IN THE

Supreme Court of the United States

October Term, 1977

No. 77, Original

THE STATE OF TENNESSEE,

Plaintiff,

vs.

THE STATE OF ARKANSAS,

Defendant.

REPORT OF SPECIAL MASTER

EARL R. LARSON
Senior U.S. District Judge
Minneapolis, Minnesota
Special Master

1981—Northwest Brief Printing Co., 316 Chicago Avenue, Minneapolis 55415—338-5078

TABLE OF CONTENTS

Introductory Statement of the Case

This original action involves a dispute between the States of Tennessee and Arkansas over the location of a small portion of their common boundary on the Mississippi River. The area in question is about 30 to 40 miles upstream from Memphis, Tennessee, near the towns of Osceola and Luxora, Arkansas, and Golddust, Tennessee.

The uncertain boundary is the result of a shift in the Mississippi River's course in this area sometime in the first quarter of this century. The passage of time since this shift creates problems in accurately placing the boundary. Determination of the boundary is further complicated by the variable presence of several islands in the contested boundary locale.

Tennessee filed the complaint against Arkansas in 1978. The essence of Tennessee's position is that the Mississippi River's shift was avulsive. Arkansas answered, denying that the change in course was avulsive, and raising the affirmative defense of acquiescence.

This Special Master was appointed to receive evidence and to formulate a recommendation for the Court. Trial was held from January 22-24, 1980, and from April 21-23, 1980. The Special Master has carefully considered the evidence and the briefs submitted by each side, and makes the following Findings of Fact, Conclusions of Law and Recommendation.

IN THE

Supreme Court of the United States

October Term, 1977

No. 77, Original

THE STATE OF TENNESSEE,

Plaintiff,

vs.

THE STATE OF ARKANSAS,

Defendant.

REPORT OF SPECIAL MASTER

FINDINGS OF FACT

Preface

The Mississippi River is a meandering river. The main channel of the river lies in a broad alluvial valley. Through various natural processes the position of the main channel shifts frequently within this valley. As the river developed into an important avenue of navigation and commerce, stabilization of the main channel became a major concern. The United States government, largely through the Army Corps of Engineers, has taken numerous steps to limit the wandering of the main channel. In attempting to discern the main channel's location (usually also the main course of navigation) at any given time, consideration must be given to the effects of both natural forces and human interventions.

Maps do not do justice to the true scale of the river. The larger island areas are miles long. The river is extremely wide. During high water or floods the river can erase or build a very large land mass in a matter of days. The river's water level is very changeable. At low water many bars may protrude from the river's bed, islands may seem to increase greatly in size because of exposed adjoining sand and mud flats, and chutes where water other times may flow are now completely dry and passable by foot. At higher water stages the bars are no longer visible, only the more elevated portions of islands remain above the water surface and water flows in the chutes, dividing what formerly seemed to be a single piece of land. At flood stages, the river may completely submerge all land masses within its banks.

An introductory survey will help establish familiarity with the geography and nomenclature of the local river area. The area of the Mississippi River where the disputed boundary lies is known as Plum Point Reach. It has historically been one of the most troublesome sections of the river; noted for snags, sandbars and inadequate depth in the channels. The river's extreme width here is a factor in the various navigation difficulties. The Mississippi River Commission is a sub-body of the Corps of Engineers and since about 1880 it has been responsible for maintaining good navigation conditions and preventing floods on the Mississippi. Because of the numerous problems in Plum Point Reach, it was an early and constant target for improvement works. Dredging, dikes, dams and revetments were used in an attempt to tame this stretch of the river.

Plum Point Reach begins just below Ashport Bend and

Island No. 26 or Forked Deer Island. At the upstream end of Plum Point Reach the river made a sharp turn to the right into Fletcher's Bend. Luxora, Arkansas, was located near the center of this bend on the right descending bank. Further down on the right descending bank is Osceola, Arkansas. At one time several bars were located in the river in front of Osceola. Still lower down near the Arkansas shore was Bullerton Towhead.

Several island masses have been situated in the Plum Point Reach. They have been given a plethora of names. The two largest island areas are Elmot Bar and Island 30. These names were used by the Mississippi River Commission and are commonly found on maps of the Reach. Originally these land masses lay to the left of the main channel, close to the left descending bank in Tennessee. Elmot Bar is the island nearest the upper end of Plum Point Reach. Island 30 was just below and to the descending left of Elmot Bar, usually separated from it by only a narrow stretch of water.

Golddust, Tennessee is located at the head of Plum Point Reach along the left descending bank. Below Golddust is the Keyes Point area. The channel between the Tennessee shore and the Elmot Bar and Island 30 masses was known as the Golddust Chute or the Island 30 Chute. During the relevant time period, several land masses have been detached from the Keyes Point area by human or natural river actions. The most prominent of these are Kate Aubrey Towhead and the two Keyes Point Cutoffs. These masses have generally migrated across the river and consolidated with the Elmot Bar-Island 30 land area.

A. The Movement of the River's Main Channel

1. In the early 1880's when the Mississippi River Commission first began its attempt to improve the Plum Point Reach, the main channel of the river was toward the right descending bank, against the Arkansas shore. To the left of the main channel, close to the Tennessee shore, lay two large island areas. Elmot Bar and Island 30. The secondary or chute channel between Elmot Bar and Island 30 and the Tennessee bank was fairly sizable. It was referred to as the Golddust Chute. By 1883 the Commission had placed numerous dikes in this chute in an attempt to stem further growth and to keep the main river flow in the Fletcher's Bend channel. These works are an indication that there was already a significant danger that the river would shift its main flow into the chute channel. Further down in the Reach the river is attacking and eroding the Osceola Bars. Several dikes and revetments have been constructed to inhibit further erosion and protect the town of Osceola from the direct attack of the river.

The main track of navigation at this time was in the deepest part of the main channel, or the Fletcher's Bend channel. The navigation lights were placed along the Arkansas shore in Fletcher's Bend. Several landings were located on this right descending bank.

(Testimony of Dr. Charles Kolb, p. 667-671; testimony of Austin Smith, p. 840-862; Tennessee exhibits 43A & B, 44, 45, 46, 71, 72, 73, 75, 76)

2. Looking at the time period from 1883 to the early 1900's, there does not appear to have been much change in the location of the important geophysical features. Al-

though there continues to be a threatened switch of the river's main channel, the Commission's channel contraction works have been generally successful. These works included a large stone dam built in 1893-4 across the Golddust Chute from Elmot Bar to the Tennessee shore, and dikes built in 1889-90 in the Elmot Bar-Island 30 and Island 30-Tennessee mainland chutes.

