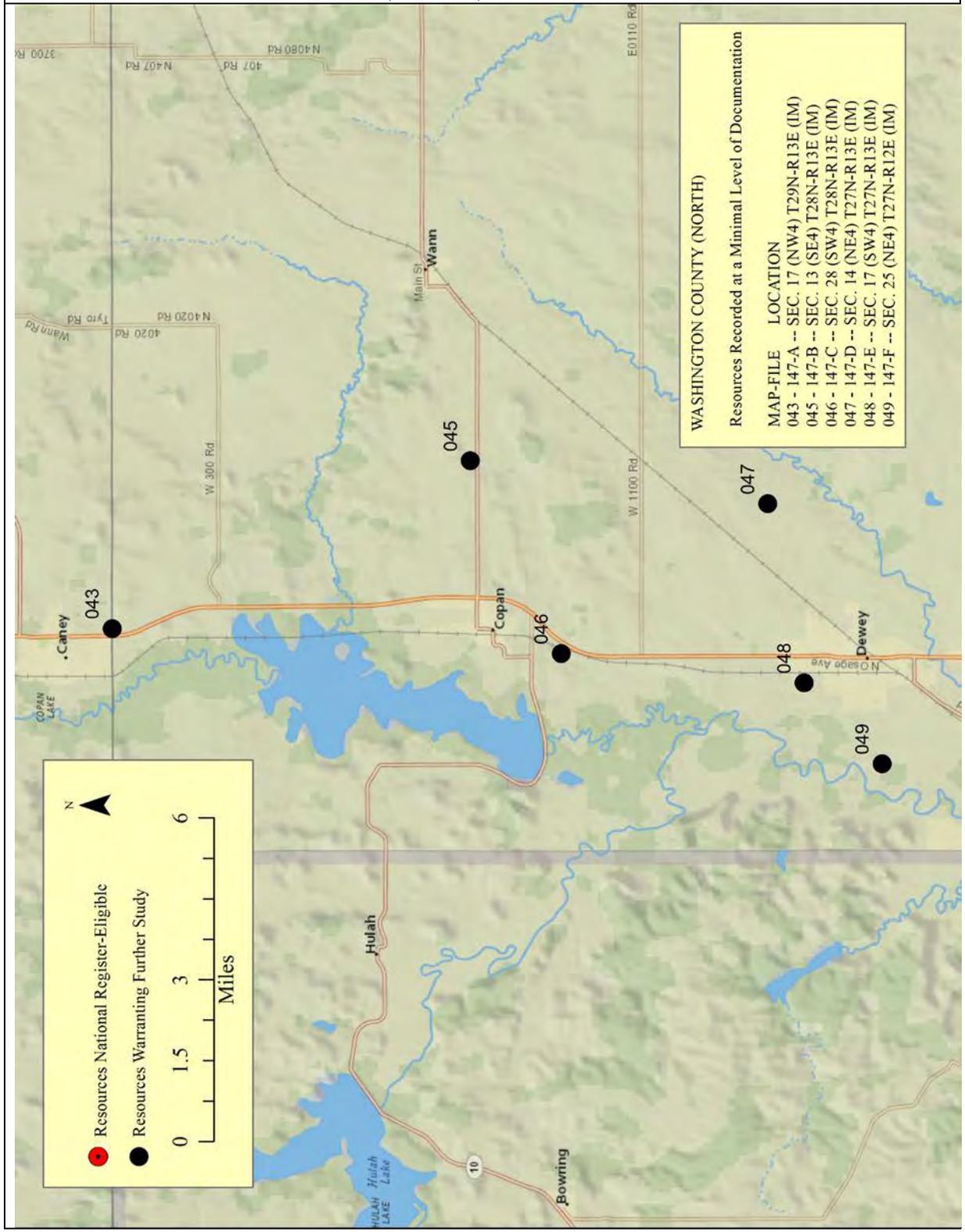
LM-37 TULSA COUNTY (WEST)



