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No. 106, Original

IN THE

Supreme Court of the United States

October Term, 1986

Supreme Court, U.S.
FILED
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STATE OF ILLINOIS,

Plaintiff,

v.

COMMONWEALTH OF KENTUCKY,

Defendant.

REPORT OF SPECIAL MASTER

MATTHEW J. JASEN
Special Master
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Buffalo, New York 14219-1400

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STATE OF ILLINOIS,
Plaintiff,

v.

COMMONWEALTH OF KENTUCKY,
Defendant.

REPORT OF SPECIAL MASTER

I.

INTRODUCTION AND HISTORY OF THE CASE

In 1986, the Supreme Court granted the State of Illinois leave to file a bill of complaint against the Commonwealth of Kentucky to resolve a disagreement about the location of their common boundary on the Ohio River. On March 2, 1987, the Court appointed the Honorable Robert Van Pelt,

United States Senior District Judge, as Special Master. By order, dated June 27, 1988, the Court appointed a new Special Master, former New York State Court of Appeals Judge Matthew J. Jasen, to replace Judge Van Pelt, who died on April 27, 1988.

The parties spent approximately three years in discovery, which involved numerous depositions and extensive production of records. After proceedings before the Special Master, a report to the Court was filed by the Special Master on June 29, 1990 (498 U.S. 803) recommending that the boundary between Illinois and Kentucky be set at the low-water mark on the northerly side of the Ohio River as it was in 1792, when Kentucky became a State. The report also recommended that such boundary, as nearly as it can now be ascertained, be determined either by agreement of the parties, by joint survey agreed upon by the parties, or in the absence of such an agreement or survey, after hearings conducted by the Special Master.

Exceptions were taken by the Commonwealth of Kentucky and were argued on March 18, 1991. The case was decided by the Court on May 28, 1991 (*Illinois v. Kentucky*, 500 U.S. 380) sustaining the report of the Special Master, that the boundary between the parties on the Ohio River is the line of the northerly low-water mark as it was in 1792 and remanded the case to the Special Master for such further proceedings as may be necessary to prepare and submit an appropriate decree for adoption by the Court, locating the 1792 line.

II.

PROCEEDINGS FOLLOWING REMAND

Upon remand by the Court, the Special Master initiated negotiations between the parties to determine whether an agreement to the location of the boundary line, or an agreement to a joint survey, could be reached. A number of proposals and counter proposals were submitted to the Special Master and considered by the parties between June 11, 1991, and February 25, 1992. Subsequently, each party was directed to submit a "scope of work" proposal covering the plotting of the Illinois-Kentucky boundary to determine any discrepancies as to the methodology and surveying standards proposed.

As a result, the parties agreed that the U.S. Army Corps of Engineers' 1896-1906 survey of the northerly low-water line as depicted on the Corps' 1911-1914 Ohio River Maps (Wabash River to Mississippi River) best represents the 1792 low-water mark as nearly as it can now be ascertained. It was further agreed by the parties to use an independent agency to plot the 1792 low-water mark and the United States Geological Survey (USGS) would be designated to perform the work. In discussions with the USGS, the parties agreed on the methodology to be used in locating and plotting the 1792 line. However, there was disagreement on one major point. Illinois insisted on having the line marked using the same method used to mark Kentucky's boundary with the State of Indiana (474 U.S. 1 (1985)) and the State of Ohio (444 U.S. 335 (1980)) by altering the line, where necessary, to provide for a 100-foot minimum distance from the current Ohio River northern shoreline. As a result of this impasse, Illinois brought a motion seeking an order directing that the boundary between Illinois and

Kentucky should be marked by using the same method used in determining Kentucky's boundary with Indiana and Ohio, including the 100-foot minimum, upon the grounds that the 100-foot minimum is an integral part of the boundary now shared by Indiana and Ohio with Kentucky, and should likewise be applicable to Illinois. Kentucky in its response agreed to the methodology to be used in marking the boundary but objected to the inclusion of the 100-foot minimum requirement, taking the position that the 100-foot minimum in the Indiana and Ohio cases was reached by a settlement between the parties and not by direction of the Supreme Court.