There has been some change in the shape of both Elmot Bar and Island 30 through the processes of erosion and deposition of various materials. The progenitor of Kate Aubrey Towhead appears to be forming just off the left descending bank below Golddust.

There is continued erosive attack on the right descending bank and more revetments have been placed to protect the towns and levees along the Arkansas shore.

The main track of navigation continues to be in the Fletcher's Bend channel.

(Testimony of Dr. Charles Kolb, p. 675-684; testimony of Austin Smith, p. 877-879; Tennessee exhibits 47-50, 77A & B)

3. Looking at the time period up to about 1912, we see that the Commission's improvement works began to deteriorate and the stability of the main channel ended. The dikes which had been placed at the head of Golddust Chute were flanked by erosion on the Tennessee bank. Erosion at the head of Elmot Bar also made it easier for the river's flow to be directed through the chute channel. The rock dam in the chute was breached and a large portion of it was washed out, as were a number of the dikes.

The revetments on the right descending bank in Fletcher's Bend prevented further migration of the river in

that direction. The presence of old clay channel plugs along the Arkansas shore also slowed erosive processes in the bend channel. The inability of the river to move into the Arkansas shore increased the likelihood of a switch into the chute channel. In addition, incipient changes in the river's flow around Forked Deer Island affected the hydrodynamics of the downstream flow into Plum Point Reach. More water was being directed into the Golddust Chute channel.

The cumulative effect of these factors was to cause the current in the chute channel to at times be greater and stronger than that in Fletcher's Bend. For example, the 1901 Mississippi River Commisson Report states that the chute channel became the main channel in 1900, most of the water apparently flowing back to the Arkansas bank through the Elmot Bar-Island 30 chute. The 1901 Report goes on to state that even though the larger water flow was in the Golddust Chute, navigators continued to prefer the bendway channel because it had the better course and was safer. The navigation lights remained along the right descending bank.

For the next few years large volumes of water went through the chute channel, although vessels still traveled through the Fletcher's Bend channel, which always contained adequate water flow and usually held the main current. The Commission's ongoing works program prevented a complete switch of the main channel, but could not keep Golddust Chute from continuing to widen. The Island 30-Elmot Bar and Island 30-Tennessee shore chutes were also enlarging. The greater water flow through these chutes heightened the erosive attack on the Oseola Bars and Bullerton Towhead. Although the Osceola Bars

were eradicated, the main shoreline in front of Osceola was stabilized thrugh the use of revetments.

(Testimony of Dr. Charles Kolb, p. 684-689: testimony of Austin Smth, p. 880-891; Tennessee exhibits 51A & B, 52, 53, 78, 79, 80, 81 coll., 82 coll.)

4. 1912 through 1919 were crucial years. Significant floods occurred in this interval and several changes were recorded in the physical features of the area. During this time the river shifted almost entirely out of Fletcher's Bend and that channel began to attenuate and fill with sediment.

The river's flow had shifted around Forked Deer Island and increasing water was fed into the chute channel at Plum Point Reach. The 1912 Mississippi River Commission Report states that by that time the low water flow was continually stronger in the Golddust and Island 30 chute channel than in Fletcher's Bend.

During flood flows the maximum surface velocity of the river in a bend tends to shift from its normal location on the outside of the bend, to the inside. In Plum Point Reach, this meant that during the frequent floods at this time the strongest water went through the chute channel. Each successive flood would further enlarge this channel. The final complete switch of the river's main channel to the Golddust Chute occurred during a flood in 1916-17.

The entire upstream area of Plum Point Reach migrated southward in this time period. The head of Elmot Bar was heavily eroded and there were large accretions to the opposing bank in upper Fletcher's Bend. There was much caving of the Tennessee shore near Golddust, so that the chute channel actually began further downstream near Keyes Point.

Although the head of Elmot Bar was eroding, it grew on the downstream end and toward the Arkansas shore. Island 30 also lengthened downstream. These two islands retained a clear identity throughout this interval. On maps they appear to have migrated across the river. This appearance was caused by the widening of the chute channel and the narrowing and sedimentation of the old main channel.

Although more water was flowing in the chute channel, navigation stayed in the bend channel as long as there was sufficient water. The light lists indicate that the lights remained in the Fletcher's Bend channel until 1916. The 1917 light list does not show any lights in this old channel. Beginning in 1915 lights were placed in the chute channel area. In 1915-16 both channels were probably used for navigation, but by 1917 the main track of navigation was clearly in the chute channel and it remained there.

(Testimony of Dr. Charles Kolb, p. 689-699; testimony of Austin Smith, p. 891-896; Tennessee exhibits 54, 55, 56, 81 coll., 82 coll.)

5. In the years after the channel switch, the upper part of the old Fletcher's Bend channel began to fill rather rapidly with sediment. Accretions to bars just above the entrance to this channel narrowed it significantly, as did westerly accretions to Elmot Bar. In 1931 a dike was placed across the lower end of this old channel where it joined Elmot Bar. By 1929-30 this channel had filled to the point that it would not carry low water flows, and had effectively died.

The accretions to the bars just north of the mouth of the old main channel eventually extended down far

enough to merge with Elmot Bar. These bars and their accretions are undisputed Arkansas territory. This accounts for that portion of the boundary which cuts across the upper end of Elmot Bar. Kate Aubrey Towhead migrated across the chute channel in this time period and became adjoined to Elmot Bar.

(Testimony of Dr. Charles Kolb, p. 699-705; testimony of Austin Smith, p. 897-907; Tennessee exhibits 57, 58, 59, 81 coll., 82 coll., 83, 84, 85A, B & C, 86)

6. The lower part of the old Fletcher's Bend channel, below the foot of Elmot Bar, continued to carry good water flow into the 1920's and was even used occasionally for navigation. A strong current between Elmot Bar and Island 30 was partly responsible for keeping the lower portion of the old bendway channel from filling.

Island 30 was eroded at its head by the current in the chute between it and Elmot Bar, but the Island continued to enlarge through accretions to its western and southern edges. The head of Island 30 was reveted in about 1931-32 to prevent further erosion and to limit flow in the lower old channel.

