ST. LOUIS DISTRICT CULTURAL RESOURCE MANAGEMENT REPORT NUMBER 25

CULTURAL RESOURCES SURVEY OF SELECTED PORTIONS OF THE UPPER MISSISSIPPI RIVER SHORELINES AND ISLANDS FROM MILES 47.9 TO 292.1, ILLINOIS AND MISSOURI

CONTRACT NO. DACW43-84-D-0085

Michael J. McNerney and Gary Bender

Michael J. McNerney
Principal Investigator

American Resources Group, Ltd.
Carbondale, Illinois

U.S. Army Corps of Engineers
Rock Island

SEPT 1985

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER	2. GOVT ACCESSION NO. / RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle): CULTURAL RESOURCES SURVEY OF SELECTED PORTIONS OF THE UPPER MISSISSIPPI SHORELINE FROM MILES 47.9 to 292.1, ILLINOIS AND MISSOURI.	TYPE OF REPORT & PERIOD COVERED
	6. PERFORMING ORG. REPORT NUMBER: SLD CRM REPORT 25
7. AUTHOR(s): Ronald E. Pulcher, Michael J. McNerney and Gary Bender	8. CONTRACT OR GRANT NUMBER(s): DACW43-84-D-0085
9. PERFORMING ORGANIZATION NAME AND ADDRESS: American Resources Group, Ltd. 127 North Washington Carbondale, IL 62901	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: U.S. ARMY ENGINEER DISTRICT, ST. LOUIS 1222 SPRUCE STREET ST. LOUIS, MISSOURI 63103-2833	12. REPORT DATE: September 1985
	13. NUMBER OF PAGES: 59
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office): N/A	15. SECURITY CLASS. (of this report): unclassified
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for release; distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

A cultural resources survey of 4.30 linear miles (Appendix A, Scope of Work, as corrected) of shoreline of the upper Mississippi River at selected locations in Illinois and Missouri was conducted in July and August, 1985. The survey area consisted of eight shoreline tracts in the Illinois counties of Calhoun and Alexander and the Missouri counties of Pike, Lincoln, St. Charles, and Cape Girardeau. The pedestrian survey produced no prehistoric or historic sites.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

Block 20

It was determined that proposed shoreline stabilization construction will not adversely impact cultural resources within the project area, as no cultural resources were found.

FINAL REPORT

ST. LOUIS DISTRICT CULTURAL RESOURCE

MANAGEMENT REPORT NUMBER 25

Cultural Resources Survey of Selected Portions of the Upper Mississippi River Shoreline and Islands from Miles 47.9 to 292.1, Illinois and Missouri

by

Ronald E. Pulcher
Michael J. McNerney, and
Gary Bender
Authors

Michael J. McNerney
Principal Investigator

American Resources Group, Ltd.
Carbondale, Illinois

September 1985

ACKNOWLEDGEMENTS

The 1985 field investigations along the various portions of the Mississippi River were supported by the U. S. Army, Corps of Engineers, St. Louis District. Mr. Terry Norris, District Archaeologist, provided assistance in project administration, liaison with the Corps of Engineers, and review of the report. The assistance of other Corps personnel, Mr. George Knight and Mr. Owen Dutt, also is appreciated.

Administrative and logistical support was provided by the Midwest Regional Office of Environmental Science and Engineering (ESE), Inc., St. Louis, Missouri. Dr. Ronald G. Alderfer, Associate Vice President, and Mr. Keith Govro, Head, Ecology Department, provided assistance in the areas of project administration and field logistics. The field crew was especially thankful for the services of Mr. Bill Elzinga of ESE, who operated the boat that allowed access to many island survey tracts on the river.

Substantial sections of this report incorporate an earlier survey report of the Upper Mississippi River shoreline prepared by American Resources Group, Ltd., for the U. S. Army, Corps of Engineers, St. Louis District (Moore 1985).

ABSTRACT

A cultural resources survey of 4.30 linear miles (Appendix A, Scope of Work, as corrected) of shoreline of the upper Mississippi River at selected locations in Illinois and Missouri was conducted in July and August, 1985. The survey area consisted of eight shoreline tracts in the Illinois counties of Calhoun and Alexander and the Missouri counties of Pike, Lincoln, St. Charles, and Cape Girardeau. The pedestrian survey produced no prehistoric or historic sites.

It was determined that proposed shoreline stabilization construction will not adversely impact cultural resources within the project area, as no cultural resources were found.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

Project Description

The following report presents results of a Phase I cultural resources survey of selected portions of the Mississippi River shoreline in both Illinois and Missouri. General project requirements consisted of "a literature review, intensive cultural resource survey, and National Register evaluation(s) and effect assessment(s) on cultural properties discovered thereby, at selected locations . . ." between river miles 47.9 and 292.1 of the Mississippi River shoreline (Scope of Work, p. 1 -- Appendix A). These investigations were conducted for the U. S. Army, Corps of Engineers, St. Louis District, in conjunction with proposed shoreline stabilization activities. The survey area consists of 4.30 linear miles of shoreline distributed across eight parcels of land in Calhoun and Alexander counties, Illinois, and Pike, Lincoln, St. Charles, and Cape Girardeau counties, Missouri. The survey areas are within the North Mississippi drainage basin of the Missouri Watershed Management Plan (Figure 1) between river miles 292.1 and 47.9.

Justification

The location and assessment of cultural resources are now required for any undertakings which involve federal permits, licenses, or lands by authority of Public Law 93-291, sections 3 and 4, Archaeological and Historical Conservation Act of 1974. This recent expanded legislation is a continuation of earlier cultural resources statutes and

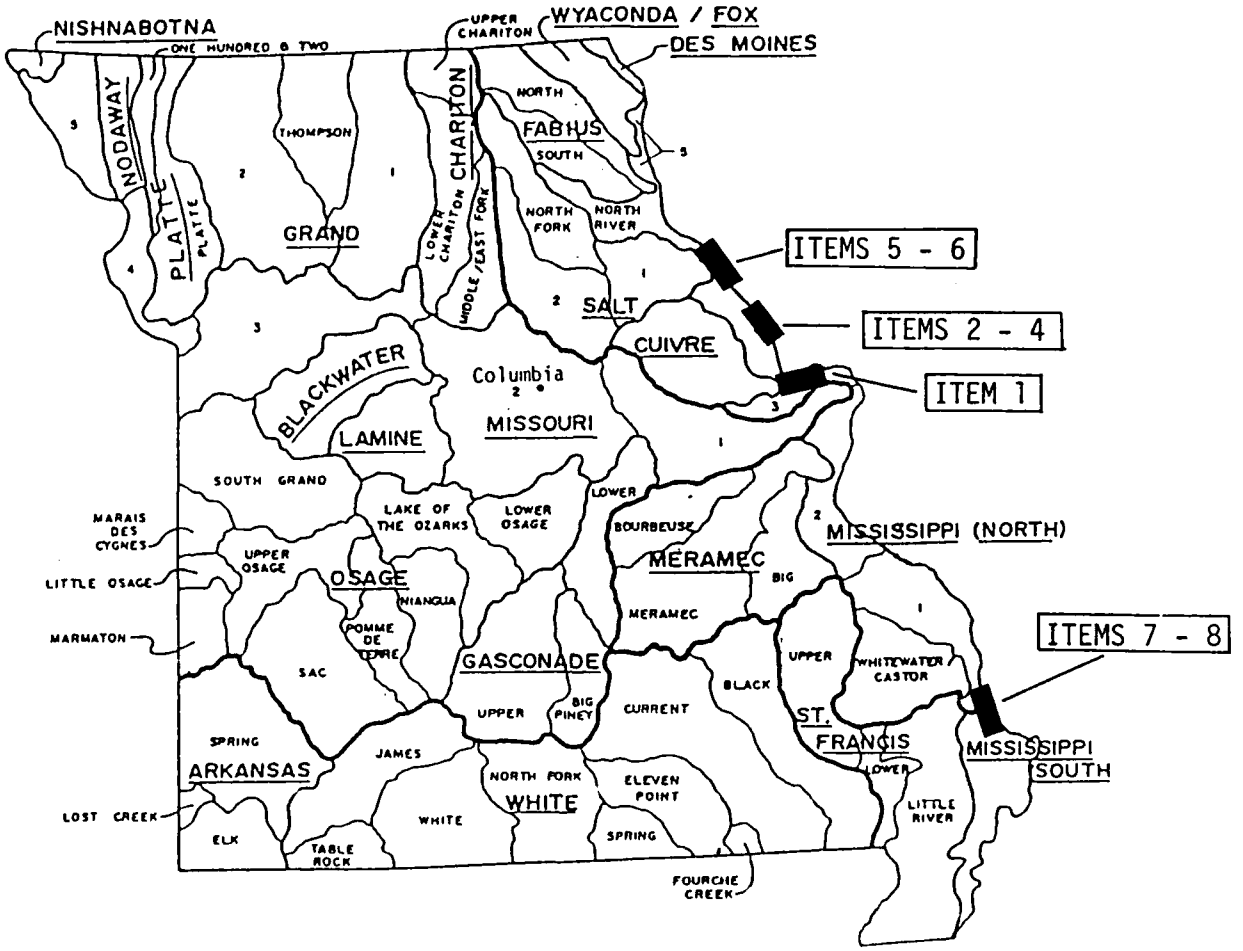


Figure 1. Project Location within Missouri Watershed Management Plan, (Missouri State Historic Preservation Office).

regulations, including the National Historic Preservation Act of 1966 (Public Law 91-190) and Executive Order 11593: Protection and Enhancement of the Cultural Environment.

Personnel

Field work was conducted during the periods July 29-31 and August 6 and 29, 1985. The field crew consisted of Gary Bender and Robert Abbott (field supervisor) except on August 6, 1985, when the crew consisted of Gary Bender and Michael J. McNerney (field supervisor) and on August 29, 1985, when Michael J. McNerney surveyed miles 292.1 (R) to 291.4 (R). Bill Elzinga of Environmental Science and Engineering, Inc., was the boat operator.

ENVIRONMENTAL SETTING

General Environment

Physiography

Physiographically, the study area is situated in the broad alluvial floodplain environment of the middle Mississippi River valley between Ashburn and Cape Girardeau, Missouri. Survey parcel items 1-6 lie within the Northeast Prairie physiographic region, while items 7 and 8 are at the northern edge of the Southeast Riverine region (Chapman 1975:3).

Topographically, the survey parcels are located on the shorelines of flat expanses of floodplain. Although floodplains were inhabited prehistorically, such occupation often occurred on higher portions of the floodplain, such as terrace remnants and natural levees that usually were above minor flood stages. The survey parcels all are subject to annual flooding.

Geology & Soils

The bedrock geology of all eight parcels consists of Ordovician deposits (Willman and Frye 1970:15). This bedrock is overlain by Pleistocene-Holocene Cahokia alluvium, "mostly poorly sorted sand, silt, or clay containing local deposits of sandy gravel" (Lineback 1979), a formation which underlies most of the Mississippi River floodplain from Jo Daviess County, Illinois, to Cairo, Illinois. In turn, the

postglacial alluvial deposits are overlain by Holocene soils that have developed in the ridge and swale topography of the valley.

Survey items 1-6 sit upon Holocene soils that were developed in the Cahokia Alluvium or occupy river washed expanses of the Cahokia Alluvium itself. The Sarpy-Haynie-Onawa-Wabash soil association comprises the major soil series in this area. Items 7-8 are in the area of the Commerce-Hayti-Caruthersville soil association (Chapman 1975:9). The underlying bedrock and valley bluffs consist of an assortment of geological formations ranging in age from Ordovician formations to the younger Mississippian deposits on both sides of the river (Anderson 1979; Willman 1967). The most prominent formation on the Missouri side of the river is the Ordovician Gasconade Dolomite, a formation with both dolomite and sandstone members (Anderson 1979), while the Illinois bluffs reveal the presence of the chert bearing Burlington Limestone (Willman 1967).

The Burlington Limestone represented an important local resource for the prehistoric inhabitants of the Mississippi River valley. Archaeological studies in western Illinois (Moore 1981), the lower Illinois River valley (Meyers 1970; Struever 1973), and eastern Missouri (Ives 1975, 1981) have shown Burlington chert to be one of the most widely used chert types in the upper and middle Mississippi River drainage area of Illinois and Missouri. In the Calhoun County area, the Burlington formation forms "a nearly horizontal cap" (Meyers 1970:12) in the uplands, which is closest to the project area in the vicinity between Hamburg and Mosier Landing, Illinois (Meyers 1970:31).

Items 7-8 lie in the Mississippi Valley opposite the lower Devonian

formations along the bluffs in Alexander County, Illinois (Willman 1967).

Flora and Fauna

Flora and fauna in the project area are typical of floodplain riverine ecosystems. Regionally, the area is dominated by oak-hickory forests typical of the Ozarks and wooded areas of the Central Lowlands (Kuchler 1975). In upland areas, big bluestem prairie and oak-hickory forests co-dominate in distribution (cf. Chapman 1975:18), resulting in a prairie-forest mosaic pattern that remained relatively stable for the past 5,000 years (King and Allen 1977:320-321) until its conversion to agricultural land beginning in the early 1800s. In the Southeast Riverine Region, other varieties of bottomland hardwoods also are found in significant quantities, including gum, tupelo, beech, and cypress.

The bottomland forest environment hosts various game and other faunal resources in addition to edible floral resources. Acorns (*Quercus*) and hickory nuts (*Carya*) would have constituted the primary plant food, while white-tailed deer (*Odocoileus virginianus*) would have provided a major portion of edible game. Other edible and potentially usable plant resources common to floodplain environments in the middle Mississippi drainage include varieties of grapes (*Vitus*), maple (*Acer*), persimmon (*Diospyros virginiana*), *Chenopodium*, and berries (*Sambucus*, *Celtis occidentalis*). Important faunal resources would have been squirrel (*Ciurus*), beaver (*Castor canadensis*), rabbit (*Sylvilagus floridanus*), and both migratory and local avian fauna (e.g., *Anas*, *Meleagris gallopavo*). In addition, aquatic resources from the river, stream, swamp, and backwater lake microenvironments in the region would

have provided a diversity of other plants and animals for exploitation (cf. Steyermark 1963; Zawacki and Hausfater 1969).

Climate

The contemporary climate throughout the study area is continental and characterized by warm, humid summers and variable winter weather including both rain and snow. The climatic pattern is influenced by warm, moist tropical air masses from the Gulf of Mexico from late spring through summer and drier, cold continental arctic air during the winter. Temperatures throughout the project area range from January mean minimums of 20° - 28° F and mean maximums of 40° - 46° F to July minimums of 66° - 68° F and mean maximums of 90° - 92° F (Chapman 1975:10). Precipitation in the project area is fairly evenly distributed on a seasonal basis, with ranges of 11 in - 14 in (spring), 11 in - 12 in (summer), 11 in (autumn), and 5 in - 11 in (winter) (Chapman 1975:11).

