
In the
Supreme Court of the United States

October Term, 1964

— 0 —
No. 17, Original

STATE OF NEBRASKA, *Plaintiff*,

vs.

STATE OF IOWA, *Defendant*.

APPENDIX TO
DEFENDANT'S BRIEF AND ARGUMENT
BEFORE THE SPECIAL MASTER
HONORABLE JOSEPH P. WILLSON

RICHARD C. TURNER

Attorney General of Iowa
State Capitol Building
Des Moines, Iowa 50319

MICHAEL MURRAY

Special Assistant Attorney
General of Iowa
Logan, Iowa 51546

MANNING WALKER

Special Assistant Attorney
General of Iowa
233 Pearl Street
Council Bluffs, Iowa 51501

Attorneys for Defendant.

I N D E X

	Pages
Introductory Statement	1
Appendix A—Evidence bearing upon whether or not the state boundary line estab- lished by the 1943 Iowa-Nebraska Boundary Compact can now be lo- cated.	2
Testimony	2
Exhibits	9
Appendix B—Evidence showing that the Corps of En- gineers placed the designed channel where the river tended to go as much as possible.	11
Testimony	11
Exhibits	15
Appendix C—Evidence showing that the river was a straight reach from Frazer's Bend to below Hamburg Bend, prior to com- mencement of work by Corps of Engi- neers in 1934.	17
Testimony	17
Exhibits	28
Appendix D—Evidence showing that Otoe Island formed in the Iowa half of the wide natural channel.	29
Testimony	29
Exhibits	48
Appendix E—Evidence concerning the Otoe Bend Canal dredged in 1938.	49

INDEX—Continued

	Pages
Testimony	49
Exhibits	52
Appendix F—Evidence concerning where the main channel was immediately before it was diverted into Otoe Bend Canal in 1938	54
Testimony	54
Exhibits	56
Appendix G—Evidence showing that no substantial body of identifiable land was cut off by Otoe Bend Canal.	57
Testimony	57
Exhibits	59
Appendix H—Evidence showing the location and a de- scription of the natural river at Rock Bluff Bend before the Corps com- menced work at that site in 1934 and showing what the Corps did at Rock Bluff Bend prior to 1943.	59
Appendix I—Evidence showing that Iowa applied her common law rule that the beds of navigable waters are state owned con- sistently from 1856 to date. . .	60
Testimony	60
Exhibits:	
General	62
Legislative	63
Executive	65

INDEX—Continued

	Pages
Judicial	83
Nebraska courts recognized.	89
Federal courts recognized.	90
Appendix J—Evidence concerning location of Iowa- Nebraska Boundary before 1943 and on July 12, 1943.	92
Testimony re Rock Bluff Bend.	92
Exhibits re Rock Bluff Bend.	116
Testimony re Otoe Bend.	125
Exhibits re Otoe Bend.	154
Testimony re general river.	164
Exhibits re general river.	164
Appendix K—Evidence relied upon by Plaintiff to es- tablish acquiescence by Iowa.	174
Testimony re Nottleman Island.	174
Exhibits re Nottleman Island.	178
Testimony re Otoe Island.	185
Exhibits re Otoe Island.	195
Appendix L—The tree evidence.	199
Appendix M—Exhibits reproduced herein.	205
Nottleman Island.	N1
Otoe Island.	O1

ALPHABETICAL INDEX TO WITNESSES

B

Babbitt, Darwin Merritt	174
Baker, Lon	150
Beckman, Raymond W.	176
Bensend, Dwight W.	199
Brown, Willis L.	2
Brush, Lucien M., Jr.	18

C

Campbell, Fred	101
Chadwick, Jack	97
Chambers, Clarence H.	103
Chambers, William M.	102
Cockerham, Cliff	125
Cole, Ray O.	108
Connor, Bruce	93

D

Dooley, Edwin M.	95
Dooley, Ruth	94, 95
Doyle, Glenn	133
Duncan, Frank	125

E

Eyler, Gay	92
Eyler, Silva	92

INDEX—Continued

	Pages
F	
Fenton, Thomas E.	34
G	
Garrison, Elmer	128
Gayer, Harrison L.	93
Gilliland, Whitney	94, 177
Givens, James M.	29, 136
Gregory, Alvin B.	96
H	
Hansen, Arthur T.	108
Harless, Everett E.	99
Harold, Roy O.	97
Hart, Lawrence	3
Hayes, Oscar Leroy	149
Hinze, Otto	34, 136
Huber, Raymond L.	5, 14, 50, 54, 59, 164
J	
James, Medford (Toots)	130
Jauron, Gerald J.	61
Johnson, Genevieve	95
Johnson, Luther	95
L	
Lippert, James J.	93

INDEX—Continued

	Pages
Loper, Gen. Herbert B.	11, 17, 29, 164
Lubsen, R. J.	6

M

Martin, Lewis	49, 54, 58, 135
McGinnis, Edgar A., Jr.	199
McGraw, George L.	98
Mindford, Will	106

N

Neuhauser, Capt. Otto	95
-----------------------------	----

P

Pierce, Clayton	110
Powles, John	92
Propp, Albert J.	34, 140

R

Ramge, Maynard	107
Rhoades, Winifred	185
Ruhe, Robert V.	37, 151

S

Sack, Louis	109
Sargent, Merrill	174
Schade, Ward	105
Schemmel, Douglas	195
Schemmel, Henry E.	50, 54, 57, 187

INDEX—Continued

	Pages
Schwob, Fred	60, 164
Sporer, Martin	100
Starr, Frank	150

T

Taylor, Cal	127
Tesnoklidek, Joe A.	97
Troop, George	175

V-W-Y

Virtue, Jack	5
Walker, Fred	135
Warga, Albert W.	94
Watts, Albert Mason	95, 175
Weakley, Harry	199
Young, Rex	101

1. Introduction

The purpose of this study is to investigate the effects of the proposed system on the performance of the system. The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task.

The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task. The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task.

The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task. The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task.

The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task. The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task.

The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task. The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task.

The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task. The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task.

The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task. The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task.

The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task. The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task.

The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task. The system is designed to improve the efficiency of the system and reduce the time required for the system to complete the task.

In the
Supreme Court of the United States

October Term, 1964

No. 17, Original

STATE OF NEBRASKA, *Plaintiff*,

vs.

STATE OF IOWA, *Defendant*.

**APPENDIX TO
DEFENDANT'S BRIEF AND ARGUMENT
BEFORE THE SPECIAL MASTER
HONORABLE JOSEPH P. WILLSON**

INTRODUCTORY STATEMENT

This Appendix is an effort, on the part of counsel for Defendant, State of Iowa, to provide a handy reference guide for the Special Master to those portions of the record which sustain the statements of fact made and contained in Defendant's Brief and Argument. It is our judgment that some of the exhibits and much of the testimony in the record have only gossamer connection, if any, with the issues now before the Court, and such exhibits and testimony are omitted from this Appendix for purposes of brevity and also to the end that the Court will have a manageable reference guide to those matters of record which bear on the issues.

APPENDIX "A"

Evidence Bearing upon Whether or Not the State Boundary Established by the 1943 Iowa- Nebraska Boundary Compact Can Now Be Located

PAROL TESTIMONY

WILLIS BROWN, Nebraska State Surveyor:

These construction maps that we are looking at here now today deal as to directions the lines were run. Give control points by number, length of structures. They are very much in detail as to where the structures were built, the location of the structures, the width of the river, all of their construction information or that they have on a plat, I should say, is here.

One other thing I should point out here, that by inquiry from the Corps, that they have found that the dikes as built are not exactly as they are shown on this map. This is what we would call a preliminary survey. They are not as built. In other words, these don't show where the structures were built. They are within reason. As they drove the dikes, the driver may have veered off a little bit from the center line so the structure itself isn't exactly as it is portrayed on this map or any of the Corps maps.

The AP maps are made from uncontrolled mosaics away from the river.

From the AP maps alone, from that information alone, I would say it is an impossibility to locate the boundary because this AP map is drawn from uncontrolled mosaics, meaning they had no control. They didn't know the distance between points. For instance, road intersections, corners, houses, buildings, anything like this. This is all uncontrolled. It is more or less like a road map. They give no calls on it,

no distances, no information for the surveyor to accurately locate the state boundary.

Q. What is the fact, Mr. Brown, as to whether it is possible or impossible to locate with pin point accuracy the Nebraska-Iowa border as set forth in the 1943 Compact for its entire length? Can you do it?

A. Well, only if you make a lot of suppositions. Supposing that this construction map represents what is on the AP map. You have to assume that this is the same construction that appears on the AP map, and so this is a great, big assumption. To be able to stand up on a witness stand and say, "This is the state line as appears on the AP map, you can't do it."

LAWRENCE H. HART, retired surveyor for the U. S. Army Corps of Engineers, now deceased, testified by deposition as follows:

That he was Registered Land Surveyor in both Iowa and Nebraska. That he was a Corps of Engineers employee from 1932 to his retirement in 1965. That after retirement from the Corps, he engaged in business as a surveyor at Onawa, Iowa, and among other things, did surveying work for Monona County, Iowa, and the State of Iowa.

From early 1937 to 1965, I had charge of all surveys and construction surveys on the river, staking construction and making any survey ordered from Ponca, Nebraska to Omaha. Laying out construction, the control consisted of horizontal control of traverse along both banks of the river, and these traverses are tied into the triangulation net which was established either in 1929 or 1930, and around 1890, and from this triangulation control the traverses on both sides of the river, and then the course of the channel line was laid out between these two lines wher-

ever it was decided it should be, and then the construction was laid out and the dikes and revetments were tied into the control on the east side of the river so that it would be possible to know the width of the river, and so forth.

The triangulations were generally on high ground on the right bank. On the left bank away back second order stations were put in in 1890, and then later in 1929 and 1930, there was another net where additional stations were put in along the river so that these stations would be closer to the river to work from. We usually found these stations, a few washed away. Most of them were put quite away back from the river. Much of our surveying and staking was done on solid land (R. V. XX pp. 2965-2967).

The field notes never went to Omaha. The information was put on maps and sent down there to them. Rarely were the notes ever sent in. The field offices did most of that. I have had occasion to search for the field notes and can find anything you want. Most everything is there since 1932. Maps are destroyed, notes never, they are still there. About 1965 they destroyed some records, but they kept the record called 8411, that shows the length of the dike, where the root started and what the penetration was and whether it was a two row or three row dike and the beginning and the end of it. All those were maintained and are still there (R. V. XXI pp. 3108-3109).

I do not agree with the factual statement in Mr. Huber's letter for the U. S. Army Corps of Engineers' office that the state boundary cannot be located from maps in their files, written in February, 1963.

Because you have your alignment and you have your '40 maps and you have your reports and field notes, there are some changes. There are changes made in the traverse, and new controls established, but by

taking the field notes and the construction reports that were dated, you can come up with a solution for it on a greater part of it. There might be places where there might be difficulty, but it is not something that couldn't be resolved between the surveyors on the ground.

There are two places where there could be a little sliver and two chords in Monona left to run, and with those exceptions it is my opinion all of the Iowa-Nebraska border is either surveyed or in the present channel (R. V. XXI pp. 3114-3118).

RAYMOND L. HUBER, retired civilian design engineer for the U. S. Army Corps of Engineers, Omaha office, testified as follows:

That sometimes, if the designed channel is running along a bluff, there are structures on only one side. In these places, the center of the designed channel would be mid-point between the end of structures and the bluff.

That "the ends of the structures," in the case of pile dikes or stone dikes would be the riverward terminus, or the farthest point they project into the stream. In the case of a sloping bank, the end of structure "is the point where the structure meets the "construction reference plane," commonly known as "C. R. P.", which can be located in the field from construction maps (R. V. X pp. 1455-1456).

JACK VIRTUE, resident of Onawa, Iowa, a Registered Land Surveyor in Iowa and licensed Engineer, testified as follows:

That for about four years, on a part time basis, he and Lawrence H. Hart were jointly engaged in a project for Monona County, Iowa, to survey all land in Monona County in the vicinity of the Missouri River so that all land could be placed on the tax rolls. We extend Congressional land lines from the

existing record available to the ordinary high water mark or the 1943 Compact line.

Q. How far complete is that survey?

A. 95 per cent, I would say (R. V. X p. 1361).

R. J. LUBSEN, Ames, Iowa, Civil Engineer and head of the department of land surveying at Iowa State University, testified, as follows:

I made a detailed study and investigation concerning the location of the state boundary line fixed by Compact in 1943 at Rock Bluff Bend. The boundary can only be computed and cannot be surveyed in that area because it is in the present channel of the Missouri River.

I have made a study and investigation as to why the Nebraska State Surveyor's computation of the State Boundary at Rock Bluff Bend and Mr. Windenburg's computation of the State Boundary there and my computation of the State Boundary there are not the same. All three lines diverge, but nevertheless all stay within the designed channel as the designed channel now exists. The maximum divergency between my computation and the Nebraska State Surveyor's computation is about 140 feet.

The Court:

Is your line in the middle of the channel as it is laid out there?

The Witness:

That is correct. Mine is midway between the banks of 1940.

I would like to eliminate the Windenburg line as being erroneous, because he put his line in a channel that was only 600 feet in width. He has a constant error of approximately 50 feet throughout his entire length

on his own assumption. The Nebraska State Surveyor's line and mine are almost the same down to structure 627.0. From 627.0 to the South we have a diverging line because as near as I can tell and from my own research, Mr. Brown used a line that was constructed in 1942.

Q. Mr. Lubsen, you have just produced a second sheet of paper and Mr. Wolcott has marked it "D-1161." Would you tell us what that is?

A. This is a portion of the boundary, the river at the south part of Nottleman Island, drawn to the same scale as D-1160, but this time I left the left bank as it was in 1940 and according to the record that should be correct, but on the right bank I plotted the revetment 627.85 which was constructed in 1942, which moved the right bank to the west. Most of the movement occurs starting with structure 627.4 on the right bank. It starts with a small 0. At 627.2 it is approximately a foot change. At 627.0 it has a change of approximately 17 feet. On the structure 626.8A it cut off at Station 10 plus 45 instead of 21 plus 57 so that would be approximately 1,112 feet, to structure 626, which again cut off about 194 feet, and came back on to the 1940 channel at Station 27 plus 30 on structure 626.4A.

Q. You mean the divergence of the 1942 channel line as distinguished from the previous designed channel line disappeared down here?

A. At 27 plus 31 on Structure 626.4A. That revetment was built in 1942.

Q. How do you know that?

A. I have notes, the records from the Corps of Engineers.

- Q. Do you have those notes with you? What do they look like? (R. C. XV p. 2201)
- A. Yes. I have them from the beginning of time on the river until 1967 of all the structures from 630.95 up river to 623 south of Nottleman Island.
- Q. Does the Corps keep a copy of all that?
- A. They keep the original copy in their Omaha office.
- Q. Do those records show you, tell you when the construction of a certain dike commenced?
- A. That is correct; the day it was completed, the length, the ties to the Corps Survey Control, and it has the signature of the inspector that was in charge during construction.
- Q. And coming on down to date, do they show you if the structure was ever damaged?
- A. Generally, yes. If there were any repairs on it.
- Q. Do they show you repairs that may have been made?
- A. That is correct.
- Q. Additions?
- A. Any extensions, yes.
- Q. I was thinking more of additions like putting rock rather than extending or something like that. Does it show things like that?
- A. If there is anything done under contract, it would appear either on the face or on the back side of this document which means that if we Xeroxed it I would have two sheets. They are river stabilization structures, but then they are labeled by dike number, identification number or revetment number.
- Q. They are both revetment numbers and dike numbers?

- A. That is correct.
- Q. From those documents can you ascertain, for instance, when this revetment number 627.85 was started and when it was finished?
- A. In 1942 and completed in 1942 from station 0 plus 00 to station 52, which is on structure 626.8, and later on to 27 plus 31 on structure 626.48. (R. V. XV pp. 2201-2204)
- Q. Do you know whether the Corps keeps, has kept as part of their permanent files the dike records and revetment records for all of their dikes and revetments from Sioux City to the Missouri line similar to these which you have brought to Court which relate to the Nottleman Island area?
- A. Mr. Burnett of the Corps told me on Monday this was their Bible. These were to be always kept on record, that they have not thrown away any of their records from the office.
- Q. Do you know of any reason why the State Boundary Line established between Iowa and Nebraska by the Compact cannot be either computed or surveyed with reasonable accuracy?
- A. I do not. (R. V. XV pp. 2210-2211)

EXHIBITS

LOCATING THE COMPACT BOUNDARY

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
	Complete set of Corps Construction Maps showing designed channel referred to in 1943 Boundary Compact at scale of 1" = 400', also showing Corps control lines and points on both sides, and location of structures	D-426 thru D-430 D-525 thru D-528 D-1145 D-702-A D-702-B

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

		D-702-C
		D-1143
		D-1144
		D-529
		D-530
		D-531
		D-417
		D-1137 thru
		D-1142
		D-532
		D-1131 thru
		D-1136
		D-533 thru
		D-544
	Plats of surveys of miscellaneous areas made by L. H. Hart for Iowa Conservation Commission wherein various segments of boundary fixed by Compact were either surveyed or computed	D-1205 thru D-1220
	Plat of survey of Deer Island where segment of boundary was computed by I. H. Windenburg	D-1204
	Plat of computation of 1943 Compact boundary line at Nottleman Island by Prof. R. H. Lubsen showing his computation, I. H. Windenburg's computation, and Willis Brown's computation	D-1160 P-746
	Plat by Lubsen showing 1942 design change which makes his boundary computation correct	D-1162
	Certified copies of AP maps as filed in Iowa Secretary of State's office	D-1
	Certified copies of AP maps as filed in Nebraska Secretary of State's office	P-1770

APPENDIX "B"**The U. S. Corps of Engineers Placed the Designed
Channel Where the River Tended to Go
as Much as Possible****PAROL TESTIMONY**

GENERAL HERBERT B. LOPER, 72, Retired Major General, U. S. Army, Corps of Engineers, testified:

- A. As I pointed out a moment ago, many of the curves we took as they existed or approximately existed. Some did. Others had to be fitted between the banks of the river and this precluded the use of a standard length and radius.
- Q. Did the theory of the construction of the permeable dike always work out in practice?
- A. As I mentioned, it didn't work out in the upper Mississippi River.
- Q. On the Missouri, I mean.
- A. Yes; it worked out in practice.
- Q. Would you describe for us how these dikes were driven out from the bank, or what the effect of the driving of the dike would do?
- A. It is necessary to select where there is sufficient water. The dike system for any bend starts on the concave side and directs the current across the river to the opposite side, creating a concave bend there. Therefore, at the point of beginning you must have deep water; otherwise your river will scour the bank out from under you; that is, the take-off dike at the beginning of a system. Those dikes are driven by floating pile drivers. However, as one moves downstream on that same system you run into sand bars between the high bank and the place where you are going to put

the river, and across those sand bars you frequently use a skid rig, a pile driver which you drag along. If it is a low sand bar, you may wash or dredge or cut through that bar deep enough to float a driver through. This is just a matter of cost, which way is the most economical to build that dike that necessarily goes over one or more sand bars before it reaches the designed channel location. (R. V. XIV pp. 1894-1895)

- Q. Now, the designed channel in Otoe Bend, as I understand it, was to be a left curve, a curve to the left in the bend. Would that be a correct statement?
- A. Looking downstream, it would be to the right. We always call that the right. Let's say it was to go from the Iowa shore to the Nebraska shore so that the apex or center of the bend would be on the Nebraska shore, yes. On the Nebraska side. I don't know whether you would call it right or left bend. It depends on which way you are going.
- Q. Was your entire designed channel in Otoe Bend designed to be within the existing mile-and-a-half wide river at that point?
- A. No. To get the proper curvature, I believe there was some encroachment on what is called high bank here (indicating). There was some, I am sure, encroachment on the high bank in order to get the curvature of the bend and the correct width.
- Q. The encroachment you are talking about would be on the Nebraska bank?
- A. Right. I might interpolate here, if I may, that the reason why this bend was designed this way

was probably due to the fact that the water appeared to be trending this way at that time.

Q. Trending which way do you mean?

A. Towards this (indicating). Toward the Nebraska side at that time.

Q. It was trending toward the Nebraska side at that time?

A. Right. At the time this hydrographic survey was made and the superstructures were imposed on it at a later time, 1933. I don't know that that had anything to do with the decision to make the bend this way. It may have. That is all I can say.

Q. When you say it was trending that way, what do you mean?

A. That was where the map showed it to be. That map doesn't show, nor do I think there was anything that could indicate whether it was going to continue this way (indicating) or go this way (indicating).

Q. By trending that way, do you mean that it was—the main channel was moving that way naturally?

A. No, no; I wouldn't mean that at all. That would be an unwarranted assumption on what nature does.

Q. Well, I don't precisely understand what you mean by trending.

A. I have used the wrong word. The better expression would be to say that it was actually located closer to the Nebraska bank than it was toward the Iowa bank.

Q. I see. As you said, a consideration in designing the river was to use the river as you found it as much as possible. I suppose?

A. That is right. (R. V. XIV, pp. 1921-1923)

RAYMOND L. HUBER, retired civilian design engineer for the U. S. Army Corps of Engineers, Omaha office, testified as follows:

Q. What did the Corps consider an optimum curve above Kansas City would be?

A. A curve with a radius of a minimum of about 6,000 feet to about 9,000 feet was the optimum or ideal radius of curvature.

Q. What were the considerations which governed laying out these curves and which way they would go and where they would be?

A. Actually, there were several considerations. One the flow of the river, how much discharge would be available on completion of the work, the slope of the river, the location of fixed hard points such as bluff contacts, existing bridges and cities, the location of the channel at the time of construction, and of course the trace which would provide the most economical accomplishment of training the river into the designed channel and holding it there, and which also would provide a minimum of maintenance on completion. (R. V. XXIII p. 3272)

Q. (By Mr. Murray) When this designed channel, Mr. Huber, was being laid out down at Kansas City, were there any cutoffs or canal cutoffs in the design?

A. There were none.

Q. What was the original design for the river at St. Mary's Bend, for instance?

A. At St. Mary's, the channel there was designed to the east around the existing west bank of the river shore which extended out in the form of a rather sharp point at that area, and it contemplated bringing it far to the east and then back again to the west side or Nebraska side.

Q. Would you say that the original design at St. Mary's bend, the designed channel would have been in the bend as it was?

A. Yes, sir; at that time as it was, generally, yes.

Q. State whether or not that would also be true at California Bend.

A. That was true at California Bend also.

Q. Wasn't that also true at Winnebago Bend?

A. It was.

Q. How about Peterson Bend?

A. It was also true at Peterson Bend. (R. V. XXIII pp. 3359-3360)

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1931	U. S. Army Corps of Engineers 1931 Hydrographic Survey Map.	D-291-A
1943	U. S. Army Corps of Engineers Construction Map showing 1943 De- sign Channel.	D-427

COMMENT

Comparison of the above two exhibits illustrates what the Corps did in Otoe Bend area re putting river where it tended to flow.

- | | | |
|------|---|----------|
| 1931 | U. S. Army Corps of Engineers
1931 Hydrographic Survey Map. | D-371-A |
| 1943 | U. S. Army Corps of Engineers Construction Map showing 1943 Design Channel. | D-1044-A |

COMMENT

Comparison of the above two exhibits illustrates again what the Corps did in Rock Bluff Bend area re putting river where it tended to flow.

- | | | |
|---------|---|-----------------------|
| 1940-41 | Alluvial Plain Maps of 1940-41 by
U. S. Army Corps of Engineers. | D-1151 thru
D-1160 |
|---------|---|-----------------------|

COMMENT

These exhibits cover the entire boundary and show wide, natural river in many areas merely confined into the Designed Channel.

APPENDIX "C"**The River Was a Straight Reach from Frazer's Bend
to Below Hamburg Bend, Prior to Work of
U. S. Army Corps of Engineers****PLAINTIFF'S TESTIMONY**

HERBERT B. LOPER, age 74, Major General in U. S. Army, Corps of Engineers, retired, testified:

After the river came together at the lower end of Frazer Island, it was wild for about six miles. And it was too straight. —it was really one long bend. The river at that point was far too wide. It would be about two miles. It was a series of small channels—there was no well-defined, single channel in the river below there. Otherwise we could hardly call it a wild river. There were several channels there. Low bars between the principal channels. Not as substantial an island. I don't know how high one would say the maximum height of the land between the Iowa side and the designed channel may have been, but it was certainly at least what we would call a high bar.

Exhibits D-291 and D-292 are 1931 hydrographic maps, and exhibits D-427-A and D-428A are construction maps of the same area.

And they also contain some information updating the bank lines after 1931. —Note a line which is designated "Bank Lines July 3, 1933".

Therefore, this would appear in general it approximately leaned a bit toward the Nebraska side of the middle of the river at that time. —and the channels of the river that are marked "Shallow" in that hydrographic survey or topographic, I guess it is called, were to the Iowa side generally in Otoe Bend. (R. V. XIV pp. 1917-1920)

DEFENDANT'S TESTIMONY

LUCIEN M. BRUSH, Jr., Princeton, New Jersey, 159 Hartley Avenue, age 39.

I am an associate professor of hydraulics in the Department of Civil and Geological Engineering at Princeton University, Princeton, New Jersey. I was born in Pittsburgh, Pennsylvania, and received my secondary education in Pittsburgh through high school. I attended Princeton University as an undergraduate; received a Bachelor of Science Degree in geological engineering in 1952; attended Penn State University for two years and transferred to Harvard and obtained a Ph.D. at Harvard University in geology in 1956 with a specialization in geomorphology.

I went full time with the United States Geological Survey in 1956 in the water resources division. I was classified as a geologist (watersheds). First in Washington, D. C. then Denver and California for a little bit, and then back to Washington, D. C. In 1958, I joined the staff of the Iowa Institute on Hydraulic research at Iowa City and I held title of assistant professor in the Department of Mechanics and Hydraulic Engineering or Research Engineering, I left in 1963.

In the summer of 1963 I joined the department of Geological Engineering and Department of Civil Engineering at Princeton University. The department is now—Civil and Geological Engineering.

Hydrology is the study of water and its distribution on the earth, including certain fundamental phases of meteorology and climate. Water in its relation to the earth. Say the hydrologic cycle is certainly in the domain of hydrology. Rainfall-run-off relationship. Floods. (R. V. XX pp. 2914-2918)

I studied 16 small streams in the State of Pennsylvania ranging in size, none of them were nearly as

large as the Missouri. They were in a completely different geological environment.

I made measurements in these streams of their width, their depth, their flows, their slopes, particle size of material in the bed.

Following that I went and studied fairly extensively a large stream in Wyoming called "Muddy Creek". In this particular stream, I studied the terraces, the sediments while I was employed by the United States Geological Survey. I studied probably more casually four or five other streams in the area.

Then I studied some of the streams in northern California. I think I have seen almost every foot of the Susquehanna River in Pennsylvania and New York.

I studied maps of numerous streams. While I was at the University of Iowa I made several model studies of streams, one quite a large meandering stream. It was a flume or a channel built in the laboratory that was over a hundred feet long and had several bends in it, and the reason I chose the particular sinuosity or curvedness of this particular stream was based on a map study of the average or typical meandering loops in the Missouri River as well as the Mississippi River.

I made another model study in an alluvial bedded channel—I should say a sand channel while with the USGS at the University of Maryland in a small flume we constructed. That particular study was oriented in order to try to understand the relationship between discharge, slope, and channel width in a naturally formed channel.

While I was in Alaska working for the United States Geological Survey, I really was studying some other streams, but I had occasion on numerous occasions to travel down many of the Alaskan streams, some of which are braided and some of which are not.

I made model studies of channel stabilization work. I visited numerous other geomorphologists in the field while they have described their findings on particular streams. I worked with Leonard Leopold and George Wolman who at that time were with the United States Geological Survey. Leonard Leopold still is. Visited many of the streams they studied in Wyoming and Colorado, so I would say it was a fair response I have seen quite a few streams in rather large areas of the United States, ranging in size from the Missouri down to the tiny laboratory channels.

Q. Now, Dr. Brush, did you study this matter first of all as to what the proper descriptive words for the Missouri River are in your business?

A. Yes. I did actually three things in regard to this. I looked in the literature for discussions concerning the general area of the Missouri River, say in the vicinity from Sioux City down to Rulo, Nebraska, and any information that is available on the plat. I also examined maps, particularly the maps that interested me were the maps, the earlier maps, the 1879, 1890 maps which presumably predated most of the man-made works that have gone on on the river.

I also visited the area that has been described in the last couple of days here, visited the field area and stood on some of the scarps and stepped down on some of the lower levels, walking across the fields there. In the presence of some of the other scientists here, I saw them take samples and test them for carbonates leaching or the presence of carbonates. I visited the general area I will say on foot.

The Otoe Bend area in the vicinity of Schemmel Island.

I read the Ruhe-Fenton preliminary report. (R. V. XX pp. 2922-2926)

WITNESS: Let me say that my concept of the river, as I see it, from north of the Platte's mouth to Sioux City which is as far as I have examined in this particular case, I would call it a typical meandering channel. The Platte, I think everyone recognizes it a typical braided stream. In fact, it is a very good example of a braided stream.

The reach from the Platte's mouth south extending perhaps to Rulo, Nebraska, shows the combined influence of the braided stream coming in from the left or joining the Missouri at the right bank as a combination of braiding and meandering. However, when I say it is not a typical meandering stream, I say this because I made some measurements from the maps of a quantity called the sinuosity of the river. The sinuosity is really a ratio of the total thalweg length over the access of the meander belt and on the basis of this number, and there is other supporting evidence, but on the basis of this number, based on the USGS professional paper written by Leopold and Wolman, who established the sinuosity ratio of more than 1.5 as characterizing a meandering stream, a sinuosity of less than 1.5 therefore does not qualify as a meandering stream.

The reach of the Missouri River above the Platte's mouth has a sinuosity ratio in excess of 1.5 and the reach below has a sinuosity less than 1.5 so on this one criterion, which is supported in the literature, one would say that the stream does wander, does go through bends from the Platte's mouth on to Rulo, it does so at a reduced fashion over a typical meandering reach such as that above the Platte's mouth.

The influence of the Platte's mouth is the following and gives the reach between the Platte's mouth and Rulo also a braided characteristic, and this is the summary of the previous workers in this area, and I will quote them just by name then. In the Mis-

souri River document presented to Congress by Prof. Strua, then of the University of Minnesota, he describes the influence of the Platte River on the Missouri itself, he describes how there is an increase in bed load that comes in as a result of the Platte River joining the Missouri. There is an increase in suspended load. He describes in that report actually how the channel is less serpentine downstream from the Platte's mouth, has numerous bars and islands in the channel itself, and thereby he doesn't actually say it takes on a braided look, but he doesn't use any descriptive word except that it meanders and serpentine less than it did before.

In another document by another very well known geologist, J. Hoovin Macklin, in the paper that he published in the Geological Society of America bulletin which is a very old reputable geology society, the bulletin from it, he more or less makes the same kind of description of the influence of the Platte River on the Missouri River, causing the Platte's mouth reach to change drastically from what the Missouri was above the Platte's mouth.

Thereby other scientists, including one from the Journal of Lewis and Clark, written by Clark, pointing out how the influx of sediment from the Platte River chokes the Missouri channel with numerous sand bars and islands, or words to this effect, without actually quoting the actual citations.

Now, with regard to the braiding characteristics of the stream, there is also another paper written fairly recently by Dr. Bryce. It is a USGS Professional paper, published document available to everyone, called "Channel Patterns and Terraceability of the Loop Rivers in Nebraska." In this publication he describes a braiding index that he uses to classify streams with regard to braiding or whether they are not braiding, and in this particular index is the ratio of the total bore, island length, the sum of all these

lengths multiplied by 2, divided by the length of the channel gives you a ratio. The ratio that he said indicated braiding was the ratio of greater than 1.5. Now, he used two kinds of braiding indexes, one that was a total braiding index in which he included bars and islands. He didn't actually call them islands. He called them stabilized bars indicating the presence of vegetation. If you measure everything in the channel, then you come up with a total braiding index. If you just measure the stabilized bars, you come up with a stabilized braiding index.

I measured from the 1890 map these ratios and, yes, the Platte River comes up with a value much greater than 1.5. The Missouri River above the Platte's mouth comes up with a very low braiding index and the Platte's mouth to Rulo, Nebraska, reach of the Missouri River has a total braiding index which is greater than 1.5 so on the basis of Dr. Bryce's classification of braided streams, I would say that that reach between the Platte's mouth and Rulo has characteristics of a braided stream.

I would say also that it has some of the characteristics of a meandering stream still left over from the joining of a typical meandering stream and a typical braided stream formed together to really give you something halfway in between. It inherits some of the characteristics of each of these two streams.

The earlier records, well documented—there is no problem in this respect—the heavy influx of sediments from the Platte River, particularly in the bed load, causes the channel to widen considerably downstream from the Platte's mouth, causes the slope to steepen, which is well documented in all the literature on the subject, and it is quite a few miles downstream before these effects really die out and the Missouri returns to somewhat more of a typical meandering pattern. The influence of heavy sediment loads, particularly bed load, which is traveling on the bed (R. V. XX, pp. 2926-2930).

Another consequence then of what is going on is that there tends to be deposition in places along that reach downstream from the Platte's mouth that are not associated with a typical meandering stream, and you can look at the map and see numerous locations along the length of that channel and see where there is deposition on the outside of the bends indicating that deposition doesn't always occur on the inside of the bend or the point bar but also can occur at least in this reach of the river, and frequently does, toward the outside of the bends or toward the outside of the curves in the river, and my point in this case is that that reach is not a typical meandering stream also for this point.

It is also suggested therefor that it is possible for this deposition on the outside of a bend to actually move away from the outside of the bend or cause the river to move away from the outside of the bend. It is probably the river moving over and the bend keeping up with it or the deposit in the bend keeping up with it.

- Q. (Murray) Now, Dr. Brush, in a braided stream, what does cause the depositions to be where they are?
- A. The characteristics of a braided stream is that it tends to form islands. The islands can form either because of heavy bed load or because of coarser bed material, and if the stream is not able to carry all this material rapidly as bed load, it deposits it as islands. Furthermore, this depositional pattern is not really very predictable. It is actually quite random and rather haphazard over the length of the channel, which can also therefore cause deposition to occur to the outside of some of the bends as well as the inside of some of the bends. I am not saying it only occurs on the outside. It occurs throughout the reach of the Missouri from Plattsmouth to Rulo.

This has been shown in laboratory studies as well.

- Q. Now, when the stream which is of the nature of the Missouri below the mouth of the Platte deposits bed load in the form of an island or in the form of a bar, does that have any effect on the banks?
- A. Yes, during the course of the year or a flood event or the presence of an obstruction or an island in the middle of the channel obviously causes the channel to try to widen and therefore perhaps erode the banks on both sides of the river at the same time. Perhaps, since it has come out before, sort of like Schemmel Island, as I understand it, in the 20's where the right bank and the left bank both started to go further and further apart. This would be a characteristic of a braided channel. It would tend to be wider, steeper, perhaps bank cutting on both sides. Assuming the rock is not terribly resistant on one side or you don't hit a hard spot. That there would be at least the opportunity there.
- Q. Would the formation of an island in the stream or a bar in the stream, whichever you call it, where the stream is bounded on one side by limestone hills tend to cause anything to happen to the other bank?
- A. You mean assuming the other bank is less resistant?
- Q. Yes, assuming the other bank is not limestone or anything like limestone.
- A. Obviously, if it meets very resistant rock on one side, if it is going to widen it is going to widen in the direction of the weaker material or less consolidated material. The same would be true

if it couldn't eat through the bed and if it hit a limestone part of the bed, it might tend to widen out in response to its inability to cut down (R. V. XX pp. 2931-2933).

Q. (Murray) Now, I believe you stated you have read the Ruhe-Fenton preliminary report.

A. Yes.

Q. On the basis of that, do you reach any conclusion? Do you have any opinion as to how the main stream of the Missouri River moved out of its channel which we call the Iowa Chute channel and back to the westward from that?

A. Yes; I have an opinion (R. V. XX p. 2934).

Q. Is it possible that that right bank of this chute could be a scarp marking a former right bank position of the Missouri River?

A. Not in my opinion.

Q. (Murray) On the basis of your observations out there as you have described them, and on the basis of your study of the Ruhe-Fenton preliminary report, and on the basis of your experience and education in this general field, do you have an opinion as to how the main channel of the Missouri River moved westerly from its location when the left bank of the Iowa Chute was its left bank? (R. V. XX p. 2938).

A. In my opinion, the channel moved slowly west, but obviously came to some halts long enough at least to form some of these minor scarps that exist there, so whatever the date is for the bank near the Iowa Chute to the date where the scarps run out and we start picking up where the river really was at a later time in 1905, that the river moved apparently gradually, depositing material on the outside of this bend as it had done at

least evidenced by the earlier maps, but there are obvious standstill positions where the river at least stayed in one place long enough to leave a small scarp.

Court: It came west by stages, you think?

Witness: By stages, yes (R. V. XX p. 2941).

Court: Sure, do you see any avulsions along there, Doctor?

Witness: No, I did not.

Court: I guess from what you have said, you have looked at the reports of Lewis and Clark on their ascent of the Missouri River.

Witness: Yes, journals written by Clark.

Court: Do you find anything in there that speaks of any channel in the Missouri River or how did they go up there, with flatboats pulling, and so on?

Witness: They describe how terribly difficult it was to go up the Platte, but they didn't describe in this particular section I read what boats they were using going up the Missouri, but they noted they had a terribly difficult time getting by the mouth of the Platte because it was choked with these sand bars.