A point bar began building at Keyes Point in the mid-1920's. As this bar continued to grow it became a nuisance to navigation. The Commission dredged through the bar, creating Keyes Point Cutoff No. 1. This piece of land migrated across the river through erosion and accretion and eventually lodged in the lower area of Elmot Bar. A second point bar developed at Keyes Point. This bar was also dredged and resulted in the Keyes Point Cutoff No. 2. This cutoff also migrated across river, eventually merging with the Elmot Bar-Island 30 land mass in about 1940. After these improvements in the chute chan-

nel, the lower portion of the old bendway channel began to attenuate. The channel was heavily filled with sediment by 1948 and by 1963 this entire portion of the channel had died.

Currently the main river channel has migrated westward at the foot of Island 30 and is actually cutting into the Arkansas bank and back up into the area of the old channel. Revetments at the foot of Island 30 and on the Arkansas shore may inhibit any further westward and northerly movement of the main channel into the boundary channel.

(Testimony of Dr. Charles Kolb, p. 706-714; testimony of Austin Smith, p. 907-930, 952-966; Tennessee exhibits 60-68, 87, 88 coll., 89, 90 coll., 91, 92A & B, 93)

In making these findings I have given great weight to the light lists, the maps and the testimony of Dr. Charles Kolb and Mr. Austin Smith, both of whom displayed an excellent grasp of the river's dynamics and history.

B. Acquiesence in a Boundary or Exercise of Sovereignty Over the Disputed Lands

7. With the consent of Congress, Arkansas and Tennessee have arranged to exercise concurrent criminal jurisdiction over the lands lying in the Mississippi River. In practice this usually means that the State the land masses are closest to has taken responsibility for enforcing the laws. In the recent past, therefore, Arkansas has handled law enforcement in the Elmot Bar-Island 30 area. Because there has not been anyone actually residing on the islands for a number of years, there has been little need for the exercise of criminal or civil jurisdiction.

(Testimony of George Ford, p. 12-30; testimony of Terry Hanners, p. 32-50; Tennessee exhibit 1)

8. The highway maps of both states have usually indicated that the boundary line in Plum Point Reach was indefinite or approximate. United States Geographical Survey, tax assessment and other maps show the same thing. These maps generally have a dashed boundary line following the old channel in Fletcher's Bend along the Arkansas shore.

(Testimony of Clarence Harmon, p. 510-528; testimony of Ben Tolar, p. 529-567; Tennessee exhibits 30-39)

9. Both states claim to have taxed the island areas for varying lengths of time. Following the main channel change which brought the islands close to Arkansas, residents of that state obtained "island deeds" or made other claims to some of the Elmot Bar-Island 30 area. Tennessee was able to show some taxation of these areas from a time prior to that in Arkansas, although this taxation became inconsistent as to some of the area after the islands moved away from the Tennessee bank. The varying size of the islands and the multitude of names given them added further confusion to taxation efforts.

(Testimony of James Tompkins, p. 51-164; testimony of Eileen O'Neal, p. 175-188; testimony of Vernice Crain, p. 299-411; testimony of Floyd Starnes, p. 413-428; testimony of Charles Crail, p. 430-508; Arkansas exhibits A, A-1, A-2, A-3; Tennessee exhibits 4, 10, 11, 12 coll., 13 coll., 15, 16, 17-28)

10. References in various works discussing and describing this area either refer to the state ownership of the islands as uncertain or report that although the lands appear to be in Arkansas, they are actually the property of Tennessee.

See, e.g., Bragg, M., Historic Names & Places on the Lower Mississippi River 54-58 (1977); Elliott & Jackson, I & II The Improvement of the Lower Mississippi River 262-272 (1932).

11. Tennessee has not explicitly recognized or knowingly acquiesced in the exercise of sovereignty over the disputed area by Arkansas. When the federal court's ruling in *Smith v. Smith,* No. J-70-C-38 (E.D. Ark.) that the land was located in Arkansas was brought to the attention of Tennessee state officials, they promptly investigated and initiated this proceeding. There is no evidence to clearly establish that Tennessee was previously aware that Arkansas claimed to own the territory or that Tennessee accepted that claim. The case of *Conway v. Shuck,* 157 S.W.2d 777 (Ark. 1942) was a suit between two private parties about the ownership of Keyes Point Cutoff No. 1. The Arkansas Supreme Court stated that its ruling could not be binding on Tennessee, and that the case was not in any way determinative of the boundary location. The lower Arkansas court in this case, which heard the testimony first-hand, ruled that the land originated on the Tennessee side of the River and was Tennessee territory.

In fact, there has never been a clear Arkansas claim to a *boundary* in the middle of the current main channel, or to any other possible boundary. Arkansas highway officials apparently treated the boundary in the river as uncertain. Local Arkansas officials knew through dealings with Ms. Jeanette Spann that she claimed title through Tennessee to some of the island area. Arkansas Game and Fish officials obtained flowage easements from Ms. Spann, knowing she believed the land to be in Tennessee and was paying taxes to Tennessee.

(Testimony of James Tompkins, p. 82-92; testimony of Jeanette Spann, p. 254-260; testimony of Vernice Crain, p. 302-306; Arkansas exhibits B, C, D; Tennessee exhibit 8)

CONCLUSIONS OF LAW

1. The Supreme Court has jurisdiction of this action by virtue of Article III § 2 of the United States Constitution, and 28 U.S.C. § 1251(a).

2. The Supreme Court has previously ruled that the boundary between Arkansas and Tennessee is the thalweg, or middle of the main channel of navigation, of the Mississippi River as it existed at the time of the Treaty of Peace between Britain and the United States in 1783, subject to subsequent river action which might move the location of that thalweg. *Arkansas v. Tennessee,* 397 U.S. 88, 89 (1970); *Arkansas v. Tennessee,* 246 U.S. 158, 169, 177 (1918). This is in accord with the general rule on the location of state boundaries in interstate rivers. *See Mississippi v. Arkansas,* 415 U.S. 289, 290 (1974), *Iowa v. Illinois,* 147 U.S. 1, 7-8 (1893).

The thalweg changes frequently on meandering rivers like the Mississippi. Rules have evolved to establish the boundary when these changes occur. If the thalweg moves as a result of the processes of erosion and accretion, the boundary will move with the thalweg. *Arkansas v. Tennessee,* 246 U.S. 158, 173 (1918); *Missouri v. Nebraska,* 196 U.S. 23, 34-6 (1904). Erosion and accretion are usually gradual changes in which the river's current will eat into and wash away land at one location on the river and deposit sand, mud and other alluvion at another place. While these changes are generally imperceptible, on

large and powerful rivers such as the Mississippi, vast areas of land can be eroded or built up in a matter of days or even hours. *See, e.g., Kansas v. Missouri,* 322 U.S. 213, 221 (1944); *Oklahoma v. Texas,* 260 U.S. 606, 637 (1923); *Ussery v. Anderson-Tully Co.,* 122 F. Supp. 115, 119 (E.D. Ark. 1954).