ARCHAEOLOGICAL CONTEXT AND PREVIOUS RESEARCH

General

Midwestern archaeology has been the object of study by both amateur and professional archaeologists since the nineteenth century. Early accounts of the antiquities in the area begin with reports by travelers and historians of the early to mid-nineteenth century; like most early investigations, these focused on large, obvious sites such as villages and mound groups. In 1819, the scientific expedition of Major Stephen H. Long mapped mound sites in St. Louis and also investigated sites at Fenton, Missouri (James 1972, cited in Brandt and Sieb 1979:18). The Cahokia area and related mound complexes drew the attention of the first professional archaeological investigations in the valley by the Bureau of Ethnology (Thomas 1894) and by the Peabody Museum of American Archaeology (Bushnell 1904). Bushnell also coordinated investigations at Cahokia Mounds for the Smithsonian Institution (Bushnell 1922). Additional work has been conducted in the American Bottom area by numerous individuals and institutions since the 1920s and particularly since the 1960s as a result of extensive highway construction. This long tradition of research has shaped the present knowledge of upper and middle Mississippi River valley archaeology as well as that of the Midwest and Eastern Woodlands. In addition, archaeological work in the lower Illinois River valley and the lower drainage of the Kaskaskia River through archaeological salvage and cultural resources management

studies have contributed significantly to knowledge of the prehistory of the middle Mississippi basin. As with the Cahokia area, the St. Genevieve County, Missouri, area also attracted the attention of early professional archaeologists such as Bushnell (1914), who recorded prehistoric stone box graves. Recent studies conducted near the present survey area included studies along the Mississippi River shorelines by Southern Illinois University (Santeford 1977), the Foundation for American Archaeology (Farnsworth 1978; Udesen and Koski 1978), Fischer-Stein Associates (McNerney 1979), and American Resources Group, Ltd. (Moore 1985).

The result of extensive investigations in the middle Mississippi River valley and elsewhere has been the development of a broad cultural/historical classificatory scheme with which to organize and describe the prehistory of the midwestern and eastern United States. The cultural periods, beginning with man's arrival in the New World, are: Paleo-Indian, Dalton, Early Archaic, Middle Archaic, Late Archaic, Early Woodland, Middle Woodland, Late Woodland, and Mississippian. These periods are established on the basis of cultural traits identified through archaeological research and are not to be confused with the historic tribal groups which were encountered by the first Europeans to arrive in the New World.

Survey Area

Items 1-8 (Miles 47.9 - 292.1)

Of the numerous cultural resource investigations conducted in the Mississippi River valley, several investigations have been conducted in the immediate vicinity of the project area survey tracts (Table 1). Of

Table 1. Cultural Resource Management Investigations in the Immediate Vicinity of the Project Area

Item	Mile	CRM Study/Comments
1	220.0(L)-219.7(L)	Udesen and Koski (1978) covered miles 220.0(L)-220.4(L) upstream of the present survey, all on Mason Island.
1x	[218.9(R)-218.6(R)]	Farnsworth (1978) surveyed on either end of this parcel. The present survey covered this area due to a mistake on the Hydrographic Survey Sheet maps which showed this area as one to survey.
2	261.8(L)	No previously surveyed river mile locations abut this survey area.
3	257.7(R) [257.5(R)-257.4(R)]	Farnsworth (1978:1 and 13th map App. I) surveyed this parcel. This survey checked this and continued downstream along Westport Island to cover miles 257.7(R) - 257.4(R) which were between this item 3 and item 4 though not part of this project area.
4	257.4(R)-257.0(R)	No previous survey parcels abut this item.
5	292.1(R)-291.1(R)	Udesen and Koski (1978:2 and App. I map) surveyed a portion of this item from 291.0(R) to 291.4(R). They also abut on the upstream end of this item at 292.2(R).
6	285.2(R)-284.4(R)	No previous survey parcels abut this item.
7	54.8(L)-53.5(L)	No previous survey parcels abut this item.
8	48.3(R)-47.9(R)	No previous survey parcels abut this item.

these projects, five were of a very similar nature, consisting of surveys of selected locales along river and island shorelines.

The first of these shoreline surveys was Santeford's (1977) work along 7.1 linear miles between river miles 11.9 (L) and 97.5 (L). None of the parcels were in close proximity to the present survey area. Two prehistoric sites were identified.

The second was Farnsworth's (1978) survey of 28 small, linear tracts along the Illinois and Missouri shores (including islands) between Quincy, Illinois (mile 298.1) and Grafton, Illinois (mile 218.4). Many of these parcels were in very close proximity to present survey items 1-6. In all, 7.7 linear miles were surveyed, and no prehistoric or historic sites were identified.

Similarly, a survey of 52 tracts distributed between Hannibal, Missouri (mile 298.2) and Grafton, Illinois (mile 219.1) yielded no cultural resources; 15.1 linear miles were surveyed (Udesen and Koski 1978).

McNerney (1979) conducted a similar survey of 41 shoreline locations between Cairo, Illinois (mile 0.0) and Venice, Illinois, across from St. Louis (mile 183.5); 18.9 linear miles were investigated, revealing no archaeological sites.

In addition, one very small spot survey (0.1 mi) was conducted along the shoreline at the Lake Center Marina near St. Charles, Missouri (mile 224.7). This survey also produced no sites.

Moore (1985:39-40) located two isolated find spots at miles 272.8 (R) and 267.7 (L). Both were interpreted as having been redeposited from an unknown source upstream of the find locations. Moore also reported one site outside the project area at Hamburg, Illinois

(1985:40-41) and investigated the previously recorded Pittman historic site which was outside but near the project boundary (1985:42-46). Neither of these sites near the project area were determined to be affected by the proposed project (1985:47), which covered 5 linear miles of shoreline.

The surveys discussed above covered a total of 53.9 linear miles of island and riverbank shoreline. Moore's (1985:39-40) isolated finds and Santeford's (1977) two buried sites were the only cultural resources recorded within these project boundaries.

Santeford's (1977) two sites were located between river miles 12.2 and 13.0 (L) just south of the Cache River diversion channel (Santeford 1977). The Middle Woodland Frog City site (Santeford and Lopinot 1978:121-124) produced ceramics identified as closely related to the more northerly Havanna tradition rather than the local Crab Orchard tradition. The site was under at least 2 m of alluvial deposits and was identified as "not a transient campsite, but a base camp or village" (1978:124). The Middle Woodland Red Light site (1978:93-102) was about 0.8 mi downstream from the Frog City site and also was deeply buried under alluvium. These two sites represent the most significant results from the ongoing middle Mississippi River shoreline surveys and highlight the importance of continued work in the floodplain of this major river valley.

Farnsworth (1978:9-10) offers an explanation for the general lack of sites in terms of floodplain geomorphological processes. The combined processes of flood deposition and channel shifts are seen as factors accounting for the lack of sites encountered on the Mississippi shoreline. By contrast, a survey of the lower Illinois River

(Farnsworth 1976) from (Illinois) river miles 0.0 to 80.0 produced 93 historic and prehistoric sites, 66 of which were located within 300 ft (91 m) of the shoreline. Although the Illinois River survey (Farnsworth 1976) extended to areas 91 m back from the shoreline, unlike the Mississippi River surveys (Farnsworth 1978; McNerney 1979; Moore 1985; Santeford 1977; Udesen & Koski 1978), 35 of the 66 sites were located on the shoreline (cf. Farnsworth 1976:30-36). Since both areas were environmentally and culturally similar, Farnsworth hypothesized that this portion of the Mississippi River channel has been less stable for a longer period of time than the lower Illinois River. Farnsworth supported his interpretation by analysis of cartographic data for the past 30-50 years (Farnsworth 1978:9).

Given the foregoing review, it was expected that sites might be found in the present survey. However, the probability was considered low.

METHODS

Background Records and Literature Search

The Scope of Work (Appendix A) called for a literature and background records search of the project area to identify and summarize known cultural resources that may be recorded within any of the eight survey tracts. This search was intended to aid the field survey by indicating the type and nature of cultural resources that might be found within the project area. Results of this prefield research indicated that the likelihood of encountering cultural resources was extremely low.

Prior to initiating field work, the following sources were consulted: site files of (1) the Archaeological Survey of Missouri (ASM), Columbia, (2) Missouri Department of Natural Resources, Jefferson City, and (3) Illinois Department of Conservation, Historic Sites Division, Springfield; Mr. Terry Norris, St. Louis District Archaeologist, U.S. Army, Corps of Engineers; the National Register of Historic Places; and pertinent reports of previous investigations (e.g., Farnsworth 1978; McNerney 1979; Moore 1985; Santeford 1977; Udesen and Koski 1978). Additional background materials on the topics of environment, archaeology, and history also were consulted, the results of which are incorporated into appropriate parts of this report. Documentation of records searches is provided in Appendix B (Correspondence).

The background records and literature search revealed no previously recorded cultural resources within any of the eight survey areas.

Site Definition

In order to operationalize field methods and achieve project goals per the Scope of Work, cultural resources were defined (1) as sites, and (2) as isolated finds. Drawing upon Binford (1972), a site was defined as a clustering of cultural materials and/or features within an observable spatial context. Isolated finds are those items of cultural materials unassociated with other cultural materials or features and lacking a definable spatial context, generally less than three items.

Field Methods

Field methods used in the survey consisted of a pedestrian and visual survey of the eight survey items along the river shorelines in the area between the water's edge and the top of the bank (Table 2). The width of these tracts varied from as little as 1 m in steep locales to approximately 30 m in wider, more gently sloping areas. As per methods outlined in the Scope of Work, the shorelines below the banks were walked by surveyors at 5 m intervals where conditions allowed. The presence of rip-rap at some items prohibited a walk-over survey, with ground surface visibility at 0%. Such items were visually inspected from a boat. Survey boundaries were identified in the field through the use of USGS maps, Corps of Engineers hydrographic survey maps (1976), and river navigation maps (Corps of Engineers 1982). Photographs were taken at all survey items; a selection of 35 mm color slides of field conditions accompanies this report as a supplement.

Table 2. Field Methods

Item #	River Mile	Date of Survey	Access	Visibility	Rip-Rap
1	220.0-219.7(L)	8/6	Walk	Good	None
1x	218.8-218.5(R)	7/29	Walk	Variable	Privately placed trash, brick, rubble
2	261.8(L)	7/29	Walk	Variable	At SE end
3	257.7(R)	7/29	Walk	None	Over entire area
4	257.4-257.0(R)	7/29	Walk	Good	None
5	292.1-291.1(R)	7/30, 8/29	Boat, Walk	None, Good	From 291.2 upstream
6	285.2-284.4(R)	7/30	Boat, Walk	Variable	None
7	54.8-53.5(L)	7/31	Walk	Good	None
8	48.3-47.9(R)	7/31	Walk	Variable	None

Field inspection of the survey items indicated that rip-rap was present on items 3 and 5. Some items were photographed and viewed from the boat, as shorelines were too steep to walk and visibility was 0%.

RESULTS OF SURVEY

This cultural resource survey of eight areas of Mississippi River island and shoreline yielded no significant cultural resources.

Item 1 (Figures 2a, b) Mile 220.0-219.7(L)

The shoreline of this area begins at the previously revetted area to the west and continues east past the large wing dike. A narrow sandy beach topped by a low cutbank characterizes this stretch of shoreline. The landward area above the bank is made up of thick underbrush and large cottonwoods, maples, and sycamores. The cutbank was profiled at its highest point, revealing a dark silty clay with little apparent bedding. Nothing of cultural significance was found.

Item 1x (Figures 2a, c) Mile 218.8-218.5(R)

The shoreline here is obscured by concrete docks in various stages of disrepair. Cottage owners have attempted to place diverse materials here to prevent erosion. Visibility was variable but generally poor. Cultural resources were not located.

Item 2 (Figures 3a, b) Mile 261.8(L)

This area is located at the northern tip of a low, sandy island which is thickly wooded with cottonwood, maple, and mulberry. Undergrowth is relatively sparse, although some ivies and wild cucumber are present. The west side of the area has been revetted. The northeast area has a 1-2 m cutbank showing sand and silt deposition. A

large wooden object (2 x 2 x 6 m) consisting of large timbers pinned together rests in the woods at the point of the island. It is perhaps designed to prevent erosion. Cultural resources were not found.

Item 3 (Figures 4a, b) Mile 257.7(R)

The shoreline here is covered by revetment. Above the rock is an area of dense undergrowth, heavily wooded with cottonwood, sycamore, and maple. Cultural resources were not found.

Item 4 (Figures 4a, b) Mile 257.4-257.0(R)

A low, sandy beach with a small cutbank characterizes this location. The beach ranges from 10 m at the south end to less than 1 m at the north. The cutbank is particularly visible at the north end where a shoveled profile was photoghraphed showing typical flood deposits. A strip of thick brush and trees (10 to 30 m) separate the shoreline from a cornfield. Cultural resources were not found.

Item 5 (Figures 5a, b) Mile 292.1-291.1(R)

Beginning near the east end of the island, a low cutbank lies directly below large cottonwood, maple, and sycamore trees. The cutbank disappears 100 m to the west, replaced by a series of low terraces on a silt and sand beach. All areas to the west of the large wing dike have been previously revetted. Above the revetment, a low, sandy beach was sometimes present in the woods. Cultural resources were not found.

Item 6 (Figures 6a, b) Mile 285.2-284.4(R)

Beginning at the north end, the first 30 m of this shoreline has a low cut bank directly below the treeline. The next 300 m northward consists of low, marshy mud flats covered with water lilies and grasses.