A hearing was held on the motion at the United States Courthouse, Buffalo, New York on July 1, 1992, and a decision (Remand Filing No. 3) was rendered by the Special Master on September 14, 1992. In denying Illinois' motion to compel use of the 100-foot minimum distance from the present Ohio River northern shoreline, the Special Master ruled that "[w]hile there is nothing to prevent the parties in this case from making adjustments to the 1911-14 Corp. of Engineers' maps in the form of the 100-foot minimum, the issue presented on this motion is whether, in the absence of an agreement between the parties, the Commonwealth of Kentucky can be compelled to do so merely because it had previously agreed to incorporate the 100-foot minimum into its boundary with Indiana and Ohio. While it is true that the Supreme Court held in this case that '[t]he same history and precedent that supplied the general rule for determining the boundary separating Kentucky from its neighboring states of Ohio and Indiana on the Ohio River also governs the determination of Kentucky's historical boundary on that river with Illinois' (500 U.S. at 383), which Illinois relies upon, in

support of its motion to compel use of the 100-foot minimum in marking the boundary between Illinois and Kentucky, it did not, in my opinion, refer to the *marking* of the actual boundary between the respective states, but instead, referred to the basic boundary being the same, *i.e.* the low-water mark along the Ohio River's northerly shore as it was in 1792. As to where that low-water mark is at the present time delineating the Illinois-Kentucky border, as nearly as the 1792 line can now be ascertained, the Court made clear that it should be determined by either an agreement of the parties, by a joint survey agreed upon by both parties, or by the Court, after hearings conducted by the Special Master and findings prepared by him."

"The fact that Kentucky had agreed in the Ohio and Indiana cases to the 100-foot minimum from the present northerly shoreline", the Special Master concluded, "hardly requires Kentucky to concede the 100-foot minimum distance in marking its boundary with Illinois, particularly if Kentucky believes, as it asserts, that a more exact boundary can be established to determine the 1792 line, using the agreed upon method without utilizing the 100-foot minimum used in the earlier cases." (Remand Filing No. 3).

After the denial of Illinois' motion, the Special Master afforded the parties additional time to continue to negotiate further to attempt to resolve the remaining issue in dispute. In the event no agreement was reached, the Special Master set down the matter for a full hearing on January 12, 1993, at 10 a.m. at the United States Courthouse, Louisville, Kentucky, for the purpose of preparing and submitting an appropriate decree for adoption by the Supreme Court, locating the 1792 boundary line.

On November 17, 1992, Illinois made a motion for a continuance of the hearing citing the need for additional time to prepare for the hearing, now that settlement was no longer possible. This motion was granted and the hearing was rescheduled to April 13, 1993. However, on March 29, 1993, the parties, through their respective Attorneys General, jointly agreed "to locate the 1792 low-water mark employing the same method used to locate the 1792 low-water mark between Kentucky and the states of Indiana and Ohio", including the 100-foot minimum from the Illinois shore (Remand Filing No. 1).

On May 24, 1993, the parties entered into an agreement with the USGS "to initiate and complete marking the boundary between Illinois and Kentucky as set out in the joint agreement of the parties signed March 29, 1993" (Remand Filing No. 2). Also marked Joint Exhibit No. 1.

Subsequently, a provisional schedule from the USGS for the production of the necessary mapping and documentation marking the 1792 boundary line was approved by the Special Master, with a tentative completion date of April 8, 1994. Although the USGS had timely submitted to the parties copies of the proposed maps it produced, the parties had not received the geodetic coordinates identifying the points indicated on said maps. Since those coordinates were necessary in order to verify the accuracy of the USGS work, the parties requested an extension of the tentative completion date. After the parties received the geodetic coordinates and verified the accuracy of the USGS maps and documentation, the Special Master set a hearing date on October 18, 1994, at the United States Courthouse, St. Louis, Missouri for the purpose of preparing and submitting an appropriate decree for adoption by the Court, locating the 1792 Illinois-Kentucky boundary line.

