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**In the  
Supreme Court of the United States**

OCTOBER TERM, 1965

STATE OF LOUISIANA,

v.

STATE OF MISSISSIPPI, ET AL.

**BRIEF OF THE STATE OF LOUISIANA IN  
SUPPORT OF EXCEPTIONS TO THE  
REPORT OF SPECIAL MASTER**

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**INTRODUCTORY STATEMENT**

In brief summary, the report of the Special Master embraces 3 main phases:

The elimination and ultimate reversal of historic Deadman's Bend by the action of the United States Engineers and the legal effect thereof as to the boundary between Louisiana and Mississippi;

The location of the thalweg itself with relation to the oil well; and

The recommendation that the Supreme Court refer the remaining issues to some other tribunal.

As to the first phase, Louisiana takes no exception to the finding of the Special Master that the entire course of the river for four miles below Glasscock Cut was so drastically altered as the sole, direct result of the construction of the Cut by the United States Engineers that historic Deadman's Bend has been eliminated and a new reverse bend commenced. As

will be later detailed, Louisiana does take exception to the legal conclusion reached by the Special Master thereasto and his failure to hold that the boundary became permanent not only in Deer Park Bend but also in Deadman's Bend.

As to the next phase, Louisiana takes no exception to the actual result reached by the Special Master in locating the thalweg with relation to the oil well, although disagreeing with the use of a formula predicated on an annual rate of movement.

As to the last phase, Louisiana excepts to the recommendation.

This brief shall address itself to all of Louisiana's Exceptions to the Special Master's Report but they shall not be taken up and pursued in the order presented.

The reason for this departure from sequence is for the purpose of clarity, cohesive argument and the avoidance of repetition.

## **THE FACTS**

The following quotations are taken from the Special Master's Report describing, in part, the Mississippi River and the Glasscock Cutoff:

"The Mississippi River system is one of the largest and mightiest in the world, draining 31 of our States and 2 Canadian Provinces. This system, which includes the Missouri and Ohio Rivers, converges immense volumes of water into the main stem which runs from Cairo, Illinois, to the Gulf of Mexico. The vast energy of this river

has played an important role in the history of our country and has defied for decades the puny efforts of man at restraining its mighty power." (SMR p. 44).

"It is little wonder that at flood time the lower Mississippi becomes a restless river, incredible in its energy and terrible in its destructive power." (SMR p. 32).

"The plan embarked upon by the [Mississippi River] Commission under the guiding force of U. S. Army Engineers called for the construction of 15 Cutoffs in the winding stretch of the river running from Memphis, Tennessee, to a point 20 miles south of Natchez, Mississippi, called Deer Park Bend. Other measures were also taken, such as work on the levees and associated revetments." (SMR pp. 44-5).

"Deer Park Bend sweeps to the west into Louisiana and is counter-balanced directly downstream by a smaller sweep to the east called Deadman's Bend." (SMR p. 7).

"Since the time of our first recorded survey of this area-1765-these two bends had been gradually moving in opposite directions and thereby extending themselves into the two bordering states." (SMR pp. 7-8).

"As one of the 15 Cutoffs to aid in flood control, the engineers decided to construct a 4-mile trench across the neck of Deer Park Bend and thus eliminate that 19-mile loop to the west and north." (SMR p. 46).

This by-pass of Deer Park Bend was called the Glasscock Cutoff. It was one of the longest bends by-

passed and one of the earliest of the 15 Cutoffs constructed. Construction continued from 1933 to 1939 with some additional dredging.

"The original plan of the Engineers was to excavate a narrow 4-mile pilot channel across the neck and then permit the natural scouring effect of the river to complete the cutoff by moving through the cut in ever increasing amounts. The pilot channel was dug in early 1933 and had a slight curve in the middle so as to direct the flow into Deadman's Bend on a course approximately south." (SMR p. 46).

"If the cutoff, once fully developed by the river, was to maintain its preplanned course it was essential that there be uniform caving on both banks of the cut. This did not occur. Instead, the highly resistive clay deposit which the engineers encountered in the middle of the cut caused the flow gradually to take a course somewhat west of south and thus it eroded the less resistant bank on the lower western side. (SMR pp. 46-7).

"Aside from this unexpected development in the construction of Glasscock Cutoff, there was also a considerable delay in its final completion. This delay was caused mainly by the same clay deposit, which continued to settle back into the cut after excavation. For this reason, the cutoff did not carry an annual average of more than 50% of the flow until about 1941; 8 years after commencement of the construction." (SMR p. 47).

"This per cent increased continually thereafter." (SMR p. 50).



The Special Master goes into greater detail, as follows:

“It was conceded by all the experts that Deadman’s Bend would have continued to migrate eastward into Mississippi had it not been for the construction of Glasscock Cutoff. Hence, but for the construction of the cutoff the well today would have been well within Louisiana.” (SMR p. 48).

“The elimination of historical Deadman’s Bend has [not only] caused an erosion into Louisiana and an accretion of alluvium to Mississippi in the first 3 miles below the cutoff. . . .” (SMR p. 51).

“Deadman’s Bend as it existed since prior to 1765 has definitely changed. In fact, a slight curve to the west is now evident in the area immediately below the foot of the cutoff, and in all probability a new bend to the west may be formed gradually in the future years and extend from the middle of Glasscock Cutoff into Louisiana in the area of Fairview Light.” (SMR p. 51).