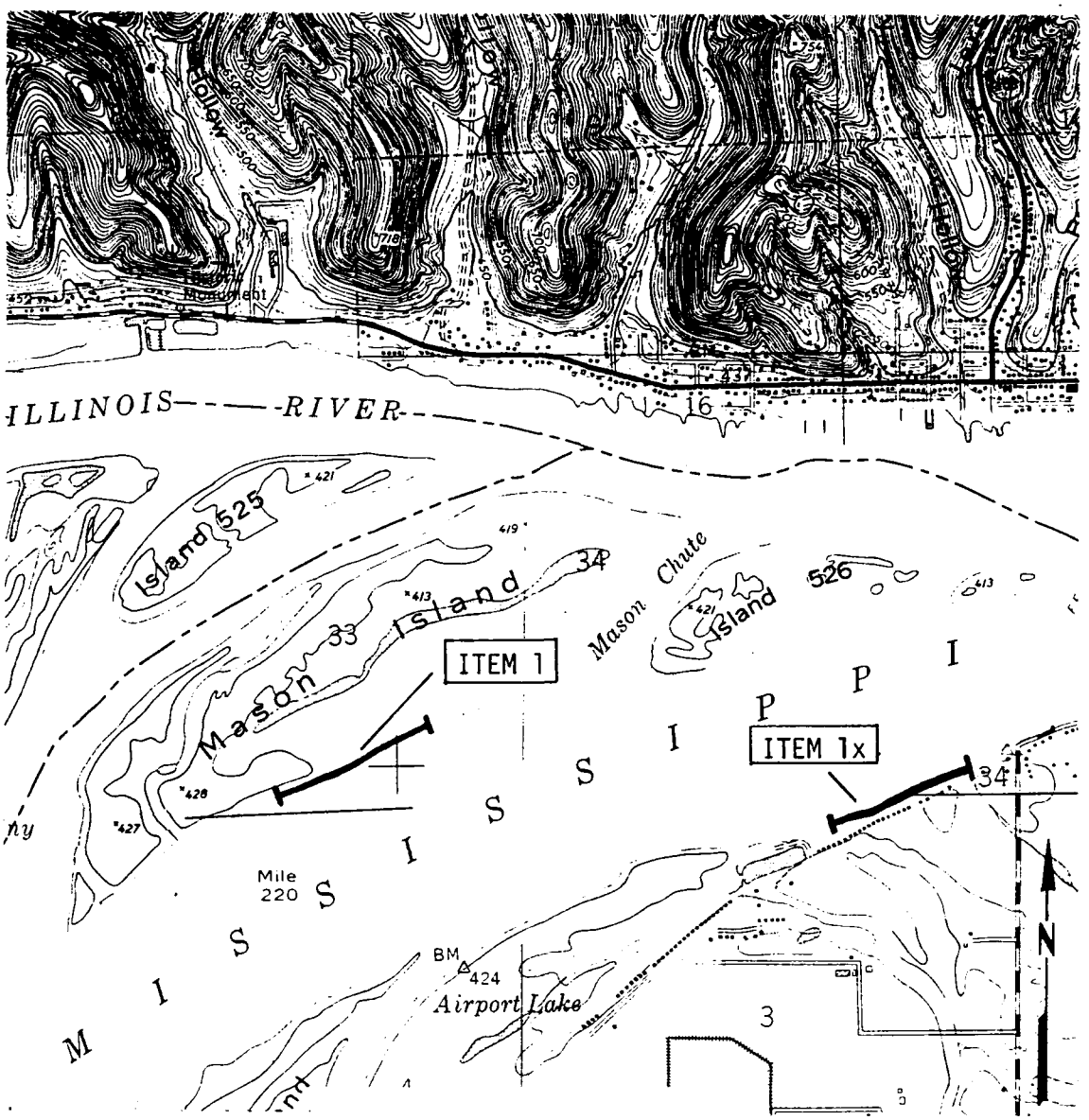
This is actually a small island with a slough running behind it. The shoreline north of the mud flats has a low cutbank, mature forest, and much flood debris. Cultural resources were not located.

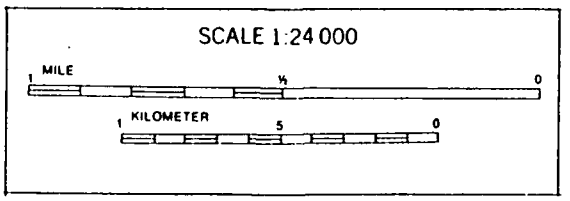
Item 7 (Figures 7a, b) Mile 54.8-53.5(L)

Due to its length, this shoreline varied widely in appearance. Beginning at the east end near the long dike, the shoreline consists of a sandy beach (10 to 30 m) sloping gently up to the treeline of willow, maple, and cottonwood. About 700 m from the east end, the beach narrows, and a steep cutbank appears. It ranges to 5 m in height, and many trees are undercut here. Toward the west end, the beach ends completely, and the cutbank is slumping directly into the river. Remnants of a small tarpaper shack, obviously less than 50 years old, were noted in the process of slumping into the river. This shack was not assigned a site number due to its recent age and obvious ineligibility for inclusion in the NRHP. Other cultural resources were not found.

Item 8 (Figures 8a, b) Mile 48.3-47.9(R)

Beginning at the dike next to the Port Authority dock, a sandy beach about 30 m wide narrows progressively to the west. The wooded area behind the beach is composed of willow and cottonwood with little undergrowth. A cutbank becomes higher toward the west and below an open field reaches a height of approximately 2 m. Cultural resources were not found.





Grafton, MO-IL (USGS 7.5', 1954)

Figure 2a. Survey Item 1 and 1x. Miles 220.0(L) - 219.7(L) and 218.8(R) - 218.5(R).

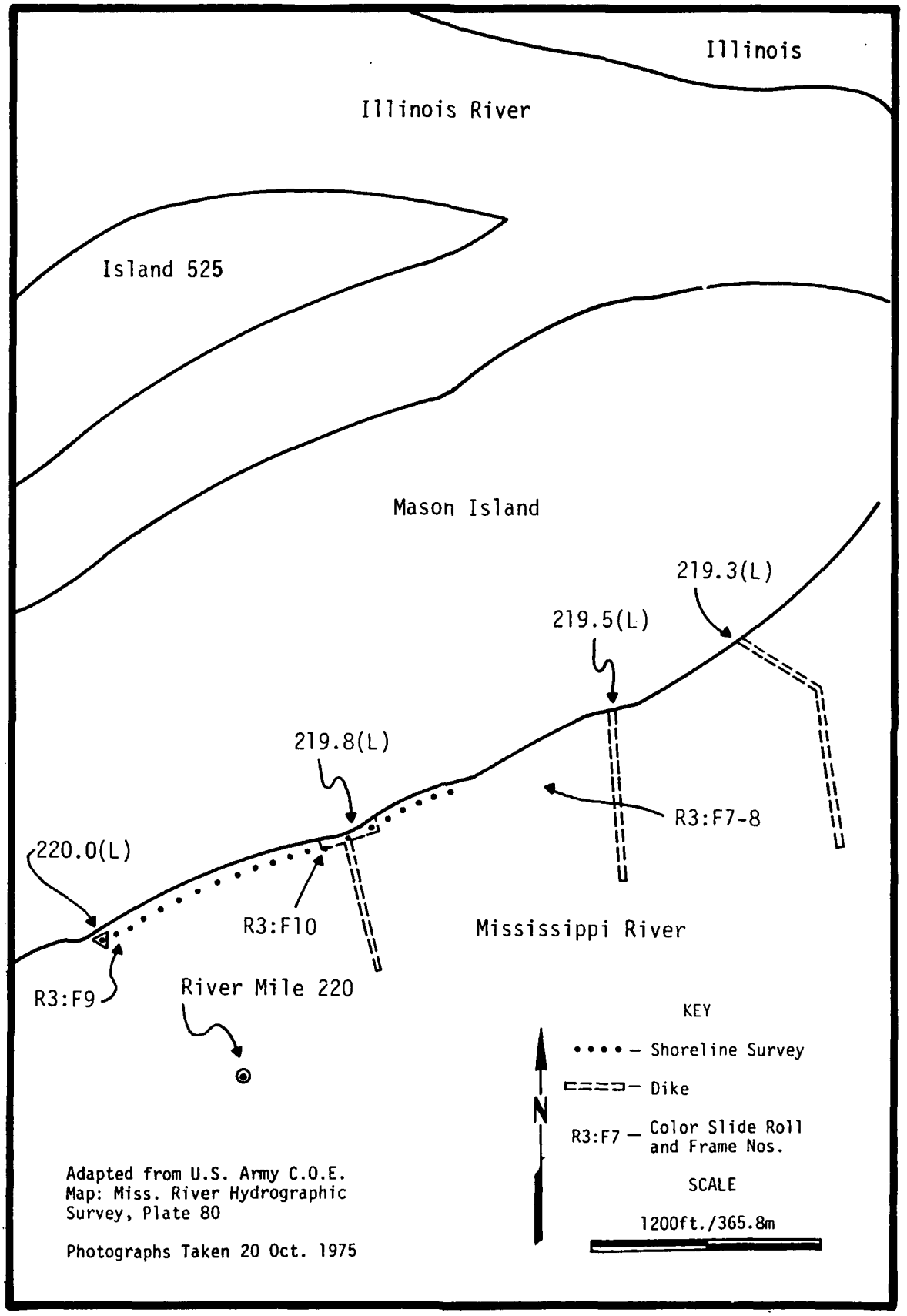


Figure 2b. Survey Item 1. Miles 220.0(L) - 219.7(L).

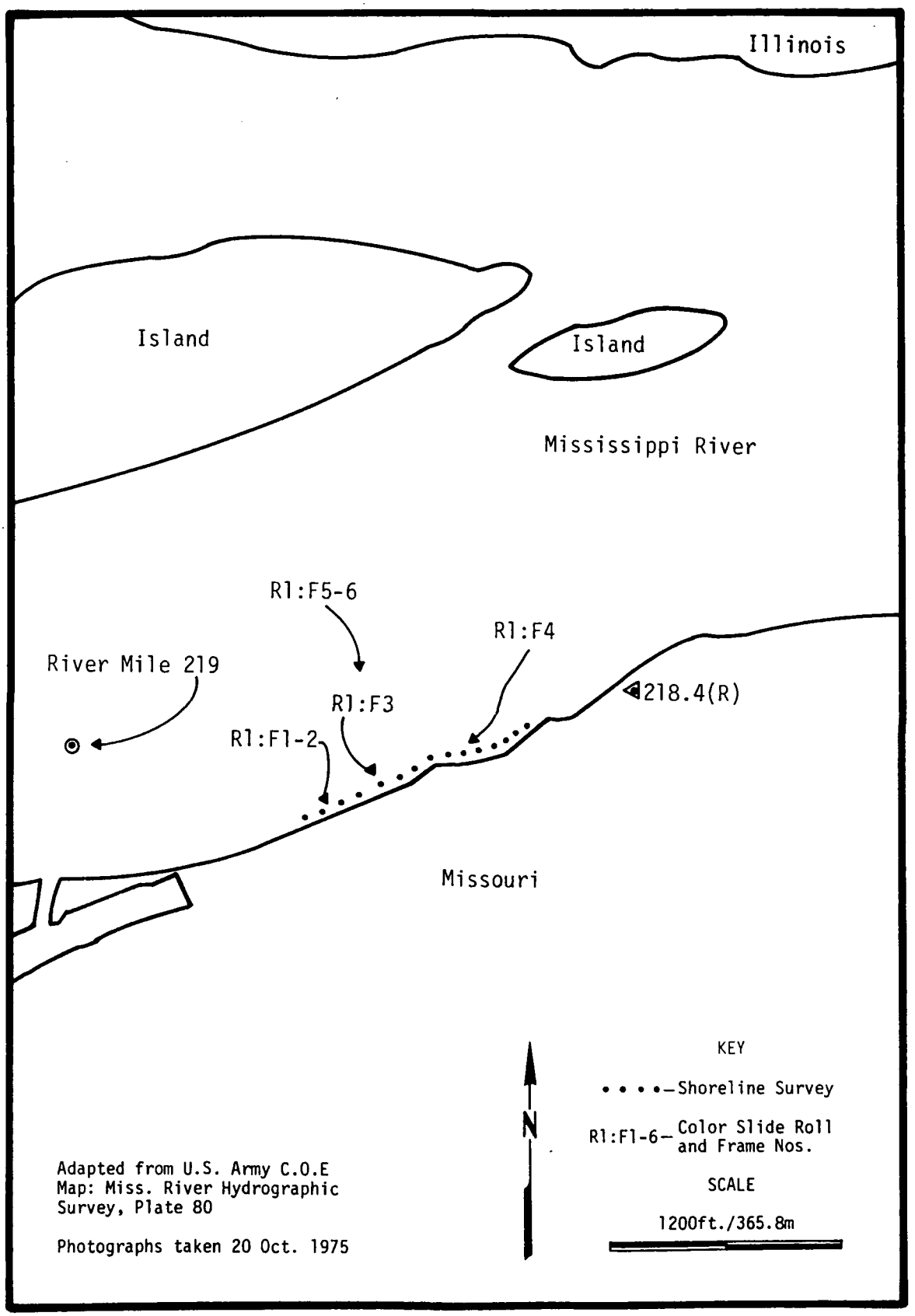
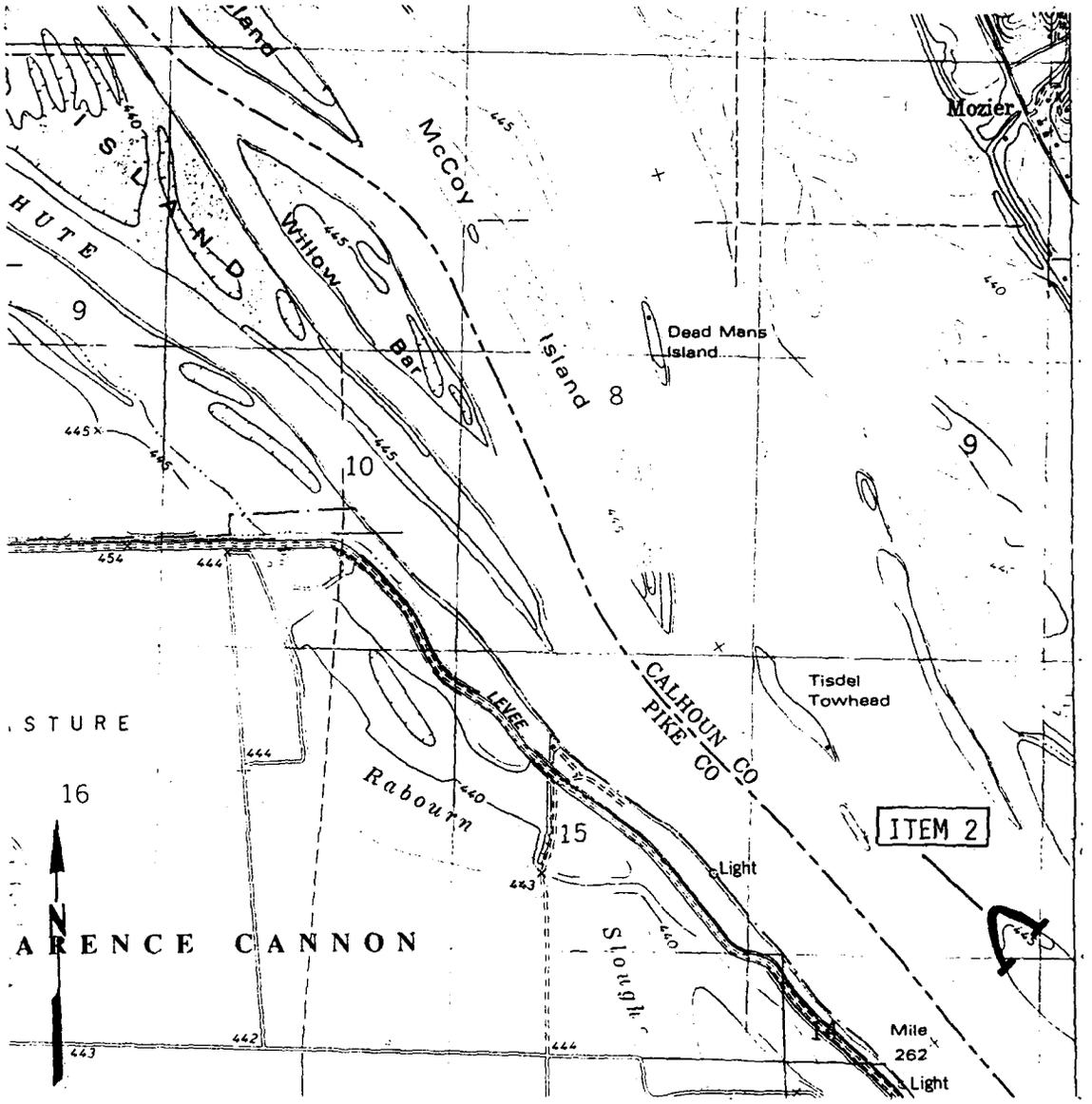


Figure 2c. Survey Item 1x. Miles 218.5(R) - 218.8(R).