Court: I remember that. Did they say anything about the current in the Missouri River as compared with the Platte?

Witness: They mentioned the velocity and they also described the very high velocity of the Platte River coming into the Missouri.

Court: At the junction?

Witness: Yes (R. V. XX pp. 2942-2943).

- Q. I believe you testified that you stood on the scarp and saw the other experts, and I assume you refer to Dr. Ruhe and Dr. Fenton, take samples. Did they take some kind of samples in May 1969?
- A. They were showing me what was going on, yes, and they did several things. They had a hand auger and dug down and showed me the color and texture of the material and described it to me on the high part of the older material on the left and put acid on various parts of the sample as they pulled it up.
- Q. Did you take any of that information into consideration in reading your conclusion, sir?
- A. Just as part of the general picture. I would say. I notice there was a difference between that land. There was a topographical difference. They showed me with acid tests the difference there and they showed me texturally another difference (R. V. XX pp. 2945-2946).

EXHIBITS

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1930	Corps of Engineers aerial mosaic taken 1930 with outline of Otoe Island superimposed by Bartleman	D-1092-A
1930	Corps map prepared from 1930 aerial photos with island superimposed by Bartleman and thalweg superimposed by Huber	D-1123
1931	Corps Hydrographic Survey of 1931 with island superimposed by Bartleman and thalweg superimposed by Huber	D-291-A
1931-45	Corps Construction Map used from 1931 until retired in 1945 with island superimposed by Bartleman	D-427

APPENDIX "D"**Otoe Bend Island Formed in the Iowa Half
of the Wide Channel****PLAINTIFF'S TESTIMONY**

GENERAL HERBERT B. LOPER—see appendices "B" and "C".

DEFENDANT'S TESTIMONY

JAMES M. GIVENS, age 53, Hamburg, Iowa farmed opposite Schemmel Island, ran bench measure on river in 1932, knew river well 1922 thru 1936.

I was born and raised on the home place, a little over a mile north and a little west of where Albert Propp now lives. Wherever the river has been in times past, the farm has run westward to the river. The South boundary of that farm lays adjacent to Albert's. The east part of it. That road which runs east and west past Albert Propp's farm buildings is the boundary line between the two farms. The south boundary line would run right straight out into what they call the Schemmel Island. It would intersect the north end of Schemmel Island. I lived there until 1936 (R. V. XXII pp. 3138-3141).

Q. When would you say your first recollection is of going out to the river?

A. Oh, about 1922.

Q. At some point while you were living out there, did you have occasion to go to the river for other purposes?

Yes. I ran a bench measure for the Government. I can't remember exactly what year it was. I think it was in 1932, but it would be on their records. Checking the rise and fall of the river in feet and tenths that bench measure was roughly a quarter of a mile south of our north line. I will say roughly. It might not have been quite

a quarter.

- Q. How often would you have to go out and check the bench measure?

6 o'clock every morning and 6 o'clock every evening. I ran that bench measure for the government; fall and up into, you know, late summer and early fall until it froze up (R. V. XXII, pp. 3142-3143).

- Q. What year would you say you could first describe for the Court how the river ran past the west edge of the Givens farm?

- A. It would be at least 1924 that I can remember it.

The Court: You would be eight years old?

The Witness: About that, yes, sir. I would be nine.

The farm ran a mile north and south and on the north line it ran to the southwest, it didn't run straight, it swung to the southwest. What I am trying to say is that I am not going to say it ran true southwest. It might have swung back just a little, but roughly it was the same on the south boundary as it was on the north boundary. It ran southwest yet, yes (R. V. XXII, pp. 3144-3145).

- Q. Opposite your farm back in the 20's was the river running in a single channel to the west of it or in more than one channel to the west of it?

- A. That is according to what time of year it was. There was a main channel and then you had the chutes off of it, and if the river was high there was a lot more. See what I mean? The main river, yes, was more or less stable. Do I understand the question now?

- Q. Well, are you saying there was one channel when the river was high and more than one channel

when it was low, or vice versa?

A. No; there was a main channel and then when the river got up it filled these chutes, and I guess bayous, whatever you want to call them. I would call them chutes, sloughs. But there was one —

Q. When the water was low, do I understand correctly that you are trying to say there was one channel?

A. One channel, yes.

Q. Is that the channel you have been describing as running generally southwest?

A. That is right.

To the southwest. Swung a little southwest and then straightened back up more or less south, almost straight south, a little southwest. It would be almost identical channel you have got now, as I remember it. I will put it that way (R. V. XXII pp. 3145-3146).

Q. Now, you have been describing, as I understand you, in 1924.

A. Yes.

Q. As you continued to be there and observe it in 1925, 1926, 1927, 1928 up until the Corps started work on it, was there any change in the general situation that you have been describing?

A. Oh, when the river would get the June raises or ice would go out, it might vary back and forth some. It cut some one place and filled another. It wasn't stable.

Q. When the Corps started work in that area around the south boundary of your farm, was the situation of the river any substantial difference from what you have described?

A. You mean after they put their trail dikes in?

- Q. No, just before they put their trail dikes in.
- A. Not too much. About the same, I would say.
- Q. Did you observe the effect the Corps work on the trial dikes had on the river?
- A. Yes.
- Q. What effect did it have?
- A. Well, it narrowed the channel down and kind of meandered it, I guess you would call it, switched it back and forth a little. In other words, instead of having long bends it shortened the bends and filled in some spots and took out some.
- Q. In the area at the south end of your farm, the south boundary of your farm where it intersected the river, did the Corps trail dikes change where the river had run theretofore in any respect?
- A. It shoved the main channel over west some, yes, or I won't say it shoved it over. It confined it. That would be more like it.

The Court: When did you leave that home-
stead, that farm?

The Witness: In 1936.

The Court: You lived there until 1936?

The Witness: Yes.

The Court: Let me ask you a question. You have mentioned you are acquainted with the Schemmel Island, is that right?

The Witness: I haven't been over it. I know where the north end is.

The Court: You know where it is?

The Witness: Yes.

The Court: What is your earliest recollection of it being an island, that mass of land called an island?

The Witness: A sand bar.

The Court: No; I mean what year are we talking about? When did it change from a sand bar to an island or when did it start as a sand bar? Tell us about that.

The Witness: I would say along 1936, '35, '36, somewhere along in there as far as I can recollect.

The Court: Would you call it an island as of 1936?

The Witness: It was forming as an island, yes.

The Court: Any vegetation on it?

The Witness: Willows.

The Court: Willows.

The Witness: Then there were places out there, there was some pretty good-sized trees on too.

The Court: Cottonwoods?

The Witness: Yes.

The Court: You are speaking now in 1936?

The Witness: Yes, sir (R.V. XXII pp. 3146-3149).

The Court: What is your recollection of that mass of land when you are speaking of being eight or nine years old? Do you remember anything out there then in those days?

The Witness: I was never over that part of it. I remember a bar being out there.

The Court: But it has no firm recollection?

The Witness: No.

The Court: You have no firm recollection.

The Witness: No, just a willow patch across the chute. That is all it meant to me then. It looked like a pretty good place out there at that time (R. V. XXII p. 3149).

OTTOE HINZE, see Appendix "J".

ALBERT J. PROPP, see Appendix "J".

THOMAS E. FENTON lives at 1226 Arizona, Ames, Iowa, and is 35 years of age.

I am an associate professor of agronomy at Iowa State University and was born in Zabrey, Illinois. I received a Bachelor of Science Degree from the University of Illinois in 1959, a Master of Science in Agronomy from the University of Illinois in 1960, and a Ph.D. from Iowa State University in 1966 in soil genesis and classification. I came to Iowa State in 1960 as a graduate student, and was instructor from 1960 until 1964. From 1964 to 1966 I was a research associate and did no teaching, and since receiving my Ph.D. Degree I teach one course, graduate level, in soil genesis and classification. (R. V. XX, p. 2845).

Agronomy is broken down into soil science and crop science, and soil genesis and classification would be a subdivision of soil science.

The major portion of my time is devoted to a co-leadership in a project which is called soil mapping, classification and correlation of Iowa soils — a project going on all over the state. The soil survey program is a cooperative program between the Federal Government, the Soil Conservation Service, and the Agricultural Experiment Station in each of the states, and as part of the duties assigned to agronomy

department, I am representing the Experiment Station in the work of soil genesis, classification, and correlation.

What we call the modern soil survey was begun in Fremont County in 1960 and was completed in 1966. (R. V. XX, p. 2846).

In our investigation of Otoe Island, we took and studied core samples on the Nebraska side of the river, on the Iowa side east of the Iowa Chute, between the Iowa Chute and the island, and on the island. Exhibit D-1233 shows where these core samples were taken (R. V. XX, pp. 2847-2868).

Q. What are your conclusions as a result of taking those samples and studying them?

A. That the soils that occur in that area are calcareous at or near the surface and are highly stratified with little or no indication of genetic soil development having taken place. The pattern on the soil map for the area shows that on the outer edges of the island there are coarser textured sediments that grade to heavier textured sediments toward the center of the island. The number 146 and 156 would indicate soils that are silty clay to clay in texture in the center of the island. (R. V. XX, pp. 2868-2869).

Q. I think maybe we got interrupted at the point I had asked you what your conclusions as a result of having taken these four samples on a traverse across the island, in our layman's language. I think you answered that question in your language, but I am trying to get it in our language.

A. Again, the soils and the materials from which the soils formed in this area on the island are similar in kind to those that occur west of the Iowa Chute and over to the river. The pattern

of distribution is different if you compare the Schemmel Island body with this other area out in here (indicating) just by looking at the soil types that occur in the surface texture that there is a trend in pattern that separates the two areas in terms of combination of the units that you get and the relationship one to the other.

As pointed out before, around Schemmel Island the outer margins tend to be coarser textured with the heaviest texture occurring right in the center of the island.

- Q. Does that mean something or anything as to how the island formed?
- A. No; not as to how it formed as a result of the time that land first appeared where the island now is.

The Court: In other words, you can't date the island by what you see in the soil, is that it?

The Witness: In other words, if you over lay, say, the present-day soil map on the map that Dr. Ruhe used in showing the date that land first appeared here, there isn't necessarily any correlation between where land first appeared and present-day soil pattern, but, due to the sedimentation pattern on here (indicating), it would appear that the present-day soil characteristics that we have are related to over-bank flow and deposition of material that you have here on the island.

In other words, when it would overflow you would expect to get the coarser textured material on the outer margins with subsequently finer material being deposited in the farther interior from this, so that is a hard question—(R. V. XX, pp. 2874-2875).

ROBERT V. RUHE, 1710 Maxwell, Ames, Iowa. 51 years old. Senior staff geomorphologist of the Soil Conservation Service, United States Department of Agriculture. I am also a professor of soils at Iowa State University. Bachelor of Arts degree in geology from Carlton College, Northfield, Minnesota; Master of Science degree from Iowa State University at Ames and a Ph.D in geology from the State University of Iowa at Iowa City.

Geomorphology pertains to the study of land formation, their descriptions and explanations of their origins; specialized field in geology.

While taking my advanced degrees, I was a Pleistocene geologist with the Iowa Geological Survey at Iowa City. Since getting my Doctorate, I have been a geomorphologist with the Department of State in the Belgian Congo. I was employed by the Soil Conservation Service beginning January 11, 1953. Between 1963 and 1965 I was chief of the soil geomorphology group on the Washington staff of the Soil Conservation Service. I worked on the Rio Grande and the areas adjacent to it from 1957 to 1960. Have been based at Iowa State University. I worked in Hawaii on short-term assignments each year 1959 to 1965. Worked in Alaska — summer I was in Australia, and this summer I will be in France.

I do no formal teaching. Have published more than a hundred technical articles, bulletins, and recently my first book. — *Quaternary Landscapes in Iowa*. The Iowa State University Press. Fellow of the Geological Society of America — fellow of the American Association for the Advancement of Science. — Soil Science Society of America, a member of Sigma Phi — research fraternity — member of Phi Kappa Phi — scholarship fraternity. — On the executive council of the American Association for Quaternary Research.

The duties of the Department of Agriculture are

fundamentally to determine what we would say is the geomorphology of a given area. This would be the landscape, the hill slope, the streams, to fit these things within some kind of a chronological history, and a concurrent part of our studies is to map and study the soils and then to determine what effect the evolution of the landscape, the geomorphology aspects of it, has in the formation of soils.

A representative of the State of Iowa requested me to make a study in the Otoe Bend area. I was assisted at all times by Dr. Thomas Fenton, and we had two graduate student assistants with us in our work each time we worked there, so we had a field party of four. Dr. Fenton and I did the assembly work, and the laboratory studies that were done were done by a graduate student who did not do the field work. We did our first studies in June of 1967, and we did additional work in November 1967, and we had two field conferences with members of the legal staff.

We were asked to undertake the study to try to determine the positioning of the Missouri River through an historic period. In various points of time.

We did a study of available maps and area photographs in trying to determine the position of the river from a historic sequence, the maps of 1852 and 1856, the map of the Suter survey of 1879, the map of the Missouri River Commission in 1890, map of 1895, the survey of the right bank from Otoe County,—the Gregg map of 1895 from the County Surveyor of Fremont County. (R. V. XIX pp. 2723-2731).

The map of 1903 from the "Report of Geology of Fremont County, Iowa," by Udden, which is an Iowa Geological Survey annual report of 1902; the 1905 map, Nebraska City quadrangle; a map of 1919, and it also comes from this Court record; a map showing sand bars on the Missouri River in Township 67 North, Range 43 West, Fremont County, Iowa, dated

August 21, 1919, by the County Surveyor of Fremont County, Iowa; the map of 1923, a Corps of Engineers map; map of 1926, Corps of Engineers map; 1928 Corps of Engineers map; 1930 Corps of Engineers map; 1940 Corps of Engineers; 1946-47, sheet No. 59, the tri-color, Corps of Engineers; also a map 1946-47, an index map of the reach of the Missouri River from Rulo, Nebraska, to Yankton, South Dakota; aerial photographs, 1925, 1930, 1936, 1937, 1938, 1939, 1941, 1944-45, 1947, 1960, 1966. The 1960 and the 1966 air photos are ASCS photographs of the United States Department of Agriculture. All the others, insofar as my knowledge, are Corps photographs. We went through the procedure of overlay, taking the chronological change that could be seen of different positions of the river as indicated by the dates of the maps and photographs. Used the transparencies discussed previously here, then I constructed overlays as accurately as I could and made comparisons from my own construction. The purpose was to try to determine where the left and right bank of the Missouri River was at certain times in history in the Otoe Bend area. (R. V. XIX, pp. 2734-2736).

- Q. (By Mr. Murray). Well, what are your conclusions derived from the matters you have just been pointing out on the maps?
- A. If you take the right bank which is developed by the transparency of Mr. Brown, the right bank and the left bank during this period were operating independently. The right bank was generally moving to the right, or toward Nebraska, and the left bank was generally moving toward the left in this area. Schemmel Island is in that portion of the channel, the current Schemmel Island, so we had a general bulging of the Missouri River in the southern part of this Otoe Bend area in 20's.
- A. The right bank moved right, the left bank moved left.

Q. And the left bank left?

A. So the stream widened.

The Court: How do you show the right bank?

The Witness: From the transparencies which are made from the Corps of Engineers map.

The Court: The Corps kept moving it through.

Mr. Murray: What?

The Court: The Corps was moving it to the right.

Mr. Murray: Not in the 20's.

The Court: I mean in the 30's. That is what its object was, wasn't it? Was there anything shown there before the Corps started working on it, Doctor, that you found? You started talking about the left bank and then all of a sudden you started talking about the right bank.

The Witness: The right bank is shown from Corps maps. It is shown from the Corps maps. The right bank is not on these maps. It is developed in my report, showing the displacement of the right bank to the right and left bank to the left in the latitude of area known as Schemmel Island.

Q. (By Mr. Murray). Do you mean that this bulging you have been describing occurred during Corps work, commencing in 1943, or before the Corps work?

A. Before the Corps work.

Q. Well, since we are at that point, does your study enable you to reach some conclusion as to what

the effect of the Corps work was starting 1934? (R. V. XIX, pp. 2764-2766).

The Court: I am curious to know this. Here is a thing that occurs to me. You very carefully indicated where the left bank was from 1897 on. The left bank was moving easterly or westerly?

The Witness: No, sir; westerly.

The Court: I am talking about this lower part the Nebraska people are interested especially. At some point then you started talking about the right bank.

The Witness: Because in the other period of history, as the river was going back west the right bank was destroyed so you can only pick it up —

The Court: There is no way of seeing an escarpment or anything else there. Is there any way where you can see except for what the Corps did? That is what I am getting at. You still have to depend on the Corps to find out where your right bank is, don't you?

The Witness: Yes, from the Corps maps.

Mr. Murray: I believe, Your Honor, that Nebraska contends here in the case that the island was formed prior to the Corps work with the main channel on the east side of it and the Corps shifted the channel to the west side of it as a result of their work.

It is our position that the island was not formed at that time and that it formed as a result of the Corps work, and I think the witness has reached some conclusions concerning which of those things happened, and I was trying to elicit his conclusion in that manner.

The Court: You have heard the proposition. Can you support that proposition, Dr. Ruhe?

The Witness: Yes, sir; I can, if I may show these, the transparencies, on the light table. We can't project them because they don't show well, but we can look at them on the light table. (R. V. XIX, pp. 2767-2768).

Mr. Murray: In other words, you have some more transparencies?

The Witness: I have some more transparencies. These have been constructed from the aerial photographs of 1930, 1936, 1937, 1938, 1939, 1941, 1944, 1946, 1947. These are controlled by taking the distortion out of the air photograph by cartographic means in the office and laboratory and by plotting them all to the same scale. These are all to the same scale. (R. V. XIX, p. 2769).

Q. (By Mr. Murray) Now, Dr. Ruhe, I have a very poor recollection. You had overlaid these two exhibits, one on the other, and did you state what you see by so doing?

A. Yes. When I lay one on the other, then I see the change in the channel. I also see the deposits related to the structures, and there is a change from 1930 to 1936, pre-Corps and post-Corps?

The Court: Where is pre-Corps? Where was the channel pre-Corps?

The Witness: 1930.

The Court: Where is the channel, main channel?

The Witness: It would be down through here (indicating). From here there would be a bar and there is a constriction.

The Court: Where is the left bank?

The Witness: The general left bank is this line (indicating). The right bank is that line (indicating). This is an island (indicating) and this is an island (indicating), and these would be bars (indicating).

The Court: You really can't tell where any main channel is from that, can you?

The Witness: If I were boating, I would go down this way (indicating).

The Court: Oh, I know, but you can't tell by looking at that. You weren't there and you can't see from that where the channel was except that you are going to skirt around the bars.

The Witness: That would be the way you would have to do it, skirt around the bars.

The Court: Go ahead.

- Q. (By Mr. Murray) Your next transparency has been numbered "D-1225." Tell us what that is.
- A. That is a transparency constructed from the 1937 aerial photograph.
- Q. In similar manner to what you have described?
- A. Similar manner. (R. V. XIX, pp. 2778-2779).
- Q. (By Mr. Murray) Now, what, in your research and study use, do you make of D-1225?
- A. If you will overlay that on 1936, then you see the change brought in the additional year. These are now islands and bars related to the structures of the Corps. From 1936 to 1937.
- Q. And that is the purpose of that overlay, is that right?
- A. That is the purpose of that overlay.
- Q. You have done the same thing for 1938?

A. 1938.

Q. And the transparency for 1938, I take it, is this one which is 1226?

A. 1226. (R. V. XIX, pp. 2781-2782).

Q. (By Mr. Murray) I take it, Doctor, your use of 1226 would be to overlay it on 1225?

A. 1937.

Q. And you observe thereby the changes in the bars and channels and islands, and so forth, between those two years, to-wit, 1937 and 1938?

A. 1937 and 1938.

Q. Now, I think you told us generally that you did this same process —

The Court: What kind of channel have you got on the east side in 1938?

The Witness: In 1938 the channel is through here (indicating) and there are structures going through. There are secondary channels within here (indicating) —

The Court: Where is Schemmel Island?

The Witness: Schemmel Island is forming in here, down through here (indicating).

The Court: Hadn't it formed by 1938?

The Witness: In 1938, parts of it were there. Parts of it.

The Court: You have got two bodies of water now, two channels, going down each bank, haven't you?

The Witness: There is a channel here (indicating) and the channel here (indicating), and there are secondary channels here (indicating). (R. V. XIX, p. 2784).

Q. And the overlay for 1939 is marked "D-1227." Again, if you overlay D-1227 on D-1226, what do you see?

A. Change, and the accumulation of a large mass of sediment in the area generally known as Schemmel Island in 1939.

Q. In 1939, do you really see Schemmel Island taking shape?

A. You begin to see Schemmel Island taking shape in 1939.

The Court: It has taken shape, hasn't it?

The Witness: It is pretty well outlined now.

The Court: Yes.

The Witness: Pretty well outlined.

The Court: It is there.

The Witness: Yes, except for minor areas which will show.

Mr. Murray: We offer Exhibit D-1227.

Q. (By Mr. Murray) Have you made a transparency in similar manner from the aerial photo of 1941?

A. I have.

Q. Is that overlay marked "D-1228"?

A. It is.

Q. And then do you overlay that in similar fashion on 1227?

A. I do.

Q. What do you see by so doing?

A. The slight changes in outline of the area and the beginnings of the addition of this thing that

looks like a pork chop down in the south part of Schemmel Island.

The Court: That is when again?

The Witness: 1941 overlaid on 1939.

Q. (By Mr. Murray) Have you done the same, gone through the same process with the aerial picture taken in 1944 or 1945?

A. Yes.

Q. Is that marked "D-1229"?

A. It is.

Q. What do you see by overlaying that on 1228?

A. The changes in the area between 1941 and 1944, and in this area which was shown in 1941 as island is now back in channel. There are also shifts in the positions of the chutes or minor channels on the east side of Schemmel Island. There is also a change here which will show the island to the south of Schemmel Island.

Q. (By Mr. Murray) Now, what is D-1230, Dr. Ruhe?

Q. The tri-color from the Corps, dated 1946-47, is that right?

A. 1946-47, yes.

Q. (By Mr. Murray) And I now ask you to tell us what that shows when you place it on top of D-1229.

A. The slight changes that take place between 1944, 1946, 1947. The channel east of the island has narrowed to chuted in its present state.

Q. Now, you have one more overlay here marked "D-1231," and it has numerous colors, including blue, on it. What is that?

A. This is a summary sheet of all these overlays and you do it by reverse procedure. You trace the

channel as shown in 1946-47, then you trace it on 1944 and 1941, and you go back in time so each color that is represented on this transparency represents the time that that portion of the island was channel, so that would be the maximum age of any sediment in that part of the island. Sometime since then that became land this portion, for example, the purple, is maximum 1936, the orange is 1930, the blue, for example, is the channel as shown on the tri-color.

The Court: What is the oldest land you find there? What color is that?

The Witness: It would be the colorless, there are four little pieces that come through the whole history on the east side, and these would be dated from 1930.

The Court: What is the next color?

The Witness: Yes. The orange pattern would have been channel in 1930, so this land is less than 1930. Then the next is purple, this is less than 1936. The brown is less than 1937, the red less than 1938, the lavender less than 1939. (R. V. XIX, pp. 2790-2793).

Q. What conclusions do you reach by the study which you have just been relating as regards to the formation of what we know today as Schemmel Island?

The Court: You start with 1934, do you, Doctor?

The Witness: 1932 to 1935 is the next pictorial record.

A. In my opinion, the island area we know as Schemmel Island formed by the construction of the dikes and sediment deposited in the channel created Schemmel Island.

Q. (By Mr. Murray) Do you ascertain from your study you have just related which part of the island is the oldest part of the island?

A. Yes.

Q. Which part of it is the oldest?

A. I will have to answer that by saying the orange areas on this — The four white areas are the oldest, and they are between things which would be identified on the 1946-47 map as chutes, and then just slightly to the west there. Those are the four oldest areas I could determine through this analysis. They are shown on the 1930 aerial photograph.

Q. How do they appear on the 1930 aerial photograph?

A. They are areas within the accretionary mass on the east side of the broad channel of the river as of that time. (R. V. XIX, pp. 2794-2795).

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1936	U. S. Army Corps of Engineers Aerial Photo	D-1107
1937	U. S. Army Corps of Engineers Aerial Photo	D-1106
1938	U. S. Army Corps of Engineers Aerial Photo	D-1108
1939	U. S. Army Corps of Engineers Aerial Photo	D-523
1941	U. S. Army Corps of Engineers Aerial Photo	D-25
1934 thru 1943	U. S. Army Corps of Engineers Reconnaissance Maps from first run in 1934 through entire year of 1943.	D-31 thru D-259
1934 thru 1939	Set of U. S. Army Corps of Engineers ground level photos, taken 1934 thru 1939.	P-2637

APPENDIX "E"**Evidence Concerning the Otoe Bend
Canal Dredged in 1938****PLAINTIFF'S TESTIMONY**

LEWIS MARTIN, born 1909, Nebraska farmer, worked for W. A. Ross Construction Co., starting in 1935. In 1938 worked on dredge, Billy Peters as deck hand. Identified photo of dredge working on Otoe Bend Canal. The canal started down near Hamburg Landing and went approximately West, little Northwest. The canal had small willows on each side of it. (R. V. VIII pp. 1143-1146).

The Court: What land were you cutting through there, Schemmel Island?

The Witness: No, this is Nebraska accretion land.

The Court: Where with reference to Schemmel Island?

The Witness: It would be approximately straight — it would be southwest.

The Court: Where the proposed channel was going to be?

The Witness: Yes.

The Court: And where the stream is now, is that right?

The Witness: That is right. (R. V. VIII, pp. 1146-1147).

- Q. Mr. Martin, in this canal you were talking about, that was really dug in Nebraska west of the designed channel, wasn't it?
- A. It is in the proposed channel as it is today.
- Q. It was the west half of the proposed channel, wasn't it?

A. Yes.

Q. How wide did you dig it?

A. Well, that is something that is — We had no reason. We had targets to go by. I would say approximately a hundred feet.

Q. Today this area would be the right bank. This all washed out over here, didn't it?

A. Well, it washed approximately over to the dikes.

Q. Yes, river work. It washed all the area out between that and the water that was there?

A. Outside of Schemmel's Island.

Q. Schemmel's Island is on east of this?

A. Yes, and the channel was east of that in 1935 when we — (R. V. VIII pp. 1148-1149).

HENRY SCHEMMELE, see Appendix "G".

DEFENDANT'S TESTIMONY

RAYMOND L. HUBER, Omaha, Nebraska, 61 years old, employed by U. S. Army Corps of Engineers from 1926 until retirement in 1963. In Omaha office from 1936 to retirement. Civilian Design Engineer worked on channelization of Missouri River.

The Court: Yes. You started using a dredge and made a channel of some kind that it eroded away and the water would do the rest?

The Witness: By training the river into the channel at the upper end, the river will take down through the new course and the old one can be closed (R. V. XXIII, p. 3307).

Q. Was that one of the tools later used at Otoe Bend?

A. It was.

- Q. Why was dredging used at Otoe Bend?
- A. Dredging was used because the river continued to want to hook back to the east so a dredged channel was made through the right bank bar area to give an additional channel for the river to occupy so that the left bank dikes could be extended out and close off the old channel. Then the river could be forced through the new dredged channel.
- Q. Was it your personal responsibility to either recommend or not recommend that dredge cut?
- A. Yes, sir.
- Q. Was it your responsibility to design where the dredge cut would be?
- A. It was.
- Q. Did you do that?
- A. I did.
- Q. Was it your responsibility to determine whether or not right-of-way would have to be purchased for that dredge cut?
- A. It was.
- Q. Did you make that determination?
- A. I did.
- Q. And which way did you determine?
- A. I determined that the area through which the dredge cut was to be made was several feet below high banks, subject to normal inundation before the river over-topped the banks; also the bar area was low and would not require condemnation or purchase of the land.
- Q. Did the dredge cut at Otoe Bend accomplish what you wanted it to accomplish there?
- A. Yes, sir; it did.

Q. And was that the maneuver which finally put all the channel at Otoe Bend for the entire length of the island into the designed channel?

A. It was, in conjunction with the dike construction; yes.

The Court: You said the engineers have over the years considered any land within the high water banks is Government land, or can be used in connection with the river, is that right?

The Witness: That is right.

The Court: You don't need to buy it?

The Witness: Yes, sir. This was between the high banks in this area.

The Court: If you go outside the banks, you have to buy or get permission to use it?

The Witness: We do. (R. V. XXIII pp. 3308-3310).

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
June 3,	U. S. Army Corps of Engineers	
1938	Reconnaissance Map.	D- 145

COMMENT

Shows the canal apparently dredged on date of map. Shows nothing between existing channel and canal, except a sand bar.

July 2,	U. S. Army Corps of Engineers	
1938	Reconnaissance Map.	D- 148

COMMENT

Shows willow bar and sand bar between existing channel and canal, with the willow bar in the designed channel.

Aug. 23,	U. S. Army Corps of Engineers	
1938	Reconnaissance Map.	D- 155

COMMENT

Shows nothing but sand bar between the canal and designed channel and the channel area prior to canal.

- | | | |
|------|---|--------|
| 1937 | U. S. Army Corps of Engineers
aerial Photo taken prior to dredging
of canal. | D-1106 |
| 1938 | U. S. Army Corps of Engineers
aerial Photo taken year canal was
Constructed. | D-1108 |
| 1939 | U. S. Army Corps of Engineers
Aerial Photo taken year following
the digging of the canal. | D- 523 |
| 1941 | U. S. Army Corps of Engineers
Aerial Photo taken three years after
construction of canal. | D- 25 |
| 1938 | U. S. Army Corps of Engineers
ground level Photos taken during
Construction of the canal in 1938. | P-2637 |

APPENDIX "F"

***Evidence Concerning Where the Main Channel Was Immediately Before it Was Diverted into Otoe Bend Canal in 1938**

PLAINTIFF'S TESTIMONY

See LEWIS MARTIN in Appendix "E".

See HENRY SCHEMMEL in Appendix "G".

DEFENDANT'S TESTIMONY

RAYMOND L. HUBER, Omaha, Nebraska, 61 years old, employed by U. S. Army Corps of Engineers from 1926 until retirement in 1963. In Omaha office from 1936 to retirement. Civilian Design Engineer working on channelization of Missouri River.

The Court: Tell us about it, how you went and what you were doing there in 1936, and what you saw. There have been people here that went before you did.

The Witness: I arrived in the Omaha District March 1, 1936. The river was still frozen with ice. As soon as the river was free of ice, early in April, we boarded the inspection launch, the inspection boat, the Sgt. Prior, and made an inspection of the Missouri River from Omaha downstream to Rulo on the inspection boat, and in passing saw this particular area. There was no island as such. There were many sandbars in the area of the Otoe Bend area (R. V. XXIII, pp. 3302-3303).

The Court: In 1936 they had been working down there —

The Witness: Two years.

The Court: The channel then was probably in the same place it is now?

The Witness: Not entirely, sir.

The Court: It wasn't?

The Witness: No. The upper end was in the designed channel, but not the lower end.

The Court: Was there bars on both sides of that channel?

The Witness: There were bars on both sides of that channel; yes, sir.

The Court: In other words, there were bars there between the channel and the Nebraska shore?

The Witness: Yes, sir (R. V. XXIII, p. 3304).

- Q. (By Mr. Murray) Are you referring in your answer, Mr. Huber, were there bars all up and down the Schemmel Island location or just in some portion of it, or what?
- A. Generally, up and down the Schemmel area, the Schemmel Island area, yes.
- Q. Do you have particular recollections of the Otoe Bend area because it was somewhat troublesome to you?
- A. I do.
- Q. What was the trouble?
- A. At the lower end, the lower half of Otoe Bend, the river had a tendency to form a channel back to the east, to the Iowa shore in the vicinity of Hamburg Landing so that as the dikes were extended it caused a hooking of the channel back to the east, which was a troublesome spot in that the dike work did not immediately bring it into the designed channel (R. V. XXIII, p. 3305).

The Court: Tell us about dredging then. When did the Corps, in your work, official

capacity, and with your superiors, and so on, whether you decided for or against dredging, and why not.

The Witness: The idea of using a dredge to expedite the movement of the river into the designed channel was conceived in 1936 and was first accomplished in the Narrows, which is a bend just east of the airport. It was the first time a different tool had been used to shift the river rather than to force it over by dike construction (R. V. XXIII, p. 3306).

EXHIBITS

See exhibits listed under APPENDIX "E".

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1941	U. S. Army Corps of Engineers aerial Photo of 1941.	D-25
1946	Map of Otoe Bend area designated as 1946-47 tri-color.	D-1036

COMMENT

Contour line shows the location of abandoned channel immediately before diversion into canal.

1938	U. S. Army Corps of Engineers Reconnaissance Map dated Sept. 3, 1938	D-298
------	--	-------

COMMENT

Shows nothing but sand bar between old channel and canal channel.

1942	U. S. Army Corps of Engineers Reconnaissance Map dated May 5, 1942	D-303
------	--	-------

COMMENT

Shows shallow water, sand bar and Willow Bar east of designed channel in canal area.

APPENDIX "G"

**Evidence Showing That No Substantial Body of
Identifiable Land Was Cut Off by Otoe Bend Canal**

PLAINTIFF'S TESTIMONY

HENRY E. SCHEMMEL, Nebraska City, Nebraska, one of the claimants of Otoe Island.

Q. As a result of your experience of hunting and fishing on the river, did you become familiar with an area which is now sometimes called Schemmel Island area?

A. Yes; I did.

Q. What was its appearance when you first saw it? First of all, state the year when you first saw that land.

A. In the spring of 1934.

Q. What was its appearance when you first saw it?

A. There was a long island — Well, to the east, with willows on that I saw at that time, in the spring of 1934, with willows on, and they were a reasonable height of willows. I would have to guess the height, but they were distinct and there was a — That is about it, was the willows except south farther (R. V. IX, pp. 1222-1223).

Q. Mr. Schemmel, I will hand you Exhibit P-192 and ask you to identify that document.

A. It is a quitclaim deed made on the 11th day of January 1938, George Ward a widower, of the first part, and Dan Hill and Henry E. Schemmel — or to Dan Hill and Henry E. Schemmel.

Q. Was that deed recorded in Otoe County?

A. Yes, sir; the State of Nebraska, Otoe County. The deed was recorded on the 19th day of Janu-

ary 1938.

Q. Was it also recorded in the State of Iowa?

A. Yes, sir. On the 22nd day of August 1939 at 3:30 p.m., Volume 46, page 10.

Q. Why did you record it in the State of Iowa?

A. Well, after Otoe Bend Canal had been cut in there, why, some of our land had been cut over there so we recorded it to show ownership of that land in Iowa.

The Court: All right.

Q. (By Mr. Moore) After you received the deed from George Ward, did you, either alone or in company with Dan Hill, go onto the land to look at it?

A. Yes, sir.

Q. How did you get there?

A. Well, the dike lines were built from the Nebraska shore below a — well, I think we walked the dike lines and got onto the main part of the island.

Q. What dike lines did you walk?

A. Well, just below the Otoe Bend Canal the Engineers, under contract with Ross Construction Company, built from the Nebraska bank over onto this island and had other supplemental dikes that went out to what was evidently supposed to be the designed channel of the river.

Q. That would just get you to the land on the —

A. On the Nebraska side (R. V. IX, pp. 1224-1226).

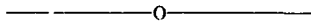
LEWIS MARTIN, see testimony set out under Appendix "E".

DEFENDANT'S TESTIMONY

RAYMOND L. HUBER, see testimony set out under
APPENDIX "E" and **APPENDIX "F."**

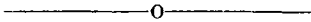
EXHIBITS

See exhibits listed under **APPENDIX "E"**
and **APPENDIX "F"**.

**APPENDIX "H"**

**Evidence Showing the Location and a Description of the
Natural River at Rock Bluff Bend Before the Corps
Commenced Work at That Site in 1934 and Showing What
the Corps Did at Rock Bluff Bend Prior to 1943**

Defendant has set out what she believes to be all relevant
and material testimony of the eyeball witnesses of both
Plaintiff and Defendant with regard to location and de-
scription of the natural river prior to work of the U. S.
Army Corps of Engineers and showing what the Corps
did at Rock Bluff Bend prior to 1943 in Appendix "J".
Exhibits relating to these matters are also set out in
chronological order in Appendix "J".



APPENDIX 'T'**Evidence Showing That Iowa Applied Her Common Law Rule That the Beds of Navigable Waters Are State Owned Consistently From 1856 to Date****PAROL TESTIMONY**

FRED T. SCHWOB, I am 74 and retired. Prior to 1957 I was employed by the Iowa State Conservation Commission from, I am not sure whether it was the fall of 1932, or the spring of 1933. In 1946 I was Director of the State Conservation Commission and I had to quit as director because of my health, (First started to work in 1933 as game warden and had Woodbury and Monona Counties. Adjoin Missouri River.) (R. V. XXII, p. 3223).

In 1933-34, the Missouri River was very heavily loaded with silt. They called it the Big Muddy and it was well named because it was always very heavily laden with silt, and the channel was constantly changing because of the water action, and apparently the soil was easily eroded because I know when I would go down the river in a boat, big chunks of the bank would fall off and it would sound almost like a gun, and if you were close to it with a boat you had to be careful because it was dangerous. Big chunks apparently washed the sand out from underneath and the chunks would fall off and the channel was very unstable. It was changing all the time. It changed from week to week.