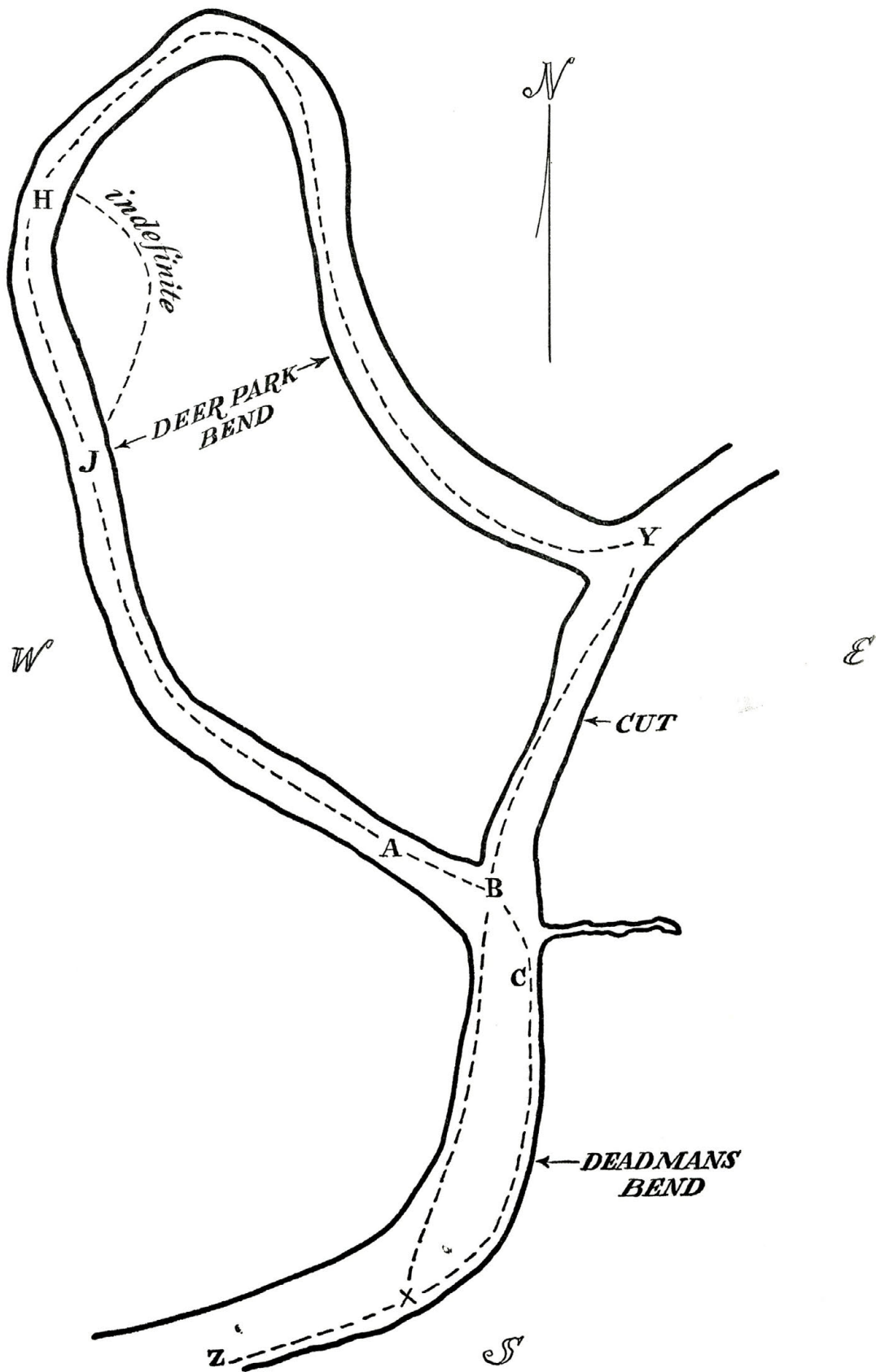
“In the instant case, there was a gradual reversal of the trend of erosion and accretion from one side of the river to the other. This reversed trend began not later than 1940 in the area directly below the foot of the cutoff and has continued at all times during the period from that date until 1964. It is true that a great portion of this reversed process occurred during the flood which began in 1950 and the prolonged high water that continued through 1951 and a part of 1952.” (SMR p. 20).

As shown by Figure 1 (SMR p. 2), the location

of the thalweg below the Cut down to the foot of Deadman's Bend was reversed. Such reversal was direct result of the Cut. Downriver, past the foot of Deadman's Bend, the influence of the Cut becomes immeasurable. There are changes but they are slight and no accurate distinction can be made as to the amount of change attributable to the natural action of the river. (R. pp. 426-27, 498, 686-87).

For explanatory purposes a sketch has been inserted on the opposite page for ready reference.

It is conceded by all parties that the boundary line in abandoned Deer Park Bend YHJAB has become the permanent boundary line between the states. The Special Master has found—and all the witnesses agree—that the old thalweg ran from A to X through B and C. The Special Master has found—as the parties stipulated—that in 1964 the new channel is the line BX. The Special Master found—and all the witnesses agree—that the change in the channel to BX was the sole, direct result of the Cut thrusting the current at right angles to its former path. Louisiana insists that the permanent boundary of necessity must be along the line YHJABCX and asks this Court to decree in this proceeding that the permanent boundary between the states is the line BCX.



**SUMMARY OF POINTS FOR ARGUMENT****Point "A"**

WHERE, AS HERE, A CUTOFF IS CONSTRUCTED BY THE UNITED STATES ENGINEERS THROUGH THE USE OF ARTIFICIAL MEANS AND THE CHANGED DIRECTION OF THE CURRENT FROM SUCH CUT IS THE SOLE AND DIRECT CAUSE OF THE ELIMINATION OF AN ENTIRE EASTWARD BEND OF THE MISSISSIPPI RIVER, AND THE CREATION OF A NEW WESTWARD BEND IN ITS STEAD, THE BOUNDARY BETWEEN THE STATES AS IT EXISTED PRIOR THERETO IN THE AREA BECOMES THE PERMANENT BOUNDARY.

**Point "B"**

BOUNDARY LINES BETWEEN STATES ARE OF SOLEMN IMPORTANCE.

**Point "C"**

REALITY, JUSTICE AND TRUTH SHOULD NOT BE HAMPERED BY DEFINITIONS AND SEMANTICS.

