17.0564.02000

FISCAL NOTE

Requested by Legislative Council
02/06/2017

Amendment to: HB 1199

1 A. **State fiscal effect:** *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	2015-2017 Biennium		2017-2019 Biennium		2019-2021 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues				$(28,203,612)		$(1,923,520)
Expenditures				$25,000		
Appropriations						

1 B. **County, city, school district and township fiscal effect:** *Identify the fiscal effect on the appropriate political subdivision.*

	2015-2017 Biennium	2017-2019 Biennium	2019-2021 Biennium
Counties			
Cities			
School Districts			
Townships			

2 A. **Bill and fiscal impact summary:** *Provide a brief summary of the measure, including description of the provisions having fiscal impact (limited to 300 characters).*

The State defines its minerals under the Missouri River using the current ordinary high water mark. Within the Lake Sakakawea reservoir sovereign minerals are leased within the estimated pre-inundation OHWM. This Bill would codify the use of historical records to determine the OHWM.

B. **Fiscal impact sections:** *Identify and provide a brief description of the sections of the measure which have fiscal impact. Include any assumptions and comments relevant to the analysis.*

The State owns the bed of navigable waters. N.D.C.C. ch. 61-33 defines sovereign land as those areas, including beds and islands, lying within the OHWM of navigable lakes and streams and assigns management of the oil, gas and related hydrocarbons to the Board of University and School Lands. The State Engineer manages the surface of the lands and the bed of the navigable waters. The revenue from sovereign mineral leasing is deposited into the Strategic Investment and Improvements Fund.

The bill redefines the OHWM for the Missouri River by codifying use of historical records. The OHWM would no longer change with the movement of the river. Under Lake Sakakawea, the Board already leases minerals to the estimated historic OHWM of the Missouri River. West of the Hwy 85 Bridge, the Board leases minerals within the OHWM of the River as it currently flows. The bill's change in the method of determining sovereign minerals switches the Board's use of the current OHWM to instead use of historical records to an area near the Confluence with the Yellowstone River.

Because the acreage of the current river is greater than of the historic river in some areas, sovereign lands would be surrendered. It is estimated that the difference in the current river acreage compared to the historic acreage over the 29.7 river miles between the Confluence and the Hwy 85 Bridge is approximately 4,761 acres. If the bill is adopted, these sovereign lands would be relinquished. The fiscal impact would include the return of bonus payments, rents, and royalties previously collected. The State would also forego any future royalties from these tracts.

The fiscal impact of expanding the definition of subsurface minerals beyond present reference in N.D.C.C. ch. 61-33 to the Board managing oil, gas and related hydrocarbons cannot be determined.

3. **State fiscal effect detail:** *For information shown under state fiscal effect in 1A, please:*

   A. **Revenues:** *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

      Because the Board has already leased oil and gas minerals based on historical records east of the Hwy 85 Bridge, this bill would not change the mineral acreage presently leased and there would be no apparent fiscal change.

      The fiscal impact would be from the changes in sovereign land acreage due to the modification in the definition of the OWHM to utilize historical records to an area near the Confluence. Because the State's mineral claim between Hwy 85 and the Confluence would be reduced by an estimated 4,761 acres, there would be a fiscal impact to the SIIF in the reduction of collected bonus, rent and royalty and the loss of future royalty and leasing revenue. This would include the return to lessees of $14,739,147 of bonuses and rent; the repayment to operators of $7,228,281 in royalties collected and anticipated through FY 2017; and the forfeiture of the State's claim to $4,312,664 of presently escrowed royalty.

      Additionally, based upon 2015-2017 Biennium (to date) average level prices and production, the estimated impacts on future royalty revenue would be a reduction of $1,923,520 in each of the next two biennia.

   B. **Expenditures:** *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

      The possible effect on legal expenditures or the need for additional technical expertise staff cannot be determined.

      The 2010 investigation of the historical OHWM was not conducted as far west as the bill would dictate. The costs of hiring a qualified contractor to investigate the historical OHWM of the additional area is estimated at $25,000.

   C. **Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, for each agency and fund affected. Explain the relationship between the amounts shown for expenditures and appropriations. Indicate whether the appropriation or a part of the appropriation is included in the executive budget or relates to a continuing appropriation.*

      Continuing appropriation authority (N.D.C.C. §§ 15-05-19, 15-07-22) is used to enhance or maintain the value of the SIIF; it is unknown if this same authority can be used for expenditures related to reducing the State's previously claimed asset.

Name: Lance Gaebe

Agency: Department of Trust Lands

Telephone: 701 328 2800

Date Prepared: 02/07/2017

Area in Bill 1199	
Estimated OHWM Survey	9,963
As Adjusted Bill 1199	5,202
Change	(4,761)
% Change	47.79%

Bonus Repayments				
	Affected Tracts	Total Bonuses & Rents Collected	% Impact Bill 1199	Bonus & Rent Repayments
Bonus & Rents	110	30,843,545	47.79%	14,739,147

	Received	Anticipated FY 2017 Collections	Revenues	% Impact Bill 1199	Returned Funds
Royalties Collected	14,438,756	687,344	15,126,101	47.79%	7,228,281
Royalties Escrowed	8,652,681	372,118	9,024,799	47.79%	4,312,664
	23,091,437	1,059,462	24,150,900		11,540,945

Projected Future Biennia Revenues Based Upon FY16 & FY17 Prices & Production					
	FY16 & FY17 Received & Projected Collections	FY16 & FY17 Received & Projected Escrow	Total Estimated Revenue	% Impact Bill 1199	Lost Future Revenue
Projected Future Biennia	2,749,377	1,275,833	4,025,211	47.79%	1,923,520

17.0564.01000

FISCAL NOTE

Requested by Legislative Council
01/09/2017

Bill/Resolution No.: HB 1199

1 A. **State fiscal effect:** *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	2015-2017 Biennium		2017-2019 Biennium		2019-2021 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues				$(28,203,612)		$(1,923,520)
Expenditures						
Appropriations						

1 B. **County, city, school district and township fiscal effect:** *Identify the fiscal effect on the appropriate political subdivision.*

	2015-2017 Biennium	2017-2019 Biennium	2019-2021 Biennium
Counties			
Cities			
School Districts			
Townships			

2 A. **Bill and fiscal impact summary:** *Provide a brief summary of the measure, including description of the provisions having fiscal impact (limited to 300 characters).*

The State defines its minerals under the Missouri River using the current ordinary high water mark. Within the Lake Sakakawea reservoir sovereign minerals are leased within the estimated pre-inundation OHWM. This Bill would codify the use of historical records to determine the OHWM.

B. **Fiscal impact sections:** *Identify and provide a brief description of the sections of the measure which have fiscal impact. Include any assumptions and comments relevant to the analysis.*

The State owns the bed of navigable waters. N.D.C.C. ch. 61-33 defines sovereign land as those areas, including beds and islands, lying within the OHWM of navigable lakes and streams and assigns management of the oil, gas and related hydrocarbons to the Board of University and School Lands. The State Engineer manages the surface of the lands and the bed of the navigable waters. The revenue from sovereign mineral leasing is deposited into the Strategic Investment and Improvements Fund.

The bill redefines the OHWM for the Missouri River by codifying use of historical records. The OHWM would no longer change with the movement of the river. Under Lake Sakakawea, the Board already leases minerals to the estimated historic OHWM of the Missouri River. West of the Hwy 85 Bridge, the Board leases minerals within the OHWM of the River as it currently flows. The bill's change in the method of determining sovereign minerals switches the Board's use of the current OHWM to instead use of historical records to an area near the Confluence with the Yellowstone River.

Because the acreage of the current river is greater than of the historic river in some areas, sovereign lands would be surrendered. It is estimated that the difference in the current river acreage compared to the historic acreage over the 29.7 river miles between the Confluence and the Hwy 85 Bridge is approximately 4,761 acres. If the bill is adopted, these sovereign lands would be relinquished. The fiscal impact would include the return of bonus payments, rents, and royalties previously collected. The State would also forego any future royalties from these tracts. With the loss of ownership, the State Engineer would no longer manage and supervise these sovereign lands.

3. **State fiscal effect detail:** *For information shown under state fiscal effect in 1A, please:*

   A. **Revenues:** *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

      Because the Board has only leased oil and gas minerals based on historical records east of the Hwy 85 Bridge, this bill would not change the mineral acreage presently leased and there would be no apparent fiscal change.

      The fiscal impact would be from the changes in sovereign land acreage due to the modification in the definition of the OWHM to utilize historical records to an area near the Confluence. Because the State's mineral claim between Hwy 85 and the Confluence would be reduced by an estimated 4,761 acres, there would be a fiscal impact to the SIIF in the reduction of collected bonus, rent and royalty and the loss of future royalty and leasing revenue. This would include the return of $14,739,147 of bonuses and rent; the repayment of $7,228,281 of royalties collected and anticipated through FY 2017; and the forfeiture of the State's claim to $4,312,664 of presently escrowed royalty.

      Additionally, based upon FY 2016 and 2017 average level prices and production, the estimated impacts on future royalty revenue would be a reduction of $1,923,520 in each of the next two biennia.

   B. **Expenditures:** *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

      The possible effect on legal expenditures or FTE expense cannot be determined.

   C. **Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, for each agency and fund affected. Explain the relationship between the amounts shown for expenditures and appropriations. Indicate whether the appropriation or a part of the appropriation is included in the executive budget or relates to a continuing appropriation.*

      No anticipated impact on Board or Department of Trust Land appropriations.

Name: Lance Gaebe

Agency: Department of Trust Lands

Telephone: 701 328 2800

Date Prepared: 01/17/2017

Area in Bill 1199	
Estimated OHWM Survey	9,963
As Adjusted Bill 1199	5,202
Change	(4,761)
% Change	47.79%

Bonus Repayments				
	Affected Tracts	Total Bonuses & Rents Collected	% Impact Bill 1199	Bonus & Rent Repayments
Bonus & Rents	110	30,843,545	47.79%	14,739,147

	Received	Anticipated FY 2017 Collections	Revenues	% Impact Bill 1199	Returned Funds
Royalties Collected	14,438,756	687,344	15,126,101	47.79%	7,228,281
Royalties Escrowed	8,652,681	372,118	9,024,799	47.79%	4,312,664
	23,091,437	1,059,462	24,150,900		11,540,945

Projected Future Biennia Revenues Based Upon FY16 & FY17 Prices & Production					
	FY16 & FY17 Received & Projected Collections	FY16 & FY17 Received & Projected Escrow	Total Estimated Revenue	% Impact Bill 1199	Lost Future Revenue
Projected Future Biennia	2,749,377	1,275,833	4,025,211	47.79%	1,923,520

2017 HOUSE ENERGY AND NATURAL RESOURCES

HB 1199

2017 HOUSE STANDING COMMITTEE MINUTES

Energy and Natural Resources Committee
Coteau –A Room, State Capitol

HB 1199
2/2/2017
27795

☐ Subcommittee
☐ Conference Committee

Committee Clerk Signature	Kathleen Davis

Explanation or reason for introduction of bill/resolution:

Relating to the definition of sovereign lands

Minutes: Attachments #1-#7

Chairman Porter: Called the committee to order on HB 1199. Roll call was taken with a quorum present. Clerk read the title of the bill.

Rep. Keiser: Presented a proposed amendment as Attachment #1. This bill is a significant issue dealing with the high water mark for Lake Sakakawea. The bill is a definition of what the high water mark is. If you have looked at the Fiscal Note, you will see it has about a $30 million impact on the state depending on what direction we go. There are a lot of impacted parties relative to this issue. There are property owners that either have surface or mineral rights or they own both, and are very concerned. The State Government is very concerned. The adage in the Legislature, follow the money, and you get to $30 million and the states holding it as a relative concern about that. The federal government, the Corp of Engineers, all involved in this issue. The Missouri River is managed and controlled by the Corp, as is Lake Sakakawea. The Tribes are impacted and the oil companies by the decision we may make. This bill is attempting to bring a degree of certainty legislatively or we can allow the courts to try and answer some of these questions. I did go back and research this. I served on administrative rules in 2010 and I know from the minutes of that meeting, and I asked at that time, why are we establishing this by rule rather than by statute and discussed it at that time. There are many technical things, multiple surveys relative to the high water mark, which one benefits who and how they're working overtime, issues of leased and nonleased land. Oil companies had leases prior to the definition of the high water mark or after, and what are the implications for those people. We in our state we allow the severing mineral and surface rights. In some cases, prior to the lake, those rights were severed, so who rightfully should own the mineral rights, and that is the issue. There have been a lot of lease payments and other payments made and the State has collected that money and the disagreement is between all of the parties. They are all desirable of having the Legislature weigh in on this issue. There's a similar bill in the Senate, same issue. I believe it has passed out and will go to the floor with a Do Pass, and I think will pass. There's so many issues. The current law is relatively old. The rules written relative to the current law on this issue are specific to the old law. Most of the regulations and law that are in code were developed long before horizontal

drilling. Horizontal drilling has suddenly had an impact. You can drill under water now verses putting a derrick right on top of a body of water which would make it like a Gulf oil well. I ask this committee and the Legislature to bring certainty to this policy. Not let the courts do it. This is probably the greatest taking of property that I've ever seen because I interpret high water marks maybe differently than the State may. Those people had property, had rights. Sometimes surface rights were gained through condemnation or purchase to create the lake, but what about associated mineral rights.

7:16

John Patch, Bismarck, presented **Attachment #2**.

27:29

Rep. Lefor: You stated the state land department working with big oil snatched our mineral acres out from under us with no notice, no due process, and no compensation. Do you know what process they used and by what authority?

Patch: Ask them. We were taken by surprise. When I say no notice, I discovered this by happenstance, we got nothing, no due process. After appealing to the Land Board, and to the departments, it was deaf ears, they did not respond.

Rep. Lefor I will ask the Land Board. You stated the Land Board itself is asking the Legislature is asking the legislature to weigh in on this matter? How did you come to that?

Patch: I read it in the newspaper they were, I think frightened and taken aback by the results of the District Court Order which essentially said there is no distinguishing between the river and the lake and therefore, it's all river and therefore it's all sovereign lands, the whole lake. That put a shock wave through a lot of people. I believe word got to the Land Board they need to clarify this what they intend to do, and sent the message back out. You'll have to go to the minutes. There's also been some newspaper reporting. I believe a member of the Land Board is present today.

30:30

Josh Swanson, Vogel Law Firm, representing many clients affected by the State's unconstitutional taking of private oil and gas interests under property acquired by the US back in the 1950's because of the flooding that would result from Garrison Vice Chairman Damschen and its manmade reservoir, Lake Sakakawea, presented **Attachment #3**.

Private landowners like the Wilkinson family, the (? inaudible) family, and over 170 beneficiaries of trusts managed by First National Bank, reserved oil and gas rights when the US acquired the property for Lake Sakakawea. The oil and gas interests we're talking about have been with these families for generations. In the case of Mr. Patch, going back to the 1930's with the Wilkinson family. These families reserved the gas rights is undisputed. Old wounds have been opened by the State, which claims it owns all the oil and gas that was reserved by <u>private</u> property owners, when the US flooded hundreds of thousands of acres of land for Lake Sakakawea. In essence, the state claims the government, state or federal,

that the government can flood private property and claim that they, the government, own the property, is offensive. It is the textbook definition of an unconstitutional taking. Historically the state claimed on the original 40k acres of the Missouri River riverbed as it existed before Garrison Dam, that's the historical channel. This fact is noted in an August 2007 letter the ND State Water Commission submitted to the Army Corp of Engineers in response to the Corps request for comments on the Garrison Dam Lake Sakakawea master plan, Exhibit 1. Look at the thick paragraph on the opening page of the letter, you'll see the state said in 2007, that of the hundreds of thousands of acres flooded by Lake Sakakawea, only 40k of those belong to the State as sovereign land within the historic Missouri River. However, departing from decades of policy practice, the state through the Office of State Engineer Land Commissioner, now claim, ownership of ALL oil and gas under Lake Sakakawea. This runs roughshod over and ignores private property rights as memorialized by Warranty Deeds going back to the 1950's where the US acquired this property from ND citizens from families like the Wilkinsons and Vohs families. This is shown by the maps for the Garrison Project and the clear and unambiguous language in the Warranty Deeds, a copy included with the Attachment #3, Exhibits 2 and 3. Exhibit #2 you'll see specific tracts where the US through either condemnation, where they took private property owners to court or acquiring the property like they did from the Wilkinson family because the only alternative was condemnation, acquired that property because it would be flooded by Garrison Vice Chairman Damschen and Lake Sakakawea. Exhibit #3, the 1958 Warranty Deed where the US acquired the property from Mr. Patch's grandparents, JT and Evelyn Wilkinson. Look mid-way through the page, it clearly and unambiguously states the mineral rights for that property flooded by Lake Sakakawea, STAYED with the Wilkinson family. As Mr. Patch noted, this has been the subject of litigation in Wilkinson vs. the Board of University School Lands of the State of ND, which is pending before the ND Supreme Court. There are several other cases in State District Court and a recently filed case in the US Federal Court dealing with these issues. The State claims regardless of how or when these hundreds of thousands of acres were flooded, the State somehow acquired ownership of it because it was flooded. HB 1199 addresses the issues raised in the litigation recognizing the oil and gas interests owned by the Wilkinson and (?) Vohs families, and the hundreds of beneficiaries of the trust managed by First National Bank were affected by and subject to the flooding from Lake Sakakwea as discussed in detail in the expert report prepared by Dr. Woodbury in the Wilkinson case, Exhibit #4. Exhibits 2 and 3 of the Garrison Project and Warranty Deeds from private landowners to the US show it is UNDISPUTED the private landowners retain their mineral rights, "subject only to the right of the US to flood and submerge the said lands permanently or intermittently in the construction, operation and maintenance of the Garrison Vice Chairman Damschen and Reservoir. These families should not be made to suffer the indignity of losing their property twice at the hands of Lake Sakakawea and their government. The first time, 60 odd years ago, when the Federal Government, and the second time in 2017 when adding insult to that long ago injury with our state seeking to further deprive private property owners of their oil and gas interests. Interests these private property owners had previously leased oil companies for nearly 60 years before the State wrongfully claimed ownership of them. There's a question from Rep. Lefor, "how did private owners find out about this?" In many cases, the private owners found out because when they received their division orders from the oil company telling own much of the mineral interest they had, out of the blue with no notice from the state, no opportunity for a hearing, they went from having, for example 80 acres to 40 acres. As Mr. Patch testified, the State has conducted 2 studies to determine ordinary high water mark of the Missouri River in the Garrison Dam area to

justify their massive land grab. The first study, began at the Highway 85 bridge and moved west, used the ordinary high water mark as it now sits, without regard for the effect of Lake Sakakwea. The second study, Phase 2 study, included the area from Garrison Dam to the Highway 85 bridge (ridge?) used the ordinary high water mark of the historic Missouri River as it existed prior to Garrison Dam. The US Dept. of Interior has already rejected (Exhibit #5) both of the state surveys because of their flawed methodology and because the studies are unsupported by law or the facts. It explains the fundamental flaws and problems with what the State did. The state surveys do not comport with federal law and cannot be used to determine riverbed title under the equal footing doctrine. In rejecting the state surveys, the Department of Interior, points out the State surveys depict the riverbed to be 3 times it's actual width when compared to the general land office's original surveys; Page 8 the Department of Interior affirms the position taken by the Wilkinson family in litigation, specifically that the US maps for the basis for land title acquisition by the Corp of Engineers, those maps are the maps that should be followed when determining who owns the minerals and where the high water mark is. The Dept. of Interior held the segment maps as the most comprehensive evidence of the Missouri River ordinary high water mark just prior to the formation of Lake Sakakawea stating, the Corp of Engineer's segment of maps are firmly grounded in guidance, methodology, and contemporaneous fields investigations of the land prior to the effects of the flooding. The segment maps are the most comprehensive evidence of the ordinary high water mark prior to the artificial rising to create Lake Sakakawea. The segment maps were the basis for millions of dollars of appropriated funds being spent to acquire displaced uplands and were generated with the determinations from in the field investigation by the Bureau of Land Management and involvement of Bureau of Land Management and the ND State Land Department, and have gone uncontested for over 60 years. The US points out in Exhibit 5 back when the surveys were done, the land department and state were involved and agreed with them and here we are, decades later and the state has a problem with them. The Department of Interior concluded its decision rejecting the state surveys by finding they 1) did not comply with the federal definition of the ordinary high water mark, 2) did not honor chain of title or previous involvement by both the State and private property owners with the US during the course of the Garrison project, and 3) the studies are an overreaching delineation that impairs the mineral rights of private owners. If the legislature doesn't address this the courts will. HB 1199 addresses this with the language that the ordinary high water mark must be located as close as possible to the ordinary high water mark of the riverbed channel as it existed before the inundation of the channel that created a lake based on historical records. This bill recognizes the state only has title to the bed of historic Missouri River prior to Garrison Dam and the government, state or federal, cannot flood the land of private property owners and then say they, the government, own the property. That is the definition of an unconstitutional taking. Regarding the fiscal note where the State claims that passing this legislation or the senate bill will result in the loss of millions of revenue for the state, is like a bank robber complaining they'll have to forfeit the loot they stole from the bank. The money never belonged to them in the first place. They took it from someone else. The money referenced in the fiscal note, never belonged to the state. It belongs to private property owners, like the Wilkinson and (?) Vohs families, and it's being held in suspense because of these legal challenges and title disputes, the state knew would occur as a result of its massive land grab and unconstitutional taking.

44:48

Rep. Heinert: Exhibit 3, what's lined out in the middle of the page.

Swanson: Those black marks you are referencing; I don't know what's under there. It doesn't change the import of what the Warranty Deed is doing. This is as it was recorded, there's no smoking gun, no hidden language in there. It looks to be a stamp mark. That's the paragraph that discusses the private landowners have reserved the mineral rights. I can request that and supplement that to you.

Rep. Heinert: I think that is necessary. This copy shows it's not revealing everything that's not in the document.

Swanson: I will gladly provide it and note, neither the state nor the parties in the state action or federal action, including the court, had addressed that issue. I will provide that to you before the end of the week.

Rep. Anderson: How many acres need to be returned to the landowner?

Swanson: I think what the state owns is limited to the 30,000 acres under the original riverbed. In our litigation we're talking about several thousand acres of property that was acquired by the US. In total, the state would have a better idea than we do. I know in the Discovery and litigation we asked for from the state, there's something like 620-630 tracts, potentially more, affected by the state's decision. My understanding the royalty and bonus payments for those 600+ tracts, of what's being held in suspense there, regards to my clients, thousands of acres of property affect. It goes much more beyond that

Chairman Porter: Because we're stepping into an active lawsuit with this legislation. The courts never had a trail, they had a bench trial, there was a Summary Judgment. What was that process that moved it from the District Court to the appeal process at the Supreme Court?

Swanson: The state has been sued by my clients and several other clients. The issue the determination involves what is sovereign lands. That's determined under the equal footing doctrine, a matter of US federal law, US constitutional law. Summary judgment briefs were filed with District Court, basically an argument by the parties to the court saying there's only questions of law that should be resolved by the court, no questions of fact that require a fact finder's determination. Issues of law are decided by the Court, and issues of fact are decided by the jury. Our position was not only should the Wilkinson and Vohs families and other prevail as a matter of law, we argued there are questions of fact with regards to the boundary of Lake Sakakawea. The judge in this case granted Summary Judgment for the state adopting their proposed order verbatim saying Lake Sakakawea and the Missouri River were one in the same. We've appealed that to the ND Supreme Court and it's currently pending before the Supreme Court. Yesterday the Supreme Court stayed our appeal, meaning they took a time out on it, to see how the legislation would play out, and instructed the parties if the legislation changes the positions, we are to notify the Supreme Court.

The supreme court if the legislation changes t the appeal could be rendered moot by that.

Chairman Porter: If we're going to set a new mark of the position of the state, couldn't the Supreme Court rule this changing is unconstitutional?

Swanson: That's an interesting question. I can't speak for what the state and oil companies would do. It's my clients appeal. We're saying district court made a mistake.

52:43

Todd Kranda, attorney, Kelsch Kelsch Ruff & Kranda Law Firm in Mandan, presented Attachment #4. We support the intent, the effort to clarify avoiding litigation, however we prefer the concept of SB2134. Big oil is not involved in the taking action. My oil companies are simply involved with leases and we don't know who the owner is. If the state or the US government did a taking, we're dealing with whoever it is. Lumping us in that is a false statement. I'd like the record corrected.

Rep. Roers Jones: You prefer the language of SB 2134. Can you tell us what aspects of that you prefer to this bill?

Kranda. I was not involved in that, I did not present the testimony, I think it deals with the explanation of what marks you're locating for the high water mark. I'm unable to do that. I am unable to answer that.

Rep. Keiser: What's the number of acres in the SB 2134 versus the HB1199.

Kranda. I wasn't involved in that bill so I don't have that. I did bring the FN for 2134. I'm not sure if this involves, the first paragraph on the first page that talks about, "the state would return revenue of an estimated 710 mineral leases, involving 40,000 acres."

Rep. Keiser: Is there a dollar value.

Kranda: I assume that represents the impact of SB2134, a $212 million fiscal note. The differences do have a significance in the bills.

Chairman Porter: further questions? testimony in support? In Opposition?

58:00

Lance Gaebe, Commissioner of University and School Lands, ND Trust Lands, presented Attachment #5.

Chairman Porter: The difference between HB 2134 fiscal note of $212 million and this fiscal note one is $28 million, so we understand the difference are.

1:08:57

Gaebe: In this fiscal not for this particular bill, we presume, the best available (? Inaudible) of the ordinary high water mark prior to inundation, is in fact how the land board has leased those minerals east of the Highway 85 bridge. It's the review of the ordinary high watermark

in the 2010 survey. We don't think there would be any change in the fiscal impact there because the acres have been leased. There's not a surrendering of minerals there. The other bill SB2134, actually doesn't say the ordinary high watermark, historical, it says the last known survey by the Corp of Engineers prior to inundation survey of the channel. There's a difference in acres between that survey of that channel by the Corp, and the depiction of the historic ordinary high water mark is around 40k acres. We wouldn't be surrendering those minerals that have been claimed east of Williston. The scope of this particular bill, approximately $30 million is the difference in acres (essentially on the map that I provided you on page 7) between the blue line, the historical ordinary watermark and the red line, the current ordinary high watermark. I should add a clarification; we didn't have all the data because the historic review has not gone as far west as this bill does. There'd be some acres we wouldn't be able to do the math on.

Chairman Porter: Inside of your definition of Phase 1, you moved the ordinary high water mark to areas that were basically surface storage in extraordinary flood years. Straighten me out on the definition of the ordinary high water mark which I think is the normal flow in a normal year of a body of water.

Gaebe: I would defer any definition to the office of the state engineer who has the authority and responsibility.

Chairman Porter: Page 7 you're showing the red outline in Oxbow and turn areas where water in an extraordinary year could get to, not an ordinary year. I think of ordinary as normal average flows. Not extraordinary flooding situations otherwise the state would own a whole bunch of land that it shouldn't own.

Gaebe: We wanted to highlight the full pool of Sakakawea. I don't want to imply that is the (?) technique of the survey was done. It was done in 2009-2010, before the 2011 high water year, in a normal characteristic year literally on the ground, in boats, hip waders, mosquito netting, depicting and figuring out where that ordinary high water mark is based on vegetation. It's not done because water was high. The flood plain is different than the ordinary high water mark. Again I defer to specialist at the office of the State Engineer.

1:13:05

Rep. Lefor: In previous testimony, it was stated, "snatch our mineral acres out from underneath us with no notice, no due process and no compensation." How is that even possible?

Gaebe: The rivers move and ownership moves. The fact the state owns navigable rivers is not disputed. The fact is rivers move is common law throughout the country and before the country existed. The determination how this occurs is that the rivers are determined navigable, at statehood, but the ordinary high water mark is generally determined where that river is at that time. The river moves, and so does ownership. Just because someone believes they have title, that may change over time with the changing characteristics of a river.

Rep. Lefor Why would we take mineral rights away at any point? They own them.

Gaebe: There's not a severance within sovereign lands of the water and the minerals. The severance is in the management responsibility in that the State Engineer, on behalf of all the public, a river, up to the ordinary high water mark, and the land board's responsibility is for those oil and gas rights. If a river moves, the public owns that land even if happened to be private before that time and there hasn't been any separation of ownership between the surface to the mineral (? Inaudible) it all belongs to the public.

Rep. Lefor: When I look through your testimony it looks like the legislature has never defined a high water mark. It's always been defined by an engineer that did a study and it keeps changing as a result of those studies, would I be accurate if I looked at it that way?

Gaebe: I believe the state does define sovereign lands to be those areas within the ordinary high watermark in 61-33. Subsequently the level of detail about how that ordinary high watermark is determined and how those sovereign lands are determined is the responsibility of the state engineer. It has been done in context of Century Code 61-33 and the administrative code 89-10.

Chairman Porter: Do you know of another body of water that the high watermark of the river bed changed after the entire surface of the river bed was totally flooded? I'm having a hard time following the states position that the river bed gets to change because a flood and basic erosion and movement of water that wouldn't be there in ordinary times.

Gaebe: I would defer to a qualified engineer. Slow erosion of one bank and the addition of bank to the other side, and the course of the river does change, and property can be eaten away or added to. If it's a rapid change through a evolsive action where it gets cut off and Oxbow is cut off for example quickly, then title does not change with that action. But areas of embedded in the center of the river and becomes part of the shore, remains the publics and as does any of the parcels in between. There is case law I can provide for you, for example in the Lake Tahoe area, most prevalent in ND is the bed of Devils Lake. While there's certain 1000's acres of farmland inundated, while that navigable body of water is at the level it is, the land beneath present day, or at the time, Devils Lake, is sovereign land.

1:18:36

Rep. Roers Jones: (did not turn mike on, somewhat inaudible) I find it hard you're arguing about the minerals under the lake, holds water. As the lake goes back down, once accessible again goes to the farmers

Gaebe: I believe that's accurate.

Rep. Roers Jones: Your argument that because they're covered with water, there somehow no longer the farmers (inaudible – no mic on) part of the imminent domain process because they're covered with water doesn't make them any less useable, just like the farmland that would have been covered with water at that point is unusable. Once it's useable again, it would reverse that to the farmer that owned it. The minerals that are covered with water are entirely useable (inaudible – no mic). Do you agree with my statement?

Gaebe: I understand your argument I don't know that there's ever been a severance of those components. The public's ownership at the time that water is over that area, is considered not just surface, but to the center of the early so to speak.

Rep. Roers Jones: (no mic on) the severance that never occurred was the ? given to the state of ND. ??? The state of ND never took title to those minerals. The state of ND is asserting ownership of something they never had control or ownership over.

Gaebe: The efforts to manage are based on long standing practice throughout the country and throughout the world and legal doctrine. If we took a tact of severing ownership, that would be new.

Rep. Keiser: Is there in fact 2 different water marks being utilized below and above the bridge?

Gaebe: That is accurate. The long standing practice is east of Williston, the Army Corp on behalf of the state leases minerals up to the historic ordinary water mark, and west of Williston using the bridge of the transition point, leases the sovereign, the public's minerals, up to the actual ordinary high water mark, current ordinary water mark.

Rep. Keiser: I thought that's what I heard. Are these 2 different lakes or bodies of water affecting the properties of either side of the bridge?

Gaebe: same body of water

Rep. Keiser: Why would we have a double standard? Simply on an arbitrary point like a bridge? What's our rational as a state to do that?

Gaebe: The rational was it's a river west of Williston and a lake east of Williston. There wasn't a basis for claiming the entire lake so they claimed the historical channel east of Williston.

Rep. Keiser: There's been discussion about court cases. Confirm 1) we had a school funding suit filed that went to the Supreme Court, and the Supreme Court basically said we want the Legislature to addressed it and we did. When the court ruled against us and passed legislation. In at least 2 cases in worker's comp law, even when the court ruled against us on the basis that the law wasn't clear, when we went back and passed legislation that made it clear, it is statute, it is law. That's our function to right the law and the courts aren't going to reverse the law unless it's unconstitutional. I just wonder if you agree with that.

Gaebe: I don't disagree at all. Your codification of the long standing practice of using the best historical in fact would validate what the land board has long done. My only point in the fiscal note and my mild opposition is that transition moves 27-28 miles west where that line is now.

1:25:00

Jerry Heiser, Sovereign Land Manager, Office of the State Engineer, presented Attachment #6, HNAT-1199-170202-HEISER.

1:30:16

Chairman Porter: Clarify the state's position on Devils Lake? When the water came up did we take the mineral rights under that lake?

Heiser: My understanding is the state's land interest rises and falls with the level of the lake. The edge of the water is described as the ordinary high water mark, typically identified again, primarily through vegetation, other factors as well. Because of the rapid changes there and the flatness of the topography. A very small or rise in the lake level can encompass quite a bit of acreage. So the vegetation, those indicators you would normally use which often times are higher than the water level itself, isn't a good indicator. So the courts have simply said the water line. In terms of the minerals I don't know if that's ever been addressed on Devils Lake.

Chairman Porter: Someone owns a quarter of land under the lake and they're paying in lieu of taxes to maintain ownership of that quarter under the lake. They own the mineral acres. They have clear title to the mineral. Is the state of ND, claiming because of the ordinary high water mark, that land is held as sovereign land now and we're taking those minerals?

Heiser: When it comes to minerals management, that's a question for the Dept. of Trust Lands. The State Engineer's responsivities are the surface management of sovereign lands.

Chairman Porter: We have a unique law that we allow splitting the law of the bundle of sticks in an estate for land. When you determine and talk about, we're going to set the high water mark or sovereign land here, that only deals with the surface. How does the state take a position they now own that to the center of the earth when someone else has clear title of that?

Heiser. Are you talking Devils Lake or sovereign lands in general?

Chairman Porter: I'm talking North Dakota.

Heiser: Minerals management isn't my area of expertise. My basic understanding is that minerals move with the title. That's a question for the Land Department.

Rep. Porter: We know that minerals don't move with the title because they're a split asset. I understand that's out of your area. Questions?

Rep. Keiser: If we were to pass this bill could the State Engineer's office operate with this language?

Heiser: The basic problem with this language, referring back to the portion of the river, highlighted on the map, doesn't act like a lake or reservoir. The vast majority of the time it functions as a river. The reason the ownership, title of navigable waters moves with erosion, etc, all those things that cause it to change its course. If the title was fixed at a given point

and time, 50 years later the river's over here, your title is over there. The State now has title to dry land and the highway is now under private ownership. The river has moved, the title hasn't. It confounds the reason navigable water were held in trust by the federal government and title turned to states at the time of statehood. That highway is to be used, held in trust for the public. Title has to move with it. If we fix the title on that portion of the river, and the river moves, the public no longer owns the river. It makes it very difficult in my mind to manage that resource in that manner.

Rep. Keiser: I understand rivers can move and the water is the publics but mineral rights don't move. The rivers gone and the minerals are still mine. Given your policy, you can still manage this, this deals with minerals not water.

Heiser: I'd have to read it again. I believe this language talks about the ordinary high water mark. I can't address the minerals.

Rep. Roers Jones: The minerals are there stationary for the most part until they are fracked and moved. We have a legal description for the minerals. There's a legal description on each one of the deeds that shows what minerals were severed from the surface estate and retained by those owners when they transferred the surface to the state of ND. Really the definition of the ordinary high water mark shouldn't make any difference at all. What we're talking about is looking at the survey that was done at the time the land was taken by imminent domain will tell you where all the land was at that time. We have a legal description that describes the minerals underneath and how they were retained. It doesn't matter where the river is at all. We look at the legal description, whether it's under the river or not, and divide out those areas of minerals that should be owned by the state of ND and what should be owned by prior mineral owners. Does that make sense to you?

Heiser: When you talk minerals management it's out of my expertise.

Chairman Porter: Further questions? opposition? Closed the hearing.

Attachment #7 from Edward Lynch who did not testify, is attached.

2017 HOUSE STANDING COMMITTEE MINUTES

Energy and Natural Resources Committee
Coteau –A Room, State Capitol

HB 1199
2/3/2017
27860

☐ Subcommittee
☐ Conference Committee

Committee Clerk Signature Kathleen Davis

Explanation or reason for introduction of bill/resolution:

Relating to the definition of sovereign lands

Minutes:

Chairman Porter: Called the committee to order on HB 1199. There's a couple things that came up in my mind. As a body moves across the surface, the state of ND moves the sovereign lines. So as the river would change, as in Oxbow would change, the state of ND moves what is the ordinary water mark periodically. Just like a census. But that doesn't change the minerals or subsurface of that vet. People were granted clear title to a piece of property that doesn't change. The other thing that is interesting is the surface in the constitution can be changed back to a private party. Once the state of ND in the constitution owns or claims the minerals, they cannot be reverted back. So in this process, a river can change its stream, you can have a winner and looser because of the erosion and flow on both sides of that river. The minerals underneath don't move, but once the state lays claim to them on one side, they're aren't relinquishing them on the other side. So it is an unfair process of movement.

Rep. Keiser: The amendment is an excellent correction to the legislation. The intent was to basically go after oil and gas mineral rights, not gravel mineral rights. So the amendment goes after the oil and gas, to return that to the original property right owner of the minerals, but doesn't include gravel and those kinds of byproducts. That's important. You don't want a gravel pit next to or in the lake. I think it's a great correction and I would move the amendment.

Rep. Marschall: second

Chairman Porter: Committee in discussion so you're clear, not only could you not have a gravel pit, you could never do anything to basically harvest your minerals that would disturb the surface based on this language. The other thing is the $28 million fiscal note, there's a $180 million held in escrow in the SIF fund because of this action between these parties across the lake and what the state has done. There is the money to pay for this once it goes to appropriations.

Rep. Anderson: I know there's a bill on the Senate side, how come their appropriations amount is completely different?

Chairman Porter: This bill deals with the component from the Highway 85 bridge and west. The senate bill deals with the entire lake. So there will have to be a reconciliation of the 2 bills at some point. If that passes in the Senate, we'll see it here. We are only dealing from Highway 85 bridge to the MT border.

Rep. Roers Jones: Their bill was amended and so it includes the entire portion now.

Rep. Heinert: You were talking about the state taking and giving back or not giving back. So if they take it and the bill says they take it and have to give it back correct?

Chairman Porter: correct

Rep. Heinert: say the state takes a portion of land and then they give it back and while they're giving it back, oil industry comes in and starts drilling and the water comes back up again. What happens at that time?

Chairman Porter: that would be more of a permitting process inside of the oil and gas in that they wouldn't let them set up a drill that close to the surface area. They're drilling horizontally 3 miles underground now. They'd be 2 miles away and then drilling underneath. This really isn't a surface issue.

Rep. Bosch: As I understand it, all those occurring or changing surface changes don't really matter because the where the mineral rights went to, that's where they stay.

Chairman Porter: that's correct.

Rep. Keiser: that's why we have the bill. We're in limbo here. The state's going one way, individuals are going one way. So they're asking us to address this issue. What the chairman talked about makes common sense. Rivers do change, natural flowing rivers and lakes to change. This is an entirely different situation. We took surface property through condemnation. This isn't the natural flow of the Missouri River. This is the federal government saying we want a reservoir and we took their land. Should we also be able to take their mineral rights because we took an arbitrary action. The answer I believe is no. That's different than a lake or river that meanders.

Chairman Porter: Seeing no further discussion say aye. AYE. Opposed? (none). Motion carried.

Rep. Keiser: Move a Do Pass As Amended and Rerefer to Appropriations.

Rep. Lefor: Second.

Chairman Porter: Discussion? None. Clerk called the roll.
Aye 13 No 0 Absent 1 Carrier: Rep. Keiser

2/3/17 DA

17.0564.01001
Title.02000

Adopted by the Energy and Natural Resources Committee

February 3, 2017

PROPOSED AMENDMENTS TO HOUSE BILL NO. 1199

Page 1, line 1, after "to" insert "create and enact subsection 5 to section 61-33-01 of the North Dakota Century Code, relating to the definition of subsurface minerals; and to"

Page 1, line 9, replace "The" with "For the purpose of determining subsurface mineral rights, the"

Page 1, after line 13, insert:

"**SECTION 2.** Subsection 5 to section 61-33-01 of the North Dakota Century Code is created and enacted as follows:

5. "Subsurface mineral" means oil, gas, or any naturally occurring element or compound recovered under chapter 38-12, excluding an element or a compound that would disturb the surface soil or water during the recovery process."

Renumber accordingly

Date: 2-3-17

Roll Call Vote #: 1

2017 HOUSE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. 1199

House Energy & Natural Resources **Committee**

☐ **Subcommittee**

Amendment LC# or Description: 17.0564.01001

Recommendation

☒ Adopt Amendment

☐ Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation

☐ As Amended ☐ Rerefer to Appropriations

☐ Place on Consent Calendar

Other Actions ☐ Reconsider ☐ _____

Motion Made By Rep Keiser **Seconded By** Rep Marschall

Representatives	Yes	No	Representatives	Yes	No
Chairman Porter			Rep. Lefor		
Vice Chairman Damschen			Rep. Marschall		
Rep. Anderson			Rep. Roers Jones		
Rep. Bosch			Rep. Ruby		
Rep. Devlin			Rep. Seibel		
Rep. Heinert					
Rep. Keiser	Voice vote carried		Rep. Mitskog		
			Rep. Mock	AB	

Total (Yes) _____ No _____

Absent 1

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

Date: 2-3-17

Roll Call Vote #: 2

2017 HOUSE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. 1199

House Energy & Natural Resources Committee

☐ Subcommittee

Amendment LC# or Description: 17.0564.01001

Recommendation
☐ Adopt Amendment
☒ Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation
☒ As Amended ☒ Rerefer to Appropriations
☐ Place on Consent Calendar

Other Actions ☐ Reconsider ☐ _____

Motion Made By Rep Keiser Seconded By Rep Lefor

Representatives	Yes	No	Representatives	Yes	No
Chairman Porter	✓		Rep. Lefor	✓	
Vice Chairman Damschen	✓		Rep. Marschall	✓	
Rep. Anderson	✓		Rep. Roers Jones	✓	
Rep. Bosch	✓		Rep. Ruby	✓	
Rep. Devlin	✓		Rep. Seibel	✓	
Rep. Heinert	✓				
Rep. Keiser	✓		Rep. Mitskog	✓	
			Rep. Mock	AB	

Total (Yes) 13 No 0

Absent 1

Floor Assignment Rep Keiser

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

HB 1199: Energy and Natural Resources Committee (Rep. Porter, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** and **BE REREFERRED** to the **Appropriations Committee** (13 YEAS, 0 NAYS, 1 ABSENT AND NOT VOTING). HB 1199 was placed on the Sixth order on the calendar.