There were islands; I don't remember how many. I don't think any were marked as owned by the State of Iowa because nobody paid any attention, either Iowa or Nebraska, to the Missouri River because of the adverse conditions from a recreational and fish and game standpoint (R. V. XXII, pp. 3224-3225).

Q. Was that in large part related to pollution or movement of the river?

- A. Pollution and unstable condition of the stream. The bed wasn't stabilized and it just wandered all over the bottom and was constantly cutting off here and building there, and cutting there and building here, and both Brown's Lake and Blue Lake and, I believe Noble's Lake were old oxbows of the Missouri River, but they were not right on the bank of the river.

It was generally understood that the islands in the Missouri River and the islands in the Mississippi, and the islands in the Iowa and the Des Moines and the other rivers in the state, belonged to the State of Iowa, and this was our understanding.

Another thing that we had always was squatters, people that would move onto an island, and it happened all up and down the Mississippi and I know it did on the Missouri, people moved in and squatted and they would start out by living in a tent and the first thing you know they would have a shack of some kind, and the first thing you know they had a little clearing and a garden and the first thing you know they were farming it.

The Conservation Commission had a written definite statement of policy back in those days known as the "25-year program". It was a long-term program for widest uses of the state's natural resources, land, water, wildlife, parks, pollution control. Not all the things in the plan were done and some things were done which were not in the program because conditions changed (R. V. XXII, pp. 3226-3228).

GERALD J. JAURON, age 57, resident of Earling, Iowa.

I was employed by the Iowa Conservation Commission as a conservation officer in 1946, and my territory was Harrison and Shelby Counties. Since the Missouri River runs along the western border of Harrison County, that part of the river was in my territory from 1946 on. In 1958, I was assigned to patrol the entire river from Sioux City, Iowa to the Iowa-Missouri state line. In 1962, I was relieved

of my duties as a conservation officer and was given the assignment as "Coordinator of Missouri River Activities". Commencing in 1962, it was part of my duty to investigate and report concerning state owned lands in the vicinity of the Missouri River (R. V. XVII, pp. 2391-2396).

EXHIBITS

GENERAL MAPS SETS

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
	Complete set of Alluvial Plain Maps prepared by Iowa Conservation Commission from negatives furnished by Corps of Engineers.	D-1151 thru D-1160
	Set of translucent overlays showing in red where present Missouri River is located with reference to 1940-41 designed channel referred to in 1943 Boundary Compact.	D-1151-A thru D-1160-A
	Set of translucent overlays showing in green the areas along the river which Iowa claims to own; also showing by cross-hatching where Iowa's claims of ownership are buttressed by Court Decrees or conveyances.	D-1151-B thru D-1160-B
	Set of translucent overlays showing in yellow 49 locations where the courts of Nebraska have unilaterally determined titles to lands along the boundary since the 1943 Compact. (Exhibits D-707 through D-712 are volumes of copies of Nebraska court decisions shown in yellow).	D-1151-C thru D-1160-C
	Set of aerial and ground level photos taken by Gerald J. Jauron showing the areas along the river which Iowa claims to own.	D-707 thru D-713 D-1236 thru D-1261 D-1258-A D-1249-A

EXHIBITS

IOWA LEGISLATIVE BRANCH

Chapter 131 enacted by the 11th General Assembly of Iowa in 1866 required that all certificates of purchase of swampland issued prior to the first day of January, 1860 be filed within six months.

Chapter 35 enacted by the 15th General Assembly of Iowa in 1874 provided for use of the Iowa banks of the Mississippi and Missouri rivers by their owners to encourage navigation, with certain restrictions.

The Legislature of 1907 provided for the sale of beds of meandered lakes deemed incapable of public use. This was amended in 1909.

Chapter 259 enacted by the 40th General Assembly of Iowa in 1923 provided for specific uses of the river banks by municipal corporations, but specifically reserved fee-title to the bed in the State and protected the first rights of the riparian owners. This statute remains unchanged and appears as Section 372.6 of the 1966 Code of Iowa.

Sections 111.18 through 111.31 were passed originally by the 37th, 39th and 40th General Assemblies of Iowa. This would have been in the years 1917, 1921 and 1923.

NEGOTIATIONS LEADING UP TO ENACTMENT OF THE 1943 COMPACT

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1902-41-	Exerpts from proceedings of Nebraska and Iowa legislatures indicating negotiations in progress concerning boundary compact.	P-1791 P-1851 P-1852 P-2301 P-1853 P-1854 P-1855 P-1793 P-1803 P-1796 P-1799 P-1804 P-1805 P-1806 P-1807 P-1856
	Newspaper articles relating to negotiations.	P-2500 P-2690 P-1537 P-2692 P-1536 P-1534 P-1535 P-1538

ENACTMENT OF THE COMPACT

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1943	There are numerous exhibits showing actions by the Nebraska legislature, the Iowa legislature, and the Congress of the United States in 1943, all culminating in enactment and ratification of the Boundary Compact.	P-1549 P-1618 P-2303 P-1547 P-2302 P-2695

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

		P-2606
		P-1008
		P-1012
		P-1015
1943	AP Maps certified from Iowa Secy. of State office.	D-1
	AP Maps certified from Nebraska Secy. of State Office.	P-1770

NEGOTIATIONS FOR A NEW COMPACT
SINCE 1943

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

	There are numerous exhibits in this record indicating that, since enactment of the 1943 Boundary Compact, the states of Iowa and Nebraska have continued negotiations concerning the boundary, attempting to negotiate another Compact which would place the boundary in the Missouri River as the river has now been stabilized by the Corps of Engineers.	P-1005 thru P-1007 P-2223 P-2233 thru P-2235 P-2293 thru P-2300 P-2304 P-2305 P-2306 P-2319 P-2607 P-2608
--	---	--

IOWA EXECUTIVE BRANCH
NEBRASKA VS. IOWA

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

1890	Copies of proceedings in the Supreme Court of the United States in <i>Nebraska vs. Iowa</i> .	P-1722
1892	Opinion	P-2603

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1892	Decree Exhibit D-1204 through D-1220 are all plats of surveys of various Iowa claimed areas which the Conservation Commission caused to be made. All were surveyed by L. H. Hart except D-1204, which was surveyed by Ivan Windenburg (Deer Island). Almost all of these surveys involved either surveying or computing a segment of Iowa-Nebraska boundary line as fixed by the 1943 Compact. Excerpt from the Iowa Conservation Commission Minutes wherein the Commission adopted a resolution to sell a certain island in the Missouri River consisting of some 300 to 500 acres to the Travelers Insurance Company for \$1,250.00. The Minutes note that a Commission member, Dr. Neenan, urged a policy relative to the sale of land be adopted.	P-2604
1-19-39	Another excerpt wherein the matter of adopting a policy relative to the rental of islands was considered. A committee was appointed to study the matter.	D-636
1-19-39	Excerpt from the Commission Minutes wherein the Commission considered the contents of a letter from the Isaak Walton League at Sioux City recommending establishment of a policy concerning the administration of stabilized marginal lands along the Mississippi and Missouri rivers resulting from development of the rivers for navigational purposes.	D-637
3-10-39		D-638

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

1-6-42	Excerpt from the Conservation Min-	D-644
1-7-42	utes, wherein one Brotherton had offered to purchase an island for \$400.00 and the Commission rejected the offer. The land involved here was Wilson Island, and these Minutes in 1942 note that the previous offer had been made to purchase this island which the Executive Council had disapproved. (See Exhibit D-636).	
6-7-43	Excerpt from the Conservation Com-	D-646
6-8-43	mission Minutes, wherein the Commission considered a claim for damages filed by one Weatherly arising out of the fact that he claimed the Commission had opened a dike so as to let Missouri River water into Lake Manawa, and that thereby some land owned or claimed by Weatherly was flooded or at least made too wet for farming. The Commission disallowed the claim and for the reason that the Commission believed that the so-called Weatherly land was actually state-owned.	
10-17-49	Excerpt from the Commission Minutes, wherein the Commission considered an application to purchase by one Kenneth Wilson an island just off the east shore of the Missouri River one mile north of the Woodbury-Monona County line. The Commission ordered a complete investigation and report.	D-647
11-28-49	Excerpt from the Minutes where	D-648

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

- | | | |
|----------|--|-------|
| 11-29-49 | the Commission considered an application from E. E. McFerrin of Modale to purchase some abandoned Missouri River channel in Cincinnati Township, Harrison County, near the Slaps area. The Commission determined that the area was a natural wildlife area and so determined not to sell; also at this meeting it was determined that the area which Kenneth Wilson had tried to buy was a natural wildlife area and it was determined not to sell that. | |
| 1-15-51 | Excerpt from the Commission Minutes wherein the Commission considered an application from the Auditor of Fremont County to survey and appraise a certain tract of state-owned land, being north portion of an island commonly known as McKissick's Island. After noting that it had been the policy of the Commission not to sell such islands, the application of the Fremont County Auditor was denied. | D-649 |
| 11-30-53 | Excerpt from the Commission Minutes wherein the Commission considered the Application of one Arthur E. Sieck to purchase approximately 600 acres of abandoned channel in Mills County known as St. Mary's Bend. Mr. Sieck's application was rejected. | D-650 |
| 7-25-55 | Excerpt from the Commission Minutes wherein the Commission considered the application of Henry K. Peterson to purchase Wilson Is- | D-651 |
| 7-26-55 | | |

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

land. Again noting that it was the Commission's policy not to sell these areas which are natural wildlife habitat, Mr. Peterson's application was rejected.

9-1-55	Excerpt from the Commission Min-	D-652
--------	----------------------------------	-------

utes in which another application to purchase a Missouri River Island had been received; the person making the offer is unspecified, but the land was described as being in Fremont County. Motion was made, seconded, and adopted that the policy of not selling such islands be adhered to and that this application be rejected.

11-14-55	Excerpt from the Minutes in which	D-653
----------	-----------------------------------	-------

an offer by one Cortmell of Onawa to purchase 23 acres of land near Blue Lake was considered and rejected.

2-27-56	Excerpt from the Minutes wherein	D-654
---------	----------------------------------	-------

the Director, Mr. Stiles, reported that he had written a letter to the Governor in 1955 suggesting that state-owned areas along the Missouri River should be surveyed; that the Governor had suggested that three test areas be surveyed and that provision then be made in future budgets for additional surveys. Mr. Stiles stated that the three test surveys were already under way: — one in Fremont County; one in Decatur Bend; and the other West of Missouri Valley.

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
6-9-59	Excerpt from the Minutes where the Commission noted that condemnation actions were under way for the establishment of the DeSoto Bend National Wildlife Refuge, and that there were certain problems with the Rand family in that area. The two state-owned areas known as Rand Access and Rand Bar were acquired by the state in a trade with the Rands.	D-656
8-4-59	Excerpt from the Minutes and shows the conclusion of this Rand Access-Rand Bar trade.	D-657
9-2-59	Excerpt from the Minutes where the Commission resolved to have California Bend surveyed, preparatory to commencement of a quiet title action.	D-658
10-7-59	Excerpt from the Minutes. It appears that Edward E. Eaton, attorney, of Sidney, Iowa, and Charles Wever is the man who had made the three test surveys. Mr. Wever reported that it was his estimate that the state was losing about 43,000 acres along the Missouri River to farmers who were encroaching and taking possession. He estimated that the state was losing about 1400 acres between the Missouri line and the Nebraska City bridge, consisting of several small islands. He stated that these islands had come into existence as a result of the stabilization of the Missouri River. Mr. Eaton urged the Commission to do whatever was	D-659

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

necessary in order to have the ownership of these areas determined, including retaining of a full-time attorney.

- | | | |
|---------|--|-------|
| 11-2-60 | Excerpt from the Minutes where the Commission approved a sale of 1851.78 acres of state-owned land and water to the Federal government for inclusion in the DeSoto Bend National Wildlife Refuge. Discussion was also had as to the progress of litigation then pending. | D-655 |
| 3-1-61 | Excerpt from the Minutes concerned with the proposed settlement of the litigation then pending in Federal Court at Sioux City between the State and the Winnebago Indian Tribe arising out of condemnation of right of way for the Winnebago Bend Canal. | D-660 |
| 9-6-61 | Excerpt from the Minutes concerned with obtaining of access to the Missouri River. | D-611 |
| 10-3-61 | Excerpt from the Minutes wherein the Commission approved acquisition of some land at Snyder Bend by purchase of land from one Ira Copple. | D-662 |
| 12-6-61 | Excerpt from Conservation Commission Minutes wherein the Commission was considering the purchase of land at Snyder Bend for access. | D-663 |
| 12-6-61 | Another excerpt from the Minutes wherein four purchases of land in the Decatur Bend area were approved. | D-664 |

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
12-6-61	Another excerpt from the Minutes wherein the Commission considered a problem existing as to the boundary between the state-owned bed of Carter Lake and certain lots contiguous to the lake.	D-665
1-3-62	Excerpt from the Minutes, reflecting that the Commission discussed and considered the matter that the U. S. Army Corps of Engineers was destroying conservation resources owned by Iowa in the Tyson Bend area and in the California Bend area and in the Middle Decatur Bend area.	D-666
1-3-62	Excerpt from the Minutes, wherein a Resolution was adopted wherein the Commission requested the Corps of Engineers to cease and desist from further destruction of these natural resources owned by the State.	D-667
2-7-62	Excerpt from the Minutes in which the Commission assigned the Woodbury County Conservation Board an option which it had obtained to purchase land for access to Snyder Bend.	D-668
4-11-62	Excerpt from the Minutes relating to a part of a state-owned bed of Carter Lake. It appears that the Commission agreed to sell 9.72 acres of the state-owned lake bed to the YMCA of Omaha so that the YMCA could have access to the water.	D-670
7-2-63	Excerpt from the Minutes wherein the Commission discussed problems existing with the Burt County	D-672

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

Bridge Commission relative to the Decatur Bridge and the access road to Decatur Bridge.

- | | | |
|---------|--|-------|
| 11-5-63 | Excerpt from the Minutes wherein the Commission resolved to cooperate with the Corps of Engineers in promoting and constructing the Blackbird-Tieville-Decatur complex of oxbow lakes. Also, the Commission considered possible purchase of a buffer strip as required by the Corps of Engineers in connection with the project. | D-673 |
| 11-9-64 | Excerpt from the Minutes wherein consideration was given to an access road off Decatur Bridge approach highway to afford the public access to Decatur Lake. | D-674 |
| 2-4-64 | Excerpt from the Minutes in which the Grosvenor Purchase at Winnebago Bend was approved. | D-675 |
| 4-7-64 | Excerpt from the Minutes in which the exchange with Peterson Trust was approved, involving abandoned channel at Soldier Bend and part of the state-owned area at California Bend, and pursuant to which a fence was built at California Bend. | D-676 |
| 7-6-64 | Excerpt from the Minutes in which | D-677 |
| 7-7-64 | it was reported to the Commission that state-owned lands of Louisville Bend, Soldier Bend, Tyson Bend, California Bend, Rand Access, Rand Bar, and Wilson Island had been posted and Janron was authorized to proceed slowly with future postings and to work closely with the | |

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

- | | | |
|---------|--|--|
| | Attorney General's office in the matter. | |
| 11-6-54 | Excerpt from the Minutes in which the purchase of an area adjacent to the state-owned area in Tyson Bend from Raymond Peterson was approved. Also, the boundary settlement between state-owned lands in Louisville Bend and a contiguous owner was approved. Also, the boundary line settlement between state-owned lands in Soldier Bend and Mr. Cleveland was approved. | D-678 |
| 11-6-65 | Excerpt from the Minutes in which Jauron was authorized to continue his land acquisition work and approval of the purchase of the land from McFerrin in Tyson Bend was approved. | D-679 |
| | A series of ground level photographs and aerial oblique photographs mostly in color, taken by Gerald Jauron, Iowa Conservation Commission employee, showing most of the areas claimed to be owned by the state along the Missouri River. To the best of our knowledge, these pictures were introduced simply for showing the Special Master the general nature of the state-owned areas. These pictures show that a large part of the state-owned is unimproved, not being farmed; most of it is either timber, swamp, sandbar, mud bar or channel covered by water. | D-1236
thru
D-1261
and
D-1258-A
and
D-1259-A |

NOBLES LAKE

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
9-1-50	Copy of Harrison County, Iowa, District Court Decree in case entitled <i>State of Iowa v. Nobles Lake Drainage District</i> , holding that Nobles Lake (an ox-bow former channel of Missouri River near Wilson Island) was state owned.	D-1048
1947	Decree recites that case was commenced in 1947.	Page 6
1944	Decree recites that Nobles Lake had been surveyed in October, 1944, by order of Iowa Conservation Commission.	Page ?????

WILSON ISLAND

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
7-1-60	Certified copy of permanent easement and agreement whereby Henry K. Peterson, et ux, and Raymond G. Peterson, et ux, relinquished to State of Iowa their claims to Wilson Island, and granted easement for boundary line fence construction and maintenance.	D-1017

RAND BAR & RAND ACCESS

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
8-10-61	Copy of Deed — conveys Rand Bar and Rand Access to State of Iowa from Fannie Rand.	D-1053
1963	Copy of Petition — <i>Rand v. Iowa</i> , 21075, Harrison County, Iowa, District Court.	P-2700
1964	Copies of appearances and disclaimer in above case.	P-2701 P-2702

CALIFORNIA BEND

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1-6-64	Copy of Quit Claim Deed by which Peterson Trust conveyed all its title and interest in approximate north half of California Bend area to State of Iowa.	D-1060
1930	Corps map with Willis Brown's superimposition of land involved in <i>Coulthard v. Simmons</i> .	P-2717
1937	Corps reconnaissance map of California Bend.	P-2669
1938	Corps aerial photo of California Bend	P-2380
1939	Corps aerial Photo of California Bend.	P-2382
1939	File of case entitled <i>U. S. v. Mencke</i> , condemnation for right-of-way for California Cut-off canal, Fed. Dist. Court for Nebraska.	P-2670
1941	Corps aerial photo of California Bend.	P-2393
1959	Partial transcript of <i>Chicago & North Western R. Y. Co. v. Simmons, et al</i> , District Court of Harrison County, Iowa.	P-2716
1959	Copy of Quit Claim Deed, C. & N. W. R. Y. Co. to Coulthard.	P-2719
1965	Copy of Original Notice in <i>Iowa v. Simmons</i> , Equity 21276, District Court, Harrison County, Iowa.	P-2672
1968	Copies of Petition and Answer in <i>Coulthard v. Simmons</i> , Equity 21771, Harrison County, Iowa, District Court.	P-2718

TYSON BEND

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
12-17-59	Certified copy of Decree of Federal	D-1019

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

District Judge Hicklin in case entitled *U. S. v. 242.53 acres of land, Ned Tyson, et al*, awarding damages for taking of easement on Tyson Island to State of Iowa (Recites case started 9-30-58).

11-16-60	Copy of Opinion of Eighth Circuit Court of Appeals affirming above case (Case entitled <i>Tyson v. Iowa</i>). Copy of condemnation plat prepared by Corps of Engineers for above case.	D-1113 D-1051
----------	--	----------------------

12-10-66	Deed from Raymond G. Peterson, et ux, to State of Iowa consummating boundary settlement and purchase of additional land in Tyson Bend area.	D-1055
----------	---	--------

1-10-68	Deed from McFerrin, et ux, to State of Iowa consummating boundary settlement and purchase of additional land in Tyson Bend area.	D-1054
---------	--	--------

DEER ISLAND

(IOWA v. RAYMOND)

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

10-20-59	Partial transcript from file of cause entitled <i>State of Iowa v. Raymond, et al</i> , District Court, Harrison County, Iowa, wherein title to Deer Island was quieted in State of Iowa.	D-1047
----------	---	--------

1-15-63	Copy of Opinion of Iowa Supreme Court in above case appearing at 254 Iowa 828, 119 NW2d 135.	D-1047-A
---------	--	----------

COMMENT

The above exhibits were introduced for two purposes: First to show that Iowa's claim of ownership at Deer Is-

land is more than a mere claim and has been recognized as valid by full and fair trial. Second, reading of these exhibits will show that Deer Island and Otoe Island formed in almost identical fashions; therefore, *Iowa v. Raymond* is authority for Iowa's claim of ownership of Otoe Island.

LOUISVILLE BEND

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
9-23-64	Copy of Memorandum of Agreement between State of Iowa and Prichard, et al, settling disputed boundary line between state owned lands and privately owned lands.	D-1118

MIDDLE DECATUR BEND

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
	Copy of Complaint in <i>U. S. v. 66.95 acres of land, et al</i> , in Fed Dist. Court for Northern District of Iowa.	P-2693
	Copy of letter from Michael Murray to F. E. Van Alstine regarding above case.	P-2694

BLACKBIRD-TIEVILLE BENDS

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
	Tri-color map with markings superimposed by various witnesses.	Myrland Ex. 1
1948	Copy of R. E. Contract — Kirk, et ux, to Henry K. and Raymond G. Peterson.	P-1758
1959	Copy of R. E. Contract — Pace, et al, to Lakin	P-1779
1959	Copy of Agreement — Lakin with Petersons	P-1778

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1961	Copy of Assignment of R. E. Contract — Henry K. to Raymond G. Peterson.	P-1759
1965	Copy of Warranty Deed — Kirk to Peterson.	P-1760
196...	Copies of pleadings and documents in <i>Lakin v. Iowa</i> , 17400, Monona County, Iowa, District Court.	P-1761
196...	Copies of pleadings and documents in <i>Peterson v. Iowa</i> , 17674, Monona County, Iowa, District Court.	P-1755
196...	Copies of pleadings and documents in <i>Lakin v. Iowa</i> , 17737, Monona County, Iowa, District Court.	P-1757
1969	Snap shots by Willis Brown.	P-2656 thru P-2660 P-2709 P-2711 P-2715
5-26-65	Copy of Quit Claim Deed whereby Lakin, et ux, conveyed to State of Iowa, all interest in certain lands in Blackbird-Tieville Bend area.	D-1056
5-4-65	Copy of Quit Claim Deed whereby Raymond G. Peterson, et ux, conveyed to State of Iowa, all interest in certain lands in Blackbird-Tieville Bend area.	D-1057
	Plat of survey of lands in Blackbird-Tieville Bend area by J. D. Virtue (Sheet 1).	P-2225
	Plat of survey of lands in Blackbird-Tieville Bend area by J. D. Virtue (Sheet 2).	P-2226
	Map of Blackbird-Tieville Bend area.	P-2227

WINNEBAGO BEND

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1946-47	Tri-color Map on which Bartleman superimposed the area in Winnebago Bend which Iowa claims to own in green; also superimposed in red the land awarded to U. S. as Trustee for Winnebago Indian Tribe in case of <i>U. S. v. Flower, et. al</i> ; demonstrates that Iowa does not claim any of the land awarded to the tribe in 1937 case.	D-1120
1938	Mosaic of 1938 Corps aerial photos showing where the river was when <i>U. S. v. Flower</i> was decided.	D-1102
12-4-34 thru	Copy of complete file of <i>U. S. v. Flower</i> , in U. S. District Court for	P-2661 D-1114
2-18-38	District of Nebraska, including maps and aerial photos used as evidence, and Memorandum Opinion of Judge Woodrough filed Aug. 29, 1937. In this opinion, the Court (on page 3) reviewed the laws of Iowa and Nebraska regarding river bed titles and held that river bed ownership must be determined on the basis of which state it is in. The Court held (on page 6) that an avulsion had occurred between 1870 and 1879 which cut off some Iowa land in Iowa Sections 31 and 32, leaving it on the Nebraska side of the river; also held that another avulsion had occurred in about 1912, stranding some Nebraska land on the Iowa side. The boundaries of land awarded to the Tribe are set out at pages 7, 9 and 10. On Feb. 18, 1938 Sup-	,

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

	plemental Judgement was filed with drawing some of the land which <i>had been</i> therefore awarded to the Tribe.	
12-27-39	Copy of Circuit Court Opinion in <i>U. S. v. Flower</i> .	D-1115
1927	Willis Brown retrace of Leo M. Peterson survey of 1927 concerning status of Tribal lands.	P-2655
1939	Corps aerial photo of Glovers Point Bend and Winnebago Bend.	P-1878
1966	Copy of part of Docket in case entitled <i>U. S. v. 126.78 acres of land, et al</i> , in U.S. District Court for Northern District of Iowa, showing resume of Judgment and Decree entered June 10, 1966, awarding title of Tract A (Iowa) to State of Iowa subject to easement for construction and maintenance of channel.	D-1050
1966	Copy of condemnation map prepared by Corps of Engineers showing location of Tract A (Iowa) and other tracts.	D-1052
5-27-64	Copies of deed from Ray L. Grosvenor, et ux to State of Iowa consummating "Grosvenor Purchase" of certain lands in Winnebago Bend area.	D-4061 D-1062

BROWERS BEND

(DARTMOUTH COLLEGE V. ROSE)

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

1936	Corps of Engineers aerial photo of Browsers Bend showing Missouri	D-1095
------	---	--------

avulsion at either Rock Bluff Bend or Otoe Bend. Therefore, there is certainly no sufficient evidence of avulsion to sustain any finding of avulsion in this case.

—o—

OMADI BEND

(KROGH V. CHRISTENSEN)

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

11-3-58	Certified copy of Decree of Woodbury County, Iowa, District Court wherein title to certain described tract of land in Omadi Bend was quieted in State of Iowa in case entitled <i>Krogh v. Christensen, et al.</i>	D-1007
11-4-58	Copy of Quit Claim Deed from Krogh, et ux, to State of Iowa conveying additional land in Omadi Bend.	D-1058
11-4-58	Copy of Quit Claim Deed from Christensen, et ux, to State of Iowa conveying additional land in Omadi Bend.	D-1059

—o—

IOWA JUDICIAL BRANCH

McManus v. Carmichael, 3 Iowa 1, in 1856.
Holman v. Hodges, 112 Iowa 714, 84 N. W. 950, in 1901.
Kitteridge v. Ritter, 172 Iowa 55, 151 N. W. 1097, in 1915.
Payne v. Hall, 192 Iowa 780, 185 N. W. 912, in 1921.
McFerrin v. Wiltse, 210 Iowa 627, 231 N. W. 438, in 1930.
Arnd v. Harrington, 227 Iowa 43, 287 N. W. 292, in 1939.
Sioux City v. Betz, 232 Iowa 84, 4 N. W. 2d 872, in 1942.

This case involved a 1928 patent from Iowa to Missouri River accretion land.

East Omaha Land Company v. Hansen, 117 Iowa 96, 90 N. W. 705, in 1902.

Dartmouth College v. Rose, 257 Iowa 533, 133 N. W. 2d 687, in 1965.

Solomon v. Sioux City, 243 Iowa 634, 51 N. W. 2d 471, in 1952. This case involved an Iowa patent issued in 1940.

Wilcox v. Pinney, 250 Iowa 1378, 98 N. W. 2d 720, in 1959.

Rand v. Miller, 250 Iowa 699, 95 N. W. 2d 916, in 1959.

Iowa v. Raymond, 254 Iowa 828, 119 N. W. 2d 135, in 1963.

We also cite the case of *Iowa v. Nobles Lake Drainage District*, the Decree having been entered in the record as Exhibit D-1048, which reveals that the case involved a survey of the lake by Iowa in 1944, and the Petition filed in 1947.

Exhibit D-1047 is a partial transcript of the file in the *State of Iowa v. Raymond*, in the District Court of Harrison County involving Deer Island. This partial transcript includes the description of real estate involved and also the Trial Court's Decree.

Exhibit D-1047-A is a copy of the Iowa Supreme Court opinion in the case of *State of Iowa v. Raymond, et al.*

COMMENT

These last two documents confirm the fact that title to Deer Island has been quieted in the State of Iowa.

Exhibit D-1007 is a certified copy of the Decree of the Woodbury County, Iowa, District Court in the case of *Krogh v. Christensen*, wherein the title of the State of Iowa to a certain tract of land was quieted. Decree dated November 3, 1958.

Exhibit D-1116 is a copy of the Iowa Supreme Court opinion in the case of *Dartmouth College v. Rose* with State of Iowa as Intervenor.

COMMENT

In this case, Iowa was in the position of claiming that an avulsion had occurred at Brower's Bend. Both the District Court at Woodbury County, Iowa, and the Supreme Court of Iowa rejected this contention relying very heavily on the presumption against an avulsion and noted that Iowa was unable to produce any eye witness to the avulsion that was alleged to have occurred in 1937.

NEBRASKA LEGISLATIVE AND EXECUTIVE YEAR DESCRIPTION OF EXHIBIT EXHIBIT NO.

July 1954 Report of the Nebraska Legislative D-680
Council Committee on "Problems
Arising Out of Boundary Changes
Between Iowa and Nebraska".

COMMENT

It is stated in the above Report (Ex. D-680) that the Nebraska State Surveyor had made a computation of territory gained or lost as a result of the 1943 Boundary Compact by the several Nebraska counties along the river boundary. The report states that the State Surveyor computed that Otoe County gained 500 acres and lost 1200 acres. The Report contains no statement as to Otoe County precisely where the acres gained and lost were situated. However, we know that Otoe County lost over 1200 acres at Nebraska City Island site alone. One can only deduce

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

from this that he didn't consider Otoe Island as lost by Otoe County; this would have been another 600 acres, more or less, and Otoe County's loss would have been approximately 1800 acres. He could not have been considering the Cope-land Bend Area as lost by Otoe County because this is another area of approximately 1200 acres and this would have made his total acres lost by Otoe County approximately 3000 acres.

Cass County	The Report states that the State Surveyor computed that Cass County, Nebraska, lost 800 acres ceded to Iowa by the 1943 Compact. It would appear that he did not consider Nottleman as lost by Cass County because the Nottleman Island area is approximately 1600 acres all by itself. He may have been considering the Auldon Bar area as lost by Cass County; it is an area of approximately 960 acres. If he had considered that both areas were ceded to Iowa by the 1943 Compact, his figure for acres lost by Cass County would have been approximately 2560 acres.
----------------	--

Sarpy County	The Report states that the State Surveyor computed that Sarpy County, Nebraska, lost 1000 acres ceded to Iowa by the 1943 Compact. It would appear likely that he may have had the land cut off by St. Mary's Bend canal in mind. The
-----------------	---

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

State of Iowa does not claim that this land is state owned and only claims ownership of the abandoned channel in St. Mary's Bend.

Douglas County	The Report states that the State Surveyor computed 200 acres as lost by Douglas County. Where these acres may have been is immaterial because the State of Iowa does not claim ownership of any land adjacent to Douglas County.
-------------------	--

Wash. County	The Report states that the State Surveyor computed that Washington County lost 900 acres ceded to Iowa by the 1943 Compact. This can only be a reference to the land in California Bend cut off by the California Cutoff canal in 1939. This is almost exactly to acreage of land which was cut off from Washington County and later ceded to Iowa by the Compact. The Nebraska State Surveyor could not have considered in 1954 that Wilson Island, Rand Bar, Rand Access, Tyson Island or Sandy Point Bend were Nebraska lands ceded to Iowa in 1943.
-----------------	---

Burt County	The Report states that the State Surveyor did not consider any territory was lost by Burt County,
Dakota County	Dakota County or Thurston County by operation of the 1943 Boundary Thurston Compact. In other words, he did not consider that there were any lands ceded to Iowa in Soldier Bend,

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

	Bullard Bend, Little Sioux Bend, Deer Island, Blencoe Bend, Louis- ville Bend, Lower Decatur Bend, Middle Decatur Bend, Upper De- catur Bend, Tieville Bend, Black- bird Bend, Monona Bend, Upper Monona Bend, Rabbit Island, Win- nebago Bend, Glovers Point Bend, Snyder Bend, between Omadi and Browers Bends, Omadi Bend or Da- kota Bend.	
--	--	--

These figures from the office of the of the Nebraska State Surveyor are particularly significant evidence in the case at bar because they stand as the only expression of opinion by that office in this record. Although Mr. Willis Brown, the present Nebraska State Surveyor, testified at length in the case, we call to the Special Master's attention that he was never once called upon by Nebraska counsel to express his opinion about anything. He was not asked his opinion concerning where the main channel of the river was when Nottleman Island formed; he was not asked his opinion concerning when Nottleman Island formed; he was not asked these key questions although he testified he had made a detailed investigation of the area and produced many exhibits which he had prepared during his work. Could it be that Mr. Brown's opinion, formed as a result of all this work were helpful only to Iowa

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

and not to Nebraska?

The evidence also discloses that Mr. Brown had made a very detailed investigation at Otoe Bend. But again, he was never asked and did not give any opinion concerning when Otoe Island formed or where the main channel was when it formed. The only conclusion to be reached is that his opinions formed during this investigation were favorable only to Iowa, not to Nebraska.

The significance of this evidence is that it was the opinion of the Nebraska State Surveyor's Office in 1954 and still was the opinion of that office in 1969 that neither Nottleman Island nor Otoe Island were in Nebraska prior to 1943, and neither were ceded to Iowa by the 1943 Boundary Compact.



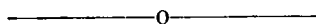
NEBRASKA COURTS RECOGNIZED

Exhibits D-1151 through D-1160 are a complete set of the Alluvial Plain maps referred to in the Boundary Compact.

Exhibits D-1151-C through D-1160-C are a set of translucent overlaps which show in yellow the location of lands in Nebraska which the Nebraska courts have unilaterally determined ownership of in various court actions since 1943.

Exhibits D-707 through D-713 are volumes of certified copies of Nebraska court decrees wherein the Nebraska courts up and down the river unilaterally made these determinations of ownership of Missouri River lands. There are 49 yellow colored areas on Exhibits D-1151-C through D-1160-C.

Independent Stock Farms v. Stevens, 128 Neb. 619, 259 N. W. 647, in 1935.



FEDERAL COURTS RECOGNIZED

Exhibit D-1114 is a copy of the complete file in the Flowers case entitled *United States of America v. Wilbur Flowers, et al.*, in the United States District Court for the District of Nebraska, Omaha Division. On page 3 of the Court's Memorandum Opinion file August 29, 1937, the Court reviews the local law of Nebraska and the local law of Iowa as regards ownership of riverbeds within each state, and recognizes that each state was entitled to determine ownership of riverbed within the state for itself. On page 6 of this same Memorandum, the Court finds that there was an avulsion at Winnebago Bend between 1870 and 1879 which stranded some Iowa ground on the west side of the river in Iowa sections 31 and 32, which is the area Iowa now claims to own. On pages 7, 9, and 10 of this Memorandum, the Court describes the boundaries of the land he awarded to the Indian Tribe on the Iowa side of the river. By supplemental judgment filed February 18, 1938, Judge Woodrough eliminated some ground which he had theretofore awarded to the Indians.

Exhibit D-1115 is a copy of the Circuit Court Opinion in *U. S. v. Flowers, et al.*, affirming the decision of Judge Woodrough.

Exhibit D-1049 is a certified copy of the Federal District Court Decree in the case of *U. S. v. 242.83 acres of land, Ned Tyson, et al.*, which is the same case later entitled *Tyson v. Iowa* in Circuit Court. This is the decree in which Judge Hicklin awarded the damages for taking an easement on Tyson Island to the State of Iowa.

Exhibit D-1113 is a copy of the Circuit Court opinion in the case of *Tyson v. Iowa*, wherein the damages for condemning an easement upon the island in Tyson Bend by the Corps were awarded to Iowa, on the theory that said island had formed upon the state-owned bed of the stream after the 1943 Compact.

Exhibit D-1050 is a copy of part of the docket in the case of *U. S. of America v. 126.78 acres of land*, showing a resume of the Judgment and Decree entered by Judge Hanson in that case on June 10, 1966, awarding to the State of Iowa ownership of Tract A (IOWA.) subject to the government easement for construction and maintenance of the channel.

APPENDIX "J"

Evidence Concerning Location of Iowa-Nebraska
Boundary Before 1943 and on July 12, 1943

PLAINTIFF'S TESTIMONY

NOTTLEMAN ISLAND AREA

SILVA EYLER, an Iowan, aged 77, lived at Bartlett after her marriage in 1906, then south of Bartlett. In March, 1909, moved onto the Haffke place and moved off in July of 1909. River was cutting into the east bank and got too close to the house. River would cut under the big trees and big chunks, and they would just disappear. They lost two horses, corn crib and granary. "There was no flood. There might have been a June raise or something coming." (R. V. V pp. 584 & 585).

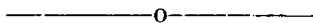
o

GAY EYLER, an Iowan, aged 85, husband of SILVA. River was cutting in 1909 into the Haffke place. "Well, it wasn't too high. It was almost bank full. It was awful swift. The main channel was right against the bank, it seemed like." Wasn't flood time (R. V. V pp. 593-596).

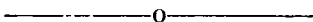
o

JOHN POWLES, an Iowan, aged 70, testified that the river was cutting east in 1908 and prior, that main river was on the east of the island then, and only a narrow chute on the west (R. V. V p. 552). He saw boats practically every year, once saw a show-boat pull up to the river bank and drive off 4 head of horses (R. V. V p. 554). The island then had willow sprouts on it, cottonwoods a foot in diameter,

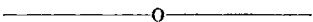
sand, weeds, and rushes. He moved to a farm a half mile from the river in 1895, in 1922 the river cut to within a quarter of a mile, swift current along bank. Island east of Theo. Powles' place called Gochenour. River ran on east of it (R. V. V pp. 570-571).



BRUCE CONNOR, an Iowan, age 81, Glenwood, Iowa. Born on farm north of Bartlett and went to Egypt School. Lived on Dilley farm in 1913. River was cutting in on south forty. Cut into Fulton and McKinley farms while lived on Dilley place. Lived there eight years. Worked for a fellow named Vanderpool putting in retards. Graveyard west of Egypt School went in river (R. V. V pp. 598-616).