**Point "D"**

IN THE EVENT LOUISIANA'S POSITION HEREIN IS NOT UPHELD AS TO THE BOUNDARY LOCATION, ALL OF THE REMAINING ISSUES SHOULD BE REFERRED TO THE SPECIAL MASTER FOR CONCLUSIONS AND RECOMMEN-

DATIONS AND ULTIMATE DECREE OF  
THE SUPREME COURT.

ARGUMENT

Point "A"

WHERE, AS HERE, A CUTOFF IS CONSTRUCTED BY THE UNITED STATES ENGINEERS THROUGH THE USE OF ARTIFICIAL MEANS AND THE CHANGED DIRECTION OF THE CURRENT FROM SUCH CUT IS THE SOLE AND DIRECT CAUSE OF THE ELIMINATION OF AN ENTIRE EASTWARD BEND OF THE MISSISSIPPI RIVER, AND THE CREATION OF A NEW WESTWARD BEND IN ITS STEAD, THE BOUNDARY BETWEEN THE STATES AS IT EXISTED PRIOR THERETO IN THE AREA BECOMES THE PERMANENT BOUNDARY.

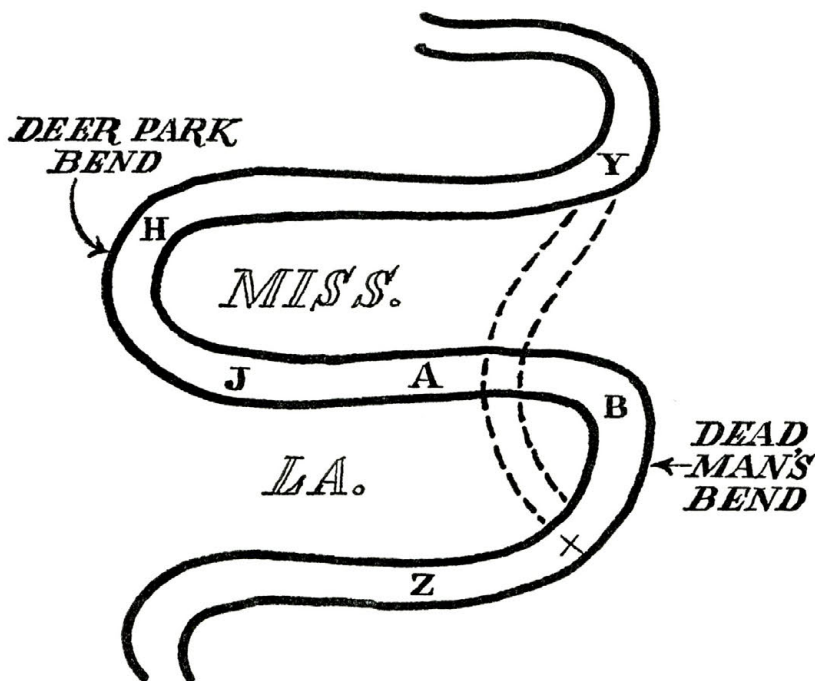
For a realistic comprehension of the problem the contention of Mississippi and the effect of the Special Master's holding should be brought into focus. Referring once more to the sketch, the boundary is conceded to be permanent along the line YHJAB in old Deer Park Bend. In 1932, the boundary ran along the line ABCX. With the opening of the Cut and prior to its development the new current was located somewhere between B and C. *Thus the boundary between the states became altered the very moment any flow of consequence moved down the Cut.* According to the holding of the Special Master, by 1964, the en-

tire boundary line between B and C had been wiped out.

All of the witnesses were in accord and the Special Master found that the current was constantly and continuously moving to the west. Consequently, the boundary will soon eliminate the line AB and in the future will be at some point to the west of A. By the same token, the center of the line BX will bend farther and farther to the west, destroying land, oil wells and equipment.

These results are physically disastrous. They would be equally disastrous legally if Mississippi were to prevail. The range of change in the boundary is not merely substantial, appreciable and sensible. The change is extreme and the scope of its effect in terms of acreage lost and values destroyed has and does reach alarming proportions.

Let us examine further certain inescapable, unjustifiable results of such holding. Here we had two loops which, generally speaking, compensated each other. A small sketch will be helpful:



Mississippi holds title to all of the area located on the inside of Deer Park Bend. Louisiana holds title to the corresponding area inside the next succeeding loop. By virtue of the cut it is conceded that the line YHJA has become fixed, so Mississippi holds title, generally speaking, approximately as far west in this precise area that it can. To the south, left alone, Louisiana would have compensated for its loss by a corresponding eastward gain. Mississippi's farthest west title has become permanent. The new bend developing between YX, as shown by the dotted lines, will not cause any loss to Mississippi. On the other hand, Louisiana not only will fail to have a compensating fixed eastward boundary but will lose much

of its lands, not only in the near future, and will lose considerably more as the years continue to pass.

The foregoing would be the unjust, inequitable result of Mississippi's position.<sup>1</sup> Later, we will examine what, if any, reasons exist to compel such a harsh, unrelenting approach to this particular fact problem. But we do now ask the Court to contemplate from a factual viewpoint the exact opposite, namely, the reaching of a just, equitable, rational, wise and simple solution by recognizing the permanent boundary to be YBX.

While on this phase, this record shows that the river travels approximately 600 miles in the reach embracing the cutoffs both natural and artificial. Of this mileage, some 473 miles have become permanent. This is approximately 70 per cent of the total mileage.<sup>2</sup> As a cold, practical, realistic matter then, it is an empty pronouncement that the Mississippi River constitutes the boundary between the states in this reach of the

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<sup>1</sup>This intolerable result naturally intruded onto the consciousness of Mississippi and through its expert witnesses an effort was made to develop as best it could a compensating effect of erosion and accretion. Unfortunately though, such effects, taking such witnesses' testimony at face value, are demonstrably of little consequence and take place only in the reach between Deadman's Bend and Bougere Bend. They can only serve, slight as they are, as compensating factors for the area to the south of Bougere Bend.