Page 1, line 1, after "to" insert "create and enact subsection 5 to section 61-33-01 of the North Dakota Century Code, relating to the definition of subsurface minerals; and to"

Page 1, line 9, replace "The" with "For the purpose of determining subsurface mineral rights, the"

Page 1, after line 13, insert:

"**SECTION 2.** Subsection 5 to section 61-33-01 of the North Dakota Century Code is created and enacted as follows:

5. "Subsurface mineral" means oil, gas, or any naturally occurring element or compound recovered under chapter 38-12, excluding an element or a compound that would disturb the surface soil or water during the recovery process."

Renumber accordingly

2017 HOUSE APPROPRIATIONS

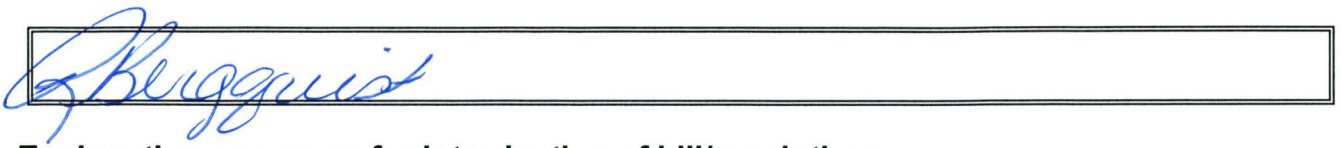
HB 1199

2017 HOUSE STANDING COMMITTEE MINUTES

Appropriations Committee
Roughrider Room, State Capitol

HB 1199
2/8/2017
28068

☐ Subcommittee
☐ Conference Committee



Explanation or reason for introduction of bill/resolution:

Relating to the definition of sovereign lands.

Minutes:

Representative Todd Porter, District 34 Mandan: HB 1199 comes to you from energy and natural resources, we heard the bill and it comes down to a decision that we have to make as a legislature. There's a high water mark last established inside of lake Sakakawea based on the old river bed, of course with a lake sitting on top of it, is going to move. It changes and goes back and forth. Currently there's a multitude of lawsuits out there, law suit that this one is directed at is from the highway 85 bridge west. There's another bill coming from the Senate that deals with the entire lake including west of the highway 85 bridge. The claim that the state makes is that as erosion happens, underneath the lake, and they can use the modern technology to determine where the old river bed is, that the sovereign land changes over time. So we amended the bill and said, we understand the definition of water mark, sovereign land and we understand that we are in charge of navigable water, but what we didn't understand, was regards to the subsurface or the minerals, how that possibly could change from the point of where it was first delineated from. So we amended the bill to state that the river channel can change, the sovereign lands can, change but from the point of the ordinary high water mark, originally done to the original river, prior to the inception of the dam, that those minerals can't change.

This issue is in front of the Supreme Court, they put a basic stay on it while we are in session to see what we decide on the policy of the state of North Dakota before they will rule on it. Your energy and natural resources committee unanimously felt that this was a wrong taking by the state of North Dakota. The committee passed it unanimously, after it was fixed, to the point that we are only taking about the mineral acres not the surface acres. Things meander and change, on the surface, over a period of time so does the states sovereign land but the minerals stay the same. It has a 28-million-dollar fiscal note and as you now inside the SIIF buckets there's 180 million dollars that is sitting there tied up because of these pending lawsuits. So that money would come out of those buckets because this issue would be solved.

4:10 Representative Kempenich: There's two survey you are basing these on? How are you going to melt those together?

Representative porter: The state water commission went through and said what the difference was between 1840 mark and the 1854 mark would be, they had it laid out on a map for us to show us what those would be.

Chairman Delzer: They took from 1840 elevation to 1854 elevation?

Representative Porter: I understand it went based off of pre Garrison Dam, and then now.

Representative Kempenich: 1950, maybe 1949 and then 2010

Representative Streyle: I like this bill but I like the senate bill much better, it addresses the whole issue, why would we pick out this particular section and not try to deal with the whole issue?

Representative porter: I think they have two very unique things going on. I think it's passed out of the senate today. I think they both deserve to have their day in front of us.

6:55 Representative Martinson: HB 1199 wasn't included in the senate bill to start with but it is included now.

Chairman Delzer: You said the senate passed it out of the body?

Representative Porter: Yes

Chairman Delzer: Unless we do this and don't do what's in the senate bill, the house hasn't had the opportunity to see have that discussion yet.

Representative Porter: I do think that when the house committee set in policy the determination of the minerals exclusive of how the surface may change, that is not in the senate bill. I think that is a very important component of this that they need to see. I think the policy that we created while we were hearing this bill is an important thing for the senate to debate on its own prior to the merging of these two bills.

Representative Kading: If we pass it certain amounts of mineral rights will be going to revert to previous owners, is there a clear chain of ownership there or is there going to be a bunch litigation of who owns what?

Representative Porter: A person can't decide what is going to be litigated, I will tell you that the individuals that came in to support this bill they had their dead, and they had the dead of sale to the federal government, and in their dead it said that they retained all the minerals. At the time of the sale it was the Missouri River. Then the state came in in 2010 and took them, we didn't think that was right.

10:30 Around Sakakawea they didn't take those mineral rights. It's a hard argument to say that because it's flooded and it moved underneath the water that the minerals moved.

Chairman Delzer: Even if we passed this, the courts would go through this and make sure that the right person got what was owed to them

Representative Porter: I am sure there will be landsmen lined up at the courthouse.

Representative Schmidt: If there's court cases in respect to this. Would this effect those court cases?

Representative Porter: I am sure, it's at the Supreme Court

Chairman Delzer: They're waiting to see what the legislature is going to do with this.

12:00 Representative J. Nelson: Was there any communication between you guys and the senate bill spelling out the subsurface minerals?

Representative Porter: No

Chairman Delzer: I do think both houses should hear the other's bill.

Representative Boe: Do you know what the rulings have been in the lower courts?

Representative Porter: I do not have that information.

Representative Meier: Do you know how many it would effect?

Representative Porter: No I do not

Representative Martinson: The state really stole these mineral rights; I think that land board must know because they set the money aside looking for a law suit.

Chairman Delzer: Further discussion?

2017 HOUSE STANDING COMMITTEE MINUTES

Appropriations Committee
Roughrider Room, State Capitol

B 1199
2/14/2017
28356

☐ Subcommittee
☐ Conference Committee

Donna Whetham

Explanation or reason for introduction of bill/resolution:

Relating to the definition of subsurface minerals; relating to the definition of sovereign lands.

Minutes:

Chairman Delzer: We'll start with HB 1199 the bill that deals with the minerals from the bridge west. It has a fiscal note of $28 million. Representative Martinson had talked about putting an amendment on there to pay their fees.

Representative Martinson: Chairman, it is not ready so we can put it on the bill that Senator Armstrong has in the senate. I move a Do Pass on 1199.

Chairman Delzer: We have a motion by Representative Martinson and a second by Representative Kempenich. It's pretty basic says that the surface water mark can change but the mineral high water mark does not change. Representative Porter said that we passed a bill that gave the land department authority to go out and resurvey the high water marks. That's where this came from. I don't think anyone realized that this would be the outcome. I doubt if we would have supported that.

Representative Boe: Did we ever get the lower court ruling on this?

Adam Mathiak LC: Clare Ness from our office had done some investigating on that, it was my understanding that the courts had turned it back to the legislative assembly.

Chairman Delzer: That's a valid question, this may have a major impact on future court rulings.

Mr. Mathiak: Rereading the email, it says that the district court held that the mineral rights are owned by the state.

A roll call vote was taken. Yea: 17 Nay: 1 Absent: 3

Chairman Delzer: Motion carries. We did not change the bill. It came to us from Natural Resources; Representative Keiser will carry. Hearing adjourned.

Date: 2/14/2017
Roll Call Vote #: 1

2017 HOUSE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. 1199

House Appropriations Committee

☐ Subcommittee

Amendment LC# or Description: _____

Recommendation: ☐ Adopt Amendment
☒ Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation
☐ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar

Other Actions: ☐ Reconsider ☐ _____

Motion Made By Representative Martinson Seconded By Representative Kempenich

Representatives	Yes	No	Representatives	Yes	No
Chairman Delzer	X				
Representative Kempenich	X		Representative Streyle	A	
Representative: Boehning	X		Representative Vigesaa	X	
Representative: Brabandt	X				
Representative Brandenburg	X				
Representative Kading	X		Representative Boe		X
Representative Kreidt	A		Representative Delmore	X	
Representative Martinson	X		Representative Holman	X	
Representative Meier	X				
Representative Monson	A				
Representative Nathe	X				
Representative J. Nelson	X				
Representative Pollert	X				
Representative Sanford	X				
Representative Schatz	X				
Representative Schmidt	X				

Total (Yes) 17 No 1

Absent 3

Floor Assignment Representative Keiser

If the vote is on an amendment, briefly indicate intent:

Motion Carries

REPORT OF STANDING COMMITTEE

HB 1199, as engrossed: Appropriations Committee (Rep. Delzer, Chairman) recommends **DO PASS** (17 YEAS, 1 NAYS, 3 ABSENT AND NOT VOTING). Engrossed HB 1199 was placed on the Eleventh order on the calendar.

2017 SENATE ENERGY AND NATURAL RESOURCES

HB 1199

2017 SENATE STANDING COMMITTEE MINUTES

Energy and Natural Resources Committee
Fort Lincoln Room, State Capitol

HB 1199
3/17/2017
Job #29384

☐ Subcommittee
☐ Conference Committee

Committee Clerk Signature Pam Dever

Explanation or reason for introduction of bill/resolution: Relating to the definition of subsurface minerals; relating to the definition of sovereign lands.

Minutes:

Attch#1=Rep M.Nelson; Attch#2=Mark Fox (by Rodger Whiteowl);Attch#3,#4=Lance Gaebe;

Attendance was taken. All committee members present.
Chairwoman Unruh: Open HB 1199.
Rep. George Keiser, Dist. 47, Bismarck, ND: HB 1199 is an issue you addressed at great length in a previous Senate bill that is currently in sub-committee in House. This bill is similar but different in a few ways. It addresses the primary issue that the taking of mineral rights for land under the area and around and under Lake Sakakawea. This does address only the properties that are west of the bridge. Does not include the entire lake area. It also identified a level at which, within Code, at which we consider inside and outside. Lines 13 and down, the high water mark within Lake Sakakawea and below the elevation is 1, 854 feet above sea level must be located as close as possible to the ordinary high water mark of the river bed channel as it existed before the inundation of the channel and historic records. (2.22) Rather than using a survey, we simply put in an actual elevation. There are pros and cons to both. The House did further amend the original bill; on the bottom of page 1, we took out from consideration subsurface minerals. There is a fiscal on this bill, which is different. $28 M dollars. Please hold this. I support working with the Senate bill as a vehicle to get this resolved. You could kill this bill and work with the Senate bill. Nice to keep this just in case. (4.40)
Chairwoman Unruh: We will do diligence on this bill.
Sen. Roers: How did you come up with the 1,854 feet as your baseline?
Representative Keiser: I did not. The people involved in this issue did. They are here, so ask them.

Jon Patch: I am in support. I did talk to Representative Keiser. Showed a video. (5.47-11.50) I did show this to the sub-committee, also. It is a google earth compilation. The 1,854 is the elevation and is the height of the dam. So water that is backed up by the dam, will back up to that level. So everything upstream of the dam, at the 1,854 level, would be considered to be reservoir. Lake Sakakawea is a man-made lake. As the river previously existed no longer

exists as a natural river. It exists as a river inundated and potentially inundated and has been by Lake Sakakawea. (Talked about pictures from google earth on screen) (8.08) (Talked about Phase I and II) (9.15) Lake Sakakawea was not here at statehood. It was formed in 1953 and formed after that. The argument of using the entire lake as the boundary for the sovereign ownership does not fit with logic. The state should not be able to take more than they were given at statehood. The bill before you would say use the best historical information to establish the parameters of sovereign land ownership. That's in a nut shell.
Sen. Roers: The blue is the 1,854 elevation and the yellow is a survey that was taken? Which is the yellow, 1949 or 2010 survey?
Jon Patch: Is this the 1,854, probably not. When this photo was taken, the level was not there. It was probably 1840's. This satellite image shows when the lake was completely full. If you use the state's argument of ordinary high water mark, based on the elevation of the lake, you would be taking that whole area as sovereign land. (pointing on screen). Showed where the Corps property is. These are all the tracts that were purchased by feds for the purpose of the lake. They did not purchase the ribbon that runs through which is the Corps survey of the ordinary high water mark at the time and prior to lake being formed. (All on screen) This was identified as the sovereign land ownership at the time that the dam was built. They purchased these in triangle shaped sections except for the area running along the river. It is a smooth line and followed an ordinary high water mark, when they purchased the land for the dam. (15.09)
Sen. Armstrong: How long have you been fighting this, and when did it start? Where are you at with it right now?
Jon Patch: We have been in a law suit with ND and an oil company. We have real acres that was purchased and my grandfather farmed. The federal government purchased land for a project and we reserved the minerals and have been leasing those minerals until fairly recently. We found out that the state had taken those minerals and put them into their data base, and they also leased them. That was in 2011. We worked with the powers that be to figure out what was going on. We were not getting anywhere with them and they were not listening. We filed suit in January of 2012.
Sen. Armstrong: How did the state notify you.? You had minerals until a certain point and then they, the state, claimed ownership.
Jon Patch: Yes, that is correct. We were never notified.
Chairwoman Unruh: Further testimony in support. Any in opposition?

Rep. Marvin Nelson, Dist. 9: I am opposed to HB 1199. (see Attch#1) (19.00-25.50)

Roger WhiteOwl, Intergovernmental Affairs, Indian Nation-Mark Fox Office: I will read the testimony of Mark Fox, opposed to this bill. (see Attch#2) (27.15-29.54)
Chairwoman Unruh: We excluded the land in question by Tribes in our Senate bill. (30.00)
Roger Whiteowl: Thank you. We do appreciate that.

Lance Gaebe, Dept. of Trust Lands, Commissioner of University and School Lands: (see Attch#3, #4) I am opposed to this bill. (31.31-1.01.56)
Chairwoman Unruh: Can I stop you for a question? You have that the ordinary high water mark that you used photos from 1943, 1951 and 1958. I am concerned with the 1958, since the dam was put in place in 1951. Why would photos from 1958 be used to determine ordinary high water mark, when it was already being inundated because of the dam?

Lance: Attached I have a high and low elevation sheet from each of the years. (attch#3 page 10) The dam did not completely fill until 19 years. Was a long process. In 1958, the pictures were better quality than any other maps they had with respect to resolution. High upstream area was not filled yet. He continued (36.42). Please look at all my handouts with my testimony. This bill would codify the use of high water mark. It is not codified now, just our practice.
Chairwoman Unruh: (42.07) What was the reason behind the land board's decision to pick an arbitrary point on the bridge on highway 85?
Lance: How it looks. I did, this morning, a google map of the area. (see Attch#4) It was argued by the Reeb family in their law suit, that we have the historic value go too far west; and it ends further east. The practice of using Highway 85 bridge because it was an easily identified landmark. East of there are meandering streams, and channels go up and down. Right south of Williston it often changes. Less so west of the bridge.
Chairwoman Unruh: We received information earlier about flow and depositions, etc. Those indicate that the end of Lake Sakakawea is actually further west of the bridge. Was that considered when you were looking at the leasing practices?
Lance: It also depends how full the lake is. You may have heard that there is an overlap of the studies of Phase I and II. There is a 10-15 miles' overlap with both historical and actual high water mark. It is not clear where the transition point occurs. We asked the state engineers and hydrologists to help with that. The answer seems to depend on how full the lake is. Only a few occasions that the lake has been very full. You need to change the point of transition somewhere. That was an easy place to find. (45.26) He continues.
Chairwoman Unruh: Are you familiar with the brief to summarize from the state's perspective?
Lance: I am not familiar enough with the actual brief itself. The state's arguments are with the ordinary high water mark as proposed is what was done in that area. The information at the time is what was conducted on the state's standards under state administrative code to determine the high water mark.
Chairwoman Unruh: Wouldn't that ordinary high water mark be the historic river channel or up to the edge of current day Lake Sakakawea?
Lance: It's the river. The actual flow, not the historical river. (49.48) Look at today's google map (see Attch#4) as it existed in 2009 when it was investigated.
Sen. Armstrong: That is not the actual leasing practice. The river moves all the time, be it slowly. You have to set it at a stagnant position, otherwise, you could never have it back. How do you do it? You lease to someone but the river is moving somewhere.
Lance: That is right, Sen. Armstrong. We have attempted to alleviate that using the best information at the time that the well is leased. We do lease corrections on acreage if there is river movement for or away from acreage within a given quarter. Once a well is drilled, we have agreed to the interests within that ownership, so we are not continually going back to and hold production once the river has moved. If an additional well is drilled within that lease, we would use the best information of that sovereign acreage as we can accommodate.
Chairman Unruh: Do you have rules or guidance document that spells out how you handle the leasing process? Just like you explained to us.an overall document.
Lance: I told the committee on SB2134 yesterday, the process and how we make adjustments in leases as additional information is presented. Every situation is unique in how it is presented. What about an island and how can it be imbedded? We have a process on how to disclaim interest. If there is a pot hole not survived so not patented and not navigable. We have a process on that adjustment. I can try and gather this up on these specific tracts.

Chairwoman Unruh: Do you have an overall rule or guidance document.
Lance: I do not have the level of detail you may want. Each situation is too unique. The actual ordinary high water mark is not the only determinate of sovereignty. It is a key one. I do not have a guidance on each situation. He continues testimony. (55.31)
Sen. Armstrong: It is constitutional in the Takings Clause that ND owns what it owns. Determining the ordinary high water mark is not a constitutional question. We can do that in Land Dept. Anything inside the ordinary water mark belongs to the state. Do we have a role to play into, as policy makers, what that ordinary high water mark is?
Lance: Certainly. This bill codifies what the practice has been. If we give something away that belongs to the state under the enabling act or provisions of statehood. Your adoption of the historical would be appreciated. It would codify what the Land Boards practice has been.
Sen. Armstrong: We go through Wilkinson case and all the cases. I have gone through them all. The ruling from the Supreme that are constitutional in nature, we should tread lightly on as a committee, but the rulings that are not constitutional in nature, we can legislate. If we feel there is a public reason to be involved in it, we have that ability, right?
Lance: Certainly.
Sen. Roers: Is this bill just setting the high water mark at the maximum, at 1,854?
Lance: I believe that is says to the best available historical data. It was suggested 1,854.
Sen. Roers: I think we need to know the range. IT says for the purpose of determining subsurface mineral rights the ordinary mark is going to be 1,854.
Chairwoman Unruh: It says on lines 15 and 16, the river bed channel as it existed before the inundation of the channel that created the lake based on historical records. This is within that elevation based on historical records.
Sen. Roers: That would mean the Backland West survey is OK. Or the Corps survey?
Lance: Good question. That is the attempt to describe the extent of the reservoir itself is 1,854. The Corps survey is the gap in what they sought to acquire. They survived what they needed to buy.
Sen. Oban: Regardless if we agree or disagree with the state acquiring minerals, do you think that the practice in which you did it, where you did not even notify the Parch family, please tell me there is a better process in place for handling that.
Lance: The standards of title through the Bar Association is our guidance in the recorder's office, talks about the state ownership. There was news about this effort out there. There were open meetings of the Land Board. The surveyors had stacks across at five or six point in each section on land. We do not have the title opinions of the oil companies that say who ownership belongs to. There are hundreds of land man that do that work to try and figure the chain of title. We do not have that access.
Sen. Oban: At least that gives me a little understanding of how it happened.
Chairwoman Unruh: You said there were open meetings regarding those changes. Was there a hearing process or public comment period as you worked through these issues?
Lance: Not that I am aware of. Under administrative Code, but under this, there was a contract as to what the state already owned.
Sen. Cook: Did you say that the standards for the how the high water mark is determined is in administrative code?
Lance: Yes.
Sen. Cook: Is there anything in Code about notifying a landowner he is going to lose title to mineral rights?
Lance: I do not believe so. No.
Sen. Cook: Do you think there should be?

Lance: I don't know. Who is to say who owned it. If the river is there, just because gramma provided a title might have said to the late high water mark, this is in error.
Sen. Cook: So the lease?
Lance: They may have sold lease, but maybe did not own it to sell it. The operating oil companies and lessee's in this area and throughout the river double or triple lease these same acres. Dispute in who was legitimate long term ow, and it was safer for operators to lease from oil parties. That created an expectation that they were right full owner because why would an oil company lease mine and pay me if it was not mine. Now is protective lease to cover their bases. We need to sort this out. Now royalties are old and people are looking for them. (1.13.37)
Chairwoman Unruh: The ordinary high water information through the admin process through the Water Commission was requested by sub-committee working on the other bill in the House yesterday. I bet we can get it. Any more in opposition? Any agency? We are closed.

2017 SENATE STANDING COMMITTEE MINUTES

Energy and Natural Resources Committee
Fort Lincoln Room, State Capitol

HB 1199
3/30/2017
Job #29822

☐ Subcommittee
☐ Conference Committee

Committee Clerk Signature Pam Dever

Explanation or reason for introduction of bill/resolution:

Minutes:

Chairwoman Unruh: Look at HB 1199. This is being absorbed in SB2134 and the House is doing a good job to make 2134 better, so we do not need this.

Sen. Cook: I move a Do Not Pass. **Sen. Armstrong**: I second.

Chairwoman Unruh: Any discussion? Call the roll. YES 7 NO 0 -0- absent

Chairwoman Unruh: HB 1199 Do Not Pass, Passed.

Chairwoman Unruh will carry the bill.

Date: 3/30/17
Roll Call Vote #: 1

2017 SENATE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. HB 1199 engrossed

Senate Energy and Natural Resources Committee

☐ Subcommittee

Amendment LC# or Description: _____

Recommendation: ☐ Adopt Amendment
☐ Do Pass ☑ Do Not Pass ☐ Without Committee Recommendation
☐ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar

Other Actions: ☐ Reconsider ☐ _____

Motion Made By Sen. Cook Seconded By Sen. Armstrong

Senators	Yes	No	Senators	Yes	No
Chairman Jessica Unruh	✓		Sen. Erin Oban	✓	
Vice Chair Curt Kreun	✓				
Sen. Kelly Armstrong	✓				
Sen. Dwight Cook	✓				
Sen. Jim Roers	✓				
Sen. Don Schaible	✓				

Total (Yes) 7 No 0

Absent -0-

Floor Assignment Sen. Unruh

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

HB 1199, as engrossed: Energy and Natural Resources Committee (Sen. Unruh, Chairman) recommends **DO NOT PASS** (7 YEAS, 0 NAYS, 0 ABSENT AND NOT VOTING). Engrossed HB 1199 was placed on the Fourteenth order on the calendar.

2017 TESTIMONY

HB 1199

#1
2-2-17
HB 1199

February 2, 2017

PROPOSED AMENDMENTS TO HB 1199

- Rep. Porter & Rep. Keiser

Page 1, line 1, after "to" insert "create and enact a new subsection to section 61-33-01 to the North Dakota Century Code, relating to the definition of subsurface minerals; and"

Page 1, line 4, after "**SECTION 1.**" remove "**AMENDMENT.**"

Page 1, line 4, after "**SECTION 1.**" Insert "A new subsection to section 61-33-01 is created and enacted as follows:

5. "Subsurface mineral" means oil, gas, or any naturally occurring element or compound recovered under the provisions of chapter 38-12, but for the purpose of this chapter, excludes elements or compounds that would disturb the surface soil or water during the recovery process."

Page 1, line 9, after "lands." insert "For the purpose of determining subsurface mineral rights,"

Page 1, line 9, after "lands." replace "The" with "the"

CHAPTER 61-33
SOVEREIGN LAND MANAGEMENT

61-33-01. Definitions.

As used in this chapter, unless the context otherwise requires:

1. "Board" means the sovereign lands advisory board.
2. "Board of university and school lands" means that entity created by section 15-01-01.
3. "Sovereign lands" means those areas, including beds and islands, lying within the ordinary high watermark of navigable lakes and streams. Lands established to be riparian accretion or reliction lands pursuant to section 47-06-05 are considered to be above the ordinary high watermark and are not sovereign lands.
4. "State engineer" means the person appointed by the state water commission pursuant to section 61-03-01.

61-33-02. Administration of sovereign lands.

All sovereign lands of the state must be administered by the state engineer and the board of university and school lands subject to the provisions of this chapter. Lands managed pursuant to this chapter are not subject to leasing provisions found elsewhere in this code.

61-33-03. Transfer of possessory interests in real property.

All possessory interests now owned or that may be acquired except oil, gas, and related hydrocarbons, in the sovereign lands of the state owned or controlled by the state or any of its officers, departments, or the Bank of North Dakota, together with any future increments, are transferred to the state of North Dakota, acting by and through the state engineer. All such possessory interests in oil, gas, and related hydrocarbons in the sovereign lands of the state are transferred to the state of North Dakota, acting by and through the board of university and school lands. These transfers are self-executing. No evidence other than the provisions of this chapter is required to establish the fact of transfer of title to the state of North Dakota, acting by and through the state engineer and board of university and school lands. Proper and sufficient delivery of all title documents is conclusively presumed.

61-33-04. Existing contracts and encumbrances recognized.

The transfers made by this chapter are subject to all existing contracts, rights, easements, and encumbrances made or sanctioned by the state or any of its officers or departments.

61-33-05. Duties and powers of the state engineer.

The state engineer shall manage, operate, and supervise all properties transferred to it by this chapter; may enter into any agreements regarding such property; may enforce all rights of the owner in its own name; may issue and enforce administrative orders and recover the cost of the enforcement from the party against which enforcement is sought; and may make and execute all instruments of release or conveyance as may be required pursuant to agreements made with respect to such assets, whether such agreements were made heretofore, or are made hereafter. The state engineer may enter agreements with the game and fish department or other law enforcement entities to enforce this chapter and rules adopted under this chapter.

61-33-06. Duties and powers of the board of university and school lands.

The board of university and school lands shall manage, operate, and supervise all properties transferred to it by this chapter; may enter into any agreements regarding such property; may enforce all subsurface rights of the owner in its own name; and may make and execute all instruments of release or conveyance as may be required pursuant to agreements made with respect to such assets, whether such agreements were made heretofore, or are made hereafter.

2

2-2-17
HB 1199
Patch
#2

Testimony of Jon Patch

Concerning HB 1199

House Energy and Natural Resources Committee

February 2, 2017 8:30 AM

Mr. Chairman, my name is Jon Patch. I'm a lifelong resident of North Dakota. I live in Bismarck. I am here representing the family of my Grandparents, JT and Evelyn Wilkinson who homesteaded and farmed in the Trenton Valley of Williams County (figures 1 and 2).

I'm here to defend my family's constitutional right to own and hold private property without fear of uncompensated taking by government entities. A fundamental right afforded to all citizens of the United States and the great state of North Dakota.

My grandfather, under the threat of condemnation, was forced to sell his productive farmland in the Trenton Valley to the U.S. government for the Garrison Dam and Reservoir Project. That forced Grandpa out of the farming business but he was compensated for the surface acres he lost. He reserved the mineral rights and he and his children who inherited those mineral rights have been actively leasing those minerals since the 1950s.

Now, fast forward to 2010, the state of North Dakota through the state land department working in cahoots with big oil have snatched our mineral acres out from underneath us with no notice, no due process, and no compensation.

It was in 2010 when the family found out that an oil well was planned on the 1280-acre spacing unit that included our leased mineral acres. A well was drilled, fracked, and began producing oil in November of 2010 and has been producing oil ever since. After many months of wondering why the family was not receiving royalty payments, it was discovered that months earlier, after the well had been drilled, our mineral acres had been nominated into the State Land Department mineral database after department employees shared draft information of an OHWM study that the Land Board commissioned at the behest of the oil companies. The State claimed our mineral acres as their own and auctioned them to the highest bidder at the August, 2010 state mineral auction. The state collected nearly $1M in bonus payments from the Wilkinson acres.

OHWM investigations

That OHWM study that was used to take our acres was termed Phase I (or task order 1). It was commissioned by the Land Board to determine the "present day" ordinary high water mark of the Yellowstone and Missouri Rivers from the Montana state line to the Highway 85 bridge. The Phase I study was an "on the ground" survey done by biologists and botanists using exclusively vegetative indicators to determine the OHWM on both banks of the Rivers and they chose to end the survey at the bridge as a recognizable landmark that was well into the upper end of Lake Sakakawea. While the results of the Phase I study were being wrapped-up, and surreptitiously shared with oil companies, they began a second phase (Phase II or task order 2) that was meant to delineate the "historical" OHWM under Lake Sakakawea using information gained from the Phase I study and high resolution aerial photos and maps taken prior to the lands being inundated by the Lake Sakakawea reservoir. They began the Phase II investigation about 20 river miles

upstream of the Highway 85 bridge and continued downstream to the Ft. Berthold reservation boundary near Newtown. They did this historical OHWM investigation because as they state in the RFP for Phase II the lands are inundated or subject to inundation by Lake Sakakawea. Consequently, there's about a twenty mile stretch of river miles west of the Highway 85 bridge that has both a "present day" and a "historical" OHWM established.

However, even with the data in hand showing where the "historical" OHWM is located within the man-made reservoir, the department chose and continues to use the Phase I results when there is clear evidence that the area is within the lake bed and not part of the natural river system.

Attempts to resolve the issue before litigation

Many meetings with Department staff and attorneys and presentations to the Land Board met with deaf ears. Land Commissioner Gaebe told me at one point "nothing is going to change with their policies and practices unless told to do so by the legislature or a guy in a black robe." That was in July of 2011. The family explored both options and decided for the sake of time we would take the court route. We hired an attorney and an expert in OHWM delineation and in January of 2012 we sued the state to get our minerals back. In the past six years, the Wilkinson Family has expended over $300,000 in attorney and expert fees. Our case is now in the hands of the Supreme Court. The sad fact is, we never got to have our day in court. Days before our scheduled trial last May, the judge signed verbatim a summary judgement order that was nothing more than the proposed order written by staff members of the Attorney General – who ironically sits on the Land Board – the party we are suing! The District court ruling - again written entirely by the staff of the attorney general who sits on the very board we are suing - states that Lake Sakakawea is not distinguishable from the Missouri River. The state's argument, which became the district court's ruling is essentially saying the Lake does not exist, its merely a widening of the Missouri River, thereby laying claim to hundreds of thousands of riverbed and mineral acres inundated by the man-made lake.

Defining the Lake Boundary

Land surface elevation of our mineral land, that the state has laid claim to, is in the 1849-1851 foot range above mean sea level. The Garrison Dam spillway is at 1854'. The corps acquired property upstream of the Dam based on that top of spillway elevation, which represents the maximum operating pool. All of the USGS National Hydrography Dataset maps use the 1854' contour as the limit of Lake Sakakawea (figure 3). The ND Industrial Commission uses the 1854' contour in their "Special Places" rule for the extent and limit of Lake Sakakawea.

This bill would set the record straight and remove the confusion as to which OWHM delineation should be used within the bounds of Lake Sakakawea. We are not trying to claim something that is not rightfully ours. Nor are we attempting to diminish what rightfully belongs to the state of North Dakota.

This bill would preserve what belongs to the state and return acres to the rightful owners, the Wilkinson family being one, where the policies of the Land Board and Land Department are using an arbitrary line to define the "end" of the lake.

This bill would Codify where the lake is: the 1854' contour upstream of Garrison Dam.

Core issue

The core issue is: can a manmade reservoir expand the state's ownership of minerals? Lake Sakakawea did not exist at statehood. It was created after the closing of Garrison Dam. Throughout the course of the lawsuit and the many hours of deposition testimony that was taken, a common theme developed, that being: the use of the "historic channel" as the limit to the state's claim to sovereign land ownership.

The district court ruling written by the staff of the attorney general is a strong departure from that concept. It deserves to be corrected by the legislature. Even the Land Board itself, in a motion at the October, 2016 meeting, has made a policy statement in response to the district court ruling that it has no intentions of taking the entire Lake as sovereign lands and would like the legislature to weigh-in on the matter.

Support for using the "Historical Channel"

Charles Carvell, the former Director of Natural Resources and Indian Affairs with the Attorney General's office, told a legislative committee in March, 2010 that "with regard to water and lands at Lake Sakakawea, the Army Corps of Engineers owns most shorelands and land underlying the lake, with the exception of state ownership of the original river channel, and the state cannot preempt federal ownership and control."

In a joint letter to the BLM in 2014, the State Engineer (Todd Sando) and Land Commissioner (Lance Gaebe) stated the unequivocal position of the state that:

"In 2009, North Dakota initiated an Ordinary High Water Mark (OHWM) survey of the river channel of the Missouri River. Under present day, Lake Sakakawea, the historic channel, was determined based upon high resolution aerial photography from 1958, just prior to these lands being flooded from the construction of Garrison Dam. The survey was conducted using the OSE's January 2007 "Ordinary High Water Mark Delineation Guidelines," a document developed to provide a scientific repeatable process for delineating the OHWM of the state's waterbodies."

In can't get any clearer than that – they are using the historic channel of the Missouri River within Lake Sakakawea to define the OHWM, and consequently, the extent of sovereign lands, and they are following the OSE's guidelines in doing so. So why is the Trustlands department continuing to use "present day" OHWM within the boundary of the Lake?

Because there's a lot of confusion between the agencies involved, the contractor who did the work, and the staff of the attorney general's office that is providing the legal advise. Some state officials have even said that the historical photos and maps could not be used because an "on the ground" survey was not done, even after the Sando-Gaebe letter indicated that was the official position of the state within Lake Sakakawea. No where in the OSE guidelines does it state that the OHWM survey must be done "on the ground." In fact, the Corps of Engineers, the pre-eminent agency in the country regarding OHWM delineation, have published reference documents for OHWM delineation in the western US that describe procedures for using Remotely sensed imagery for OHWM delineation.

Highway 85 crossing is arbitrary

With regard to the notion the Highway 85 crossing is the cutoff of Lake Sakakawea and that sovereign land would be determined one way on one side of the bridge and another way on the other is just plain silly. The expert hired by the Wilkinson family, Lawrence Woodbury from Houston Engineering, incidentally the same company that developed the OHWM delineation guidelines for the State of North Dakota, described the use of the bridge as the upstream limit of the reservoir as arbitrary and has no scientific basis.

None of those deposed during the discovery phase of our lawsuit could identify any sound scientific or legal reason for using the Highway 85 bridge as the dividing line for Lake Sakakawea.

As former Land Commissioner Gary Preszler stated during his deposition - the bridge is nothing more than a recognizable landmark, there's no scientific basis for using it whatsoever.

Phase I is a flawed delineation:

An important piece to this complicated issue is understanding the difference in the way the Land Department is currently determining state owned minerals on the east side of the bridge vs the west side of the bridge. On the east side of the bridge they are using the historical aerial photos and maps whereas on the west side of the bridge they are using the "Present day" high water mark as determined by the Phase 1 study. The Phase 1 study is flawed for several reasons. It relied entirely on vegetative indicators and was performed by biologists and botanists – NO HYDROLOGISTS! Hydrology, which drives the show concerning a *water mark*, WAS NOT used in identifying the OHWM! This led the contractor to identify faux-OHWM locations. I have included several figures for your review which prove my point that many of the OHWM locations are not real OHWM's of the Missouri River. As our expert pointed out in his report, the contractors and agency staff did not take into account any hydrology as it related to the effects of the lake, pre-existing wetlands, high groundwater levels, and Painted Woods creek, a non-navigable tributary that dumps into the Missouri River at the Wilkinson tract.

The results of the Phase I study near the Wilkinson tract are nonsensical and downright fraudulent. One example of the shoddy work by the contractor is that many transects where done in late November when vegetative growth, the sole method they used to determine the OHWM, was non-existant! Is this a joke?

The other disturbing fact of their callous disregard for hydrology (and plain old logic) is their determination of OHWM points on opposite banks of the river directly across from one another that are several feet different! Is there any possible hydrologic explanation for a water mark to be several feet higher on the opposite bank directly across? Does that make any sense?

Their ignorance of a pre-existing wetland is especially egregious. The sequence of figures show a time sequence dating from the 1904 GLO survey, the 1943 Corps of Engrs topographic maps, the 1958 aerial photos, and the 2014 aerial photos. Each of these show an arc-shaped wetland associated with Painted Woods Creek. The edge of this arc- shaped wetland is the precise location they mapped the 2009 (present day) OHWM line. There very well may have been a vegetative indication of a change from aquatic to terrestrial vegetative species, but this certainly is not an OHWM of the Missouri River.

Glass analogy

Let's use the analogy of a glass of water to represent the reservoir. The lake boundary is defined as the top of the glass. Sometimes the glass will be filled all the way to the top but most often the glass is not filled to capacity but never-the-less, the capacity of the glass is defined by the top of the glass and not where you normally fill the glass. Similarly the lake is defined by the elevation at the top of the dam (elevation 1854') and not by where there is normally water in the lake. The lake has reached its full capacity on several occasions and therefore has influenced the types of vegetation below this boundary. This is a very important fact.

Fiscal note

Without explanation, the price tag could be viewed as scare tactics, given the current budget shortage, to pressure the legislature to cover for a taking of private property that the Land Department has done.

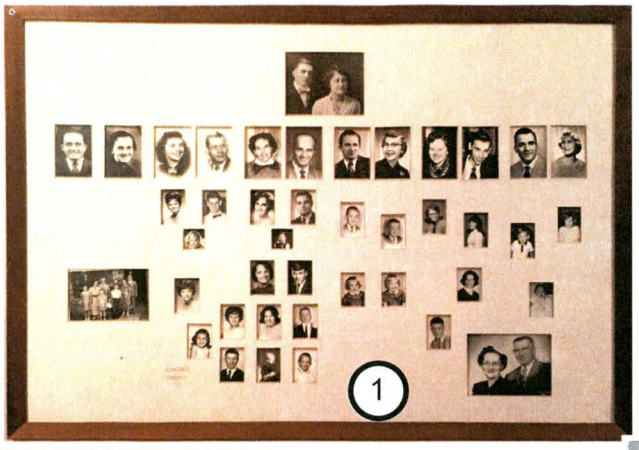
Land Department testimony on the fiscal note failed to mention that money that the state would supposedly have to compensate ($28M) has been sitting in a set-aside fund (I believe the term is a "designated fund balance") that is designated SOLELY FOR THE PURPOSE OF REPAYING THE RIGHTFUL MINERAL OWNERS if it was ever determined that these minerals did not belong to the state. The money is in that account now, and will not burden the state if this bill passes. Quoting directly from the State Auditors Report (link attached) "The Board has set aside funds to cover the potential title disputes related to certain riverbed leases until they are resolved."

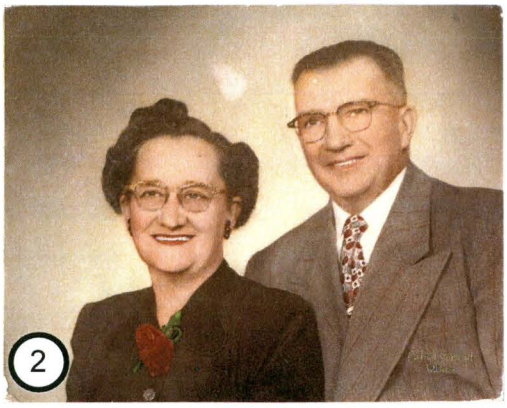
The State is not giving up the money: It is refunding something it didn't own in the first place from an escrow. To apply a double standard (use of the Highway 85 bridge as the dividing line) for the sole purpose of taking the property of a selective group of people is theft. Returning that stolen property should not be weighed as a fiscal liability as implied in the fiscal note.

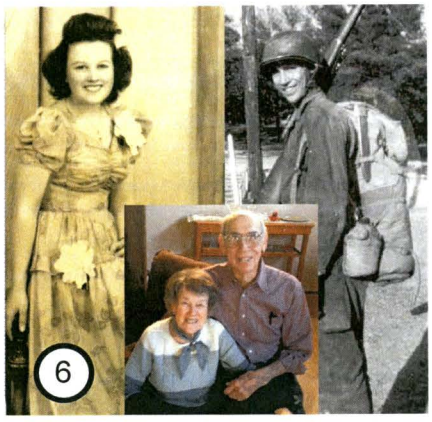
I respectfully ask for your fair, just, and equal treatment of private Mineral Owners within the boundary of Lake Sakakawea, essentially, to do the right thing! Passing this bill is the right thing to do.

Sincerely,

Jon Patch, P.E.







1. This is a 4 foot by 3 foot professionally framed and matted collage of J.T. and Evelyn's legacy. The collage was commissioned by James Wilkinson as a gift to his parents in 1964.

2. J.T. and Evelyn Wilkinson - 1964.

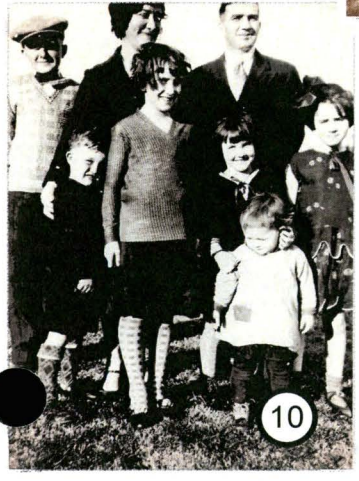
3. James Wilkinson. He served as a pilot in WW II in the north African theater. He compiled an incredible collection of Theodore Roosevelt books which he donated to the TR foundation and are currently housed at the Roughrider Hotel lobby in Medora, ND.

4. Jackie Wilkinson Petty with her husband Dwight Petty taken in (1944). Jackie worked in Williston while her husband served in the Army in the European theater during WW II.

5 .William Wilkinson taken while serving in the Air Force in the 1950's.

6. Vanessa Wilkinson and Charlie Blaine met after Charlie returned from his service in the Army in the Korean theater.

7. Lois Jean Wilkinson and Richard Marvin Patch had been married for one week in 1944 Marvin was called home to attend his father's funeral and took the opportunity to tie the knot with Lois Jean. He was called back to service with the Army Air Force stationed in India. He was a pilot who flew C-46 transports to carry supplies and personnel from India to China over the Himalayas known as "flying the hump". This was known to be one of the most dangerous assignments for pilots. Their oldest child, Lana Sundahl, was born while Marvin was overseas. Marv and Jean went on to raise 9 children. One child, Billy, died at one year of age in 1958. Another son, Rich, died at the age of 41 in 1989.