III. HEARING

For the purpose of preparing and submitting an appropriate decree for adoption by the Court locating the 1792 Illinois-Kentucky Boundary Line.

The hearing was held on October 18, 1994, at the United States District Courthouse, St. Louis, MO., as shown by the transcript of the evidence, certified by the reporter, under date of October 31, 1994, (Remand Filing No. 4) and filed with the Clerk of this Court as part of this report.

In their opening at the hearing, the respective counsel for the parties, John Brunsman for the State of Illinois and James M. Ringo for the Commonwealth of Kentucky, informed the Special Master that they were pleased to announce that the Attorneys General for both states had reached an agreement as to the boundary between the States on the Ohio River and that no adversarial hearing was required. The essence of that agreement was to adopt the methodology used in determining the boundary between Ohio and Indiana with Kentucky in relying on the survey done by U.S. Army Corps of Engineers around the turn of the century and the version of that line as put on maps subsequently prepared by the USGS. However, there were certain adjustments made in this case, as there were in the earlier cases—the so-called 100-foot minimum from the Illinois shoreline—which was explained by the witnesses called.

John Brunsman and James Ringo, counsel for the parties, are to be commended for their professionalism and cooperation with the Special Master throughout these proceedings in completing this difficult litigation efficiently and amicably.

Inasmuch as a transcript of the evidence taken on October 18, 1994, will be filed with the Clerk of this Court as part of this report, it is believed that a brief outline of the testimony supporting the tendered joint exhibits and this report will suffice to identify the boundary of Illinois and Kentucky on the Ohio River.

The first witness was Stephen Pousardien, an employee of the USGS at Reston, Virginia for approximately 25 years and presently, Chief of the Branch of Program Management in the National Mapping Division's Special Application Center. This group is made up primarily of cartographers, who are specialists in map-making. He explained what services the USGS performed, how it digitized or converted the boundary line to numerical coordinates and the technical procedures used in marking the Illinois-Kentucky boundary on the Ohio River.

He identified Joint Exhibit Numbers 3-24 as a series of quadrangle maps, and Joint Exhibit Numbers 25 and 26, as a list of coordinate points used in conjunction with the quadrangle maps establishing the Ohio River boundary line between Illinois and Kentucky. Each of these 22 maps (Joint Exhibit Numbers 3-24) is named, such as, for instance Wabash Island Quadrangle (Exhibit 3) and represent a separate quadrangle map covering, in order downstream, the entire boundary between the parties on the Ohio River from the Wabash River to the Mississippi River. The scale of these quadrangle maps is 1 to 24,000, each map covering 7.5 minutes of latitude and 7.5 minutes of longitude. That is the equivalent of 1 inch on the map equals 2,000 feet on the ground.

The red line which appears on Joint Exhibits 3-24 inclusive, represents the low-water mark on the northerly side of the Ohio River as it existed in the year 1792, as nearly as it can now be determined, including, where necessary, an adjustment for the 100-foot minimum. In addition, there are listed on the red line, red dots numerically and consecutively numbered, commencing with a numeral "1" on Joint Exhibit 3 at the beginning of the boundary area where the Wabash River empties into the Ohio River and continues downstream to numeral "7355" on Joint Exhibit 24, in the area at the end of the boundary where the Ohio River meets the Mississippi River.