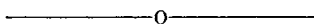


JAMES J. LIPPERT, Council Bluffs, Iowa, age 74, lived about 2 miles straight north of Queen Hill in 1904. Between 1910 and 1920, the main channel of the river was straight east, only 2 or 3 small chutes on west side. Could see the cutting on the Iowa side. Between 1925 and 1930 went down there for a picnic and waded in knee deep chute out to a sand bar with a bunch of willows on it. The main part of the river at that time right straight east against the Iowa Bank two miles. The land between could have been the south end of Gochenour Island (R. V. V pp. 745-756).

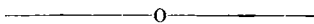


HARRISON L. GAYER, a Nebraskan, age 75, in 1919 moved $1\frac{1}{4}$ miles straight west of Queen Hill. In 1919 drove down there, stood at Queen Hill and looked east and saw willows as far as you could see.

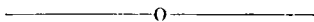
On Queen Hill you could see river over to north and east, couldn't see it looking straight east. River ran east from a point north of Queen Hill. You couldn't see 50 feet into those willows. In 1922 or 1923 walked out into them to the water's edge, a quarter of a mile, such a matter, to chute of water, wasn't main channel, no current (R. V. V pp. 761-762).



WHITNEY GILLILLAND, a former Iowan, testified that he played on the river, and said that the main channel was east of the island, but then admitted that he might have been too far north and was talking about Gochenour Island. Then stated that the east channel was at least of equal dignity with west (R. V. VI p. 137).



ALBERT W. WARGA, a Nebraskan, age 74, testified that the 1913 river was about a mile east of Queen Hill, between Queen Hill and river was built in accretion land, willows, and grass and stuff like that, all dry between Queen Hill and River (R. V. V p. 773).



RUTH DOOLEY, a Nebraskan, age 52, first knew Nottleman Island in 1929, stayed on the island the summer of 1929 and again in winter of 1934. The main river ran on east side of the island, and only a small shallow chute, less than a quarter of a mile wide, you could wade across, located right up against Queen Hill (R. V. VI p. 796). Her uncle first went to Iowa side to see about sending his children to school (R. V. VI p. 794).

EDWIN M. DOOLEY, a Nebraskan and husband of RUTH DOOLEY, first saw the island in 1934, disagreed with some of his wife's testimony and after becoming confused from maps, settled down and finally said that the main part of the water was running on east side "because the tow boats towing material and stuff would go up the east side." About 50 or 60 acres cultivated in 1934 (R. V. VI pp. 801-803). No commercial navigation at that time (R. V. VI p. 813).

GENEVIEVE AND LUTHER JOHNSON, Nebraskans, aged 62 and 69 respectively, testified of the river cutting in 1926 and 1927 on the Iowa bank and described the water along the east bank. There was an island, but they didn't testify what was on the other side of the island (R. V. IV pp. 471 and 481).

ALBERT MASON WATTS, an Iowan, aged 68, one of the claimants to Nottleman Island, stated that the river cut east, main channel on east side of the island from 1915, the west channel was so shallow that he saw a man drive a horse and buggy over to the island, corps boats had to use the east channel, and did, when they first started to work in the area, as the west channel was too shallow (R. V. V pp. 617-656).

CAPTAIN OTTO NEUHAUSER, Kansas City, Missouri, age 76, associated with the river since 1910. In 1915 came up the river to Omaha on a little boat with 2 barges. They had to pick their own water then. Remembered going past King Hill in 1915, hitting a sand bar and going on the east side of an island east of Rock Bluff (R. V. V p. 697).

On being asked how he would determine where the deep water was and where he would go when navigating the river, Capt. Neuhauser answered, in substance:

Coming up the river wasn't so hard because you had a sound pole on the head end. Going down, the sound pole wouldn't do much good. You better know where you are going. It is something that has to be born in you. If you see big *boils* you watch them and when they break and spread apart, when they break they boil up and break and make rings out spreading, you just watch how far they spread and that is how deep the water is.—

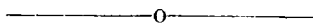
If you get in a place where the little boils were all in a line, you stay on the upper side of them because that is where the deep water was. There was all kinds of little things you had to catch onto, and then when the river is up all you had to do was follow the drifts. You followed the drifts. The drifts always go where the best water is (R. V. V p. 682).

Q. Would you be able to make any estimate as to how many boats, except row boats, little boats, would make the trip from Kansas City to Omaha in a year back in 1915, 1916, 1917 and thereabouts?

A. In a year?

Q. Yes.

A. About four or five. That was about all we had. Outside of snag boats (R. V. V pp. 690-691).



ALVIN B. GREGORY, an Iowan, age 57, is a construction supervisor for the U. S. Army Corps of Engineers, in 1933 came up the river on construction boat and stopped at Rock Bluff. Had to go back down and go up east side. "There wasn't enough water; it was

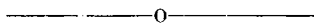
wide, but not too deep." (R. V. V p. 697). In Spring of 1934 they started work right below the mouth of Watkins ditch. Dike 630.0 was first dike straight out and Dike 630.2 was trail dike off the revetment. Had trouble with water tearing dikes out. Before east channel was finally closed boats used east channel, actually no dredging done in 30's west of the island (R. V. V pp. 701-705).

JACK CHADWICK, Nebraska City, Nebraska, aged 57, a registered engineer for the U. S. Corps of Engineers, worked for Forney Construction Company on river in 1933 and 1934. In 1934 river west of the island was flat, too flat. It was spread out some, I would say—think it was wider. I think part of it was pretty narrow. Right at the lower end, I believe, is where it was the narrowest (R. V. V p. 711). Boats went out on the west side of Tobacco Island and east side of Nottleman Island (R. V. V p. 710).

JOE A. TESNOKLIDEK, age 53, Omaha, Nebraska stated that he ran a hunting camp in 1933 south of King Hill; that he helped a boat up the west side of Goose Island, a second boat, a paddle wheeler. Couldn't go on the west side of Nottleman Island. "It was like the Platte River. You were lucky to find a channel to row through." (R. V. V p. 724).

ROY O. HAROLD, Plattsmouth, Nebraska, in 1938 did manned maintenance work on the dikes in Tobacco Island and Nottleman Island area. Mostly rock where the river had damaged the dikes. Worked on Dike

630.0, as had trouble holding those dikes. "Yes, they are pretty hard to handle. After flood or high water or ice tears out the piling and tears out the dikes, you repair with rock." (R. V. V p. 731). "Q. Was there quite a bit of water running through that east side even then? A. Yes, more than on the west side." (R. V. V p. 732).



GEORGE L. MCGRAW, Plattsmouth, Nebraska, aged 57, worked with Captain OTTO NEUHAUSER pulling retards, either in 1936, 1938 or 1939. One of those three years. There was water running around east side of Nottleman. Seemed about equal on each side at that time. The main channel around Tobacco Island was all on the east side (R. V. V p. 741).

COMMENT

The foregoing was the Plaintiff's eyewitness testimony as to the location of the main channel, thalweg or boat track at Nottleman Island before 1943. As we have stated in argument, it is undisputed that the island was in existence in 1923. The only relevant and material evidence relating to "where the river was" would be that evidence concerning where the river was when the island formed. If the main channel, thalweg or boat track was west of the island when the island formed, the island was thereby in Iowa in 1923, and even if the thalweg shifted from one side to the other thereafter once, twice, a dozen times or a hundred times such shifting would not transfer the island from one state to the other. Therefore all testimony concerning where the main channel, thalweg or boat track was from time to time after 1923 is irrelevant and immaterial.

The testimony of Ruth Dooley, Edwin M. Dooley, Genevieve Johnson, Luther Johnson, Alvin B. Gregory,

Jack Chadwick, Joe A. Tesnoklidek, Roy O. Harold and George L. McGraw only relate to river locations after 1923.

Only Silva Eyler, Gay Eyler, John Powles, Bruce Connor, James J. Lippert, Harrison L. Gayer, Whitney Gilliland, Albert Mason Watts, Capt. Neuhauser, and Albert W. Wargo purported to testify concerning pre-1923. The testimony of these witnesses was mainly concerning the fact that that pre-1923, the Iowa bank of the river was the cutting bank, which Iowa does not deny. Iowa does deny that such evidence proves the location of the main channel or thalweg. As Plaintiff's expert, Dr. Gilliland said, "Wherever water flows it can erode." (R. V. XI p. 1583).

Iowa tendered the following witnesses to contradict the proposition that the main channel, thalweg or boat track was east of the island when the island formed, and that it was in fact west of the island:

DEFENDANT'S TESTIMONY

EVERETT E. HARLESS, 64, and Iowan, testified he went steamboating on Missouri and Mississippi in 1924 until 1927, then farming in Bartlett, Iowa area within a mile of the Missouri River. Hunters and fishermen on river beginning in 1920 until now. Mostly around Nottleman Island and south. Docked on Mickey Fulton farm east of island and north of King Hill, about 1/3 of way up from south end of Nottleman Island. At this point "There were two channels, one on the west of Nottleman Island and one on the east of Nottleman. The east channel was what we called the smoothest water. Being a steamboater, we called the easiest water the smooth water. The Iowa side was the smoothest water, so naturally if we wanted to go north upstream, we would go up the Iowa side and take the easy water going up. If we wanted to come

clear around the north end of Nottleman Island and back down the Nebraska side, which would be the swiftest part of the channel, on the Nebraska side, which land next to—we called it Rock Bluff in those days; I guess it is really Queen Hill, because we could make better time coming back down that channel.”

The Court: You are talking about 1920 first?

The Witness: Yes, sir. The Iowa channel was the narrowest of the two channels—four to five hundred yards wide. The west channel was quite a bit wider (R. V. XV pp. 2091-2093). The Nebraska channel was the deepest channel of the two, and the swiftest of the two (R. V. XV p. 2099). There were practically no changes at all until Corps of Engineers commenced working in 1934 (R. V. XV p. 2105). Called the island a sand bar in 1920's. No farming on it then.

The Court: It had to be a pretty good current to be cutting away from the farms, didn't it?

The Witness: It was a pretty good current, but when that starts cutting, gets into that sandy loam—We have ground over there, what we call on top is a heavy soil we call gumbo (R. V. XV p. 2126).

The Witness: And underneath this gumbo is sand, and when it starts cutting in that sand—

The Court: It cuts easy and quick?

The Witness: Mighty fast (R. V. XV p. 2127).

—————o—————

MARTIN SPORER, 70, a Nebraskan, testified he lived in Murray, Nebraska (west of Rock Bluff) area all his life. Recalls having gone to river in Rock Bluffs area along in 1912, '13 or '14, and the bank started at Rock

Bluff and then headed straight to King Hill. That was where the river went.

Q. Where is the little town of Rock Bluff relative to the river now?

A. About the same place (R. V. XV p. 2131).

The Court: How about the difference in the width of the river now as compared to 1914?

The Witness: As I remember it, not much difference.

The Court: How much difference?

The Witness: Well, there would be more islands then.

The Court: There would be more islands then. The river was spread out more?

The Witness: Yes; the river was spread out more (R. V. XV p. 2136).

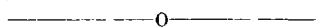
-----o-----

FRED CAMPBELL, 70, Murray, Nebraska resident. Recalled a Baptismal Service conducted at foot of Queen Hill in 1905. River waist deep 15 feet from shore (R. V. XV p. 2143). River looked deep because there would be boils in it. Deep water kind of gushes up and rolls out. River is about where it has always been, not quite as wide (R. V. XV p. 2146).

-----o-----

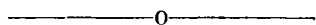
REX YOUNG, 81, a Nebraskan, born between Rock Bluff and Murray. Lived in vicinity all his life. Around 1905-1907 west bank of river at the foot of Main Street in Rock Bluff town, right near where Rock Creek runs into the Missouri now. River was 30 to 40 rods wide. He and brother swam it out to a sand bar.

River then went around east side of Queen Hill and went right around the point and went right where those little buildings are now where Mr. Siepe lives, and those folks, and went a little to the right and went straight down the river practically south. It hit the north side of King Hill and then went around King Hill—had to go back to the east to get around King Hill. The river today is east of where it was prior to 1933 (R. V. XV pp. 2151-2154).



WILLIAM M. CHAMBERS, 72, an Iowan, testified to year 1908 only, when 11 years old family moved to farm with 200 yards of river at that time. The "L. E. Southwick" farm on Exhibit D-1040, a 1910 plat. His first view of river it was low, in March, covered with ice and from east bank the ice was all covered with sand, and could hardly tell where sand bars on the west began and the ice ended. Next view was in flood stage, latter part of April. Water all around the house, little bit of high land sticking out. First view after flood was at a point approximately west of the house, just old muddy water and low sand bars, muddy water from bank out to edge of sand bars. When the sand bars first appeared they were out 200 yards or maybe a little more, but as river receded they kept coming closer—in the summer—bars just kept creeping closer. The water was shallow and as it filled more bars showed out,—the chute was narrowing up as the water fell. Queen Hill looked just due west. When bars first appeared they were just pure old sand (R. V. XV pp. 2166-71). He and neighbor took a boat up north—devised a little cloth sail and when wind was in the south would sail up channel between Iowa shore and the bars two or three miles north. Sometimes it appeared to be a little wider. The edge of the bars run straight, but sometimes the main bank would have a little place where it cut in, and it would

be wider there. Channel—water moving fairly swift—wasn't any decided channel in there.—about same from one side to the other with swiftness—if the wind was still blowing, we would always cross over some little chute between these bars and come down the channel side because it was swifter and would move our boat faster and with less work.—other side of the bars where the main channel was—the west side of the sand bars. Channel—west—of the sand bars, was quite a river—probably a half mile wide. Maybe even more.—it was pretty big. From the Iowa shore to the sand bars we could easily wade it all the way across.—in August, when we were swimming every day, we eventually found we could touch bottom by letting our feet down. West side of the sand bars we never sounded. It was just deeper than we had any way of touching the bottom with (R. V. XV pp. 2172-2175). In 1908—saw a snag boat—the James McPherson—wanted to get as close to it as we could. We crossed over the chute onto the bars and walked over. It was getting a snag out, had their lines and boom and crane like on a tree that had snagged in the river.—It was on the west side. The channel side.—tied up that night on the main bank on the west side.—just before cold—they—passed down again—in the west channel (R. V. XV pp. 2183-2185).



CLARENCE H. CHAMBERS, 62, an Iowan, lived in Glenwood, Shenandoah and Sidney, Iowa area from birth in 1907 until 1922 when moved to California, returned to Iowa 1930. Father was a fisherman—liked to fish Missouri River, its backwaters and sloughs. In 1919 or '20, after World War I fished with father—during midsummer made several trips, sometimes twice a week. When they came in from the Bartlett area took a road out to river just beyond "S" curve,

road led west from painted barn. When they reached the first waters of river at end of that road—it was rather calm appearing water.—varied in width at different places along there. Fished usually some distance to south of road, where it was fairly calm water—60 to 50 yards wide or possibly a little more—beyond this water—there was land there with willow and small cottonwood growth on—Dad always referred to it as the island.—piece of water between this island and the Iowa shore—everyone called it the island chute.—this so-called island was—quite extensive—for fishing we would range generally down south—as much as a mile and up the chute a somewhat lesser distance—half to three quarters of a mile—could see what appeared to be the end of the island up in there. — We could see the lower end of the island. — As I recall, from one year to another there was usually some variation in the shape and size down there, and on one occasion I know we could see the south end. Could look across and see what was on the other side only when near the ends—too much willows and stuff, but down near the end where there was merely a long sand bar, we could see over there to — I think they called it King Hill and Queen Hill. There were two hills on the other side of the river. — immediately west of the island at the upper end and the lower end—you could see—a large expanse of water and there was a time or two we went over there, but we didn't spend much time fishing because there would be debris and there would be a lot of very heavy stuff in there on the west side of the river. Where I could see it, the water that led to the west of it seemed to be much wider. Dad called it the channel (R. V. XVI pp. 2233-2239).

WARD SCHADE 72, a Nebraskan, born in 1894 in Glenwood, Iowa, when 3 moved to Randolph, Iowa, 1913 moved to a farm 3 miles west of Randolph, then 1915 to farm between Tabor and Bartlett, been in Plattsmouth, Nebraska for about 27 years. Became acquainted with the river about 1915. Used to fish there in 1915 right straight west of Bartlett, road came to river about quarter of mile south of King Hill. Trips to river in those early days was mostly for fishing, hunted some, but not much. Mostly fishing in company with father-in-law, Charles Aitkin, every week, maybe three weeks, maybe it would be a month. — generally fished that portion of the river which is north and south of road. We would catch our minnows over at the bar—generally started at the upper end and came back because at King Hill we had 150 feet of water in there. They used to take big rocks and tie on the line and tie to that and go into still water. — The river run—right at the base of the hill the—in 1915 (R. V. XX pp. 2974-2980). Anyway, there is a dam that flows across the river. The river had cut in behind between King Hill and Queen Hill and flowed the channel over to the Iowa side, and the Engineers wanted it that way. Now, down at the lower end of this island that set down, they cut a canal.—South of King Hill. That's the later time after '38, so they had to plug this hole because they had pilings drove across so the river would follow this and come around. They couldn't shut off up here, they couldn't shut this off. Because the current would take the rocks right on down the river. The engineer knows all about it. Check me. — the dam was built out from King Hill—from the Nebraska shore. Clear across the main channel of the river. It wasn't too wide. Because it was deep, it run fast through there.—the main channel of the river then went to the Iowa side.—observed the Corps trying to build a dam. You couldn't fill it

because they put that big rock in there and they would go right down the river. — I started in there pulling a pair of oars in '38. — For the contractor. — I wouldn't know how far it was they put the dam in, how long it was, but when they quit putting the rock, the big rock in, the next spring high water come up, cut around and started cutting back, so the Engineers come back and refilled that with the rock off the point of the hill there (R. V. XX pp. 2986-2990). The river in relation to Queen Hill ran close to the base of the hill then. — between King Hill and Queen Hill, it run fairly straight through there at that time.

Q. Were there other channels of the river at that time as big as this channel you have been describing?

A. No. It was the main river from the hill on down. That is, there was little chutes run through it, but from the hill on south past the bar it seemed to be just one river at low time.

— been fishing on the river, — continuously from 1915 until 1938, off and on. This is the way she sets.

King Hill. Queen Hill. And King Hill is here. Queen is here (R. V. XX pp. 2982-2985).

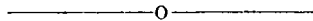
—————o—————

WILL MINDFORD, Murray, Nebraska, 63, born in 1906. Lived within five miles of Missouri River all his life. Has recollections of river in Rock Bluff-King Hill area since he was 5 years old. In late spring or early summer of 1916 his family and Baxter family drove to Queen Hill for a picnic. Mr. Baxter took some pictures of the river that witness has had in his possession ever since and introduced as exhibits by the Defendant. Exhibit D-735 was an enlargement of one taken from foot of Queen Hill

looking south toward King Hill on the Nebraska side. Exhibit D-736 taken from same spot. D-737 was taken of the main channel of the river taken looking east. All taken 30 or 40 feet east of base of Queen Hill. Left hand corner of D-737 shows portion of the river bank. D-737 is the exhibit the Special Master commented on:

The Court: It might have been part of the Atlantic Ocean. It doesn't show any part of the river as I know the river.

This was a fair comment by the court, as the enlargement did show a vast expanse of water, and no doubt some of it was caused by distortion in the enlargement. However, it does depict "boils", which witnesses for both States testified indicates deep water, and it was taken in an attempt "to photograph a floating log", demonstrating what almost all witnesses concede, that debris followed the main channel. There is no doubt the picture was taken in 1916 of the Missouri River at the base of Queen Hill. Whether it is a true pictorial representation of the width of the river is doubtful, but it does place substantial water at the base of Queen Hill in 1916 with a sharp bank that is not inundated (R. V. XIV pp. 1982-1988).



MAYNARD RAMGE, age 57, Plattsmouth, Nebraska, born within 2 miles of Missouri River west of Rock Bluff and lived there all his life. Known the river ever since he was able to walk until up to present time. Has hunted, fished, boated and picniced on the river and has been familiar with the river in that area. Identified D-738, an enlargement of a photo of Missouri River taken from the foot of King Hill on the north side, taken between 1932 and 1934 with camera facing approximately north-

east. Identified D-739 as an enlargement of photo taken with camera facing almost directly east from King Hill, D-740 facing more east and D-741 facing northeast. That on date pictures were taken the river in that area was a "good half or three quarters of a mile across." The current past King Hill was going in a southeasterly direction. The river flowed past what is now the Varga place and Fitchorn property, they were right on the bank of the river. To the north of King Hill the river run right along Queen Hill to the east. From Queen Hill it seemed like it went north and must have curved around the bend to the left—that would be to the northwest (R. V. XIV pp. 1958-1966). Was over and observed the river 3 weeks ago Sunday and in my opinion the river "was just about in the same position today that it was in 1934" (R. V. XIV p. 1970).

—————o—————

ARTHUR T. HANSEN, Murray, Nebraska, born 1891, remembered when he was about 10 or 12 going to river right at Rock Bluff after ice. We got the ice practically east of main street, right in below, south of the present elevator. When 16 he and his future father-in-law tried to row around point of King Hill and current swung them around like a whirlpool. At that time river came around Queen Hill, angled to the west and down and hit King Hill (R. V. XXI pp. 3122-3127).

—————o—————

ROY O. COLE, a Nebraskan, born in 1887 south of Plattsmouth, Nebraska, 3½ to 4 miles west of Missouri River and has lived in same place all his life. He was and is a camera buff and an excellent photographer. He not only had all his photos indexed and dated, he had all his negatives indexed and

dated. He was familiar with Missouri River in Rock Bluff-King Hill area from the early 1900's (R. V. XIV, p. 1999). He and his friends picniced along Missouri River in the area many times, and he photographed companions along and on the river. He has known the river in that area from 1904 or 1905 to date. This witness identified Exhibits D-730, D-731, D-732, D-733 and D-734 as enlargements of photos he personally took of the river in the King Hill area in 1918, 1916, 1908 or '10, 1908 or 1910 and 1908 or 1910, respectively, according to his memory without the index book. In deposition of witness on February 22, 1968 the Exhibits were identified as Cole's Exhibits 1, 2, 3, 4 and 5 and his photo index revealed that D-730 was taken in 1918, D-731 was taken in 1916, and the last three taken in 1912, and not 1908 or '10. With this minor discrepancy in his testimony this elderly gentleman exhibited keen, competent mind and memory, candid and disinterested in the litigation. He was and is a competent photographer and meticulous record keeper. That his testimony and Exhibits establish beyond sincere argument that Nottleman Island was not formed as we know it today in 1912, 1916 or 1918; that the Missouri River right bank had been cut west prior to those years where soil allowed it to cut, i.e., between Queen Hill and King Hill; and that the river was a wide river with many chutes, sand bars and small islands in those years, none of which can be categorically considered possessing any attributes of permanency. (R. V. XIV pp. 2000-2014).

—o—

LOUIS SACK, 64, a Nebraskan, lived from 1927 to 1959 one mile from the river south of King Hill. Exchanged farm labor on Nutzman farm on which King Hill is located. Hauled corn along the north edge of King Hill in 1927 when the river circled west between Queen Hill and King Hill, at least

half a mile west of where the river is today. In about 1930 looking north from north end of Nutzman (Goose) Island to the right there was "a channel there, but a small channel. To the left was the river, I would say the river" (R. V. XV p. 2056). Saw steamboats on the river around 1930, "they traveled on the west side." Saw them occasionally, when steamboat come up the river we would drive down and see them as we could hear them whistle. Went up the river on left of the Island. In 1927 island was just a patch of alfalfa. Main channel of river came down on west side, bulk of water was on west side of island.

The Court: You had no way of knowing how deep the water was, did you?

The Witness: I know that we made ice out there one time and we had a pipe pole that was something like 17 feet long and we didn't touch bottom. We sawed ice" (R. V. XV p. 2062).

The Court: When you say they changed the channel, do you mean so far as Nottleman Island is concerned they changed the channel from the east side to the west side of island?

The Witness: No, sir.

The Court: What change was made there so far as Nottleman Island?

The Witness: The change they made in the river was south of that (R. V. XV p. 2072).

—o—

CLAYTON PIERCE, 64, a Nebraskan, moved from Thurman, Iowa, to Rock Bluff, Nebraska, in 1942. Did a lot of fishing and hunting on the river. Started on river right west of Bartlett, and then went north of there for a couple of years when just a kid in

1921 or 1922. Nettleman Island today is located across from Queen Hill and west of the Duvall Bar. Hunted on north end of that bar back in 1926—Didn't know the name of the island at that time. The north end of island where he hunted was north of Queen Hill. —at that time there was a chute of water that come down around the east side next to the Iowa bank, and there was two streams that cut across this island on the north end, and our duck blind that we had was in between those two channels that come across on the north end of that island. It was a bar, sand bar (R. V. XXI pp. 3009-3010). It was just bare bar where we hunted, but south of there was timber—willows and cottonwood and stuff—timber to the south was between the two channels. Started hunting in 1926—hunted there two years. We were hunting between the two channels—we were just a little ways from where it split. I would say the west channel was the main channel.

Q. Well, why would you say that?

A. Well, on the flow of the stuff. Trees.

When the river was up, debris would float on the west side. Of course, naturally there would be a few come down the east side, but most of them was on the west side, in the west channel. —The east channel, I would say in the neighborhood of 800 feet wide altogether, where it was shallow and deep together. The west channel was a quarter of a mile or better. After 1926, I was on the river up in there, worked south of that for Billhorn, Bowers and Peters, but I never worked on that part of the river, but I have been in there doing coyote hunting on the east side east of the east channel and on the island coyote hunting. Took a boat out there and took our dogs and hunted coyotes on the island in about 1932 or '33.

Q. At that time did you get an opportunity to view the river on both sides of the island?

A. Oh, yes.

Q. What would you say as to the characteristics of those two channels in 1932 or 1933?

A. Well, they were just about the same as they were in 1926 at that time. That was before the Corps of Engineers started working on it.

Q. Did you ever have occasion to measure the depth of the east channel?

A. Well, not necessarily, but we could go about 300 feet and then our oars would touch the bottom from there clear on out to where we had to quit rowing to get out to the duck blinds, so a guy could have waded it with boots on after he got across that 300 feet (R. V. XXI pp. 3011-3015).

We went across that in a boat, but after you got across a short stretch there, then it was flat and during the summer months that was all white sand. Blow sand. When the river was low, there wasn't no water there at all. I worked for the Corps of Engineers until 1942, then I went back and worked in 1945. The first work I done for them was about 1931, surveying. I was carrying the chain on the survey party there surveying west of Bartlett and around King Hill. Part of it was on the west side of the river and part of it was on the east. Worked from King Hill south sounding on the river along King Hill with a lead line. Right along by King Hill, there was places there a 30-foot line would not reach bottom. It wouldn't sound it. We had several places along there, 30 feet, we could touch it with 30 feet, but some places we couldn't even touch it with 30 feet. We went south of King Hill I would judge about 600 feet from where they put

in the rock dam. That was what they were sounding for at that time, was that dam.

Q. Now, when you were sounding and surveying there, where did that channel of the river that ran by King Hill go upstream? How did it flow with relation to Queen Hill?

A. It come right along by Queen Hill. Queen Hill and King Hill, the channel was all on that side. The east channel come in just a little north of that. The two channels were together when they got to King Hill and then they split again right south of that and made another island down west of Bartlett.

Q. Was your blind pretty close to the north end of that land area you hunted on?

A. There were two channels that cut across that bar on the white sand. During the summer time, when the river was low, that was all white sand. There was no channels coming east there. We were right close to the north end, where the two channels come across that. We were right in between Keg Creek and Haynie Slough, was just north, about half a mile to where this makes a bend and then it would turn and come right down along the Duvall place there. When the river would get up, we would go back up into that Haynie Slough, they called it. From the Duvall Bar where we went out to the blind, we could see the course of the river north of the blind in 1926 and 1927. It split just above us on that bar. The river split there and part of it went down one side and part down the other. Then there was two chutes that come across where we had this blind. There was no island above us there on that part of the river, there close to us, not in a matter

of a quarter of a mile (R. V. XXI pp. 3015-3022).

Q. Is it your testimony from that point north there was only a single channel?

A. Well, that is all I recall until you got a long ways up and then there was—

Q. How far?

A. That was almost to Keg Creek, there was a small chute up there went around the east side.

The Court: Mr. Pierce, can you tell, say how many miles of timber you saw on that island in 1926?

The Witness: Well, I would hate to try to say how much timber there was there. There was probably a half a mile there, close to it, maybe not quite that much. It was white sand, blow sand, and the rest of the island was—South of that toward King Hill, there was timber in that, but that was mostly willows.

The Court: How big were the cottonwoods, do you know?

The Witness: Cottonwoods, they weren't too big at that time.

The Court: Was there any clear land in there? Was there anybody clearing land in there?

The Witness: Oh, yes; there was some land in there cleared at that time.

The Court: Some men had cleared it?

The Witness: In fact, there was a shack out there. I don't know who put the shack there, who it belonged to, but I was over on that island with my hounds running coyotes.

The Court: Wait a minute. When you were on the island, was anybody farming the island? 1926 I am talking about.

The Witness: Actually, I didn't see no farm ground out there whatsoever.

Q. You didn't cross any bank work?

A. No. There was even willow roots along there where the bank had been caving where we had our boat tied.

Q. The bank had been caving?

A. Yes.

Q. Washing out there where you had your boat?

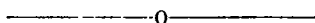
A. The bank always caves along a place like that and there were some small willow roots and stuff sticking out of the bank. In fact, we tied our boat to a little willow tree right there at the edge of it (R. V. XXI pp. 3023-3028).

COMMENT

Although there are bits of oral testimony contra, Iowa believes it is established by all the evidence that Nettleman Island formed as a sand bar during the years 1918-1920, and became an island during the years 1920-1923. It has tendered the eyewitness testimony of Everett E. Harless, Martin Sporer, Fred Campbell, Rex Young, William M. Chambers, Clarence H. Chambers, Ward Schade, Will Mindford, Arthur T. Hansen, and Roy O. Cole concerning the river during this pre-1923 era. We believe the testimony of these witnesses to be persuasive that the main channel, thalweg and boat track were all west of the island when the island was forming, not only for the simple reason that these men were all obviously honest and disinterested, but also because their testimony is corroborated by the photographs, the

documentary evidence, and the trees. Two witnesses tendered by Iowa, Louis Sack and Clayton Pierce, although unable to testify concerning the river prior to 1923, did testify that the main channel was west of Nottleman Island when they became acquainted with the area in the later 1920s.

Nebraska answered Iowa's Interrogatory No. 34 in this case that Nottleman Island began to form "beginning in approximately 1879". We submit that she has utterly failed to prove any such fact. It is perhaps true that sometime in the latter part of the 19th century, some accretions formed to the downstream end of Toacco Island or Gochenour Island, and that these accretions for a time extended into that spot under the sky where Nottleman Island now is; but no part of Nottleman Island has been or can be identified as being those accretions and the evidence is that they were long ago destroyed and washed away, and Nottleman Island is a different land formation which came into existence in that spot under the sky in about 1918 to 1923.



EXHIBITS

NOTTLEMAN ISLAND AREA

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1851-1852	Original Iowa gov't survey	P-712
1855	Original Nebr. Gov't survey	P-710 and P-711
1858	Gov't tie survey	P-714
	Willis Brown transparency showing the three above surveys	P-713
1879	Suter gov't survey	P-715
	Willis Brown transparency showing 1879 survey	P-716
1879	Suter Gov't survey with Bartleman island outline and Huber thalweg	D-1105

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
	superimposed	D-1105-A
1890	Missouri River Commission survey	P-1717
	Willis Brown transparency of 1890 survey	P-718
1890	Missouri River Commission survey with Bartleman Island outline and Huber thalweg superimposed	D-605 D-605-A
1891	Commercial Plat of Lyons Township Mills County, Iowa	P-2291
1891	Commercial Plat of Lyons Township, Mills County, Iowa	D-1039
1895	Seth Dean survey of left bank	P-1668
	Willis Brown transparency of Seth Dean left bank survey	P-1668-A
1896	Clip from <i>Plattsmouth Journal</i> —Floater found about $\frac{1}{4}$ mile south of Rock Bluff; boy believed drowned at South Omaha	D-716
1901	Clip from <i>Plattsmouth Journal</i> , Floater found at "Rocky Point"	D-1004
1902	Udden Plat of Lyons Township, Mills County, Iowa	D-1047
1905	Commercial Plat of Cass County, Nebraska; shows no island opposite town of Rock Bluff; shows right bank right against Queen Hill and King Hill	D-728
1905	Commercial Plat of Rock Bluff Township; Cass Co., Nebr.; shows main channel right against Queen Hill and King Hill; shows island in location of Nottleman Island, island is not shown as being in Nebraska	D-729
1908-1910	Photo identified by Cole showing people in boat; boat is slack water between Queen Hill and King Hill; small sand bar behind	P-732

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

	boat is west of straight line between the hills; main channel is just behind sand bar	
	Photo similar to D-732	P-733
	Photo identified by Cole showing ladies in tree showing same slack water and King Hill in background	D-734
1910	Commercial Plat of Lyons Township Mills County, Ia. (No island shown)	P-2619
1910	Commercial Plat of Lyons Township Mills, County, Iowa. (No island shown)	D-1040
1913	Commercial Plat of Lyons Township, Mills County, Iowa. (No island shown)	P-1746
	Willis Brown transparency of Ex. P-1746	P-737
1916	Photo identified by Cole looking north from top of King Hill; Cole has marked main channel running right along foot of Queen Hill and King Hill	D-731
1916	Photo identified by Mindford looking from foot of Queen Hill toward King Hill. River running from foot of Queen Hill down to foot of King Hill is large and wide and is obviously the main channel	D-735
1916	Photo similar to D-735	D-736
1916	Photo identified by Mindford as looking east from foot of Queen Hill at main channel of Missouri River	D-737
1918	Photo identified by Cole as looking north from top of King Hill (August, 1918)	D-730

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1920	Soils map of Mills County, Iowa	D-1038 P-719
	Willis Brown transparency of above soils map	P-720
1922	Seth Dean plat of proposed Drainage District in Iowa to construct retards (August)	P-721 P-2624
	Willis Brown transparency of above plat	P-722
1923	Corps of Engineers Hydrographic survey	P-723
	Willis Brown transparency of above	P-724
1923	Corps of Engineers Hydrographic survey with Bartleman Island outline and Huber thalweg superimposed. Thalweg is west of Nottleman Island. Each channel not even sounded. Configuration of river, bars and islands totally different from Dean's map of August, 1922	D-390 D-390-A

COMMENT

Iowa would note again, at this point, that both parties are agreed that Nottleman Island, the same identical land which now exists in that spot under the sky, was in existence in 1923.

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

Samples from several trees growing on the island have been ring-counted by experts for both states; Dr. Weakly testified that three trees started growth before 1923, to-wit: No. 259 started in 1900; No. 1106 started in 1913; and No. 1234 started in 1919; Iowa's expert, Dr.

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

Bensend testified that No. 259 started in 1922; No. 1106 started in 1922; and No. 1234 started in 1928. Dr. McGinnis testified that No. 259 started in 1923; No. 1106 started in 1922 or 1923; No. 1234 started in 1928 or 1929. Willis Brown has plotted the location of these trees on a transparency. The parties agree that a part of Nottleman Island appears on the Corps of Hydrography survey of May, 1923, and that this part never disappears from later maps and aerial photos.

Therefore, Nottleman Island being in existence in 1923, and being in either Iowa or Nebraska at that time by reason of whether the main channel was west or east of it when formed, and it could not have shifted from one state to the other thereafter by reason of any river movements thereafter, later exhibits tending to show where the river was from time to time would be irrelevant and immaterial. However, for the purpose of negating any argument that Iowa may be dismissing later exhibits because they are bad for Iowa and good for Nebraska, and for the convenience of the Special Master in reviewing exhibits, we continue our list, with notation that not a single one of them can be properly interpreted as showing the main channel east of Nottleman Island.