8.Tom Wilkinson who served his country in the Navy.

9. J.T Wilkinson standing of the pull-type combine with J.T. Jr. (Tom) Wilkinson driving. This was taken in about 1940. The location is in the east bottoms possibly the at "big field."

10. The Wilkinson family circa 1930

11. The Wilkinson family circa 1957

12. The Wilkinson family circa 1966

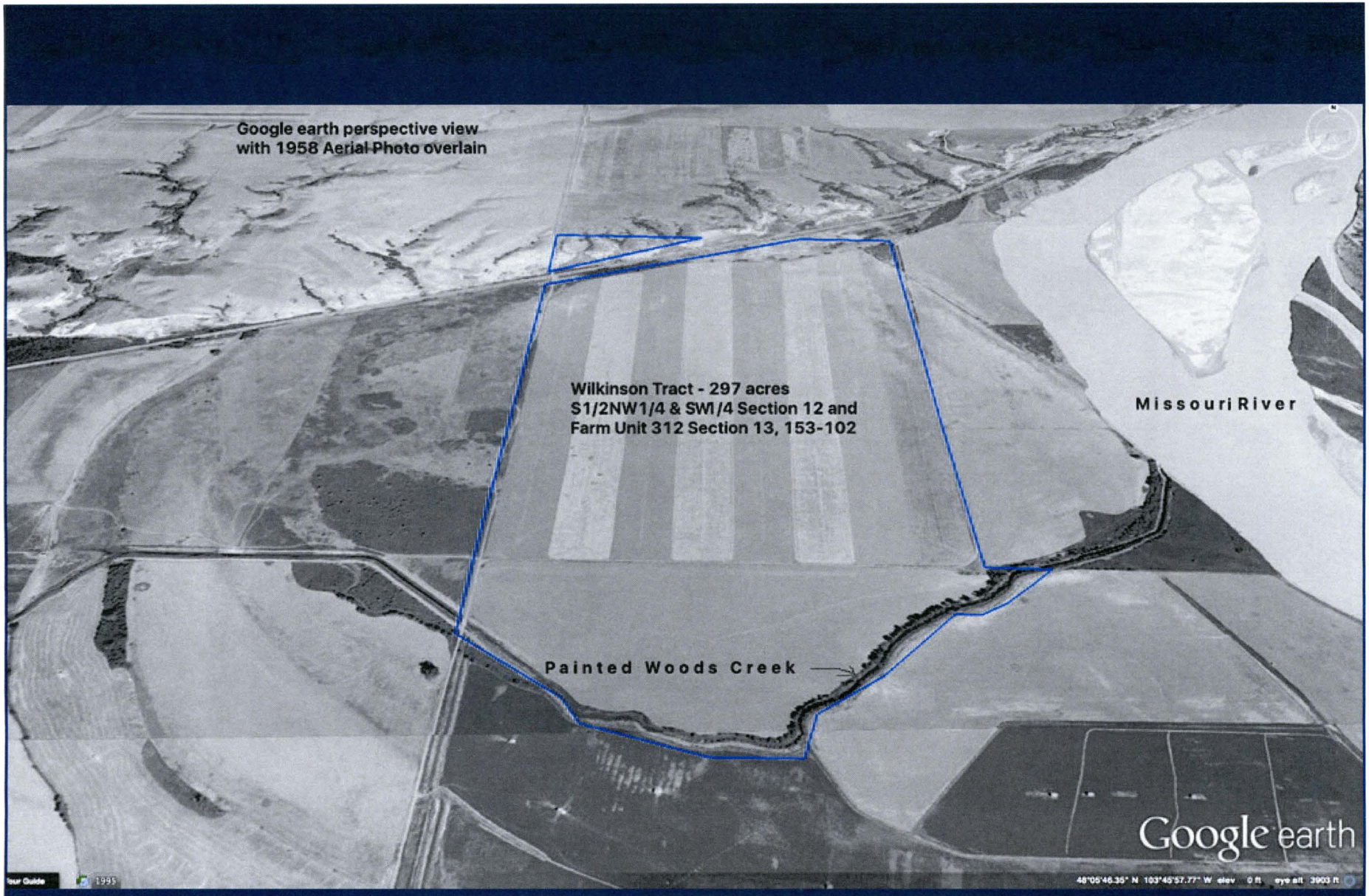
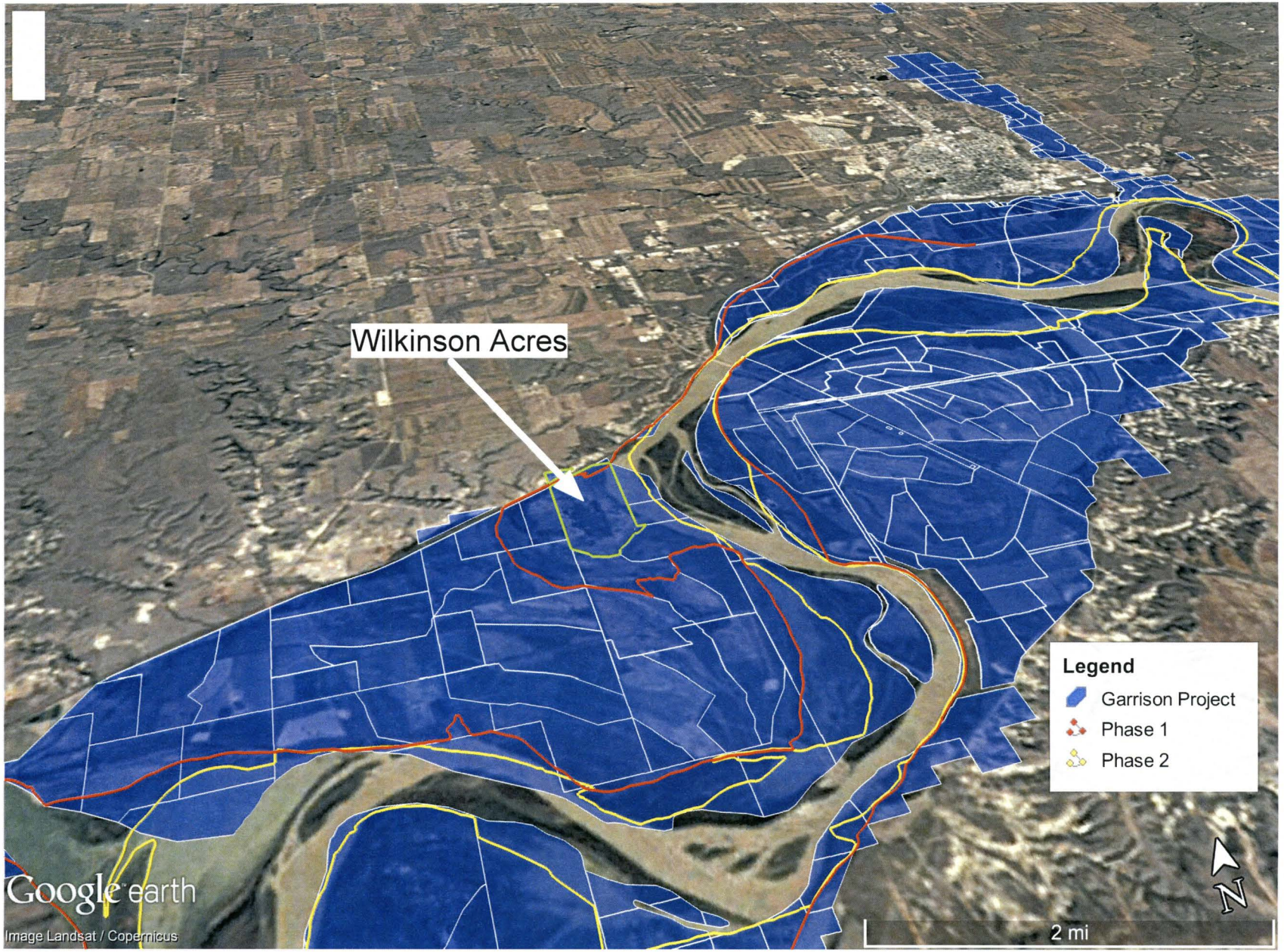


Figure 1 - Aerial Photography Taken in 1958

Figure 2 - J.T. Wilkinson on combine working with son Tom on tractor. (in about 1940)


Wilkinson Acres
Legend
Garrison Project
Phase 1
Phase 2
Google earth
Image Landsat / Copernicus
2 mi
N

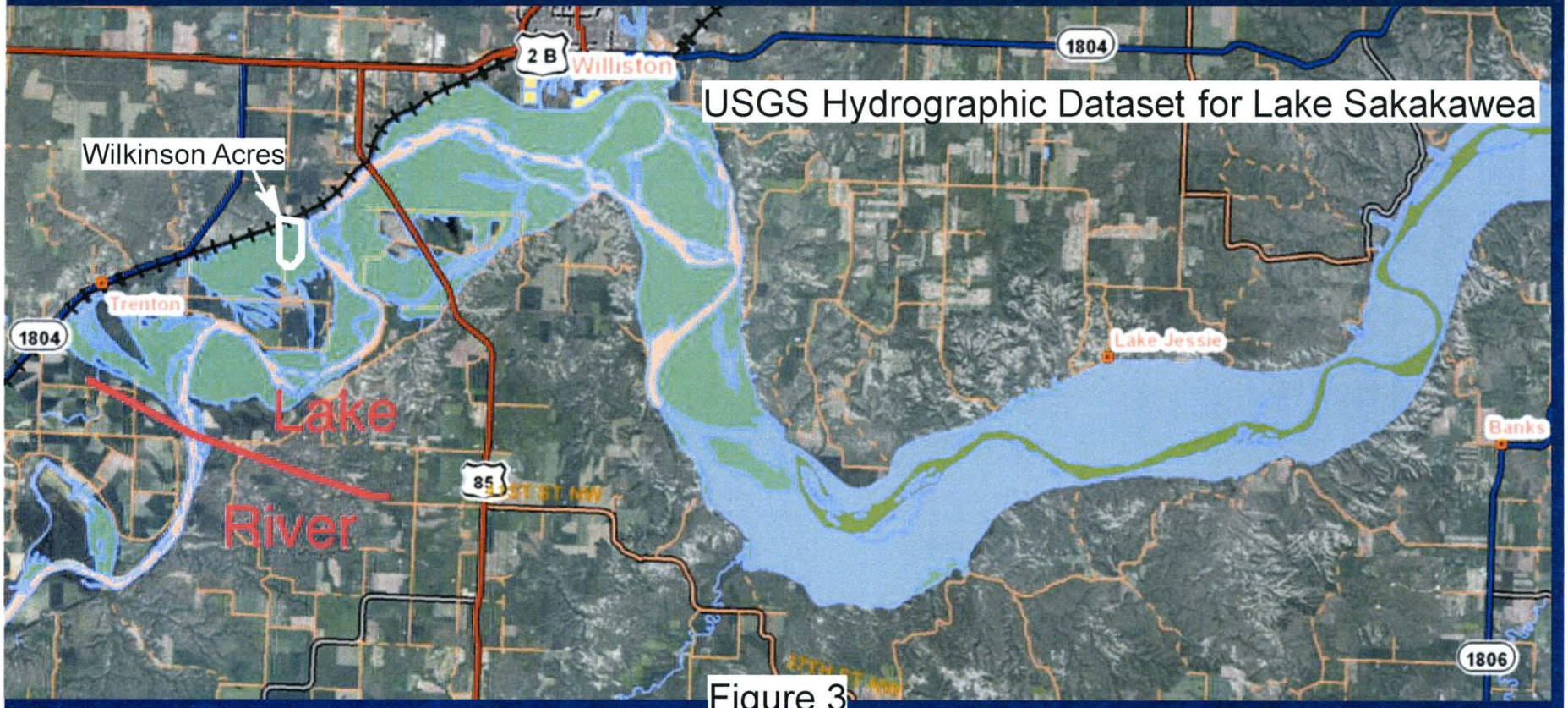

USGS Hydrographic Dataset for Lake Sakakawea
Wilkinson Acres
2 B
Williston
1804
Trenton
1804
Lake
River
85
Lake Jessie
Banks
1806

Figure 3

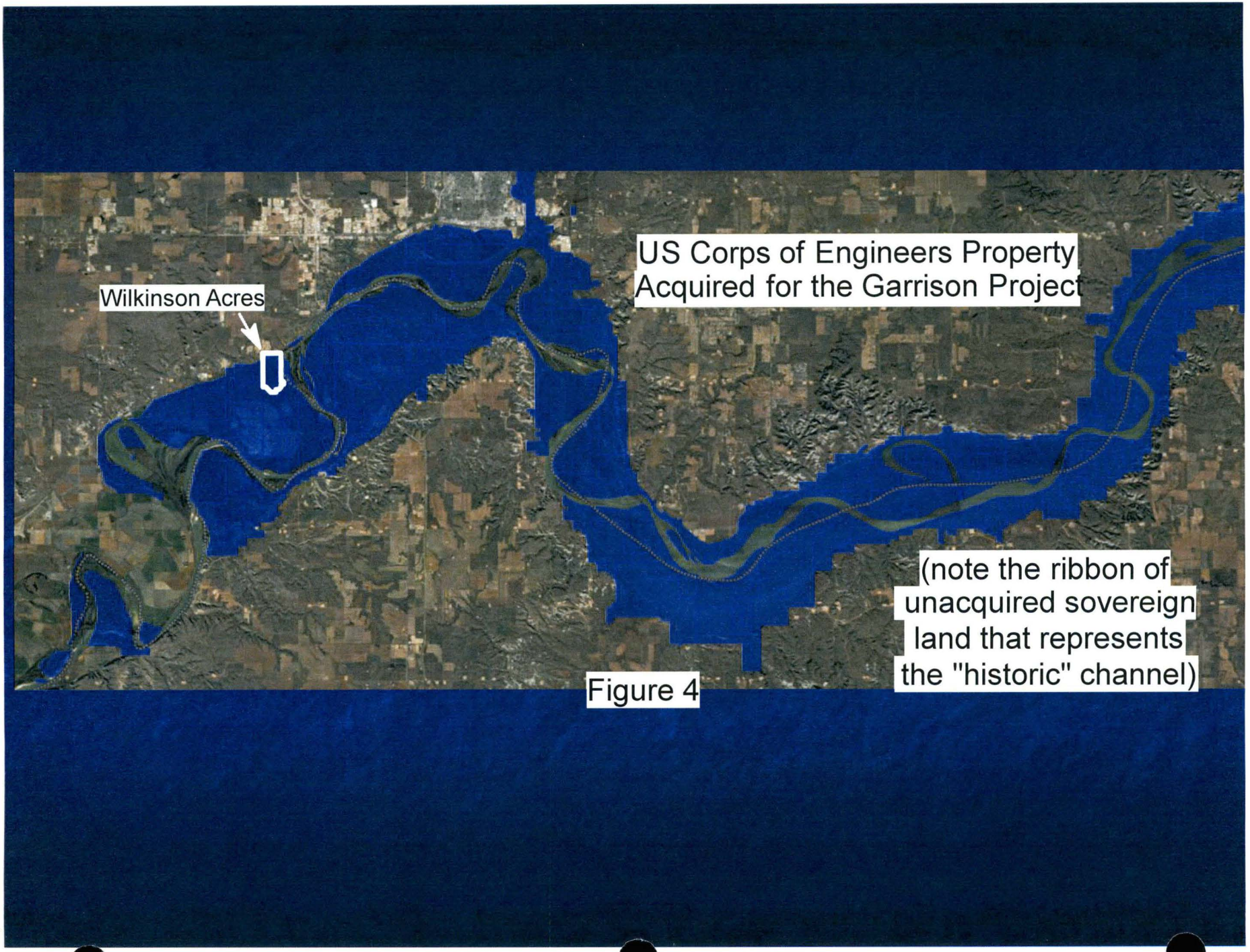

Wilkinson Acres
US Corps of Engineers Property
Acquired for the Garrison Project
(note the ribbon of
unacquired sovereign
land that represents
the "historic" channel)

Figure 4

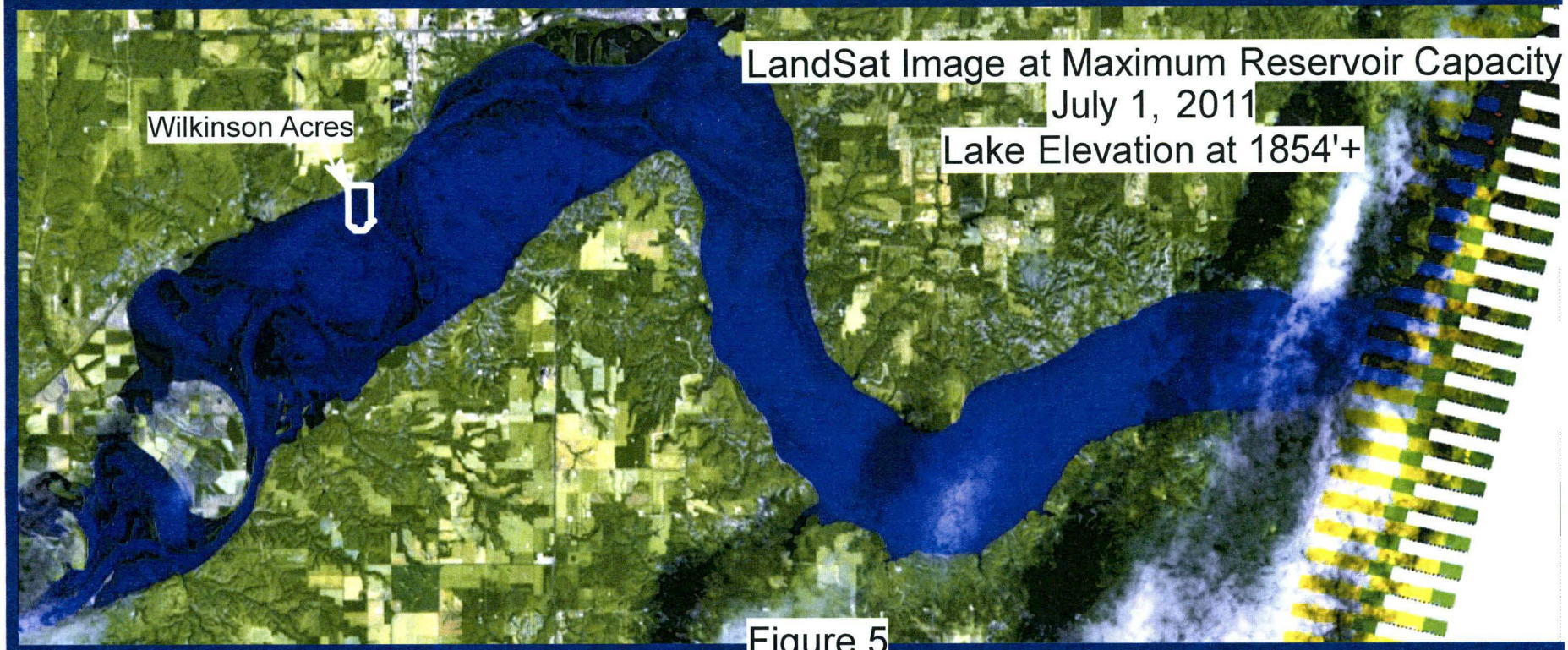

Wilkinson Acres
LandSat Image at Maximum Reservoir Capacity
July 1, 2011
Lake Elevation at 1854'+

Figure 5

State of North Dakota
Office of the State Engineer

900 EAST BOULEVARD AVE.
BISMARCK, ND 58505-0850
701-328-2750 • FAX 701-328-3696 • http://swc.nd.gov

DEPARTMENT OF
ND TRUST LANDS
INVESTING FOR EDUCATION

Lance D. Gaebe, Commissioner

1707 North 9th Street
PO Box 5523
Bismarck, ND 58506-5523
Phone: (701) 328 – 2800
Fax: (701) 328 – 3650
www.land.nd.gov

December 8, 2014

Ms. Jamie E. Connell, State Director
Bureau of Land Management
Montana State Office
5001 Southgate Drive
Billings, MT 59101-4669
Via e-mail: jconnell@blm.gov

RE: 9661 (MT926)

Dear Ms. Connell:

In July 2014, the Bureau of Land Management (BLM) published notice in the Federal Register regarding resurveys of four townships in North Dakota. On behalf of the State of North Dakota, the Office of the State Engineer (OSE) submitted a letter on August 7, 2014, and the Department of Trust Lands (DTL) submitted a letter on August 6, 2014, protesting these resurveys.

In 2009, North Dakota initiated an Ordinary High Water Mark (OHWM) survey of the river channel of the Missouri River. Under present day, Lake Sakakawea, the historic channel, was determined based upon high resolution aerial photography from 1958, just prior to these lands being flooded from the construction of Garrison Dam. The survey was conducted using the OSE's January 2007 "Ordinary High Water Mark Delineation Guidelines," a document developed to provide a scientific repeatable process for delineating the OHWM of the state's waterbodies.

BLM appears to be using Corp of Engineers' segment maps to determine the OHWM of public domain tracts within the four townships. These maps are not an accurate reflection of the OHWM. The State of North Dakota owns several parcels now being claimed by BLM and insists the Cadastral Supplemental Plats not be filed as an official plat.

Todd Sando
State Engineer

Lance D. Gaebe
State Land Commissioner

TODD SANDO, P.E.
STATE ENGINEER

NORTH DAKOTA LEGISLATIVE MANAGEMENT

Minutes of the

ADMINISTRATIVE RULES COMMITTEE

Tuesday, March 9, 2010
Roughrider Room, State Capitol
Bismarck, North Dakota

Senator Jerry Klein, Chairman, called the meeting to order at 10:00 a.m.

Members present: Senators Jerry Klein, John M. Andrist, Tom Fischer, Joan Heckaman, Tracy Potter; Representatives Randy Boehning, Chuck Damschen, Duane DeKrey, Jim Kasper, Kim Koppelman, George J. Keiser, Joe Kroeber, Jon Nelson, Blair Thoreson, Francis J. Wald, Lonny Winrich, Dwight Wrangham

Members absent: Senator Layton W. Freborg; Representatives Wesley R. Belter, Stacey Dahl, Mary Ekstrom

Others present: See Appendix A

It was moved by Representative DeKrey, seconded by Representative Koppelman, and carried on a voice vote that the minutes of the previous meeting be approved as distributed.

STATE WATER COMMISSION

Chairman Klein called on Mr. Dale Frink, State Engineer, State Water Commission, for comments on State Water Commission rules carried over from the previous committee meeting. Mr. Frink said the rules submitted for Administrative Rules Committee consideration relate to management of sovereign lands but do not make changes in law or rules determining what is included in sovereign lands. He said in 1989 the Legislative Assembly transferred sovereign lands management from the Land Department to the State Engineer. He said a 2005 Attorney General opinion required development of a comprehensive plan for management of sovereign lands. He said the required comprehensive plan has been completed. He said the existence of the comprehensive plan has been beneficial because issues and uses relating to sovereign lands have grown in recent years. He said some rules changes were needed to conform preexisting rules to the comprehensive plan. He said that is the reason the rules were adopted.

Mr. Frink said the rules adopted cover issues relating to uses of sovereign lands, but he understands the concern of the committee is with obtaining information on what is included in sovereign lands and how the phrase "navigable waters" is defined. He said Mr. Charles Carvell, Director, Natural Resources and Indian Affairs Division, Attorney General's office, is the state's most experienced legal adviser on these issues, and he asked Mr. Carvell to provide information to the committee on these issues.

Representative Keiser asked why these changes were made through rules instead of legislation. Mr. Frink said the comprehensive plan as developed and implemented required adjustment of existing rules of the State Water Commission. Representative Keiser asked why sovereign lands are defined in rules instead of legislation. Mr. Frink said the definition of sovereign lands in the rules is identical to a definition in statute. He said the rules do not make any change in what is included within the coverage of the term sovereign lands.

Mr. Carvell provided testimony (Appendix B) based on a written outline distributed to the committee. He traced the history of the sovereign lands doctrine.

In response to a question from Representative Keiser, Mr. Carvell said constitutionally it is probably not possible for the state to change the status of sovereign lands because the waters that were navigable at statehood are the basis of the state's sovereign lands.

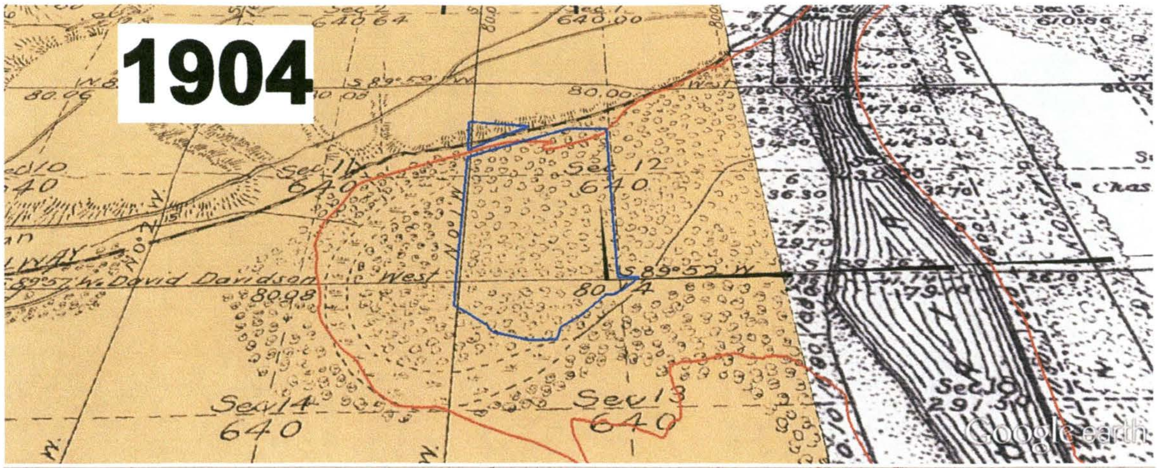
Senator Klein asked whether the federal government under Section 404 of the Clean Water Act is looking for ways to expand its jurisdiction by expanding what are considered navigable waters for Clean Water Act purposes. Mr. Carvell said that appears to be true.

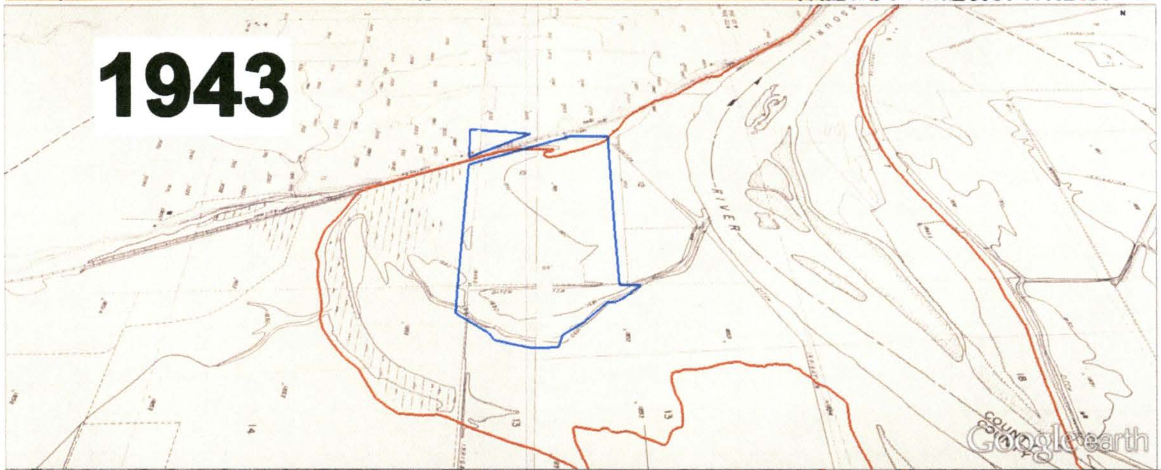
In response to a question from Representative Kasper, Mr. Carvell said with regard to water and lands at Lake Sakakawea, the Army Corps of Engineers owns most shorelands and land underlying the lake, with the exception of state ownership of the original river channel, and the state cannot preempt federal ownership and control.

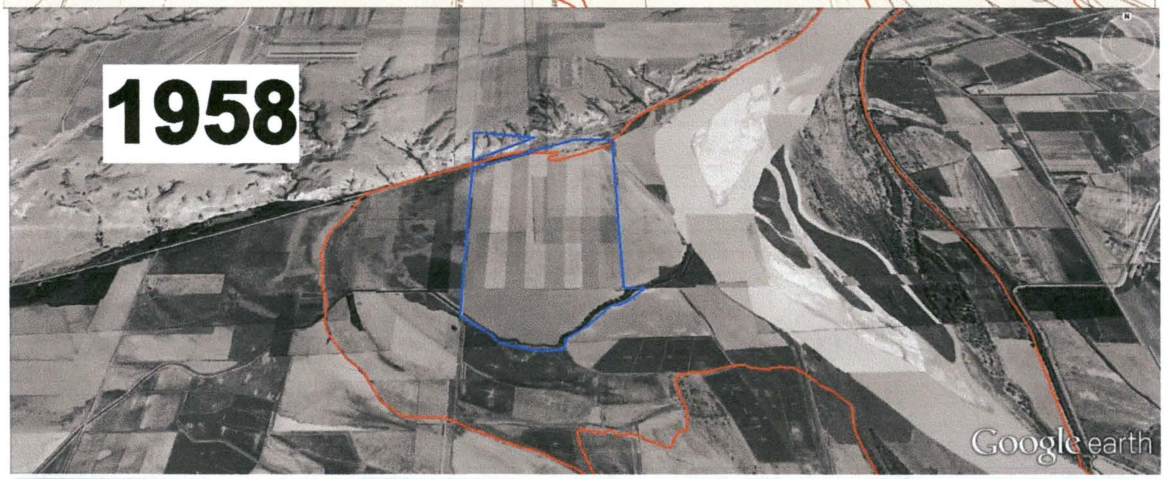
Representative Koppelman said as he understands the policy, navigable waters at statehood are certain defined waters but water level changes can change what land is included in sovereign lands of the state. Mr. Carvell said that is correct.

Senator Heckaman said at Devils Lake agricultural lands have been inundated and former owners are continuing to pay minimal property taxes on the property. Mr. Carvell said he does not see any reason why those owners should pay property taxes. He said the state owns the land under sovereign lands coverage, and those owners will be restored to ownership when the water recedes.

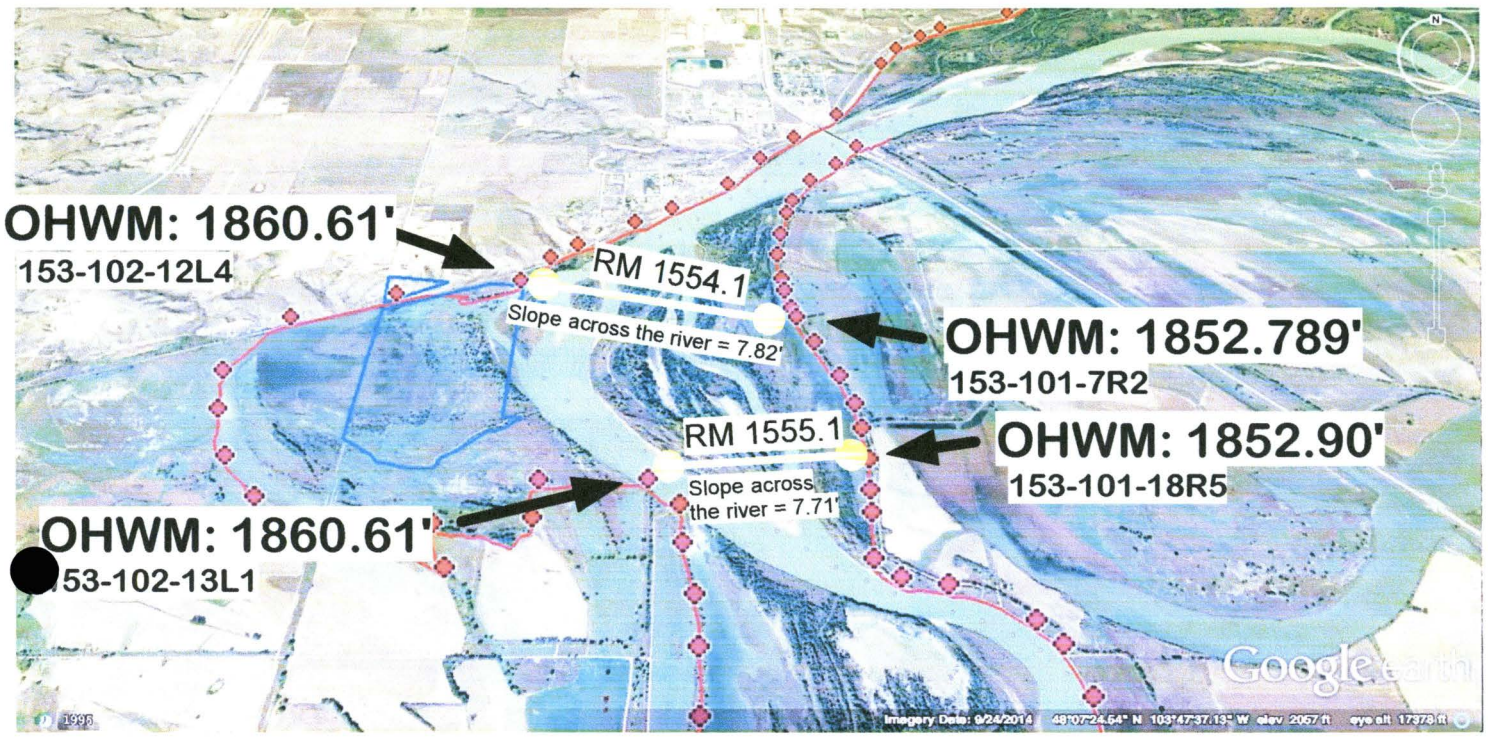
Mr. Frink said it is a local decision on property taxes on inundated lands. He said owners of those


1904
Google earth


1943
Google earth


1958
Google earth


2014
Google earth



Explanation:
The area outlined in Blue is the Wilkinson property.

Red diamonds are the points where the contractor established the Ordinary High Water Mark (OHWM) based nearly exclusively on the vegetative indicators.

The red line connects the OHWM points established in the field.

Yelow line are points on opposite banks directly across

2-2-17
HB1199
Swanson
#3

Testimony of Joshua Swanson
Concerning House Bill No. 1199
House Energy and Natural Resources Committee
February 2, 2017, 8:30 AM

Chairman Porter and members of the Committee, thank you for the opportunity to comment on House Bill 1199. I represent clients that have been affected by the State's unconstitutional taking of private oil and gas interests under property that was acquired by the United States back in the 1950s because of the flooding that would result from Garrison Dam and its man-made reservoir, Lake Sakakawea. Private land owners like the Wilkinson family and Vohs family reserved these oil and gas rights when the United States acquired their property for Lake Sakakawea. The oil and gas interests we're talking about have been with these families for generations. The fact these families reserved the oil and gas interests is undisputed. The fact the United States acquired their property because it would be flooded by Lake Sakakawea is undisputed.

Notwithstanding – old wounds have been reopened by the State. Incredibly, the State claims it owns all the oil and gas that was reserved by private property owners when the United States flooded hundreds of thousands of acres of land for Lake Sakakawea. In essence, the State claims the government – federal or state – can flood private property and then claim that they, the government, owns the property. That is offensive, and it's the textbook definition of an unconstitutional taking. I urge you to support HB 1199 as it addresses this wrong.

BACKGROUND

Historically, the State claimed only the original 30,000 acres of the Missouri River riverbed as it existed before Garrison Dam. This is the "historical Missouri riverbed channel." This is noted in an August 2007 letter the North Dakota State Water Commission submitted to the Army Corps of Engineers in response to the Corps' request for comments on the Garrison Dam/Lake Sakakawea Master Plan. A copy of the letter is included with this testimony as Exhibit 1. However, departing from decades of policy and practice, the State, through the office of State Engineer and the Land Commissioner, now claims ownership of all the oil and gas under Lake Sakakawea. This runs roughshod over, and ignores, private property rights as memorialized by warranty deeds going back to the 1950s where the United States acquired this property from North Dakota citizens – like the Wilkinson and Vohs families. The oil and gas interests were reserved by these private landowners. This is shown by the United States maps for the Garrison Project and the clear and unambiguous language in the warranty deeds. A copy of these maps and warranty deeds are included with this testimony as Exhibits 2 and 3.

This has been the subject of litigation in Wilkinson v. The Board of University and School Lands of the State of North Dakota, et al., Case No. 53-2012-CV-00038. The Wilkinson case is pending before the North Dakota Supreme Court. The State claims that regardless of how or when thousands of acres were flooded by the United States government for Lake Sakakawea, the State somehow acquired ownership of that land as soon as it was flooded.

HB 1199 addresses the issues raised in that litigation, recognizing that the oil and gas interests owned by the Wilkinson and Vohs families, was affected by and subject to flooding from Lake Sakakawea as discussed in detail in the expert report prepared by Dr. Lawrence Woodbury in the Wilkinson case. A copy of that report is included with this testimony at Exhibit 4. Likewise, and more importantly, the United States' maps for the Garrison Project show dozens of tracts and thousands of acres west of the Highway 85 Bridge – like the land belonging to the Wilkinson and Vohs families – was acquired by the United States because of the flooding that would be caused by Garrison Dam. Similarly, the clear and unambiguous language in the warranty deeds where the United States acquired the property, like the 1958 Warranty Deed from the Wilkinson family to the United States, provided that the reservation of the oil and gas rights were subject only to "[t]he right of the United States to flood and submerge the said lands permanently or intermittently in the construction, operation, and maintenance of the Garrison Dam and Reservoir, … ."

These families should not be made to suffer the indignity of losing their property twice at the hands of Lake Sakakawea and the government. The first time some sixty-odd years ago when the federal government took their land, and for a second time in 2017 – adding insult to that long-ago injury, our great State seeking to further deprive private owners of their oil and gas interests, interests these private land owners had previously leased to oil companies for nearly sixty years before the State wrongfully claimed ownership of them.

NORTH DAKOTA'S ATTEMPTS TO DETERMINE THE STATE'S INTEREST TO THE BED OF LAKE SAKAKAWEA

The State has conducted two studies to determine the ordinary high watermark ("OHWM") of the Missouri River in the Garrison Dam area to justify its massive land grab. The first study, which began at the Highway 85 Bridge and moved west, used the OHWM as it now sits, without regard for the effect of Lake Sakakawea. The second of these studies, which included the area from Garrison Dam to the Highway 85 Bridge, used the OHWM of the historic Missouri River as it existed prior to Garrison Dam.

The United States Department of Interior ("DOI") has already rejected both of the State's surveys because of their flawed methodology, and because the studies are unsupported by law or the facts. A copy of the DOI's decision from last March rejecting the State's surveys is included with this testimony as Exhibit 5. On page six of its decision, the DOI explains that the State's surveys , "[d]o not comport with federal law and cannot be used to determine riverbed title under the equal footing doctrine." In rejecting the State's surveys, the DOI points out that the State's surveys depict the riverbed to be three times the width of the General Land Office's original surveys. Also of significance, on page 8 of its decision, the DOI affirms the position taken by the Wilkinson family in the litigation – specifically, that the United States' maps were the basis for land title acquisition by the Corps of Engineers for those lands that would be affected by the artificial rising of the Missouri River to create Lake Sakakawea.

The DOI held that the segment maps are the most comprehensive evidence of the Missouri River OHWM just prior to the formation of Lake Sakakawea, stating:

"The Corps of Engineers Segment Maps are firmly grounded in guidance, methodology and contemporaneous field investigations of the land prior to the effects of flooding. The segment maps are the most comprehensive evidence of the OHWM prior to the artificial rising to create Lake Sakakawea. The Segment Maps were the basis for millions of dollars of appropriated funds being spent to acquire displaced uplands and were generated with the determinations from in the field investigations by BLM and involvement from the BLM and North Dakota State Land Department and have gone uncontested for over 60 years."

The DOI concluded its decision rejecting the State's surveys by finding the surveys: 1) did not comply with the federal definition of the OHWM; 2) did not honor chain of title or previous involvement by both the State and private landowners with the United States during the course of the Garrison Project; and 3) are an overreaching delineation that impairs the mineral rights of private owners.

HB 1199 addresses this with its language that the OHWM must be located as close as possible to the OHWM of the riverbed channel as it existed before the inundation of the channel that created the lake based on historical records. Effectively, HB 1199 recognizes that the State has title only to the bed of the historic Missouri River as it existed prior to the Garrison Dam, and remedies the State's unconstitutional taking that has deprived private property owners of their oil and gas interests.

As far as the fiscal note prepared by the State, and the State's claims that passing this legislation or SB 2134 will result in the loss of millions in revenue for the State, that's like a bank robber complaining they will have to forfeit the loot they stole from the bank. The money never belonged to the bank robber, they took it from someone else. Likewise, the money being held in suspense in the Strategic Investment and Improvements Fund (SIIF) never belonged to the State in the first place – it belongs to private property owners like the Wilkinson and Vohs families. It's being held in suspense because of the title disputes and legal challenges the State knew would occur as a result of its massive and unconstitutional land grab.

Thank you again for the opportunity to present this testimony. I urge you to pass HB 1199.

Respectfully,

Joshua Swanson

Exhibits Nos. 1 – 5

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TDD 701-328-2750 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

2007 AUG 17 AM 8:50

August 13, 2007

Army Corps of Engineers, Omaha District
Attention: District Commander
106 South 15th Street
Omaha, NE 68102-1618

Dear District Commander:

The purpose of this letter is to respond to the Corps' request for comments on the recently released Draft Garrison Dam/Lake Sakakawea Master Plan (Master Plan).

In our May 16, 2007, letter regarding the preliminary draft Master Plan, we provided a number of general comments that were not included in the re-write, such as contingency plans to address the loss of water supply intakes, an analysis of projected recreation demands/needs, and a prioritization of recommendations. We respectfully request that you reconsider those comments in your development of the final report.

As you are aware, the Office of the State Engineer and the State Water Commission believe that the development, maintenance, and protection of water supply intakes should be an important consideration in any planning scenario for Lake Sakakawea. Thus, it is encouraging to see that the Corps has included an inventory of community water supply intakes that draw water from the reservoir, and the elevations at which they anticipate potential problems from low water levels. However, if contingency planning efforts will not be included in the Master Plan as requested in our May 16, 2007, letter; it would be advantageous to at least include a discussion of the Corps' role in correcting problems with community water supply intakes when reservoir levels are at dangerously low elevations. This might include discussions about cost-sharing opportunities for modifications or the availability of technical assistance.