Annada, MO-IL (USGS 7.5', 1978)

Figure 3a. Survey Item 2. Mile 261.8(L)

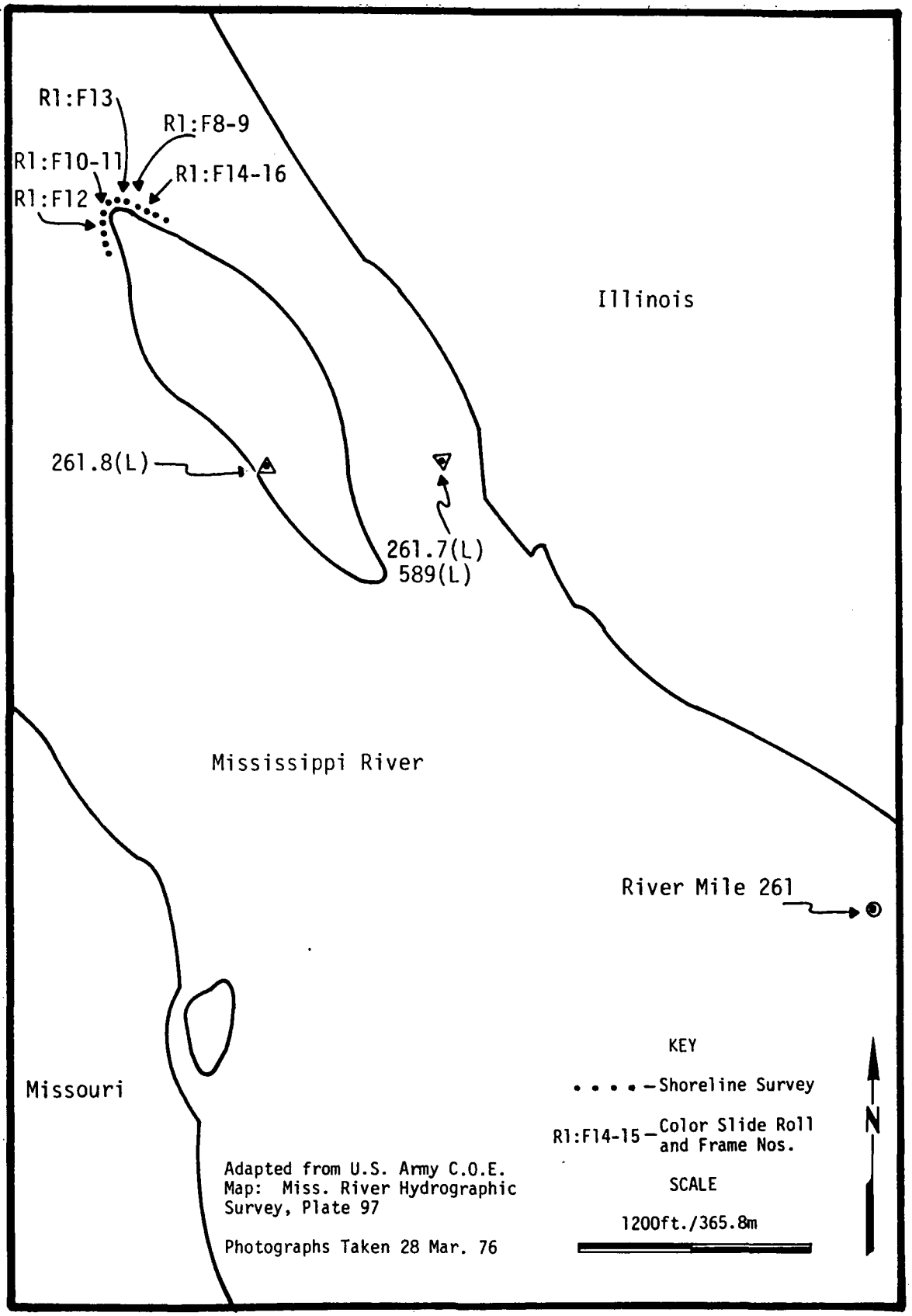
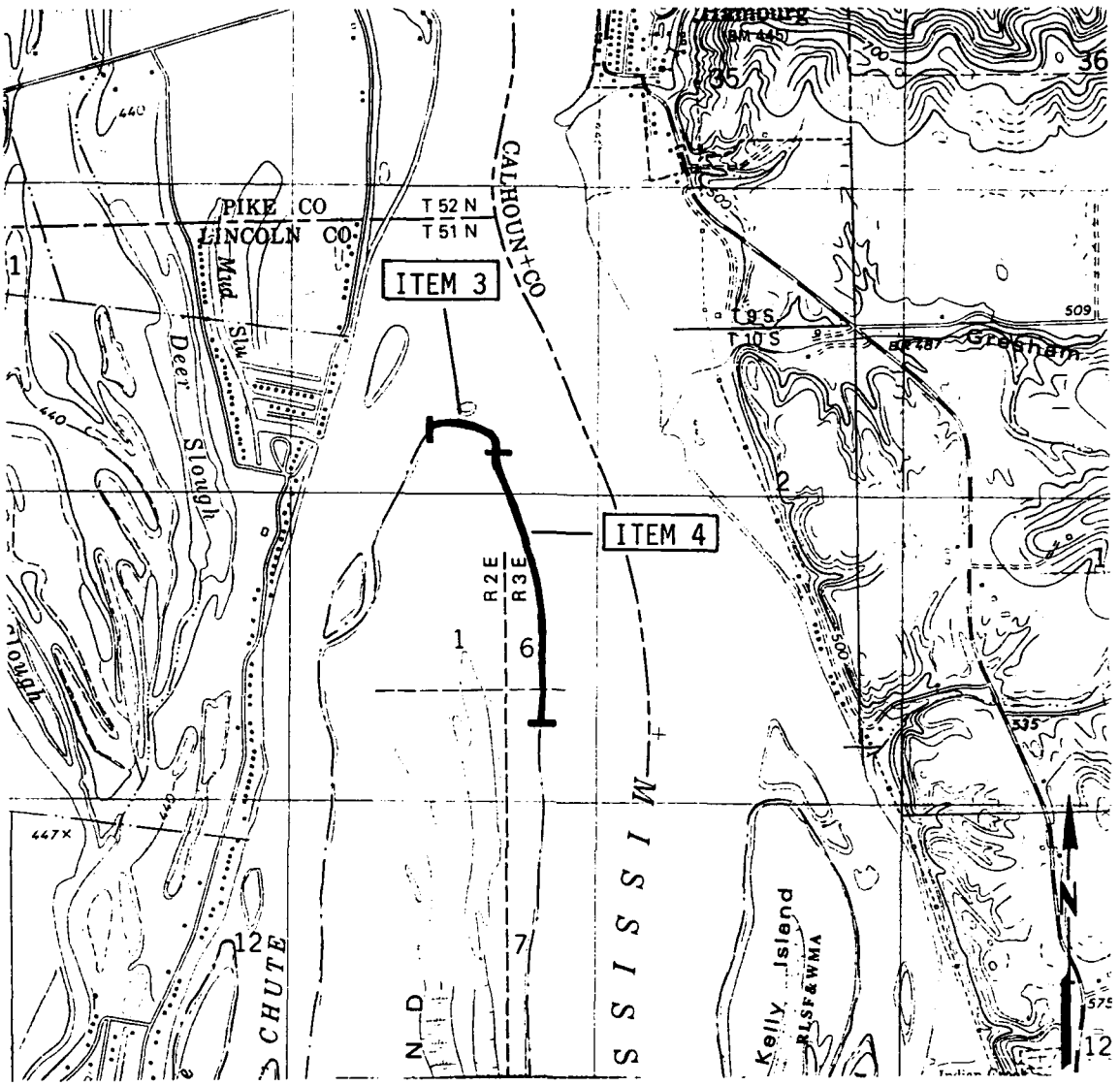


Figure 3b. Survey Item 2. Mile 261.8(L).



Hamburg, IL-MO (USGS 7.5', 1978)

Figure 4a. Survey Item 3 and 4. Miles 257.7(R) and 257.4(R) - 257.0(R).

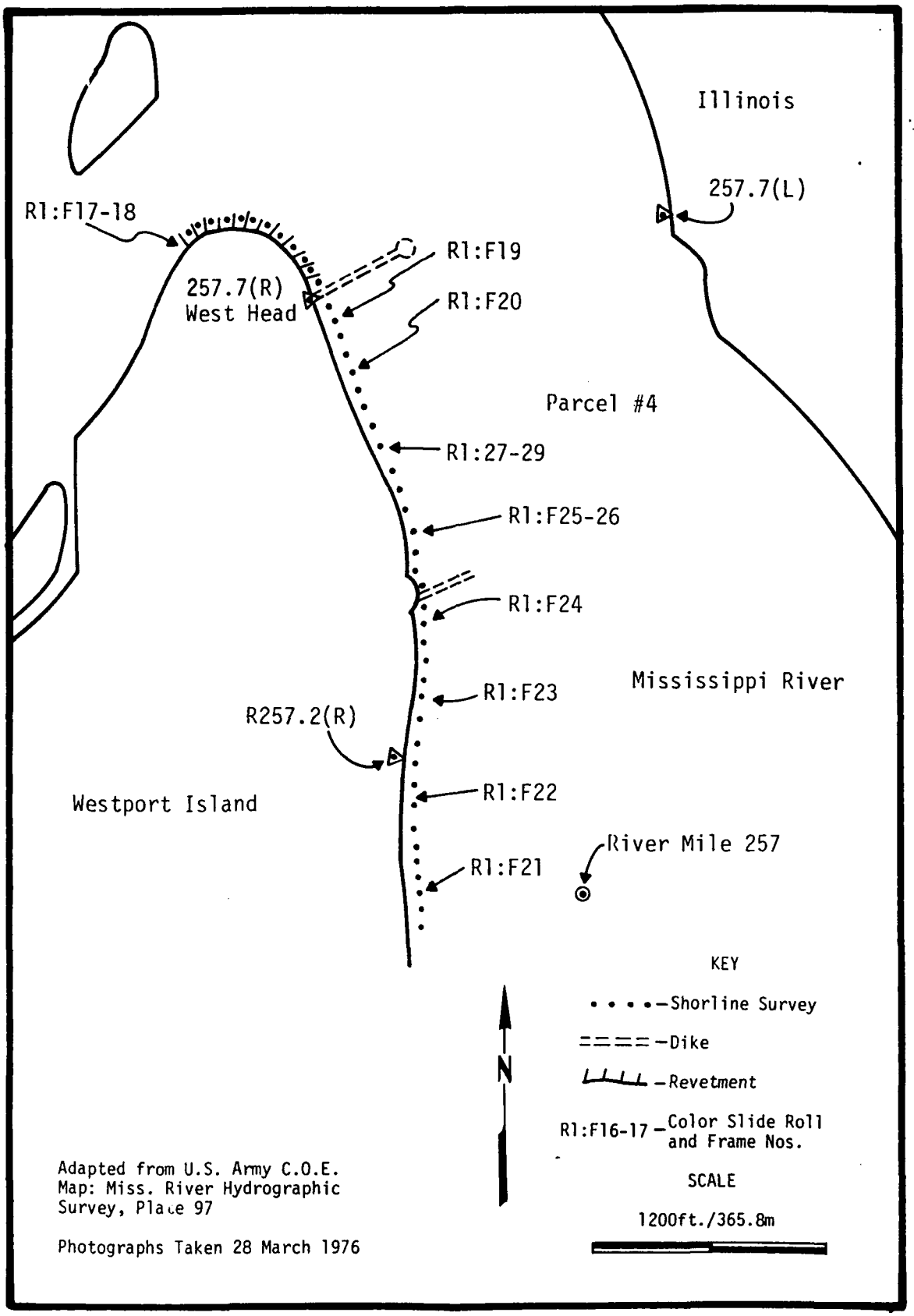
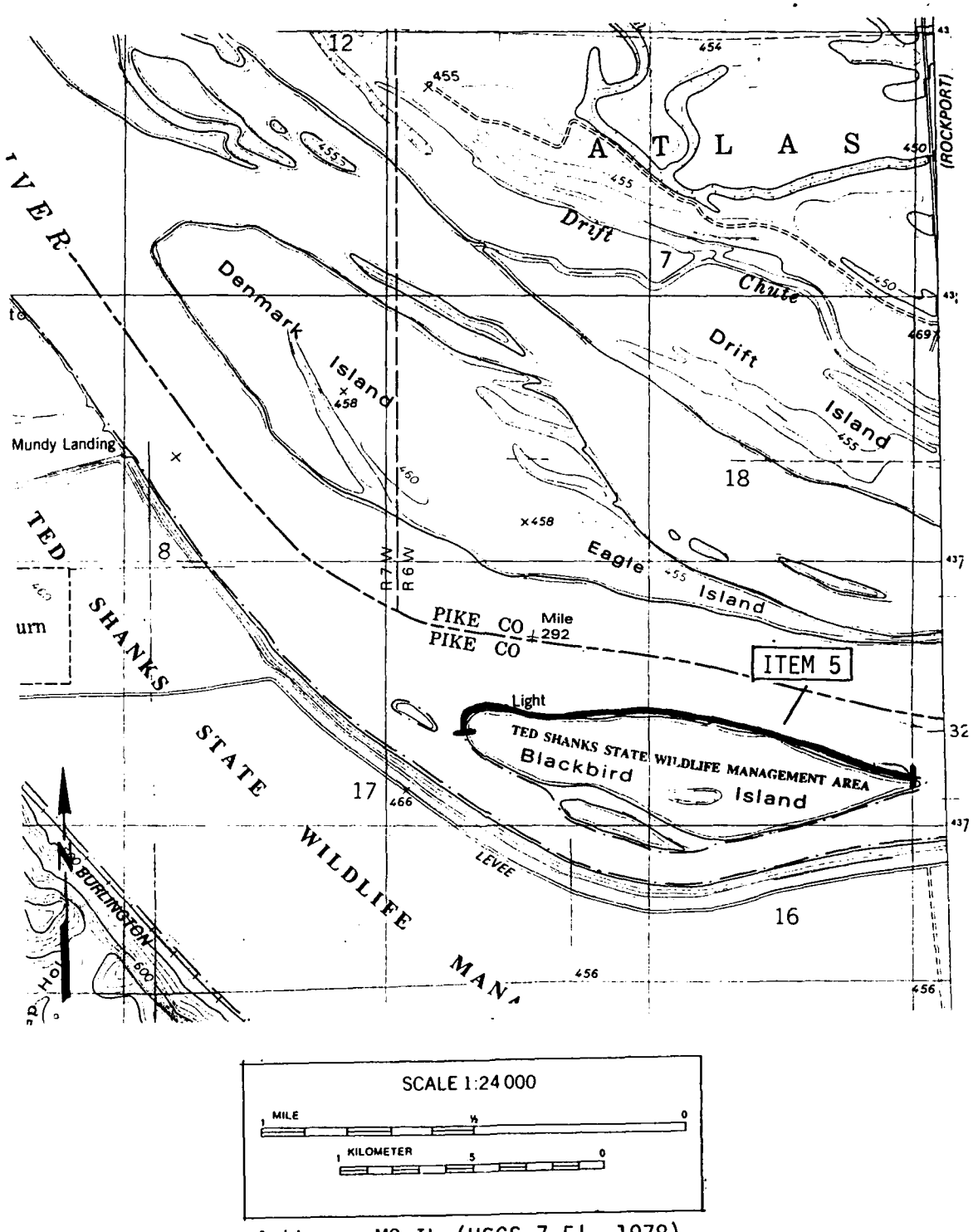


Figure 4b. Survey Items 3 and 4. Miles 257.7(R) and 257.4(R) - 257.0(R).