A second major type of river action is an avulsion. Avulsions are generally rapid shifts of the river from one channel to another. Perhaps the crucial characteristic of an avulsion is that the river's course changes with respect to an identifiable chunk of land. *See Missouri v. Nebraska,* 196 U.S. 23, 35 (1904); *Nebraska v. Iowa,* 143 U.S. 359, 366 (1892); *Uhlhorn v. United States Gypsum Co.,* 366 F.2d 211, 219 (8th Cir. 1966), *cert. denied,* 385 U.S. 1026 (1967). Examples of avulsive actions are neck and chute cutoffs. *See* Tennessee exhibit 42. *Arkansas v. Tennessee,* 397 U.S. 88 (1970), involved a Mississippi River avulsion very similar to the change at issue in this case.

When the main channel moves because of an avulsion, the interstate boundary does not switch to the new navigation channel, but remains in the location of the former thalweg. *Missouri v. Nebraska,* 196 U.S. 23, 35 (1904); *Nebraska v. Iowa,* 143 U.S. 359, 361 (1892). If the old channel still carries some water flow, the boundary might wander as a result of erosion and accretion in that channel, but once the channel becomes stagnant or water flow ceases, the boundary becomes fixed in the middle of this old channel. *Arkansas v. Tennessee,* 397 U.S. 88, 89 (1970); *Oklahoma v. Texas,* 268 U.S. 252, 256 (1925).

Changes in the thalweg may result from or be affected

by human intervention. When this happens, the usual rules are still applied. If a sudden shift in the thalweg is caused by artificial means, it is treated as any other avulsion. *Arkansas v. Tennessee*, 246 U.S. 158, 173 (1918); *Whiteside v. Norton*, 250 F. 5, 12-13 (8th Cir. 1913), *cert. denied*, 232 U.S. 726 (1914); *Anderson-Tully Co. v. Walls*, 266 F. Supp. 804, 808 (N.D. Miss. 1967); *see Bonelli Cattle Co. v. Arizona*, 414 U.S. 313, 327 (1973).

A final rule of relevance here is the "island rule," which states that even if the thalweg migrates slowly from one side of an island to the other, the boundary remains in the original channel. Contrary to the arguments of Arkansas, this is a long-recognized and well-established rule. *Kansas v. Missouri*, 322 U.S. 213, 229 (1944); *Iowa v. Illinois*, 147 U.S. 1, 9 (1893); *Missouri v. Kentucky*, 78 U.S. (11 Wall.) 395, 401 (1870).

The burden of proving the nature of the change in the location of the thalweg falls upon the complainant, Tennessee. *Mississippi v. Arkansas*, 415 U.S. 289, 290 (1974); *Kansas v. Missouri*, 322 U.S. 213, 228 (1944).

The thalweg, and the boundary between Arkansas and Tennessee, was originally close against the Arkansas bank in Fletcher's Bend and lower Plum Point Reach. The progenitors of current Elmot Bar and Island 30 were located on the Tennessee side of the boundary. The river's shift into a new channel between these land masses and the Tennessee shore was an avulsive shift, essentially in the nature of a chute cutoff. The boundary therefore remained in the old main channel and has since become fixed there as shown by Tennessee exhibits 92A and 93. Elmot Bar, Island 30 and various accretions to them are Tennessee land.

Arkansas argues that the change could not be avulsive because it took place over several years. It is true that the area was in a state of flux for a number of years. The actual shift of the river's main channel of navigation is difficult to pin down to a particular moment because it is not totally linked to objective natural processes, but depends also on the whims of human navigators, who are influenced by factors other than just the location of the deepest water channel. If we did look only at the place of deepest and strongest water flow, the change did occur very rapidly, probably in the course of one flood. It is also impossible to ignore the effect of the Commission's works. In the absence of the various dams and dikes in the Golddust Chute. the channel shift would have been quicker and would have occurred much earlier. Just as the artificial causation of an avulsion does not change the operation of the usual rule, so too, the artificial delay of an avulsive change should not be allowed to deprive one state of land that would otherwise remain part of its dominion under the avulsion rule.

The key factor is the thalweg's shift around identifiable land which remained after the channel change. The river did not gradually erode across the islands, eradicating them as it moved. Rather it switched from one channel to a different channel on the other side of this land. Any shift around identifiable land should be viewed as avulsive in nature. *See Uhlhorn v. United States Gypsum Co., supra* at 219; *Commissioners v. United States*, 270 F. 110, 113-14 (8th Cir. 1920), *app. dism'd*, 260 U.S. 753 (1922); *Davis v. Anderson-Tully Co.*, 252 F. 681, 685 (8th Cir. 1918). This reasoning is congruent with the rationale for the avulsion exception to the thalweg boun-

dary rule, which is based on notions of stability of ownership. *Bonelli Cattle Co. v. Arizona,* 414 U.S. 313, 327 (1973); *Arkansas v. Tennessee,* 310 U.S. 563, 570-71 (1940).

The island rule has a similar basis and its application yields the same result here, even if my finding of avulsive action is incorrect. The maps and testimony presented by Tennessee overwhelmingly proved that Island 30 and Elmot Bar had a continuous identity. Obviously they are not in the exact same geodetic position they were thirty, fifty or eighty years ago. An aerial time-lapse movie, however, would show that they have been the identifiable, everpresent center of accretive activity which has moved in a westerly and southerly direction, filling in the old channel. That these islands may have been submerged during floods is irrelevant. All islands in the river are submerged at flood stage. These islands were not washed away and always reappeared after the floods in essentially the same position.

The islands were originally located on the Tennessee side of the thalweg. The islands and their accretions continue to belong to Tennessee following the shift of the thalweg around them.

3. Arkansas raised the affirmative defense of prescription and acquiesence, which it has the burden of proving. Arkansas attempted to meet this burden by showing that it had exercised law enforcement powers in the area, that it had assessed and taxed the land for a long period of time, and that Tennessee was aware of Arkansas' claim of sovereignty but did nothing to contest that claim.