Under EOP #2 it is suggested, "The Master Plan/EA includes information regarding the issuing of intake permits through the Corps regulatory process and aiding municipal and rural systems to ensure functionality of intakes during drought conditions." But that information was not readily apparent, and in fact, seems to be absent all together with the exception of a brief discussion of Section 10 requirements under Public Law 90-483 (82 Stat. 731) on page 2-135.

On page 1-11, it is stated that 30,000 of the 493,000 project acres did not need to be purchased because they were part of the original "riverbed." Further explanation might be appropriate to outline the fact the those 30,000 riverbed acres were, and are, sovereign lands, which are owned and managed by the State of North Dakota, through the Office of the State Engineer (N.D.C.C. 61-33-05) and the State Land Department (N.D.C.C. 61-33-03).

EXHIBIT
tabbies 1

5

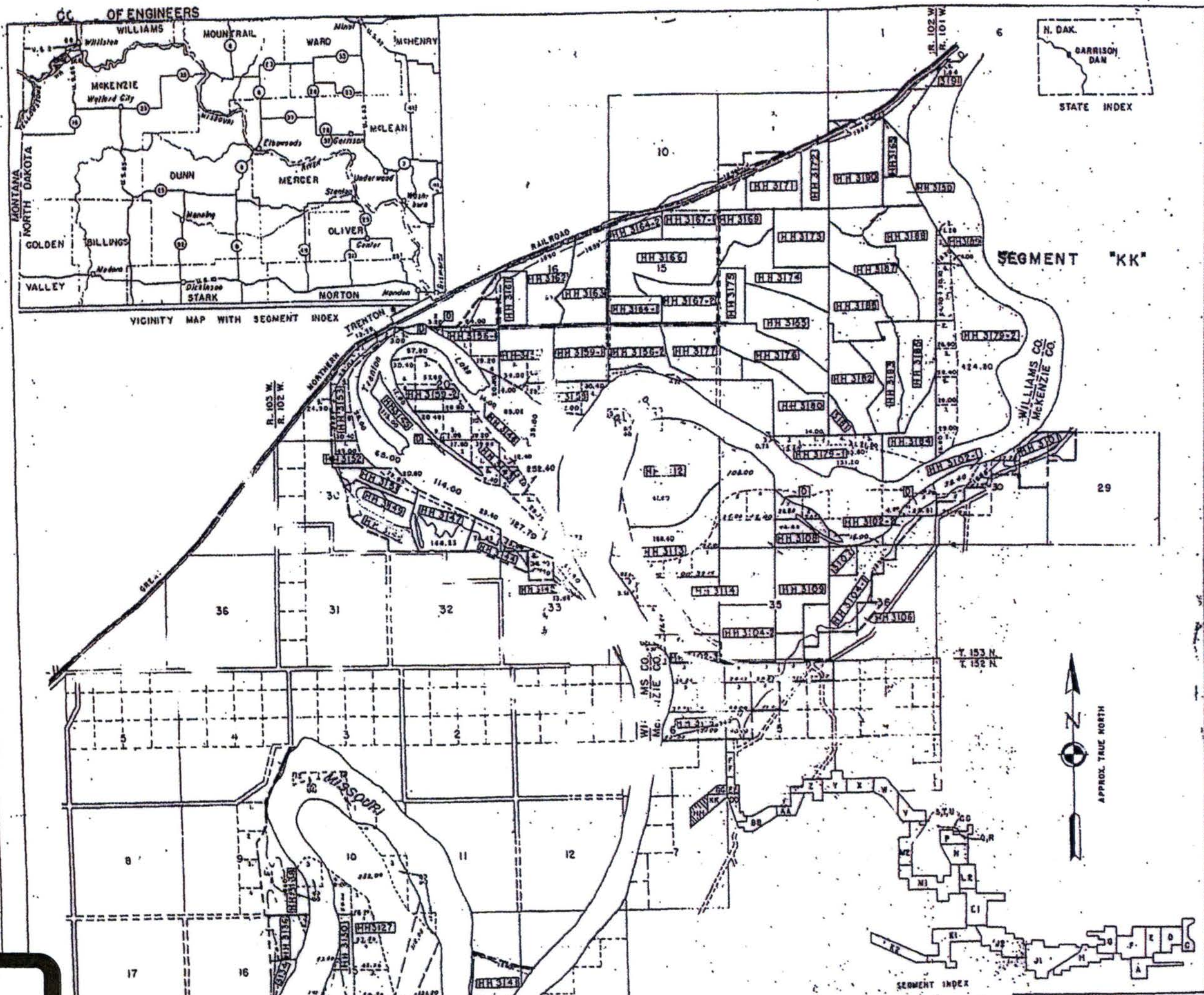
As a general comment, the Office of the State Engineer and the State Water Commission applaud the development of the updated Garrison Dam/Lake Sakakawea Master Plan. Lake Sakakawea is one of North Dakota's most precious and valuable natural resources. As such, a new Master Plan that considers input from other agencies and members of the general public is long overdue.

We appreciate your consideration of the above comments, and thank you for the opportunity to comment on this important planning process.

Sincerely,

Dale L. Frink, P.E.
State Engineer

6



* NOTE:
* Withdrawn from BLM inventories; areas described aggregate approx. 838.96 acres with accretions, according to GLO plats. Net acreage withdrawn 321.06. Net figure excludes acreage lost by river erosion and those lands acquired from riparian owners.

NOTE
Oil and gas reserved in all fee tracts except HH-3163.
Outstanding foundation easements in tracts HH-3147, HH-3148, HH-3149, HH-3154 and HH-3173.

ACQUISITION AUTHORIZATION

Public Law No. 534, 22 Dec. 1944
2nd. Ind. O.C.E. to M.R.D., dated 10 Dec. 1952
Public Law No. 163, 15 July 1955
Public Law No. 641, 2 July 1956, as Amended by Public Law No. 85-38, 21 June 1957
5th Ind. O.C.E. to M.R.D., dated 23 Sept. 1957

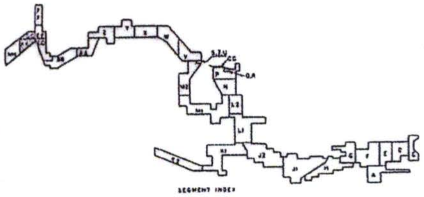
ACQUISITION TRACT REGISTER

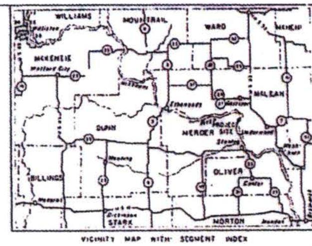
TRACT NO.	LAND OWNER	ACREAGE			REMARKS
		FEE	TRANS.	EASM'T.	
McKENZIE COUNTY					
HH 3101	MIRIAM DEH. PAGE	130.90			
HH 3102-1	ARTHUR WOOD	97.10			
HH 3102-2	ARTHUR WOOD	30.40			
HH 3102-3	ARTHUR WOOD	401.25			
HH 3104-1	JOHN W. SLATOR ET UX	216.00			
HH 3104-2	JOHN W. SLATOR ET UX	160.00			
D	U.S.A. DEP'T OF INTERIOR		see remarks		Transferred 27 February 1959, Public Land Order No. 1809, acreage included in tract register of segment GG
HH 3106	STATE OF NORTH DAKOTA	20.00			
HH 3107	HARRY G. NELSEN ET AL	40.00			
HH 3108	FRED A. NELSEN ET UX	76.80			
HH 3109	JOSEPH HACKENBERG, SR.	465.00			
HH 3111	DELETED				
HH 3112	CLINTON A. TIBBITS	441.60			
HH 3113	CLINTON A. TIBBITS	272.95			
HH 3114	MARY A. TIBBITS ET AL.	461.44			
HH 3116	HENRY H. REHBERG	173.00			
HH 3117	DELETED				
HH 3118	DELETED				
HH 3119	DELETED				
HH 3120	FRANK W. ERICKSON ET AL	185.65			Formerly Tract No. HH3123-1
HH 3121	DELETED				
HH 3122	DELETED				
HH 3123	FRANK W. ERICKSON ET AL	40.00			Formerly Tract No. HH3123-2
HH 3124-1	DELETED				Included in Tract No. HH3127
HH 3124-2	DELETED				Included in Tract No. HH3128
HH 3126	DELETED				
HH 3127	EMERY N. PAPINEAU ET UX	740.72			
HH 3128	NORMAN PAPINEAU ET UX	131.20			Formerly Tract No. HH3128-2
HH 3129	DELETED				
HH 3130	NORMAN PAPINEAU ET UX	43.40			Formerly Tract No. HH3128-1
HH 3131	DELETED				
HH 3132	DELETED				
HH 3133-1	STATE OF NORTH DAKOTA	195.80			
HH 3133-2	STATE OF NORTH DAKOTA	19.20			
HH 3133-3	STATE OF NORTH DAKOTA	16.00			
WILLIAMS COUNTY					
HH 3134	JOHN OSTER ET UX	44.81			
HH 3136	ROBERT F. BACHTOLD	83.12			
HH 3137	DELETED				
HH 3138	MARGARET E. KERR	160.00			
HH 3139	DELETED				
HH 3140	EARL T. BAUSTE ET UX	19.20			
HH 3141	IVER BORLAUG ET UX	153.87			
HH 3142	RAYMOND F. HOFFMAN ET UX	58.68			
HH 3143	CARL GROSETH	677.39			
HH 3144	JOHN IRWIN	98.02			
D	U.S.A. DEPT. OF INTERIOR		see remarks		Transferred 27 February 1959, Public Land Order No. 1809, acreage included in tract register of segment GG.
HH 3145	STATE OF NORTH DAKOTA	115.00			Formerly known as Tract No. HH3146-1
HH 3146-2	STATE OF NORTH DAKOTA	14.00			" " " " HH3146-2
HH 3147	ORRIN J. JACOBSON ET UX	260.23			
HH 3148	JOHN TOFTE	75.44			
HH 3149	ROBERT D. BERG ET UX	77.37			
HH 3150	LEO O. PIPPENGER ESTATE ET AL	81.20			Formerly known as Tract No. HH3189-2
HH 3151	LESTER G. LARSON ET UX	100.79			
HH 3152	JOHN DEJARLAIS	108.00			
HH 3153	GERALD W. BERGSTROM ET UX	151.42			
HH 3154	HENRY A. BOWEN ET UX	223.02			
HH 3155	CHARLES W. PATCH ET UX	211.39			Formerly known as Tract No. HH3159-2
HH 3156-1	JAMES F. MARTIN ET UX	149.00			
HH 3156-2	JAMES F. MARTIN ET UX	162.43			
HH 3158	NILES C. GROSETH ET UX	134.60			
HH 3159-1	CHARLES A. BOWEN ET UX	180.00			
HH 3159-2	CHARLES A. BOWEN ET UX	207.80			
HH 3161	AGNES NORIN GARFIELD ET AL	94.98			
HH 3162	JOHN G. GOUDY ET UX	166.17			
HH 3163	M. W. ANDERSON ET UX	196.48			
HH 3164-1	MAUD MARTIN	80.00			
HH 3164-2	MAUD MARTIN	64.88			
HH 3165	CHARLES W. PATCH ET UX	63.30			Formerly known as Tract No. HH3159-3
HH 3166	H. AUSTIN MARTIN ET UX	261.50			
HH 3167-1	FRED T. MARTIN ET UX	108.47			
HH 3167-2	FRED T. MARTIN ET UX	139.98			
HH 3168	DELETED				
HH 3169	CHARLES W. PATCH ET UX	175.13			
HH 3170	DELETED				
HH 3171	ROBERT L. KERNS ET UX	127.35			
HH 3172	FRANCES JACKSON SLINGSBY ET VIR	90.75			
HH 3173	HENRY A. BOWEN ET UX	160.00			
HH 3174	RALPH G. FASCHING ET UX	188.30			
HH 3175	MAUD MARTIN	80.00			
HH 3176	THEODORE TOFTE	177.82			
HH 3177	HAROLD E. ZIMMERMAN ET UX	176.04			
HH 3178-1	DELETED				
HH 3178-2	DELETED				
HH 3179-1	OLETA L. METZGER	346.33			
HH 3179-2	OLETA L. METZGER	308.70			
HH 3180	LESTER J. LOHSE ET UX	171.11			

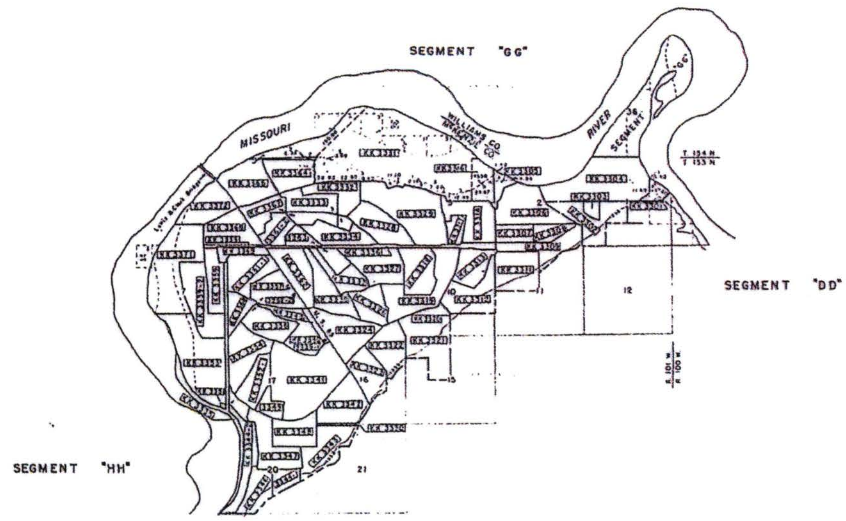
tabbies
EXHIBIT
2

CORPS OF ENGINEERS

U.S. ARMY







NOTE:
Boundary lines of this segment were determined by deed descriptions, General Land Office Plats, and aerial photos.

ACQUISITION TRACT REGISTER

TRACT NO.	LAND OWNER	ACREAGE FEE	ACREAGE TRANS	ACREAGE EASMT	REMARKS
	McKENZIE COUNTY				
KK 3301	HENRY T. BACON ET AL	27.20			
KK 3302	WILLIAM NELSON ET UX	142.28			
KK 3303	HANSEL HONDON	20.00			
KK 3304	NO. DAK. RURAL REHABIL. CORP ET AL	285.63			Formerly known as Tract No. KK 3304-1
KK 3305	NO. DAK. RURAL REHABIL. CORP ET AL	37.32			Formerly known as Tract No. KK 3304-2
KK 3306	KRISTIAN HOVDE ET UX	169.24			
KK 3307	JOSEPH E. MATHISTAD ET UX	58.39			
KK 3308	BEN G. RISSER	49.45			
KK 3309	AUGUST ESTHENBACHER ET UX	109.68			
KK 3311	EVERETT E. PALMER ET UX	139.79			
KK 3312	DONALD A. NOVAK ET UX	134.15			
KK 3313	LYLE E. SAFELY ET AL	95.30			
KK 3314	WALTER O. BURK ET UX	130.85			
KK 3316	HJALMER HOVDE ET UX	71.17			
KK 3317	KERMIT I. HEEN ET UX	36.09			
KK 3318	JAMES B. SKAARE ET UX	123.06			
KK 3319	JOHN P. SCHMITZ ET UX	172.85			
KK 3320	NO. DAK. RURAL REHABIL. CORP ET AL	5.00			
KK 3321	LEONARD ZIMMER ET AL	219.45			
KK 3322	ALBERT R. ZIMMER ET UX	116.59			
KK 3323	CARRIE ANSETH ET AL	102.49			
KK 3324	RAYMOND L. BROWN ET UX	156.46			
KK 3325C	DELETED				
KK 3326	GEORGE NOVAK ET UX	86.61			
KK 3327	JOHN ZAGURSKI ET UX	144.76			
KK 3328	CHARLES H. VIZINA ET UX	131.16			
KK 3329	LEONARD H. GREEN ET UX	264.41			
KK 3330	NO. DAK. RURAL REHABIL. CORP ET AL	3.87			Formerly known as Tract No. KK 3330-2
KK 3331	NO. DAK. RURAL REHABIL. CORP ET AL	798.02			
KK 3332	HAROLD H. GAUTHIER ET UX	89.67			
KK 3333	FRED FALSTAD ET AL	100.83			
KK 3334	ARCHIE D. MACMASTER ET UX	102.30			
KK 3335	NO. DAK. RURAL REHABIL. CORP ET AL	77.60			Includes area formerly known as Tract No. KK 3336-2
KK 3336	NO. DAK. RURAL REHABIL. CORP ET AL	48.09			Formerly known as Tracts Nos. KK 3336-1 & KK 3336-4, now combined
KK 3337	ANTON P. NELSON ET UX	74.87			
KK 3338	ALBERT ARNEGARD ET UX	113.79			
KK 3339-1	HENRY T. BACON ET AL	106.24			
KK 3339-2	HENRY T. BACON ET AL	152.84			
KK 3340	JOSEPH R. LANDWEHR ET UX	0.16			
KK 3341	HUGH PATTERSON ET UX	346.78			
KK 3342	LYNN LEE ET UX	140.84			
KK 3343	REUBEN E. BRAKKEN ET UX	130.30			
KK 3344-1	CLOYD J. WEGLEY ET UX	43.51			
KK 3344-2	CLOYD J. WEGLEY ET UX	105.84			
KK 3345	HENRY T. BACON ET AL	10.59			
KK 3346	LARS LEE	83.21			
KK 3347	EMERY H. PAPINEAU ET UX	118.06			
KK 3348	ALOIS STEPANEK ET UX	100.68			
KK 3349	FRED H. PAPINEAU	43.35			
KK 3351	LEWIS & CLARK IRRIGATION DIST.	31.72			
KK 3352-1	WILLIAM J. HASNER ET UX	90.10			
KK 3352-2	WILLIAM J. HASNER ET UX	0.34			
KK 3353	PAUL STEPANEK ET UX	288.91			
KK 3354	ALFRED LOSSING ET AL	144.76			
KK 3356	DONALD S. SATHE ET AL	216.63			
KK 3357	ANDREW SATHE, SR. ET UX	0.69			
KK 3358	EVELYN ALICE PAULSON ET VIR	56.49			
KK 3359	LORENZ SCHMITCH ET UX	93.10			
KK 3361-1	JOSEPH G. PAULSON ET UX	118.29			
KK 3361-2	JOSEPH G. PAULSON ET UX	62.14			
KK 3362	EDWIN H. DAHL ET UX	124.92			
KK 3363	DENNIS GEORGE ET UX	80.12			
KK 3364	HENRY I. SOVIG	104.81			
KK 3366	WAYNE S. BOYCE ET UX	254.11			
KK 3367	CLIFFORD I. SOVIG ET UX	118.23			
KK 3368	PHILANDER A. HODGSON ET UX	323.10			
KK 3369	STATE OF NORTH DAKOTA	41.01			
KK 3371	HENRY P. VOHS ET AL	276.80			
KK 3372	LEONARD M. FIXEN ET UX	119.57			

NOTE:
Oil and gas reserved on all fee tracts

NOTE:
[illegible]

ACQUISITION AUTHORIZATION

Public Law No. 534, 22 Dec 1944
Public Law No. 163, 15 July 1953
Public Law No. 541, dated 2 July 1956
Ltr. Asst. O.C.E. to M.R.D., dated 23 Sept. 1957

OFFICE, CHIEF OF ENGINEERS, WASHINGTON, D.C.
AUDITED
INSTALLATION OR PROJECT NO. C2-2-18.95

FINAL PROJECT MAP

STATE: NORTH DAKOTA
COUNTY: McKENZIE
DIVISION: MISSOURI RIVER
DISTRICT: GARRISON
LOCATION OF DAM: SEC. 3 T.146 N. R.84 W. OF 5th P.M.
10 MILES S OF GARRISON
15 MILES N OF STANTON

SEGMENT KK — LAND AREA —

TOTAL ACRES IN SEGMENT: 8,168.25
ACRES FEE
ACRES EASEMENT
ACRES TRANSFERRED TO W.D.
ACRES PERMITS OR LICENSES

— DISPOSALS —

TOTAL ACRES DISPOSED OF
ACRES TRANSFERRED
ACRES LEASED FROM W.D.
ACRES OTHERWISE

— LEGEND —

TAKING LINE FOR DAM SITE
TAKING LINE FOR RESERVOIR
PERTINENT CONTOUR LINES
CEMETERY
STATE OR PROVINCE LINES
COUNTY LINES
TOWNSHIP LINES
SECTION LINES
PROPERTY LINES
STREAMS
RAILROADS
POWER LINES
TELEPHONE LINES
IMPROVED ROADS
UNIMPROVED ROADS

— SCALE —

DEPARTMENT OF THE ARMY
OFFICE OF THE DISTRICT ENGINEER
GARRISON DISTRICT
MISSOURI RIVER DIVISION
REAL ESTATE

GARRISON DAM & LAKE SAKAKAWEA

SEGMENT KK

RECOMMENDED: [signature] DATE:
APPROVED: [signature] COL. CORPS OF ENGINEERS DATE:

COMPILED: [initials] TRACED: [initials] CHECKED: [initials]

DATE	BY	REVISIONS	APPROVED
[illegible]	[illegible]	Added Tr. KK 3372	
[illegible]	[illegible]	Name of Project changed [illegible]	
3-23-64	M.A.Z.	Due to final audit	
3-12-65	M.A.Z.	[illegible]	
1-20-1966	[illegible]	Added Tract No. KK 3336 [illegible]	

SHEET 36 OF 38 DRAWING NO.

THIS DRAWING HAS BEEN REDUCED TO ONE-HALF THE ORIGINAL SCALE

THIS INDENTURE, Made this 9th day of June in the year of our Lord one thousand nine hundred and fifty-eight between J. T. Wilkinson and Evelyn M. Wilkinson, his wife whose postoffice address is Trenton, North Dakota part ies of the first part, and United States of America whose postoffice address is Washington, D. C., State of , party of the second part;

WITNESSETH, That the said parties of the first part, for and in consideration of the sum of FORTY-THREE THOUSAND THREE HUNDRED TWENTY-SEVEN AND NO/100 - DOLLARS, to them in hand paid by said party of the second part, the receipt whereof is hereby acknowledged, do by these presents GRANT, BARGAIN, SELL and CONVEY unto the said party of the second part, and its heirs and assigns FOREVER, all that tract or parcel of land lying and being in the County of Williams and State of North Dakota, and described as follows, to-wit: Farm Unit No. 312 in Buford-Trenton Project, according to the plat thereof recorded in the office of the Register of Deeds of Williams County, North Dakota, in Deed Book 101, Page 413, being a part of Section 13, in Township 153 North, Range 102 West of the Fifth Principal Meridian, and containing 57.09 acres, more or less; also the Southwest quarter (SW¼) and the South half of the Northwest quarter (S½NW¼) of Section 12, Township and Range aforesaid, excepting that portion of said South half of the Northwest quarter (S½NW¼) which constitutes right-of-way of the Great Northern Railway Company, containing, exclusive of said exception, 228.95 acres, more or less; subject to existing easements for public roads and highwa[redacted]ner of any interest therein, including third party lessees, their heirs, successors and assigns, all oil and gas rights therein, on or under said described lands, with full rights of ingress and egress for exploration, development, production and removal of oil and gas; upon condition that the oil and gas rights so reserved are subordinated to the right of the United States to flood and submerge the said lands permanently or intermittently in the construction, operation and maintenance of the Garrison Dam and Reservoir, and that any exploration or development of such rights shall be subject to federal or state laws with respect to pollution of waters of the reservoir; provided further that the District Engineer, Corps of Engineers, Garrison District, or his duly authorized representative shall approve, in furtherance of the exploration and/or development of such reserved interests, the type of any structure and/or appurtenances thereto now existing or to be erected or constructed in connection with such exploration and/or development, said structures and/or appurtenances thereto not to be of a material determined to create floatable debris.

... assigns, that they are well seized in fee of the land and premises aforesaid, and have good right to sell and convey the same in manner and form aforesaid; that the same are free from all incumbrances,

and the above bargained and granted land and premises in the quiet and peaceable possession of said party of the second part, and its heirs and assigns, against all persons lawfully claiming or to claim the whole or any part thereof, the said parties of the first part will warrant and defend.

IN WITNESS WHEREOF, The said parties of the first part hereunto set their hands the day and year first above written.

Signed and Delivered in Presence of

J. T. Wilkinson

J. T. Wilkinson

Evelyn M. Wilkinson

Evelyn M. Wilkinson, His wife

EXHIBIT

tabbies

3

Filed - Clerk of District Cou
7/1/2014 2:37:29 Pl
Williams County, N

12

J. T. Wilkinson and Evelyn M. Wilkinson, his wife, Trenton, North Dakota

to

WARRANTY DEED DOC. # 288165
Book 131 Deeds page 411
Filed June 10, 1958, 4:50 P.M.
Dated June 9, 1958

United States of America
Address: Washington, D. C.

In consideration of $ 43,327.00 Grant, Bargain, Sell and Convey unto second party and its assigns, all that tract or parcel of land lying and being in the County of Williams and State of North Dakota, and described as follows, to-wit: Farm Unit No. 312 in Buford-Trenton Project, according to the plat thereof recorded in Deed Book 101, Page 413, being a part of Sec. 13, Twp. 153, Rge. 102 and containing 57.09 acres, more or less, also the SW¼ and S½NW¼ of Sec. 12, Twp. and Rge. aforesaid, excepting that portion of said S½NW¼ which constitutes right-of-way of the Great Northern Railway Company, containing, exclusive of said exception 228.95 acres, more or less, subject to existing easments for public roads and highways, public utilities, railroads and pipe lines.

Reserving, however, to the owner of the land or the owner of any interest therein, including third party lessees, their heirs, successors and assigns, all oil and gas rights therein, on or under said described lands, with full rights of ingress and egress for exploration, development, production and removal of oil and gas; upon condition that the oil and gas rights so reserved are subordinated to the right of the United States to flood and submerge the said lands permanently or intermittently in the construction, operation and maintenance of the Garrison Dam and Reservoir, and that any exploration or development of such rights shall be subject to federal or state laws with respect to pollution of waters of the reservoir; provided further that the District Engineer, Corps of Engineers, Garrison District, or his duly authorized representative shall approve, in furtherance of the exploration and/or development of such reserved interests, the type of any structure and/or appurtenances thereto now existing or to be erected or constructed in connection with such exploration and/or development, said structures and/or appurtenances thereto not to be of a material determined to create floatable debris.

Free from all encumbrances.

$47.85 R. S. Cancelled

On this 9th day of June A. D. 19 58, before me personally appeared J. T. Wilkinson and Evelyn M. Wilkinson, his wife known to me to be the same persons described in and who executed the within and foregoing instrument, and severally acknowledged to me that t he y executed the same.

Telmar B. Rolfstad /s/
Notary Public, Williams County, State of North Dakota

(N. P. Seal)

My commission expires Nov. 19, 1958.

STATE OF NORTH DAKOTA, }
County of Williams } ss.

On this 9th day of June A. D. 1958, before me personally appeared J. T. Wilkinson and Evelyn M. Wilkinson, his wife

known to me to be the same persons described in and who executed the within and foregoing instrument, and severally acknowledged to me that they executed the same.

TELMAR E. ROLFSTAD
Notary Public for the County of Williams,
State of North Dakota

My commission expires Nov. 19, 1958.

DOC. NO. 288165
Warranty Deed
GRANTOR
GRANTEE
COMPARED
MARGINED

TRANSFER FEE $ .25
TO
RECORDING FEE $1.50

OFFICE OF REGISTER OF DEEDS
STATE OF NORTH DAKOTA, } ss.
County of WILLIAMS

I hereby certify that the within Warranty Deed was filed in this office for record on the ___ day of JUN 10 1958 A. D. 19__ at 4 o'clock P. M., and was duly recorded in Book 131 of Warranty Deeds on page 414

Register of Deeds
By ___ Deputy

Delinquent taxes and special assessments or installments of special assessments paid and transfer entered this ___ day of ___ 195_
___ County Auditor
By ___ Deputy.

KK-3371

BOOK 87 PAGE 505

Document No. 155142

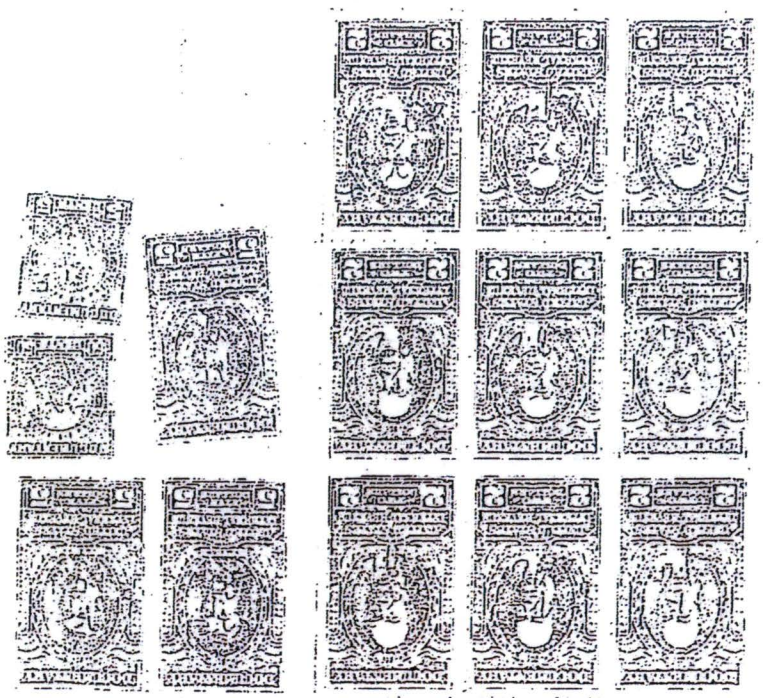
WARRANTY DEED

THIS INDENTURE, Made this 24th day of July in the year of our Lord one thousand nine hundred and fifty-seven between Henry P. Vohs and Esther Vohs, his wife, Adolph S. Vohs and Ivy Vohs, his wife, and Alfred J. Vohs and Iva Vohs, his wife, whose postoffice addresses are Williston, North Dakota, parties of the first part, and United States of America, whose postoffice address is Washington, D. C., party of the second part;

WITNESSETH, That the said parties of the first part, for and in consideration of the sum of THIRTY THOUSAND ONE HUNDRED THIRTY-FIVE AND NO/100 DOLLARS, to them in hand paid by said party of the second part, the receipt whereof is hereby acknowledged, do by these presents GRANT, BARGAIN, SELL AND CONVEY unto the said party of the second part, and its assigns FOREVER, all that tract or parcel of land lying and being in the County of McKenzie and State of North Dakota, and described as follows, to-wit:

Lot Ten (10) of Section Six (6), and those portions of Lots One, Four and Five (1, 4, 5) of Section Seven (7), in Township One Hundred Fifty-three (153) North, Range One Hundred One (101) West of the Fifth Principal Meridian, McKenzie County, North Dakota, together with all lands accreted to said Lots, containing in all Two hundred Seventy-six and Eighty-hundredths (276.80) acres, more or less, bounded and described as follows: Beginning at the northeast corner of Lot Ten (10) of Section Six (6), in Township One Hundred Fifty-three North, Range One Hundred One West of the Fifth Principal Meridian, McKenzie County, North Dakota, which said corner is marked by a two (2) inch iron pipe with brass cap, thence westerly along the south line of Unit Number Twenty (20) of "Lewis and Clark Irrigated Farms" according to the plat thereof on file in the Register of Deeds office in and for said County, on the following courses: South 89 degrees 53.5 minutes west a distance of 1101.00 feet, thence South 89 degrees 37 minutes west a distance of 625 feet, more or less, to the right bank of the Missouri River, as the same traverses said Section Six (6), thence southerly along said right river bank a distance of 5900 feet, more or less, to an iron pipe with brass cap on said bank which constitutes the northwest corner of Unit Number Twenty-two (22) of said "Lewis & Clark Irrigated Farms" thence North Eighty-nine degrees Fifty-four and Five hundredths minutes (89° 54.05') east along the north boundary line of said Unit Number Twenty-two (22) a distance of Two thousand One Hundred Sixty-five and Sixty-five hundredths feet, to an iron pipe with brass cap on the westerly boundary line of Unit Number Twenty-three (23) of said "Lewis & Clark Irrigated Farms," thence northwesterly and easterly along the westerly and northerly boundary lines of said Unit Number Twenty-three (23) on the following courses: North 22 degrees 58.4 minutes west a distance of 484.75 feet, thence north 20 degrees 24 minutes west a distance of 553.3 feet, thence north 18 degrees 31 minutes west a distance of 590.8 feet, thence north 12 degrees west a distance of 504.4 feet, thence north 6 degrees 53 minutes west a distance of 777.5 feet, thence north zero degrees 57 minutes west a distance of 247.8 feet, thence north 89 degrees 53 minutes east a distance of 1467.41 feet to an iron pipe with brass cap on the west boundary line of Unit Number Twenty-four West (24-W) of said "Lewis & Clark Farms" last said iron pipe being also the northeast corner of said Unit Number Twenty-three (23), thence north zero degrees 7 minutes west along the west boundary line of said Unit Number Twenty-four West (24-W) a distance of 886.82 feet to the northwest corner thereof, thence northerly a distance of 100 feet, more or less, to a 2 inch iron pipe with brass cap at the southwest corner of Unit Number Twenty-one (21) of said "Lewis & Clark Irrigated Farms" thence north zero degrees 3.5 minutes west along the boundary line common to said Unit Number Twenty-one (21) and said Lot Ten (10) a distance of 1287.5 feet to the point of beginning, subject to existing easements for public roads and highways, public utilities, railroads and pipe lines, excepting and reserving to the grantor all buildings and improvements now situated on these premises, said buildings and improvements to be removed on or before 1 April 1958. In the event that said buildings and improvements are not removed on or before said date, the right of removal shall terminate automatically, and the United States shall have a good and indefeasible title to said buildings or improvements without notice to grantor. It is further understood that, so long as the said buildings and improvements remain in place, no responsibility will lie with the United States for their maintenance or safety. It is further understood that the consideration for this reservation and right to remove said buildings and improvements is the sum of $385.00 which has been deducted from the total agreed purchase price of $30,520.00, and that the purchase price set forth above is exclusive of the consideration for

BOOK 87 PAGE 506



said buildings and improvement reservation; reserving, however, to the owner of the land or the owner of any interest therein, including third party lessees, their heirs, successors and assigns, all oil and gas rights therein, on or under said described lands, with full rights of ingress and egress for exploration, development, production and removal of oil and gas; upon condition that the oil and gas rights so reserved are subordinated to the right of the United States to flood and submerge the said lands permanently or intermittently in the construction, operation and maintenance of the Garrison Dam and Reservoir, and that any exploration or development of such rights shall be subject to federal or state laws with respect to pollution of waters of the reservoir; provided further that the District Engineer, Corps of Engineers, Garrison District, or his duly authorized representative shall approve, in furtherance of the exploration and/or development of such reserved interests, the type of any structure and/or appurtenances thereto now existing or to be erected or constructed in connection with such exploration and/or development, said structures and/or appurtenances thereto not to be of a material determined to create floatable debris.

TO HAVE AND TO HOLD THE SAME, Together with all the hereditaments and appurtenances thereunto belonging or in anywise appertaining, to the said party of the second part, and its assigns FOREVER. And the said Henry P. Vohs and Esther Vohs, his wife, Adolph S. Vohs and Ivy Vohs, his wife, and Alfred J. Vohs and Iva Vohs, his wife, said parties of the first part, for themselves, their heirs, executors and administrators, do covenant with the said party of the second part, and its assigns, that they are well seized in fee of the land and premises aforesaid, and have good right to sell and convey the same in manner and form aforesaid; that the same are free from all incumbrances, and the above bargained and granted land and premises in the quiet and peaceable possession of said party of the second part, and its assigns, against all persons lawfully claiming or to claim the whole or any part thereof, the said parties of the first part will warrant and defend.

IN WITNESS WHEREOF, The said parties of the first part hereunto set their hands the day and year first above written.

Henry P. Vohs

Esther Vohs, his wife

Adolph S. Vohs

Ivy Vohs, his wife

Alfred J. Vohs

Iva Vohs, his wife

STATE OF NORTH DAKOTA)
) ss.
County of Williams)

On this 24th day of July A.D. 1957, before me personally appeared Henry P. Vohs and Esther Vohs, his wife, Adolph S. Vohs and Ivy Vohs, his wife, and Alfred J. Vohs and Iva Vohs, his wife, known to me to be the same persons described in and who executed the within and foregoing instrument, and severally acknowledged to me that they executed the same.

F. A. WENSTROM
NOTARY PUBLIC
STATE OF NORTH DAKOTA

My commission expires
July 11, 1959

Notary Public for the County of
Williams, State of North Dakota

F. A. WENSTROM
Notary Public, WILLIAMS CO., N. DAK.
My commission expires JULY 11, 1959.

Document No. 155142

BOOK 87 PAGE 508

County of McKenzie } Register of Deeds

I hereby certify that the within instrument was filed in this office for record on the 6 day of Sept. A. D. 1957 at 4:00 o'clock P. M., and was duly recorded in Book of Deeds on Page 505

Ray E. Lemmus
REGISTER OF DEEDS

REGISTER OF DEEDS OFFICE McKENZIE COUNTY STATE OF NORTH DAKOTA

Delinquent Taxes and Special Assessments, or installments of Special Assessments, paid and transfer entered this 6 day of Sept 1957

[illegible]
COUNTY AUDITOR

Corps of Engineers
Riverdale, N. D.
2.00

15

June 19, 2013

HoustonEngineering Inc.

Wilkinson Trust Estate

Ordinary High Water Mark

EXHIBIT
tabbies
4

16

CERTIFICATION

I hereby certify that this report was prepared by me or under my direct supervision, and that I am a duly Registered Professional Engineer under the laws of the State of North Dakota.

Lawrence H. Woodbury, PhD, P.E. ~~P.H.~~
North Dakota Reg. No. 1729

Date: June 20, 2013

REGISTERED PROFESSIONAL ENGINEER
LAWRENCE H. WOODBURY
PE-1729
DATE June 20, 2013
NORTH DAKOTA

HoustonEngineering Inc.

TABLE OF CONTENTS

FIGURES

APPENDICES

18

The Problem

The State of North Dakota holds the beds of navigable lakes and streams in public trust. The surface interests are managed by the ND State Engineer, and the mineral interests are managed by the ND Land Commissioner as head of the ND Department of Trust Lands. The State of North Dakota asserts that the Ordinary High Water Mark serves as the boundary between the public's mineral interests and the interests of the riparian owner.

The surface interests in the Wilkinson Tract were sold to the US Army Corps of Engineers in 1958 in anticipation of flooding resulting from the construction of Garrison Dam, and the mineral interests were explicitly retained. The ND Department of Trust Lands sponsored a study to identify the Ordinary High Water Mark along the Missouri River from the North Dakota/Montana border to a location downstream of US Highway 85 in 2010. That delineation process was based largely on current vegetative indicators as observed in the field at that time. Subsequently, the ND Department of Trust Lands sponsored another study in 2011 to identify the Ordinary High Water Mark of the Missouri River under Lake Sakakawea as it would have existed at the time the lake initially filled. The boundary as delineated by this second study was apparently intended to serve as the boundary between the public and private mineral interests as though the filling of Lake Sakakawea froze that boundary in time. The lineal extent of this second delineation extended upstream of US Highway 85 to include the area of the Wilkinson Tract. There is a significant overlap between the two studies, and the Wilkinson Tract is located within the overlap area.

Thus two separate delineations of the Ordinary High Water Mark (OHWM) have been completed for the area in question, using two distinctly different processes and yielding two distinctly different results. The ND Department of Trust Lands has asserted that the boundary delineated using the vegetative indicators observed in the field is a more applicable approximation of the boundary between the private and public interests in the area of the Wilkinson Tract, a subjective decision that maximizes the state's interests at the expense of the riparian owner, even though they had enough doubt in their own mind that they sponsored a second study that provided another delineation for this area. The state's position suggests that US Highway 85 is somehow the boundary between the applicability of using current vegetative indicators and the applicability of recognizing that Lake Sakakawea has artificially altered the vegetative markers in this reach to an extent that they are no longer indicative of the Ordinary High Water Mark of the Missouri River and are instead direct indicators of the effect of water levels in Lake Sakakawea.

Figure 1 illustrates the location of the property in question as well as the results of the two OHWM delineations. It also includes the river mile designations assigned by the US Army Corps of Engineers for this reach. The property in question is located between river mile 1554.0 and 1554.5.

History

The property in question is located in Sections 12 and 13, Township 153 North, Range 102 West, as illustrated in **Figure 1**. These lands were actively farmed by J.T. Wilkinson starting in the 1930's until he and Evelyn M. Wilkinson sold the surface interests to the United States of America in 1958, explicitly reserving the mineral interests. These lands, excluding the mineral interests, have since become part of the Trenton State Wildlife Management Area. Affidavits support the fact that, prior to the construction of Garrison Dam, the land was used extensively for agricultural purposes and was not subject to any frequent flooding from the Missouri River.

In 2006, the State Engineer developed Ordinary High Water Mark Delineation Guidelines (Reference 1).