Joint Exhibits Numbered 25 and 26 were identified by witness Pousardien as geodetic point coordinates which precisely locate, by geodetic coordinates, the angle points, (1 to 7355) along the proposed boundary line. The boundary line shown on Joint Exhibits 3 through 24, as is noted above, depicts the line created by joining the 7355 geodetic coordinate points of latitude and longitude set forth in Joint Exhibits 25 and 26. Exhibit 25 is the 1927 North American Datum and Exhibit 26 is the 1983 North American Datum. The difference between the two is not relative. Due to improved technology, especially the introduction of orbiting platforms, such as satellites, the 1983 datum is better defined. The respective distance between two points in both datums, Mr. Pousardien explained, is the same, as the points were not moved. Only the identification of the coordinate points are involved.

In addition to the marking of the boundary in those areas where the 100-foot minimum comes into play, Mr. Pousardien also identified several areas

where it appears that former islands in the Ohio River have become attached to the Illinois Shore. The locations involved are Bell Island, Saline River Island, Dog Island and the Mound City Towhead. Pursuant to the Joint Agreement reached by the parties (Joint Exhibit 1, par. 4b.) in these areas the parties were required to examine local property and tax records to determine what part of the current Illinois shore was formerly an island. All of the territory so identified, it was agreed, will remain part of Kentucky as required by the rationale of the Supreme Court's decision in *Indiana v. Kentucky*, 136 U.S. 479 (1890).

In conclusion, Mr. Pousardien testified that based on his experience, training and expertise, it was his opinion that the work done by the USGS in this case, as reflected in the Joint Exhibits 3 through 24—the maps—and Joint Exhibits 25 and 26—the list of coordinate points—fairly and accurately reflect the Ohio River boundary as agreed to by Illinois and Kentucky (Joint Exhibit 1).

The second expert witness called was William Eckman Kreisle. Mr. Kreisle holds a civil engineering degree from Purdue University, a certificate of business administration and a Master's degree in humanities from the University of Louisville. He is a registered engineer in the State of Indiana, a registered professional Surveyor in Ohio, Indiana, Illinois and Kentucky and is a member of a number of professional societies. He has lectured at Fort Belvoir and the University of Cincinnati and was employed for 23 years with the Corps of Engineers in Europe and the Louisville District office. He has acted as consultant for the State of Ohio and Indiana and others and has done extensive research in conjunction

with his consultations pertaining to locating the 1792 low-water mark on the Ohio River. His jurisdiction as Chief of the Survey Branch of the Engineering Division of the Louisville District office of the Corps of Engineers covered about 550 miles of the Ohio River which included the entire Ohio River between Illinois and Kentucky.

After completing his extensive research regarding the location of the low-water mark on the Ohio River, which included the 1866-67 Merrill Roberts maps, the 1896-1906 Corps of Engineers Maps and the 1911-1914 Corps of Engineers series of maps which were updated in 1928 after the construction of certain dams on the Ohio River, it was Mr. Kreisle's recommendation to the States of Ohio and Indiana and Kentucky in their border disputes, to use the 1911-14 Corps of Engineers maps, as updated, to locate the low-water mark between those states.

In this case, Mr. Kreisle testified that he had examined the work done by the USGS, particularly Joint Exhibits 3 through 24, which are the quadrangle maps indicating the Ohio River between the parties and Joint Exhibits 25 and 26 which are the geodetic coordinate points, and that it is his professional opinion that the work done by the USGS accurately reflects the agreement between the parties (Joint Exhibit 1) and accurately reflects the low-water mark on the northerly shoreline of the Ohio River as it existed in 1792, as nearly as that line can now be ascertained.

In addition, Mr. Kreisle identified Joint Exhibits 27 through 31 and said that these exhibits reflect the field survey work done in the area where former islands have become attached to the Illinois shoreline. He testified that Exhibit 27 represents the Bell Island

work; Exhibit 28 the Saline River Island survey; Exhibits 29 and 30 reflect the Mound City Towhead and Exhibit 31 reflects the Dog Island area.