<sup>2</sup>One renowned authority on the Mississippi River, in discussing the way in which the river shortens its length by cutoffs, stated, "... the lower Mississippi will be only a mile and three-quarters long and Cairo and New Orleans will have joined their streets together and be plodding comfortably along under a single mayor and a mutual board of aldermen. There is something fascinating about science. One gets such wholesome returns of conjecture out of such trifling investment of fact." Mark Twain, *Life on the Mississippi*, p. 115 (Heritage Press, 1944).



river. Likewise, the theory of access to navigation may be nice language, but is empty of fulfillment. For the small distance of approximately 3 miles, certainly no compelling reason presents itself to the mind under these circumstances for the Court to strain and struggle to justify harsh and inequitable consequences.

Since 70 per cent of the 600-mile reach of boundaries has become fixed and permanent as a result of artificial and natural cuts, the bordering states possess tracts and slivers of land on opposite shores up and down the length of said 600-mile reach. Consequently, no greater problem of administration is posed by the mere 3-mile stretch here involved.

Another truism the Court should take into consideration from a factual standpoint is of necessity the plans of the United States Engineers. As this record shows, the United States Engineers had no intention to unleash such fearsome energies onto the State of Louisiana. As shown by the easements taken, the Engineers planned to dredge the pilot cut in such fashion as to put the current back into Deadman's Bend in the general direction it had formerly been entering the same. (R. 182) As further shown by this record, they actually dug the pilot cut in this same fashion. Further, it is the testimony that when it became obvious to the United States Engineers that the river was out of control and their plans had gone astray, they moved into the southern terminus of the dredged area and undertook to remedy the situation by excavating along the eastern side of the lower end of the dredged cut. (R. 787). Unfortunately, it was too

little and too late and the energies they had unloosed were beyond their capacity to control. Unquestionably, the U.S. Engineers were forced to realize towards the end that the inevitable results of their actions were destructive and of major proportions.

A declaration of a rule or a principle comes about by the application of reason and common sense to factual situations. Crystalization of those rules into unreasonable and blind adherence to semantics destroys the value of *stare decisis* and the motivating forces, aims and purposes entering into the evolution of the rule.

As the Court thinks deeply into this subject, one impression is bound to result; namely, that many of the decisions define in varying terms the word "avulsion," and such definitions contain in themselves seeds of conflict and are not consonant each with the other. On the other hand, there is a scarcity, if not dearth, of decisions which state the aims and purposes of the holding that avulsion should constitute an exception to the rule. The language of the decisions define avulsion in terms of suddenness and violence. Such terms when so used are invariably associated with an effect or result. The *result* in the context is always a distinct change, a substantial departure from the usual or traditional. Consequently, sound, clear thinking reasons that, of primary importance, is the end result, the degree of change, the new situation occurring. The suddenness, the violence, the sensibleness is of no importance unless accompanied by manifest substantial change. Such is the explanation why the Courts, particularly when

dealing with diversions of river channels by artificial acts of man, have never been concerned truly with rapidity or the time element. Witness the great length of time involved in the factual situations presented and legal conclusions reached in the cases of *Mississippi v. Louisiana*, 350 U.S. 5 (1955); *Whiteside v. Norton*, 205 F. 5 (8th Cir. 1913), appeal dismissed, 239 U.S. 144 (1915); *U. S. Gypsum Co. v. Uhlhorn*, 232 F. Supp. 994 (E. D. Ark. 1964), appeal docketed, No. 17,896, 8th Cir.; *Missouri v. Kentucky*, 78 U.S. (11 Wall.) 395 (1871); *City of St. Louis v. Rutz*, 138 U.S. 226, 34 L.Ed. 941 (1891). That which has been accomplished is the determining factor. Also, it is not a cause of concern that the river per se has been altered or diverted; rather the overriding consideration has to be and must be that the rights of property or the boundaries involved and affected could be placed in jeopardy.

In any event, the law should be construed flexibly enough to prevent it from being an aimless, unsensing robot caught up in rigid, unyielding and absurd postures.

However, if there has ever been any unreasonable emphasis placed on the term "avulsion" to satisfy semantics or ancient concepts, such has been burst asunder many times by the Courts. In *Mississippi v. Louisiana*, *Uhlhorn*, *Missouri v. Kentucky*, *Whiteside* and *Rutz*, all *supra*, dealing with man-made artificial changes the Courts have had no trouble in dispensing with rapidity or the slowness of the cause, or the narrowness of time, as qualifying elements.

In the vast body of law developed and applied by the Courts in situations of the present type among private parties, the end result and its substantial nature govern. Time is completely ignored. Section 14 under the chapter heading "Waters," 56 Am Jur p. 504, reads as follows:

"Change of Course or Channel. - There can be no doubt as to the right of a landowner to divert or change the course of a stream flowing through his land, provided he returns it to its original or natural channel before it reaches the land of the lower owner. . . . Accordingly, one who changes the course of a stream must do so in such manner as not to injure, or unduly interfere with the rights of, the adjoining proprietor, either above or below, or on the opposite side of the stream. Thus, he must not, by changing the direction of the flow of the stream, so increase or diminish its velocity as to cause damage to the land of the adjoining proprietor, or impair his rightful use of the stream; nor can he make any change or diversion of the stream, although on his own land, which would cause the washing of mud and debris on the land of his neighbor, or the injury of the latter, and which would not have occurred had it not been for the change in the current of the stream."

It is obvious that while the United States of America has the undoubted power in the exercise of its sovereignty and navigation servitude to control floods and improve navigation, it likewise has the undoubted obligation to exercise such right in such man-

ner as not to interfere with the boundaries between the states.