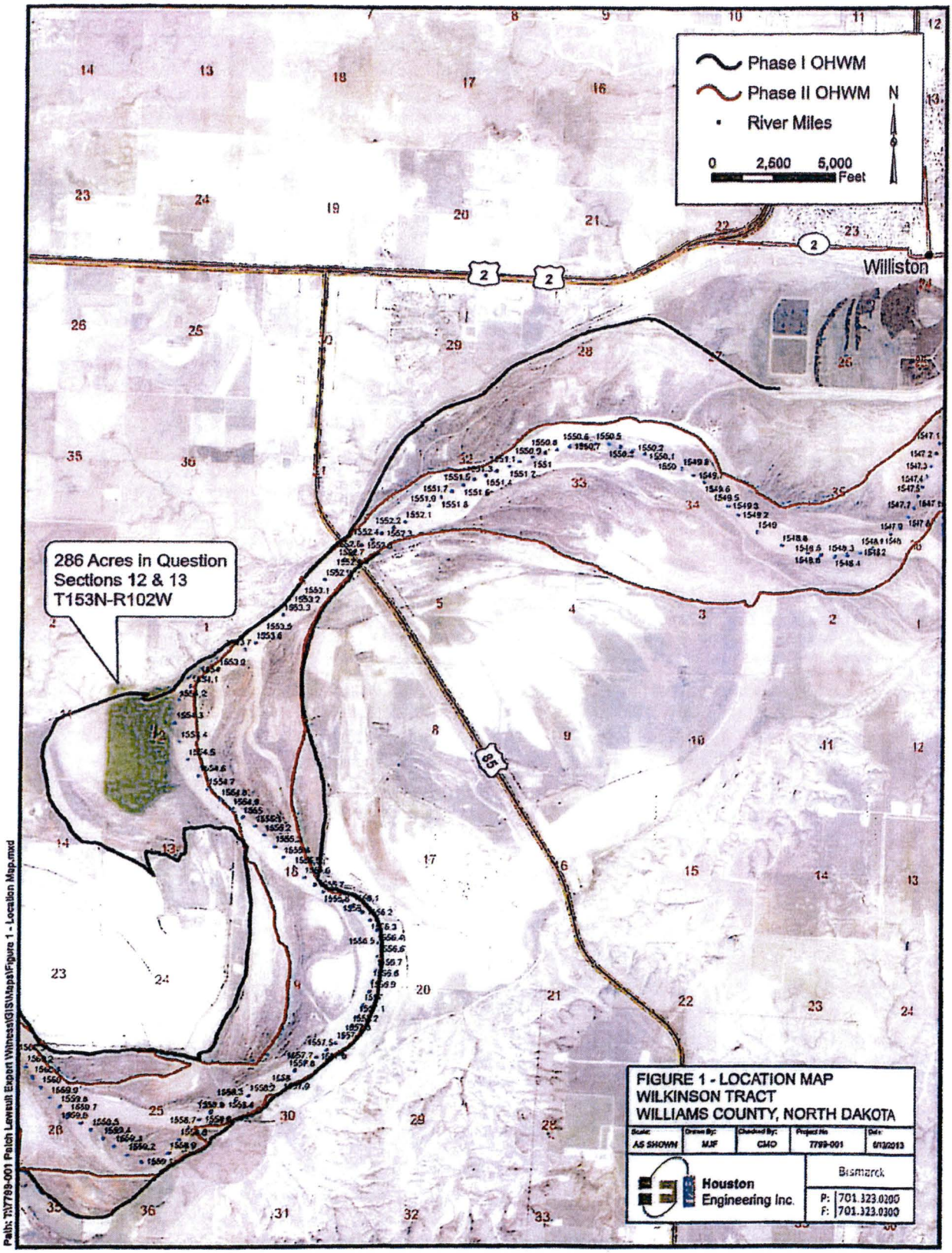
In 2008, the North Dakota Board of University and School Lands issued a Request for Proposals for delineation of the Ordinary High Water Mark along the Yellowstone and Missouri Rivers from the Montana/North Dakota border to River Mile Marker 1549.0, which is located approximately five to six miles downstream of the Highway 85 Bridge. This has become known as the Phase I study and was completed with a Technical Report dated November 2010 (Reference 2).

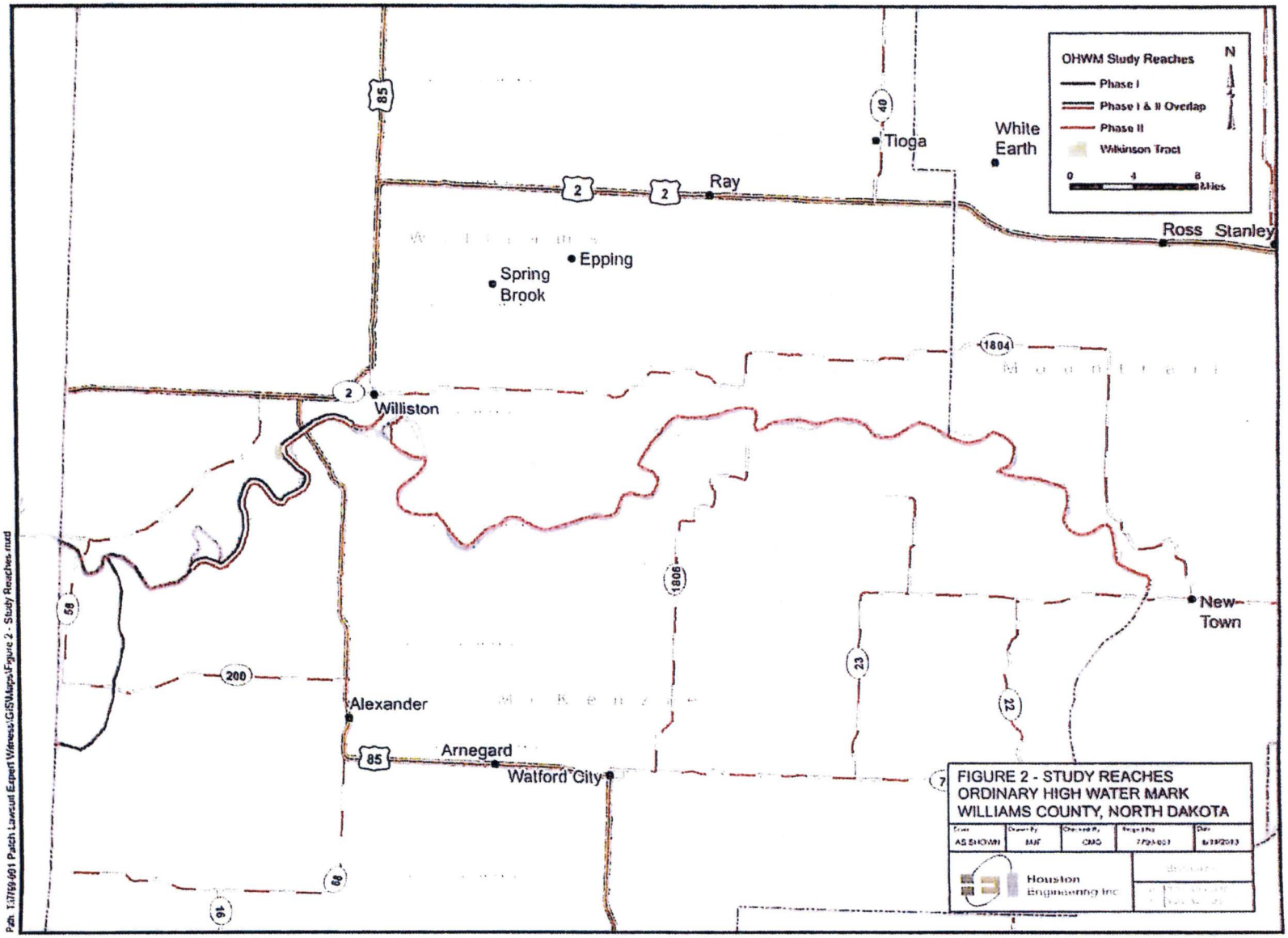
In 2009, the North Dakota Board of University and School Lands issued another Request for Proposals, this time for delineation of the Ordinary High Water Mark of the Missouri River Bed under Lake Sakakawea, specifically from mile marker 1482, at the approximate northern boundary of the Fort Berthold Reservation upstream to mile marker 1574.5. This study culminated with a Technical Report dated March 2011 (Reference 3). This resulted in a 25.5 river mile overlap between the two studies, and the Wilkinson estate is included in that overlap. This has been referred to as their Phase II study. The second RFP noted:

> Because the area to be delineated for the OHWM has been inundated or potentially inundated, the contractor may not rely on observations of the current location of the OHWM where it may be exposed in making the determination. Determination of the OHWM must be made using historical information and current technology to interpret this historic information.

The objective of the study contractor for both the Phase I and Phase II studies was to identify the OHWM. They were not charged with making any determinations as to ownership or shared interests. However, the State of North Dakota has subsequently refused to release their claim to the mineral interests for the property in the Wilkinson Tract found to be below the OHWM in the Phase I study, even though their own Phase II analysis contradicts the Phase I findings. They have asserted that US Highway 85 is the boundary between where the Phase I findings are an appropriate delineation of the boundary between the public and the riparian interests and where the Phase II findings are appropriately applied.

Figure 2 illustrates the Phase I and Phase II study reaches, their overlap, and the location of the Wilkinson property (Reference 2,3).


Phase I OHWM
Phase II OHWM
River Miles
N
0 2,600 5,000
Feet
Williston
286 Acres in Question
Sections 12 & 13
T153N-R102W
FIGURE 1 - LOCATION MAP
WILKINSON TRACT
WILLIAMS COUNTY, NORTH DAKOTA
Houston Engineering Inc.
Bismarck
P: 701.323.0200
F: 701.323.0300
Path: N:\7789-001 Patch Lawsuit Expert Witness\GIS\Maps\Figure 1 - Location Map.mxd


OHWM Study Reaches
Phase I
Phase I & II Overlap
Phase II
Wilkinson Tract
N
0 4 8 Miles
Tioga
White Earth
Ray
Ross
Stanley
Epping
Spring Brook
Williston
New Town
Alexander
Arnegard
Watford City
85
2
40
1804
1806
58
200
23
22
68
16
FIGURE 2 - STUDY REACHES
ORDINARY HIGH WATER MARK
WILLIAMS COUNTY, NORTH DAKOTA
AS SHOWN
MJF
CMO
Houston Engineering Inc
Path: T:\7769.001 Patch Lawsuit Expert Witness\GIS\Maps\Figure 2 - Study Reaches.mxd

Ordinary High Water Mark Delineation

North Dakota Administrative Code Section 89-10-01-03 defines Ordinary High Water Mark as:

> That line below which the action of the water is frequent enough either to prevent the growth of vegetation or to restrict its growth to predominantly wetland species...

The North Dakota Supreme Court has defined Ordinary High Water Mark as:

> ....a water mark. It is co-ordinate with the limit of the bed of water, and that only is to be considered the bed which the water occupies sufficiently long and continuously to wrest it from vegetation, and destroy its value for agricultural purposes. In some places, however, where the banks are low and flat, the water does not impress on the soil any well-defined line of demarcation between the bed and the banks. In such cases the effect of the water upon vegetation must be the principal test in determining the location of high water mark as a line between the riparian owner and the public. It is the point up to which the presence of action of the water is so continuous as to destroy the value of the land for agricultural purposes by preventing the growth of vegetation, constituting what may be termed an ordinary agricultural crop.

The North Dakota State Engineer developed Ordinary High Water Mark Delineation Guidelines in 2006 (Reference 1). These guidelines established and defined a consistent approach for completing delineations in North Dakota taking into account North Dakota statutory and case law guidance as well as common scientific principles. These guidelines documented the importance of vegetative and soil indicators but also recognized the potential applicability of hydrology and an assessment of the suitability of the lands for agricultural purposes. These guidelines noted:

> A review of long term and recent hydrology may indicate whether physical indicators evident in the field are truly indicative of the ordinary high water mark or whether they reflect an extraordinary event.

The guidelines also recognized research completed by the State of Washington that suggested the Ordinary High Water Mark has been shown to be equivalent to the water surface elevation generally equivalent to a 1.0 to 1.75 year peak flow (Reference 4).

Point #1 The Wilkinson Tract was Above OHWM Prior to Construction of Garrison Dam

One important indicator of the Ordinary High Water Mark is whether or not the land is suitable for agricultural production. If the land is located below the OHWM, the frequency of inundation would destroy its suitability for agricultural production. There is an abundance of information clearly demonstrating that the Wilkinson property was used extensively for agricultural production up to the time the property was sold to the US Government in 1958. Affidavits provided by Lois Jean Patch, William Wilkinson and Vanessa Blaine all document the property's historic use for agricultural production and the fact that those familiar with the farming operation

throughout that period had no memory of the property being flooded by the Missouri River. Copies of these affidavits are included in **Appendix A.**

Figure 3 is 1958 aerial photography that includes the lands in question. The Wilkinson Tract has been identified on the photograph, and it is clear that the land was used for agricultural purposes in 1958. The field lines are readily apparent.

Figure 4 illustrates the topographical information available for the Wilkinson Tract. **Figure 5** is a distribution plot of the land surface elevation (NGVD 29) for the 286 acres in question in Sections 12 & 13, Township 153 North, Range 102 West. The distribution plot was developed from the 10-meter digital elevation model (DEM) created by the US Geological Survey (USGS) based on their 1:24,000 scale 7.5 minute quadrangle topographic maps. The lands in question fall into the Trenton, N. Dak. quadrangle, published in 1969 and the Williston SW, N. Dak. quadrangle published in 1979. The Trenton quad was created from 1968 aerial photography and 1969 plane-table surveys and the Williston SW quad was created from topography and photometric methods from aerial photographs taken in 1973 and 1977.

Less than 10% of the property within the Wilkinson Tract is below an elevation of 1849.5 (NGVD 29) with a majority of the property at an elevation of approximately 1850.0. In 1993 the US Army Corps of Engineers published a Reconnaissance Report (Reference 5) which included water surface profiles for various events throughout the headwaters of Lake Sakakawea including a plot of pre-dam water surface elevations which has been reproduced in **Figure 6**. With pre-dam conditions, the streambed is shown to be at an elevation of 1824.0 (NGVD 29), and the 10-year peak flow water surface elevation is shown to be about 1850.0 (NGVD 29) at river mile 1854.0 which is adjacent to the Wilkinson Tract. Thus, before the construction of Garrison Dam, it took approximately a 10-year event to flood the formerly cultivated portions of the Wilkinson Tract. Research completed by the State of Washington has shown that the OHWM is typically equivalent to approximately a 1.75 year peak, which is much less than a 10-year peak (Reference 4).

Figure 7 illustrates the annual peak water surface elevations for the Missouri River Near Williston Gage for the period of 1928 through 1965. This gage is located at the Highway 85 bridge at river mile 1552.7, approximately 1.3 miles downstream of the Wilkinson Tract. Based on this record, the water surface elevation only exceeded 1850.0 (NGVD 29) on one occasion in 1959 throughout this 37 year period of record.

Point #1 Summary

The majority of the Wilkinson Tract was clearly above the OHWM before the construction of Garrison Dam. The affidavits and aerial imagery clearly show the land was used for typical agricultural production. Most of the tract is at an elevation of approximately 1850.0 (NGVD 29) and historic stage records show that the Missouri River only reached that level at this location on a very infrequent basis, actually only once in 37 years of record.

FIGURE 3 - 1958 AERIAL IMAGERY
OVER 2012 NAIP IMAGERY
WILLIAMS COUNTY, NORTH DAKOTA

Scale:	Drawn By:	Checked By:	Project No	Date
AS SHOWN	MJF	CMO	7799-001	6/19/2013

Houston Engineering Inc

Bismarck

P 701.323.0200
F 701.323.0900

Path: N:\7799-001 Petch Lawsuit Expert Witness\GIS\Maps\Figure 3 - 1958 Aerial Imagery.mxd

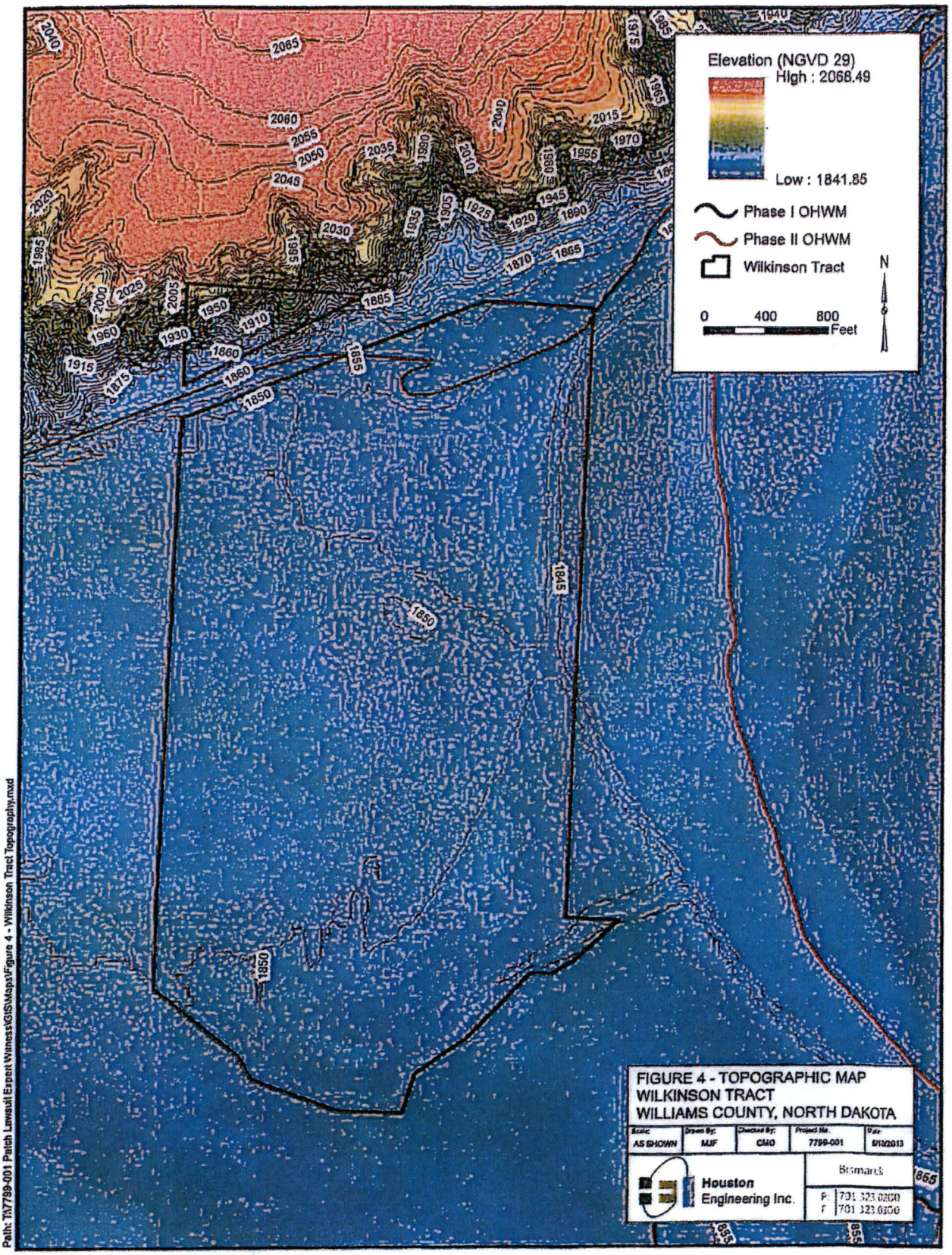
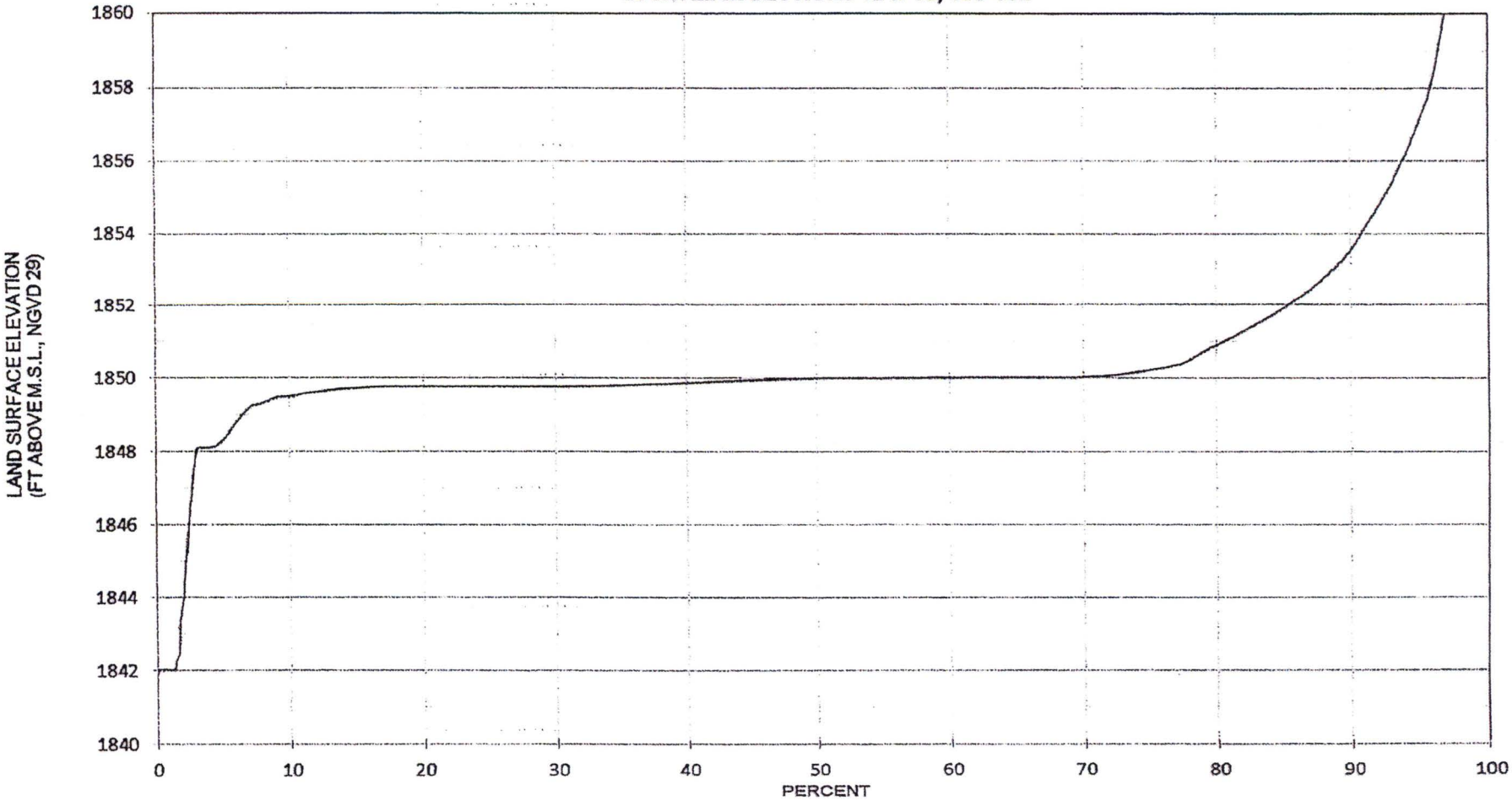

Elevation (NGVD 29)
High : 2068.49
Low : 1841.85
Phase I OHWM
Phase II OHWM
Wilkinson Tract
N
0 400 800
Feet
FIGURE 4 - TOPOGRAPHIC MAP
WILKINSON TRACT
WILLIAMS COUNTY, NORTH DAKOTA
Scale: AS SHOWN
Drawn By: MJF
Checked By: CMO
Project No.: 7799-001
Date: 6/10/2013
Houston Engineering Inc.
Bismarck
P: 701.323.0200
F: 701.323.0300
Path: TA7799-001 Patch Lawsuit Expert Witness\GIS\Maps\Figure 4 - Wilkinson Tract Topography.mxd

FIGURE 5
DISTRIBUTION PLOT OF LAND SURFACE ELEVATION (NGVD 29)
OF THE 286 ACRES IN QUESTION
LOCATED IN SECTIONS 12 & 13, 153-102



27

FIGURE 6

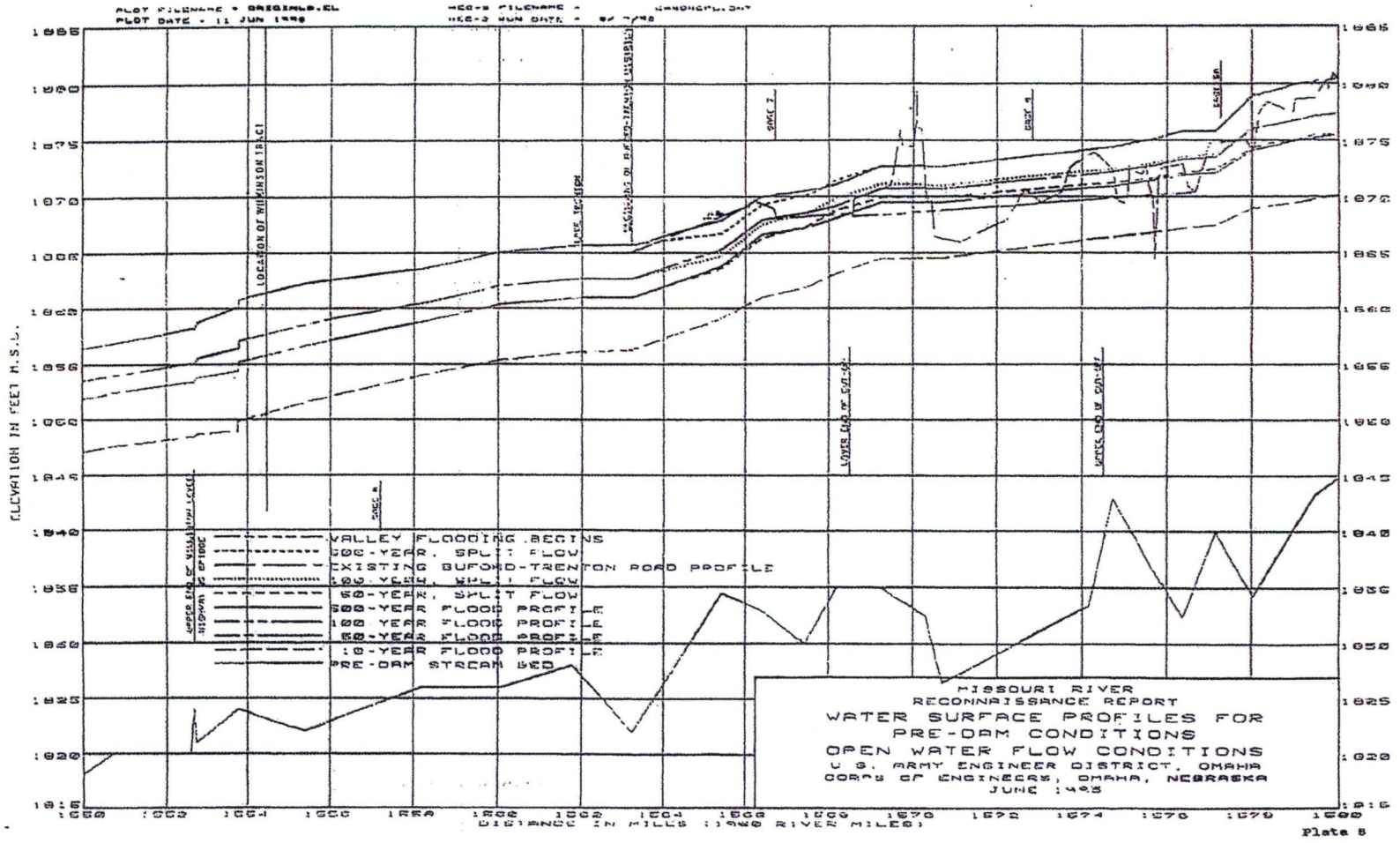
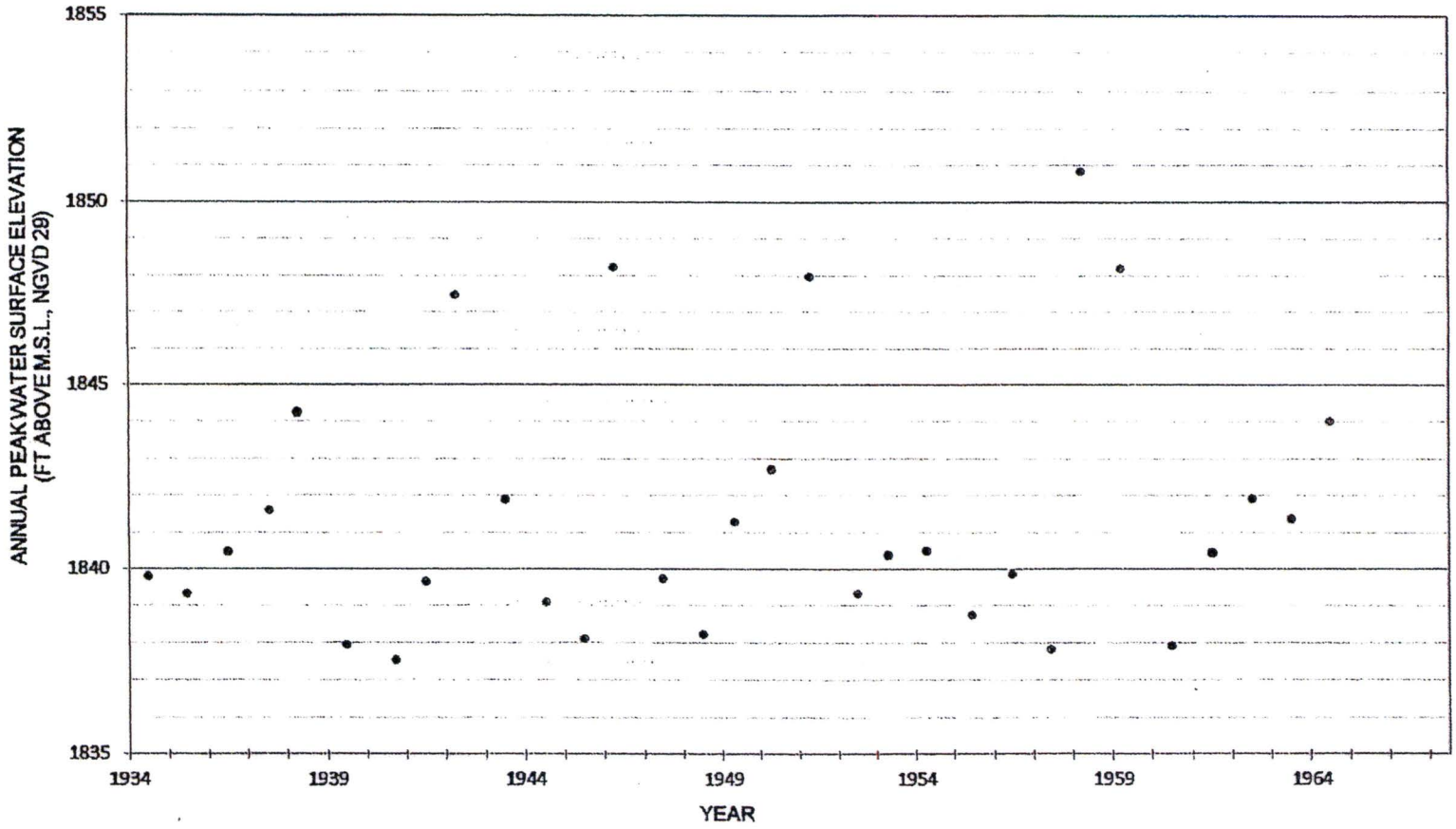


Plate 8

FIGURE 7
PRE-GARRISION DAM PEAK GAGE HEIGHTS



Point #2 Garrison Dam/Lake Sakakawea Directly Affects Property

The fact that the US Government chose to purchase this property as part of the Garrison Dam and Reservoir project, as evidenced in the Certificate of Inspection and Possession (Appendix B), is an indication of the US Government's acknowledgment that the construction of Garrison Dam would increase the frequency with which this property is flooded.

Garrison Dam was designed and constructed with the following target pool elevations (NGVD 29):

Maximum Operating Pool:	1854.0
Maximum Normal Pool	1850.0
Base Flood Control	1837.5
Minimum Operating Pool	1775.0

As noted in **Figure 5**, more than 80% of the Wilkinson Tract is situated below an elevation of 1851.0 (NGVD 29), and approximately 70% is at or below an elevation of 1850.0. **Figure 8** is a reproduction of monthly reservoir levels for Garrison Dam/Lake Sakakawea with those readings above elevation 1850.0 highlighted (Reference 6). Since 1967, the reservoir has exceeded an elevation of 1850.0 six years out of 45 years of record. This is a significant increase in frequency with which a majority of the Wilkinson Tract is flooded compared to the one occurrence that occurred in 37 years of record prior to the construction of Garrison Dam.

The US Army Corps of Engineers Master Manual for Garrison Dam (Reference 7) projects a 20% chance of the reservoir pool exceeding an elevation of 1850.0 in any one year which correlates to a 5-year recurrence interval.

Figure 9 illustrates the location of the Wilkinson Tract along with the area that would be inundated with a pool elevation of 1854.0. Clearly, most of the property is within the operational pool of Lake Sakakawea with more than 90% of the tract being situated below the full pool elevation of 1854.0.

Figures 10, 11, and 12 illustrate the Wilkinson Tract in aerial imagery collected during high reservoir levels in 1975, 1997, and 2011. These figures again show that the Wilkinson Tract is located within the pool of Lake Sakakawea.

The direct inundation associated with being located within the operating pool of Lake Sakakawea is not the only impact resulting from the construction of Garrison Dam. When the water level in Lake Sakakawea is just below 1850.0, most of the land in the Wilkinson Tract would not be directly flooded by the static pool elevation. However, the pool elevation will alter the hydraulics of the Missouri River in this headwater area resulting in a higher water surface elevation for a given rate of discharge. Thus, even when the level of water in Lake Sakakawea is lower than 1850.0, it could still contribute to the inundation of the Wilkinson Tract.

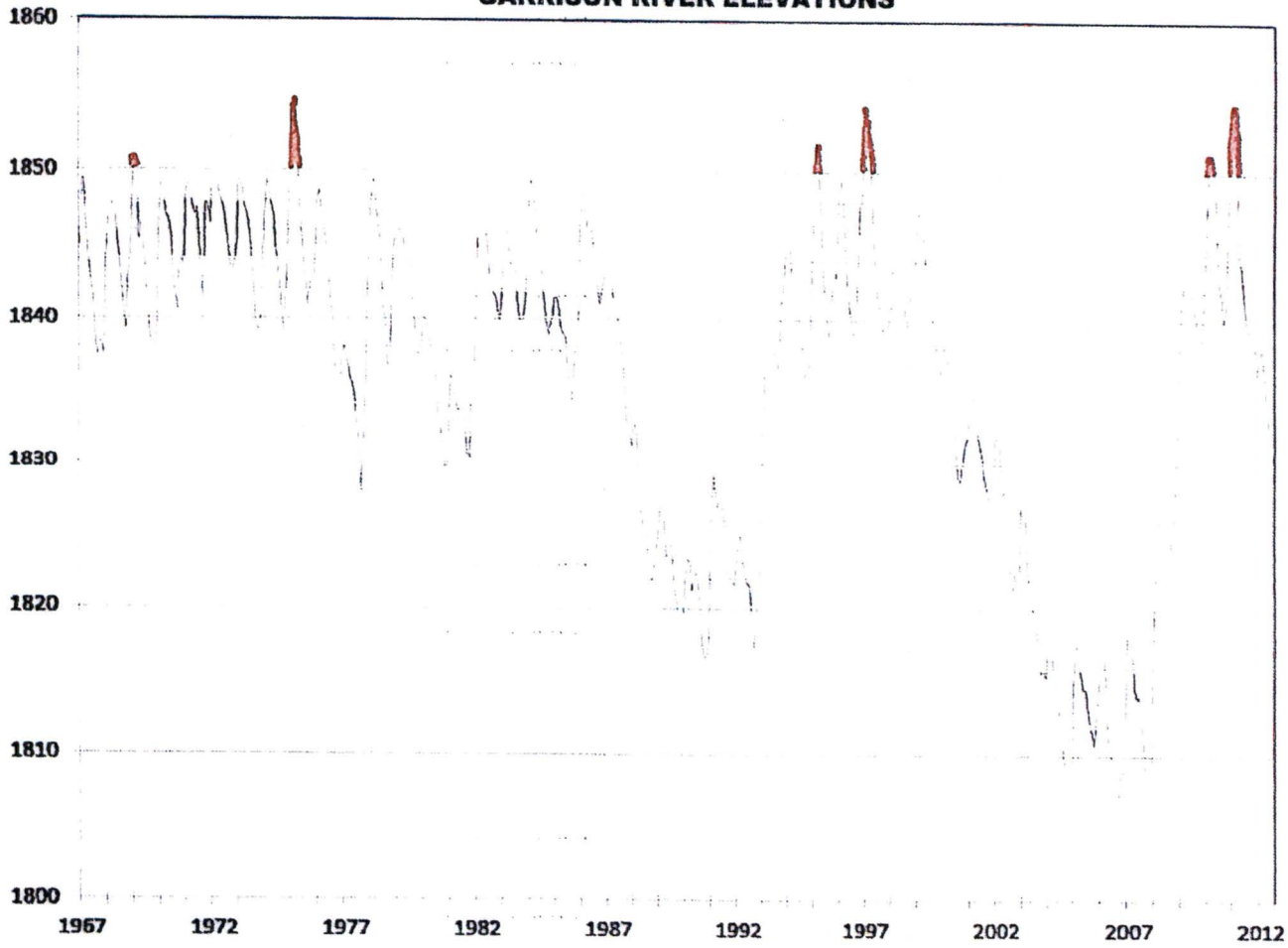
In addition to this hydraulic impact resulting from high reservoir levels, the development of a depositional delta in this location is well documented. **Figure 13** is a reproduction of a plate from the USACE Reconnaissance Report (Reference 5) documenting the increase in stage for a given discharge over time. Gage 8 is located approximately three miles upstream of Section 12. The stage associated with a 10,000 cfs flow increased by more than 10 feet from 1960 to 1979.

All post-1953 maps published by the USGS, US Army Corps of Engineers, and the US Bureau of Reclamation identify the area of the Wilkinson Tract as being "Subject to controlled inundation".

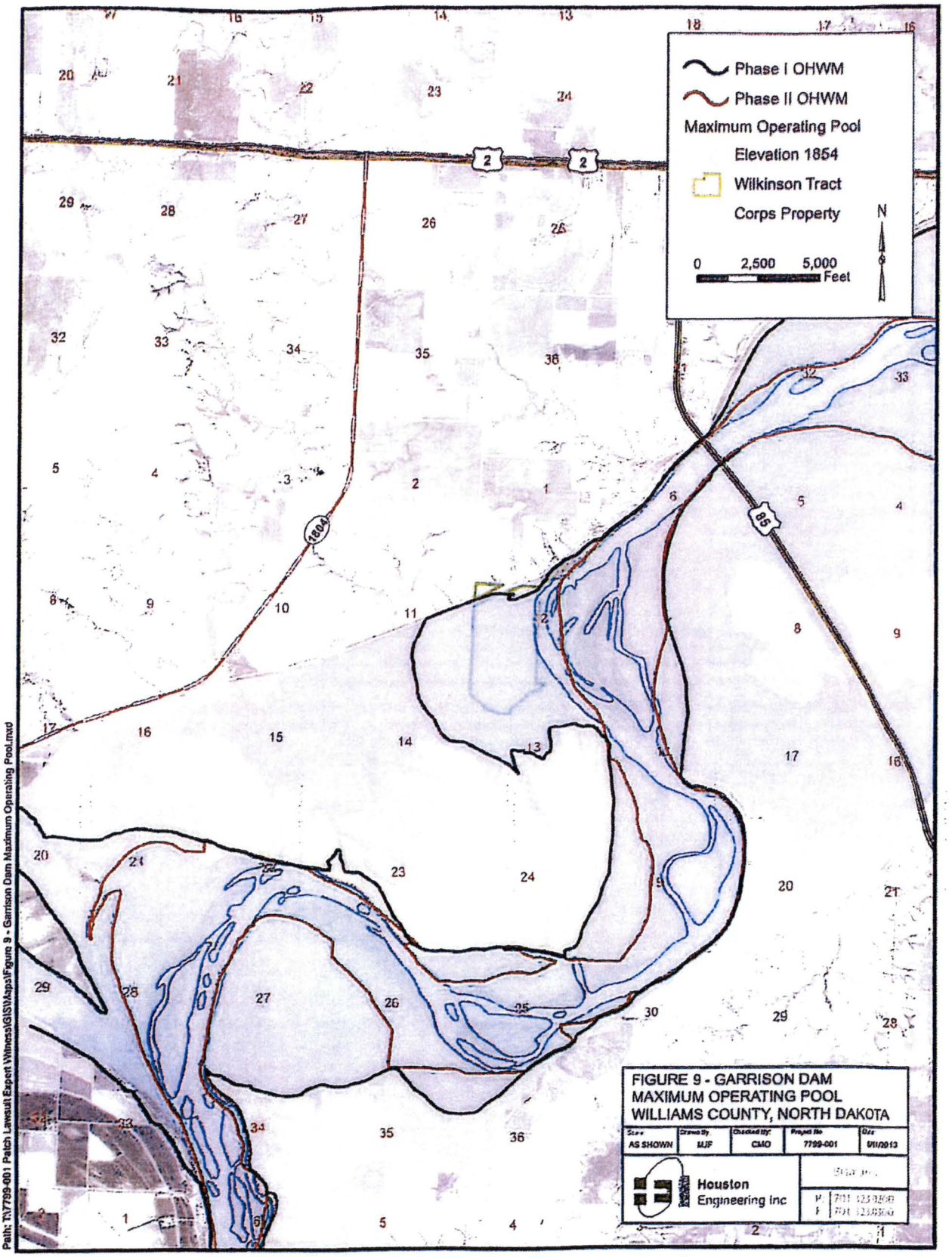
Point #2 Summary

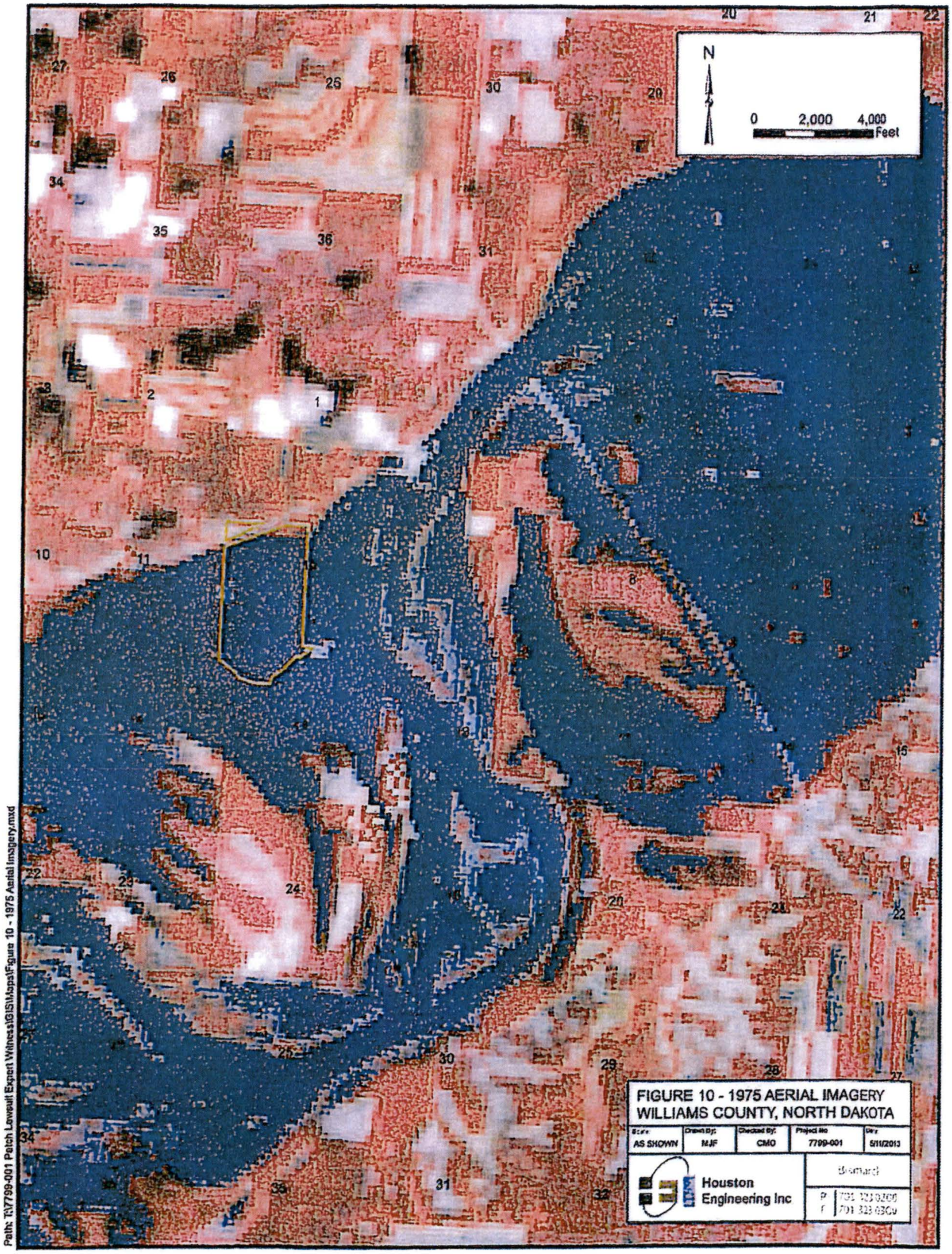
The Wilkinson Tract is located within the pool of Lake Sakakawea and the frequency with which the property is flooded has increased significantly since the construction of Garrison Dam. Aerial imagery illustrates the property's inundation from Lake Sakakawea.