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1926	Corps Aerial Photos taken in winter of 1926	P-433 thru P-441 P-2621 P-2622 P-1729 thru P-1740 D-1035
1926	Corps map made from above photos Willis Brown transparency of above map	P-725 P-726
1926	Corps Aerial Photo taken in winter of 1926	D-598
1926	Mosaic assembled from 1926 aerial photos	D-692
1926	Mosaic assembled from 1926 aerial photos with island outline superimposed by Bartleman	D-693
1926	Corps map made from 1926 aerial photos with island outline superimposed by Bartleman	D-1035-A
1926	Corps map made from 1926 aerial photos with thalweg superimposed by Huber	D-1035
1926	Another set of 1926 Corps aerial photos	D-747 D-748 D-750 thru D-756 D-758 D-759 D-761
1928	Corps map made in 1928 from aerial photos	D-1036 P-727
1928	Willis Brown transparency of above map	P-728
1928	Corps map made in 1928 from aerial photos with island outline superimposed by Bartleman and thalweg superimposed by Huber	D-1036-A

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1930	Corps Aerial Photo taken 9-17-1930	P-440
1930	Corps map made from 1930 photo	D-1041
	Willis Brown transparency of above map	P-729 P-730
1930	Mosaic of Corps aerial photos taken 9-17-1930	D-595
	Mosaic of Corps aerial photos taken 9-17-1930 with island outline su- perimposed by Bartleman	D-595-A
1930	Aerial Photo with Huber thalweg superimposed	D-495-A
1930	Corps map made from 1930 aerial photo with island outline super- imposed by Bartleman	D-1041-A
1931	Corps Hydrographic Survey maps	D-371 thru D-374
	Corps Hydrographic Survey maps assembled with island outline su- perimposed by Bartleman	D-371-A
1932-1934	Photo identified by Ramge look- ing east from foot of Queen Hill; Missouri River main channel is in photo	D-738
1932-1934	Photo identified by Ramge look- ing northeasterly from foot of Queen Hill; similar to D-738	D-739
1932-1934	Photo identified by Ramge; sim- ilar to D-738 and D-739	D-740
1932-1934	Photo identified by Ramge; sim- ilar to D-738, D-739 and D-740	D-741
1933	Fitch Survey	P-735
	Another print of Fitch survey	P-2345
1934	Corps Reconnaissance map made April 3, 1934, before any work commenced on Rock Bluff Bend shows main channel west of Nottleman Island	D-1111

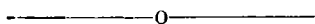
YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1934	Corps Reconnaissance Map made May 15, 1934, shows work just commenced sounded channel still west of island	D-1112
1934-35-36	U. S. Geological Survey of east part of Cass County, Nebraska shows Nettleman Island in Iowa	D-290 D-1037
1935-1959	Folder containing Reconnaissance Maps made in 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1949, 1953 and 1959	D-620
1936	Corps aerial photo taken in 1936	D-587
1937	Corps aerial photo taken in 1937	D-588
1938	Corps aerial photos taken in 1938 and arranged in mosaic by Jauron	D-597
1938	Corps aerial photos taken in 1938	P-444 P-445 P-446
1939	Corps aerial photos taken in 1939 and arranged in mosaic by Jauron	D-596
1940	Corps Construction map for Rock Bluff Bend	P-741
1941	Corps Construction map for Tobacco Bend	P-742
1941	Corps Construction map dated Feb. 1941	D-1044 thru D-1046
	Corps Construction map dated Feb. 1941 with island outline superimposed by Bartleman	D-1044-A
1941	Corps aerial photo taken 11-12-1941	D-1728 D-599
	Corps aerial photo taken 11-12-1941 with trees No. 259 and No. 1106 marked	P-448
	Corps aerial photo taken 11-12-1941 (South part of Nettleman Island and King Hill shown)	P-447

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1941	Alluvial Plain Map	P-731
	Willis Brown transparency of Alluvial Plain map	P-732
1944	Corps aerial photos taken in 1944 and arranged in mosaic by Jauron	D-592
1945	Corps Contour Maps	D-608 & D-609
1946-1947	Corps Tri-color maps	P-1039
	Corps Tri-color map (Goose Island)	P-2278
1952	Corps aerial photo taken in 1952	P-2625
1959	Corps aerial photos taken in 1959	P-1714
		P-449 & P-450
1962	Windenburg traverse made for Ia. Cons. Comm.	P-740
	Willis Brown transparency of above	D-1025
1966	Corps aerial photo taken in 1966	P-1691
		P-2685

OTOE BEND AREA

PLAINTIFF'S TESTIMONY

FRANK DUNCAN, Nebraska City, Iowa, born 1892, north of Payne Junction $2\frac{1}{2}$ miles, and lived around Payne for 34 years. Family moved to Mose Givens place south of Payne Junction in 1896. Went straight south from house on road to Old River bed (Iowa Chute). After 1896 and before 1900, he thought in 1899, the year they had their flood, he saw his first boat. "... it wasn't like our big boats that we have now. It was a boat and it had a work barge ahead of it, . . . they had cables and stuff like that, men, where they worked." It had a paddle wheel in back. Standing on the road next to old river bed, the boat "... it come to my left, it come up around the river and then . . ., there is a bend right there . . . and then it turned and went west" It come within 50 feet of where he was standing. The barge was about 30 x 20 and the boat was shorter (R. V. VIII pp. 1011-1028).



CLIFF COCKERHAM, Hamburg, Iowa, born in 1892. Moved to Propp farm area in about 1893 until he was married in 1912. The Missouri River in those days was about 300 yards west of Propp's house, the old bed is there, called Iowa Chute. He saw one boat there, around 1900, he guessed. In the spring. It was 30 or 40 feet long, with paddle wheel on the back. It tied up to the east bank over night and caused quite a stir. The Missouri River is west today of where it was then. Water stayed in the chute several years, it was part of the water of the Missouri River. On cross-examination the following questions and answers were given:

- Q. Will you state what you remember of the 1912 flood and why you remember it?
- A. Well, you mean, when we went out in the wagon?
- Q. How far did you drive in the wagon before you got out of it?
- A. Well, we drove over to the north side of the railroad and got out of the water.
- Q. North and, then, around over to the bluff?
- A. Well, our wagon box floated on the running gears.
- Q. Now, after the 1912 flood did you go back there and live?
- A. Yes.
- Q. Was there any change in the river channels or chutes or terrain?
- A. No, I don't think so.
- Q. The 1912 flood didn't change anything?
- A. No.
- Q. I believe, that day you told me that, so far as you can remember, the main or large channel of the Missouri River is about where it is today, is that right?
- A. Well, I think it was. There was a lot of water over there, anyhow.
- Q. And it wasn't very far from where it is today?
- A. Well, not very far, I don't think.

The boat he saw wasn't pushing or pulling anything, was about 12 or 14 foot wide and the only boat he ever saw on the Iowa chute. River was running pretty full then. It wasn't in a normal flood time (R. V. VIII pp. 1028-2041).

CAL TAYLOR, Hamburg, Iowa, born 1878 in Nebraska on McKissick's Island. Couldn't remember any dates, but when he was a good sized boy he remembered the Missouri River west of Albert Propp's (R. V. VIII pp. 1042-1044).

Q. When you saw the river there, was it during the normal flow or flood time, or just when?

A. Well, I have seen it when there was high water, and it was full, clear out against the old bank. And, when it was not in flood, it was further west (R. V. VIII p. 1046).

Q. There were other channels in the river during those years that you have been talking about?

A. Well, when the river went west on the low ground there was channels all through there (R. V. VIII p. 1047).

Q. The river then was east of where it is today?

A. I have seen it from the time it left that there bank at Propp's, as it worked that-a-way, and leave kind of a little channel along on the ground where the river used to run in the early days.

Q. Well, there was land west of Propp in those days?

A. Yes.

Q. And there were channels running west of Propp?

A. There was a little channel running through there where the river kept going west, and west of Propp.

Q. Was there any channel anywhere near where the river is today in those days?

A. I couldn't tell you (R. V. VIII p. 1051).

ELMER GARRISON, Hamburg, Iowa, age 79, retired farmer, familiar with Albert Propp area. Lived on the Propp place in 1905 until 1908. In the area 37 years. In 1905 the Iowa chute was a running stream in same spot. Water came out of river up north and back in about 3/4 of mile south of Propp's. It was 50 yards wide and knee deep to over your head, just wherever you hit it. There was a levee, the John Payne Levee, followed the Iowa chute. Water left Iowa chute about 1911 or 1912. You crossed the Iowa chute to get to the Missouri River, which was pretty well to the east side of the Schwake farm, small willows, cottonwood and brush between, the willows an inch or two inches through (R. V. VIII pp. 1052-1057).

Q. Did the river during those days always stay there in that Schwake farm, along the east side of the Schwake farm, or did it move?

A. It moved west in about 1911 or 1912.

Q. Can you tell us what you can recall about that move west?

A. It just jumped over to another low place going through over on the bar.

Q. What period of time did it take it to jump over there?

A. Some time during the high water in a week or so.

Q. You were there and saw it do this?

A. No, I didn't see it do it, but I seen it after it had done it (R. V. VIII pp. 1057-1058).

Witness stated he saw steamboats in the Schwake chute and from then on up. Before the Corps started to work on the river it was on the west side of Schwake's land (R. V. VIII p. 1060).

The Court: But you don't remember any work by the Engineers?

The Witness: I didn't go over to the river.

The Court: You didn't, but when the river was there in front of the Propp place you have talked about, there wasn't any work done on it then to move it?

The Witness: No.

The Court: The Engineers didn't move it over?

The Witness: No, sir.

The Court: Build any dikes or anything?

The Witness: Nothing.

The Court: The river just moved itself?

The Witness: The river just moved back. Jumped back by going down a lower draw. It would get up and cut a new draw out.

The Court: What did it leave after it cut that draw? How much land did it leave?

The Witness: Sometimes it would leave a mile. The first time practically a mile wide between jumps.

The Court: Of dry land?

The Witness: Of dry land, yes.

The Court: How many times did it do that?

The Witness: I just seen it do it once.

The Court: That time it left a mile of land?

The Witness: It left a mile of land in there and maybe a little more.

The Court: How far north and south?

The Witness: I would say three miles.

MEDFORD (TOOTS) JAMES, born 1910, Nebraska City, Nebraska, commercial fisherman, first familiar with and fished Otoe Bend area in 1927, 1928 with oars. Laurence Yearsley was west of Schemmel Island and Frazer's Island or Goodie's Island was straight north of Yearsley's. At Hamburg Landing, a quarter or half mile south of Schemmel Island was deepest water in the whole river. Went north from Hamburg Landing on the Iowa side in early fishing days because that is where the water was and usually fished in six to ten feet of water for big yellow cat. In those days there was a lot of places in Missouri River a lot shallower than that. Two channels came around Goodie's Island, east and west, where they came together it would be approximately a foot higher and headed east. There weren't very many boats on river before 1933 or 1934 (R. V. VIII pp. 1068-1072).

The Court: At this point, let me ask you, was there any commercial river traffic at all up until 1930?

The Witness: Just some pleasure boats, I think.

The Court: Nobody hauling freight?

The Witness: No.

The Court: Coal?

The Witness: No.

The Court: Lumber?

The Witness: No.

The Court: Grain, anything like that?

The Witness: No. Woods Brothers done some work at the bridge at Nebraska City. Some riprap.

The Court: They took barges up to haul material?

The Witness: Rock and stuff. That is right at the river bridge.

The Court: Any traffic, then, was related to work on the river, is that it? Bridges and stuff of that kind?

The Witness: Yes, working on the river. There was a pleasure boat or two come up there.

The Court: No regular freight lines of any kind?

The Witness: Not that I know of (R. V. VIII p. 1073).

The engineers in the Otoe Bend area started driving piling on the Iowa side, shutting that channel off.

- Q. Was there a channel along the Iowa side when they started driving the pile?
- A. Well, there should be. That is where all the boats went through. I don't know whether there was a channel or not, but all the boats had to go through there.

Saw the Corps boats go through there, work boats, paddle boats, pile drivers, skid rigs, what-have-you (R. V. VIII p. 1075). West of east channel just an island out there, water going down the east side of it, chutes going down west side of it, trees, brush. The contractors drove piling out from east bank, started out with floating rig to the island then they used skid rigs across island. They pulled the dikes on east side to get through because they couldn't get the boat through on west side of the dikes. They dredged a canal on west side with south

terminus a little northwest of Hamburg Landing. Cut the trees, then dragline cut it down to water, then the dredge came through and pumped it out. Worked on it all summer. This was in 1936 or 1937, somewhere in there.

Q. Were there trees on both sides of that canal after it was dug?

A. Sure. Had to be (R. V. VIII pp. 1076-1079).

The Court: When you started, where was what you considered the main channel when you started in in 1927?

The Witness: At what particular point?

The Court: Do you know where Schemmel Island is?

The Witness: Yes.

The Court: Where was the water then?

The Witness: The main channel was right down along the Iowa bank.

The Court: And the width of the river at that point?

The Witness: It was narrow there.

The Court: Narrow all over?

The Witness: The narrower the river the deeper the water.

The Court: Could you go up the other side, the Nebraska side, the shore, the Nebraska bank, or was there such a thing as the Nebraska bank?

The Witness: Yes; there was a chute over there, but there wasn't much water in it, but the main channel was on the Iowa side of the island.

The Court: Who put the chute in?

The Witness: Well, that is—This river has done that all its life.

The Court: It is a natural chute?

The Witness: Yes.

The Court: Originally, where was the Schemmel Island? You talk about you know the subject matter here. Let's see what you know about that.

The Witness: That is just north of the state line about a mile or so.

The Court: That was west of this channel as you knew it and learned it when you started to fish there, is that it?

The Witness: Yes, sir (R. V. VIII pp. 1081-1082-1084).

Q. Do you recall about 1930, wasn't it true that there wasn't any Schemmel Island there then? It was all in the river?

A. It has been there as long as I can remember.

Q. One great big solid island?

A. No; I didn't say a great big solid island.

Q. All right. Describe it for the Court.

A. There have been various waterways through all that land for years, so far as that is concerned. As long as I can remember (R. V. VIII pp. 1087-1088).

—————o—————

GLENN DOYLE, 65, Percival, Iowa—worked on the river from 1933 to 1936. Worked on mat gang. Started in fall of 1933. Worked on long dike just south of Schemmel area, water there 10 to 12 feet deep. Man drowned (R. V. VIII pp. 1091-1095).

- Q. Before they started that work, Mr. Doyle, coming out from the east bank opposite the Yearsley land, where did the boats go?
- A. They went up and down *that chute* until they got it shut off, and then they had to go around. That was a way late in the fall.
- Q. When you say "that chute," you mean the east bank?
- A. —east bank, yes.
- Q. What kind of boats did they have in those days,—
- A. All we had there was tow boats pushing barges and drivers. Other boats didn't go up that chute there. *Out in there further out, they used to go up. They wouldn't let no big ones in there where I was at, working up and down there. They went further out* (R. V. VIII p. 1097).
- Q. Now, when they were going across the islands—bars and they had to excavate to get the tie pile in, how deep would they have to dig to get it down to water level?
- A. Oh, that would depend on how high your bar was, where you had to go down.
- Q. What was the deepest you remember?
- A. I think about 5 feet is the most we ever did go down on the bar and that was only one. It wasn't very far with that. The driver floated in the bar. There was lots of willows on it and we had a lot of work getting it cleaned off and going across there.
- Q. About 5 feet?
- A. Most of them was around 3 feet, 2½, 3 feet. Little places that was just, well, the river filled it in. It was high. It wasn't over, I expect, a

hundred yards long where it was that deep, and then it run off pretty shallow (R. V. VIII pp. 1107-1108).

FRED WALKER, 53, Nebraska City, Nebraska testified he was familiar with Schemmel Island area, that main channel was east of island and saw Corps work boats go up east channel, etc. (R. V. VIII p. 1111).

Q. That clarified that. The west channel in 1930, where is that in relation to the channel today?

A. The west channel is right—There was only one channel at that time that amounted to anything and that is the one that ran along the Iowa side.

Q. Let's talk about the one that didn't amount to anything.

A. The river right in there, if you want to go with it, could have been as much as a mile wide, where there would be little streams running, bars, and little streams running, and bars, but there was just one channel (R. V. VIII p. 1117).

LEWIS MARTIN, 59, farms on Frazer's Bend, Nebraska familiar with land farmed by Henry Schemmel worked for W. A. Ross starting in 1935. Worked on second dike above Hamburg Landing, worked on dredge in May 1938, the Billy Peters, that dredged a canal on right bank of the proposed channel of Missouri River. The canal started at Hamburg Landing and went approximately west, some north. Small willows on both sides of canal. Cut through Nebraska accretion land, southwest of Schemmel.

Canal was west part of proposed channel. It washed out all the area between the dikes and the water that was there (R.V. VIII pp. 1143-1148).

—o—

JAMES M. GIVENS, 53, Hamburg, Iowa, son of Mose Givens who owned land on river just east of Schemmel Island and family raised there. Farm bordered Propp farm on north. Road between ran to river on north end of Island. Witness lived there until 1936. Remembers the river from 1922, when his Dad's hogs had cholera. Ran a bench measure to check rise and fall of the river summer and fall of 1932. Checked the river every morning and evening at 6 o'clock for full six months. Their farm ran north and south a mile along the river. The river ran southwest by the farm for the full length in 1924. Continued on south about the same direction (R. V. XXII pp. 3138-3144).

Along the Givens farm in the 20's there was a main channel and then you had these chutes off of it, and when the river was high there was a lot more. The main river was more or less stable, and ran on southwest a half mile below south boundary of the farm you could see. Almost the identical channel you have now, "as I remember it in 1924." (R. V. XXII p. 3146). Just before the Corps put their trail dikes in the river was about the same.

(For additional testimony of James M. Givens, see Appendix "D".)

—o—

OTTO HINZE, 69, Hamburg, Iowa, born 3/4 mile south of corner east of Albert Propps, lived there until he was 9 then moved to Hamburg. Moved back to same farm when he was 15, started farming for

himself in '20. In 1921 and 1922 farmed where Hamburg Landing is. Started fishing on the river about 1915. Fished north of Hamburg Landing. The river for a ways north of Hamburg Landing was quite a river and then we got in what I call Given's Chute. That didn't amount to too much. Anywhere from 1915 on up to present date, that island has been there until the Government cut the chute off. Two channels one on the east and one on the west. The one on the east, the Givens Chute, is where we done a lot of fishing about 1915 to 1920. I was never over to the west channel in those days. When we fished the south end of Given's Chute he was right where the channels come together. There was a pretty good sized river come across from the west side, right around the south end of that island, and then it run into the channel that run south down through where Hamburg Landing is. Fished right in same spot there for a long while. During the 20's the water come around there just about the same way all the time. The island built up after the Government went in there and done that work. — few small willows grew over there in the 20's. Used to cut wood west of Iowa chute in about 1915. Trees six or seven inches through at bottom (R. V. XXI pp. 3084-3093).

Iowa Chute started upon the far north end of Paynes' land and then it runs south through there for quite a little ways, and then turned east and went over there pretty near to Albert's house and stuff, almost to where the old dike used to be where the blacktop road is, and then it went almost south for about a mile and a half and turned back west and went over toward the river.

Q. Prior to the time that the Army Corps of Engineers started work on it, would you describe the channels and the island, as you remember it?

- A. The island was never—vegetation, trees, never got too awful big on it because water would go over it about every year, and the east channel, when the river was up there was quite a channel through there, quite a river, and whenever the river went down along towards fall, the river wasn't too big. Probably a couple hundred feet wide and not too deep.

The Court: How many commercial fishermen were there on the river when you started?

The Witness: Well, there wasn't very many.

The Court: You were one. How many others were there?

The Witness: Well, I don't know as anyone fished down there at Hamburg.

The Court: You don't?

The Witness: No, but since they got motorboats and everything like that, the territory is—there is no territory any more (R. V. XXII pp. 3094-3096).

Not too many boats on river. In a year you would see a boat go up there. Steamboats, paddle wheel boats, they would go up on the other side of the island. In 1919 saw a steam boat paddle wheel, 60-70 feet long tied up to river bank. Didn't think there was a year there wasn't some boat went up the river and down. Never did see a boat of any size go up the Givens Chute. The Government work boats went up—they weren't too big. With reference to Iowa Chute:

The Court: Mr. Hinze, when you were nine years old, when you were a boy, how wide was the chute in those days?

The Witness: Well, the only time there was ever any water in it I can ever remember was when the river was up and it was about the same then as now.

The Court: Did it have two banks in those days?

The Witness: It has it today exactly like it was them days.

The Court: What did the old residents say what caused that, what built that chute? What did you understand when you were a kid about how it got there?

The Witness: At one time the Missouri River was over that far.

The Court: That is understood in that area?

The Witness: That is understood in that area, yes, and then it started going back again and went back to its present place.

The Court: Going back to that chute a minute, what do the old people say was in that chute?

The Witness: At one time they claim that was the Missouri River, years and years ago.

The Court: It wasn't very wide?

The Witness: It was from there west.

The Court: There were two banks there?

The Witness: Yes, but that bank was thrown up there again later.

The Court: In other words. The left bank of the chute would be the left bank of the river, is that what you are saying?

The Witness: Yes, if you are facing south, that was the bank.

The Court: What about the inside bank, the west bank, when did that appear?

The Witness: Well, I think that eventually filled in there and the chute stayed open for a few years after the rest of it filled in. The river most generally fills next to the bank and leaves those blamed places like that.

The Court: Leaves the bar, does it?

The Witness: Leaves another ravine that way (R. V. XXI pp. 3104-3106).

—————o—————

ALBERT J. PROPP, 62, has lived five miles northwest of Hamburg, Iowa since 1912. Before that in Marion County, Kansas. In 1912 was seven years old. His buildings are east about half a quarter—some of them are closer than that, of the Iowa Chute, from a hundred feet to 600 feet of the Iowa Chute, is where it was when we moved there.

Q. And, if you know, would you tell us what land your father bought in 1912 when you moved there?

There was timber on the land west of the Iowa Chute, and we farmed the land east of the Iowa Chute. About 260 acres east of the Iowa Chute and about 160 acres west, of the chute which had timber, small timber, and brush on it, we used it for pasture. It was timber in 1912, most of it was quite small timber. More brush than big timber. It was small timber, cottonwood and willows. A lot of it went out of there for firewood and there was one time when we had a sawmill in there, about 1920 or '21. The trees off that 160 west of the chute for the sawmill run from a foot to 18 inches through. We cleared it all. We got it cleared along about

1943. It laid west and south of where our buildings are.

Q. How far west did it run?

A. Approrimately a mile from the buildings.

Q. Do you recognize the name Schwake Chute?

A. Yes.

Q. What is that?

A. That is another chute about the size of the Iowa Chute, just west of the Iowa Chute. When we first come here, the land run clear over to the existing Missouri River levee. Father made a deal with the Baldwin estate. They had a claim on a small corner there, and he made a deal with them to settle that up somehow or other at that time and gave them a deed to what was west of there and he kept what was east of that Schwake Chute.

Q. Was there some dispute between them as to ownership?

A. No. There was a line about—I think it was about 20 acres as near as I can remember between the chute and my father's land at that time.

Q. The chute you are talking about, which chute is that?

A. That is the Schwake Chute. You can identify it by my west line, which was my father's land, and then there is a fence and west of that there is a small cornerib just before you get to that chute.

The Court: How far is that from the river?

The Witness: If you go to the west of the island, it would be pretty close to a mile. There

used to be a chute go on both sides of that island, but since the Government work, they have shut the one on the east side of the island off so that makes it pretty close to a mile now from the main channel of the river.

The Court: Over to your land?

Q. Now, was there a levee east of the Iowa Chute when you first came to Iowa?

A. Yes; there was.

Q. Would you describe that to the Court?

A. Well, it was a small levee that was put up with teams and scrapers and it was—oh, I would say it was about six feet high and probably that wide on top or a little wider. You could drive down the top of it and it run from just north of us about half a mile to outside three miles south. Just make a circle around the outside of the Iowa Chute.

Q. Now, would you describe the Iowa Chute, if you can, when you first came to that area?

A. Well, the Iowa Chute then was about the same as it is now. There is nothing changed in it. It was about 50 feet wide and about three to four feet deep.

Q. Do you ever see it full of water?

A. I have seen it full and running over. In fact, I have seen pretty near all that land over west of the Iowa Chute under water.

Q. When was the last time you saw that happen?

A. In 1952 of course the whole bottom was under, but previous to that it was 1947 for the last time.

Q. In 1952 you say the whole bottom was under. That would be east of the Iowa Chute too?

- A. That would be practically all over the bottom. There were a few high spots stuck out, but not very many.
- Q. In 1947 did it get beyond the Iowa Chute or the ag levee, or where did it go then?
- A. No; it didn't in 1947. It got up along that dike that you speak of. It got up to that, which was just a little ways east of the Iowa Chute, the farmer-made dike.
- Q. Did you ever when you were growing up there go to the river?
- A. Oh, yes. We always put up ice on the river every year.
- Q. When was the first time you recall going over to the river?
- A. About 1913.
- Q. Where was the river at that time? Where did you cut your ice?
- A. We cut it in the first channel, which was a small channel just a little ways west of the levee that is there now, where the Army Engineers have blocked the channel off and put the old channel on the west side. The channel east of the island and west of the ag levee. The ag levee was put in there in 1949. In 1947 we had a little farmer-made levee and it topped that.
- Q. Where the ag levee is today you had a farmer-made levee?
- A. A farmer-made levee at that time, yes, and they took it out when they put the big levee in.

Would you describe that channel when you first went over there in 1913, if you can?

It was a channel I would say approximately a hundred feet wide and the water was quite

swift, but it wasn't so very deep. I would say maybe five or six feet deep at the time we put up ice. That would be in the winter, of course. Of course, there were times of the year when it was much deeper than that. The ice would freeze a foot to 18 inches deep.

The area west of that east channel in those days, would change from one time of the year to another. Sometimes if the river was up you couldn't see anything. If the river was high, it would be covered with water and maybe there would be brush on it, and when the river would get up sometimes it would take the brush away and then it would start all over again.

The Court: You are speaking of when, what year, what date?

The Witness: That was back in 1914, '15 along in there. Well, in the 20's it began to form an island and began to—seemed as though every time we had a flood the island would get a little bigger.

The overflow seemed to deposit in around those brush and small trees and the island would get a little bigger, but the main channel of the river at that time was, as always as long back as I can remember, had been on the west side of the island.

- Q. How do you know that? Did you ever visit the west side of the island?
- A. We could see the west side of the island at that time because there was nothing there to keep you from seeing it.
- Q. Where would you be standing when you say you could see the west side of the island?
- A. On the east bank of the river that runs on the east side of the island.

Q. Wasn't there any trees or brush on the island that would prevent you from seeing very far?

A. Well, you couldn't see right straight through, but you could see around the north side of it and you could see where boats was going down there. Now and then we would see a boat go down that west side.

Q. Now, talking about boats, did you ever see a boat in the Iowa Chute?

A. No. Fishing boats is all. rowboats.

Q. Small rowboats?

A. Small rowboats, motorboats.

Q. Did they fish quite a bit in the Iowa Chute?

A. When the river was up, there was always water in the Iowa Chute. That is, if it was high. It was good fishing. That was before there was any obstruction to the water going through there.

Q. When you first went there in 1912, was water running through what is known as the Schwake Chute today?

A. Just when the river was high.

Q. There wasn't any steady stream through there?

A. No current through it at all.

Q. Did you ever have occasion to go out onto the river west of the island?

A. Not in the early years. Not back in 1915, '12 or in there. I did maybe in the 20's, I went out there.

Q. In a boat?

A. In a boat.

Q. Did you ever walk across that island to the west channel?

A. Not clear across it, no. At that time of course there wasn't much island there. We would just go over to the edge of it and that is about as far as we went. We would go out there duck hunting.

Q. How wide was it in, say, the 20's?

A. The island?

Q. The island, where the island is today. How wide was the land mass?

A. Oh, it run from a quarter to half a mile.

The Court: Yes. You could see the boats, could you?

The Witness: Yes.

Q. When you were talking about boats what kind of boats were they?

A. They were steamboats evidently because they were fairly large boats for those days. It looked like a boat about possibly 75, maybe 80 feet long and it looked as though they were steamboats because they had a lot of smoke.

Q. How many boats would you see in a year?

A. Oh, maybe three or four.

Q. Over what period of time did these boats ply the river, as you recall it?

A. Usually from in the spring until the early fall.

Q. What year?

A. Oh, what year. That was away back in 1913, '12 and '13 is where we seen them.

The first people that I knew of that was on the island was a couple of fellows built a shack

over there. It was back in about 1918 or along in there. There was John Hilger and Walt Williams. They built a shack over there. They would go over there and hunt ducks and spend a weekend over there. That is the first people I know being there.

Q. Do you know of anyone occupying it for farming purposes? When was the first time you knew of any farming on the island?

A. The first time I believe there was any farming on it was when Mr. Schemmel cleared it and started farming it.

Q. Do you know when that was?

A. That was along about 1953 when they started over there.

Q. Did he start farming right away or what did he do?

A. They done some clearing first and then it was two or three years later before they done any farming to amount to anything.

The present Missouri River levee is approximately where the old farmer—that is not the old farmer over by my house, but the next farmer levee that was over close to the river. They took it out and put the new agricultural levee in. The Government done that.

Where did they get the dirt?

Most of the dirt was from the inside, from the river side of the levee. They used scrapers and some of it they pumped. There was one stretch of it about a mile long I know of they pumped it out of the river, and the rest of it was hauled in with heavy equipment.

- Q. Mr. Propp, when you first recall going on the farm in 1912, were there any buildings west of the Iowa Chute?
- A. There were just some little shacks. You couldn't even tell what they had been used for. I would say half a mile west of our buildings.
- Q. Didn't the Wood Brothers Construction Company work in that area somewhere?
- A. They done a lot of riprapping down there to keep the river from cutting. The river was just cutting back and forth, and it got to cutting pretty bad on the east side at one time, and they done a lot of work in there, hauled in a lot of trees and stuff to try to stop it. That was away back in the 20's, about a mile south of my place, down around just north of the Hamburg Landing.
- Q. Isn't it a fact that in those days there was some concern the river might cut clear over to Hamburg?
- A. Well, you used to hear all kinds of stories. You still hear them.
- Q. But it was cutting toward the town of Hamburg?
- A. It was cutting toward Hamburg, yes, but all at once it reversed it and started filling in there and went back the other way.

The Court: What made it do that?

The Witness: Well, just like rivers do. I don't know what makes them cut in and out.

- Q. Was the Iowa Chute shut off from the river by the 1948 levee construction?
- A. Well, there is a tube that goes through under the levee yes. It was shut off, yes, but the only time there was ever any water in it was when the river was high, but there is a drainage tube that drains into the river on both ends.

Q. Mr. Propp, in visiting with some of the old-timers down there, the name "Lost Lake" came up several times. Do you know where Lost Lake was?

A. Well, they said that that was on the west side of my place, in that vicinity, but I never seen anything that looked like a lost lake. I always could find it. It was just a small, three or four acre low spot in the field. Water would stand in it part of the time.

Q. Good duck hunting there when there was water?

A. When the river would get up, sometimes there would be fish out there. When the river would get up and overflow, some fish would pop in there and then they couldn't get out. There was no outlet to it. I think it was a place that was cut out by overflow of the river, which it does that. In fact, in 1952 I had a hole cut in my field by the overflow of the river and I have since filled it up.

Q. You mean just a spot in the field where the river would scoop it up?

A. One spot in the field where it would dig a hole out (R. V. XXI pp. 3049-3082).

—o—

OSCAR LEROY HAYES, 81, Farragut, Iowa, testified he moved with his family to the farm in northwest corner of Missouri when he was 11 years old, in 1897, and lived there 8 years until 1905, then moved to Hamburg, Iowa area. Visited the farm after that, and in 1913 river had cut east quarter of a mile. Between 1897 and 1905 watched boats go up the river past Minerville, and he and his brother rowed up the river to Minerville many times. Tied boat to railroad trestle. Past farm there was only one channel to the river, about half mile wide, same all way up past Minerville. To the north of their farm there was some sloughs and the Iowa chute.

The river past their farm beared a little to north-west. From 1897 to 1905 the river never overflowed in the vicinity of their farm. They took the dike road up past Propp's to Payne Junction and in those days west of the dike and Propp's was thick stand of willows 10 to 12 feet high (R. V. XXII pp. 3171-3185).

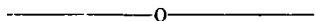
LON BAKER, born 1879, Hamburg, Iowa, hunted in Albert Propp farm area as early as 1895. Around 1900 and earlier the area west of Propp's farm was brush cottonwoods, few trees, some farm houses or barns over in there at that time. There was a road run clear to the river, and a hedge fence along on the north side of that road. It was right close to a mile from Propp's to the river.

He hunted Lost Lake, which was about quarter to half mile east of river. Between Lost Lake and river was little cottonwoods. One pretty fair cottonwood near to lake, rest were small. There were two branches of the river then about quarter of mile apart. In between just willows and sand bars mostly and some pudholes, water holes. When he was about 18 he remembers river cutting up along Mose Givens place.

FRANK STARR, 56, Storm Lake, Iowa, an Iowa State Conservation Officer, testified he hunted in Hamburg Landing—Schemmel Island area in 1929. Built a camp and blinds on Schemmel Island about 1935. There was a bar just west of Hamburg Landing in middle of River, running north, channel on both sides. Hunted on the bar on east side of the west channel. The west channel was deepest, widest and swiftest of the two channels. The bar they hunted on ran north half mile to a mile. North of this bar there were other bars in there. He left the area in 1938.

COMMENT

The foregoing witnesses are for the most part life-long residents of the area they discussed. They are knowledgeable, are not personally interested in the final decision of the Court, and had no reason to color their testimony, consciously or unconsciously. It isn't a question of which witnesses were telling the truth, or even which witnesses' memories are the sharpest, but rather it is a question of determining why there are divergent views, and why they don't all agree in detail. Iowa submits that both Plaintiff and Defendant's lay witnesses stated what they remembered. But each one was testifying from different vantage points and directions, in different years and different seasons of the year. Had their testimony been the same in detail it would certainly have been suspect. The testimony indicates that in the areas in dispute, the Missouri had adopted the characteristics of the wide, sand bar-choked Platte. This is also verified by the photos taken by the Corps, the maps and soundings of the Corps, and the conclusion must be drawn that the principal or larger channel did as General Loper stated, "trended" toward the west (R. V. XIV p. 1922).



ROBERT V. RUTHE. For identification of this witness, see Appendix "D".

Exhibit D-1221 is a map prepared by me to show the various scarps and chutes in the vicinity of Otoe Bend and Exhibit D-1222 is a transparency prepared by me to show the summary of the various scarps versus the 1879-90 scarp. On Exhibit D-1222, the scarps shown are dated (R. V. XIX, p. 2759).

Between the 1879-90 scarp and the 1905 left bank position shown on the United States Geological Survey, Nebraska City quadrangle, there are 7 scarps, numbered red 4, 5, 6, 7, 8, 9 and 10 on Ex-

hibit D-1221. All of these scarps face westerly or southwesterly. They all represent left bank positions. My conclusion from those bank positions is that, between 1879-90 and 1905, the river gradually shifted back toward Nebraska and back toward the west (R. V. XIX pp. 2760-2761).

The Court: How do you know it was gradual?

The Witness: We have, say, 15 years and we have 1, 2, 3, 4, 5, 6 positions.

The Court: You might have a change every five years. It might have happened overnight each time. You don't know when it happened, do you?

The Witness: In that 15-year period.

The Court: But I know, you haven't changed between 1—what is your first number there?

The Witness: The first is 3 and then it changes to 4.

The Court: How long did it take between 3 and 4 to change?

The Witness: The only evidence we can say is that during that period of 15 years. We don't know the number of years.

The Court: Somebody might say it happened overnight.

The Witness: Yes.

The Court: Is that reasonable or not?

The Witness: With the conformation, I would say "No". These things are trended at different bearings. Therefore it requires a considerable shift (R. V. XIX p. 2762).

- Q. Now, Dr. Ruhe, there were a couple of other things that confused me a little bit. How can a channel divide and cut both the right and left banks and widen out? What can cause that?
- A. Dumping sediment in the channel, causing diversion of the channel.
- Q. In other words, a dam or blockage or something would have to occur in the middle of the channel to cause that?
- A. Yes. The stream deposits its own sediment, forces the channel to bifurcate, if you like the term, and then it could cut because you are locally creating concave banks on both sides.
- Q. If it is sediment, it is usually a highly erodable material, is it not?
- A. No. Some of it is and some is not. For example, in the Missouri River we have these things called clay plugs that are difficult to erode.
- Q. Are those deposited by the river or are they in place?
- A. They were deposited by the river in its previous history. They are part of the alluvial deposits of the Missouri River bottom.
- Q. Is it correct to say that over the years the Missouri River has moved back and forth across the bottom, particularly in the Schemmel area?
- A. Yes; it has.
- Q. And each time it moves it may create something or it may destroy something else, is that correct?
- A. Yes.

- Q. Is it possible or can you, in the light of the history of this movement, look at a map and then look at a map five years later and because they don't coincide, automatically discard the features as shown in that map five years later on the basis the channel didn't change?
- A. What you have to do is try to evaluate the validity of the maps you use and the farther back in time you go the more difficult it is to evaluate the validity.
- Q. Was the 1895 Pearce Survey the only survey that you disregarded in your study?
- A. I disregarded the 1903 map.
- Q. Which was not a survey?
- A. I think if you read my report, that when I wrote that the 1895 map didn't perturb me too much, but after I have to constrict it at the north part and then re-check the 1895 in the south part, then I began to question it.
- Q. (By Mr. Moldenhauer) Dr. Ruhe, on the Gregg map, does Mr. Gregg show the Missouri River?
- A. No; he doesn't.
- Q. He doesn't show where it is at all?
- A. No; he does not.
- Q. His boundary is what he has called a slough?
- A. He shows a slough, but in the connotation of the word "slough", normally this is a thing that has got land on both sides (R. V. XIX, pp. 2824-2827).