I would first note that Arkansas has never claimed a

particular *boundary*. This case is distinguishable from cases such as *California v. Nevada,* 100 S. Ct. 2064 (1980), or *Virginia v. Tennessee*, 148 U.S. 503 (1893). Arkansas' own maps show a boundary line in the old Fletcher's Bend channel, although that boundary is usually labeled "indeterminate" or "indefinite." *See* Tennessee exhibit 38. This could be interpreted to mean that Arkansas officials recognized that the boundary remained in Fletcher's Bend, although it was indefinite because it might wander slightly until the channel died. The best that can be said for Arkansas is that both states recognized that the boundary in Plum Point Reach was unsettled. Tennessee's maps have consistently showed the boundary to be along the old channel. In view of the history of litigation between these states over their boundary in the Mississippi River, neither would be likely to acquiesce in the establishment of a certain boundary by the other. *See, e.g., New Jersey v. Delaware*, 291 U.S. 361, 377 (1934).

Although Arkansas has a better argument in regard to its claimed exercise of dominion over the island masses, here too it failed to prove prescription and acquiesence. These doctrines demand a showing of open, long-continued and uninterrupted possession of territory by one state, coupled with inaction by the other state, even though it is aware of the adverse claim. *Michigan v. Wisconsin*, 270 U.S. 295, 308 (1926); *Louisiana v. Mississippi*, 202 U.S. 1, 53 (1906). Arkansas has shown neither sufficient acts of jurisdiction, nor acquiesence by Tennessee.

The disputed area has no current residents and only infrequently has anyone actually lived on these island masses. The only activity undertaken with any regularity on

this land has been farming. Therefore, neither state has had much reason for providing any services or exercising any jurisdiction in the area, nor was there any reason for the states to pay much attention to what was happening on the islands.

Most of the usual indicia of prescription and acquiesence simply do not exist. *See Arkansas v. Tennessee*, 310 U.S. 563, 567-68 (1940).

Because there are no residents on the land, the effects of a decision about which state the land is in will be negligible. It will not change who maintains the roads, or runs the schools or where people vote, because none of these activities exist. It may affect ownership of the land and the incidents thereto, but in this regard there is a potential effect on citizens of both states, because there are putative title-holders in each state.

The acts of prescription asserted by Arkansas are minimal. The exercise of law enforcement jurisdiction cannot be weighed as a factor because the states have agreed to concurrent jurisdiction. It would be illogical to then suggest that the fact that only one state has exercised that jurisdiction gives it the land. Both states have assessed and taxed the land. Tennessee's taxing activity dates back further than Arkansas'. Arkansas' taxing authorities have attempted to consistently tax the areas, but they have also been aware of the fact that at least one landowner paid taxes in Tennessee. When the federal court lawsuit in 1970 came to Tennessee's attention, the state acted promptly to secure a determination of the boundary. The Arkansas Supreme Court in *Conway v. Shuck* did not even pretend to locate the boundary or determinine state ownership of the land. There were ac-

tions by Arkansas officials following this decision which are not consistent with the argument that the state claimed this land. In short, I do not find that there have been adequate acts of dominion by Arkansas, nor do I find that Tennessee had given up any claim to the land and acquiesced in Arkansas' sovereignty.

This land was originally in Tennessee. It is a solemn and momentous act to decide that land formerly in one state now forms part of the dominion of another. The avulsion and prescription rules share a common purpose —guaranteeing stability of ownership, whether that of individuals or of states. The prescription rule supplants the rule of avulsion only where it would yield a more equitable result and do a better job of advancing the underlying policies of the various boundary rules. I do not believe it should be applied here.

RECOMMENDATIONS

Your Special Master recommends that:

1. The boundary between the States of Tennessee and Arkansas in the disputed area be established as shown on Tennessee exhibit 92A, included in this Report as Appendix E, and as geodetically described in Tennessee exhibit 93, included in this Report as Appendix D.

2. The costs to date be taxed one-half to the plaintiff and one-half to the defendant; and that no costs be taxed for the services of Earl R. Larson, Special Master.

Respectfully submitted,

EARL R. LARSON
Special Master

APPENDIX

A-1

JC 111A
Rev. 1/75)

Appendix A

CIVIL DOCKET CONTINUATION SHEET

PLAINTIFF	DEFENDANT	DOCKET NO. 77-Orig.
State of Tennessee	State of Arkansas	PAGE 1 OF 3 PAGES

DATE	NR.	PROCEEDINGS
1-8-79	1	Appointment as Special Master
1-16-79	2	Oath of Special Master
8-1-79	3	Stipulations of Parties 1-7
9-28-79	4	Tennessee's request for admissions
9-28-79	5	Tennessee's exhibit list
10-1-79	6	Arkansas' exhibit list
10-22-79	7	Arkansas' response to Tennessee's request for admissions
10-30-79	8	Tennessee's objections to Arkansas' exhibits
10-31-79	9	Arkansas' objections to Tennessee's exhibits
11-5-79	10	The first amendment to the stipulations of the parties
12-14-79	11	Tennessee's pretrial memorandum
12-14-79	12	Arkansas' pretrial memorandum
1-2-80	13	Pretrial order
1-22-80	14	Stipulation of the Parties 8
7-11-80	15	Tennessee's post-trial brief (loose in this folder)
7-11-80	16	Tennessee's proposed findings of fact, conclusions of law and recommendation
7-11-80	17	Arkansas' post-trial brief
7-23-80	18	Tennessee's reply brief
7-24-80	19	Arkansas' reply brief
1-22-80	20	Minutes of Proceedings, January 22, 1980
1-23-80	21	Minutes of Proceedings, January 23, 1980
1-24-80	22	Minutes of Proceedings, January 24, 1980
4-21-80	23	Minutes of Proceedings, April 21, 1980
4-22-80	24	Minutes of Proceedings, April 22, 1980
4-23-80	25	Minutes of Proceedings, April 23, 1980

PLAINTIFF	DEFENDANT	DOCKET NO. 77-Orig.
State of Tennessee	State of Arkansas	PAGE 2 OF 3 PAGES