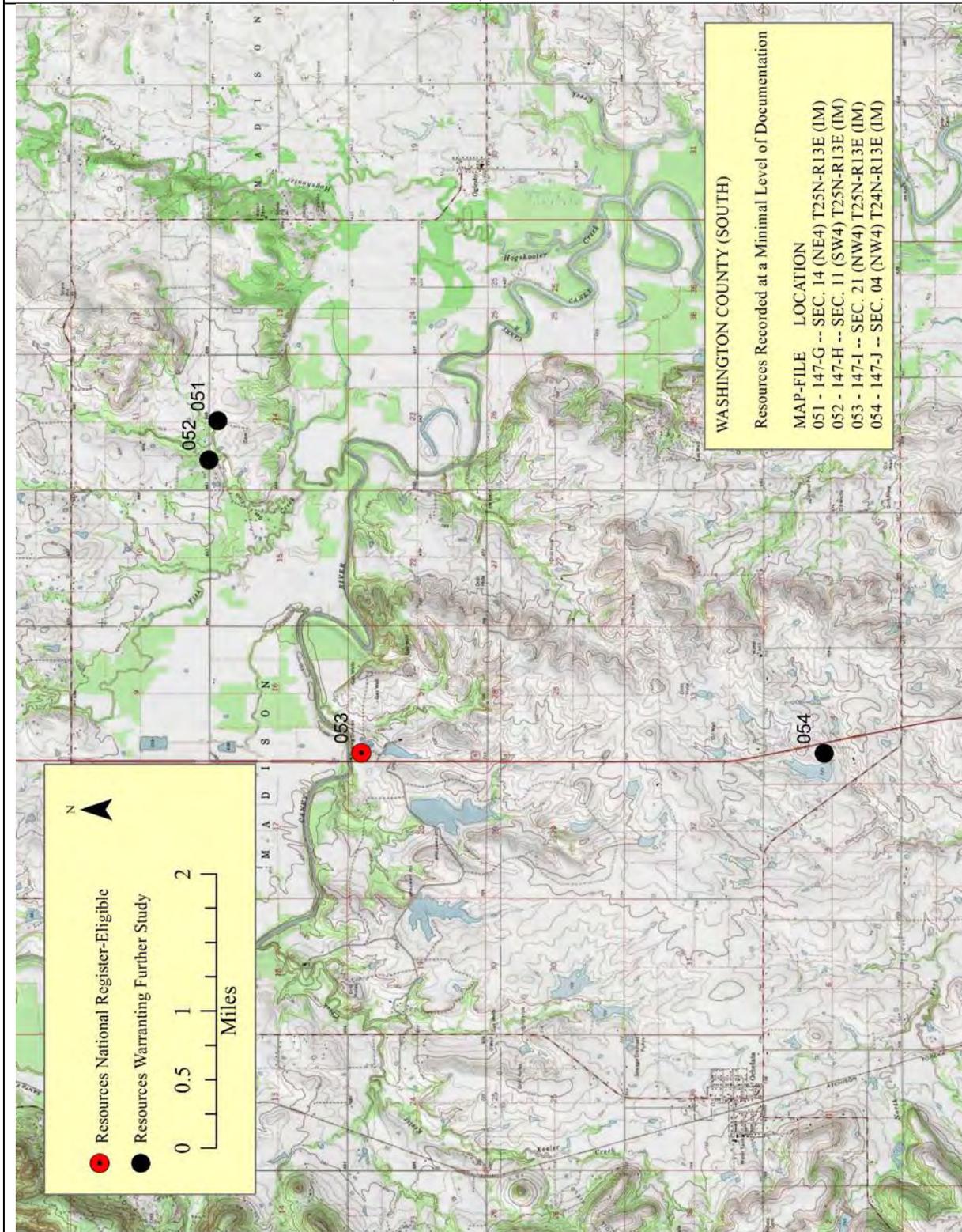
LM-38 WAGONER COUNTY



LM-39 WASHINGTON COUNTY (NORTH)



LM-40 WASHINGTON COUNTY (SOUTH)