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1847	Iowa Gov't Survey shows Otoe Island site in Iowa or in river.	P-202
1852	Iowa Gov't Survey shows Otoe Island site in Iowa or in river.	P-203
1852	Iowa Gov't Survey shows Otoe Island site in Iowa or in river.	P-204
1855	Nebraska Gov't Survey shows Otoe Island site in Iowa or in river.	P-205
1858	Tie Gov't Survey shows Otoe Island site in Iowa or in river.	P-207
	Willis Brown transparency showing the above plats.	P-208
1876-7	Suter Gov't Survey shows river in Iowa Chute.	P-370
1879	Suter Gov't Survey, river is running through island site.	P-209
	Willis Brown Transparency of 1879 map.	P-210
1879	Suter Gov't Survey with Bartleman island outline and Huber thalweg. 50% of island site is west of thalweg, and 50% east.	D-1126
1884	Fremont County, Iowa, Road Plat	P-172
1888	Book showing partial bank lines of 1884 and 1888 sketched in.	
1852-79-84-90	Willis Brown transparency showing left bank lines.	P-2423
1852-79-90-95	Willis Brown transparency showing right bank lines.	2-2422
1852-95-1905-40	Willis Brown map showing river locations.	P-235-A
	Transparency (Willis Brown) of P-235-A.	P-235
1852-95-1923-40	Willis Brown map showing river locations.	P-236-A
	Willis Brown transparency of P-236-A.	P-236

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
No date	Pages from Fremont County, Iowa, treasurer Plate Book.	P-166 thru P-171
	Willis Brown map showing above pages assembled.	P-2389
1886	Maps.	P-371
	Same with Otoe Island and 1890 thalweg, superimposed.	P-2627
1890	Missouri River Commission survey.	P-211
	Transparency of same above.	P-212
	Same 1890 map with Bartleman island outline and Huber thalweg superimposed; 75% of island site is west of thalweg and 25% east.	D-1125
1891	Fremont County, Iowa, commercial plat, river is in Iowa Chute.	P-372
1895	Partial transcript of <i>Payne v. Hall</i> including Fremont County, Iowa, Dist. Court Decree dated 11-19-19, Iowa Supreme Court Opinion dated 12-13-21, Gregg Survey of 1895, Survey of 8-21-19, and testimony concerning river movements.	D-747
1895	Pierce Survey in individual sheets.	P-137
	Willis Brown transparency of Pierce Survey assembled.	P-213
	<i>Robt. v. Ruhe</i> transparency showing Gregg and Pierce Surveys.	D-1232
1905	Geologic Survey shows river running right through island site with part of site in Nebr. and part in Iowa.	D-287
	Willis Brown transparency of Geologic Survey.	P-214
		P-215
1914	Fremont County, Iowa, commercial plat shows river in Iowa Chute.	P-1707
1920	Plat of Knox Drainage District (Fremont County, Iowa).	P-1765

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1923	Plat of Missouri Valley D.D. (Fre- mont County, Iowa.)	P-1766
1923	Corps of Engineers Hydrographic Survey (island site is almost entirely in river.) (Thalweg is west of most of island site.)	P-219
	Willis Brown Transparency of Ex- hibit P-219.	P-220
1923	Corps Hydrographic Survey with Bartleman's Island outline and Hu- ber's thalweg superimposed.	D-1124
1926-27	Corps Aerial Photo with Bartle- man's island outline superimposed.	D-1093-A
1926-27	Mosaic of Corps Aerial Photos.	P-1721
1926-27	Mosaic of Corps Aerial Photos with Huber's thalweg superimposed.	P-714
1926-27	Corps map made with above Aerial Photos with Bartleman's Island out- line and Huber's thalweg superim- posed. (Shows almost entire island site in Iowa.)	D-1121
1926-27	Corps map (unmarked).	P-221, 2
	Willis Brown transparency of P-221 and P-222 assembled.	P-223
1928	Corps map (unmarked) made from 1928 Aerial Survey.	P-224-5
	Willis Brown transparency of P-224 and P-225 assembled.	P-226
1928	Corps map made from 1928 Aerial Survey assembled, with Bartleman's island outline and Huber's thalweg superimposed. (About 75% of is- land east of thalweg, 25% west.)	D-1122
1929	Map of Otoe County, Nebr. by C. A. Shannon, Otoe County Surveyor. (Shannon shows state boundary as being entirely west of island site, and island site is entirely in Iowa).	D-272

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1930	Corps Aerial Photo (unmarked, dated 9-17-30).	P-246
1930	Corps Aerial Photo with Huber's thalweg superimposed. (Shows about 85% of island site east of thalweg, and 15% west.	D-1092
1930	Corps aerial photo with Bartleman's island outline superimposed. Shows almost all of island site is in river; very small part is bar land attached to Nebr. shore; larger part is bar land attached to Iowa shore.	D-1092-A
1930	Corps maps made from 1930 Aerial photos (unmarked).	P-227, 228
1930	Corps made maps from 1930 Aerial photos assembled and with Bartleman's island outline and Huber's thalweg superimposed. Shows entire island site in river except southeasterly tip is on Iowa shore.	D-1123
	Willis Brown Transparency of P-227 and P-228 assembled.	P-229
1931	Corps Hydrographic Survey as of July, 1931 with Bartleman's island outline and Huber's thalweg superimposed. Shows about 85% of island site is east of thalweg, 15% is west. All channels except channel marked by Huber are denoted as "shallow water" "shallow" or "too shallow to sound."	
1933	Corps Construction Map. Base map is the 1931 Hydrographic Survey. Designed channel has been superimposed by the Corps. Also, bank lines of July 3, 1933, have been superimposed by the Corps. Shows that between July, 1931, and July 3, 1933, the river widened itself	D-427

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

	by washing away both banks.	
4-3-34	Complete set of Corps reconnais-	D-31
thru	sance maps made about monthly in	thru
entire	navigation season each year.	D-259
1943		
1934	Reconnaissance maps of 4-3-34 thru	D-31
	7-2-34 (ex. D-3-1 - D-39) show no con-	thru
	struction work under way in Otoe	D-39
	Bend. Natural channel (main) is al-	D-41
	ready west of 85% of the island site	D-42
	and west of where the Corps plans	D-47
	to construct dikes at upper and of	D-49
	Island (Dikes 603-1, 602.9A and	thru
	602.7) Recon. of 8-1-34 (ex. D-41)	D-61
	shows lead-off dike 603.1 has been	
	built. Recon. of 8-31-34 (ex. D-42)	
	shows dikes 602.9, 602.9A and 602.7	
	have been built and work is under	
	way on Dike 602.7A/ Main channel	
	is west of dikes and bars are form-	
	ing below and between the dikes in	
	July and August, 1934, in the area	
	of Otoe Island, and on the Iowa side	
	of main channel Recon. of 10-1-34	
	(Ex. D-47) shows work commenced	
	from Iowa shore on dike 601.9, and	
	the only channel of the river	
	is west of the work, and large bar	
	is forming downstream from dike	
	601.9 as it is built. Recon. of 10-15-	
	34 through 5-1 and 2-35 (Ex. D-49	
	thru D-61) show dike 601.9 about	
	50% built out from Iowa shore.	
1935	Recon. for 7-2 and 3-35 (Ex. D-62)	D-62
	shows dike 602.7A built completely	thru
	and dike 601.9 75% built. Main	D-79
	channel still west of all work. Same	

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

	general situation continues to be shown on Recon. maps through 3-13-36 (Ex. D-79).	
1936	Recon. of 3-31-36 (Ex. D-81) shows break in dike 602.7 and two channels sounded, one around ends of dikes and one through the break. Recon. of 4-15 (Ex. D-83) shows break repaired and only one channel sounded, that being around ends of dikes. Same general situation shown through Recon. to 7-2-37 (Ex. D-120).	D-81 D-83 thru D-120
1936	Corps Aerial Photos taken in 1936.	P-248 and P-2641
1936	Corps Aerial Photos taken in 1936. These Aerial Photos show that Otoe Island has been formed and has taken shape as bars between and below the dikes on the Iowa side of the main channel.	D-1107
1937	Recon. of 8-2-37 (Ex. D-124) work has been resumed on dike 601.9 and it has been built to designed length. Main channel is around ends of all dikes. Vegetation is starting growth on bars formed between and below dikes on Iowa side. Last Recon. of 1937 (Ex. D-136) shows trail dike 601.9 about 2/3 built.	D-124 D-136
1937	Corps Aerial Photos taken in 1937.	P-250 and P-2642
1937	Corps Aerial Photos taken in 1937 in the 1937 Aerial Photos, the two large bars, which later joined together to form the northerly 75% of	D-1106

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

Otoe Island approximately, are clearly established as island formations on the Iowa side of the channel and bearing substantial timber vegetation.

- | | | |
|------|--|--|
| 1938 | Recons. of early 1938 (Ex. D-137 thru D-144) continue to show the northerly 75% of Otoe Island forming between and below the dikes, in Iowa, with the main channel running around the dikes. On some Recons., it is noted that the Nebraska bank is cutting (See Ex. D-143). On the Recons. of June 3, 1938 (Ex. D-145) the canal first appears and it appears as already dredged. The intervening area between the main channel and the canal appears as sand bar and is noted as "cutting". Recon. of July 2, 1938, through October 25, 1938, (Ex. D-148 thru D-164) show channels moving closer together by cutting the intervening area until the October 25, 1938, Recon. only the canal channel was sounded. | D-137
thru
D-144
D-148
thru
D-164 |
| 1939 | The two Recon. maps which together show the Recon. of 9-3-38 (Ex. D-277 and D-298) are full scale to show that the area between the main channel and the canal channel was all water and sand bar except a tiny willow bar is shown just off the end of dike 600.6 which is almost entirely in the designed channel. The Recon. of 5-5-42 (Ex. D-303) shows that this willow bar washed away when the canal channel widened itself out | D-277
D-298
D-303 |

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

	to designed width.	
1938	Corps Aerial Photo taken in 1938.	D-1108
1938	Corps Aerial Photo taken in 1938.	P-255
1937-40	Map of Otoe County, Nebr., soil survey done in 1937 to 1940 depicting Otoe Island as being in Iowa.	D-273
1940	Willis Brown transparency of Alluvial Plain Maps referred to in Boundary Compact.	P-231
1946-47	Tri-color maps.	P-2683 P-2277 P-1036 P-2710
1957	Corps Aerial Oblique Photos of Otoe Island.	P-2639 P-2640
1961	Ivan Windenburg traverse of Otoe Island.	P-237 P-383
	Willis Brown transparency of Windenburg traverse.	P-233

CONCERNING TREES

A.P. Map with tree locations plotted by Willis Brown.	P-230
Willis Brown transparency showing tree locations.	P-234
Tri-color map with Bartleman's location of trees 230 and 1220.	D-1163
Tri-color map with Pete Mann's location of tree 230.	D-1302
Photos of tree 230.	P-381 P-382
Photos of trees samples.	P-373 thru P-380

(Note: Trees 230 and 1220 are the only live trees cut and ring counted in the Otoe Bend area. Tree 230 was not on Otoe Bend Island, but was some distance east; tree 1220

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

was on the island. Dr. Weakley, the Nebr. expert, testified that 230 started growth in 1895 and that 1220 began in 1932. Drs. Bensand and McGuinness, Iowa's experts, said 1220 started in 1936 or 1937 and 230 started in 1903.

CONCERNING SCARPS

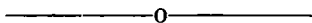
Dr. Robert V. Ruhe prepared a map showing the results of his thorough investigation as a geomorphologist of the land formations in the vicinity of Otoe Island and the island itself. This map shows 11 westward facing scarps between the Iowa Chute and Otoe Island. There were no eastward facing scarps. From these facts, Dr. Ruhe testified that the river moved westward from the Iowa Chute gradually and not by avulsion.	D-1221
--	--------

CONCERNING CORPS GROUND LEVEL PHOTOS

1934-37	The Corps took numerous pictures of the work in progress at Otoe Bend. These pictures show that there was no avulsion of any Nebraska land during the period of 1934 through 1937, and that the main channel was always west of the dikes and west of the land formed between the dikes. The land of Otoe Island therefore formed in Iowa.	D-545 D-546 D-550 D-551 D-553 D-1063 thru D-1091
	Additional photos were taken by the Corps in 1938 showing the canal	P-2628 thru

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

	being dredged, and showing how a narrow canal was dredged, expected to widen itself out by water action to designed width of 700 feet.	P-2636
--	--	--------



PLAINTIFF'S TESTIMONY

GENERAL RIVER

GEN. HERBERT B. LOPER, see Appendix "B".

DEFENDANT'S TESTIMONY

RAYMOND L. HUBER, see Appendix "B".

FRED SCHWOB, see Appendix "I".

EXHIBITS

GENERAL MAPS SETS

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

1943	Complete set of Reconnaissance Maps from Corps of Engineers showing reconnaissance of July 27-28, 1943. Shows main channel of Missouri River entirely within the designed channel from Sioux City down stream to Iowa—Missouri state line except slight departures at Mile 733, Mile 651.5 and Mile 633.5. These are the maps showing conditions closest to July 12, 1943, the effective date of the Nebraska-Iowa Boundary Compact.	D-1001
------	--	--------

1964	Complete set of Corps aerial photos of entire river from Sioux City to Iowa-Missouri state line taken in April 1964. This was the	D-4 thru D-24 D-24
------	---	--------------------------

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

	latest set of photos available from the Corps at time of trial.	P-2181 thru P-2202
1946-1947	Complete set of Corps Tri-color maps with areas claimed by Iowa sketched on by Willis Brown and state line channel also sketched on by Willis Brown.	P-2652 P-2653 P-2654 P-2662 thru P-2667 P-2673 thru P-2676 P-2679 thru P-2682
	Complete set of Alluvial Plain Maps prepared by Iowa Conservation Commission from negatives furnished by Corps of Engineers.	D-1151 thru D-1160
	Complete set of maps from Nebraska Surveyor's Office showing 1940-41 designed channel with relation to the original government survey of Nebraska.	P-2173 thru P-2180
	Set of aerial and ground level photos taken by Gerald J. Jauron showing the areas along the river which Iowa claims to own.	D-1236 thru D-1261 D-1258-A D-1249-A

CANALS

Complete set of AP Maps with markings placed by L. H. Hart while giving his Deposition. His testimony by deposition was that he only knew of 3 genuine canals above Omaha dredged by the Corps before 1943, to-wit: California Cut-off-1939; Peterson Cut-off-1939-1940; Winnebago Bend Canal-1939-1940. These are marked on Hart Ex. No. 1.	Hart Ex. No. 1
Complete set of AP Maps with markings placed by R. L. Huber	Huber Ex. No. 1

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

while giving Deposition. His testimony by deposition was that 11 canals were dredged by the Corps prior to 1943 along the entire Iowa-Nebraska boundary, to-wit: California Cut-off, Peterson Cut-off, Winnebago Bend, Upper Hamburg Bend, Otoe Bend (1938), Civil Bend, Pin Hook Bend, Lower Bartlet Bend, Upper Bartlet Bend, St. Mary's Bend (1937-38) and The Narrows (1936).

MISCELLANEOUS HISTORICAL DATA

1845	Admission of Iowa to Union	P-2601
1864	Admission of Nebraska to Union	P-2602
1923	Iowa Journal of History and Politics	P-2696
1891	Call for Missouri River Improvement Convention	P-1619
	Annual Reports of Missouri River Commission (1877-1881) (1883-1886) (1889-1890)	P-2686
1942	Minutes of a paper by Col. Whipple read at meeting of Amer. Soc. of Civil Engineers	P-1557
	"Steam boating on the Missouri River" by Dr. Wm. J. Peterson	D-1003

CORPS OF ENGINEERS RECORDS & REPORTS

1891-1907	Corps of Engineers Annual Reports	P-2689
1910		
1919		
1920-1945	Corps of Engineers Annual Reports	P-2687

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

1946-1966	Corps of Engineers Annual Re-ports	P-2688
1934	Corps of Engineers Project and Index Maps	P-410
1935	Corps of Engineers Project and Index Maps	P-411
1936	Corps of Engineers Project and Index Maps	P-1699
1937	Corps of Engineers Project and Index Maps	P-412
1938	Corps of Engineers Project and Index Maps	P-413
1939	Corps of Engineers Project and Index Maps	P-414
1940	Corps of Engineers Project and Index Maps	P-415
1941	Corps of Engineers Project and Index Maps	P-416

NEBRASKA V. IOWA

1890-1892

1890	Copies of proceedings in the Supreme Court of the United States in <i>Nebraska v. Iowa</i>	P-1722
1892	Opinion	P-2603
1892	Decree	P-2604

BARTLET—PINHOOK BENDS

1930	Corps aerial photo	P-1880
1937	Corps aerial photo	P-2372
1938	Corps aerial photo	P-2376
1938	Corps aerial photo	P-2377

ST. MARYS BEND—CLARKE LAKE

1902	Certificate by Clerk of U. S. District Court for District of Nebraska concerning docket entries in case entitled <i>Clarke v. Lienemann</i>	D-1099
------	---	--------

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
	Journal Entry, copy of plat, & special findings of jury in <i>Clarke</i> <i>v. Lienemann</i>	D-1100

COMMENT

In *Clarke v. Lienemann*, Clarke was seeking to eject Lienemann from certain land in the vicinity of Clarke Lake, an ox-boe lake now in Sarpy County, Nebraska, almost directly west of St. Mary's Bend and St. Mary's Cut-off canal. Lienemann claimed the land, although west of the Missouri River, was in Iowa, and that the Fed. Dist. Court of Nebraska had no jurisdiction. Jury made special finding that land was in Iowa, and case was thereupon dismissed.

1942	Partial transcript of case entitled <i>Lienemann v. Sarpy County</i>	D-1018
	Copy of Opinion by Nebraska Supreme Court in <i>Lienemann v. Sarpy County</i>	D-1117

COMMENT

In the above case, Lienemann was seeking to enjoin Sarpy County, Nebraska, from taxing certain lands on the theory that, although the lands were west of the Missouri River, they were nevertheless in Iowa. The District Court of Sarpy County dismissed the case. On appeal, the Nebraska Supreme Court reversed, holding that the state boundary ran through Clarke Lake, and ordered a survey of the boundary through the lake. Roy N. Towle was appointed to make the survey and later filed plat and report. The 1902 and 1942 cases involved approximately the same land.

Bartleman prepared a plat which is basically two Alluvial Plain maps joined together so as to show St.

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

	Marys Bend and Clarke Lake. On this plat, Bartleman has shaded green the land found by the jury in the 1902 case to be in Iowa and has also platted the segment of state boundary surveyed by Roy N. Towle as commissioner in the 1942 case.	D-1119
1925	Map of Sarpy County, Nebraska prepared by H. B. Patterson, County Surveyor	P-1774
1937	Corps aerial photo of St. Marys Bend	P-1810
1938	Corps aerial photo of St. Marys Bend	P-1812
1941	Corps aerial photo of St. Marys Bend	P-2392
1941	Letters and report regarding boundary between Sarpy County, Nebraska, and Mills County, Iowa.	P-1057

CALIFORNIA BEND

	Copy of Quit Claim Deed by which Peterson Trust conveyed all its title and interest in approximate north half of California Bend area to State of Iowa.	D-1060
1930	Corps map with Willis Brown's superimposition of land involved in <i>Coulthard v. Simmons</i>	P-2717
1937	Corps reconnaissance map of California Bend	P-2669
1938	Corps aerial photo of California Bend	P-2380
1939	Corps aerial photo of California Bend	P-2382
1939	File of case entitled <i>U. S. v. Mencke</i> , condemnation for right-of-way for	P-2670

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
	California Cutt-off canal, Fed. Dist. Court of Nebraska	
1941	Corps aerial photo of California Bend	P-2393

TYSON BEND

Certified copy of Decree of Federal District Judge Hicklin in case en- titled <i>U. S. v. 242.53 acres of land, Ned Tyson, et al</i> , awarding dam- ages for taking of easement on Tyson Island to State of Iowa	D-1049
Copy of Opinion of Eight Circuit Court of Appeals affirming above case (Case entitled <i>Tyson v. Iowa</i>)	D-1113
Copy of condemnation plat prepared by Corps of Engineers for above case	D-1051

DEER ISLAND

(*IOWA v. RAYMOND*)

Partial transcript from file of cause entitled <i>State of Iowa v. Raymond, et al</i> , District Court, Harrison County, Iowa, wherein title to Deer Island was quieted in State of Iowa.	D-1047
Copy of Opinion of Iowa Supreme Court in above case appearing at 254 Iowa 828, 119 NW 2d 135.	D-1047-A

WINNEBAGO BEND

Tri-color Map on which Bartleman superimposed the area in Winne- bago Bend which Iowa claims to	D-1120
---	--------

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

own in green; also superimposed in red the land awarded to U. S. as Trustee for Winnebago Indian Tribe in the case of *U.S. v. Flower, et. al.* demonstrates that Iowa does not claim any of the land awarded to the tribe in 1937 case.

Mosaic of 1938 Corps aerial photos showing where the river was when <i>U. S. v. Flower</i> was decided	D-1102
--	--------

Copy of complete file of *U. S. v. Flower*, in U.S. District Court for District of Nebraska, including maps and aerial photos used as evidence, and Memorandum Opinion of Judge Woodrough filed Aug 29, 1937. In this opinion, the Court (on page 3) reviewed the laws of Iowa and Nebraska regarding river bed titles and held that river bed ownership must be determined on the basis of which state it is in. The Court held (on page 6) that an avulsion had occurred between 1870 and 1879 which cut off some Iowa land in Iowa Sections 31 and 32, leaving it on the Nebraska side of the river; also held (on page 8) that another avulsion had occurred in about 1912, stranding some Nebraska land on the Iowa side. The boundaries of the land awarded to the Tribe are set out at pages 7, 9 and 10. On Feb. 18, 1938, Supplemental Judgement was filed withdrawing some of the

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
	land which <i>had been</i> theretofore awarded to the Tribe.	P-2661 D-1114
	Copy of Circuit Court Opinion in <i>U.S. v. Flower</i>	D-1115
1927	Willis Brown retrace of Leo M. Peterson survey of 1927 concerning status of Tribal lands	P-2655
1956	Copy of Petition and Answer of Iowa in case entitled <i>Kirk v. Wilcox</i> , 80200, Woodbury County, Iowa, District Court.	P-2339
1958	Copies of pleadings and Decree in <i>Wilcox v. Pinney</i> , 80441, Woodbury County, Iowa, District Court.	P-2338
	Tri-color map with lands involved in <i>Wilcox v. Pinney</i> and <i>U. S. v. Flower</i> superimposed by Willis Brown	P-2661
1939	Corps aerial photo of Glovers Point Bend and Winnebago Bend	P-1878
1966	Copy of part of Docket in case entitled <i>U.S. v. 126.78 acres of land, et al</i> , in U. S. District Court for Northern District of Iowa, showing resume of Judgment and Decree entered June 10, 1966, awarding title of Tract A (Iowa) to State of Iowa subject to easement for construction and maintenance of channel	D-1050
	Copy of condemnation map prepared by Corps of Engineers showing location of Tract A (Iowa) and other tracts	D-1052
	Copies of deeds from Ray L. Grosvenor, et ux to State of Iowa consummating "Grosvenor Pur-	D-4061 D-1062

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

chase'' of certain lands in Winnebago Bend area.

BROWERS BEND

(DARTMOUTH COLLEGE v. ROSE)

1936	Corps of Engineers aerial photo of Browsers Bend showing Missouri River west of land in dispute in <i>Dartmouth College v. Rose</i> taken in 1936	D-1095
7-6-37	Corps reconnaissance map of July 6, 1937, showing only channel of river still west of island approximately one mile long and half mile wide	D-1097-A
1937	Corps aerial photo shows river has broken back through an old chute east of the island without destroying the island	D-1096
8-4-37	Corps reconnaissance map of Aug. 4, 1937, showing channel east of island is the main channel.	D-1098-A
	Opinion of Iowa Supreme Court in case entitled <i>Dartmouth College v. Rose, State of Iowa Intervenor</i> , wherein Decree of Woodbury County District Court was affirmed, holding that no avulsion occurred at Bowers Bend in 1937	D-1116

APPENDIX "K"**Evidence Relied Upon by Plaintiff to Establish
Acquiescence by Iowa****TESTIMONY RE NOTTLEMAN ISLAND**

DARWIN MERRITT BABBITT, age 67, Plattsmouth, Nebraska, one of claimants to the island, testified he rented South half of island in 1940, and he and partner purchased the half of island in 1941 from John Nottleman Estate for \$1300.00 in Probate Proceedings, Cass County, Nebraska. Identified Exhibit P-463 and P-464 are copies of John Nottleman Estate proceedings in Cass County Court, and P-465 as copy of Administrator's Deed received. In 1940 and 1941 got to island by barge from Nebraska (R. V. I. pp. 46-55). Started to pay taxes in Nebraska in 1941, land on tax rolls in Nebraska until 1952. First paid taxes in Iowa for the year 1946 (R. V. I. pp. 60-62), identified Exhibit P-471 as pleadings in case filed in Iowa November 30, 1961, where he tried to get his taxes reduced in Iowa (R. V. I. p. 71). In addition he testified to his open occupancy, cutting of timber on the island, clearing land for cultivation, identified pictures of himself and family placed in Omaha World-Herald and advertised a farm sale on the island in 1956 (R. V. I. pp. 72-78).

—o—

MERRILL SARGENT, Glenwood, Iowa, age 42, one of claimants to the island, testified that his father purchased land on the island in 1953 from George Troop, paid inheritance tax on the land in his father's estate to State of Iowa (R. V. II p. 168), included the land, with other lands, in a mortgage to Traveler's Insurance Co. (R. V. II p. 170), affidavit of possession filed in June 1957 (R. V. II p. 171), witness as executor valued 574 acres of island land in his

father's estate at \$50.00 per acre in 1957 (R. V. II p. 231).

GEORGE TROOP testified he purchased about 370 acres on island from Harve Shipley for \$1,000.00 without having seen the land. Filed Quit Claim Deed received in Nebraska because Harve Shipley was a Nebraskan. Sold same land to Sargent by Quit Claim Deed and no Abstract of Title (R. V. II p. 247).

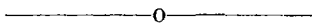
ALBERT M. WATTS, 68 years old, one of claimants to Nottleman Island, testified: "We purchased a part of this land on Nottleman's Island. We bought it from Harvey Shipley, William Watts and myself. Our land is at the northeast corner, main island property. Immediately to the west of us were Charley O'Brien and Katherine. The Sargent boys own a strip through the middle—that strip through the middle is the part that George Troop sold to the Sargent boys.

EXHIBIT 460--We bought a hundred acres to start with and we bought it of Harve Shipley for a dollar an acre. What we bought was all brush and timber (R. V. V. pp. 641-42).

Paid taxes in Nebraska on this land for about eight or nine years. Lawsuits or quiet title actions brought before 1943 in the State of Nebraska which affected land title. We took it through two courts over there to clear their titles. Had a regular court session over there at Plattsmouth and called in I don't know how many and notified everybody in 17 counties of our claim there and the Judge ruled that we were the legal authorized owners. At that time we had done a little scratching around trying to

farm and the boys on the south end had done quite a little farming and cleaned off some land (R. V. V pp. 643-647).

Exhibit P-462 is a copy of the pleadings in the case we have been referring to. Harve Shipley and my brother and me. Mrs. O'Brien, or Katherine Julia O'Brien, party to this suit. Katherine Julia O'Brien was Charley's sister. He bought the land straight west of us. He come down there hunting and he found this land, and then he got after us and offered to clear the title for us in Nebraska or take it through the courts in Nebraska and make positive our record, our title, was as good as he could make them for this piece of land, and Harve Shipley, the man we bought from, gave him that job, and he took it through the courts in Nebraska over at Plattsmouth and raveled it out as far as he could go in every direction to clear our title in Nebraska, and then after that is when we sued the State of Iowa to put the titles in Iowa instead of Nebraska because it was on the wrong side of the river. He took that northwest corner for his fee. We had him and Whitney Gilliland. Gilliland helped move it over there and we relied on him to clear the title in Nebraska. We hired Mr. Gilliland to help us get it transferred over into the State of Iowa and, of course, him and Charley O'Brien worked together to get it transferred into the State of Iowa" (R. V. V p. 644).



RAYMOND W. BECKMAN, 64, was an employee of the Iowa State Conservation Commission from 1937 through 1958 or 1959, first as a conservation officer, then as a supervisor; then he became chief of the fish and game division in 1948, which position he held until his resignation. In 1950, his immediate superior was Bruce Stiles, Director (R. V. I p. 151).

I remember receiving the letter of which Exhibit B-1 is a copy from Mr. Stiles and I answered it by a letter dated April 19, 1950. I also wrote the letter of which Exhibit B-3 is a copy to Mr. William H. Mead (R. V. I p. 151).

I have no recollection as to what investigation was made concerning the ownership of Nottleman Island for the writing the letters. I cannot be sure where I got these four names, but I believe Mr. Stiles gave them to me and I wrote the letter (R. V. I p. 155). I didn't write the letter just on my own. I didn't personally make any investigation—I want that clear—that I recall. Mr. Stiles was personally acquainted with William and Mason Watts (R. V. I p. 156).

Mr. Stiles requested me to answer the letter and directed the contents. I believe the contents were his idea—his opinion (R. V. I p. 157).

—————o—————

WHITNEY GILLILLAND, 65, of Arlington, Virginia, formerly a practicing attorney at Glenwood, Iowa:

I was attorney for the Plaintiffs in *Watts, et al. v. Strand, et al.* I recognize Exhibit G-1 as copies of the court records in that case. The Decree was dated December 31, 1946, and filed January 6, 1947 (R. V. I p. 115).

The County Attorney filed answer in the case. He told me he would take the matter up with the Attorney General, but I don't know that he ever heard from the Attorney General. The County Attorney agreed to the form of the Decree, which I prepared, and Judge Johnson signed (R. V. I p. 120). The plaintiffs were in open and notorious possession of the land (R. V. I p. 122).

In about 1950, the conservation officer at Glenwood told me somebody had applied to buy Nottleman Island. When I was in Des Moines shortly afterwards, I talked with the Attorney General about it. Exhibit G-2 is a letter I wrote to the Iowa Conservation Commission at the suggestion of the Attorney General (R. V. I p. 125). Exhibits G-4 and G-5 are copies of letters I received from the Conservation Commission, signed by Ray W. Beckman. I advised Mr. William Watts concerning these letters and, as far as I know, he relied thereon (R. V. I p. 127).

There were no witnesses present, no testimony taken, no exhibits introduced in *Watts v. Strand*—the County Attorney and I just discussed the situation with the Judge (R. V. I p. 219). I don't know that any of the Plaintiffs were residing on the island; I know some of them were not (R. V. I p. 133).

—o—

NOTTLEMAN ISLAND

EXHIBITS IN RE ACQUIESCENCE

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
	DEEDS, COURT ACTIONS, SCHOOL PERSONAL TAX, ETC.	
1933	Fitch Survey	P-735 P-2345
1935	Teachers list showing Geo. Shipley in Nebr. School	P-534
1935	Neb. death certificate for Eleanor C. Shipley	P-525
1935	Nebr. vehicle registration for Har- vey and Ernest Shipley	P-521
1935-36	Teacher's Report for School Dist. 5 Cass County, Nebraska	P-537
1936	Nebr. birth certificate for Elaine Joy Shipley	P-526

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1936	School census report for Dist. No. 5, Cass County, Nebraska	P-527
1936	Personal tax schedules for Ernest L. Shipley, E. M. Dooley, H. C. Shipley and Cleo Baker	P-540 P-541 P-542 P-546
1936-37	Teacher Report for School Dist. No. 5, Cass County, Nebraska	P-536
1936-37	Vehicle registrations for Ernest Shipley and Cleo Baker	P-512 thru P-517
1937	School census report for Dist. No. 5, Cass County, Nebraska	P-528
1937	Personal tax schedule for Harvey Shipley	P-545
1937	Teacher's 3rd day report of pupils enrolled in Dist. No. 5	P-535
1937	Quit Claim Deed — Shipley to Watts	P-460
1937-38	Teacher's Report for Dist. No. 5, Cass County, Nebraska	P-538
1938-39- 40	Neb. vehicle registration for Ernest Shipley	P-522, 3, 4
1939	Personal tax schedule for Harvey Shipley	P-544
1939	Deed — Shipley to O'Brien	P-459
1939	Quit Claim Deed — Church to Shipley	P-458
1940-41	Proceedings in Estate of John Not- tleman (Cass Co., Nebr.)	P-463 P-464
1940-41	Administration Deed — Nottleman Estate to Jones & Babbitt	P-469
1940-41	Mortgage — Babbitt to Jones	P-465
1940-41	Transcript — Shipley v. Hull	P-462
1941	Personal tax schedule for Harvey Shipley	P-543
1942	Personal tax schedule for Harvey Shipley	P-542

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

TAXATION

1930-1-2-3	Nebraska introduced the real estate tax assessment sheets for Rock Bluff Precinct, Cass County, Nebraska, for the years 1930, 1931, 1932, 1933 — all of said years being on the same sheets. These show that no part of Nottleman Island was taxed in Nebraska in 1930, 1931, or 1932. Attached to Exhibit P-548-3 is a note indicating that R. D. Fitch, County Assessor that he had surveyed Nottleman Island on Sept. 7, 1933, and that Harvey Shipley should be taxed for the North half of the island and John Nottleman should be taxed for the South half of the island. The names of Shipley and Nottleman were written on the roll for 1933 but no valuations were assigned so it appears that the island was not taxed in 1933.	P-548-1 P-548-2 P-548-3
1934-35	The tax roll for 1934-35 was introduced by Nebraska. It shows that the North half of Nottleman Island (162.10 acres of high bar and 414 acres of low bar) was assessed to Harvey Shipley; the South half (162.10 acres of high bar and 218 acres of low bar) was assessed to John Nottleman. The <i>actual value</i> of the entire island was fixed by the Assessor at \$1900.00.	P-550-1 P-550-2 P-550-3
1936-37	The tax roll for 1936-37 was introduced by Nebraska. It shows that for 1936, the island was assessed	P-552-1 P-552-2 P-552-3

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
------	------------------------	-------------

to the same person as in 1934 and 1935 and at the same total valuation of \$1900.00; for 1937, 44 acres in the Northeast part of the island were assessed to William and Mason Watts; total actual valuation was raised to \$1940.00 as follows:

Shipley	\$ 900.00
Watts	70.00
Nottleman	970.00
Total Actual Value	\$1940.00

1938-39	The tax roll for 1938-39 was introduced by Nebraska. It shows Nottleman Island assessed as follows:	P-554-1 P-554-2 P-554-3
---------	---	-------------------------------

Harvey Shipley	\$ 400.00
Kathryn O'Brien	500.00
Watts Brothers	70.00
John Nottleman	970.00
Total Actual Value	\$1940.00

1940-41	The tax roll for 1940-41 was introduced by Nebraska. It shows Nottleman Island assessed as follows:	P-556-1 thru P-556-5
---------	---	----------------------------

<i>Ass'd to</i>	<i>Acres</i>	<i>Act. Val.</i>
O'Brien	190.5	\$ 790.00
Watts	65.8	330.00
Shipley	301.7	1250.00
Jones and Babbitt	401.1	1190.00
Total Actual Value	959.1	\$3560.00

1942-43	The tax roll for 1942-43 was introduced by Nebraska. It shows Nottleman Island assessed the same as it had been assessed for 1940-41.	P-558-1 thru P-558-5
---------	---	----------------------------

COMMENT

The exhibits listed above are the exhibits in the record in this case which tend to show what was done by Nebraskans prior to the 1943 Boundary Compact, which actions are claimed by Nebraska to be exercises of sovereignty by Nebraska over Nottleman Island. Nebraska's claim is that by reason of these exercises of sovereignty, coupled with Iowa's acquiescence, Nottleman Island was in Nebraska prior to 1943 by prescription.

Iowa points out two things about these exhibits: First, all of them are within an 11 year period immediately preceding the Compact, a period much too brief under the cases to constitute a valid basis for prescription. Second, there are no exhibits or any other evidence of either knowledge or acquiescence by Iowa.

Although Nebraska introduced evidence tending to show exercise of sovereignty by Nebraska over Nottleman Island after 1943, (for instance, it was not removed from Nebraska tax rolls until 1952) we do not understand it to be Nebraska's claim Iowa acquiesced in these purported exercises of sovereignty so that Nottleman Island continued to be in Nebraska by prescription after 1943. Rather, as we understand it, Nebraska's claim is that Iowa, by her conduct after 1943, unilaterally interpreted the Compact as a relinquishment of all state owned lands along the river; and this was Nebraska's purpose in introducing evidence of Nebraska and Iowa conduct after 1943.

While evidence of occurrences after 1943 may well be material and relevant in the case now pending in Mills County, Iowa, District Court entitled *State of Iowa v. D. M. Babbitt, et al*, which has to do with the ownership of Nottleman Island, Iowa submits that evidence of occurrences after 1943 are immaterial and irrelevant in this case, where the issue is location of the state boundary prior to the 1943 Compact.

Although Iowa believes it was not possible for Nebraska to gain prescriptive rights to Nottleman Island by any occurrence to Nottleman Island by any occurrence after 1943, and we do not understand Nebraska to be claiming by prescription after 1943, we continue listing exhibits concerning post-1943 occurrences for the Special Master's convenience.