DATE	NR.	PROCEEDINGS	
1-22-80	26	Transcript of Proceedings, vol. I, pages 1-111	(The transcript is contained in a box)
1-22-80	27	Transcript of Proceedings, vol. II, pages 112-220	
1-23-80	28	Transcript of Proceedings, vol. III, pages 221-350	
1-23-80	29	Transcript of Proceedings, vol. IV, pages 351-428	
1-24-80	30	Transcript of Proceedings, vol. V, pages 429-508	
1-24-80	31	Transcript of Proceedings, vol. VI, pages 509-623	
4-21-80	32	Transcript of Proceedings, vol. VII, pages 624-745	
4-21-80	33	Transcript of Proceedings, vol. VIII, pages 746-872	
4-22-80	34	Transcript of Proceedings, vol. IX, pages 873-948	
4-22-80	35	Transcript of Proceedings, vol. X, pages 949-1048	
4-23-80	36	Transcript of Proceedings, vol. XI, pages 1049-1193	
9-19-79	37	Deposition of Charles B. Crail	(All the depositions are contained in a box)
9-21-79	38	Deposition of Bernice Edward Crane	
8-22-79	39	Deposition of William K. Finefield	
9-10-79	40	Deposition of George Ford	
9-10-79	41	Deposition of Terry Hanners	
9-28-79	42	Deposition of Clarence S. Harmon	
4-15-80	43	Deposition of Marvin L. Jacobs	
8-22-79	44	Deposition of Charles R. Kolb	
9-28-79	45	Deposition of Claude W. O'Donnell	
9-10-79	46	Deposition of Eileen O'Neal	
9-21-79	47	Deposition of Robert J. Reviere	
9-10-79	48	Deposition of Albert Smith	
8-23-79	49	Deposition of Austin B. Smith	
9-27-79	50	Deposition of Sarah J. Spann	

DC 111A
(Rev. 1/75)

CIVIL DOCKET CONTINUATION SHEET

PLAINTIFF	DEFENDANT	DOCKET NO. 77-Orig.
State of Tennessee	State of Arkansas	PAGE 3 OF 3 PAGES

DATE	NR.	PROCEEDINGS
9-21-79	51	Deposition of Floyd Starnes
9-19-79	52	Deposition of A.E. Teaford
9-28-79	53	Deposition of Bennie M. Tolar
9-10-79	54	Deposition of James F. Tompkins

AO-187 Appendix D

Tennessee
EXHIBITS

State of Tennessee
VS.
State of Arkansas

CAUSE NO. 77 Original

DATE	Identification No.	Identification Witness	DESCRIPTION	OFFERS OBJECTIONS RULINGS EXCEPTIONS
1-22-80	1	———	Copy of U.S. and state statutes	Received
1-22-80	2	Teaford	1972 U.S. Geo. Survey Quadrangle map--copy	"
1-23-80	3	Spann	copy of will	"
1-23-80	4	"	tax receipts on Spann Island, 1914-1978	"
1-23-80	5	"	contracts to sell brush on Spann Island, 1930-37	"
"	6	"	1931 lease on Spann Island to Mr. Hunter	"
"	7	"	1951-76 leases on Spann Island with Mr. Teaford	"
"	8	"	1975 letters between City of Luxora and Ms. Spann	"
"	9	"	1935 plat map of Spann Island	"
"	10	Crain	map--conflicting property ownership of islands	"
"	11	"	Index map for Lauderdale Co., Tenn.	"
"	12	"	Lauderdale Co. Tax Assessor maps	"
"	13	"	Lauderdale Co. Tax Assessor maps	"
"	14	"	1971 U.S. Agric. Dept. aerial photo index	"
"	15	Starnes	tax sale minute book entries--Lauderdale Co.	"
"	16	"	tax sale minute book entries--Lauderdale Co.	"
1-24-80	17	Crail	Title search records--Spann Property	"
"	18	"	Documents of Title--Spann Property	"
"	19	"	title search records--Cook property	"
"	20	"	documents of title--Cook property	"
"	21	"	title search records--Reviere property	"
"	22	"	documents of title--Reviere property	"
"	23	"	title search records--Love property	"
"	24	"	tax collection records for Lauderdale Co.	"
"	25	"	tax collection records for Lauderdale Co.	"
"	26	"	title search records in Ark.--Luxora Gin	"
"	27	"	title search records in Ark.--Westvaco	"

AO-187

Tennessee

EXHIBITS

State of Tennessee

VS.

State of Arkansas

CAUSE NO. 77 Original

DATE	Identification No.	Identification Witness	DESCRIPTION	OFFERS OBJECTIONS RULINGS EXCEPTIONS
1-24-80	28	Crail	Title search records in Ark.--Smith property	received
"	29	Harmon	1938 Lauderdale Co. Highway map	"
"	30	Tolar	U.S. mapping standards 1936-73	"
"	31	"	strip maps of Tenn.-Ark. boundary	"
"	32	"	strip maps of Tenn.-Ark. boundary	"
"	33	"	1955 Highway map of Lauderdale Co.	"
"	34	"	1964 Highway map of Lauderdale Co.	"
"	35	"	1970 Highway map of Lauderdale Co.	"
"	36	"	Tenn. state Highway maps 1940-1978	"
"	37	"	1972 U.S. geological survey quadrangle map	"
"	38	"	Admissions of Arkansas on state highway maps	"
"	39	"	1962 Osceola, Ark. plainning map	"
4-21-80	40	Kolb	resume of Kolb	"
"	41	"	portion of complaint map	"
"	42	"	drawing of examples of river cutoffs	"
"	43 A B	"	1879-80 Miss. River Comm. maps, Charts 15-16	"
"	44	"	1880 map with old channels drawn in	"
"	45	"	Corps of Engineers map of alluvial deposits	"
"	46	"	Chart of soil composition in Miss. River bed	"
"	47	"	1889 Miss. River Comm. map	"
"	48	"	1889 Miss. River Comm. map	"
"	49	"	1902 Miss. River Comm. map	"
"	50	"	1902 Miss. River Comm. map	"
"	51 A B	"	1912-15 Miss. River Comm. map, Charts 14-15	"
"	52	"	1912 Miss. River Comm. map	"
"	53	"	1912 Miss. River Comm. map	"
"	54	"	1919 Miss. River Comm. map	"

AO-187

Tennessee

EXHIBITS

State of Tennessee

VS.