This is not an instance where there has been a minor improvement constructed on the Mississippi River which caused no appreciable change, and which resulted in a particle by particle enlargement of bank accretions over an extended period of time, inseparably intertwined and commingled with the normal behavior and regime of the river itself. There is no precedent in the law permitting the boundaries of states or nations to be altered in this fashion.

As previously stated, it is the end result and ultimate effect of artificial changes that predominate over other considerations in determining whether an avulsion or its legal equivalent has taken place. Since the boundary between Louisiana and Mississippi has become permanent in Deer Park Bend, the area within the Cut is of no importance so far as the issues in this action are concerned, but the area below the foot of the Cut where the results and effects of the engineering project are pronounced and drastic is of the utmost importance. There were problem areas downriver from *artificial construction* at issue in the case of *Whiteside v. Norton, supra*; *State v. Bowen*, 149 Wis. 203, 135 N.W. 499 (1912); *James v. State*, 10 Ga. App. 13, 72 S.E. 600 (1911); *Southwestern Portland Cement Co. v. Kezer*, 174 S.W. 661 (Tex. Cir. App. 1915, wr. ref.); *U.S. Gypsum Co. v. Uhlhorn, supra*, and *City of St. Louis v. Rutz, supra*, cases now to be discussed.

In *Whiteside v. Norton, supra*, private parties

were involved. They were engaged in litigation to preserve their rights to the *bed* of the river. Out of this bed a small island had emerged. More such islands could emerge. The parties wanted to settle who owned the rights to the bed. The small island was merely the catalyst.

A navigable channel had existed close to the Minnesota bank. The U. S. Engineers by intermittent dredging over a period of 3 years opened up a new channel. This dredging operation surfacewise was visible although, of course, one could not peer down through the water to see the actual progress in the digging of the new channel on the bottom. The trial Court held that the new channel was to be treated, not as a new work, but as a gradual and natural modification of the old one.

The 8th Circuit on appeal reversed, saying *inter alia*, in 205 F. at p. 13:

*"We cannot agree that human agencies can thus suddenly bring about what like acts of nature admittedly cannot accomplish. Cutting this channel was analogous to avulsion; it could not operate to change the boundary between the states of Wisconsin and Minnesota."* (Emphasis added)

Appeal was taken in *Whiteside* to the United States Supreme Court—*Norton v. Whiteside*, 239 U.S. 144 (1915)—where this Honorable Court described the nature of the suit as one to quiet title to an island or, considered in a broader perspective, "to protect his asserted riparian rights in the submerged land in front of his shore property." Mr. Chief Justice White, in re-

jecting on other grounds the right to appeal, had this to say in 239 U.S. at p. 154:

“Fifth, because we are clearly of the opinion that the mere fact that Congress, in the exercise of its power to improve navigation, directed the construction of the new channel, affords no basis whatever for the assumption that thereby, as a matter of Federal law, rights of property, if secured by the state law, were destroyed and new rights of property under the assumption indulged in, incompatible with that law, were bestowed by Congress.”

In *State v. Bowen, supra*, a dam had diverted the current. At some distance below the dam the new channel passed an island on the side opposite the old channel. The suit involved the island because such was the only economic interest there involved. Obviously, the new channel was in a different place in the reach of the river above the island and below the dam. Equally obvious is the fact that in such area the new channel could not change the boundary in that stretch of the river. In its opinion, the Wisconsin Court held in 135 N.W. at p. 495:

“In the present case, the change was caused by the construction of a dam. It is obvious that *any change* wrought in the *flow* of the water by means of a dam cannot affect the question of state boundary any more than can such change produced by avulsion. It is only where the change takes place by the slow process of erosion or accretion that a change in boundary is effected. *Missouri v. Nebraska*, 196 U.S. 23, 25 Sup. Ct. 155, 49 L.Ed. 372. States and individuals alike are subject to

the losses and gains of erosion and accretion; but neither can have the boundaries of his domain changed by avulsion, or by the diversion of the water effected by human agencies." (Emphasis added)

The Supreme Court of Georgia joins the view that artificial changes made by man, specifically those accomplished by the U. S. Engineers, cannot change boundaries. *James v. State, supra*. In the *James* case the venue of an alleged offense depended upon the location of the boundary between the States of Georgia and South Carolina. The United States government by a series of training dikes had diverted the natural channel of the Savannah River from the South Carolina side to the Georgia side for the purpose of improving the navigation of the river on the Georgia side at the City of Augusta. Among other things, the Court said in 72 S.E. at p. 602:

"... where a river is made a boundary line between two states, if the course of the river is changed or diverted by the United States government in the exercise of its authority to improve navigation, the change in the course of the river would not affect the boundary line, but the boundary line would remain as fixed by law, treaty or prescription. The legal effect of the act of the government in changing the main channel or current of the river is analogous to the change caused by avulsion, and not by accretion."

Similarly, the Court of Civil Appeals of Texas, in *Southwestern Portland Cement Co. v. Kezer, supra*, declined to hold that the boundary between the States of



New Mexico and Texas was changed by the construction of a wing dam on the Rio Grande which switched the current from one side to the other.

Title to the bed of the Mississippi River was at issue in *U. S. Gypsum Co. v. Uhlhorn, supra*. There the economic interest at stake was ownership of a bar or towhead which emerged from the river's bed, principally because of dredge spoil deposited by the U.S. Engineers. The bar or towhead was *visible only in periods of low water*. Dredging operations took place continuously between 1930 and 1940 in an effort to force the river through a new channel on the other side of the disputed bar from the old channel.

The Master in that case found that the time element met the requirements of an avulsion, and that the new channel was formed separate from the old without eroding the intervening space. Nevertheless, the Master ruled that the shift in channels took place within the bed of the river (below the mark of ordinary high water) and the law of avulsion did not come into play, stating in 232 F. Supp. at p. 999, "*My conclusion of law from the cases is that there cannot be an avulsion within the bed of the river. If I am incorrect in this, then my result is not correct.*" (Emphasis by the Court).