XVI. NOTES TO HISTORIC CONTEXT

1. Kenneth S. Johnson, "Topography and Principal Landforms." In *Historical Atlas of Oklahoma*, Fourth Edition, edited by Charles Robert Goins and Danney Goble. Norman: University of Oklahoma Press, 2006, 6-7. Hereafter cited as *Historical Atlas*.
2. Idem, "Geomorphic Provinces," *Historical Atlas*, 4-5
3. Ibid; Claude Thurman Newland, Joseph A. Icenhower and John B. Cox. "Soil Survey, Ottawa County, Oklahoma." Washington. D.C.: U. S. Dept. of Agriculture, Soil Conservation Service, 1964.
4. Johnson, "Geomorphic Provinces," *Historical Atlas*, 4-5; Bobby G. Bourlier, "Soil Survey, Osage County, Oklahoma." Washington. D.C.: U. S. Dept. of Agriculture, Soil Conservation Service, 1979.
5. Ibid.
6. John W. Morris, *Oklahoma Geography*. Oklahoma City: Harlow Publishing Corporation, 1954, 26-28.
7. Ibid., 25-26.
8. Ibid., 23-24.
9. Ibid.
10. Howard L. Johnson, "Precipitation," *Historical Atlas*, 18-19.
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12. Ibid.
13. Bruce W. Hoagland, "Rivers, Lakes, and Reservoirs," *Historical Atlas*, 12-13.
14. Ibid.
15. Idem, "Soils," *Historical Atlas*, 16-17.
16. Michael D. Green, "Cherokee Lands in the West," *Historical Atlas*, 60-61; Muriel H. Wright, *A Guide to the Indian Tribes of Oklahoma*. Norman: University of Oklahoma Press, 1986, 56-76. Hereafter cited as *Guide*.

17. Michael D. Green, "Cherokee Nation to Statehood," *Historical Atlas*, 100-101; John R. Lovett, "Major Cattle Trails, 1866-1889," *Historical Atlas*, 116-117.

18. Richard V. Francaviglia, *The Cast Iron Forest: A Natural and Cultural History of the North American Cross Timbers*. Austin: University of Texas Press, 2000, 33-52.

19. Hoagland, "Soils," *Historical Atlas*, 16-17.

20. Ibid.

21. Ralph E. Olson, "Agriculture in Oklahoma." In *Geography of Oklahoma*, edited by John W. Morris. Oklahoma City: Oklahoma Historical Society, 1977, 67-81.

22. Ibid.

23. Gilbert C. Fite, "Farming," *Encyclopedia of Oklahoma History and Culture*, edited by Diana Everett (Oklahoma City: Oklahoma Historical Society, 2009), 474-477. Hereafter cited as *Encyclopedia*.

24. John Caddel, "Hay," *Encyclopedia*, 667-668.

25. Amanda Burnett, "Cherokee County," *Encyclopedia*, 249-250

26. Leon J. Spicer, "Dairy Industry," *Encyclopedia*, 382-383.

27. Danney Goble, "Euro-American Land Claims in North America, 1763-1787," *Historical Atlas*, 40-41.

28. Michael D. Green, "Indian Territory, 1866-1889," *Historical Atlas*, 98-99; Idem, "Cherokee Nation to Statehood," *Historical Atlas*, 100-101; Idem, "Small Indian Tracts in Northeastern Indian Territory," *Historical Atlas*, 110-111; Wright, *Guide*, 189-198, 202-207.