State of Arkansas

CAUSE NO. 77 Original

DATE	Identification No.	Identification Witness	DESCRIPTION	OFFERS OBJECTIONS RULINGS EXCEPTIONS
4-21-80	55	Charles Kolb	1919 Miss. River Comm. map	received
"	56	"	1912 Miss. River Comm. map	"
"	57	"	1930 Miss. River Comm. map	"
"	58	"	1930 Miss. River Comm. map	"
"	59	"	1932 Miss. River Comm. map	"
"	60	"	1932 Miss. River Comm. map	"
"	61	"	1935 Miss. River Comm. map	"
"	62	"	1948 Miss. River Comm. map	"
"	63	"	1948 Miss. River Comm. map	"
"	64	"	1962 Miss. River Comm. map	"
"	65	"	1962 Miss. River Comm. map	"
"	66	"	1971 U.S. Geo. survey map	"
"	67	"	1971 U.S. Geo. survey map	"
"	68	"	1971 U.S. Geo. survey map	"
"	69	Austin Smith	resume	"
"	70	"	list of cases testified in	"
"	71	"	1821 Young survey map	"
"	72	"	1837-43 township plats Arkansas	"
"	73	"	1861 Mississippi Delta survey	"
"	74	"	this number was skipped by the parties	"
"	75	"	1874 Sutter survey map	"
"	76	"	1879-80 Miss. River Comm. map	"
4-22-80	77 A B	"	1903 and 1904 Corps of Engineer dike maps	"
"	78	"	1902-07 Corps of Engineers survey	"
"	79	"	1908 Miss. River Comm. map	"
"	80	"	1912-15 Miss. River Comm. map	"
"	81	"	light lists	"

A-8

AO-187

Tennessee

EXHIBITS

State of Tennessee

VS.

State of Arkansas

CAUSE NO. 77-Original

DATE	Identification No.	Identification Witness	DESCRIPTION	OFFERS OBJECTIONS RULINGS EXCEPTIONS
4-22-80	82	Austin Smith	Miss. River Comm. Annual Reports	RECEIVED
"	83	"	1919 Miss. River Comm. map	"
"	84	"	1920 Miss. River Comm. map	"
"	85	"	1912 Miss. River Comm. map with changes to 1929	"
"	85 A	"	1912 map with bank and bar lines to 1924	"
"	85 B	"	1912 map with bank and bar lines to 1927	"
"	85 C	"	1924 Corps of Engineers map	"
"	86	"	1912 map with bank and bar lines to 1929	"
"	87	"	1929-30 Corps of Engineers map	"
"	88	"	1932-42 Corps of Engineers dredging maps	"
"	89	"	1937 Corps of Engineers map	"
"	90	"	1942-76 navigation survey charts	"
"	91	"	1948-49 Corps of Engineers map	"
"	92 A B	"	1973-75 and 1962-64 Corps of Engineers maps	"
"	93	"	description of fixed boundary	"
"	94	"	map of area	"
4-22-80	95	"	overlay map of area	"

AO-187 Appendix C

A-9

Arkansas

EXHIBITS

State of Tennessee

VS.

State of Arkansas

CAUSE NO. 77 Original

DATE	Identification No.	Identification Witness	DESCRIPTION	OFFERS OBJECTIONS RULINGS EXCEPTIONS
1-22-80	A	Tompkins	Collective notes	received
1-22-80	A-1	"	1970 Map-Miss. Co., Ark.	"
1-22-80	A-2	"	Plat Book page	"
1-22-80	A-3	"	Plat Book page	"
1-22-80	B	———	Transcript of case of Smith v. Smith	"
1-22-80	C	———	Transcript of case of Conway v. Shuck	"
1-22-80	D	———	Arkansas Supreme Court opinion in Conway v. Shuck	"
1-23-80	E	Albert Smith	aerial photograph	"
1-23-80	F	"	aerial photograph	"
1-23-80	G	"	aerial photograph	"
1-23-80	H	"	drawing of island	"
4-23-80	I	Austin Smith	1930 Corps of Engineers survey map	"
4-23-80	J	"	1932 Corps of Engineers record map	"
4-23-80	K	"	1932 Corps of Engineers general map	"
4-23-80	L	Marvin Jacobs	Resume	"
4-23-80	M	"	1938 map showing lower Mississippi River Channels	"

APPENDIX D

TENNESSEE—ARKANSAS STATE BOUNDARY IN THE ELMOT BAR-ISLAND 30 SECTOR OF THE MISSISSIPPI RIVER

The following is a description, by geodetic position (North American Datum) of the locus of the Tennessee-Arkansas State Boundary that became fixed in the abandoned Fletcher Bend Channel that bounds Elmot Bar-Island 30 on the North and West. This boundary, lying between North Latitude 35 deg. 40' 30.8" and North 35 deg. 45' 34.6" and West Longitude 89 deg. 52' 35" and West Longitude 89 deg. 57' 31.5", begins at the head of Elmot Bar-Island 30 Chute Channel and thence runs Northwestward, Southwestward, Southward and Southeastward, along fixed (dead) thalweg and last steamboat navigation course in the abandoned Fletcher Bend Channel to the foot of Elmot Bar-Island 30 Chute Channel.

The Locus of the said Tennessee-Arkansas State Boundary is depicted on the 1973-75 Mississippi River Hydrographic Survey and is described as beginning at the head of the Elmot Bar-Island 30 Chute Channel at *Point P-1* at North Latitude 35 deg. 44' 30.8" and West Longitude 89 deg. 52' 35";

Thence North to *Point P-2,* Lat. 35 deg. 44' 16.8" and Long. 89 deg. 52' 35";

Thence Northward to *Point P-3,* Lat. 35 deg. 44' 28.7" and Long. 89 deg. 52' 38";

Thence Northwestward to *Point-4,* Lat. 35 deg. 44' 42" and Long. 89 deg. 53'.

Thence Northwestward to *Point-5,* Lat. 35 deg. 45' and Long. 89 deg. 53' 22".

Thence Northwestward to *Point-6,* Lat. 35 deg. 45' 10" and Long. 89 deg. 53' 35";

Thence Northwestward to *Point-7,* Lat. 35 deg. 45' 17.8" and Long. 89 deg. 53' 47";

Thence Northwestward to *Point-8,* Lat. 35 deg. 45' 25.5" and Long. 89 deg. 54';

Thence Northwestward to *Point-9,* Lat. 35 deg. 45' 34.6" and Long. 89 deg. 54' 18";

Thence Westward to *Point-10,* Lat. 35 deg. 45' 33.5" and Long. 89 deg. 54' 30";

Thence Southwestward to *Point-11,* Lat. 35 deg. 45' 29.7" and Long. 89 deg. 54' 40";

Thence Southwestward to *Point-12,* Lat. 35 deg. 45' 23.8" and Long. 89 deg. 54' 47";

Thence Southwestward to *Point-13,* Lat. 35 deg. 45' 15.6" and Long. 89 deg. 55';

Thence Southwestward to *Point 14,* Lat. 35 deg. 45' and Long. 89 deg. 55' 30";

Thence Southwestward to *Point-15,* Lat. 35 deg. 44' 46.5" and Long. 89 deg. 56';

Thence Southwestward to *Point-16,* Lat. 35 deg. 44' 36.6" and Long. 89 deg. 56' 20";

Thence Southwestward to *Point-17,* Lat. 35 deg. 44' 27.9" and Long. 89 deg. 56' 40";

Thence Southwestward to *Point-18,* Lat. 35 deg. 44' 18.9" and Long. 89 deg. 57';

Thence Southwestward to *Point-19,* Lat. 35 deg. 44' 10.1" and Long. 89 deg. 57' 14";

Thence Southwestward to *Point-20,* Lat. 35 deg. 44' and Long. 89 deg. 57' 23";

Thence Southwestward to *Point-21,* Lat. 35 deg. 43' 39.2" and Long. 89 deg. 57' 31".