The third and final expert witness—Dr. Albert J. Petersen—was called by the Commonwealth of Kentucky. He is a professor of geography at Western Kentucky University. He has a Ph.D. degree from Louisiana State University in historical geography and has been involved in the litigation between the States of Ohio and Indiana and Kentucky since 1980. He has also served as a consultant for the Commonwealth of Kentucky.

In conjunction with his involvement with the litigation between the States on the Ohio River, he examined a series of historical maps to determine the low-water mark on the north side of the Ohio River in 1792.

After completing his extensive examination of historical maps, including the records at the Corps of Engineers as well as at the National Archives, he concluded that the best representation of the low-water mark would be found on the 1911-14 Corps of Engineers Ohio River surveys with certain adjustments to island attachments and 100-foot minimum from the northern shoreline, as represented on the current USGS maps. In making the 100-foot adjustment in the Ohio and Indiana cases, a more recent Corps of Engineers, Ohio River survey dating from around 1966 was used to adjust for certain inaccuracies. This methodology was adopted by Ohio, Indiana and Kentucky in their agreement locating the low-water mark on the northern side of the Ohio River. The methodology used in the Ohio and Indiana cases is the same methodology used in this case. Finally, Dr.

Petersen testified that he had examined the quadrangle maps in Joint Exhibits 3 through 24 and Exhibits 25 and 26, listing the geodetic point coordinates, and concluded that the boundary line agreed to by Illinois and Kentucky (Joint Exhibit 1) and, as digitized by the USGS on Joint Exhibits 3 through 24, correctly reflected the low-water mark on the Illinois side of the Ohio River as it existed in 1792, as nearly as it can be ascertained now.

Based on the evidence presented, the Special Master concludes that the boundary line, as is shown in red on the quadrangle maps marked Joint Exhibits 3 through 24 and the 7355 geodetic coordinate points listed in Joint Exhibits 25 and 26 as reflected by red dots numerically and consecutively numbered on Joint Exhibits 3-24, represent the best that can be done at this time under the present development of the mapping art, in determining the northerly low-water mark boundary on the Ohio River between the State of Illinois and the Commonwealth of Kentucky.

IV.

RECOMMENDATION

The Special Master requests approval of this report for the establishment of the boundary line between the State of Illinois and the Commonwealth of Kentucky on the Ohio River. The Special Master requests that the Court adopt the latitude and longitude of the 7355 geodetic coordinate points along the Ohio River, together with the correlation of the latitude and longitude points with the state plane coordinate systems of Illinois and Kentucky, all as set forth on Joint Exhibits 3 through 26, as the 1792 low-water mark boundary between the State of Illinois and the Commonwealth of Kentucky. The Special Master requests that the tendered decree be adopted, approved and filed as recommended, together with copies of Joint Exhibits 1-31, inclusive, as proposed. The Special Master also requests that the costs of this proceeding be divided between the parties.

That upon approval of this report, the making of the filings as ordered herein by the Court, and the filing of a Petition for Compensation and Reimbursement of Expenses for services rendered as Special Master that the Special Master be discharged from further duties in No. 106, Original.

Respectfully submitted,

MATTHEW J. JASEN
Special Master

December 2, 1994

**INDEX OF EVIDENCE, INCLUDING EXHIBITS
AND REMAND FILINGS**

JOINT EXHIBITS

1. Memorandum of Agreement between the U.S. Geological Survey and the State of Illinois Attorney General and the Commonwealth of Kentucky Attorney General.
2. Typical example of one of the 22 USGS quadrangle maps (Exhibits Nos. 3-24) covering the boundary on the Ohio River between Illinois and Kentucky.
3. Wabash Island Quadrangle Map — KY-ILL-IND
4. Grove Center Quadrangle Map — KY-ILL
5. Shawneetown Quadrangle Map — KY-ILL
6. Saline Mines Quadrangle Map — KY-ILL
7. Dekoven Quadrangle Map — KY-ILL
8. Repton Quadrangle Map — KY-ILL
9. Cave in Rock Quadrangle Map — KY-ILL
10. Rosiclare Quadrangle Map — ILL-KY
11. Shelterville Quadrangle Map — ILL-KY
12. Golconda Quadrangle Map — KY-ILL
13. Brownfield Quadrangle Map — ILL-KY
14. Smithland Quadrangle Map — KY-ILL
15. Little Cypress Quadrangle Map — KY-ILL
16. Paducah East Quadrangle Map — KY-ILL
17. Paducah West Quadrangle Map — KY-ILL
18. Metropolis Quadrangle Map — ILL-KY