FIGURE 8
GARRISON RIVER ELEVATIONS



*End of Month - Midnight Observations


Phase I OHWM
Phase II OHWM
Maximum Operating Pool
Elevation 1854
Wilkinson Tract
Corps Property
N
0 2,500 5,000
Feet
FIGURE 9 - GARRISON DAM
MAXIMUM OPERATING POOL
WILLIAMS COUNTY, NORTH DAKOTA
Houston
Engineering Inc
Path: TX7799-001 Patch Lawsuit Expert Witness\GIS\Maps\Figure 9 - Garrison Dam Maximum Operating Pool.mxd


N
0 2,000 4,000
Feet
FIGURE 10 - 1975 AERIAL IMAGERY
WILLIAMS COUNTY, NORTH DAKOTA
Scale: AS SHOWN
Drawn By: MJF
Checked By: CMO
Project No: 7799-001
Date: 5/11/2013
Houston Engineering Inc
Bismarck
Path: T:\7799-001 Petch Lowell Expert Witness\GIS\Maps\Figure 10 - 1975 Aerial Imagery.mxd

Path: N:\7799-001 Petch Lawsuit Expert Witness\GIS\Maps\Figure 11 - 1997 Aerial Imagery.mxd

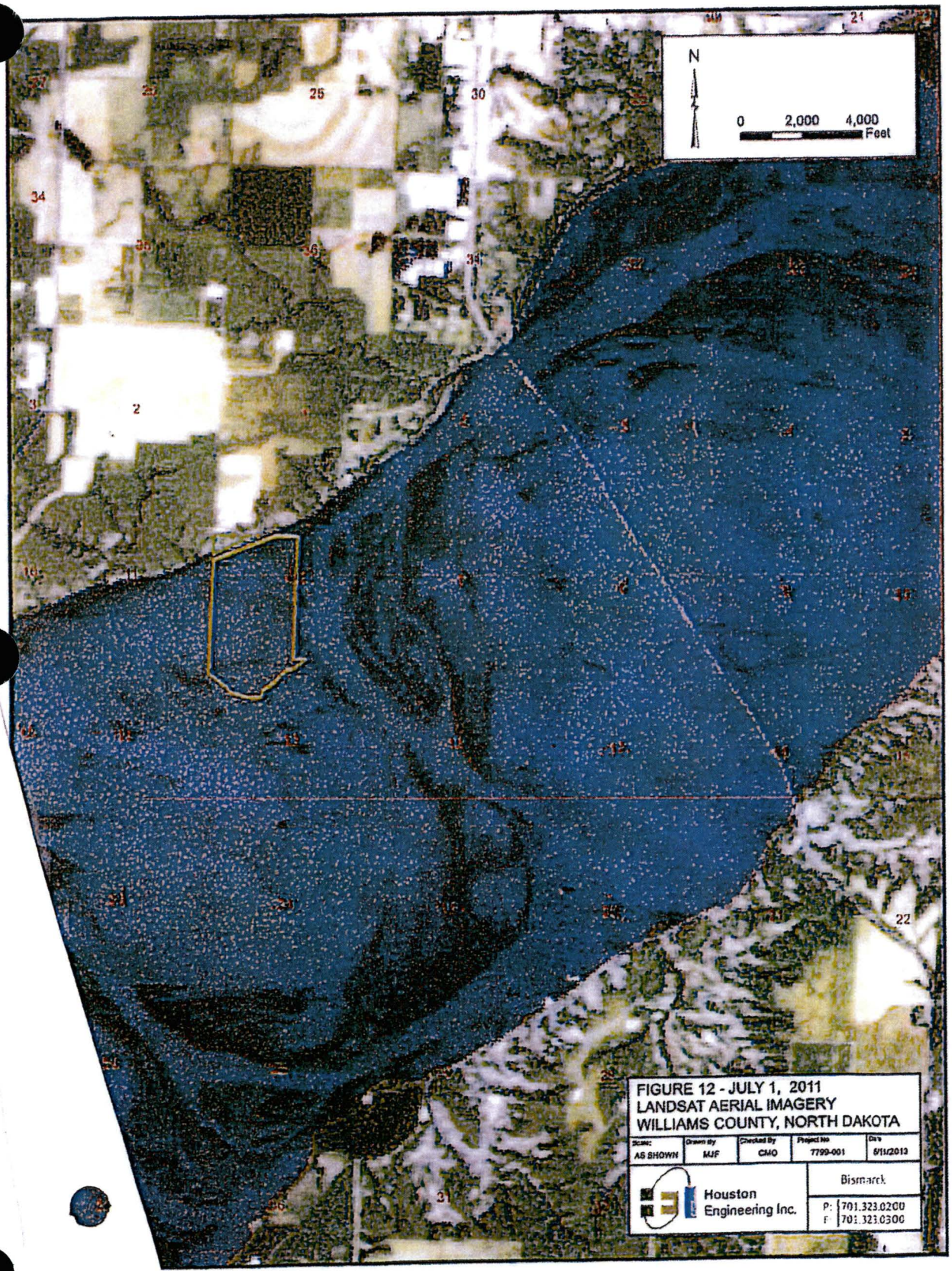
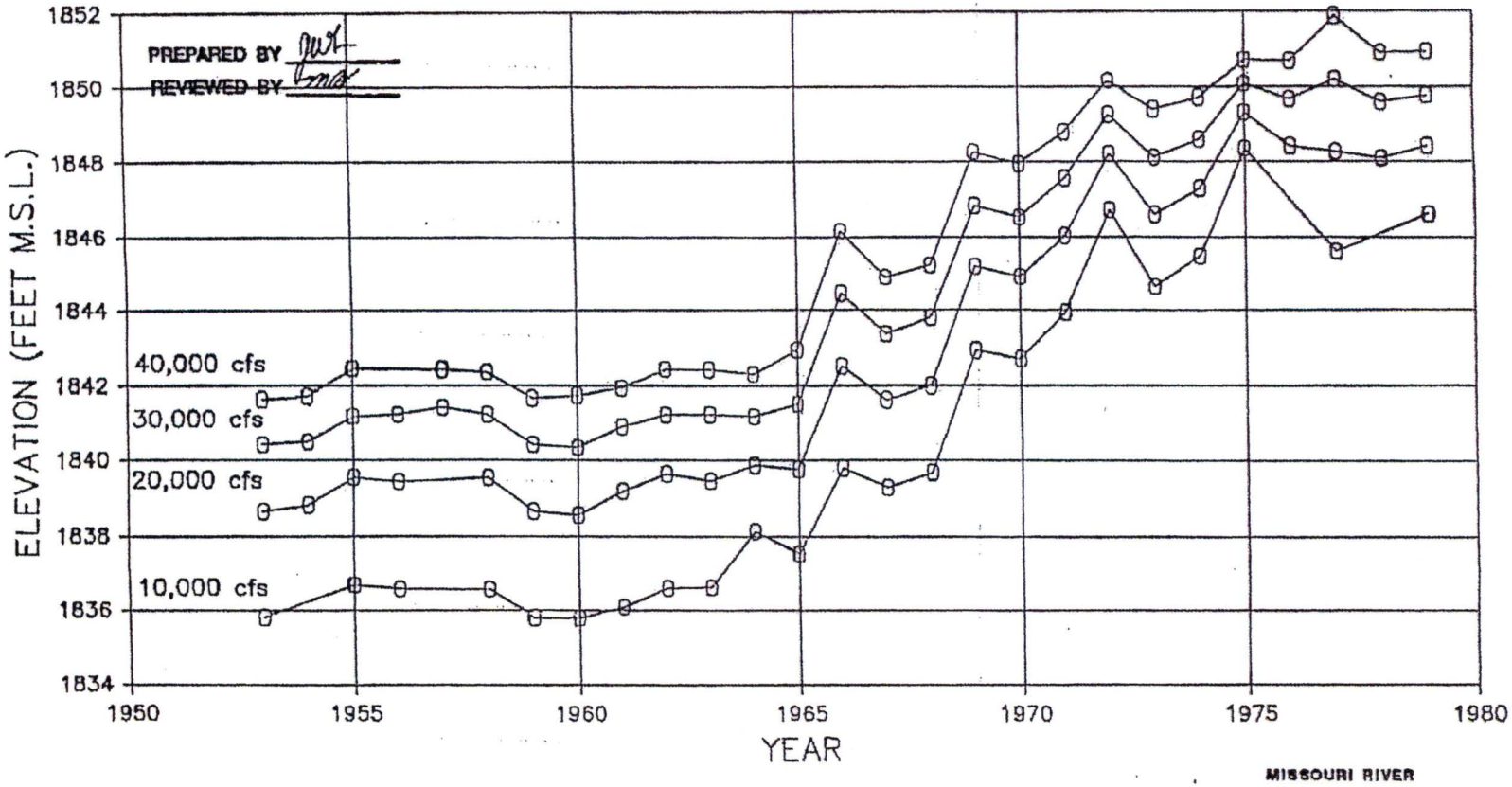

N
0 2,000 4,000
Feet
FIGURE 12 - JULY 1, 2011
LANDSAT AERIAL IMAGERY
WILLIAMS COUNTY, NORTH DAKOTA
Scale: AS SHOWN
Drawn By MJF
Checked By CMO
Project No 7799-001
Date 5/11/2013
Houston Engineering Inc.
Bismarck
P: 701.323.0200
F: 701.323.0300

FIGURE 13

MISSOURI RIVER
GAGE 8
1960 RIVER MILE 1557.2



MISSOURI RIVER
LAKE SAKAKAWEA HEADWATER/MISSOURI RIVER
RECONNAISSANCE REPORT
Stage Trends - Gage 8
U.S. ARMY ENGINEER DISTRICT, OMAHA
CORPS OF ENGINEERS, OMAHA, NEBRASKA

PLATE 12

Point #3 Use of Highway 85 as Dividing Line is Arbitrary

The State of North Dakota has apparently taken the position that the OHWM delineation based on vegetative indicators observed in the field (Phase I) is appropriate to define the boundary between the riparian and public interests upstream of the Highway 85 bridge. At the same time, the State decided to use historical records to ascertain the apparent OHWM as it existed prior to the construction of Garrison Dam accepting it as an appropriate indicator of the boundary between the riparian and public interests downstream of the Highway 85 bridge (Phase II). This is an arbitrary line of demarcation that has no scientific basis.

There are no water control structures located at the Highway 85 crossing. The crossing does not limit the impacts of the reservoir upstream of the highway. The pre-dam streambed elevation at the crossing was approximately 1823.0 (NGVD 29). Thus any time the reservoir exceeds that water surface elevation, it is impounding water upstream of the bridge. This occurs more than 95% of the time. **Figure 9** illustrates the extent to which Garrison Dam is capable of inundating properties upstream of the Highway 85 Bridge simply by storing water up to its maximum operation pool elevation of 1854.0.

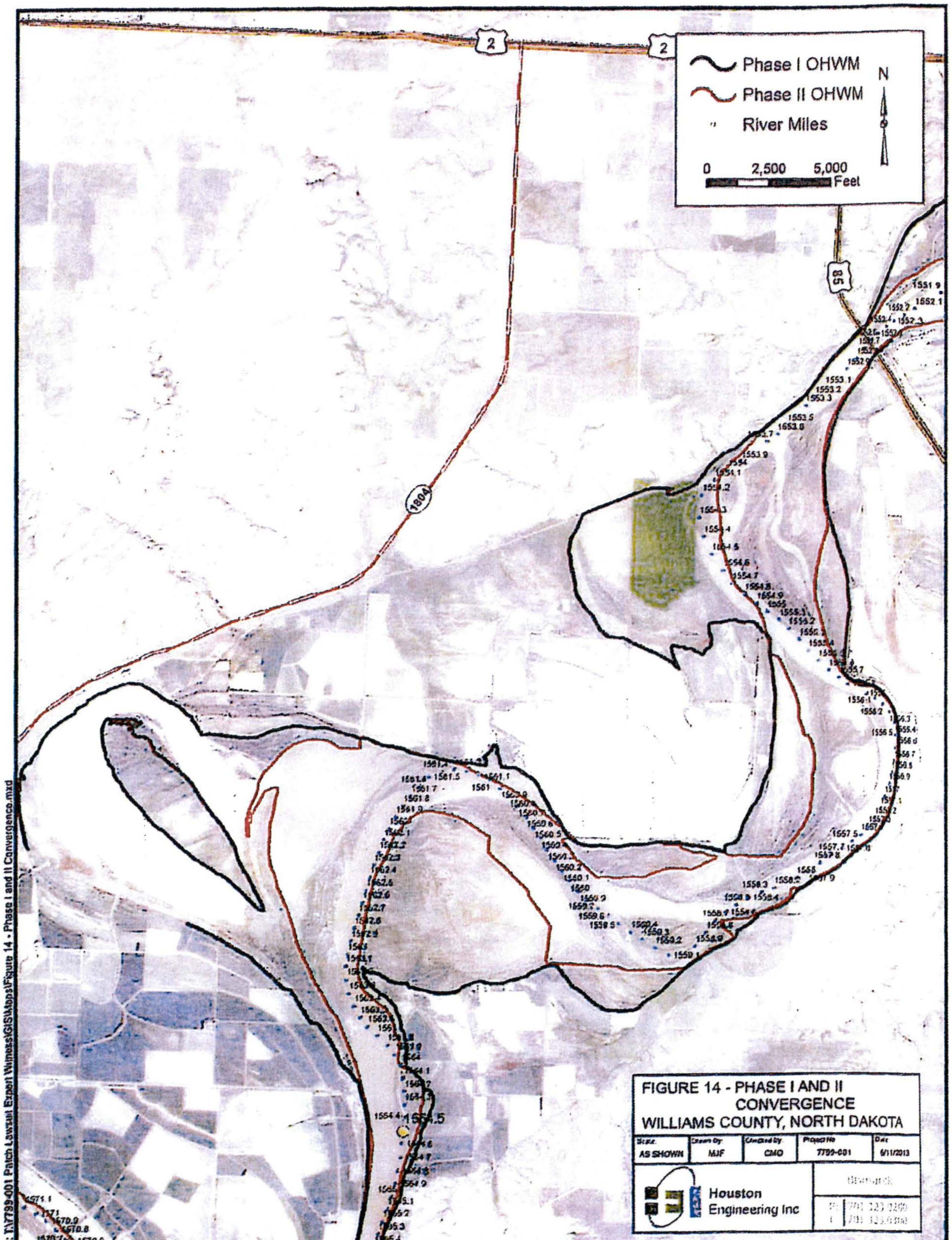
The fact that the ND Board of Trust Lands opted to delineate this area using two different methods suggest their own uncertainty as to the applicability of the Phase I results for this area.

The fact that the Wilkinson Tract was suitable for agricultural purposes before the construction of Garrison Dam is well documented and is discussed as Point #1 of this report. Prior to the construction of Garrison Dam, the property in question was part of the East Bottom of the Fort Buford-Trenton Irrigation District. In 1958 the Corps of Engineers purchased this East Bottom for the project even though it is upstream of the Highway 85 bridge. Thus the impacts of the project have always been anticipated to extend upstream of the Highway 85 Bridge.

It is interesting to note that the results obtained from the Phase I and Phase II delineations do tend to converge in the area of river mile 1564.5, as illustrated in **Figure 14**. This convergence can be expected to occur once the impacts of periodic inundation from Lake Sakakawea are no longer present. Interestingly enough, the 1993 Reconnaissance Report indicates that prior to the construction of Garrison Dam, the valley in this reach would begin to flood with a water surface elevation of 1857 (NDVD 29), so this area is just beyond the upper extent of the influence of Lake Sakakawea.

Point #3 Summary

he use of Highway 85 as the upstream limit of the reservoir is arbitrary and has no ientific basis. Lake Sakakawea extends west of the bridge including the Wilkinson act. The OHWM as delineated using the historic aerial imagery in the Phase II Study is more appropriate indication of the boundary between the riparian and the public rests in the area of the Wilkinson Tract.



Path: T:\7799-001 Patch Lawsuit Expert Witness\GIS\Maps\Figure 14 - Phase I and II Convergence.mxd

Point #4 Phase I OWHM Delineation Failed to Adequately Account for Hydrology

Missouri River Mainstream Hydrology

The methodology detailed in the *Technical Report for the Ordinary High Water Mark Delineation of the Yellowstone and Missouri River in Western North Dakota* (Reference 2) included the use of statistical hydrology as a guide and a frame of reference for the vegetative indicators observed in the field. The authors noted that the OHWM is typically between the "high average daily flow" and the peak but closer to the high average daily flow. For the Missouri River at Williston Gage, they estimated the high average daily stage to be 1849.6 (NGVD 29) and the peak stage to be 1856.1 (NGVD 29). They noted that the OHWM at the gage was determined to be between 1850.3 and 1851.3. So they noted that the OHWM as delineated was between the high average daily flow and the peak but much closer to the high average daily flow, thus confirming the reasonableness of their result. Yet upstream only 1.5 miles near the Wilkinson Tract, they found the OHWM along the left bank (looking downstream) to be as high as 1855.0 (NGVD 29). With a general slope of 0.6 feet per mile, taken from the profile included in their report (20 feet over 33 river miles), one would expect the OHWM at the Wilkinson Tract to be between 1850.9 and 1851.9 (NGVD 29).

One would also expect the elevation of the OHWM delineated on the right bank (looking downstream) to generally correspond to the elevation of the OHWM delineated on the left bank. However, in the area of the Wilkinson Tract, the elevation of the OHWM delineation is much higher than that found on the right bank, 1855 vs 1850. The fact that the OHWM delineation is much higher in elevation than that found on the right bank and much higher than the statistical hydrology would suggest for this area is because there are several other factors that influence the vegetative indicators and should have been considered for this location. These include the effect of Lake Sakakawea water levels, the local ground water gradient, and the fact that Painted Woods Creek discharges to the Missouri River at this location.

The degree to which Garrison Dam and Lake Sakakawea impact the area in question is discussed in greater detail under the discussion of Point #2. The vegetative indicators noted in the field should have been considered in their overall context which includes the effects of inundation from Lake Sakakawea. Because this area is within the pool of Lake Sakakawea and is subject to periodic flooding by Lake Sakakawea, those vegetative indicators are no longer directly and solely indicative of the Missouri River when it is normally high.

Ground Water Levels

There is one observation well in the Trenton East Bottom in Section 16, Township 153 North, Range 102 West, about 4 miles from the Wilkinson Tract. The observed water levels are plotted in **Figure 15**. The record from this well clearly illustrates the fact that local ground water levels in the East Bottom have been rising since Garrison Dam was first constructed in 1953 and first filled in 1965. Water levels have risen 6 to 8 feet in this area due to the filling of Lake Sakakawea and the resulting reduction in ground water gradient toward the Missouri River. This phenomenon was noted in the 1993 USACE Reconnaissance Report (Reference 5):

> In addition to the impacts on crop production, the ground water has caused obvious, serious impacts to farmer's residences. During the late 1960's and early 1970's, the rising ground water resulted in numerous flooded basements. Many of the residents have installed sump pumps in their basements or pervious drains around their houses, and at least two families have had to abandon their homes.

The filling of Lake Sakakawea, created by Garrison Dam on the Missouri River, has resulted in the formation of a delta at the headwaters of the reservoir. The resulting aggradation of the Missouri River channel has reduced the former groundwater gradient to the river and restricted the natural drainage from the area.

These raising ground water levels, which have commonly risen to ground surface, will greatly impact the vegetation occurring in this area. The wetland vegetation that results from these ground water levels is not indicative of the OHWM of the Missouri River.

Painted Woods Creek Influences

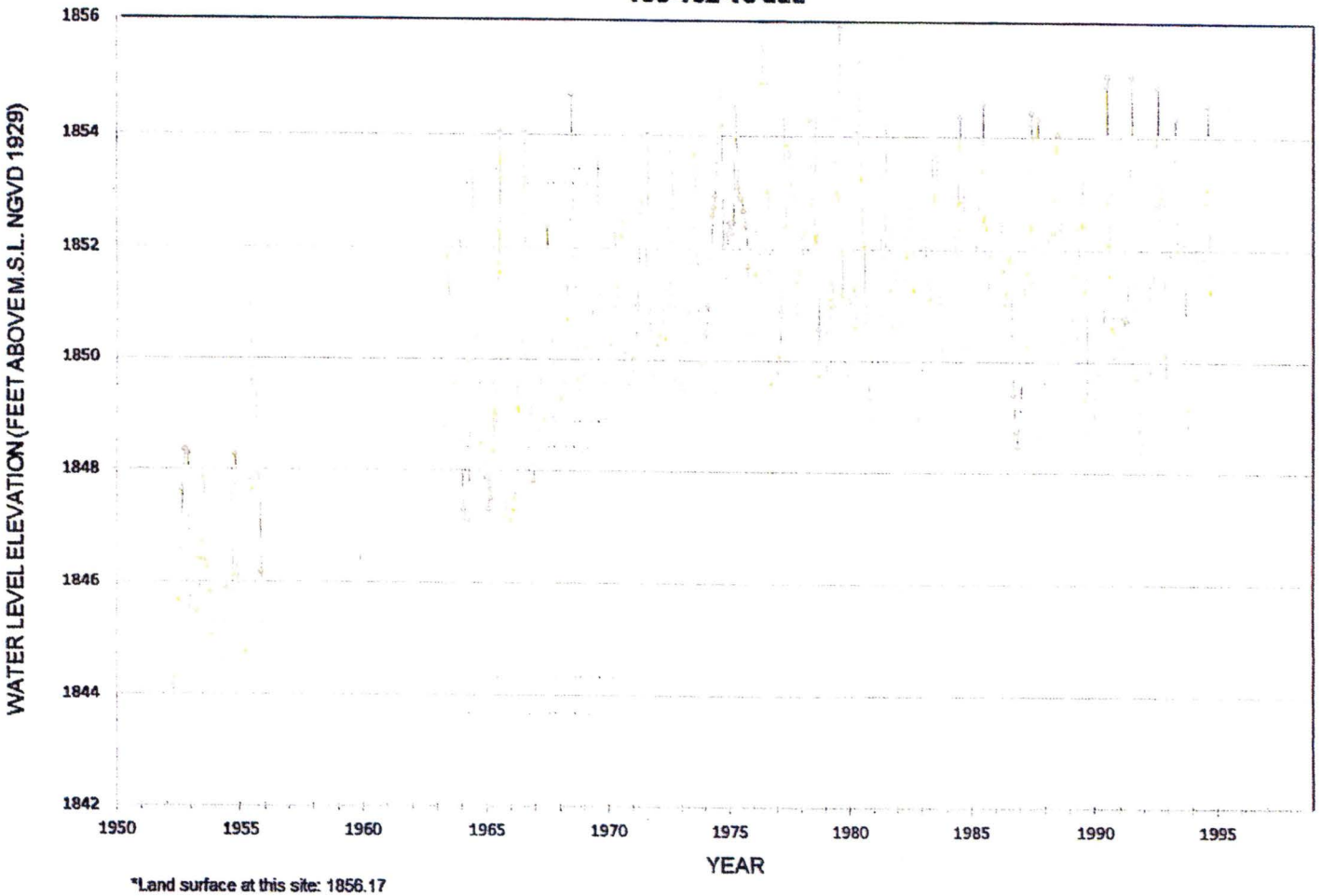
Another factor that influences the vegetative indicators in the area of the Wilkinson Tract is the fact that Painted Woods Creek discharges to the Missouri River just south of the property. Painted Woods Creek has a drainage area of 95 square miles. It's alignment, in relation to the Wilkinson Tract, is illustrated in **Figure 16**. As illustrated in **Figure 17**, the gradient of this tributary flattens significantly when the creek crosses the flats of the Missouri River Valley. This sharp reduction in gradient would increase the likelihood of overbank flooding during significant flow events on Painted Woods Creek. This overbank flooding from the tributary will also influence vegetation in this area, and there is no record of this having been considered during the Phase I delineation. The riparian owner holds all interests in the bed of non-navigable streams, like Painted Woods Creek, and the public's interest in the bed of the Missouri River does not extend up its non-navigable tributaries.

Point #4 Summary

The Phase I OHWM Delineation for this area was based largely on the vegetative indicators noted in the field without taking into account the other factors that influenced those vegetative transitions. Those other factors include the influence of the periodic inundation of this area by Lake Sakakawea, the influence of a well-documented rise in ground water levels in the area, and the influence of periodic flooding from Painted Woods Creek.

The fact that the elevation of the OHWM boundary along the left bank is significantly higher in elevation than the OHWM noted in the field for the right bank supports the fact that the OHWM as delineated for the left bank, using vegetative indicators observed in the field in the area of the Wilkinson Tract, were largely influenced by the local ground water and by Painted Woods Creek.

FIGURE 15
OBSERVATION WELL HYDROGRAPH
153-102-16-ddd



*Land surface at this site: 1856.17

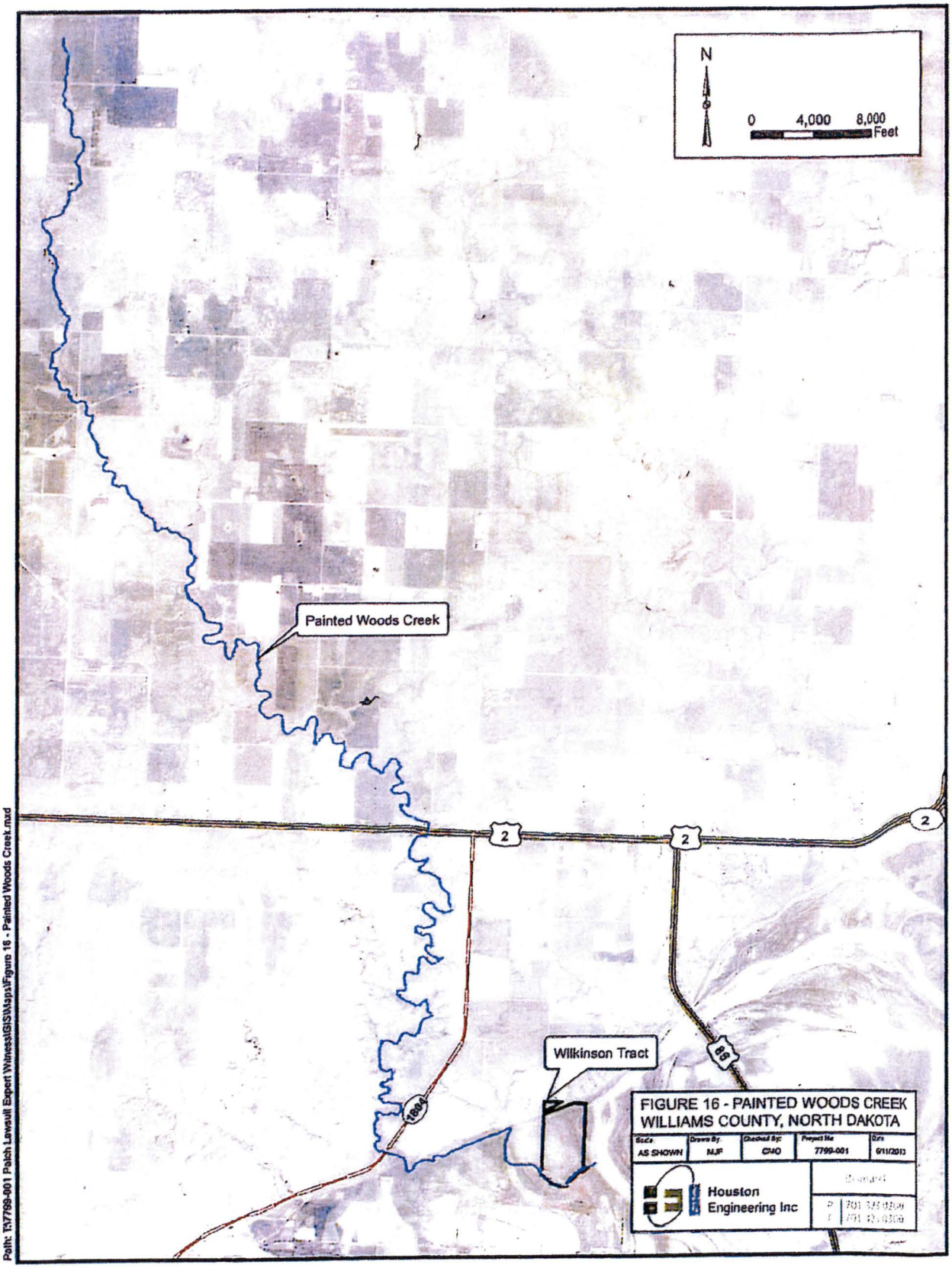
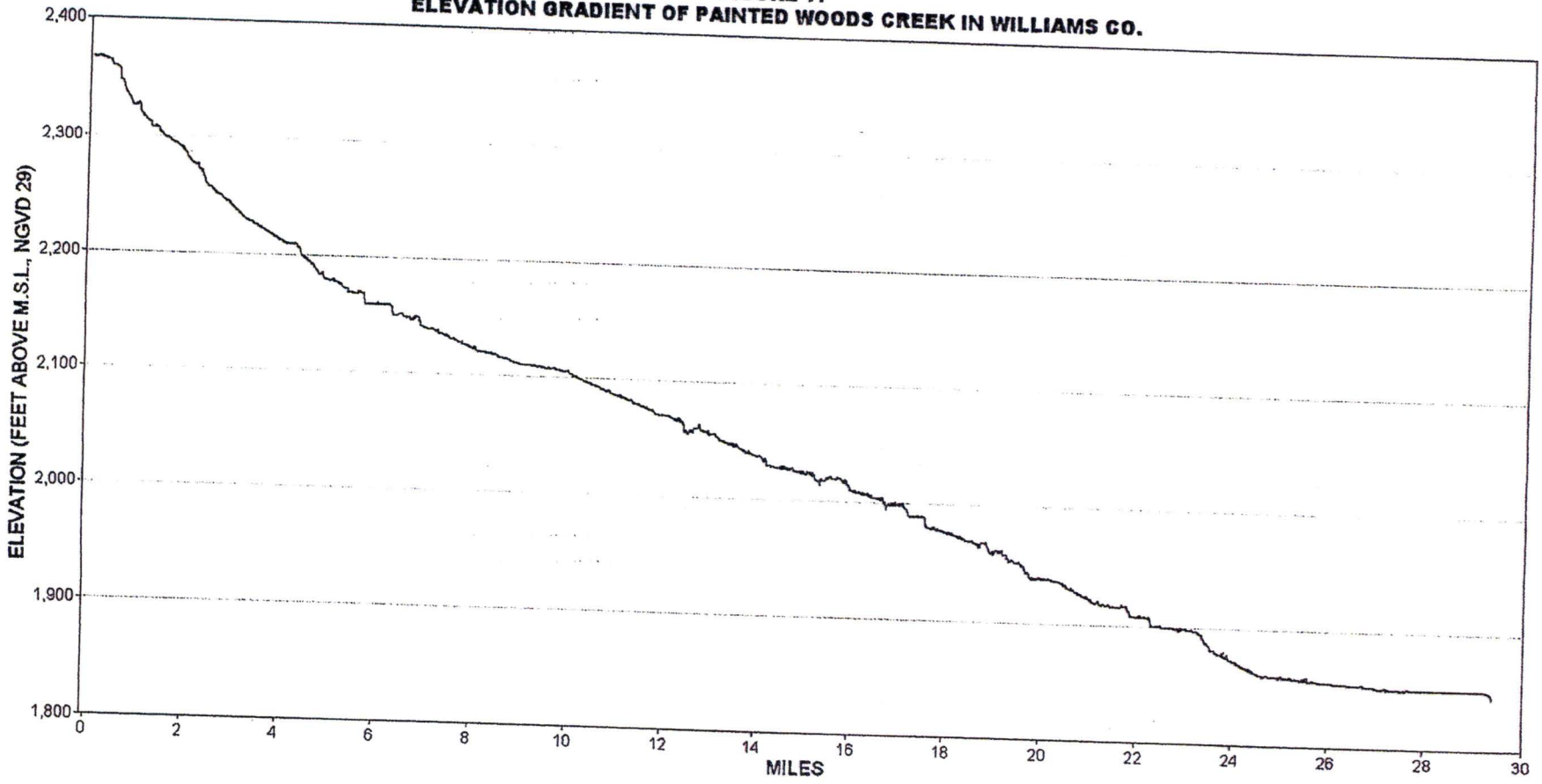

N
0
4,000
8,000
Feet
Painted Woods Creek
2
2
2
1804
85
Wilkinson Tract
FIGURE 16 - PAINTED WOODS CREEK
WILLIAMS COUNTY, NORTH DAKOTA
Houston Engineering Inc
Path: T:\7799-001 Patch Lawsuit Expert Witness\GIS\Maps\Figure 16 - Painted Woods Creek.mxd

FIGURE 17
ELEVATION GRADIENT OF PAINTED WOODS CREEK IN WILLIAMS CO.



Summary and Conclusions

A review of the available data strongly supports the position that the boundary between the riparian and the public's interests along the Missouri River in the area of Sections 12 & 13, Township 153 North, Range 102 West lies along the line delineated as the OHWM in the Phase II study.

The majority of the Wilkinson Tract was clearly above the OHWM before the construction of Garrison Dam. The affidavits and aerial imagery clearly show that the land was used for typical agricultural production. Most of the tract is at an elevation of approximately 1850.0 (NGVD29), and historic stage records show that the Missouri River only reached that level on a very infrequent basis, actually only once in the 37 years of record prior to the construction of Garrison Dam.

The Wilkinson Tract is located within the pool of Lake Sakakawea as evidenced by the fact that the USACE purchased the property as part of the Garrison Dam Project. The frequency with which the property is flooded has increased significantly since the construction of Garrison Dam. The pool of Lake Sakakawea has exceeded an elevation of 1850.0 (NGVD29) six years in 45 years of records. Aerial imagery from high water years 1975, 1997, and 2011 clearly show that the property is directly inundated by Lake Sakakawea.

Because it is clearly shown that the Wilkinson Tract, located upstream of the Highway 85 crossing, is a part of the bed of Lake Sakakawea, the use of Highway 85 as a line of demarcation between the applicability of the Phase I study results and the Phase II study results is arbitrary and has no scientific basis. Because this area is subject to direct inundation by Lake Sakakawea, it is in fact part of the lakebed, and the approach used to delineate the OHWM for the rest of the bed of Lake Sakakawea in the Phase II study yielded the appropriate delineation of the OHWM for this property. The report prepared for the Phase II study noted that for the area in Section 12, "the left bank of the OHWM follows along a cut bank with fields on the adjacent upland." Those upland fields are the same fields that were used extensively for agricultural production before the construction of Garrison Dam.

The results obtained in the Phase I OHWM Delineation for the area of the Wilkinson Tract failed to account for all pertinent hydrologic indicators. There was no recognition of the influence that the periodic inundation by Lake Sakakawea had on the transition between upland and wetland vegetation in this area. There was no consideration given to the vegetative influence of the high ground water levels in this area. There was no consideration given to the impacts of Painted Woods Creek and its periodic flooding on the vegetative indicators in this location. The fact that the elevation of the OHWM boundary along the left bank is significantly higher in elevation than the OHWM noted in the field for the right bank supports the fact that the OHWM as delineated for the left bank using vegetative indicators was significantly influenced by the local ground water levels, periodic inundation by Lake Sakakawea and by flooding from Painted Woods Creek. The vegetative indicators in this location are not indicative of those periods when the Missouri River itself is normally high.

References

1. *Ordinary High Water Mark Delineation Guidelines*, ND State Water Commission, prepared by Houston Engineering, November, 2006.

2. *Technical Report for the Ordinary High Water Mark Delineation of the Yellowstone River and Missouri River in Western North Dakota*, prepared for State of North Dakota by Bartlett West & McCain and Associates, Inc., November, 2010.

3. *Technical Report for the Ordinary High Water Mark Investigation for the Missouri River under Lake Sakakawea*, prepared for ND State Land Department by Bartlett & West & McCain and Associates, Inc., March, 2011.

4. *Methods for Delineation of Ordinary High Water Lines (OHWL) and Ordinary High Water Marks (OHWM) for Natural Resources Plans and Permits (Draft Copy)*, Washington Department of Ecology, Washington Department of Fish and Wildlife, June, 2006.

5. *Reconnaissance Report, Missouri River Buford-Trenton Irrigation District, North Dakota*, US Army Corps of Engineers, Omaha District, Missouri River Division, August, 1993.

6. Garrison Dam Reservoir Elevations, Website: http://www.nwo.usace.army.mil/Missions/DamandLakeProjects/MissouriRiverDams/Garrison.aspx

7. *Missouri River Mainstream Reservoir System Master Water Control Manual*, Reservoir Control Center, US Army Corps of Engineers, Omaha, NE, Revised March, 2006.

State of North Dakota
ss.
County of Burleigh

Affidavit of Lois Jean Patch

I, Lois Jean Patch, of Bismarck, North Dakota, being duly sworn, depose and say, to the best of my knowledge, information and belief, as follows:

1. That I was born in Trenton, North Dakota on February 20, 1924 in my parents home. I lived with my parents in Trenton, North Dakota until I was a late teenager when I went away to college in Fargo, ND. I returned to Williams County and was married in 1944. We settled in Williston where I and my husband raised 8 children. We moved to Bismarck, ND in 1959.

2. During my growing up years in my parent's home, I spent much of my time assisting with the family farming operation, my dad was a wheat farmer. I recall doing a variety of tasks like driving grain trucks or delivering lunch to my dad and brothers in the field. One of the fields where he grew wheat was in the east Trenton valley near the Missouri River. We called that the "big field." I recall working in that field in the spring and fall clearing old roots that would come to the surface every year. We called these "grubs" and would gather them to burn in our furnace as a source of fuel. The attached photo was taken by my brother James Wilkinson and shows my brother Tom Wilkinson driving the tractor pulling the swather and combine being operated by my father John Thomas (Tom sr.) Wilkinson. The exact location of the photo is not known but it is in the east Trenton valley and could be in the "big field" in sections 12 and 13.

3. In my married years while living in Williston, we would often take our kids for a relaxing summer evening drive down to that area to show them the fields where their mother worked with their grandfather and other family members in the fields. Many times their grandfather would comment that it looked like there was going to be another bumper crop from those fields.

4. My father, John Thomas Wilkinson, sold that land to the U.S. government in 1958 because they said Garrison Dam was likely to cause it to be flooded someday.

5. My father reserved the mineral rights when the title of the land was transferred to the U.S. government.

6. I have no recollection or knowledge of flooding occurring on this land in the years I lived in Trenton or Williston. However, I possess a letter from my father where he describes the joys and hardships of life in the Trenton Valley. He mentions the occasional flooding from Painted Woods Creek that might wash away his seed or lodge his wheat. Painted Woods creek passes through the fields in Section 12 and 13. I have fond memories of play along the dry

creek banks with my sisters as my dad and brothers worked in the fields.

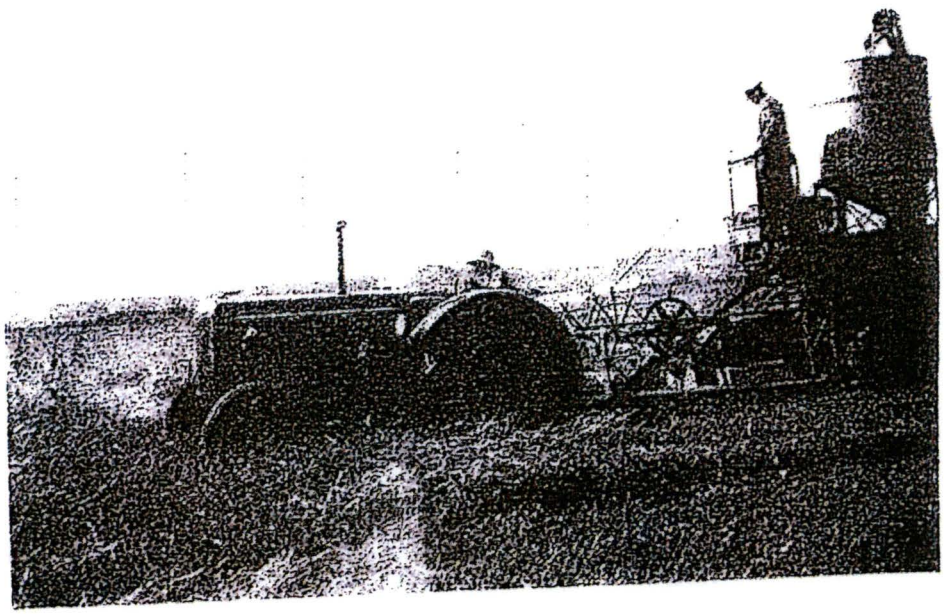
RACHAEL CASPERS
Notary Public
State of North Dakota
My Commission Expires Sept. 15, 2015

Lois Jean Patch
Lois Jean Patch

Subscribed and sworn to before me this 20 day of April, 2011.