Thence Southward to *Point-22,* Lat. 35 deg. 43' 23.9" and Long. 89 deg. 57' 31.5".

Thence Southward to *Point-23,* Lat. 35 deg. 43' and Long. 89 deg. 57' 28.5";

Thence Southward to *Point-24,* Lat. 35 deg. 42' 42.6" and Long. 89 deg. 57' 25";

Thence South to *Point-25,* Lat. 35 deg. 42' 21.3" and Long. 89 deg. 57' 25";

Thence Southward to *Point-26,* Lat. 35 deg. 42' and Long. 89 deg. 57' 23";

Thence Southward to *Point-27,* Lat. 35 deg. 41' 43.6" and Long. 89 deg. 57' 23.5";

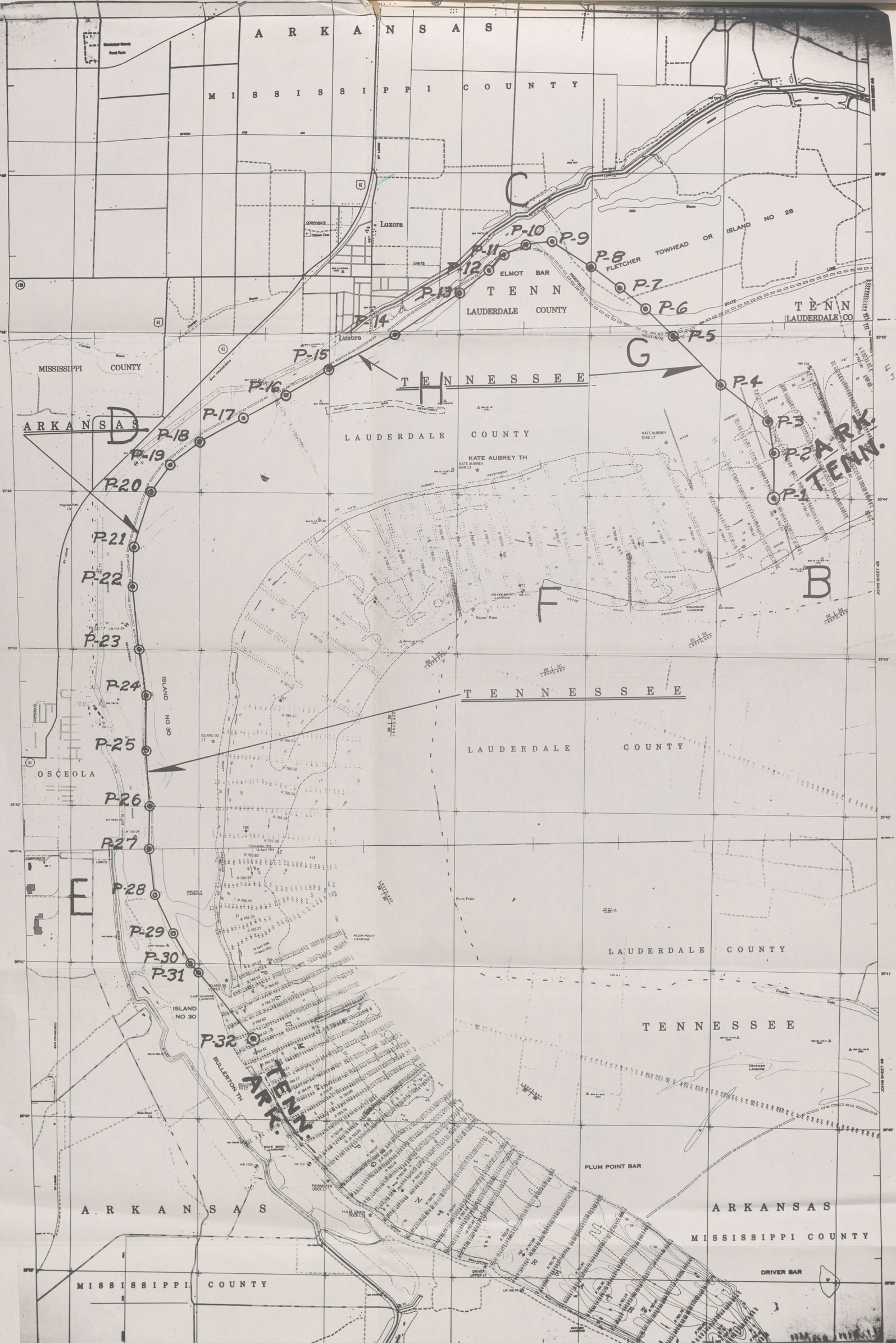
Thence Southward to *Point-28,* Lat. 35 deg. 41' 26.1" and Long. 89 deg. 57' 21";

Thence Southeastward to *Point-29,* Lat. 35 deg. 41' 11.4" and Long. 89 deg. 57' 12";

Thence Southeastward to *Point-30,* Lat. 35 deg. 41' and Long. 89 deg. 57' 03.5";

Thence Southeastward to *Point-31,* Lat. 35 deg. 40' 56.4" and Long. 89 deg. 57';

Thence Southeastward to *Point-32,* Lat. 35 deg. 40' 30.8" and Long. 89 deg. 56' 34" at the foot of the Elmot Bar-Island 30 Chute Channel.



APPENDIX E

MISSISSIPPI RIVER
HYDROGRAPHIC SURVEY
1973-1975
CAIRO, ILLINOIS TO MOUTH OF WHITE RIVER, ARKANSAS
508 TO 954 MILES ABOVE HEAD OF PASSES