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1945	Deed — Shipley to Troop	P-467
1945	Cass Co., Nebr., Treasurer's Deed to O'Brien	P-468
1946	Copy of Mills County, Iowa, index book showing Exh. P-468 indexed	P-670
1946	Letter from Mills Co., Iowa, recorder to General Land Office and reply	P-2398
1946-47	Decree — Watts. v. Strand, Mills County, Iowa, Dist. Court	P-1074
	Plat of Nottleman Island for taxation purposes recorded in Mills, County, Iowa	P-1075
	Copy of part of Whitney Gillilland file in Watts v. Strand	Gillilland Exh. 1
1946-66	Copies of Mills County, Iowa, tax lists showing Nottleman Island taxed	P-2623
	Set of Willis Brown Plats showing lands described in P-2623	P-1673
1947	Warranty Deed — O'Brien to O'Brien	P-1669
1948-49	Copies indicating Lot 5, Nottleman Island, sold on 12-5-49 for delinquent 1948 taxes, redeemed 12-31-49; amount of tax — \$52.10.	P-1664
1949	Deed — Jones to Babbitt	P-466
1950	Letter — Beckman to Mead	P-478
1950	Letter — Gillilland to Beckman	P-481
1950	Letter — Beckman to Gillilland	P-477

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1951	Letters by or to Gilliland	Gilliland Ex. 2-7
1951	Part Transcript, Lee A. Sargent Estate	P-1696
1952	Letter — Cass County Nebr., County Attorney to County Assessor directing removal of Nottleman Island from Nebr. tax rolls	P-474
1954	Omaha World-Herald photos and article concerning Babbitt activities on Nottleman Island	P-487, 8, 9, 90, 92, 93, 94, 95, & 96
1956	Omaha World-Herald advertisement of Babbitt farm sale	P-1849
	Glenwood Opinion Tribune advertisement of Babbitt farm sale	P-2236
	Plattsmouth Journal advertisement of Babbitt farm sale	P-2237
1956	Right of Way agreement — Goode & Babbitt	P-1073
1957	Deed — Troop to Sargent	P-1083
1957	Mortgage — Sargent to Travelers Ins. Co.	P-2610
1957	Sargent Affidavit of Possession	P-2611
1957	Sargent Affidavit of Possession recorded	P-1082
1957	Babbitt Affidavit of Possession recorded	P-1072
1957	Omaha World-Herald pictures and article concerning good soy bean crop raised by Babbitt	P-1857
1959	Papers indicating redemption from tax sale by Babbitt	P-2613 P-559
1959	Papers indicating government loan to Babbitt	P-486
1961	Decree — Babbitt V. Edwards	P-471
1961	Letter — Production Credit to Babbitt	P-475

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1961	Letter — Creger to Babbitt	P-1775
1961	Notice to redeem from tax sale to Babbitt	P-600
1962	Babbitt tax statements	P-605
1962	Part Letter — Lee White to Babbitt	P-476
1963	Notice of Expiration of Time to Redeem from Tax Sale — Rodman to Babbitt	P-484
1963	Publication of delinquent R. E. tax list	P-483
1963	Tax statements and receipts	P-614
1963	Drainage Tax receipts — Babbitt	P-608
1963-65	Babbitt photos of operations and improvements on Nottleman Island	P-616 thru 621
1964	Redemption from Tax Sales by Babbitt	P-2614
1964	Inventory & Final Report — John William Watts Estate	P-1750
1964	Affidavit of Possession — O'Brien	P-1698
1964	Babbitt Tax statements	P-604
1964	Babbitt Tax receipts	P-613
1965	Babbitt Tax assessment rolls	P-2612
1965	Babbitt Tax statements	P-602
1965	Babbitt drainage receipt	P-603
1965	Publication of delinquent tax list	P-510
1968	Babbitt tax assessment rolls	P-1800
1968	Babbitt Notice of Expiration of Time to Redeem from Tax Sale	P-2492

 o

TESTIMONY RE OTOE ISLAND

WINIFRED RHOADES, 47, of Sidney, Iowa, has been Fremont County Treasurer since 1956, was Deputy Treasurer since 1945.

I remember a discussion in 1948 or 1949 between the County Treasurer and County Auditor about some Nebraska land being put on the tax roll, but I don't recall what was done if anything (R. V. IX p. 1233).

The east part of the NE $\frac{1}{4}$ and the east part of the SE $\frac{1}{4}$ of Sec. 15-67-43 were on the tax rolls in 1880. No listing in 1881 and 1882. No book found for 1883. No listing in 1884 and 1885. No book for 1886. No listing for 1887. There are no books from 1888 through 1933. No listing for 1934, 1935 or 1936. No books from 1937-1942. From 1943-1948, the N $\frac{1}{2}$ NE $\frac{1}{4}$ of 15-67-43 was listed to Frank Schwake. In 1949, the N $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$, and the NE of the NW part of Government Lot 1, all in 15-67-43 were listed. The added land in 1949 which I read was in no ownership. Other land was added in 1949 in Sec. 15-67-43 and listed to Dan Hill and Henry Schemmel (R. V. IX p. 1236).

Some of the land in 15-67-43 was sold for taxes in 1950, and redeemed by Henry Schemmel. At tax sale in 1951, Schemmel purchased some land in 15-67-43, then assigned the Tax Sale Certificates to Mary Leah Persons, and Tax Deeds were issued to her (R. V. IX p. 1241).

I have also checked the records concerning Sec. 23-67-43. Some of it was listed in 1880, 1881 and 1882. No book for 1883. Some of it listed in 1884 and 1885. No book for 1886. Some of it listed for 1887. No books for 1888-1933. None listed in 1934, 1935 or 1936. No books for 1937-1942. None listed in 1943-1948. In 1949 and since, some land in Sec. 23-67-43 has been listed to Dan Hill and Henry Schemmel.

The Court: What was the purpose of that?

Mr. Moldenhauer: Again, Your Honor, to show taxation by Iowa officials of this land and recognition of Mr. Schemmel's ownership.

The Court: County officials or state officials?

Mr. Moldenhauer: By the county officials, Your Honor (R. V. IX p. 1240).

—o—

HENRY E. SCHEMMEL, age 76, lives southeast of Nebraska City. The community known as Minersville. First moved to there in the spring of 1934. Born September 7, 1892.

Purchased some land in that area in the 30's with Dan Hill. We purchased it at tax sale and then I would say maybe a year later we purchased from a man by the name of George Ward (R. V. IX pp. 1220-1223).

Exhibit P-1529 is a special warranty deed from Howard Huston Hanks and Merle O. Hanks, husband and wife, to George Ward, filed for record October 29, 1918, dated the 21st day of October 1918. It was Schemmel and Dan Hill first title to this property—was a tax sale certificate under part of it. We didn't get a treasurer's deed on it. Bought that tax sale certificate in the State of Nebraska, Otoe County.

Exhibit P-192 is a quit claim deed made on the 11th day of January 1938, George Ward, a widower, of the first part, Dan Hill and Henry E. Schemmel. That deed recorded in Otoe County on the 29th day of January 1938, also recorded in the State of Iowa, on the 22nd day of August 1939 at Volume 46, page 10.

Q. Why did you record it in the State of Iowa?

A. Well, after Otoe Bend Canal had been cut in there, why, some of our land had been cut over

there, so we recorded it to show ownership of that land in Iowa (R. V. IX p. 1224).

Court: All right. How much of this—has that come out yet? Is this all the island or what part of it?

Witness: That is the southern part of the island.

Q. After you received the deed from George Ward, did you, either alone or in company with Dan Hill, go onto the land to look at it?

A. Yes, sir.

Q. How did you get there?

A. Well, the dike lines were built from the Nebraska shore below a—well, I think we walked the dike lines and got onto the main part of the island (R. V. IX p. 1225).

Q. What dike lines did you walk?

A. Well, just below the Otoe Bend Canal the Engineers, under contract with Ross Construction Company, built from the Nebraska bank over onto this island and had other supplemental dikes that went out to what evidently was supposed to be the designed channel of the river.

Q. That would just get you to the land on the—

A. On the Nebraska side.

Q. How did you get to the land on the other side of the main channel?

A. We crossed the bridge—At one time, we used to go by boat, rowboat, but one time we crossed the river at Nebraska City bridge and then drove down kind of a winding road down south of what is called Payne Junction now and to the dike line at the head, the top of the island as

it is now, and we walked the dike line down and onto the island there.

The Iowa side was what is called bar land and it being—There was no water running over this island, but there was water running in a channel to the east. That is why we had to cross the dike lines to get over, because—walked along the dikes themselves on the stringers from pile clump to pile clump to get onto the island.

Q. You had to cross water to do that?

A. To get across water, yes, sir, and then the island looked—It had willows and small trees on some of it.—I can't say exactly the month, but it was in the spring of the year, and I believe in 1939 because one thing I did while the boys were putting "No Trespassing" signs on the dike line, I seeded some Reed's Canary Grass on an open space where I thought it would grow.

None of the land was under cultivation at that time, that is, not the Iowa side. Somebody had been working the land on the Nebraska side of the Otoe Bend Canal, but not that year, but before that there had been somebody farming it. We found out later that it was Almon Engleman that had some corn there. I saw the remaining stalks there and the Iowa people called it the Engleman bar (R. V. IX p. 1226).

Q. Mr. Schemmel, at the same time or about the same time you filed your deeds in Iowa, did you write a letter to the Fremont County officials advising that this land was now on the Iowa side of the channel in 1939?

A. Yes, sir.

Q. Is P-1613 the letter you wrote to the Fremont County officials?

A. Yes, sir.

It was recorded the 22nd day of August, 1939.

The Court: What is the significance of this, Mr. Moore?

Moore: It is merely to show, Your Honor, that Iowa officials were put on notice of this land in Nebraska on the Iowa side of the river prior to the Compact. There will be considerable evidence, Your Honor, that these landowners in this particular area went to some length to prove their titles.

Murray: For the limited purpose Mr. Moore stated this letter was being offered for, there is no objection, but we certainly object to it on the basis that it is a self serving declaration, the contents of it.

Moore: It isn't offered to prove the truth of the statements.

Q. I believe you testified earlier, just a little bit earlier, Mr. Schemmel, that a Mr. Engleman was farming some of the land south and west of the Otoe Bend Canal. What later became south and west—

A. I told Mr. Hill somebody had been farming that land and might have a claim to it, and we should find out who it was.

Q. Did you find that it was Mr. Engleman?

A. Yes.

Q. Based upon that information, did you then obtain some kind of a deed or release from Mr. Engleman of rights that he claimed in that land?

A. Yes, sir.

Q. What did you obtain?

A. We got kind of a warranty deed because he claimed it by adverse possession, so we went down there at his home place on the part of the island, original island, an island cut into the State of Iowa and Missouri, and his house was just below the Missouri line, and we went down there with an attorney to get a deed from him (R. V. IX pp. 1228-1229).

Exhibit P-1603 is a certified copy of the deed as it appears in the records in Otoe County.

Q. (Moore) Now, you started to tell us about your trip to the island in 1939 in the area east of the Otoe Bend Canal and north, and you got there across the dike lines. Was that at the upper end?

A. Yes, sir.

Q. Do those dike lines appear on this Exhibit P-230, this A-P map? These up here (indicating).

A. Yes, sir.

Q. What is the number of that dike, as it appears on that Exhibit 230?

A. 602.9.

Q. Who went with you on that occasion?

A. My two sons, Robert Schemmel and Douglas Schemmel.

A. Well, they nailed metal "No Trespassing" signs on that dike line.

A. "No Trespassing, Hill and Schemmel."

On the dike line. Where the dike line, after it

crossed the water on the east channel, on the island side.

Q. What did you do on that occasion?

A. I had some Reed's Canary grass and a hand seeder, and I seeded some Reed's Canary grass because it is a grass that will, after it is started, will stand flooding and come up through silt (R. V. IX p. 1231).

Had a controversy with Dr. Zimmer and Martha Higgins over Section 32, Section 32 being in Township 18, Range 15. Nebraska description. And Sections 5 and 8, Township 7, Range 15 East of the 6th principal meridian, a Nebraska description. Disposed of in Otoe County District Court.

Exhibit P-1612 the letter written by Mr. Schemmel. It was filed for record March 1, 1956, Book 6, Page 153, State of Iowa, Fremont County. I sent this with the court records and it was returned without recording so I later recorded it showing that I had sent that over there.

Sent it to the Fremont County officials on or about the date that it shows the letter was written. June 5, 1951, is the date written, and it was sent either that day or the following day.

Q. Mr. Schemmel, from 1939 until 1943, were you on the island property from time to time?

A. Yes, sir. Seeded Reed's Canary grass—when ever I had the opportunity, and then south of that we had put down a well and put in a tent which washed away in the first flood, and that is all I did to the South part.

After I became aware of the Iowa-Nebraska Compact, why, of course we were paying taxes on it in Nebraska then, and I knew we would have to pay taxes in Iowa because of this Compact, so I

went over and requested that it be placed on the tax records so that we could pay taxes in Iowa. Made that request of county auditor over there—of Fremont County, Iowa. Had conversation later on about transferring property from the Nebraska tax records to the Iowa tax records with a Mr. Cowden and Mr. Van Syoc, after I was treasurer. Of Otoe County (R. V. IX pp. 1242-1246).

In January 1947, Mr. Cowden or Mr. Van Syoc collectively told me that there had been a court case in Mills County and they were required to put it on the tax books, and I told them, I asked them to go over to the clerk's office and check the plats and stuff to verify the location of the land.

Mr. Cowden at that time was the auditor, Mr. Van Syoc was the county treasurer, both of Fremont County, Iowa. They put it on the tax records then and that is when we started paying taxes in Iowa, in 1949. That is, Mr. Hill and myself. They put it on under Iowa description (R. V. IX p. 1249).

Exhibit P-194 is a certified copy of the decree in *Charles Zimmer v. Dan Hill, et al.*, which shows that it was filed in the office of the recorder for Fremont County on the 25th day of August 1941, at 4:30 P.M. Roughly the Iowa descriptions that are used or have been used in taxing that island land are—

All of Section 15, Township 67 North, Range 43 West of the 5th P.M., and the west half, fractional west half of the northwest quarter of Section 23, Township 67, Range 43 West of the 5th Principal Meridian in Iowa (R. V. IX p. 1250).

Q. (Moore) Mr. Schemmel, did you let the property go for taxes in one or more years?

A. Yes, sir, one year.

Q. (Moore) Did you do that on advice of counsel?

A. Yes, sir.

- Q. What was the purpose of that transaction or series of transactions?
- A. Well, since the auditor from Fremont County, Iowa, gave the land a different description from the Nebraska surveys, I wanted to get title from an Iowa description for this same land in order to clarify and establish the rightful ownership in case of sale or if mortgaged or something like that.
- Q. Did you then buy it in at those tax sales?
- A. Yes, sir (R. V. IX p. 1257).
- Q. You got a tax sale certificate?
- A. Yes, sir.
- Q. Did you assign those to your daughter, Mary Leah Persons?
- A. Yes, sir (R. V. IX p. 1258).
- Q. And then was the deed issued to her?
- A. Yes, sir.

Moore: The plaintiff offers Exhibits P-1553, P-185, and P-186, tax sale deeds, and attached plats and certificates, all in 1955.

Court: All right, they are all in.

- Q. (Moore) Mr. Schemmel, Mary Leah Persons, of course, is still a member of the Schemmel family, is that right?
- A. Well, yes, but she is married and living with her husband in Albuquerque, New Mexico, and she has delegated power of attorney to my son Douglas.
- Q. There have been various deed and transactions, deeds between yourself and your sons, and your sons and Mary Leah Persons, the result of which was to get all the titles in the one person, Mary

Leah Persons, is that right?

A. Well, the larger portion of the land is in the name of Mary Leah Persons.

Q. And that title she now has, at least so far as she is concerned, originated with these tax deeds in 1955?

A. Yes, sir.

Q. And then any interest you had you conveyed to her?

A. We conveyed—my wife and I—she was living then—conveyed to her (R. V. IX p. 1260).

—————o—————

DOUGLAS SCHEMMEL, age 42, of Minersville, Nebraska, a son of Henry E. Schemmel, testified about 1939 trip to island and:

We started dozing in 1955-56 winter. The east side along the old channel.

Just immediately on the west side we cleared five acres.

Planted our first crop in there in 1956.

We had 25 or 30 acres under cultivation in 1956 (R. V. IX pp. 1281-1282).

—————o—————

OTOE BEND EXHIBITS HAVING TO DO WITH ACQUIESCENCE

TAXATION

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1895-1914	Nebraska introduced tax records from Otoe County, Nebraska	P-1 thru P-57

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1915-55	1895-1914 and from 1915 through 1955. Also, an 1895 record showing land added to tax roll. (Concerning the above, Iowa states that tax records prior to 1930 are irrelevant and immaterial because Otoe Island didn't exist prior to 1930. Iowa's position is that Otoe Island didn't begin to form until 1934. Taxation of Otoe Island by Nebraska from 1944 through 1955 only shows how unreliable any taxation evidence is because it is undisputed that the island was in Iowa after July 12, 1943.)	P-58 thru P-126 P-133
1866-1901	Nebraska also introduced tax records from Fremont County, Iowa, showing lands taxed from 1866 through 1901. (These tax records are also irrelevant because the record herein clearly establishes that Otoe Island did not exist in those years.)	P-142 P-143 P-144 P-150 P-151 P-156 P-157 P-159
1889	Resolution of Fremont County, Iowa, Board of Supervisors, reducing taxes because land washed away.	P-160 P-165 P-176 and P-177
1905	Resolution of Fremont County, Iowa, Board of Supervisors noting that N½ NE¼ Sec. 14-76-43 washed in river.	P-174
1934	Fremont County, Iowa, tax records for 1934 showing practically all land between Iowa Chute and Otoe Island and part of Otoe Island itself was taxed in Iowa in 1934.	D-1200

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
1934	Bartleman map showing lands taxed in Iowa in 1934.	D-1200-A
1935	Same as D-1200 only for 1935.	D-1201
1935	Same as D-1200-A only for 1935.	D-1201-A
1936	Same as D-1200 only for 1936.	D-1202
1936	Same as D-1200-A only for 1936.	D-1202-A
1943	Same as D-1200 only for 1943.	D-1203
1943	Same as D-1200-A only for 1943.	D-1203-A

DEEDS AND COURT ACTIONS

1905	Decree— <i>State of Nebraska v. Several Parcels of Land.</i>	P-138
1908	Treasurer's Deed to Hanks	P-141
1918	Warranty Deed—Hanks to Warren	P-1529
1920	Part Transcript— <i>Yearsley v. Gipple</i>	P-188
1922	Part Transcript— <i>Larson v. Ivers</i> (It is Iowa's position that the above Exhibits are irrelevant and immaterial because evidence is clear that Otoe Island did not exist during above years. Not same land in above Exhibits.)	P-187
1938	QCD—Ward to Hill & Schemmel	P-192
1938	QCD—Ward to Hill & Schemmel	P-193
1938	QCD—Ward to Hill & Schemmel	P-2644
1939	Warranty Deed—Engleman to Schemmel	P-1603
1941	Decree— <i>Zimmerer v. Hill</i>	P-194
1940-41	Part Transcript— <i>Zimmerer v. Hill</i>	P-189
1941	Part Transcript— <i>Higgins v. Hill & Schemmel</i>	P-190
1943	Deed—Hill & Schemmel to Tyson	P-1743
1951	Final Decree—Dan Hill Estate (All above exhibits are within 5 years prior to 1943 Boundary Compact, except Ex. P-1742 is 8 years after Compact. 5 years is not long enough for acquiescence.)	P-1742

MISCELLANEOUS ITEMS

YEAR	DESCRIPTION OF EXHIBIT	EXHIBIT NO.
	Patents covering small island up-stream from Otoe Island	P-1614 thru P-1617
1897	Newspaper clip dated 4-16-1897 (Nebr. City News) re high water. Plat by Willis Brown of land other than Otoe Island claimed by Schemmel family in Fremont County, Iowa.	P-200 P-2224
1955	Two tax Deeds from Fremont Co. Treas. to Persons.	P-185 P-186
1939	Letter from Schemmel, Dep. Co. Treas. of Otoe County, to Fremont County Recorder.	P-1613
1941	Letter from Schemmel Dep. Co. Treas. of Otoe County to Fremont County Recorder.	P-1612
1949	Partition case, <i>Givens v. Schemmel</i>	P-2698
1963	Partition case, <i>Givens v. Schemmel</i>	P-2699
1969	Pictures of Schwake Chute taken by W. Brown during trial	P-2706, 7 & 8
	Willis Brown profile from Ag. levee to Iowa Chute	P-1704, 05
1931	Excerpt from Fremont County Ditch Record	P-1768
1931	Excerpt from Fremont County Ditch Record (Missouri Valley D. D.)	P-1769
	Excerpt from Fremont County Ditch Record	P-1767
1922	Eng. Report re boundaries of new district with map	P-198
1930	Resolution re boundaries of Knox district with map	P-196
1956	Photo of Iowa Chute near Propp residence	P-2646
1967	Schemmel photo of Ag. Levee	P-2645

APPENDIX "L"

THE TREE EVIDENCE

NOTTLEMAN ISLAND

<i>Tree No.</i>	<i>Rings Counted</i>	<i>Growth Started</i>	<i>Witness</i>
259	65	1900	Harry Weakley
	44	1922	Dr. Dwight W. Bense
	43	1923	Dr. Edgar A. McGinnis
1234	46	1919	Harry Weakley
	38	1928	Dr. Dwight W. Bense
	37 + 1 possible	1928-29	Dr. Edgar A. McGinnis
1106	52-53 or 54	1913-14 or 15	Harry Weakley
	44	1922	Dr. Dwight W. Bense
	43 + 1 possible	1922-23	Dr. Edgar A. McGinnis

OTOE BEND ISLAND

230	71	1895	Harry Weakley
	63	1903	Dr. Dwight W. Bense
	63	1903	Dr. Edgar A. McGinnis
1115	32	1930	Harry Weakley
	22	1940	Dr. Dwight W. Bense
	22 + 1	1940-41	Dr. Edgar A. McGinnis
1220	34	1932	Harry Weakley
	29	1936	Dr. Dwight W. Bense
	28 + 1	1936-37	Dr. Edgar A. McGinnis
1130	32	1933	Harry Weakley
	20	1942	Dr. Dwight W. Bense
	19 + 1	1942-43	Dr. Edgar A. McGinnis
1140	30	1933	Harry Weakley
	22	1941	Dr. Dwight W. Bense
	21 + 1	1941-42	Dr. Edgar A. McGinnis

<i>Tree No.</i>	<i>Rings Counted</i>	<i>Growth Started</i>	<i>Witness</i>
1210	33	1932	Harry Weakley
	39	1936	Dr. Dwight W. Bensead
	38 + 1	1936-37	Dr. Edgar A. McGinnis
11	26	1936	Harry Weakley
	20	1942	Dr. Dwight W. Bensead
	19 + 1	1942-43	Dr. Edgar A. McGinnis
1150	30	1933	Harry Weakley
	21-22	1941-42	Dr. Dwight W. Bensead
	20-21	1940-41	Dr. Edgar A. McGinnis
430	————		Harry Weakley
	49 + 1		Dr. Dwight W. Bensead
	49 + 1		Dr. Edgar A. McGinnis
500	————		Harry Weakley
	46		Dr. Dwight W. Bensead
	45 + 1		Dr. Edgar A. McGinnis

EXHIBITS

NOTTLEMAN ISLAND

Transparency prepared by Willis Brown to show location of trees from which samples were taken. P-739

OTOE ISLAND

A. P. Map with tree location plotted by Willis Brown P-230

Transparency prepared by Willis Brown showing tree location P-234

Tri-color map with Bartleman's location of trees 230 and 1220 plotted D-1163

Tri-color map with Pete Mann's location of tree 230 D-1302

Photos of Tree 230 P-381
P-382

RE EXPERT TESTIMONY
GENERALLY

Photo of Dr. Bensend with equipment used by him for annular tree ring counting. D-1164

Photo of Dr. Bensend with slab from tree 230 D-1165

Photo of section removed from slab from tree 230 D-1166

Photos used by Dr. Bensend to demonstrate the art of counting annular tree rings D-1171
thru D-1182

PROOF OF SERVICE

I, Manning Walker, Special Assistant Attorney General of the State of Iowa, and a member of the Bar of the Supreme Court of the United States, hereby certify that on _____, I served a copy of the foregoing Defendant's APPENDIX before the Special Master, the Honorable Joseph P. Willson, by depositing the same in a United States Post Office, with first class postage prepaid, addressed to:

CLARENCE A. H. MEYER

Attorney General of Nebraska
State Capitol Building
Lincoln, Nebraska 68509

HOWARD H. MOLDENHAUER

Special Assistant Attorney General of Nebraska
1000 Woodmen Tower
Omaha, Nebraska 68102

JOSEPH R. MOORE

Special Assistant Attorney General of Nebraska
1028 City National Bank Building
Omaha, Nebraska 68102

such being their Post Office addresses.

Manning Walker
Special Assistant Attorney
General of Iowa
Logan, Iowa 51546

NOTTLEMAN AND OTOE ISLANDS EXHIBITS
ARE ON THE FOLLOWING PAGES.

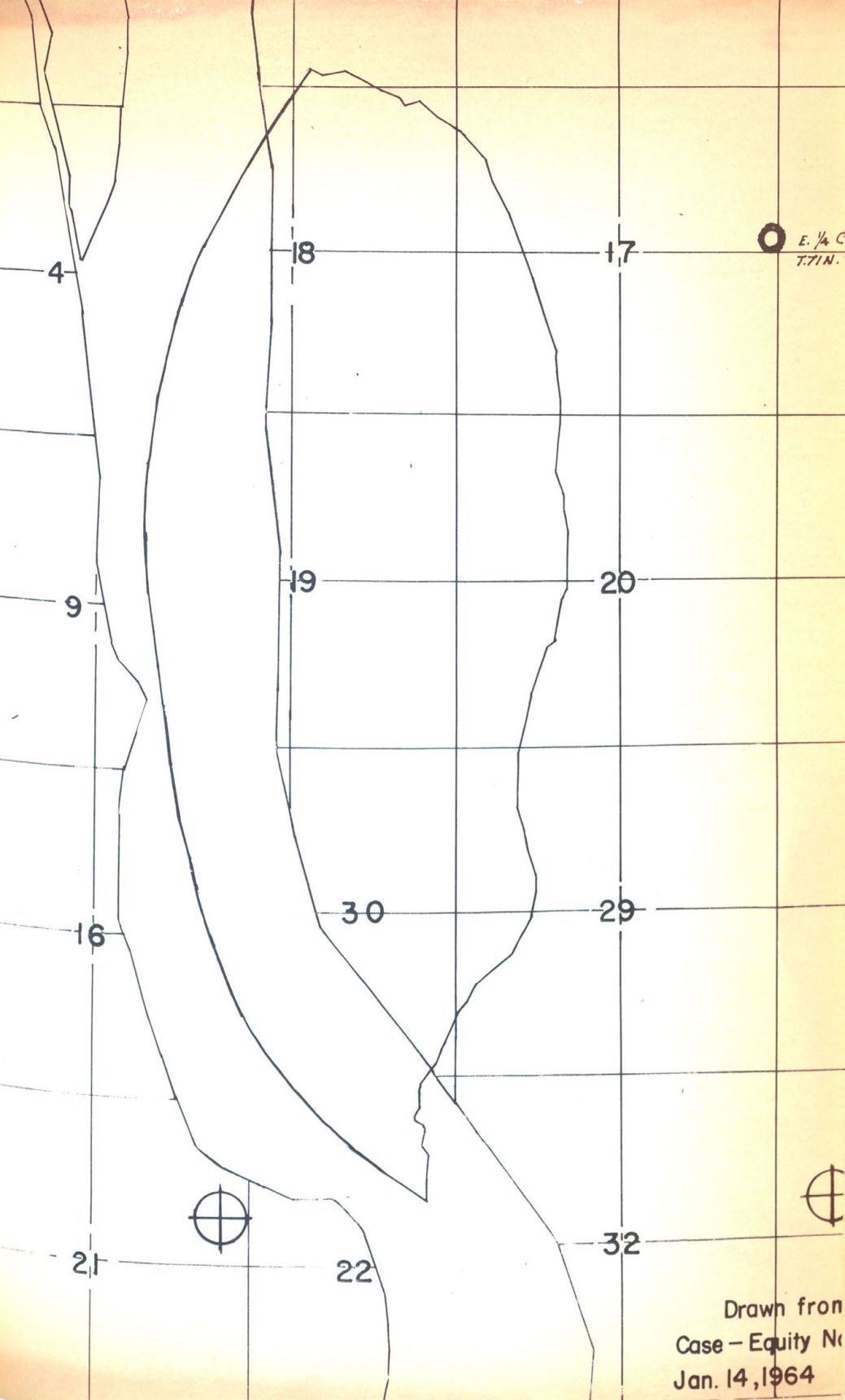
the fact that the \mathcal{H}^1 -norm of the function $\chi_{\Omega} \nabla \cdot \mathbf{u}$ is bounded by the \mathcal{H}^1 -norm of the function $\chi_{\Omega} \nabla \cdot \mathbf{u}$ in $L^2(\Omega)$. This is a consequence of the fact that the \mathcal{H}^1 -norm of the function $\chi_{\Omega} \nabla \cdot \mathbf{u}$ is bounded by the \mathcal{H}^1 -norm of the function $\chi_{\Omega} \nabla \cdot \mathbf{u}$ in $L^2(\Omega)$.

Nottleman—1

NOTTLEMAN ISLAND EXHIBITS

NOTTLEMAN ISLAND

Exhibits P-1691—(Brown Transparency of island traverse by Windenburg) and P-713 (Gov't. Surveys of 1852, 1856, & 1857) superimposed to show that island was entirely in Iowa or in river when area first surveyed.

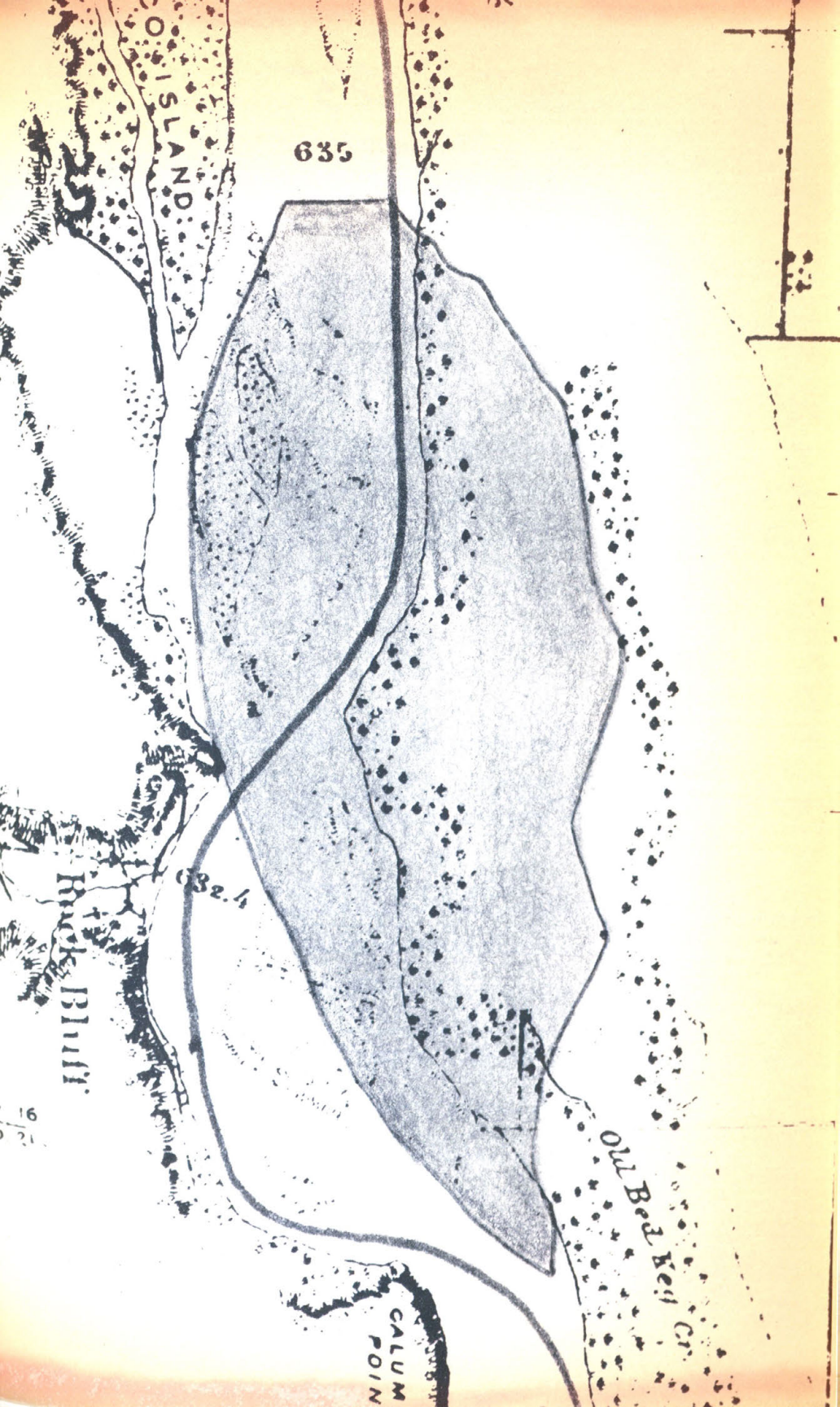


E. 1/4 C.
771N.

Drawn from
Case - Equity No.
Jan. 14, 1964

NOTTLEMAN ISLAND

Exhibit D-1105-A—1879 Suter Survey with island superimposed by Bartleman and thalweg superimposed by Huber.



635

O ISLAND

632.4

Rock Bluff

CALUM
POIN

Old Red Key Cr.

NOTTLEMAN ISLAND

Exhibit D-605-A—1890 Missouri River Commission Survey with island superimposed by Bartleman and thalweg superimposed by Huber.



Harey

McGowan

McGowan Cr.

32 32

630

627.9

116

BACCO ISLAND

LUFF POINT

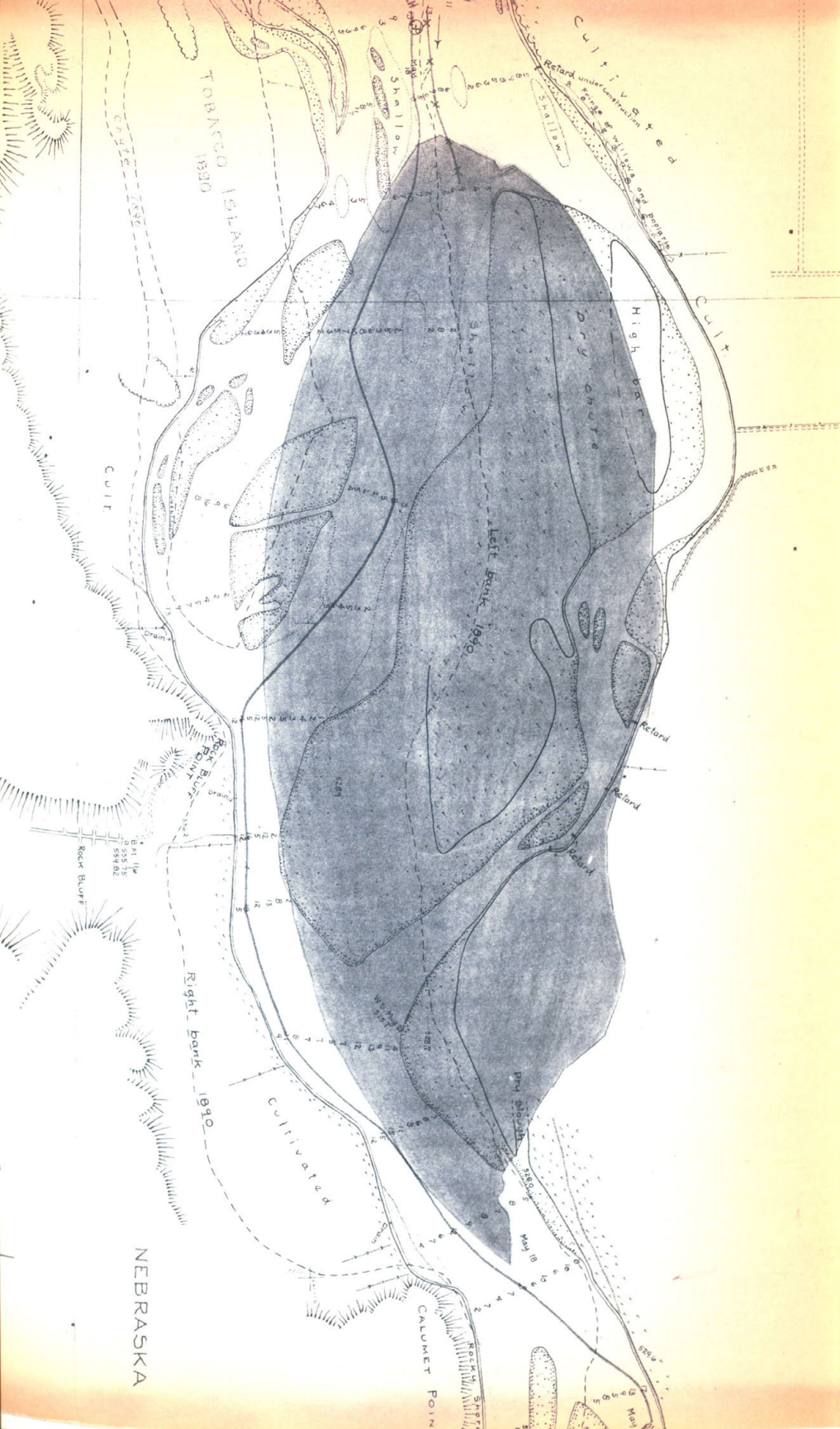
church

Rock Bluff

CALUMET
POINT

NOTTLEMAN ISLAND

Exhibit D-390-A—1923 Hydrographic or Topographic survey with island outline superimposed by Bartleman and thalweg superimposed by Huber.