Rachael Caspers
Notary Public

My commission expires: Sept 15, 2015.



AFFIDAVIT

State of Michigan

ss.

County of Ingham

I, William S. Wilkinson, of East Lansing, Michigan, being duly sworn, depose and say, to the best of my knowledge, information and belief, as follows:

1. That I was born in Williston, North Dakota on September 6, 1933 and lived with my parents, John T. and Evelyn Wilkinson, in Trenton, North Dakota until approximately 1955.

2. That during these years, my parents owned and farmed various parcels of land in the Trenton area, growing mainly spring wheat, along with some barley and flax.

3. That two of these parcels were in the Missouri River valley east of Trenton, described as the Southwest Quarter and the South Half of the Northwest Quarter, except that portion which constitutes the Great Northern Railway Company right of way, in Section 12; and Farm Unit No. 312 in the Buford-Trenton Project, according to the recorded plat thereof, in Section 13; all being located in Township 153 North, Range 102 West, Williams County, North Dakota.

4. That during my teenage years, I assisted my father each year in growing and harvesting mainly spring wheat on these parcels of land.

5. That in 1958, the United States of America purchased these parcels from my parents because, as it was stated to me, it was necessary because the parcels were subject to flooding from the lake created by the construction of the Garrison Dam downstream on the Missouri River. The deed reserved the oil and gas rights to my parents. These rights are presently owned by my siblings and me.

6. That during the years that I lived with my parents and to and including the year the parcels were sold to the United States of America, I have no recollection or knowledge of there being any flooding associated with these parcels.

William S. Wilkinson

Subscribed and sworn to before me this 15th day of April, 2011

K Doyle
Notary Public

My commission expires: 8/14/17

K DOYLE
NOTARY PUBLIC - STATE OF MICHIGAN
COUNTY OF EATON
My Commission Expires: August 14, 2017
Acting in the County of Ingham

AFFIDAVIT

I, Vanessa E. Blaine of 12801 Deer Dancer TRAIL NE, Albuquerque, New Mexico, 87112, being duly sworn, depose and say, to the best of my knowledge, information and belief, as follows:

1. I was born in Trenton, North Dakota on February 8, 1928. I am the daughter of John T. and Evelyn M. Wilkinson and lived in Trenton until the fall of 1945. I then lived in Williston, North Dakota until January 1948.
2. During the WW II years my two older brothers enlisted in AAF and Navy respectively. In preparing my being able to help in the fields and with farm work, my mother took me before Judge Owens to obtain a driver's license at twelve years of age. I was fifteen when my brother Tom entered the Navy and I began driving a ¾ ton truck hauling grain from the harvested fields to the local grain elevator.
3. During these years my parents farmed land along the Missouri River in what was known as the Trenton Valley. My father planted spring wheat, barley, and flax on many parcels of land, totaling 1,100 acres at one point in time. The parcels I remember well were known as the Purcell, Mitchell, Macklemerry, Karels, and the field most easterly was known to me as the Big Field.
4. It is my belief that the Big Field was in the SW1/4, S1/2 NW1/4, of Section 12. One parcel was also in Section 13 known as Farm Unit 312 of the Buford-Trenton Project all being located in Township 153 North, Range 102 West, Williams County, North Dakota.
5. The mineral rights were reserved when the parcels in Section 12 and 13 were sold to the Corps of Engineers as it was reported that the construction of the Garrison Dam would subject them to flooding.
6. I have no recollection or knowledge of any flooding of the parcels farmed by my father and no knowledge of any flooding whatsoever in the Trenton Valley.

Vanessa E Blaine

Vanessa E. Blaine

Subscribed and sworn before me this 14 day of April 2011

Tammy Wieman

Notary Public

My commission expires: OFFICIAL SEAL TAMMY WIEMAN NOTARY PUBLIC State of New Mexico My Commission Expires 2.14.2014

Hi Jan -
Thought you'd find
this interesting

Trenton Farmer Has Splendid Wheat Crop

Tom Wilkinson, farmer on the Missouri bottoms in the country near Trenton, is believed to have the best wheat crop harvested this year in Williams county, friends said Tuesday. He has harvested and threshed 255 acres which gave an average yield of 25 bushels of No. 1 wheat. The quality and average yield are the best so far reported this season here.

1940241

APPENDIX B

Eng Form 798-R
1 Jan 46

CERTIFICATE OF INSPECTION AND POSSESSION
(Lands other than Federal Building Sites)

I, John L. BURGUM, a representative of the Department of the Army hereby certify that on the 10 day of June, 1958, I made a personal examination and inspection of land situated in the County of Williams, State of North Dakota, designated as Tract No. NM-3190 and containing 286.04 acres, (proposed to be) acquired by the United States of America in connection with the Garrison Dam and Reservoir Project, from J. T. Wilkinson and Evelyn M. Wilkinson, his wife

1. That I found no evidence of any work or labor having been performed or any materials having been furnished in connection with the making of any repairs or improvements on said land; and that I made careful inquiry of the above-named vendor (and of the occupants of said land) and ascertained that nothing had been done or about said premises within the past 3 months that would entitle any person to a lien upon said premises for work or labor performed or materials furnished.

2. That to the best of my knowledge and belief, and after actual and diligent inquiry and physical inspection of said premises, there are no unrecorded visible easements which are not covered by proper releases or which have not been waived in writing by the acquiring agency.

3. That I also made inquiry of all occupant (s) of said land as to his (their) rights of possession and of the vendor and such occupants as to the rights of possession of any person or persons known to him (them) and neither found any evidence nor obtained any information showing or tending to show that any persons had any rights of possession or other interest in said premises adverse to the rights of the above-named owner or the United States of America, except such mineral right, roads, rights-of-way and public utility easements as have been administratively waived by the Department of the Army and the following: (1) (Insert names and addresses together with statement of right of interest claimed.)

NAME	ADDRESS	STATEMENT OF INTEREST CLAIMED

APPROVED:

_____ (Name)

_____ (Title)

John L. Burgum (Name)

Attorney (Title)

This certificate will be executed by a representative of the Department of the Army.)

(1) In purchase cases the rights of all persons in possession or claiming a right of possession exclusive of mineral rights, roads, rights-of-way and public utility easements which have been administratively waived by the Department of the Army, must be eliminated by a proper release, quitclaim deed or disclaimer. However, if the Department of the Army has determined to acquire title subject to outstanding mineral rights, roads, rights-of-way or public utility easements, it will not be necessary to obtain a release, quitclaim deed or disclaimer for such mineral rights, roads, rights-of-way or public utility easements as have been administratively waived in writing by the Department of the Army.

RECEIPT FOR UNITED STATES TREASURER'S CHECK

Receipt is acknowledged this 10 day of June, 1958, of Treasury Check of the United States No. 10,107, dated May 23, 1958, in the amount of $ 43,327.00, payable to the order of J. T. Wilkinson and Evelyn M. Wilkinson, his wife issued in connection with the acquisition by the United States of America of premises situated in Township 153 North, Range 102 West of the 5th P.M. County of Williams, State of North Dakota, and more particularly described as follows: Farm Unit No. 312 in Buford-Trenton Project, according to the plat thereof recorded in the office of the Register of Deeds of Williams County, North Dakota, in Deed Book 101, Page 413, being a part of Section 13, in Township 153 North, Range 102 West of the Fifth Principal Meridian, and containing 57.09 acres, more or less; also the Southwest quarter ($SW\frac{1}{4}$) and the South half of the Northwest quarter ($S\frac{1}{2}NW\frac{1}{4}$) of Section 12, Township and Range aforesaid, excepting that portion of said South half of the Northwest quarter ($S\frac{1}{2}NW\frac{1}{4}$) which constitutes right-of-way of the Great Northern Railway Company, containing, exclusive of said exception, 228.95 acres, more or less.
which sum is in full satisfaction and discharge of the interest of the undersigned in the premises conveyed.

(Payee or Payees) J. T. Wilkinson
J. T. Wilkinson
Evelyn M. Wilkinson
Evelyn M. Wilkinson

Address: Trenton, North Dakota

Project: Garrison Dam & Reservoir

Tract No. HH-3190

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Montana State Office
5001 Southgate Drive
Billings, Montana 59101-4669
www.blm.gov/mt

In Reply Refer To:
9661 (MT926)

March 23, 2016

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Mr. Lance D. Gaebe
Commissioner of University and School Lands
North Dakota Department of Trust Lands
P.O. Box 5523
Bismarck, ND 58506-5523

Mr. Todd Sando
State Engineer
North Dakota State Water Commission
900 East Boulevard Ave.
Bismarck, ND 58505-0850

Dear Messrs. Gaebe and Sando:

We are in receipt of your statement of reasons received on December 10, 2014, supporting the two letters of intent to protest the official filing of Supplemental Plats by the Branch of Cadastral Survey. The letters of intent to protest were received on August 6, 2014, from the North Dakota Department of Trust Lands and August 7, 2014, from the Office of the State Engineer (OSE).

In your statement of reasons, you assert two reasons why the Bureau of Land Management (BLM) should not officially file the Supplemental Plats, approved April 9, 2014, and May 8, 2014, representing the geographic limits of the Public Domain interests. Your reasons are:

1) The BLM's Supplemental Plats should utilize the Ordinary High Water Mark (OHWM) survey initiated by North Dakota in 2009 that follows the OSE's 2007 guidelines; and
2) The Army Corp of Engineer's (COE) Acquisition Segment Maps (Segment Maps), upon which the Supplemental Plats are based, are not an accurate reflection of the OHWM.

The State of North Dakota's (State) OHWM delineation, as depicted on Enclosure 1, claims approximately 1,140 acres of Public Domain[1] subsurface estate and 896 acres of Public Domain surface estate on the Supplemental Plats to be State sovereign land. In addition, the State also claims approximately 2,637 acres of fee subsurface estate and 2,881 acres of COE-acquired surface estate as State sovereign land, which are not addressed on the Supplemental Plats.

[1] For clarification, Public Domain interests in the State of North Dakota refer to land interests (surface and subsurface) where title has never left the Federal Government.

EXHIBIT
tabbies 5

56

Your protest points are focused on the location of the OHWM line, depicted on the Supplemental Plats, which is the boundary between upland ownership and State riverbed title under the Equal Footing Doctrine.

Riverbed Title Under the Equal Footing Doctrine

Your protest concerns riverbed title and not public trust issues. This distinction is important because it controls the source of law to be applied in defining the OHWM. A recent United States Supreme Court decision distinguishes the two in *PPL Montana, LLC v. Montana* 132 S. Ct. 1215, 1235 (2012):

> *"Under accepted rules of federalism, the States retain residual power to determine the scope of the public trust over waters within their borders, while federal law determines riverbed title under the equal-footing doctrine."*

Thus, federal law determines riverbed title under the equal footing doctrine. The following leading federal court cases provide the controlling definitions of the OHWM.

In *Howard v. Ingersoll*, 54 U.S. 381, ___ (1851), the United States Supreme Court's ruling focused on a line impressed upon the bank by the action of water as the primary indicator of the OHWM and marking the permanent bed of the river. The court also found that the bed of a river does not encompass lands outside of the banks that are subject to periodic overflow nor does it include those lands that are viable for agriculture or grazing:

> *"It neither takes in overflowed land beyond the bank, nor includes swamps or low grounds liable to be overflowed, but reclaimable for meadows or agriculture, or which, being to low for reclamation, though not always covered with water, may be used for cattle to range upon, as natural or uninclosed pasture. 54 U.S. at 415-16."*

The concurring opinions provide more clarification and established the importance of an examination of vegetation that separates the riverbed from upland, and help provide basis for subsequent federal court case definitions.

Approximately 50 years later, the Eighth Circuit reiterated *Howard v. Ingersoll* in slightly different wording:

> *"The bed of the river is that soil so usually covered by water that it is wrested from vegetation . . . and does not extend to or include that upon which grasses, shrubs, and trees grow, though covered by the great annual rises."*

Harrison v. Fite, 148 F. 781, 783 (8th Cir.1906).

A more recent federal district court case addressed the OHWM of a lake but lends guidance that transitional marshlands are not enough evidence for inclusion within the OHWM:

> *"At most the evidence shows that the dike stands on property that has historically served as marshland for Lake Harney periodically absorbing the lake's high waters*

and periodically serving as productive agricultural land for its owners. This is not enough to infer that the dike stands below the ordinary high water mark the point at which the bed of the lake ends and the fast lands begin."

United States v. Cameron, 466 F. Supp. 1099, 1114 (M.D. Fla. 1978)

And, finally, *United States v. Claridge*, 416 F. 2d 933, 934 (9th Cir.1969) references the definition in *Howard v. Ingersoll* and calls for a natural feature and further explains that the OHWM does not include the floodplain from bluff to bluff due to spring floods:

"The ordinary high water mark of a river is a natural physical characteristic placed upon the lands by the action of the river. It is placed there, as the name implies, from the ordinary flow of the river and does not extend to the peak flow or flood stage so as to include overflow on the flood plain, nor is it confined to the lowest stages of the river flow."

The BLM's Manual of Surveying Instructions, 2009 (Manual) has interpreted these leading cases on OHWM and summarized them into a contemporary definition of the OHWM for the surveyor in section 3-164:

"For inland waters, the OHWM normally used is the line below which the water impresses on the soil by covering it for sufficient periods to deprive it of terrestrial vegetation, and the soil loses its value for agriculture, including the grazing of livestock."

The Manual provides guidance in section 3-167 on locating the OHWM by utilizing the vegetation examination:

"A small pocket of an aquatic type plant growing in low places not in the riverbed is also not an indicator of the OHWM and does not indicate that the OHWM should be moved toward upland to include that pocket of aquatics. It is the most water-ward location of the terrestrial species that is determinative."

Rivers and OHWMs have been moving on the earth's surface for thousands of years and remnants of those movements are evidenced on virtually every aerial photo. However, we concern ourselves with the date on which rights were established, such as date of statehood and subsequent river movements for riverbed title under the Equal Footing Doctrine and entry dates for patents. The original surveys by the General Land Office classified upland of the Public Domain for patenting and created survey plats; generating the first representation of all of the rights within a township in relationship to one another. Since you are not challenging the validity of the original surveys, in this case we concern ourselves with the location of the OHWM prior to the artificial rising of the Missouri River to form Lake Sakakawea.[2]

[2] Serving as background timeline information, the construction of Garrison Dam was authorized by the Flood Waters Control Act of 1946 and caused the artificial rising of the Missouri River to form Lake Sakakawea. Construction began in 1946 with reservoir filling initiated in December of 1953 and reaching minimum operating pool on August 7, 1955. http://www.nwo.usace.army.mil/Media/FactSheets/FactSheetArticleView/tabid/2034/Article/487634/garrison-project-statistics.aspx

To resolve your protest, we will address locating the line of ordinary high water, both legally and factually. It must be accepted that the OHWM along a river is an ambulatory boundary that migrates through the normal actions of accretion and erosion and has moved since rights were bounded by it. While we agree there will be some differences in location based on dates of aerial photography and dates of field work due to accretion and erosion, it appears that your OHWM guidelines do not comport with federal law and cannot be used to determine riverbed title under the Equal Footing Doctrine.

Discussion of State Reason No. 1

A) OSE's OHWM Delineation Guidelines of 2007

The BLM's Branch of Cadastral Survey has reviewed the OSE's OHWM Delineation Guidelines of 2007 and finds it mostly in conformity with the federal definition except for defining grazing of livestock and certain agriculture as being below the OHWM, as outlined in the Final Technical Report for the OHWM Investigation for the Missouri River Under Lake Sakakawea which states:

> *"Areas below the OHWM may have vegetation suitable for grazing but wetland vegetation capable of being grazed is not an "ordinary agricultural crop."*
>
> *Another complicated area included the low lying hayfields. For this study, the term "field" refers to hayed or mowed areas, and does not imply that the area has been cultivated or seeded. Farming practices along the river during drier, low water periods often extended into the lower floodplain areas, closer to the water's edge. These "fields" may be cut for hay, or cultivated for a short time, but rapid colonization of wetland species on these hay fields likely occurred when the wetter period and subsequent higher water levels returned."*

The grazing statement is in direct contradiction to the *Howard v. Ingersoll* reference of *natural or uninclosed* pasture and the Manual definition of OHWM. *United States v. Cameron* references marshland that periodically absorbs the high waters and periodically serves as productive agriculture which was directly tied to the grazing of livestock and was found not enough to infer the lands were below the OHWM.

The hay field statement is in direct contradiction to the *Howard v. Ingersoll* reference to lands liable to overflow but reclaimable for meadows or agriculture. It also contradicts *Harrison v. Fite* in that the bed does not extend to land which grasses grow although covered by rises in the water. The implication is that the land can ordinarily be utilized for agriculture, even though the remnants of water in low areas of the floodplain caused by rises in the river allow for pockets of aquatic vegetation to grow periodically, which is also addressed in the aforementioned cases.

The BLM's Branch of Cadastral Survey has reviewed the State's OHWM survey Task Order No. 2 and finds the intent to locate the OHWM of the Missouri River prior to the artificial rising of the Missouri River to form Lake Sakakawea to be correct and does not believe the State is attempting to claim the pooled lakebed of Lake Sakakawea as a navigable waterway under the Equal Footing Doctrine.

Cultivation and seeding are not prerequisites for *productive agriculture*[3] which would thereby exclude *natural or uninclosed*[4] pasture suitable for grazing or natural grass haying. Specifically the upland extends towards the river to the lowest extent of upland vegetation and not the landward extent of aquatic vegetation.

These deviations from the Federal definition of OHWM allow the State's delineation of OHWM, which is visually represented on Enclosure 2 hatched in blue and overlaid on the 1958 aerial photo, to impermissibly encompass upland with terrestrial vegetation, hay fields, and cultivated fields.

Likewise, the State's OHWM delineation, depicted on Enclosure 3 hatched in blue and overlaid onto the 1952 aerial photo, spans from *bluff to bluff*[5] taking in uplands temporarily overflowed by *freshets*[6] which is in direct contradiction to all Federal case law and moreover, the State's delineation, which does not reference utilizing the 1952 aerial photo follows the extent of water on the 1952 photo very closely. But, this photo is a representation of one of the highest recorded flows, which is not characterized as "ordinary." The date of the aerial photo, April 5, 1952, has been correlated to United States Geological Survey (USGS) flow data obtained at: http://waterdata.usgs.gov/usa/nwis/inventory/?site_no=06330000&agency_cd=USGS. Thirty-seven years of flow data from 1928-1965 shows that only 21 days had higher flows than the aerial photo date (April 5, 1952), of which 4 days were also in 1952. Enclosure 4a is the mean daily discharges for 1952; 4b is the highest daily means from 1928-1965; 4c is a graph of the 37 year discharges.

Therefore, BLM believes the State's OHWM delineation is skewed due to the aforementioned deviations from the Federal definition of OHWM and residual flood waters from an extraordinary event onto the floodplain. The State's OHWM delineation depicts the riverbed to be three times the width of the General Land Office's originally surveyed meanders. Originally surveyed meanders are typically landward of the actual OHWM, and while it is acknowledged that OHWMs move laterally, no evidence shows why the riverbed has widened, up to triple in size, to encompass lands classified as upland in the original survey.

The sheer width of the State's OHWM delineation, as depicted on Enclosure 1, clearly shows that it ignores the *natural physical characteristic*[7] of the OHWM which is a *natural object*[8] and extends *beyond the banks*[6] to encompass significant portions of the floodplain. Thus, BLM's Supplemental Plats should not utilize North Dakota's 2009 OHWM survey.

B) Chain of Title

At the meeting on July 22, 2014, in Bismarck, ND, Josh Alexander, BLM's Acting Chief Cadastral Surveyor for public lands in North Dakota, specifically asked if the State's OHWM delineation was to determine surface rights, subsurface rights, or both. The verbal response was

[3] *United States v. Cameron*, 466 F. Supp. 1099 (M.D. Fla. 1978)
[4] *Howard v. Ingersoll*, 54 U.S. 381 (1851)
[5] *United States v. Claridge*, 416 F. 2d 933 (9th Cir.1969)
[6] *United States v. Harrell*, 926 F.2d 1036 (11th Cir. 1991)
[7] *United States v. Claridge*, 416 F. 2d 933 (9th Cir.1969)
[8] *Howard v. Ingersoll*, 54 U.S. 381 (1851)

that it determined the boundary of State Sovereign land encompassing both surface and subsurface rights.

But, the State's delineation did not consider previous conveyances, as evidenced by chain of title research. Enclosures 5a, 5b, and 5c are the State's OHWM delineation, which is hatched in blue and overlaid onto the COE Segment maps, in which the State's delineation encompasses:

1) 188.66 acre island, Y2250 (Enclosure 5a)
2) 228 acres within Y2289 (Enclosure 5b)
3) 71.07 acres within Z2382 (Enclosure 5c)

These parcels were conveyed to the United States by the State as upland (see Enclosure 6 for conveyance documents). The magnitude of acquisitions by the COE clearly shows the intent was to purchase displaced uplands. The chain of title clearly shows that the State agreeably conveyed upland and islands, which is now being depicted and claimed as riverbed. An island must exist above the OHWM to be considered an island; otherwise it is a part of the bed (sandbar). At the time of the conveyance, an OHWM determination was made to facilitate the conveyance of the island and the upland. These conveyances were for upland surface only. The State's new OHWM delineation must omit these areas as they have previously been classified as upland, not below the OHWM, and are not part of surface Sovereign Lands of the State. Thus, BLM's Supplemental Plats should not utilize North Dakota's 2009 OHWM survey.

C) Sovereign Lands

In its protest, the State is utilizing its delineation as a basis for claim to sovereign land and to require mineral lease and royalty payments from oil and gas operators. However, prior to viewing the delineations at https://land.nd.gov/minerals/mineralapps/OHWM2/OHWM2Disclaimer.aspx. there is a caveat:

> *"The work completed under this contract is to delineate the ordinary high water mark (OHWM) and is not a final legal determination as to whether any specific property is "sovereign land.""*

Thus, it is unclear how much weight to give to the State's OHWM delineation even though the State's Statement of Reasons infers that we should honor it wholly. Instead, BLM's Supplemental Plats are without limitation and provide the better evidence of riverbed title.

For the foregoing reasons, the State's first protest point is denied.

Discussion of State Reason No. 2

A) BLM Field Investigations Prior to Flooding

The COE Segment Maps were the basis for land title acquisition by the COE for those upland lands that would be affected by the artificial rising of the Missouri River to create Lake Sakakawea. The Segment Maps depict the Missouri River OHWM and are the most

comprehensive evidence of the Missouri River OHWM just prior to the formation of Lake Sakakawea.

To determine what lands were classified as public lands, the COE engaged BLM's Branch of Cadastral Engineering (now Branch of Cadastral Survey) to execute field investigations prior to flooding. BLM surveyors were guided by Special Instructions dated October 24, 1952 (Enclosure 7). Importantly, there is no evidence that the State of North Dakota raised concerns about the Special Instructions or subsequent acquisitions.

The Special Instructions stated the following regarding the lot or legal subdivision listed:

> *"Ascertain whether any or all of it is above mean high water at the present time*
>
> *If it is found to be above water at present, determine whether any or all of it has been in existence above mean high water continuously since the original survey was made*
>
> *Show what part of the tract has been in existence since the date of the original survey*
>
> *If the land has been entirely washed away and has re-appeared, determine the date it was submerged and when it re-appeared*
>
> *If accretion to a tract of public domain land has formed, show the extent of such accretion*
>
> *If substantial accretion appears to have formed in front of riparian privately-owned lands prior to the date of entry, show the extent of such accretion and the date a substantial amount had formed in front of the original tract*
>
> *Where changes have taken place in the river channel, determine whether the change was due to avulsive action, or to the slow and imperceptible process of reliction and accretion*
>
> *To determine the above facts, you will study all plats, charts, maps, aerial photographs and records found that may have a bearing on the case at hand. You will determine the age of timber growing on the land and obtain such other information as is available including the interviewing of old settlers who may be familiar with the river changes at those places."*

BLM officers were operating under the BLM's Manual of Surveying Instructions, 1947 (1947 Manual), and the term "mean high water" for inland waters carries the same determination principles and conformance to law as the OHWM, as evidenced by guidelines in the 1947 Manual.

The BLM conducted extensive field investigations to determine what lands existed above the OHWM, made a determination on river movement, its effect on land title, and compiled this information in an investigative report. These reports were utilized to determine public lands above the OHWM, addressing both accretion and erosion to public lands. Those determinations

were depicted on the Segment Maps. In other words, the COE Segment maps are based on BLM field work, analysis, and standard practices. See Enclosures 8, 9, and 10 for the progression from BLM field investigation report map (8) to Segment Map (9) to Supplemental Plat (10), all of which depict the same findings from the field investigations.

B) North Dakota State Lands Department (SLD)'s Previous OHWM Delineation

1) Land acquisition documents show that SLD participated in the COE survey process.

A conveyance document in Enclosure 6 infers that the SLD performed an OHWM determination prior to the conveyance. The last page of Enclosure 6 states:

"The above is based on Survey Report furnished by the State School Land Department."

The SLD Survey Report was requested by the BLM's Branch of Cadastral Survey. However, its whereabouts are unknown and remains unfurnished. But, based on the subsequent conveyance, the referenced SLD Survey Report likely made a determination that Y2250 was an island existing above the OHWM, thereby necessitating the need for purchase by the COE as uplands that would be displaced by the artificial rising of the Missouri River to create Lake Sakakawea.

Although the Final Technical Report for the OHWM Investigation for the Missouri River Under Lake Sakakawea states that the SLD was unaware of any previous OHWM determinations, we believe that the land acquisition documents establish that the SLD participated in the OHWM determinations upon which the COE segment maps are based.

2) Documents show that SLD participated in the condemnation process for uplands.

To further outline the SLD's involvement and conclude that the State was aware of upland acquisitions, we obtained correspondence documents (Enclosure 11) showing that SLD and COE deliberations led to a formal and friendly condemnation process, which was followed by the SLD and the COE.

Despite legislation being passed to convey State lands without mineral reservation, the condemnation process was instituted due to the reluctance of then SLD Commissioner, John O. Lyngstad. Mr. Lyngstad was reluctant to sell State lands and supported the condemnation process for fear of political repercussions of selling State land. Mr. Lyngstad relays his reluctance by predicting accusations from farmers that they would be willing to pay the State more money than was being offered by the Federal Government. It is certain that farmers would not be willing to pay for these uplands if they were not productive for agriculture indicating the lands existed as upland above the OHWM. The State's OHWM delineation incorrectly classifies these same uplands as riverbed.

Revisit Enclosure 6 showing the execution of this process whereby the COE sent appraisals for displaced state uplands asking for consideration by the Board of University and School Lands, execution by the Land Commissioner, and condemnation.

C) Appraisals

Full appraisals were conducted for acquisition of displaced uplands to justify and provide basis for the expenditure of appropriated funds. These appraisals quantify upland area and quantify the uses of the upland, including agricultural production, timber, brush, etc. While utilized for appraisal values, these quantifications provide significant documentation with regard to the acquired displaced uplands, depicted on the COE Segment maps, existing above the OHWM. See Enclosure 12, which is the same area as Enclosure 2 showing the State's OHWM delineation encompassing brush and productive agriculture as identified by the land appraisal. The State's delineation does not follow Federal case law or OHWM definitions with the inclusion of these uplands.

For the reasons outlined above, we reject the State's assertion that the COE Segment Maps are not an accurate reflection of the OHWM. The OHWM was established by BLM-led field investigations using Special Instructions that were not disputed by the State. In fact, there is ample evidence showing that the SLD participated in the establishment of the OHWM determination. The second protest point is denied.

Conclusion

The COE Segment Maps are firmly grounded in guidance, methodology, and contemporaneous field investigations of the land prior to the effects of flooding. These Segment Maps are the most comprehensive evidence of the OHWM prior to the artificial rising to create Lake Sakakawea. The Segment Maps were the basis for millions of dollars of appropriated funds being spent to acquire displaced uplands and were generated with determinations from in-the-field investigations by BLM, and involvement from the BLM and ND SLD, and have gone uncontested for over 60 years.

Moreover, the BLM's Branch of Cadastral Survey performed a quality check prior to incorporating them into the Supplemental Plats. The COE Segment Maps were overlaid onto aerial photography and evaluated for OHWM determination and riparian movement effects on land title. Miniscule differences were identified due to difference in dates of aerial photography compared to the dates of the field investigations and the constant movement of rivers. In these areas, deference was given to the Segment Maps due to the field-based reports and techniques and the fact that chain of land title was based upon them and were determined to have been executed in accordance with federal guidelines.

Based on the aforementioned analysis, the BLM finds the State's OHWM delineation:

1) does not comply with the federal definition of the OHWM
2) does not honor chain of title or previous involvement with the COE
3) is an overreaching delineation that impairs:
   a) the mineral rights of private owners as vested from original patents from the Federal Government
   b) the Federal Government's acquired rights in land, and
   c) the rights of all in the Public Domain interests in land.

Your protest to the official filing of plats of survey posted in the *Federal Register* on July 8, 2014, is hereby dismissed. The Supplemental Plats shall be officially filed in this office.

You have the right to appeal this decision to the Office of Hearings and Appeals, Office of the Secretary, U.S. Department of the Interior, Board of Land Appeals (Board), in accordance with the regulations contained in 43 CFR Part 4 and the enclosed Form 1842-1 (Enclosure 13). In taking an appeal, there must be strict compliance with the regulations. If you choose to appeal, a notice of appeal must be filed in this office within thirty (30) days of receipt of this letter for transmittal to the Board. If your notice of appeal does not include a statement of reasons, one must be filed with the Board within thirty (30) days after the notice of appeal was filed. A copy of your notice of appeal and any statement of reasons, written arguments, or briefs, must also be served upon the Office of the Solicitor, Rocky Mountain Region, 2021 Fourth Avenue N., Suite 112, Billings MT 59101. Service must be accomplished within fifteen (15) days after filing in order to be in compliance with appeal regulations.

As provided by 43 CFR Part 4, you have the right to petition the Office of Hearings and Appeals to stay implementation of the decision; however, you must show standing and present reasons for requesting a stay of the decision that address your interests and the manner by which they would be harmed. A petition for stay of a decision pending appeal shall show sufficient justification based on the following standards: (1) The relative harm to the parties if the stay is granted or denied; (2) The likelihood of the appellant's success on the merits; (3) The likelihood of immediate and irreparable harm if the stay is not granted; and (4) Whether the public interest favors granting the stay. Should you choose to file one, your stay request must accompany your notice of appeal. A notice of appeal with petition for stay must be served upon the Board, Regional Solicitor, and adverse parties at the same time such documents are served on the deciding official at this office. The person signing the notice of appeal has the responsibility of proving eligibility to represent the appellant before the Board under its regulations at 43 CFR 1.3.

Sincerely,

Aden L. Seidlitz

Aden L. Seidlitz
Acting State Director

13 Enclosures
1- Overall comparison of OHWM delineations in protested area
2- OHWM comparison overlaid onto 1958 aerial photography
3- OHWM comparison overlaid onto 1952 flood aerial photography
4- USGS flow data
5- State OHWM delineation overlaid onto Segment Maps
6- State land conveyance correspondence and execution documents
7- BLM Special Instructions
8- BLM field investigation report map
9- Portion of Segment Map

10- Portion of BLM Supplemental Plat
11- COE and SLD correspondence
12- Land appraisal map
13- Form 1842-1

cc: Karan Dunnigan
Office of the Solicitor
Billings, MT

#14
2-3-17
HB1199
Kranda

Testimony in Support of

HOUSE BILL NO. 1199

House Energy and Natural Resources Committee

February 2, 2017

Chairman Porter, House Energy and Natural Resources Committee members, for the record my name is Todd D. Kranda. I am an attorney with the Kelsch Kelsch Ruff & Kranda Law Firm in Mandan. I appear before you today as a lobbyist on behalf of the North Dakota Petroleum Council (NDPC) to explain our support of the concept and intent of HB 1199.

NDPC represents more than 500 companies involved in all aspects of the oil and gas industry, including oil and gas production, refining, pipelines, transportation, mineral leasing, consulting, legal work, and oilfield service activities, and has been representing the industry since 1952.

HB 1199 has a companion bill that exists in the Senate chamber, namely SB 2134, which addresses the same subject matter of the ordinary high water mark and mineral ownership. The Fiscal Note adequately provides a brief summary and description of the provisions of HB 1199. For your convenience, I have attached a copy of SB 2134 which was heard already in the Senate on January 12, 2017.

In conclusion, NDPC does support the effort, intent and concept to address the high water mark and mineral ownership issue as covered in **HB 1199** but prefers the version of the legislation presented in **SB 2134.** Thank you and I would be happy to try to answer any questions.

17.0159.05000

Sixty-fifth
Legislative Assembly
of North Dakota

SENATE BILL NO. 2134

Introduced by

Senators Armstrong, Bekkedahl, Unruh

Representatives Bosch, Longmuir, Porter

A BILL for an Act to create and enact a new section to chapter 54-01 of the North Dakota Century Code, relating to the ownership of minerals inundated by Pick-Sloan Missouri basin project dams.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. A new section to chapter 54-01 of the North Dakota Century Code is created and enacted as follows:

Mineral ownership of land inundated by Pick-Sloan Missouri basin project dams.

Unless the state has explicitly transferred ownership of the minerals, the state of North Dakota owns the minerals in and under the Missouri riverbed within state borders, including sections of the riverbed which were artificially inundated as a result of constructing dams pursuant to the Pick-Sloan Missouri basin project. The state sovereign land mineral ownership of the riverbed sections inundated by Pick-Sloan Missouri basin project extends only to the historical Missouri riverbed channel up to the ordinary high-water mark and extends from the Garrison dam to the southern border of sections thirty-one and thirty-two, township one hundred fifty-four north, range one hundred one west, which is the approximate location of river mile marker one thousand five hundred fifty-two and four tenths, and from the South Dakota border to river mile marker one thousand two hundred ninety-nine. The state holds no claim to any minerals above the ordinary high-water mark of the historical Missouri riverbed channel inundated by Pick-Sloan Missouri basin project dams, except for original grant lands acquired by the state under federal law and any minerals acquired by the state through purchase, foreclosure, or other written conveyance. For the purposes of this section, "historical Missouri riverbed channel" means the Missouri riverbed channel as delineated by the last known survey conducted by the army corps of engineers in connection with the corps' determination of the amount of land acquired by the corps for the impoundment of Lake Sakakawea and Lake Oahe.

2

#5
2-2-17
HB 1199

1707 North 9th Street
PO Box 5523
Bismarck, ND 58506-5523
Phone: (701) 328 – 2800
Fax: (701) 328 – 3650

https://land.nd.gov

DEPARTMENT OF
ND TRUST LANDS
INVESTING FOR EDUCATION

Lance D. Gaebe, Commissioner

TESTIMONY OF LANCE GAEBE
on HOUSE BILL 1199

HOUSE ENERGY AND NATURAL RESOURCES COMMITTEE
February 2, 2017

I am Lance Gaebe, Commissioner of University and School Lands. Along with my coworkers in the Department of Trust Lands, I work for the Board of University and School Lands.

The State Constitution and Century Code designate the Board of University and School Lands (Board) as the governing body for a grant of land received at statehood for the benefit of education and certain institutions. The land, proceeds and investments are managed in several permanent trusts, including the Common Schools Trust Fund, for the benefit of the institutions for which the land was granted.

This responsibility for permanent trusts is separate and distinct from the oversight of sovereign minerals described in House Bill 1199.

Statute directs the Board to also manage state-owned minerals and the oil, gas and related hydrocarbons within the beds of the State's navigable waters. On behalf of the State, the Board oversees the Strategic Investment and Improvements Fund (SIIF - formerly the Land and Minerals Trust Fund) which receives the revenues from sovereign minerals. The Board leases the rights to produce oil and gas from the minerals associated with State sovereign lands, which N.D.C.C. ch. 61-33 defines as those areas, including beds and islands, lying within the ordinary high watermark (OHWM) of navigable lakes and streams. The Board has had this management responsibility since at least 1977.

Because this bill would change the longstanding leasing practices of the Board on behalf of the State, I oppose this bill.

Under the Missouri River within Lake Sakakawea, mineral acres have long been leased based upon where the river existed prior to inundation by the reservoir. West of the lake, sovereign minerals beneath the Missouri and Yellowstone Rivers are delineated by the OHWM as it exists today. The Highway 85 Bridge near Williston serves as an easily distinguished division between these practices.

There has been leasing and production of sovereign oil and gas interests for decades. However, until the onset of horizontal drilling in North Dakota, these management guidelines were rarely challenged. There was not substantial interest in how inundated mineral acres were managed or determined since the technology to produce those acres was not extensively utilized here.

The Office of the State Engineer established the Ordinary High Water Mark Delineation Guidelines in 2007, around the same time as interest was growing in leasing "river acreage" for oil and gas production. The Board worked in close cooperation with the State Engineer to formally and scientifically delineate the OHWM of the Yellowstone and Missouri Rivers from the Montana border to approximately the Highway 85 Bridge near Williston. Since the State has always asserted the public's ownership to be within the boundaries of the OHWM, the studies were conducted simply to determine, to the greatest degree of accuracy possible, where those boundaries lie.

Bartlett and West was contracted to complete four separate phases of study. West of the Williston area, the firm used the State Engineer's OHWM delineation standards and conducted an on-the-ground and on-the-water analysis of the vegetation, soils and hydraulic characteristics for a determination of the OHWM of the free-flowing river. This study was conducted jointly with the Office of the State Engineer.

In the areas east of Williston, the Board separately initiated and contracted for the review of the historical high water mark of the Missouri River. The contractor used a combination of pre-reservoir maps and photos, and

high resolution scanning equipment, to gather the best information available on the historic ordinary high water mark of the Missouri River prior to the formation of Lake Sakakawea. It should be noted the purpose of the surveys was to determine the location of the historical OHWM, it was not to determine sovereign lands.

Rather than attempt to describe in my words, how the engineering firm undertook its investigation of the historical ordinary high water mark, I have attached the technical report issued by Bartlett and West: The introduction of the report describes the general background of the survey and methodology with the detailed and technical information within the body of the report.

This study used aerial photographs taken by the Army Corps of Engineer from 1943, 1951 and 1958 and examined the river location and depiction of vegetation. The contractor was able to utilize the expertise it gained during the on–the-ground and water survey it conducted west of Williston in Phase I. The study was done by a qualified firm using the best available historic records, photos and data.

Prior to these formal investigations, the Department of Trust Lands determined State mineral ownership using in-house aerial photographs. Mineral acreage was generally determined only when specific tracts were nominated for oil and gas leasing. The Bartlett and West surveys were the most comprehensive study of the OHWM of the Missouri River that has been completed.

These technical reviews are used to manage mineral acres underlying navigable waterways and are the primary steps in the process of determining eligible acreages for state-issued oil and gas leases on sovereign lands. Embedded islands and previous stipulations are issues which are examined on a case-by-case basis. Regardless, by state law, the State Engineer retains final authority as to the boundaries of sovereign lands.

At its October 18, 2016 meeting, the Board stated it has been consistent in its leasing practices concerning the minerals under the Missouri River and Lake Sakakawea. During its discussion, the Board stressed that for purposes of leasing sovereign minerals it has utilized the Phase I Delineation, which established the current OHWM of the Yellowstone and Missouri Rivers from the Montana state line to the Highway 85 Bridge. The Board and Office of the State Engineer believe that this survey is the most current and accurate in existence.

At that meeting, the Board adopted a motion which emphasized that it will not change its leasing practices concerning the minerals under the Missouri River and Lake Sakakawea until the Legislative Assembly can consider a definition of the OHWM as it is used in establishing the State's sovereign ownership of oil and gas minerals.

The OHWM investigation was undertaken to protect the integrity of sovereign assets by having a scientific and defensible base of evidence for State acreage available to lease. The resources are managed in the best interests of all North Dakotans. In partnership with commercial operators who have leased these assets, the State and its residents have benefitted from substantial oil and gas revenue on these publicly owned lands.

These policies and practices were tested when they were brought before the Williams County District Court in *Wilkinson v. The Board of University and School Lands*, District Court No. 53-2012-CV-00038. The court was asked to determine ownership of a particular tract located within this bill's parameters. Judge Jacobson gave credence to these practices by finding in the favor of the State. He stated in the May 18, 2016 Amended Order on summary judgement motion that "The Phase I Delineation should be used to determine the OHWM for the Property rather than the Phase II Investigation. Therefore, the Property, both surface and mineral interests, is determined to be sovereign land of the State of North Dakota." This case is active and is currently on appeal to the North Dakota Supreme Court.

Attached for review are:

1) Citations to law relating to the public's ownership of navigable waters and associated lands;
2) A timeline of the State's practices and actions related to sovereign lands; and
3) An excerpt of the Bartlett and West presentation related to Phase II; and
4) Map of phases I and II area and an approximate depiction of the "take line; and
5) Map highlighting litigation of sovereign oil and gas minerals; and
6) The technical report issued by Bartlett and West for Phase II.

We look forward to working with the Committee on these issues and would be happy to answer any questions.

Applicable Laws and Standards

Equal Footing Doctrine - Those States entering the Union after 1789 did so on "equal footing" with the original Thirteen, possessing the same ownership over sovereignty lands.

Submerged Lands Act of 1953. 43 U.S.C. § 1301

North Dakota Century Code (excepts)

61-33-01. Definitions.
As used in this chapter, unless the context otherwise requires:
1. "Board" means the sovereign lands advisory board.
2. "Board of university and school lands" means that entity created by section 15-01-01.
3. "Sovereign lands" means those areas, including beds and islands, lying within the ordinary high watermark of navigable lakes and streams. Lands established to be riparian accretion or reliction lands pursuant to section 47-06-05 are considered to be above the ordinary high watermark and are not sovereign lands.
4. "State engineer" means the person appointed by the state water commission pursuant to section 61-03-01.