On exception to the Master's report, the U. S. District Court rejected the Special Master's conclusion that there cannot be an avulsion in the bed of a river and held that neither vested property rights to the bed of the river nor the state boundary line were changed by the action of the Engineers.

The physical changes wrought by the U. S. Engineers in the problem area in the case at hand are to be considered in the light of perceptibility, scope and time, together with the applicable law.

This record proves that vast changes were completely visible. The dredging by the Engineers was clearly perceptible. So were the tons on tons of material dredged out and deposited on the then existing banks. The complete filling up of the former entrance to Deer Park Bend is extensive and is clearly shown. In the Cut itself, the sloughing of large blocks of the clay plug, the extensive washing away of large areas of the west bank at the southern end, are both sensible and perceptible. Below the Cut, the first physical change of magnitude is that which occurred in filling up of Deer Park Bend where it formerly flowed into Deadman's Bend. There, almost a mile of new land has been made on which there has been a steady growth of a large stand of timber. (R. 300-303, 447; La. Exhibit 7-BB).

Likewise, below the Cut where the Louisiana bank had been relatively smooth and fronted by shallow sand masses, the bank was attacked vigorously by the current coming out of the Cut. Such resulted in caving the bank all up and down the nearly one mile below the Cut down to the well site. The bank became arcuated (R. 303), pocked with sloughed areas, including among other things, an entire well that had fallen in. See Louisiana Exhibit 7-BB. On the Mississippi side, like momentous physical changes took place. All across the side opposite the well for a sub-

stantial distance new lands emerged covered now with trees in various stages of growth.<sup>3</sup>

A few calculations from the hydrographic surveys and Louisiana Exhibit 7-EE will serve to illustrate vividly the profound changes wrought by the U.S. Engineers. From a point near the clay plug to the bottom of the dredged area (Ranges 338.7 to 339.7), the right descending bank lost 75 acres between 1936 and 1940, 56 acres between 1940 and 1951 and 24 acres between 1951 and 1964.

In an area about a mile above and below the well site (Ranges 336.5 to 337.6), the Louisiana shore lost 103 acres between 1940 and 1951, and 57 acres between 1951 and 1964. In the same two periods, respectively, the Mississippi shore accreted 53 acres and 105 acres.

These figures show not only the monumental, drastic changes in the area, but also the wholesale destruction of land by the force of the current followed later by the compensating deposit of silt on the east bank.

There is little need to point out that all of the foregoing have radically changed the aspect of things in the area, are perfectly visible, measurable and appreciable and, in fact, are extreme. Such visible surface changes only serve to indicate how drastic the changes were in the bed of the river. Of course, no one could see what was happening below the surface of the water.

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<sup>3</sup>The buildup on the east side is so extensive, Mississippi solemnly called on Louisiana to admit into the record that it had not undertaken, as yet, to exercise jurisdiction thereover. (R. 125).

A proper perspective of the time factor is revealing. The dredging in the Cut was commenced in 1932 and continued until sometime in the year 1942. Some twenty million cubic yards of dirt were removed between 1932 and 1937. Nonetheless, in 1936, only 13 per cent of the total flow of the river went through the Cut. By 1937, the total flow arose to 24 per cent and to 47 per cent in the year 1949. (R. 482).

Complete data for the period after 1942 is not available. But the highly significant and uncontroverted fact is known that the cross-sectional area of the Cut in the Spring of 1945, a period of high water, was approximately two-thirds of the cross-sectional area of the river at the Natchez gage. This means that during this highwater period the Cut was carrying two-thirds of the water and that the balance flowed through Deer Park Bend. (R. 482). Also, the 1945 high water was the last period of extremely high stages until the year 1950. (R. 482). All of which demonstrates that the Glasscock Cutoff became fully developed for the first time as the result of the high water experienced in the year 1950. Eighteen years, consequently, were required by the U. S. Engineers to accomplish the project they commenced in 1932.

Relating the foregoing time to the area below the Cut, naturally as the flow increased in the Cut the effects beneath coincided. One did not need to see the bottom of the river to know that such bottom was being changed. As one of the experts from Mississippi so aptly put it, (R. 896, 897) the Cut was the cause and the effect was the change in the channel in Deadman's

Bend. Each was completely related to the other. Eighteen years were required to bring the Cut to full fruition and, consequently, eighteen years were required to produce the result. To say the effects were gradual and not sudden under these circumstances is only to beg the question. Had the Cut been constructed in a shorter period, the effects would have resulted in a similar shorter period. Also, in the context of the movement of the river for at least two hundred years in an eastward direction and its expected continuation in that direction for hundreds of years more, the changes wrought in Deadman's Bend occupied only a brief moment in historic time.

In the case of *U. S. ex rel. Carrick v. Lamar*, 116 U.S. 423 (1886), an island was located in the Mississippi River opposite the City of St. Louis. It was a "drifting" island, or a "moving mass of alluvial deposits," that is, slow erosion took place on the front of the island with corresponding slow buildup on the lower end. None of this visible to the naked eye as it took place, but after an extended period of years, a survey showed the island was located a mile south of its former position.

Under these facts, the Court in *City of St. Louis v. Rutz*, *supra*, pointed out in 138 U.S. at p. 251 that in the drifting island case cited above, "... the law of title by accretion can have no application, for its progress is not imperceptible, in a legal sense." To paraphrase the Court's language in that case, it is the ostensible displacement that is the criterion, not merely whether

one can stand on the bank and observe the change take place.