Ashburn, MO-IL (USGS 7.5', 1978)

Figure 5a. Survey Item 5. Miles 292.1(R) - 291.1(R).

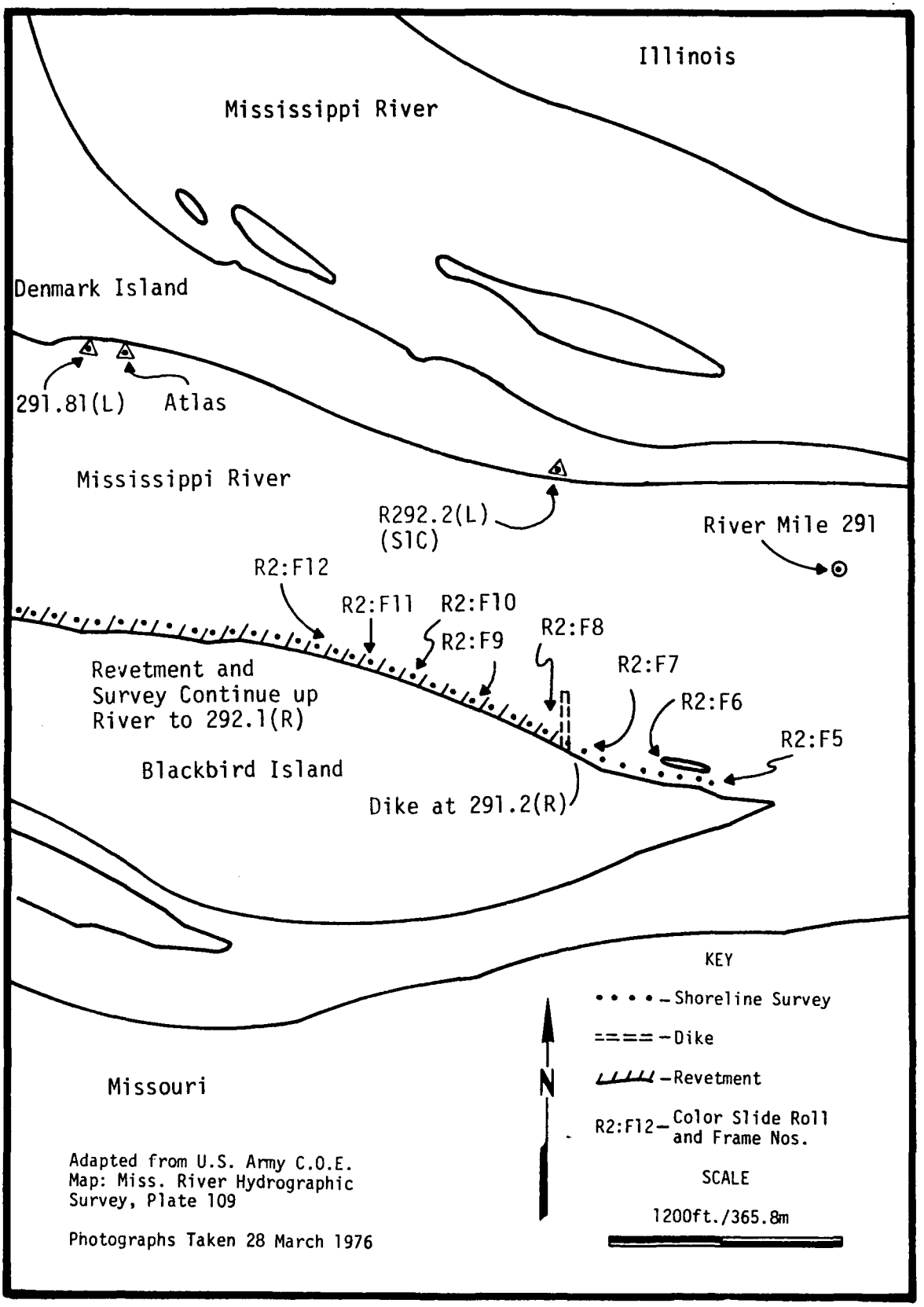
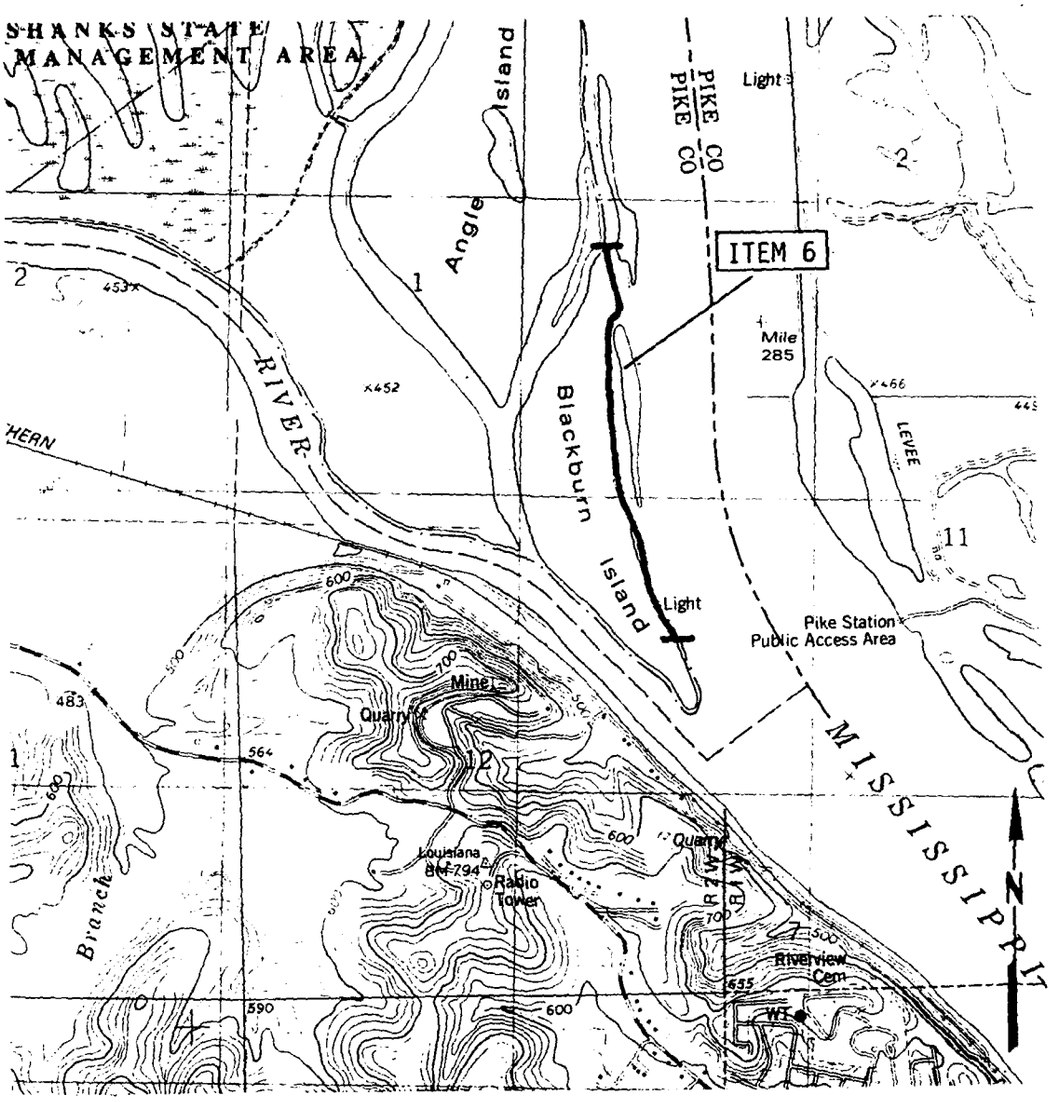


Figure 5b. Survey Item 5. Miles 292.1(R) - 291.1(R).



Louisiana, MO-IL (USGS 7.5', 1978)

Figure 6a. Survey Item 6. Miles 285.2(R) - 284.4(R).

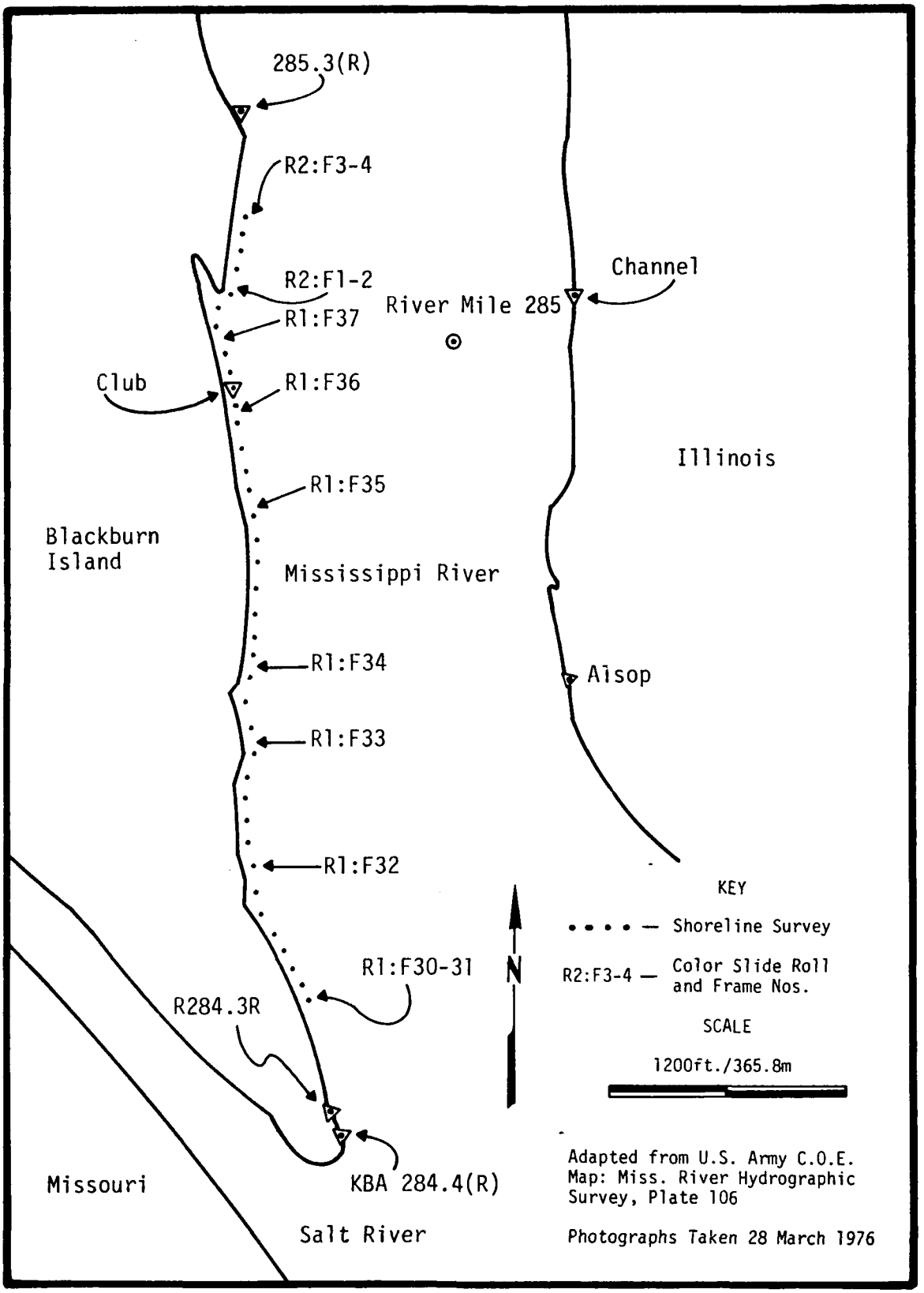


Figure 6b. Survey Item 6. Miles 285.2(R) - 284.4(R).

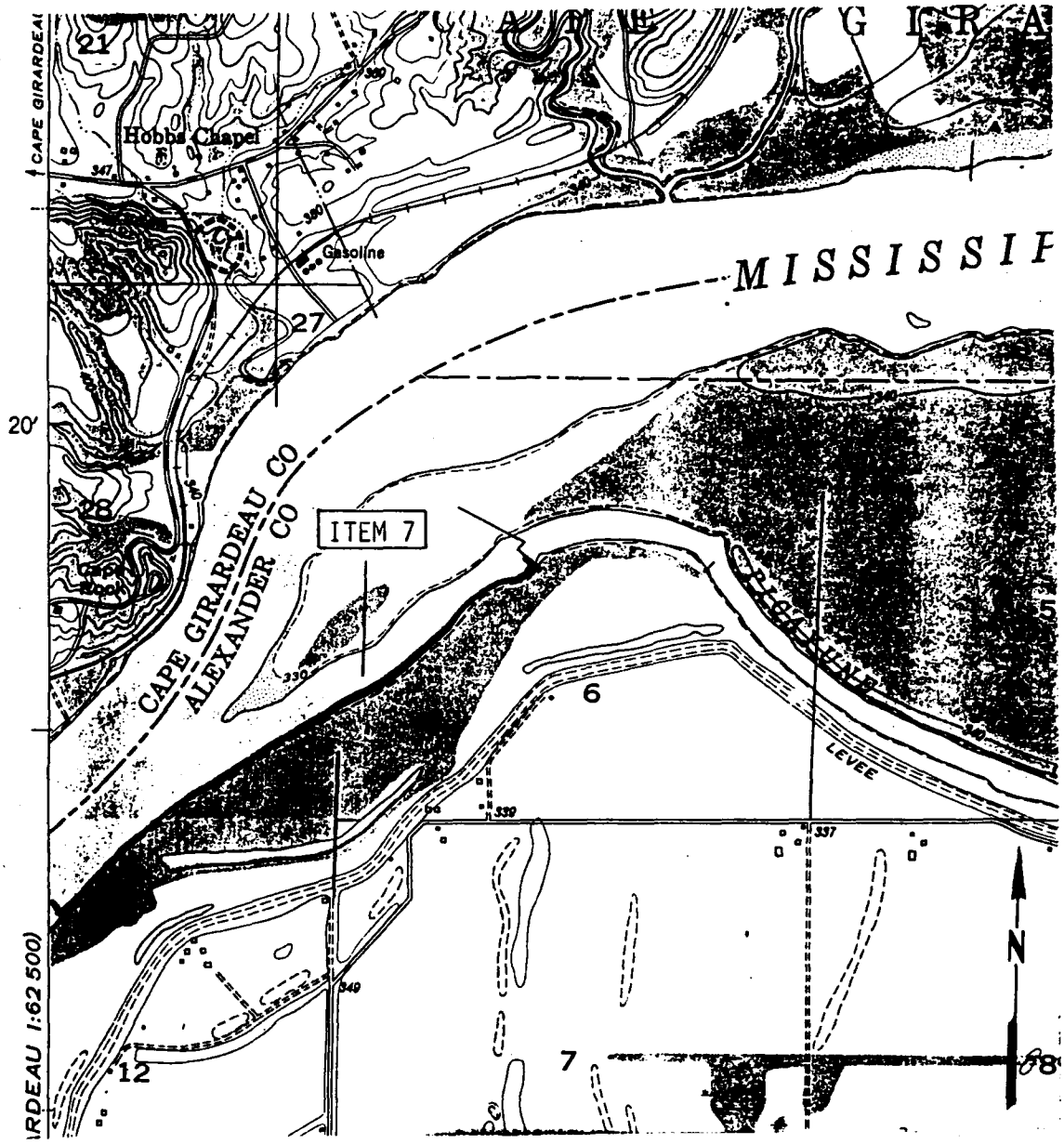


Figure 7a. Survey Item 7. Miles 54.8(L) - 53.5(L).