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| 19. | Joppa Quadrangle Map | — | ILL-KY |
| 20. | Bandana Quadrangle Map | — | KY-ILL |
| 21. | Olmstead Quadrangle Map | — | ILL-KY |
| 22. | Barlow Quadrangle Map | — | KY-ILL |
| 23. | Cairo Quadrangle Map | — | ILL-KY-MO |
| 24. | Wyatt Quadrangle Map | — | MO-ILL-KY |
| 25. | 1927 North American Datum | | |
| 26. | 1983 North American Datum | | |
| 27. | Survey Plat—Bell Island
Part of Shawneetown Quadrangle (Exhibit 5) | | |
| 28. | Survey Plat—Saline Island
Part of Saline Mines Quadrangle (Exhibit 6)
and Dakoven Quadrangle (Exhibit 7) | | |
| 29. | Survey Plat—Mound City Towhead Island
Part of Cairo Quadrangle (Exhibit 23) | | |
| 30. | Survey Plat—Mound City Towhead Island
Part of Cairo Quadrangle (Exhibit 23) | | |
| 31. | Survey Plat—Dog Island
Part of Paducah East Quadrangle (Exhibit 14) | | |

REMAND FILINGS

1. Joint Agreement regarding location of 1792 low-water mark between Illinois and Kentucky.
2. Memorandum of agreement between the U.S. Geological Survey and the State of Illinois Attorney General and Commonwealth of Kentucky Attorney General.
3. Special Master's Memorandum Decision, Illinois' motion to compel use of 100-foot minimum in marking boundary between Illinois and Kentucky.
4. Transcript of proceedings before Special Master at hearing held at U.S. Courthouse, St. Louis, MO, October 18, 1994.

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VI.

PROPOSED DECREE
No. 106, Original

IN THE

Supreme Court of the United States

STATE OF ILLINOIS,

Plaintiff,

v.

COMMONWEALTH OF KENTUCKY,

Defendant.

OPINION

The Report of the Special Master is received and ordered filed. The Report is adopted.

DECREE

It is ordered, adjudged and decreed that:

1. The boundary line between the State of Illinois and the Commonwealth of Kentucky is fixed as geodetically described in Joint Exhibits 3 through 26 to the Special Master's Report filed with this Court on December 2, 1994. Joint Exhibits 3 through 26 are incorporated by reference herein.

2. Copies of this Decree and the Special Master's Report (including Joint Exhibits 3 through 26) shall be filed with the Clerk of this Court, the Secretary of State of the State of Illinois, and the Secretary of State of the Commonwealth of Kentucky.

3. Copies of this Decree, and the Special Master's Report (including Joint Exhibits 3 through 26, and paper prints of Joint Exhibits 3 through 26, once they become available) shall be filed with the County Clerk's Office in Illinois and with the County Clerk's Office in the Commonwealth of Kentucky in each of the following counties:

In Illinois, the counties of Gallatin, Hardin, Pope, Massac, Pulaski and Alexander, and

In Kentucky, the counties of Union, Crittenden, Livingston, McCracken and Ballard.

4. The State of Illinois and the Commonwealth of Kentucky each have concurrent jurisdiction over the Ohio River.

5. The costs of this proceeding shall be divided between the parties, as recommended by the Special Master.