Further, in *City of St. Louis v. Rutz, supra*, it was shown that the City of St. Louis constructed dykes which diverted the current and caused it to flow against property downstream. The destruction of land thus caused began in 1865 and continued for 17 years until 1882, when the Engineers completed a dam impeding the flow of water. The Court found, during the 17 years, that the washing away of the bank occurred to all practical effect only during the high-water period each year, a mere four to eight weeks. Such high water would carry away a strip of land up to 300 feet in width and as much as a city block would be cut off and washed away in a day or two. (Between 1940 and 1951, Louisiana lost about 103 acres of its shore. There was no high water between 1945 and 1950. The large chunks sloughed off the bank were equally as visible and, in fact, are readily seen now on the photographs in this Record.)

The washing away of land in this case obviously was caused entirely by the action of the river's water thrust against the bank by an artificial diversion upstream. The question was whether the riparian owner thereby lost his title to the bed as it existed before the current was diverted, and the issue arose when an island emerged from the river's bed.

The Court held that this relatively small amount of erosion of land visible and occurring only once a year over a period of 17 years, and caused by an artifi-

cial diversion of water did not divest the owner of his title to the bed. The rule was stated in 138 U.S. at p. 245, “. . . the sudden and preceptible loss of land on the premises conveyed to the plaintiff, which was visible in its progress, did not deprive Blumenthal, as riparian proprietor, of his fee in the submerged land, nor in any manner change the boundaries of the surveys on the river front, as they existed in 1865, when the land commenced to be washed away.”

Mississippi contends that the change made in the main channel of the Mississippi River by the Glasscock Cutoff was not unusual for the Mississippi River. We submit that the record shows otherwise. Moreover, any significant diversion by man of the current of a navigable river is unusual in the sense that nature could not have effected the change. So it actually makes no difference whether the change made by Glasscock Cutoff was usual or unusual for any navigable river or stream. Additionally, it is untenable for Mississippi to assert that justice should here be denied for fear that it may be difficult to do justice in some other fact situation.

The case of *County of St. Clair v. Lovington*, 90 U.S. (23 Wall.) 46 (1874), so heavily and so mistakenly relied upon by Mississippi, was decided prior to *City of St. Louis v. Rutz*, *supra*. *County of St. Clair* did not involve a determination of the boundary line between states. While certain accretions were there considered, it is plain that the change in the regimen or pattern of the river was of a very minor nature, and the accretions resulted from an imperceptible particle by particle accumulation. The rationale of *City of St. Louis v. Rutz*,

which mentions *County of St. Clair* on another point, demonstrates clearly the Supreme Court confines *County of St. Clair* to its particular and limited fact situation. Upon the facts and circumstances presented therein, the case is sound law and Louisiana subscribes to the announced principle. The rule is entirely applicable to the area in Bougere Bend (the next succeeding bend to the south) where the river has resumed its natural regimen, with only slight variation in bank caving and accretion. The rule is likewise applicable where revetments, levees and other like works of the Engineers cause moderate and largely immeasurable changes in the activities of the river. Obviously, the case has no application to a wholesale destruction of land and vested property rights.

In the light of the decisions cited in this brief, Louisiana confidently asserts that the cases referred to by the Special Master in his report are not, and cannot, be made applicable to the factual situation presented by the record in this case. To the contrary, the overwhelming weight of authority of the cases cited in this brief are applicable to artificial diversions and effectively deny that acts of man can change the boundaries of states.

### **Point "B"**

#### **BOUNDARY LINES BETWEEN STATES ARE OF SOLEMN IMPORTANCE.**

As cogently pronounced by this Court in *Florida v. Georgia*, 58 U.S. (17 How.) 478 (1855), at p. 494, "By the 10th Section of the 1st Article of the Consti-



tution, no State can enter into any agreement or compact with another State, without the consent of Congress. Now a question of boundary between States is in its nature a political question, to be settled by compact made by the political departments of the government."

If states may not change the boundaries between them without the consent of Congress, it is unthinkable that United States Engineers may do so simply by carrying out the navigational servitude vested in the Federal Government. On the premise of loss and gain in minor and inconsequential changes in river channels, the shifting boundary concept may be applied if the change has been occasioned by natural, gradual and more or less imperceptible processes of erosion and accretion. *New Orleans v. United States*, 35 U.S. (10 Pet.) 662 (1836); *County of St. Clair v. Lovington*, *supra*; *Kansas v. Missouri*, 332 U.S. 213 (1944). But a complete, radical diversion of a mighty river requires that the old channel and former thalweg remain fixed as the boundary between states. If the action is artificial and the result is avulsive in effect or analogous to avulsion, normalcy and gradualness are not pertinent.

The view taken by the State Supreme Courts and Federal District Courts that the results of United States engineering projects do not and cannot change water boundaries between states can well be supported and justified from two standpoints: First, the lack of authority in United States Engineers or in any human agency to change state boundaries and to destroy titles. Second, long-established and recognized

boundaries between states and vested rights of long existence should be protected.

The drastic change wrought by the engineers in the main navigable channel of the Mississippi River in the problem area causes grave economic considerations to arise. The Complaint refers to only one producing well as one of the stakes involved, but an application of the "live" thalweg concept to the boundary issue herein could result in Louisiana's loss of oil and gas potential within the entire area and beyond. Mississippi cannot undertake successfully to offset the gravity of the situation by pointing out that, before the Glasscock Cutoff, it had been losing land gradually over a long period of years. Mississippi would have to place the blame on nature to make that point. Louisiana is not responsible for acts of nature. The Glasscock Cutoff and the results thereof were man-made. Louisiana contends that acts of man, unlike nature, may not impair its sovereign, territorial and proprietary rights. Nor can Mississippi offset the seriousness of the matter by pointing out that in the area between the foot of Deadman's Bend and Bougere Bend losses and gains compensate. Of concern is the narrow problem area where the economic factor is grave, not losses and gains of land beyond that area.