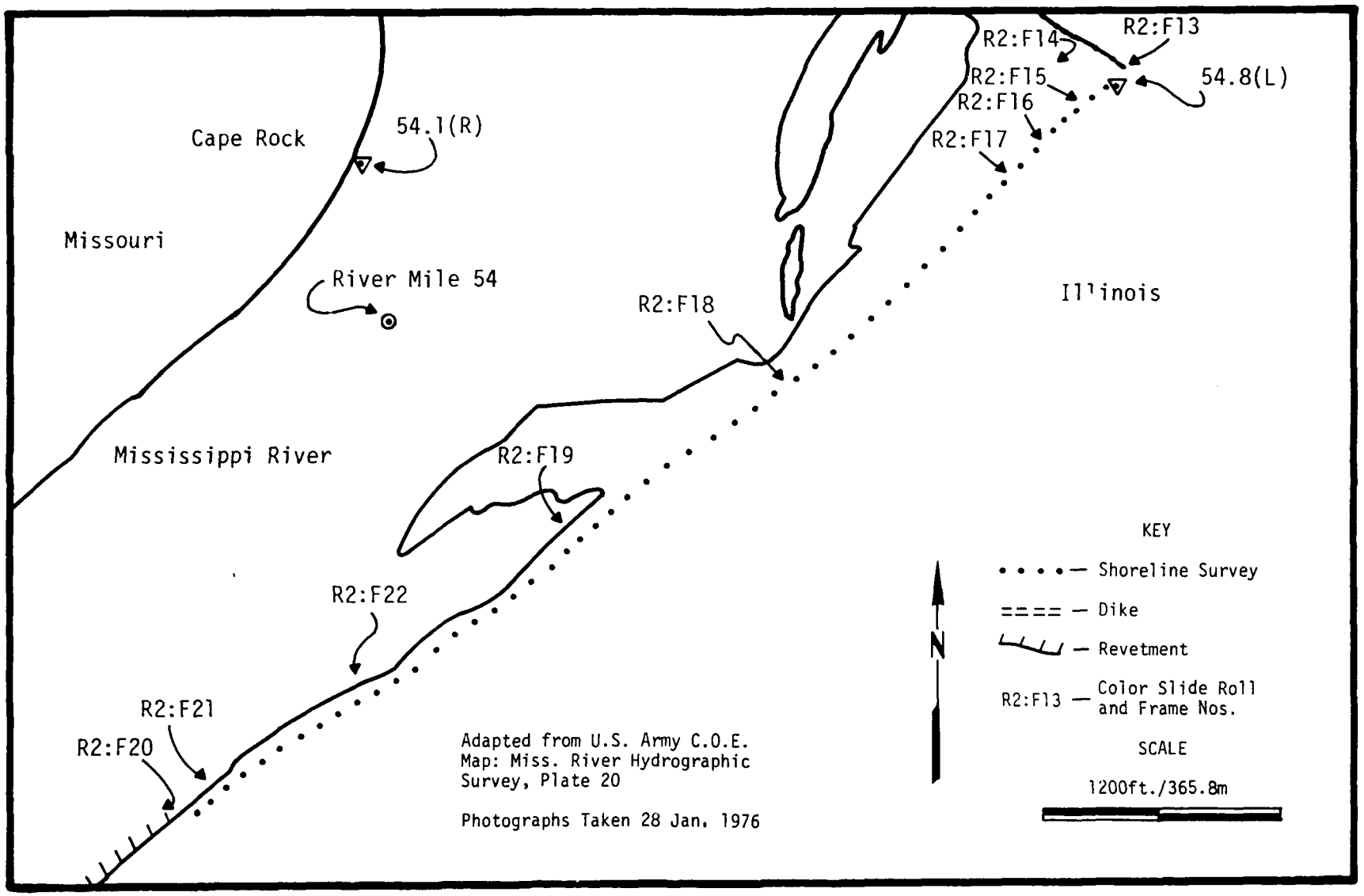
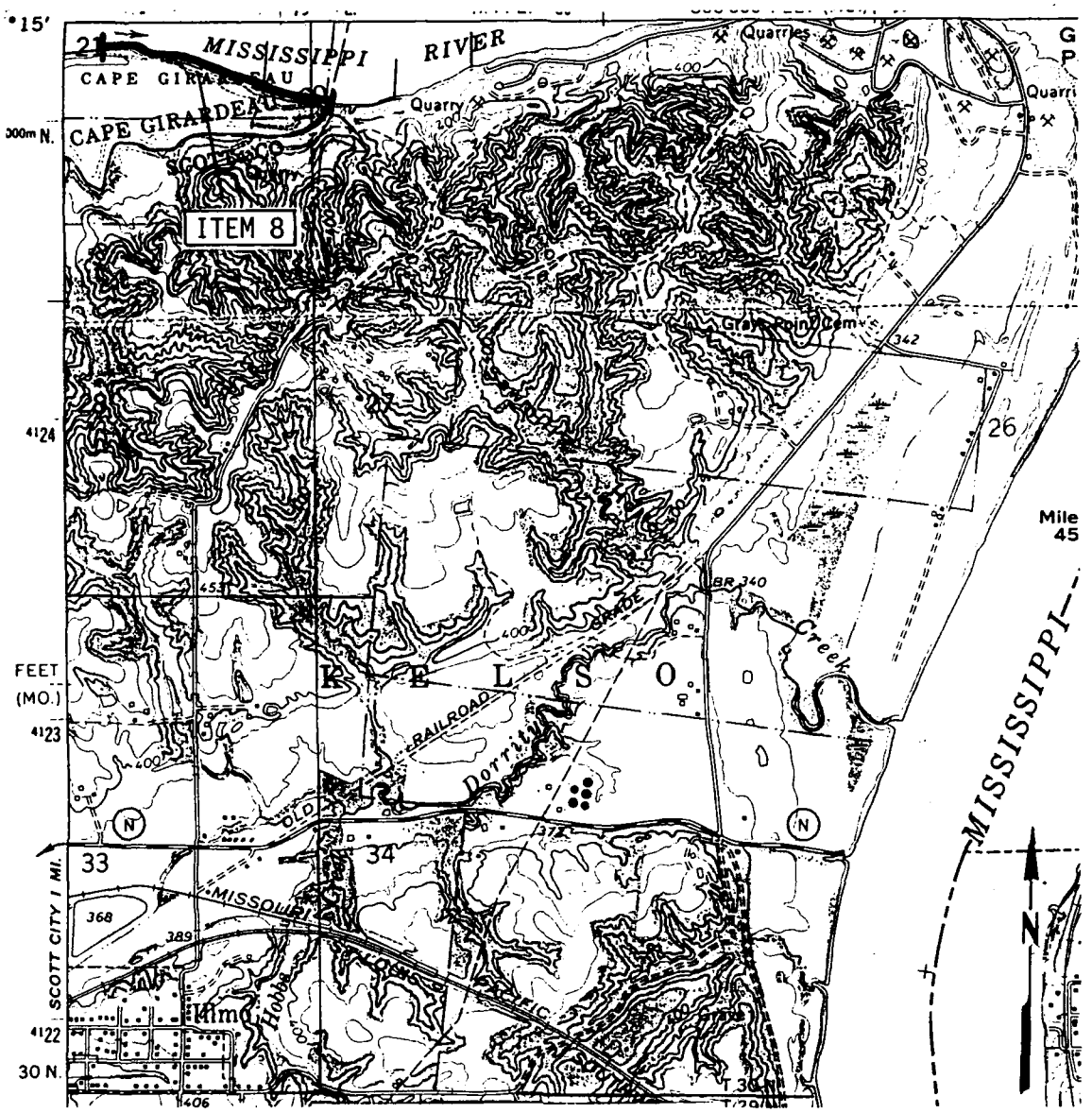


Figure 7b. Survey Item 7. Miles 54.8(L) - 53.5(L).



Thebes, IL-MO (USGS 7.5', 1966)

Figure 8a. Survey Item 8. Miles 48.3(R) - 47.9(R).

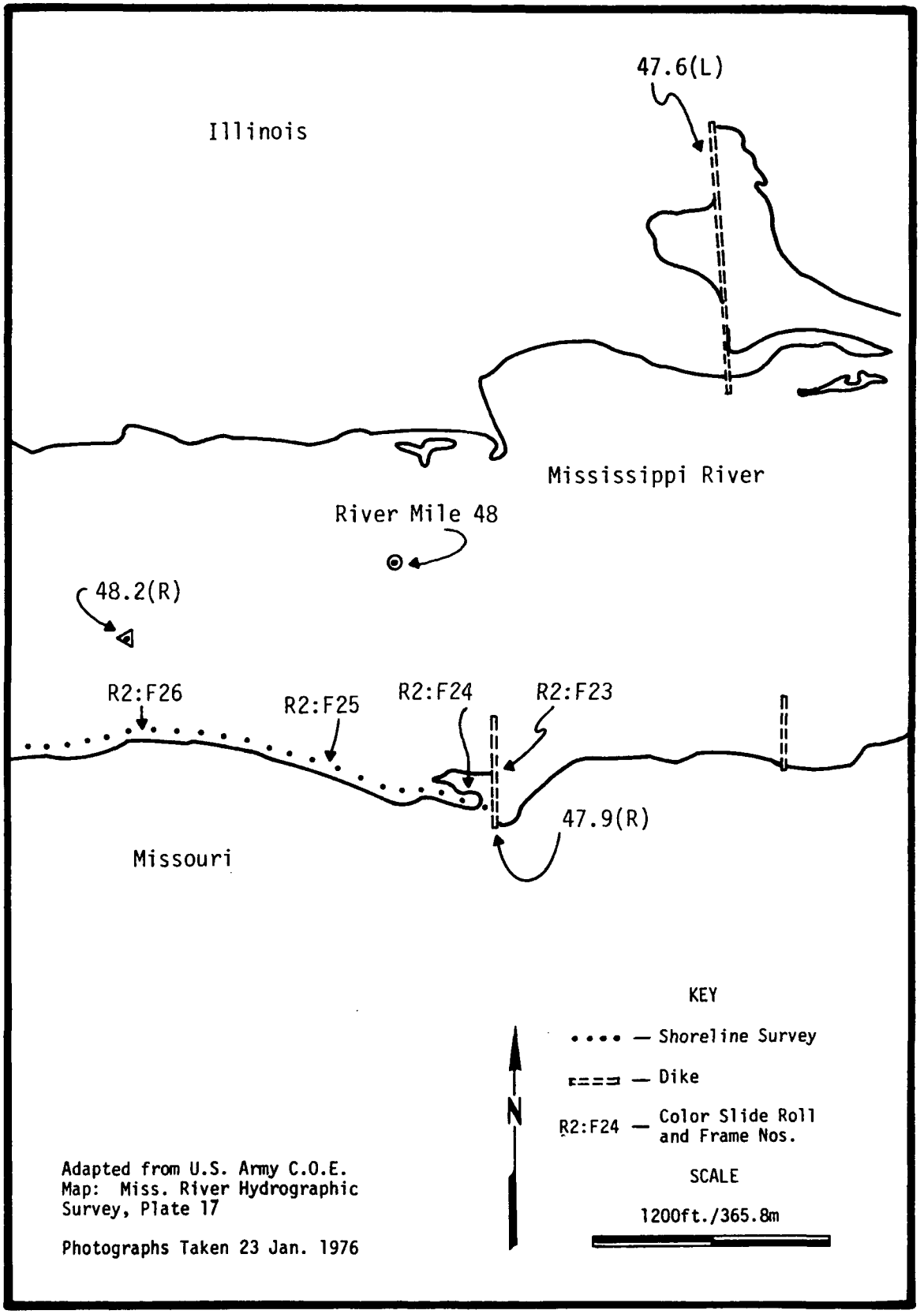


Figure 8b. Survey Item 8. Miles 48.3(R) - 47.9(R).

CONCLUSIONS

The following discussions of significance, project effect, and recommendations apply to the eight items identified as the project area in addition to the two areas defined in brackets in Table 1.

Statement of Significance

Cultural materials were not identified within the project area aside from the tarpaper shack, which was obviously less than 50 years old and had lost integrity of location by beginning to slump into the river (Item 7). This shack is not, therefore, considered eligible for inclusion in the National Register of Historic Places.

Statement of Project Effect

For the purposes of making recommendations, it is assumed that all areas delineated for the survey will be subjected to shoreline stabilization activities as presently proposed. Since no sites were identified within the project area, the proposed construction activities will not have any affect on cultural properties (see 36CFR800.3 - Criteria of Effect and Adverse Effect).

Recommendations

The cultural resources survey of the eight survey items between Mississippi River miles 47.9 and 292.1 did not record any significant resources within the project area. Based upon this fact and the foregoing discussions of proposed impact and significance, proposed shoreline stabilization activities may proceed as planned.

REFERENCES

Anderson, K. H.
1979 Geologic Map of Missouri. Missouri Geological Survey, Jefferson City.

Binford, Lewis R.
1972 An Archaeological Perspective. Seminar Press, New York.

Brandt, Keith, and Rebecca Sieb
1979 A Reconnaissance Survey of the Cultural Resource Base within the Lower Meramec Basin, St. Louis and Jefferson Counties. Prepared for Ryckman, Edgerly, Tomlinson and Associates, Inc. by Southern Illinois University - Edwardsville.

Bushnell, David I., Jr.
1904 The Cahokia and Surrounding Mound Groups. Papers of the Peabody Museum of American Archaeology and Ethnology 3(1).

1914 Archaeological Investigations in Ste. Genevieve County, Missouri. Proceedings of the United States National Museum 46:641-668.

1922 Archaeological Reconnaissance of the Cahokia and Related Mound Groups. In Explorations and Fieldwork of the Smithsonian Institution in 1921. Smithsonian Miscellaneous Collections 17(15):93-105.