29. Michael D. Green and Danney Goble, "Removal of the Creeks," *Historical Atlas*, 64-65; Wright, *Guide*, 128-145.

30. Green, "Removal of the Cherokees," *Historical Atlas*, 56-59; Wright, *Guide*, 56-76.

31. Michael D. Green, "Indian Territory, 1866-1889," *Historical Atlas*, 98-99.

32. Wright, *Guide*, 202-207.

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33. Ibid; Josh Clough, "Opening of the Cherokee Outlet," *Historical Atlas*, 130-131.
34. Idem, "Leases in the Cherokee Outlet and Cheyenne-Arapaho Reservation," *Historical Atlas*, 120-121;
35. Danney Goble, "The Osage Nation, 1872-1906," *Historical Atlas*, 132-133.
36. Jon D. May, "Osage County," *Encyclopedia*, 1130-1132.
37. Corey Bone, "Osage Oil," *Encyclopedia*, 1133-1134.
38. Green, "Small Indian Tracts in Northeastern Indian Territory," *Historical Atlas*, 110-111.
39. Linda D. Wilson, "Pawnee County," *Encyclopedia*, 1164-1166.
40. Green, "Cherokee Nation to Statehood," *Historical Atlas*, 100-101.
41. Idem, "Indian Territory, 1866-1889," *Historical Atlas*, 98-99.
42. Amanda Burnett, "Cherokee County," *Encyclopedia*, 250.
43. Wright, *Guide*, 268.
44. Green and Goble, "Removal of the Creeks," *Historical Atlas*, 67; Alyson L. Greiner, "Folk Architecture," *Encyclopedia*, 506-507.
45. Bruce W. Hoagland and Danney Goble, "Railroads, 1870-1907," *Historical Atlas*, 118-119; John C. Hudson, *Plains Country Towns*. Minneapolis: University of Minnesota Press, 1985, passim; H. Craig Miner, "'Little Houses on Wheels': Indian Response to the Railroad," In Donovan L. Hofsommer, ed., *Railroads in Oklahoma*. Oklahoma City: Oklahoma Historical Society, 1877, 7-18.
46. Jim Hoy, "Cattle Industry," *Encyclopedia*, 234-235; John R. Lovett, "Prominent Cattle Ranches," *Historical Atlas*, 172-173; Green, "Cherokee Nation to Statehood," *Historical Atlas*, 100.
47. James L. Huston, "Civil War Era," *Encyclopedia*, 290-293. John R. Lovett, "Civil War Battle Sites, 1861-1865," *Historical Atlas*, 86-87.
48. Ibid., Green, "Indian Territory, 1866-1889," *Historical Atlas*, 98-99.
- ⁴⁹ 49. Miner, "'Little Houses on Wheels'," 9-11.

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- ⁵⁰ 50. Ibid.
- ⁵¹ 51. Ibid.
- ⁵² 52. Charles Robert Goins, "Minority Population Change, 1990-2000," *Historical Atlas*, 197; Michael M. Smith, "Hispanics," *Encyclopedia*, 689-690; Larry O'Dell, "All-Black Towns," *Encyclopedia*, 26-27.
- ⁵³ 53. Mary Jane Warde, "Indian Response to the Boomer Movement," *Encyclopedia*, 734-735; Richard Mize, "Intruders," *Encyclopedia*, 743.
- ⁵⁴ 54. Marvin E. Kroeker, "Amish," *Encyclopedia*, 44-45; Ralph Marsh, "The Simple Life," *Oklahoma Today* 46:5 (August-September 1996), 18-25.
- ⁵⁵ 55. O'Dell, "All-Black Towns," 26-27.
- ⁵⁶ 56. Greiner, "Folk Architecture," *Encyclopedia*, 506-507.
- ⁵⁷ 57. Clara Sue Kidwell, "Allotment," *Encyclopedia*, 27-29.
- ⁵⁸ 58. David E. Conrad, "Tenant Farming and Sharecropping," *Encyclopedia*, 1467-1469; Danney Goble, "The Great Depression," *Historical Atlas*, 178-181.
- ⁵⁹ 59. Garry L. Nall, "Cotton," *Encyclopedia*, 346-348.
- ⁶⁰ 60. Spicer, "Dairy Industry," *Encyclopedia*, 382-383.
- ⁶¹ 61. Paul D. Travis and Jeffrey B. Robb, "Wheat," *Encyclopedia*, 1608-1609; Larry O'Dell, "Ottawa County," *Encyclopedia*, 1137-1138; Linda D. Wilson, "Pawnee County," *Encyclopedia*, 1164-1166.
- ⁶² 62. Larry O'Dell, "Agricultural Mechanization," *Encyclopedia*, 17-18.
- ⁶³ 63. Lowell J. Soike, "Within Reach of All: Midwest Barns Perfected." In Allen G. Noble and Hubert G. H. Wilhelm, eds., *Barns of the Midwest*. Athens: Ohio University Press, 1995, 147-166.
- ⁶⁴ 64. Morris, *Oklahoma Geography*, 59.