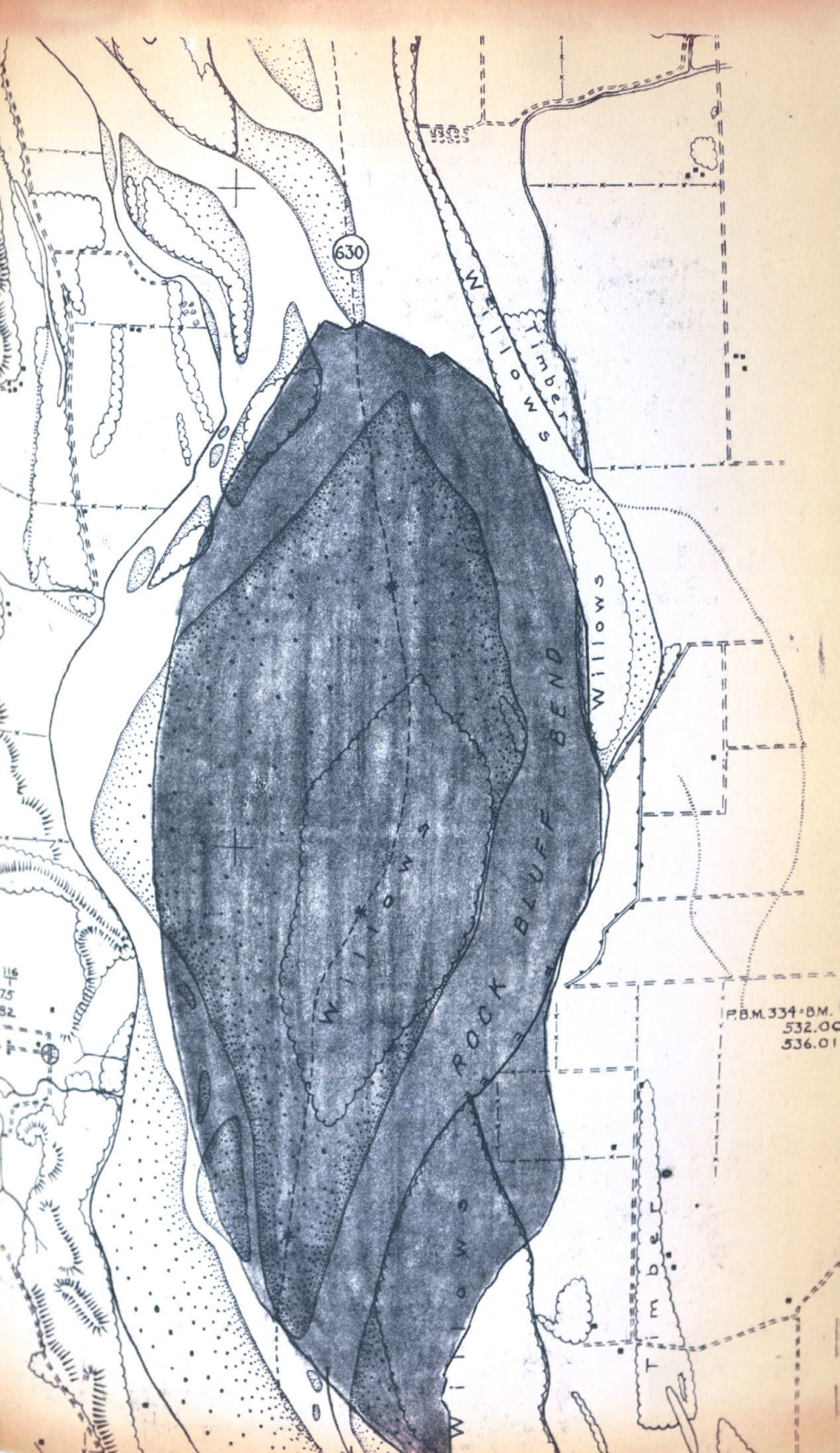
NOTTLEMAN ISLAND

Exhibit D-693—1926 aerial mosaic with island outline
superimposed by Bartleman.



NOTTLEMAN ISLAND

Exhibit D-1035-A—Corps map made from 1926 aerial photos with island outline superimposed by Bartleman.



630

WILLOWS

WILLOWS

WILLOWS

ROCK BLUFF BEND

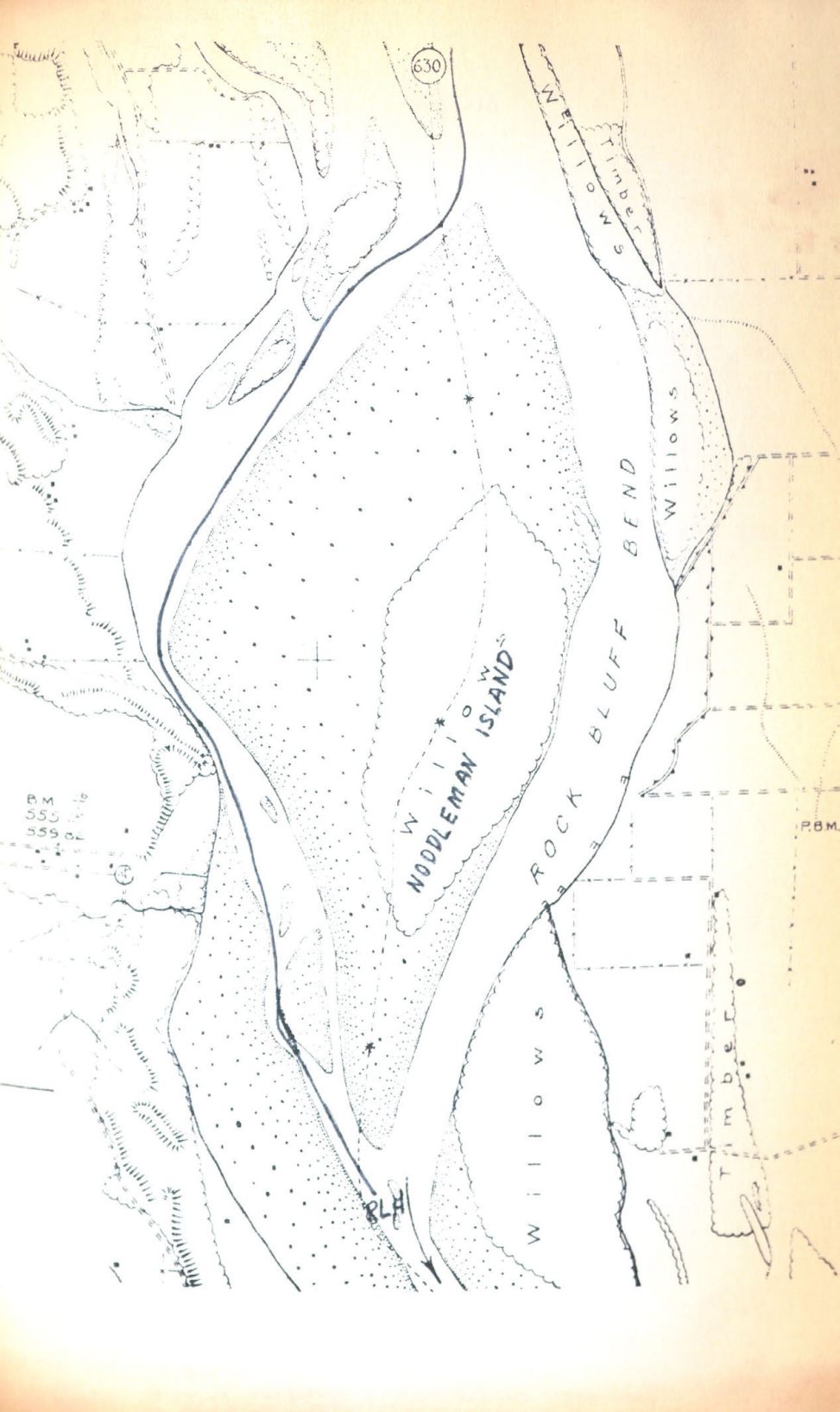
WILLOWS

Timber

P.B.M. 334-B.M.
532.00
536.01

NOTTLEMAN ISLAND

Exhibit D-1035—Corps map made from 1926 aerial photos with thalweg superimposed by Huber.



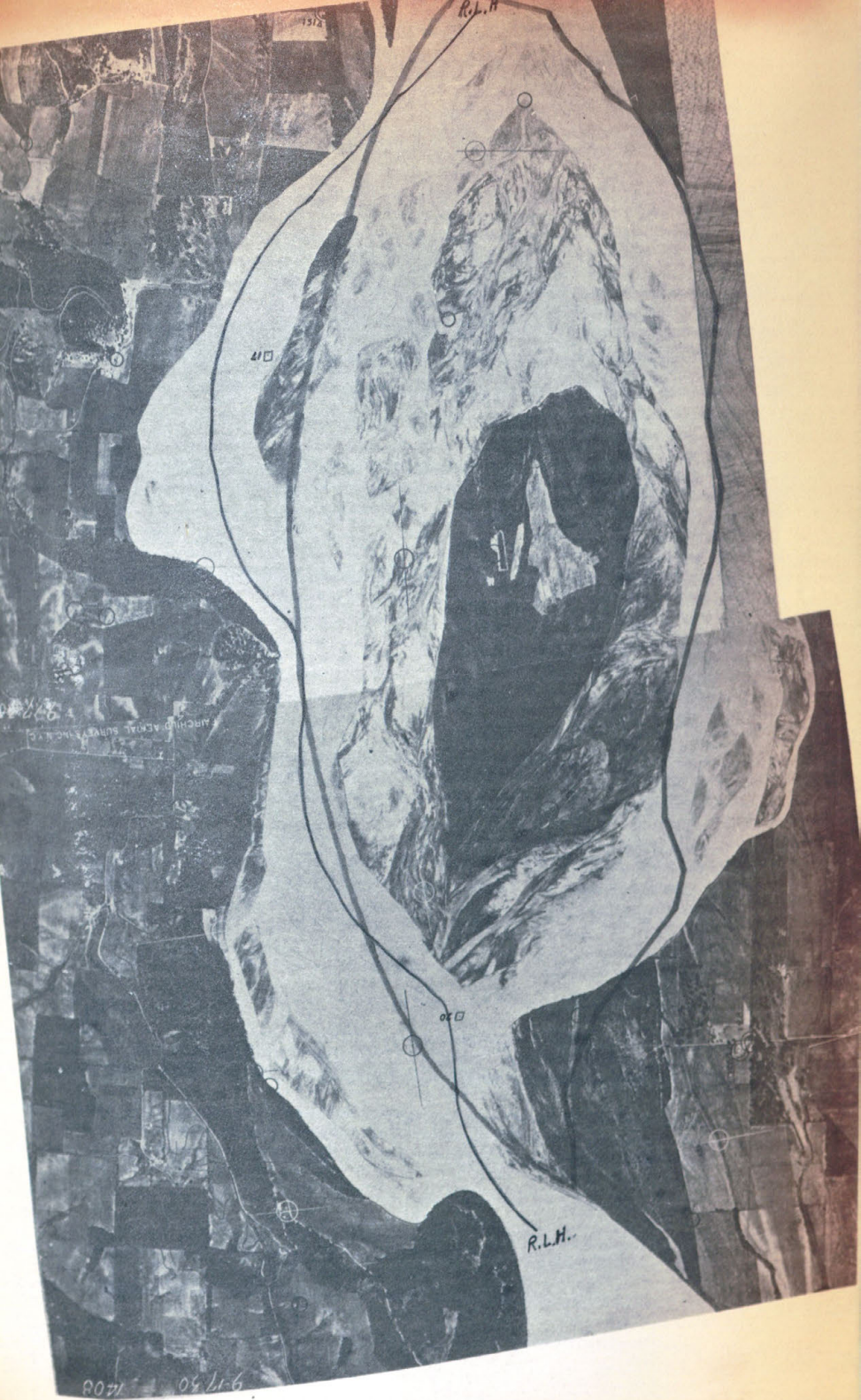
NOTTLEMAN ISLAND

Exhibit D-1036-A—1928 Corps map with island superimposed by Bartleman and thalweg superimposed by Huber.



NOTTLEMAN ISLAND

Exhibit D-595-A—1930 Aerial mosaic with island superimposed by Bartleman and thalweg superimposed by Huber.



NOTTLEMAN ISLAND

Exhibit D-1041-A—Corps map made from 1930 aerial photos with island superimposed by Bartleman and thalweg superimposed by Huber.



NOTTLEMAN ISLAND

Exhibit D-371-A—1931 Hydrographic Survey with island
superimposed by Bartleman and thalweg super-
imposed by Huber.

NOTTLEMAN ISLAND

Exhibit D-1044-A—Construction map used by Corps from 1931 until about 1945 when retired with island superimposed by Bartleman.



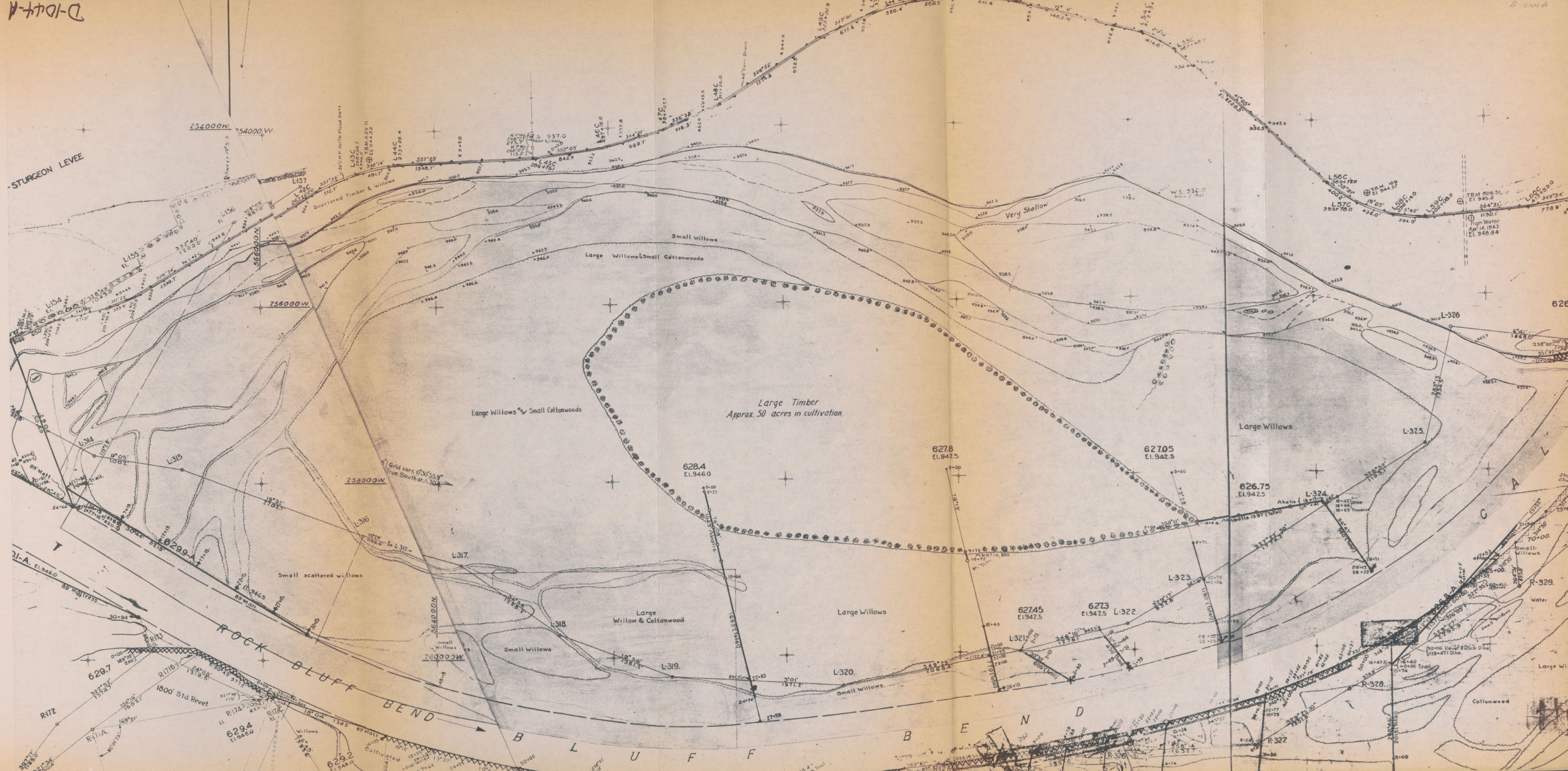
NOTTLEMAN ISLAND

Exhibit D-371-A—1931 Hydrographic Survey with island superimposed by Bartleman and thalweg superimposed by Huber.



NOTTLEMAN ISLAND

Exhibit D-1044-A—Construction map used by Corps from 1931 until about 1945 when retired with island superimposed by Bartleman.

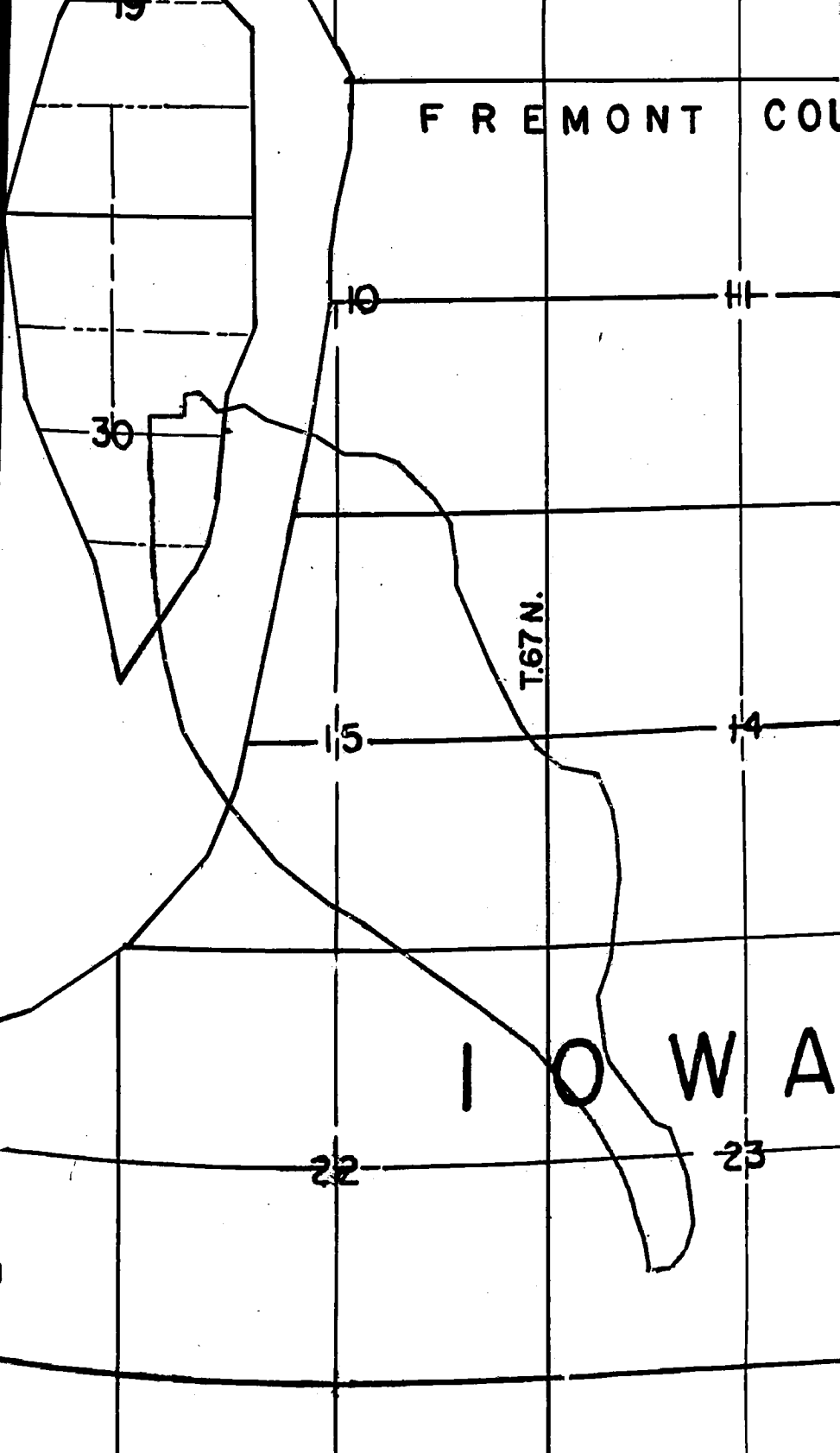


Otoe--1

OTOE ISLAND EXHIBITS

OTOE ISLAND

Exhibits P-233—(Brown transparency of island traverse) and P-208 (Brown transparency of 1852, 1856, & 1858 Gov't surveys) superimposed to show that 95% of Otoe Island was in Iowa or in river when area first surveyed.



OTOE ISLAND

Exhibit D-1124—1923 Hydrographic Survey with island superimposed by Bartleman and thalweg superimposed by Huber (Shows over 95% of island east of thalweg).



Otoe—6

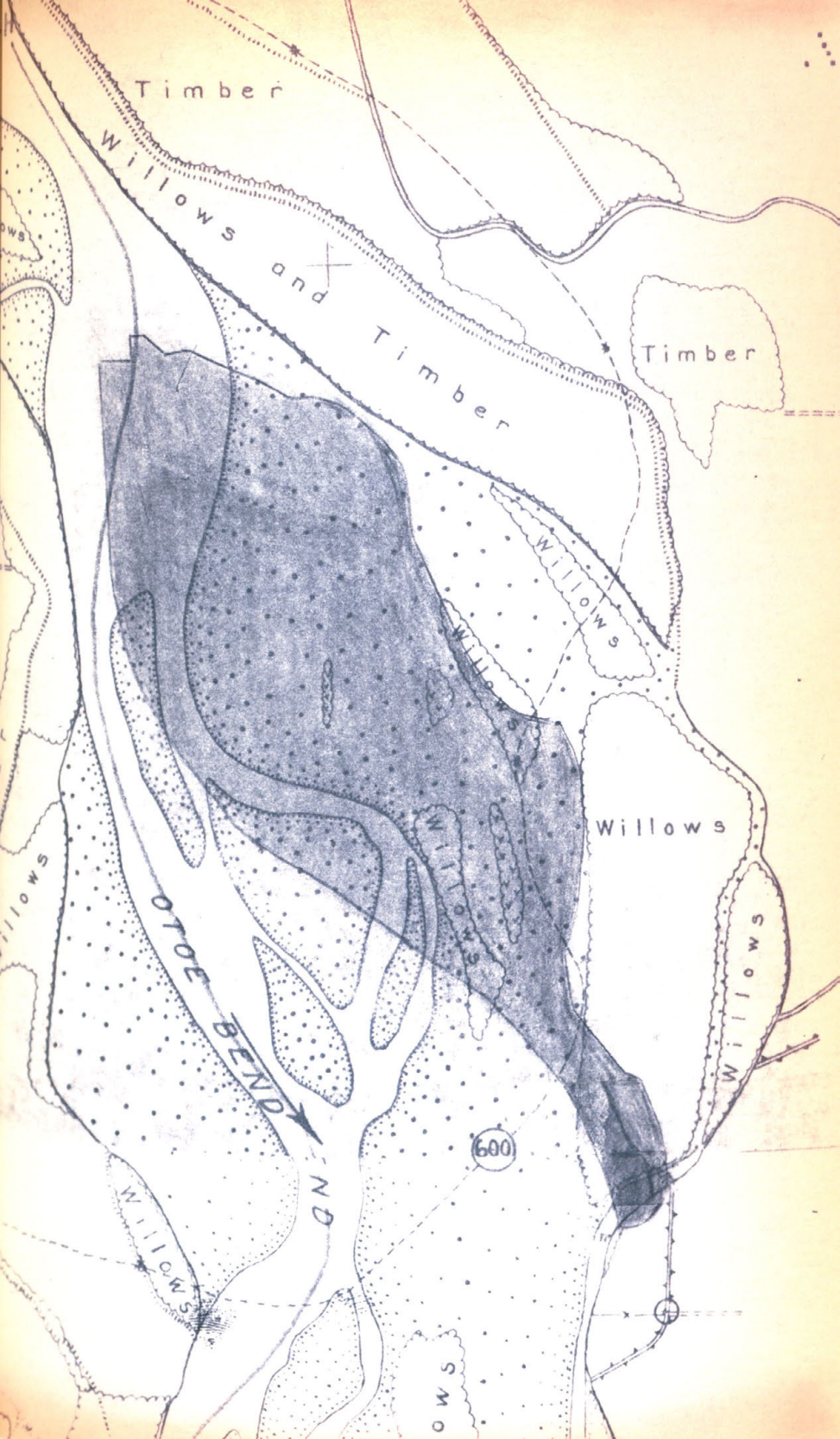
OTOE ISLAND

Exhibit D-1093-A—1926-27 aerial mosaic with island
superimposed by Bartleman.



OTOE ISLAND

Exhibit D-1121—Corps map made from 1926-27 aerial photos with island superimposed by Bartleman and thalweg superimposed by Huber. (Shows over 95% of island east of thalweg.)



OTOE ISLAND

Exhibit D-1122.—Corps of 1928 map with island superimposed by Bartleman and thalweg superimposed by Huber. (Shows 2/3 of island east of thalweg.)



Otoe—12

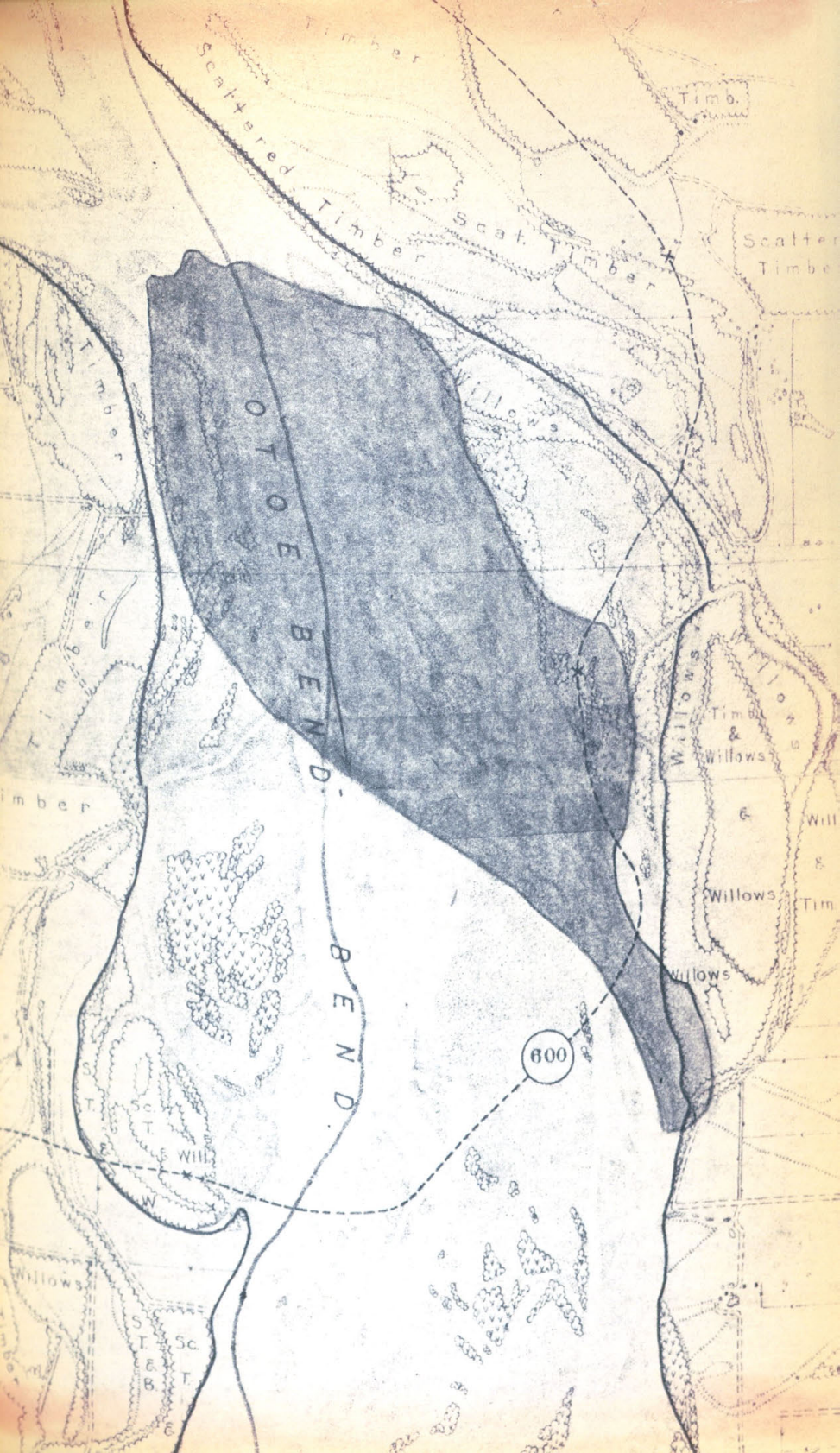
OTOE ISLAND

Exhibit D-1092-A—1930 aerial mosaic with island superimposed by Bartleman.



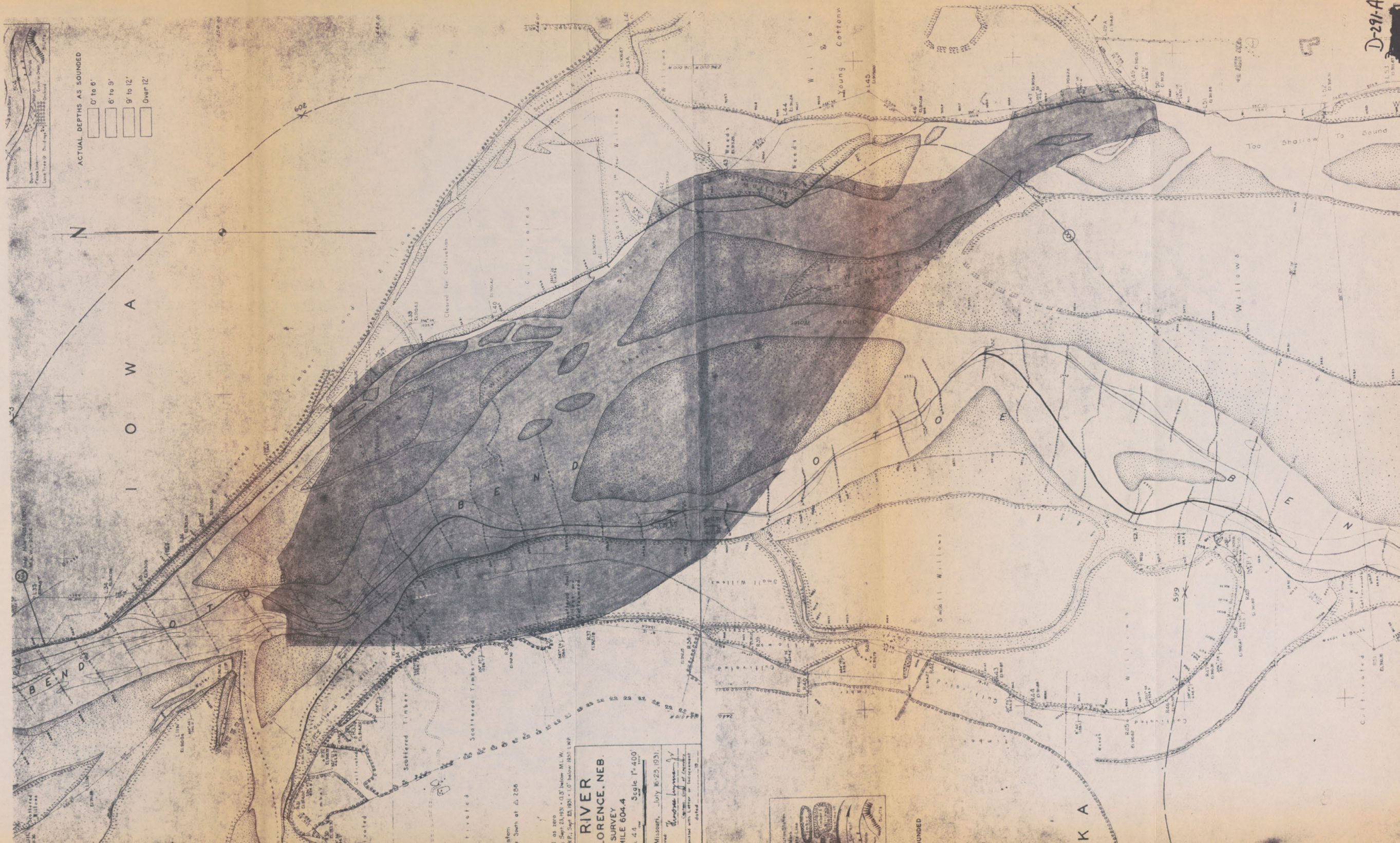
OTOE ISLAND

Exhibit D-1123—Corps map made from 1930 aerial photos with island superimposed by Bartleman and thalweg superimposed by Huber. (Shows 3/4 of island east of thalweg.)



OTOE ISLAND

Exhibit D-291-A—1931 Hydrographic Survey with island superimposed by Bartleman and thalweg superimposed by Huber. (Shows 85% of island east of thalweg.)



ACTUAL DEPTHS AS SOUNDED

0' to 6'
6' to 9'
9' to 12'
Over 12'

MISSOURI RIVER
ORONCE, NEB.
SURVEY
MILE 604.4

Scale 1"=400'

Missouri, July 16, 1931.

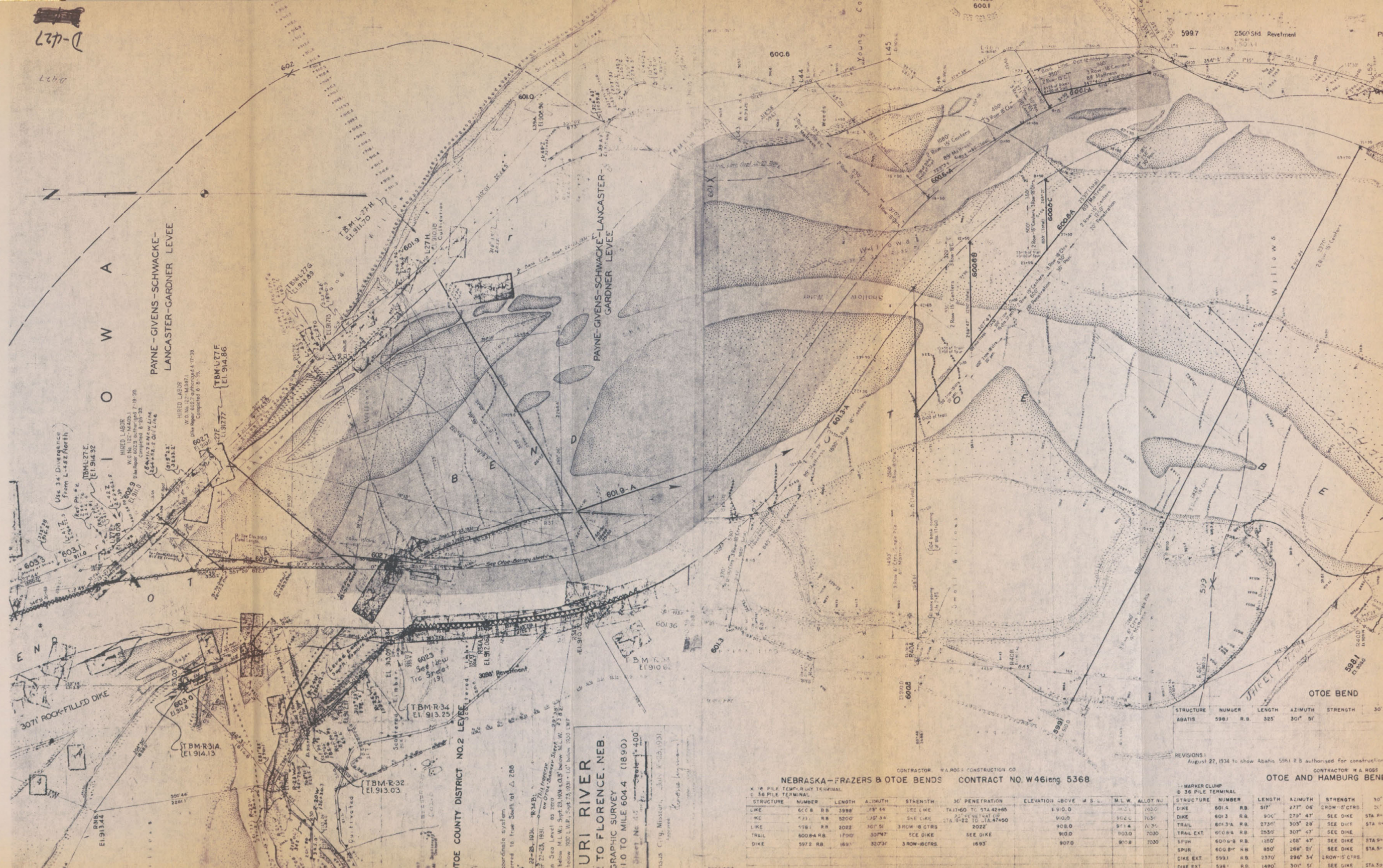
Surveyed by
C. M. Smith
Checked by
J. H. Smith

Not to be used for navigation
without the Letter of Instruction
dated 1931

D-291-A

OTOE ISLAND

Exhibit D-427—Construction Map used by Corps from 1931 until retired in 1945 with island superimposed by Bartleman.



Otoe—20

OTOE ISLAND

Exhibit D-1107—1936 Corps aerial photo.



Otoe—22

OTOE ISLAND

Exhibit D-1106—1937 Corps aerial photo.



Otoe--24

OTOE ISLAND

Exhibit D-1108—1938 Corps aerial photo.



Otoe—26

OTOE ISLAND

Exhibit D-523—1939 Corps aerial photo.



Otoe—28

OTOE ISLAND

Exhibit D-25—1941 Corps aerial photo.