Chapman, Carl H.
1975 Archaeology of Missouri, I. University of Missouri Press, Missouri.

Farnsworth, Kenneth B.
1976 An Archaeological Survey of the Lower Illinois River Shoreline (Miles 1-80). Report submitted to the St. Louis District, Corps of Engineers, by Northwestern University Archaeological Program, Contract Archaeology Office, Kampsville, Illinois.

1978 An Archaeological Reconnaissance of Sections of the Mississippi River Shoreline, Miles 218.4 to 298.1 in Illinois and Missouri. Report submitted to the St. Louis District, Corps of Engineers by Foundation for Illinois Archaeology, Kampsville.

Ives, David J.
1975 The Crescent Hills Prehistoric Quarrying Area. University of Missouri Museum Brief 22, Columbia.

1981 The Crescent Hills Prehistoric Chert Quarrying Area: More than Rocks. Paper presented at the Conference on Chert Exploitation, Carbondale, Illinois.

King, James E., and William H. Allen, Jr.
1977 A Holocene Vegetation Record from the Mississippi River Valley, Southeastern Missouri. Quaternary Research 8:307-323.

Kuchler, A. W.
1975 Potential Natural Vegetation of the Conterminous United States. Special Publication No. 36, American Geographic Society, New York.

Lineback, J. A. (compiler)
1979 Quaternary Deposits of Illinois. Illinois Geological Survey.

McNerney, Michael J.
1979 A Cultural Resource Survey and Assessment of Selected Revetment and Dike Locations, Mississippi River Miles 0.0 to 183.5 Above the Mouth of the Ohio River. Cultural Resources Management Study No. 33. Fischer-Stein Associates, Carbondale, Illinois.

Meyers, J. Thomas
1970 Chert Resources of the Lower Illinois Valley. Illinois State Museum Reports of Investigations No. 18, Springfield.

Moore, Kurt R.
1981 Prehistoric Chert Exploitation in Cedar Creek and Northwest Central Illinois: A Preliminary Overview. Paper presented at the Conference on Prehistoric Chert Exploitation, Carbondale, Illinois.

1985 Cultural Resources Survey at Historic Kaskaskia and Selected Portions of the Upper Mississippi River Shoreline from Miles 115.9 to 272.9, Illinois and Missouri. St. Louis District Cultural Resource Management Report No. 20, American Resources Group, Ltd., Carbondale, Illinois.

Santeford, Lawrence Gene
1977 Report on an Archaeological Reconnaissance of Selected Portions of the Mississippi River Shoreline in Southern Illinois, River Miles 94.3L-97.5L; 32.2L-34.7L; 25.3L-25.4L; 11.9L-13.2L. Submitted by Southern Illinois

University Museum, Carbondale, to U. S. Army, Corps of Engineers, St. Louis District.

Santeford, Lawrence Gene, and Neal H. Lopinot
1978 Final Report on Archaeological Investigations at Frog City and Red Light: Two Middle Woodland Period Sites in Alexander County, Illinois. Center for Archaeological Investigations Report No. 6, Southern Illinois University, Carbondale.

Steyermark, J. A.
1963 Flora of Missouri. Iowa State University Press, Ames.

Struever, Stuart
1973 Chert Utilization in Lower Illinois Valley Prehistory. In Variations in Anthropology: Essays in Honor of John C. McGregor, edited by Donald W. Lathrap and Jody Douglas, pp. 61-73. Illinois Archaeological Survey, Urbana.

Thomas, Cyrus
1894 Report on the Mound Explorations of the Bureau of Ethnology. Twelfth Annual Report of the Bureau of Ethnology. Government Printing Office, Washington, D. C.

Udesen, H. Carl, and Ann L. Koski
1978 An Archaeological Reconnaissance of Sections of the Mississippi River Shoreline Miles 219.1 to 298.2 in Illinois and Missouri. Report submitted to the St. Louis District, Corps of Engineers by the Foundation for Illinois Archaeology, Kampsville.

U. S. Army Corps of Engineers
1976 Hydrographic Survey (Mississippi River). St. Louis District.

1982 Upper Mississippi River Navigation Charts. North Central Division, Chicago.

Willman, H. B. (compiler)
1967 Geologic Map of Illinois. Illinois State Geological Survey, Urbana.

Willman, H. B., and John C. Frye
1970 Pleistocene Stratigraphy of Illinois. Illinois State Geological Survey Bulletin 94, Urbana.

Zawacki, April A., and Glen Hausfater
1969 Early Vegetation of the Lower Illinois Valley. Illinois State Museum Reports of Investigations No. 17, Springfield.

APPENDIX A

Scope of Work

SCOPE OF WORK

Delivery Order No. 5

DACW43-84-D-0085

Mississippi River Island Survey
Mississippi River Miles 47.9 to 292.1 Above the Mouth of the Ohio

1. STATEMENT OF WORK. The work to be accomplished by the Contractor consists of furnishing all labor, plant, and equipment necessary to conduct a literature review, intensive cultural resource survey, and National Register evaluation(s) and effect assessment(s) on cultural properties discovered thereby, at selected locations, and to furnish a written report thereon, all as set forth in this Scope of Work. The Project Manager and official Government contract for this work will be Mr. Terry Norris, who is the St. Louis District Archaeologist, and who may be contacted at the District Office, Room 841, 210 N. Tucker Blvd., St. Louis, Missouri 63101, telephone (314) 263-5317.

2. LOCATION AND DESCRIPTION OF THE STUDY AREA. The study areas are located on the Mississippi River bank line, between Mississippi River Miles 285.2 and 47.9 above the mouth of the Ohio River.

3. GOVERNMENT-FURNISHED INFORMATION. The Government will furnish, to the Contractor, the following items: Hydrographic Survey Sheets needed to identify the areas to be intensively surveyed; St. Louis District Report Format Guidelines; St. Louis District Title Page Format; Guidelines for Requesting Determinations of Eligibility; National Register Nomination Forms; the Advisory Council Criteria of Effect; and the Advisory Council Criteria of Adverse Effect.

4. RIGHTS OF ENTRY. The Contractor is responsible for securing rights-of-entry onto all non-federally owned lands included in this study, for the purposes of carrying out the activities called for in this Scope of Work.

5. WORK TO BE PERFORMED BY THE CONTRACTOR. The tasks described in this Scope of Work will be conducted at each of 8 locations, which together comprise roughly 7.7 acres. The tracts are shown on the government-furnished maps and aerial photos. Prior to commencing this work, the Contractor shall consult the National Register of Historic Places and its supplements, the Illinois State Historic Preservation Office, the Missouri State Historic Preservation Offices, and the Missouri Archaeological Survey, for the purpose of determining whether any previously-known cultural properties exist in the project areas. These consultations shall be documented in the Interim Report, the Draft Report, and the Final Report (Paragraphs 5.3, 8, and 9, below).

5.1 Intensive Survey. This shall consist of a 100% pedestrian survey of the tracts referenced above (Paragraph 5). For the purposes of this Scope of Work, a 100% pedestrian survey is defined as one in which surveyor(s) walk parallel transects spaced 5 meters apart. The survey shall be sufficient to determine the number and extent of prehistoric and/or historic cultural properties visible at the shoreline and/or on the surface of each tract. This procedure shall include recordation of each identified property using either

Illinois or Missouri Archaeological Survey forms, and one complete surface collection at each identified site.

5.2 Interim Report. The remainder of this Scope of Work refers just to those cultural properties that are previously reported or are discovered to exist in the six tracts, through records search, or intensive survey. The Contractor will be required to conduct complete surface collection (Paragraph 5.1) and laboratory analyses of such collection(s) (Paragraph 5.6, below) at all cultural properties; however, the Contractor will be required, under this Scope of Work, to conduct evaluative test excavations (Paragraph 5.4, below) only at those on which the Contractor and the Project Manager agree to such work is necessary and feasible. Prior to undertaking evaluative test excavations, the Contractor shall report the results of the literature review survey to the Project Manager (District Archaeologist). This Interim Report shall be in the form of a brief letter, including locational data, sketch map(s) of each cultural property, and U.S.G.S. topographic map(s) showing location and extent of each cultural property. The choice of those cultural properties on which evaluative test excavations are to be conducted, and the amount of excavation to be done, will be made in consultation with the Project Manager (District Archaeologist), at the time of submission of the Interim Report.

5.3 Evaluative Test Excavations. Test excavations shall provide data sufficient to enable a determination of any tested site's eligibility for listing on the National Register of Historic Places. Test units shall be centered in areas where features have been detected. These units shall be located at the Contractor's discretion. The standard test excavation unit shall be 2 by 2 meters, and at least one test excavation unit per site shall be cleared to a depth of 2 meters below the last evidence of cultural deposition. Where such excavation results in finding no cultural deposition, "last evidence" will be defined as the base of the plow zone. Vertical excavation levels shall coincide with distinctly natural or cultural strata, or where these are absent, shall be arbitrary levels not more than 10 centimeters thick. All artifacts and features encountered shall be mapped, plotted, and photographed in situ. Planview and profile maps of soil strata, features, and artifact distributions shall be completed at the base of each successive excavation level. After they are mapped and photographed, all features shall be completely excavated. Feature fill shall be retained, and a sample of fill from each feature shall be taken for flotation. All artifacts shall be recovered.

5.4 Preliminary Report. After completing the evaluative tests excavations, the Contractor shall report their results to the District Archaeologist. This report shall be in the form of a brief letter, and shall include a discussion of each site's apparent eligibility for listing on the National Register.

5.5 Lab Procedures. Artifacts collected during survey, and evaluative test excavation activities shall be cleaned, permanently labeled and catalogued according to standard lab procedures. These collections shall be analyzed in an attempt to determine each site's temporal affiliation and horizontal surface distribution. All artifacts shall be separated into various material categories, then subdivided into smaller, functional and stylistic categories. These distributions shall be quantitatively assessed in a professional, concise manner. Feature fill samples shall be floated. For

some collections, special studies shall be required, for example:

a. Lithic analysis - the descriptive analysis shall include a discussion of morphological, functional, and stylistic attributes and, where possible, the identification of raw material. Analysis shall focus on determining intrasite and local relationships;

b. Ceramic analysis - the descriptive analysis shall include study of morphological and stylistic attributes, and shall be intended to identify intrasite and local relationships;

c. Floral analysis - a paleobotanist shall be consulted to analyze any floral remains collected or recovered through flotation;

d. Faunal analysis - a paleo-zoologist, or zooarchaeologist, shall be consulted to analyze any faunal remains collected or recovered by flotation;

e. Analysis of human skeletal remains - a physical anthropologist shall be consulted for the analysis of all human remains. The analysis shall include, at the minimum and to the extent possible, identification of age, sex, and observable pathologies. If burials are encountered, their temporal and spatial relationships shall be described and explained.

5.6 Curation of Material. The final report shall contain a statement indicating the exact location of all materials and records resulting from this contract work. This statement shall include at a minimum, the name and address of the curatorial building, the storage room number, and if possible, the rack, shelf, or cabinet number where this material is stored. Containers in which feature fill and/or artifacts are stored shall be clearly labeled "Property of U.S. Government, St. Louis District, Corps of Engineers."

5.7 Documentation of National Register Evaluation. For all cultural properties tested, an assessment shall be made of their eligibility for listing on the National Register of Historic Places. The assessment shall be made by the Contractor according to the Criteria for Evaluation (Paragraph 3) relative to the information obtained during survey, shovel testing, and evaluative test excavation. Statements of eligibility or ineligibility shall be as complete and explicit as possible. They shall relate each property to a broad historical, architectural, archaeological, or cultural context, and shall utilize cultural resource data previously collected at and near each tract surveyed to the maximum extent necessary. Where it is the Contractor's opinion that a particular property is eligible for listing on the National Register, the Contractor shall structure the description of such property according to the Guidelines for Requesting Determinations of Eligibility (see Paragraph 3), and shall address all subparts of those Guidelines in complete detail. Where it is the Contractor's opinion that a particular property is not eligible for listing on the National Register, it shall nevertheless be the Contractor's responsibility to document completely the results of survey and evaluate test excavation, to analyze and report the collected materials, and to provide a complete and detailed explanation of the finding that such property is ineligible. All statements of eligibility shall be reviewed by the St. Louis District (see Paragraph 15.7), by the appropriate State Historic Preservation Office, and, if appropriate, by the Keeper of the National Register. The Contractor shall be required to provide any revisions, expansions, or clarifications that any of these agencies may deem necessary.

5.8 Project Effect. Besides applying the National Register Criteria to each cultural property, the Contractor shall provide an assessment of project effect upon all cultural properties identified during intensive survey (Paragraph 5.1, above). For this requirement, "project" means either the emplacement of revetment or other bank stabilizing facility at the shoreline, to the limits shown on the orthophotos included among government-furnished information. The Contractor's assessment of project effect shall refer specifically to the Criteria of Effect (36CFR800.8) and Criteria of Adverse Effect (36CFR800.9) established by the Advisory Council on Historic Preservation.

5.9 Recommendations for Effect Mitigation. For all cultural properties which, according to the effect assessment (Paragraph 5.9), shall be affected by the project, the Contractor shall recommend whether or not further work should be undertaken with respect to a particular threatened resource, and an estimate shall be made as to how much time would be required to complete mitigation. Where no further work is recommended, that shall be stated, along with the reasons for arriving at this conclusion. Similarly, where further work is recommended, it shall not be adequate to write simply that mitigation is necessary. Rather, these recommendations shall be supported with statements about what information would be expected to result from further investigation and why this information would be significant in expanding the knowledge of the area's history or prehistory. In other words, mitigation recommendations shall be justified, and these justifications shall be applied to both positive and negative evaluations. These recommendations, along with the resource descriptions and evaluations, and the effect assessments, may form the basis of a Case Report to the Advisory Council on Historic Preservation.

5.10 Documentation. The Contractor's duties, responsibilities, and performance, as required under this Scope of Work, shall be documented by means of conferences, progress reports, a draft report, and a final report, all as set forth below (Paragraphs 6 through 9).

5.11 Interim Report. This item shall be submitted within 5 calendar days after completion of the intensive survey. Within 5 calendar days after the Project Manager receives the interim report, an agreement will be made between the Contractor and the Project Manager regarding what further work, if any, is to be conducted at this point. If no further work is considered necessary, then fieldwork will be considered concluded at this point.

5.12 Evaluative Test Excavations. If any work under this item is determined necessary, then a schedule and budget will be established that will be consistent with the level of work required.

5.13 Preliminary Report. If any evaluative test excavations are determined necessary, the Contractor shall submit the preliminary report (Paragraph 5.5) within 5 calendar days after the completion of evaluative test excavations. Otherwise, the requirements for a preliminary report will be exempted.

5.14 Laboratory Analysis and Preparation of Draft Report. A schedule for these two items will be established consistent with any and all required evaluative test excavations. However, if fieldwork is concluded as per Paragraph 15.3, the Contractor shall submit the draft report within 20

calendar days after the conclusion of fieldwork.