While Louisiana initiated this boundary action, it is obvious, as a result, that certain private citizens of Mississippi, with the dominant aid of that sovereign state, are striving herein to become the beneficiaries of a situation caused by man's interference in processes

of nature. The well was drilled from a Louisiana site and bottomed in productive sand under Louisiana land. Some eight years had passed since the drilling of the well before those Mississippi citizens formally asserted title to the area in dispute. On the basis of the Special Master's finding that the thalweg passed to the west of the well on February 28, 1955 (SMR, p. 29), whether or not that date of change can be determined with complete accuracy, approximately seven years elapsed from that change before the territorial and proprietary claims asserted by Louisiana were challenged. This does not indicate laches so much as it does the dubious evaluation which Louisiana's present adversaries placed on their claim during all of those years.

All of these facts and circumstances add increasing support to Louisiana's position that both moral and legal principles should be recognized as placing it beyond the power of human agencies to change state boundaries and destroy titles by diverting the channel and flow of water in navigable rivers and streams which separate two or more states of the Union.

### **Point "C"**

**REALITY, JUSTICE AND TRUTH  
SHOULD NOT BE HAMPERED BY DEF-  
INITIONS AND SEMANTICS.**

Until works of man, navigational projects and engineering enterprises reached a state of intensity in the navigable waters of the United States, particularly before the United States Corps of Engineers

set out on a wide scale flood control and river improvement program, sovereign states of the Union, separated by water boundaries, had mainly the vicissitudes of nature to reckon with in boundary impingements. The rule of accretion and its exception of avulsion had to meet and contend with the eccentricity and unpredictability of nature, and so long as water channels were altered by nature and naught else, states of the Union separated by navigable rivers and streams accepted the juridical rule and its exception aforesaid in the same spirit of resignation as they did the vagaries of nature.

When man and human agencies began to interfere with nature by diverting the current and flow of navigable rivers and streams, states bordering each other had cause, as even Louisiana does now, to question the reasonableness of following definitions and semantics that have lost their relevance in certain respects to new factual conditions and modern day situations. If the solemnity of state boundaries is to be preserved and long-existing vested rights protected, the ancient concept of avulsion cannot be reasonably applied to artificial works of man that, unaided by the dominance of nature, change thalwegs in rivers and streams.

As shown above, certain State Supreme Courts and Federal District Courts have recognized the need of flexibility in viewing the results of engineering works in navigable waters as being "analogous to avulsion," pretermittting consideration of suddenness and perceptibility.

Whether it is best to broaden the concept of avulsion in dealing with the acts of human agencies in changing stream patterns and water channels or to abandon inappropriate nomenclature and semantics, it is the prerogative of the courts to decide. Let it be emphasized however, in either event, that the judiciary is not challenged, particularly by Louisiana in this action, to establish another exception to the rule of accretion.

It certainly has not been the purpose of the United States, acting through the Corps of Engineers of the United States Army, to alter, change or affect boundaries between or among states in undertaking navigational projects in navigable waters and streams. That which was done without purpose should not enable one state of the Union to gain a part of the territory of another and to destroy the long-existing vested rights of that other state.

There is no exception to the substantive law that the boundaries of states may not be altered except by compact between them ratified by Congress. U. S. Const. Art. 1, Sec. 10. *Florida v. Georgia, supra*. Hence, it matters not what United States Engineers do in navigable waters to change stream patterns and currents; the previously existing water boundaries between states remain unaffected and undisturbed. This irrefutable conclusion actually makes it unnecessary for this Court to expand the doctrine of avulsion or to establish a pattern in this action to cope with the facts in the case. In other words, this Court may say that what happened as a result of the Glasscock Cutoff

was analogous to avulsion and having no effect on the pre-existing water boundary between the two states in the problem area, or it may omit nomenclature and semantics entirely and hold that such action caused no change in said boundary.

### **Point "D"**

IN THE EVENT LOUISIANA'S POSITION HEREIN IS NOT UPHELD AS TO THE BOUNDARY LOCATION, ALL OF THE REMAINING ISSUES SHOULD BE REFERRED TO THE SPECIAL MASTER FOR CONCLUSIONS AND RECOMMENDATIONS AND ULTIMATE DECREE OF THE SUPREME COURT.

If the Supreme Court holds, as Louisiana urges, that the boundary became permanent in Deadman's Bend, such a ruling will dispose of all remaining issues in this case. Louisiana is convinced that such should be the action of the Supreme Court, but should the Supreme Court decline so to do and leave Louisiana and its property in the area of Deadman's Bend at the mercy of a steadily encroaching and destructive live thalweg, then Louisiana requests the Court to exercise its unquestioned jurisdiction and finally dispose of the entire controversy for the following reasons:

1. The records of the Supreme Court reflect that boundary disputes between states encompassing property rights of great value, such as exist here, are relatively rare and there is no danger of setting an undue precedent.

2. The proof is all in and the record is complete on the remaining issues. The Special Master only has to make his findings and conclusions predicated thereon.

3. There is no other tribunal possessing jurisdiction over all the parties.

## CONCLUSION

Louisiana submitted to the Special Master the boundary it contends and insists should be recognized as the permanent boundary between the States of Louisiana and Mississippi in the problem area. Such line is delineated and described in Exhibits "A" and "B" to the Stipulation of October 26, 1964, (R. 64), filed with the Special Master.

Louisiana submits that the law and evidence warrant the Court finding that the boundary between the States of Louisiana and Mississippi, as it appeared in Deadman's Bend in 1932, prior to the construction of Glasscock Cutoff, and as delineated on the Exhibits aforesaid, became then fixed permanently, and entering a decree so recognizing the permanent boundary between said states in the problem area.

Respectfully submitted,

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**PROOF OF SERVICE**

The undersigned, of counsel for the State of Louisiana, plaintiff herein, and a member of the Bar of the Supreme Court of the United States, hereby certifies that on the \_\_\_\_\_ day of August, 1965, I served copies of Louisiana's Brief in support of its exceptions to the Special Master's Report herein, by depositing same in a United States Post Office, with sufficient first class postage prepaid, addressed to:

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