5.15 Final Report. If fieldwork is concluded as per Paragraph 15.3, the Final Report shall be submitted to the Project Manager 92 calendar days after receipt of the Delivery Order. The Project Manager and (if necessary) the SHPO will review the draft report and submit comments to the Contractor within 35 calendar days. In such a case, the Contractor shall submit the final report within 20 calendar days after receiving these comments. However, if any evaluative test excavations are determined necessary, a schedule for the Project Manager's review of the draft, and for completion of the final report, will be established and the agreed-upon schedule will be consistent with the level of evaluative test excavations required, and with the extent to which the Project Manager feels it necessary to consult the SHPO, the Keeper of the National Register of Historic Places, and the Advisory Council on Historic Preservation.

5.16 Extensions. At times, adverse weather, high water, or other conditions may make continuation of work undesirable in the opinion of the Project Manager. When all work is suspended during such times and because of such conditions, the Contracting Officer will extend the time fixed for completion of delivery by a period of time equal to one calendar day for each calendar day of delivery.

6. CONFERENCES. Conferences shall be held 3 times during the period of this delivery order. The initial conference shall be a post-award meeting at which the Contractor's principal investigator and field supervisor, and the Project Manager (District Archaeologist), shall coordinate plans for the field operation and performance of the Scope of Work. The second conference shall be attended by the same personnel, shall be held during the fieldwork period, and shall address the Contractor's progress and shall permit any necessary discussion regarding revisions in schedule and/or methodology. The third conference shall take place during the period of report preparation. Its topic shall be the same as the previous two.

7. MONTHLY PROGRESS REPORTS. The Contractor shall be required to submit monthly progress reports containing accurate accounts showing the percentage of funds expended, and the percentage of completion of all the tasks identified in Section 5. The progress reports shall be submitted not later than the fifth working day of each month, and shall report progress of the preceeding calendar month.

8. DRAFT REPORT. The Contractor shall submit a draft report which shall be an accurate representation of the final report. The draft (and therefore the final report) shall report the results of intensive survey, and any evaluative test excavation(s) undertaken, and shall also report the results of laboratory analysis. The draft (and the final) report shall include photographs and/or graphics which shall accurately show the locations of all areas surveyed, and the locations of any cultural properties discovered by either method; which shall show details of features, profiles, artifacts, or any other cultural evidence. The draft report shall be typed and double spaced. All pages shall be numbered. Photographs, plates, drawings, and other graphics shall appear in the same quality, size, format, and location in the draft report as they shall in the final report.

9. FINAL REPORT. The final report shall incorporate review comments made on the draft report and submitted to the Contractor by the Project Manager. The final report shall be compiled and reproduced to the following specifications:

a. Completed site forms including official state site no's shall be submitted for each site identified during survey, records search, and/or shovel testing activities. U.T.M. coordinates and legal locations of each site shall be reported on the site forms, but not elsewhere in the report. The completed site forms shall be included as an appendix to the original copy of the final report, but shall not be included in the reproduced copies. The appendix shall also include U.S.G.S. topographic maps (1:24,000 scale) and government-furnished project maps (see Paragraph 3), all of which shall show the exact location and extent of each identified cultural property. These maps shall not appear elsewhere in the report.

b. An abstract suitable for publication in an abstract journal shall be prepared, and shall be included at the front of each copy of the final report. The abstract shall consist of a brief (not to exceed one typewritten, single-spaced page) summary useful for informing the technically oriented professional public of what the author considers to be the results and contributions of the investigation.

c. The final report shall be typed and single-spaced.

d. The title page shall be organized in a manner consistent with the St. Louis District Title Page Format (see Paragraph 3).

e. While the St. Louis District is reviewing the Contractor's draft report, the St. Louis District will prepare report covers for the final report and will forward these to the Contractor with draft comments. The Contractor shall be responsible for binding the final report in these covers, using Plastic Spiral Binding.

f. High quality photographs shall be provided which show details of field conditions, features, profiles, artifacts (especially diagnostic or functionally significant artifacts), or other evidence of past cultural activity. For the purposes of reproduction, these shall be black and white half tone prints.

g. A photographic log of annotated 35mm slides, showing each phase of lab and fieldwork in progress, shall be included with Final Report original.

h. A full set of reproducible drawings and maps (but note the exception stipulated in Paragraph 9a) shall be included with the final report original and reproduced in its copies.

i. All drafting shall be accomplished in ink on stable-base drafting film. Drafting ink shall be compatible with stable-base film.

j. Either mechanical or freehand lettering may be used but shall be in accordance with good drafting practice. In no case shall lettering height be less than 1/8 inch. Freehand lettering will only be acceptable for recording data on base maps.

k. Pencil shading on finished drawings will not be accepted. Shading shall be accomplished with hatching or preprinted "stick-on" screens. Lettering shall not be obscured with hatching or screening. Hatching on the reverse side of the drawing is preferred.

10. PROTECTION OF NATURAL AND HISTORIC FEATURES. The Contractor shall be responsible for all damages to persons and property which occur in connection with the work and services under this contract, without recourse against the Government. The Contractor shall provide maximum protection, take every reasonable means, and exercise care to prevent damage to existing historic structures, roads, utilities, and either public or private facilities. Special attention shall be given the historic structures and natural and landscape features of the area, and special care shall be taken to protect these elements in their surroundings. The Contractor shall provide suitable protection for vegetation and facilities adjacent to work areas.

11. PROPERTY DAMAGE. The Contractor shall restore to the satisfaction of the Contracting Officer at no additional cost to the Government any damage to any Government or private property.

12. PUBLICITY. The Contractor shall not release any material for publicity without the prior written approval of the Contracting Officer. This provision shall not be construed so as to restrict in any way the Contractor's right to publish in scholarly or academic journals. Students and other archaeologists are likewise free to use information developed under this contract in theses and dissertations or in publications in scholarly or academic journals.

13. INSPECTION AND COORDINATION. The Contracting Officer, or his authorized representative, may at all reasonable times inspect or otherwise evaluate the work being performed hereunder and the premises on which it is being performed. If any inspection or evaluation is made by the Government on the premises of the Contractor or any subcontractor, the Contractor shall provide and shall require his subcontractors to provide all reasonable facilities and assistance for the safety and convenience of the Government representatives. All inspections and evaluations shall be performed in such a manner as will not unduly delay the work. Close coordination shall be maintained between the Contractor's principal investigator and the Contracting Officer's representative to insure that the Government's best interest is served.

14. INVESTIGATION OF FIELD CONDITIONS. Representatives of the Contractor are urged to visit the areas where work is to be performed and by their own investigation satisfy themselves as to the existing conditions affecting the work to be done. Any prospective Contractors (including subcontractors) who choose not to visit the area will nevertheless be charged with knowledge of conditions which a reasonable inspection would have disclosed. The Contractor shall assume all responsibility for deductions and conclusions as to the difficulties in performing the work under this contract.

15. SCHEDULE OF WORK.

15.1 Post-Award Conference. After a final budget has been agreed upon, the Contractor (including subcontractors) shall meet with the Project Manager and other Government representative(s) as appropriate. This conference will

take place within 7 calendar days after the final budget has been agreed upon and the delivery order issued.

15.2 Intensive Survey. This phase of the fieldwork shall commence not later than 7 calendar days after the post-award conference. All field work related to this item shall be completed within 10 calendar days after commencement.

In all, 8 distinct segments of the shoreline will be inspected. Survey of these areas shall be prioritized as specified below:

River Mile	Location Above Mouth of Ohio River	Linear Feet
1	220.0(L) - 219.7(L)	1600 ~~1900~~ (Island)
2	261.8(L)	300 (Island)
3	257.7(R)	300 (Island)
4	257.4(R) - 257.0(R)	2100 (Island)
5	292.1(R) - 291.1(R)	5280 ~~2100~~ (Island)
6	285.2(R) - 284.4(R)	4200 ~~300~~ (Island)
7	54.8(L) - 53.5(L)	6800 ~~4800~~ (Shoreline)
8	48.3(R) - 47.9(R)	2100 ~~1600~~ (Shoreline)

15.3 Interim Report. This item shall be submitted within 5 calendar days after completion of the intensive survey. Within 5 calendar days after the Project Manager receives the interim report, an agreement will be made between the Contractor and the Project Manager regarding what further work, if any, is to be conducted at this point. If no further work is considered necessary, then fieldwork will be considered concluded at this point.

15.4 Evaluative Test Excavations. If any work under this item is determined necessary, then a schedule will be established that will be consistent with the level of work required.

15.5 Preliminary Report. If any evaluative test excavations are determined necessary, the Contractor shall submit the preliminary report (Paragraph 5.5) within 5 calendar days after the completion of evaluative test excavations. Otherwise, the requirements for a preliminary report will be exempted.

15.6 Laboratory Analysis and Preparation of Draft Report. A schedule for these two items will be established consistent with any and all required evaluative test excavations. However, if fieldwork is concluded as per Paragraph 15.3, the Contractor shall submit the draft report within 20 calendar days after the conclusion of fieldwork.

15.7 Final Report. If fieldwork is concluded as per Paragraph 15.3, the Final Report shall be submitted to the Project Manager 92 calendar days after receipt of the Delivery Order. The Project Manager and (if necessary) the SHPO will review the draft report and submit comments to the Contractor within 35 calendar days. In such a case, the Contractor shall submit the final report within 20 calendar days after receiving these comments. However, if any evaluative test excavations are determined necessary, a schedule for the Project Manager's review of the draft, and for completion of the final report, will be established and the agreed-upon schedule will be consistent with the level of evaluative test excavations required, and with the extent to which the Project Manager feels it necessary to consult the SHPO, the Keeper of the

National Register of Historic Places, and the Advisory Council on Historic Preservation.

16. EXTENSIONS. At times, adverse weather, high water, or other conditions ray make continuation of work undesirable in the opinion of the Project Manager. When all work is suspended during such times and because of such conditons, the Contracting Officer will extend the time fixed for completion of delivery by a period of time equal to one calendar day for each calendar day of delivery.

APPENDIX B

Correspondence

Cultural Resources Management Services

American Resources Group, Ltd.

127 North Washington
Carbondale, IL 62901
(618) 529-2741

July 17, 1985

Mr. Eric N. van Hartesveldt
Coordinator
Archaeological Survey of Missouri
15 Switzler Hall
Columbia, MO 65211

Re: Mississippi River Island Survey, Contract #DACW43-84-D-0085, D.O. #5, St. Louis District, U.S. Army Corps of Engineers

Dear Mr. van Hartesveldt:

American Resources Group, Ltd. is performing the above referenced cultural resources survey. Would you please inform us of any previously recorded cultural resources in the following areas:

Item #1 T49N-R5E, Sec. 33 all on Mason Island as marked

Item #'s 3 & 4 T51N-R3E, Secs. 6 and 7 and T51N-R2E, Sec. 1 all on the shoreline of Westport Island as marked

Item #5 T55N-R2W, Sec. 16 all on Blackbird Island as marked

Item #6 T54N-R2W, Secs. 1 and 12 all on Blackburn Island as marked

Item #8 T30N-R14E, Sec. 21 all on Mississippi River shoreline as marked

Please find enclosed the five relevant U.S.G.S. 7.5' topographic map segments showing the specific areas to search.

If you have questions, please call me at 618-529-2741.

Sincerely,

Ron Pulcher
Staff Archaeologist

UNIVERSITY OF MISSOURI-COLUMBIA

College of Arts and Science

Department of Anthropology
American Archaeology
Archaeological Survey of Missouri

15 Switzler Hall
Columbia, Missouri 65211
Telephone (314) 882-3544

15 August 1985

Mr. Ron Pulcher, Staff Archaeologist
American Resources Group, Ltd.
127 North Washington
Carbondale, IL 62901

Dear Ron:

This will acknowledge receipt of your recent request for information from the Archaeological Survey of Missouri files. We have noted the specific areas for which you wish to know about resources recorded in the ASM data center (Cape Girardeau county: Sec. 21 T30N R14E; Lincoln county: Sec. 1 T51N R 2E and Secs. 6, 7 T51N R 3E; Pike county Secs. 1, 12 T54N R 2W and Sec. 16 T55N R 2W; St. Charles county: Sec. 33 T49N R 5E), have searched the computer files to determine if any resources are recorded for the coordinates you submitted and have examined the site records processed as of the date of this letter. At this time, we have no sites reported for the specified locations.

There is no evidence that the available information is either complete or exhaustive of what may be available through an in-the-field search, and some resources may be present. If you find sites, please send us the information for numbering and inclusion in the Survey files.

If we can be of any further help to you, please don't hesitate to call on us.

Sincerely,

Eric N. van Hartesveldt
Coordinator
Archaeological Survey of Missouri

Cultural Resources Management Services

American Resources Group, Ltd.

127 North Washington
Carbondale, IL 62901
(618) 529-2741

July 17, 1985

Ms. Barbara Kincaid
Illinois Department of Conservation
405 E. Washington St.
Springfield, Illinois 62706

Re: Mississippi River Island Survey, Contract #DACW43-84-D-0085, D.O. #5, St. Louis District, U.S. Army Corps of Engineers

Dear Ms. Kincaid:

American Resources Group, Ltd. is performing the above referenced cultural resources survey for the St. Louis District, U.S. Army Corps of Engineers. Would you please inform us of any previously recorded cultural resources in the following areas:

Item #1 T6N-R12W, Secs. 16 and 17 on Island No. 525

Item #2 T9S-R3W, Sec. 16 on island as marked

Item #7 T14S-R3W, Sec. 6 and
T14S-R4W, Secs. 1 and 12 as marked on river shoreline

Enclosed are the three appropriate U.S.G.S. 7.5' topographic maps showing the specific locations to search.

If you have any questions, please contact me at 618-529-2741.

Sincerely,

Ron Pulcher
Staff Archaeologist

RP:aes
Enclosure

HISTORIC PRESERVATION AGENCY
OLD STATE CAPITOL BUILDING
SPRINGFIELD, ILLINOIS 62701
217/785-4512

August 28, 1985

Mr. Ron Pulcher
American Resources Group, Ltd.
127 North Washington
Carbondale, IL 62901

Re: Cultural Resources Survey, Four Drill Hole Sites,
Rend Lake Area, Franklin County, Illinois;
and
Mississippi River Island Survey, Contract #DACW43-84-D-0085,
D.O. #5, St. Louis District, U.S. Army Corps of Engineers.

Dear Mr. Pulcher:

A check of our records did not disclose any previously reported cultural resources for the areas encompassed by the above two projects.

Sincerely,

James R. Yingst
Staff Archaeologist

JRY:lc

Cultural Resources Management Services

American Resources Group, Ltd.

127 North Washington
Carbondale, IL 62901
(618) 529-2741

July 17, 1985

Mr. Michael S. Weichman
Chief, Review and Compliance
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65101

Re: Mississippi River Island Survey, Contract #DACW43-84-D-0085,
D.O. #5, St. Louis District, U.S. Army Corps of Engineers

Dear Mr. Weichman:

This is to introduce Mr. Mark Phillips of our staff. Please allow him to check for any previously recorded cultural resources as per the maps he will be carrying.

I have made arrangements with Ms. Judith Deal of your office for his visit on Friday, July 19, 1985.

If you have any questions, please call me at 618-529-2741.

Sincerely,

Ron Pulcher

Ron Pulcher
Staff Archaeologist

RP:aes