61-33-03 Transfer of possessory interests in real property. All possessory interests now owned or that may be acquired except oil, gas, and related hydrocarbons, in the sovereign lands of the state owned or controlled by the state or any of its officers, departments, or the Bank of North Dakota, together with any future increments, are transferred to the state of North Dakota, acting by and through the state engineer. All such possessory interests in oil, gas, and related hydrocarbons in the sovereign lands of the state are transferred to the state of North Dakota, acting by and through the board of university and school lands. These transfers are self-executing. No evidence other than the provisions of this chapter is required to establish the fact of transfer of title to the state of North Dakota, acting by and through the state engineer and board of university and school lands. Proper and sufficient delivery of all title documents is conclusively presumed.

. . .

61-33-06. Duties and powers of the board of university and school lands. The board of university and school lands shall manage, operate, and supervise all properties transferred to it by this chapter; may enter into any agreements regarding such property; may enforce all subsurface rights of the owner in its own name; and may make and execute all instruments of release or conveyance as may be required pursuant to agreements made with respect to such assets, whether such agreements were made heretofore, or are made hereafter

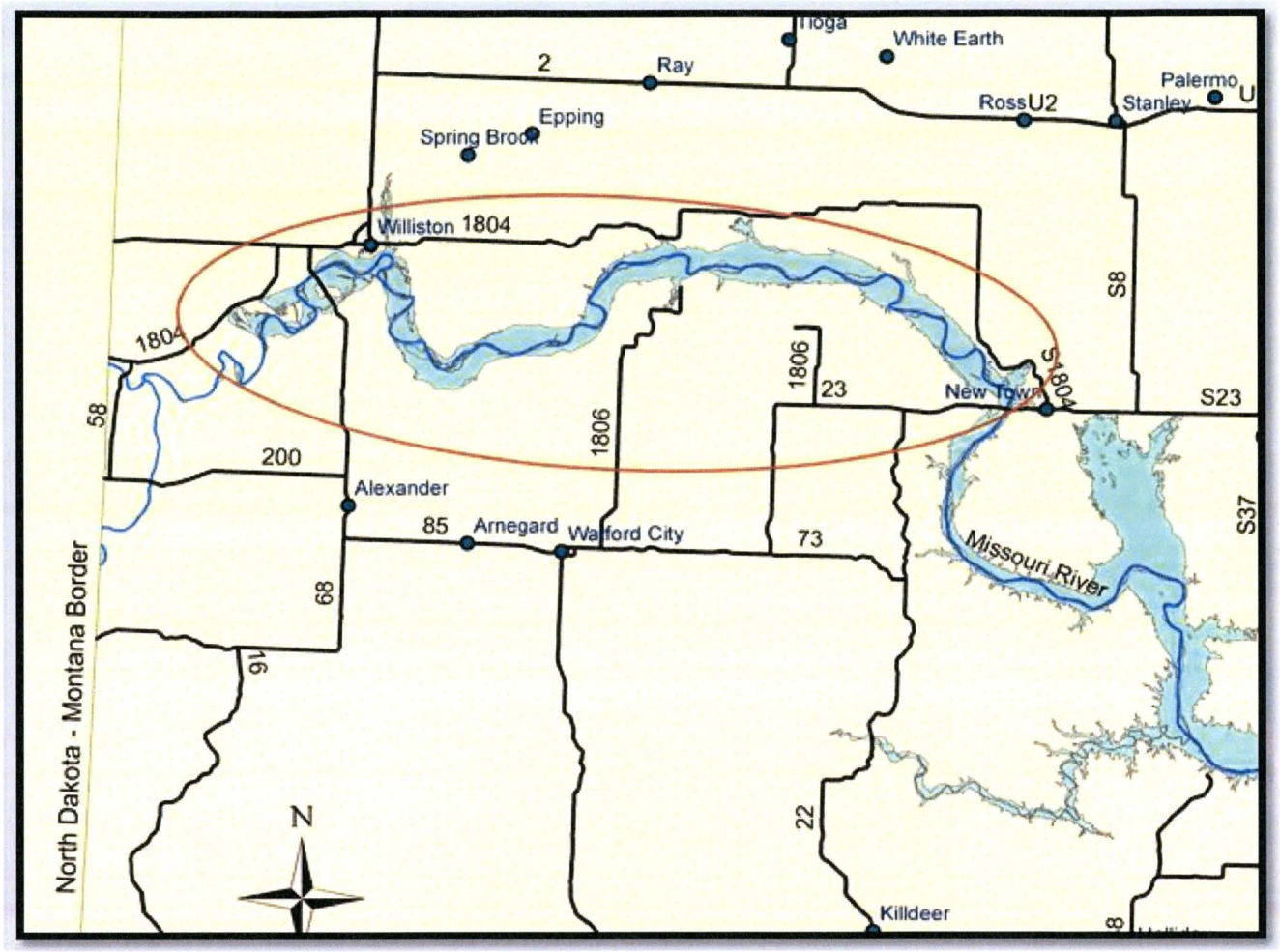
North Dakota Administrative Code (Article 89-10),
North Dakota Sovereign Lands Management Plan,
North Dakota Office of the State Engineer- Ordinary High Water Mark Delineation Guidelines

Timeline of State Activity Related to Sovereign Lands

- The 1977 Legislature defined "sovereign lands" as everything "within the ordinary high watermark." 1977 N.D. Session Laws ch. 144 § 1 (repealed 1989 N.D. Sess. L. ch. 552, § 4).
- From 1977 to 1989, the Board had authority over both the surface and subsurface of sovereign lands, including the power to convey interests.
- In 1989, the Legislature again defined state title as everything "within the ordinary high watermark." N.D.C.C. ch. 61-33, 1989 N.D. Session Laws ch. 552
- The 1989 legislature gave the State Engineer's Office authority to manage the surface and the Board authority over the oil, gas and hydrocarbons within the subsurface, with each agency having the power to convey interests.
- In 2007, the Office of the State Engineer issued the North Dakota Sovereign Land Management Plan and Ordinary High Water Mark Delineation Guidelines.
- In 2009, the Board and the State Engineer engaged Bartlett & West, a private engineering company, to undertake a comprehensive study of the OHWM along the Yellowstone River and the Missouri River from the Montana border to river mile marker 1549 near Williston (Phase I Delineation).
- In 2010, the Board again contracted with Bartlett & West to approximate the location of the OHWM of the Missouri River before inundation by Lake Sakakawea from river mile marker 1574 near the Furlong Loop to river mile marker 1482, the border of the Fort Berthold Reservation (Phase II)[1]. Study was completed using historical aerial photography, elevation data, and topographic maps.
- In 2010, the Board authorized Phase III to investigate specific and isolated sections of the Missouri and Yellowstone Rivers between Williston to the Montana border that could not be fully completed under Phase I due to location and complexity.
- In 2012, the Board initiated the review of the estimated historic OHWM between the Four Bears Bridge and the Garrison Dam (Phase IV) using the same techniques as Phase II.
- In 2013, the North Dakota Supreme Court issued a decision in *Reep v. State* and *Brigham v. State* holding that the State owns the mineral interests up to the ordinary high water mark of navigable rivers and water bodies.

[1] The State Engineer did not participate in the Phase II, Phase III or Phase IV studies.

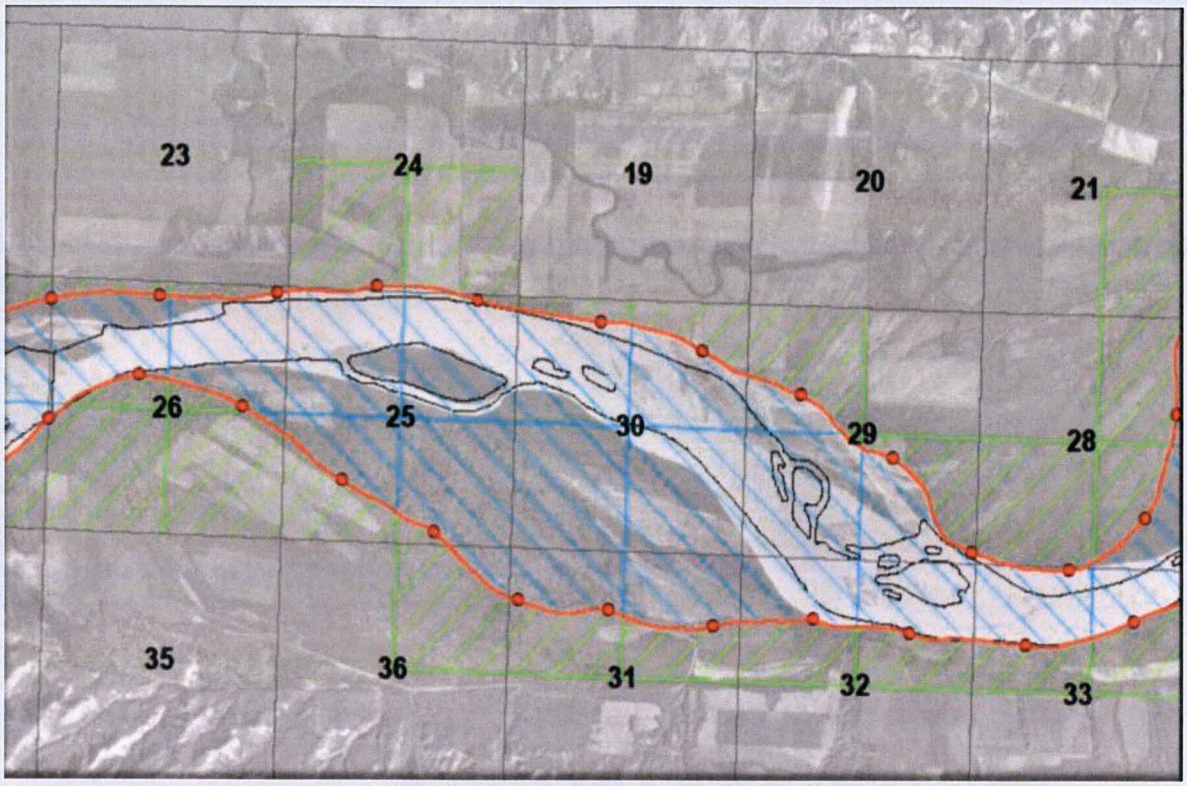
Selections of a 2011 Bartlett and West Presentation Related to Task Order II

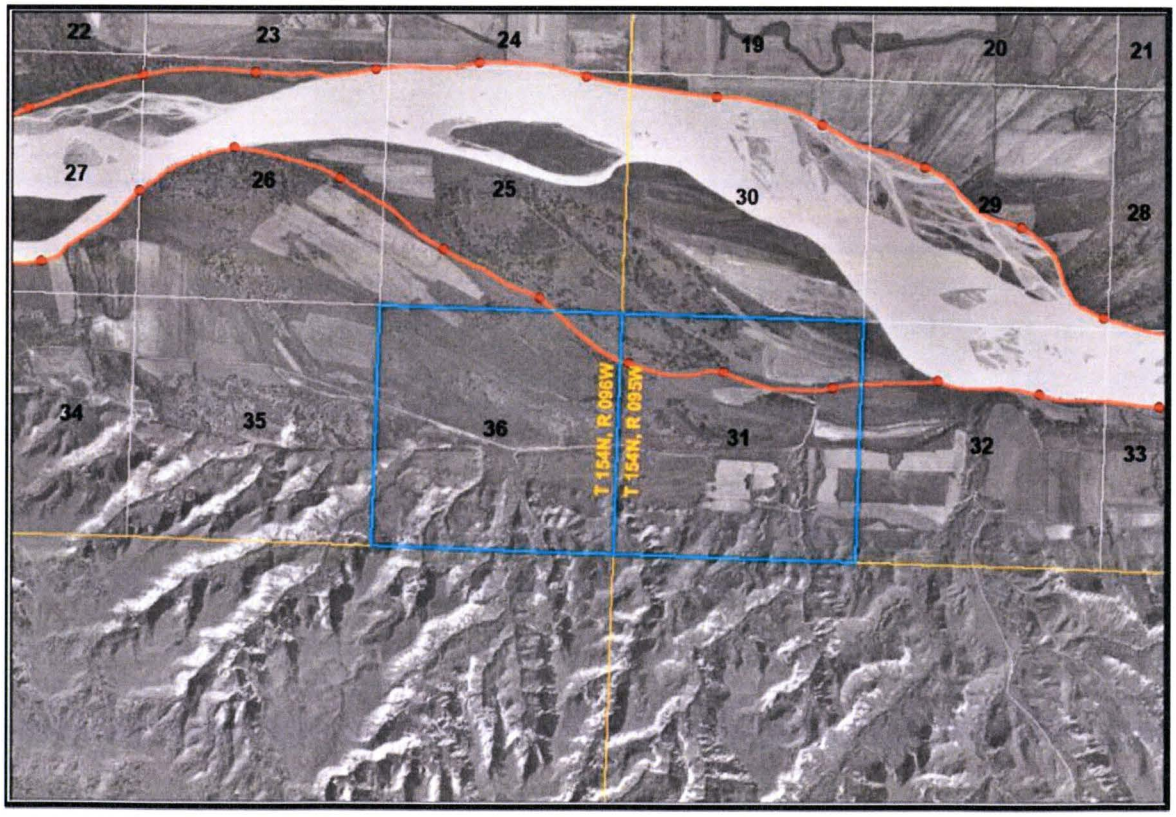


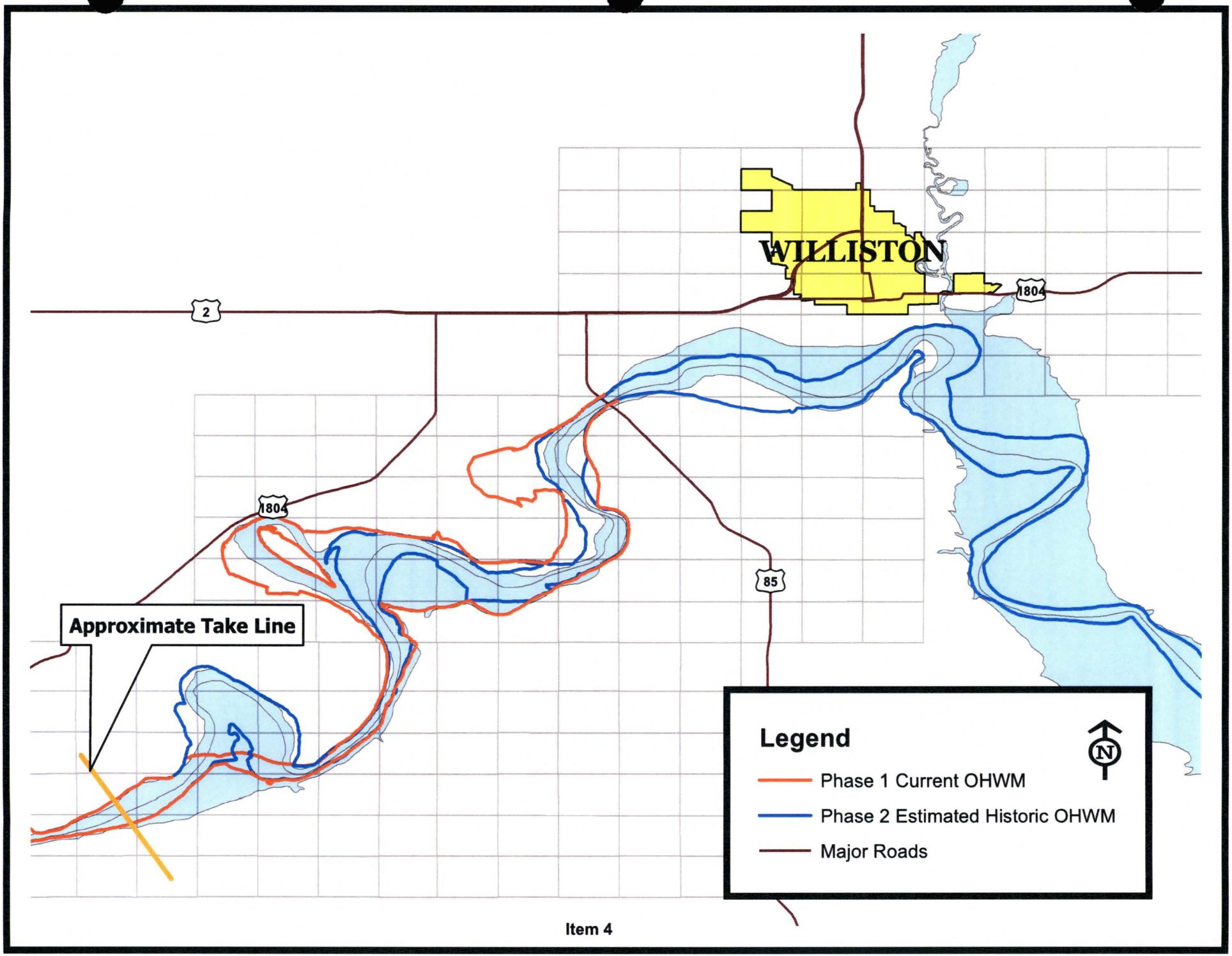
AERIAL PHOTOS/TOPO DATA

- 1943 – Corps of Engineers (Aerial and Topo)
  - Section Corners Identified
  - Photos used to generate the topographic information
- 1951 – ND Geological Survey
- 1958 – ND Geological Survey (Best Quality)
- USGS Quad Maps; 2009 Aerial Photos; GLO

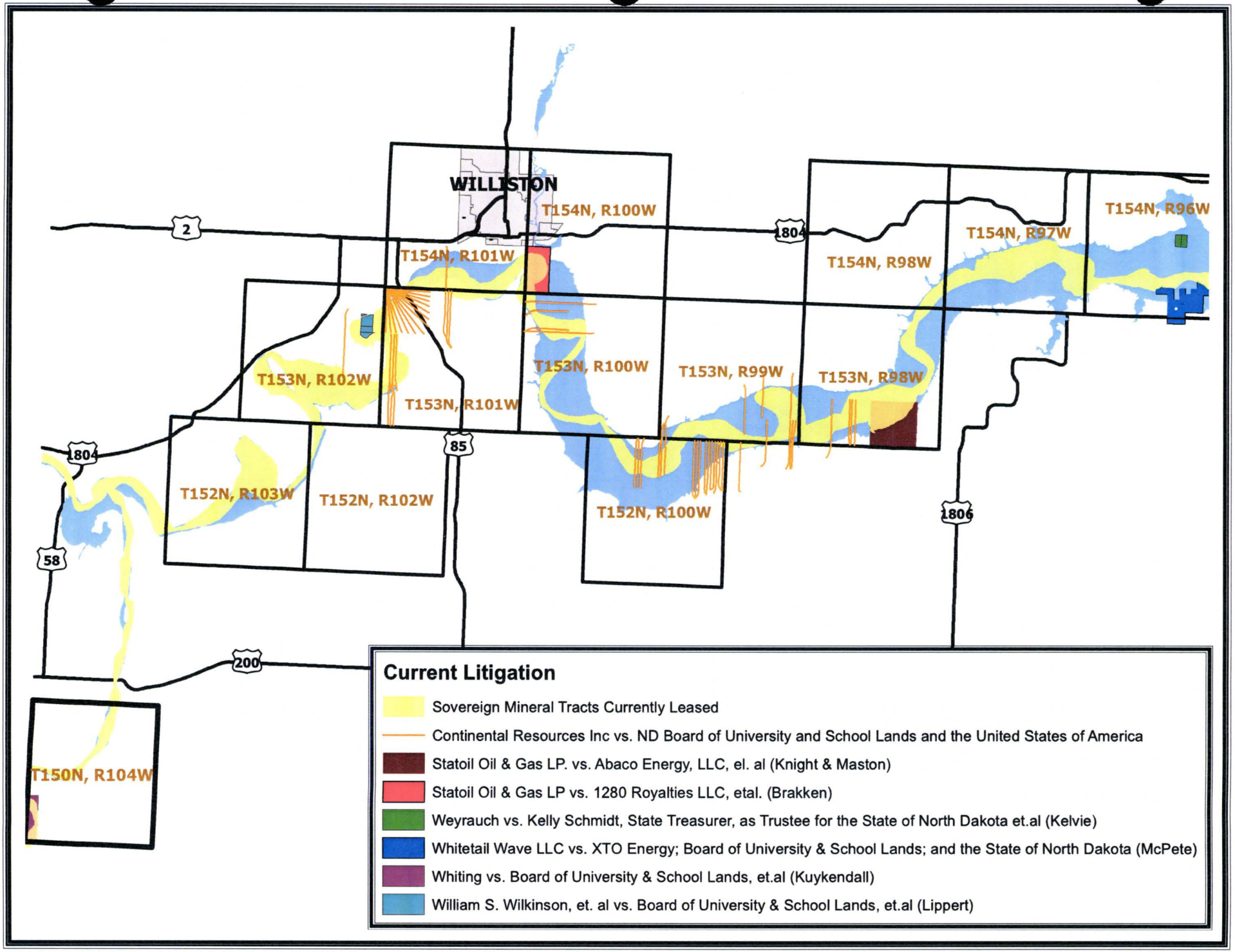
INVESTIGATION






WILLISTON
2
1804
1804
85
Approximate Take Line
Legend
Phase 1 Current OHWM
Phase 2 Estimated Historic OHWM
Major Roads
N

Item 4


WILLISTON
T154N, R100W
T154N, R101W
T154N, R98W
T154N, R97W
T154N, R96W
T153N, R102W
T153N, R101W
T153N, R100W
T153N, R99W
T153N, R98W
T152N, R103W
T152N, R102W
T152N, R100W
T150N, R104W
2
1804
85
58
200
1806
Current Litigation
Sovereign Mineral Tracts Currently Leased
Continental Resources Inc vs. ND Board of University and School Lands and the United States of America
Statoil Oil & Gas LP. vs. Abaco Energy, LLC, el. al (Knight & Maston)
Statoil Oil & Gas LP vs. 1280 Royalties LLC, etal. (Brakken)
Weyrauch vs. Kelly Schmidt, State Treasurer, as Trustee for the State of North Dakota et.al (Kelvie)
Whitetail Wave LLC vs. XTO Energy; Board of University & School Lands; and the State of North Dakota (McPete)
Whiting vs. Board of University & School Lands, et.al (Kuykendall)
William S. Wilkinson, et. al vs. Board of University & School Lands, et.al (Lippert)

FINAL

TECHNICAL REPORT

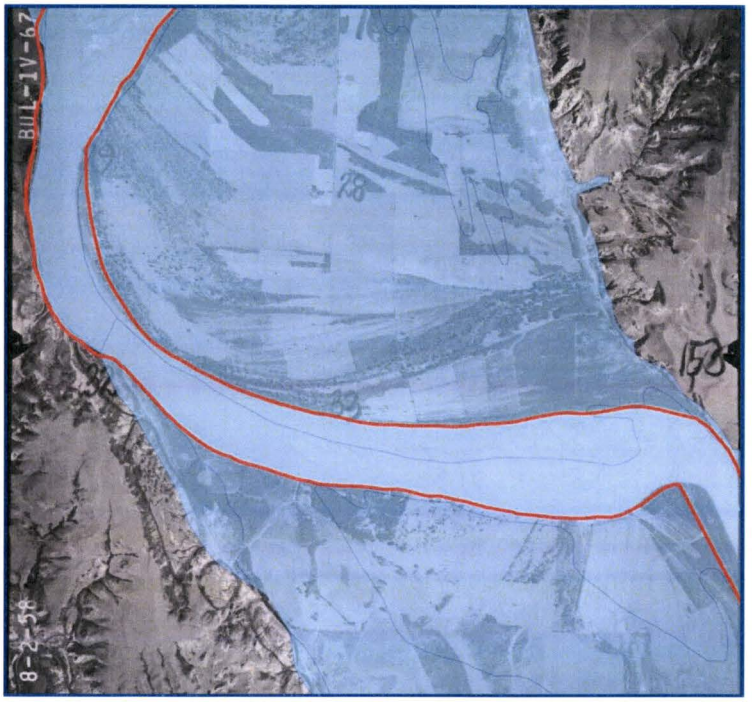
FOR THE

ORDINARY HIGH WATER MARK INVESTIGATION

FOR THE

MISSOURI RIVER UNDER LAKE SAKAKAWEA
(FROM FURLONG LOOP TO NEW TOWN, ND)

MARCH 2011



Prepared for:
ND STATE LAND DEPARTMENT

Prepared by:

BARTLETT & WEST & McCain and Associates. Inc.

I. TABLE OF CONTENTS

TECHNICAL REPORT
FOR THE
ORDINARY HIGH WATER MARK (OHWM) INVESTIGATION
FOR THE
HISTORIC MISSOURI RIVER UNDER LAKE SAKAKAWEA
FOR THE
NORTH DAKOTA STATE LAND DEPARTMENT

MARCH 2011

II. PROJECT DESCRIPTION

The State of North Dakota acting through the ND State Land Department (SLD) in February 2010 requested and entered into a contract with Bartlett & West, Inc. (BW) for the purpose of identifying the Ordinary High Water Mark (OHWM) for the historic Missouri River under Lake Sakakawea from river mile marker 1574 near the Furlong Loop to river mile marker 1482 at the border of the Fort Berthold Reservation near the city of New Town, North Dakota. BW hired McCain & Associates as the main ecologist and investigators for the Project. This OHWM study was completed utilizing pre-1958 data and materials including historic aerial photography, elevation data, and topography maps. After the OHWM line was established, the final component of the Project was to calculate the acreage below and above the OHWM line for each quarter section in which the river resides within the Project area. The total length of the Project is approximately 92 miles. The investigation and data gathering commenced in March of 2010 and was completed in June of 2010.

Figure 1. *Location map depicting the general project area.*

III. BACKGROUND

The OHWM is a legal definition of a physical feature found on the landscape. However, the location of their channels can meander, and therefore the OHWM can fluctuate over time. Over a period of years the OHWM can move, sometimes suddenly and abruptly (avulsion), but often times it moves more slowly and subtly (accretion and reliction). This project was completed with the understanding that this was a snapshot of the historic OHWM for the Missouri River as it existed prior to the completion of the Garrison Dam in the 1950's. Since neither the SLD nor the investigation team was aware of any historic OHWM determinations or delineations that would have been recorded prior to the completion of the Garrison Dam, the SLD and the team decided the most viable technique was to determine the OHWM using historic aerial photography, taken prior to the waters of Lake Sakakawea inundating the Missouri River in the Project area.

The OHWM is a transition between the aquatic and terrestrial environments. In some instances this transition occurs in a narrow stretch such as along a steep embankment that was easily identifiable in the photographs. In other cases it was a broad and gradual change, such as on an alluvial plain, which can be difficult to interpret and required more detailed analysis. The work completed under this contract was to investigate and identify the OHWM using historic data, and is not a final legal determination as to whether any specific property is "sovereign land".

As defined in the North Dakota Administrative Code *(NDAC 89-10-01-03)*, Ordinary High Water Mark means "that line below which the action of the water is frequent enough either to prevent the growth of vegetation or to restrict its growth to predominantly wetland species. Islands in navigable streams and waters are considered to be below the ordinary high watermark in their entirety." The North Dakota Supreme Court (*State ex rel. Sprynczynatyk v. Mills, 1999 ND 75, ¶ 13, 592 N.W.2d 59)* has further defined "high water mark" as: "[w]hat its language imports - a water mark. It is co-ordinate with the limit of the bed of water, and that only is to be considered the bed which the water occupies sufficiently long and continuously to wrest it from vegetation, and destroy its value for agricultural purposes. In some places, however, where the banks are low and flat, the water does not impress on the soil any well-defined line of demarcation between the bed and the banks. In such cases the effect of the water upon vegetation must be the principal test in determining the location of high water mark as a line between the riparian owner and the public. It is the point up to which the presence of action of the water is so continuous as to destroy the value of the land for agricultural purposes by preventing the growth of vegetation, constituting what may be termed an ordinary agricultural crop." Areas below the OHWM may have vegetation suitable for grazing but wetland vegetation capable of being grazed is not an "ordinary agricultural crop". In 2007, the ND Office of the State Engineer, the North Dakota State office that regulates the state's sovereign lands, published the *"Ordinary High Water Mark Delineation Guidelines"*. During this Project the team conducted the OHWM investigation in compliance of these Guidelines, to the extent possible.

IV. METHODOLOGIES

As noted above, historic aerial photography and extensive OHWM delineation knowledge garnered from previous delineation projects, was used to determine the OHWM as it existed for the Missouri River where the present day Lake Sakakawea resides. In order to maximize the accuracy in determining the location of the OHWM, the team utilized three separate sets of black and white historic aerial photographs. All three of the photographic sets were taken prior to the reservoir, Lake Sakakawea, being completely formed behind Garrison Dam, which construction was essentially completed in 1954. The photographic sets used included a 1943 set that is housed by the US Army Corps of Engineers (COE) in Riverdale, and 1951 and 1958 sets that are housed by the North Dakota Geological Survey (NDGS) in Bismarck. The reservoir took several years after the completion of the dam to fully form, which is why the team was able to utilize the 1958 set for a good portion of the study area. The NDGS photographs were approximately 9-inches square, and the COE photos were 12-inches square. It also seems apparent that all were taken with photographic equipment that was standard during that time.

To make the photographs usable for this study, a flat bed high resolution digital scanner, model Graphtec CS510 was used to digitally scan the images with a resolution of 1200 dots per inch (DPI). After several test runs, the team determined the best combination of settings including resolution and size to produce a high quality product to utilize for the study. A higher resolution could have been used, but the files would have been too large to utilize efficiently, and this would have hindered the team during the investigation. Additional sets of photos from various years were located during the investigation but they were deemed unusable as they were either missing flight paths within the project area or the image quality was deemed too poor to use. According to the photographs, the 1958 set was flown in the month of August, the 1951 set was flown in September, and the 1943 set was flown in May.

The 1943 photos obtained from the COE already had the approximate section lines and corners depicted on them. The COE was not sure when this was done, but likely it was done to assist the COE in determining flood easement acreages. Data from the Bureau of Land Management's (BLM) Public Land Survey System (PLSS) was used to geo-reference these 1943 images according to the Section, Township, and Range. The BLM data is based on Geographic Coordinate Data Base (GCDB) coordinate data. The locations of PLSS corners, as represented in geographic coordinate pairs, were derived from a variety of source documents, which include U.S. General Land Office and BLM survey/notes, as well as survey data obtained from other U.S. Government agencies, private sector survey firms and local governments. The GCDB Data was created to provide the BLM and the public with a set of geographic foundation data that accurately portrays the locations of PLSS corners. The GCDB Data is based on the best and

most current survey records available and uses known geographic positions of control stations within the PLSS network. Section corners from the 1943 photographs were then matched with the corresponding sections of the PLSS data. Once completed, the 1943 photographs were used to geo-reference the 1958 and 1951 NDGS photographs in a similar manner.

The NDGS photographs did not have section lines or corners depicted, so common physical features were identified by the investigation team, which were then used to geo-reference these additional images. While referencing the 1958 and 1951 photographs, a minimum of ten identical features were identified in each photo, between the 1943 and the NDGS photo sets. To assist with this process, the 2009 NAIP aerial imagery was also referenced for confirmation of large permanent structures or cliff faces, which would likely be unchanged during the 50+ year span between the photo sets, to be certain that the referencing was as accurate as possible.

For the investigation, the 1943 and 1958 photos were referenced from the Furlong Loop to the town of New Town. The 1958 set had the highest visual quality and it was the most recent, so it was the primary set used during the investigation. However, for the eastern most stretch of the river in the investigation area, we started to observe definite affects from the backwater of Lake Sakakawea in the 1958 photos. Due to these reasons, the 1951 set was also referenced from this area downstream to the end of the investigation area. The 1951 photos were referenced from Township 154, Range 97, Section 22 & 27 (Near Lund's Landing), to the New Town bridge.

As depicted in Figure 1, the OHWM investigation area begins at river mile 1574 near the Furlong Loop and extends downstream to the Highway 23 Bridge near New Town, between river miles 1481 and 1480. In order to document the investigation process, the team established a minimum of two points per mile for each side of the river (See Figure 2 below), in which an Investigation Documentation Form (IDF) would be processed. This form lists information as to how the OHWM was determined for that location and the location properties. Nearly 500 of these IDF points were completed during this project, and the complete listing of the IDF's are made part of this report. The points were placed at a scale range of 1:1000 at an approximate 2000' - 3000' interval. The points were input at a maximum scale of 1:4000. The IDF includes the Transect label, Comments, Photo Date, Photo File, Topographic File, and Date. The *Transect* label is the name of the point, and the *Comment* contains some information as to why the team placed the point in that location. The *Photo Date* is the year the imagery was flown, and *Photo File* is the name of the specific photo that was used. Finally ,*Topo* is the name of the topographic file that was used, and the *Date* is the day the point was placed. The complete IDF listing is made part of this report as an attachment and is also added to the report DVD's, as an electronic spreadsheet file. This format will make it easier for the State to search for any specific IDF.

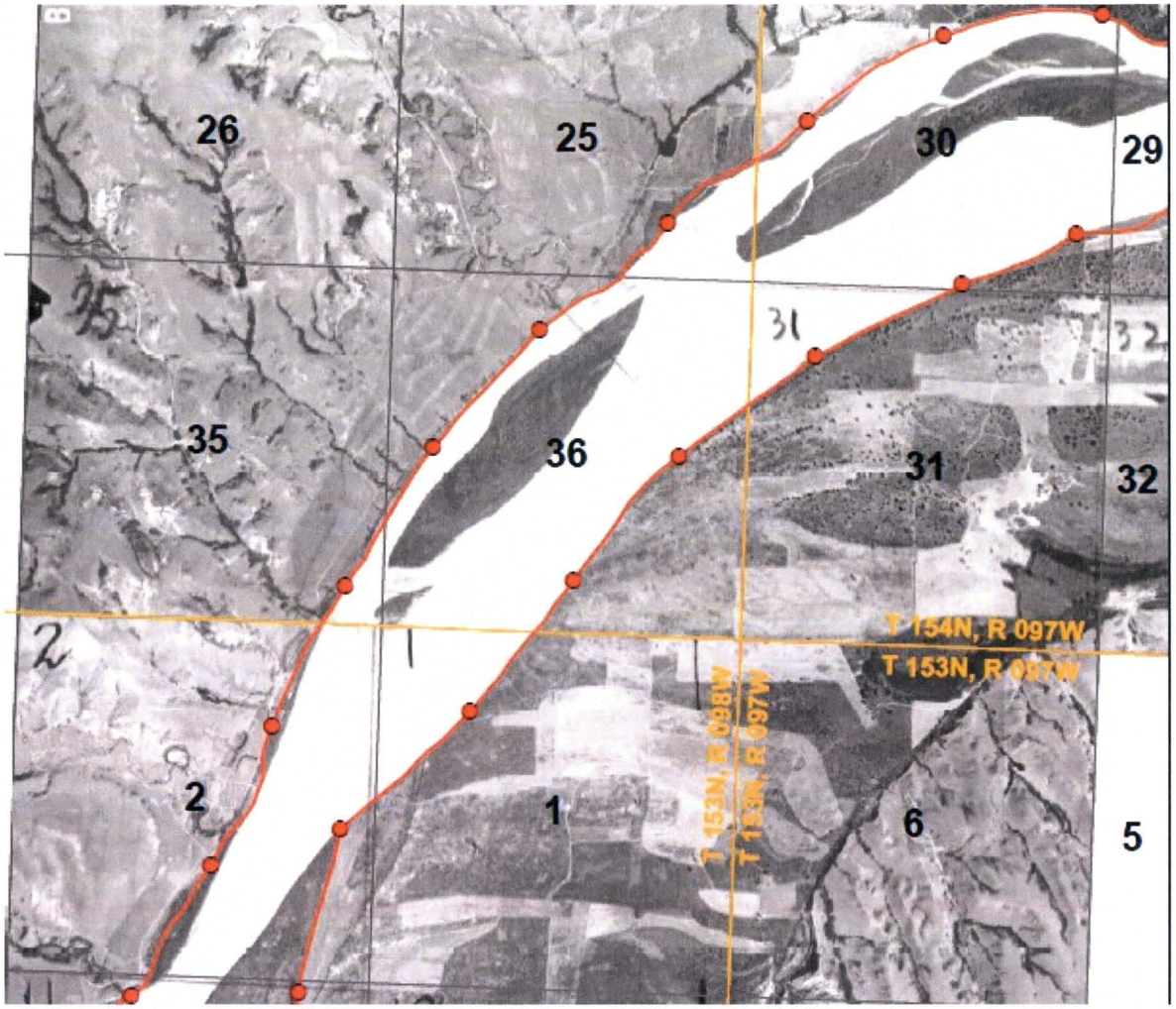


Figure 2. *Example of a scanned and rectified aerial photo depicting the IDF locations (red dots) and the OHWM line.*

Once the individual points were established, the OHWM line was then determined between the points using the same available information and identified features. This OHWM line was then made part of the overall GIS database. The placement of the line was also influenced by elevation changes in the topography, which was determined using the 1943 topographic maps. The OHWM followed vegetation density changes that appear along the water channels. Areas identified below the OHWM that have greater than 50% wetland vegetation may still have inclusions of upland vegetation or trees.

When the line was finalized internally in April of 2010 it was placed on paper maps so the investigation team and the SLD could make a final review and make any final adjustments. Once this line was finalized in May, the next step involved the acreage determination. To identify the quarter sections, BW downloaded the PLSS data from the BLM website. The layer

was uploaded as quarter-quarters, so one of the first steps involved merging the data into quarter sections. Once this was completed a query was ran to identify the quarter sections that was intersected by the OHWM line. Then a Construct Features tool was used to cut and extract the quarter sections that were located near the OHWM line. After the quarter sections were extracted the Calculate Geometry tool was used to calculate the acreages in each polygon. The final step was to determine if the polygons were above or below the OHWM line, and outputting the data into a spreadsheet so it can be easily referenced and utilized by the SLD.

Finally, in order to review the entire project area efficiently and qualitatively, it was decided to merge the historic aerial photographs into a single file called a photo mosaic. To accomplish this, a small portion of the photographs was extracted out, mostly two to four areas of the photograph that correlated best with the PLSS data. Portions of the photographs where the control points did not correlate well with the photograph were left out of the mosaic. Those extracted portions of the aerial images were then merged together to form the single mosaic. This mosaic should ONLY be used for reference, as the OHWM line depicted on the mosaic may vary slightly from the actual database file and acreage maps. This is due to the fact the actual investigation was completed using individual photos. When creating the mosaic it is nearly impossible to match the edges, and therefore certain edges may be shifted slightly on the mosaic. Due to the large file size, the mosaic was split into five separate sections. Four of them are comprised of the 1958 photo portion and one for the 1951 portion. An index was created and the mosaic was placed onto three DVD's and will be made part of the final report. A paper set of the mosaic maps is also being provided to the SLD.

The months/years depicted on the three sets of photographs used during the investigation displayed a wide range in water flow conditions for the Missouri River. Specifically, according to the USGS records for the Missouri River gaging station at Williston, in 1958 the average flow for the month of August was 14,500 cubic-feet per second (cfs), in 1951 the average flow for the month of September was 35,000 cfs, and in 1943 the average flow for the month of May was 21,000 cfs. According to the same USGS data, the long term average flow for the Missouri River past Williston from 1929 – 1964 was approximately 20,000 cfs. The average high month was the month of June with an average flow from 1929 – 1964 of 47,000 cfs. The average annual peak flow during the summer months over this same time period was 74,000 cfs. As one can see, all three of the flows depicted in the photographs were quite a bit less than the high monthly average of 47,000 cfs or the average peak of 74,000 cfs. This insures that the water surface depicted on the photographic sets that the investigators were analyzing, were from a flow that was considerably less than the ordinary high flows, making the OHWM area completely visible.

V. DESCRIPTION OF AREA

This section of the report defines the conditions and features encountered during the investigation. On a general note, as evidenced in the aerial photographs, the Missouri River meandered through a wide alluvial plain. The river shows significant signs of erosion and deposition. Portions of this alluvial plain has been farmed (either cultivated or hayed) as evidenced by the 1958 aerial photography. Extensive irrigation canals, levees and drains were also constructed throughout the area to aid in the farming practices. One of the more complicated areas to assess included the older oxbow areas. These occur in various levels of development thus including similar vegetation with slight variations in amounts of tree or shrubby growth. The line determination was based on changes in the density of vegetation along older back channels. Whether a determination of the OHWM is made by aerial photographs or by field survey, the vegetative transition from wetland to upland species can be gradual. Vegetation below the OHWM often has inclusions of upland vegetation and vegetation above the OHWM often has inclusions of wetland vegetation. In areas with an apparent gradual transition, where the OHWM was placed in an oxbow area, the OHWM followed a "developmental" line. This OHWM placement was based on vegetation maturity often evidenced by more 'recent' water movement through the area.

Another complicated area included the low lying hay fields. For this study, the term "field" refers to hayed or mowed areas, and does not imply that the area has been cultivated or seeded. Farming practices along the river during drier, low water periods often extended into the lower floodplain areas, closer to the water's edge. These "fields" may be cut for hay, or cultivated for a short time, but rapid colonization of wetland species on these hay fields likely occurred when the wetter period and subsequent higher water levels returned. Levees and drainage ditches are fairly common along these lower floodplains, which were established to protect areas from inundation from the river. These features were mostly established prior to 1943 (shown on 1943 topography maps) and had a large impact in the area along the Missouri River, ultimately disrupting or affecting the local natural hydrology and vegetation patterns.

An easier feature to identify and utilize during the investigation was the cut banks. In these areas the OHWM was easily identified and the line matched very well with the 1943 topography. Many times during the investigation, the team would compare the approximate elevations of the OHWM on the cut bank side, with the deposit side, as another reference check.

VI. INVESTIGATION FINDINGS

The western portion of the OHWM investigation began at the north edge of Section 21, T152N, R103W, near what is referred to as the Furlong Loop. In the 1958 photographs, near River Mile 1574, the river meanders northerly within the alluvial valley for approximately two and half miles before turning back south creating an active oxbow, locally known as Furlong Loop (Sheet 2). Level areas within the alluvial plain are intensively farmed (either cultivated or hayed) as evidenced by the 1958 aerial photography. Upland areas include drained fields and an extensive series of irrigation ditches. The COE had begun construction of a diversion or cut-off channel in the south half of Section 15 by 1958. It was later determined that this channel was likely created to divert water to the east, creating a straighter path so as to limit ice jamming and subsequent overland flooding.

The left bank of the river turns southerly along a cut bank between River Mile 1572 and 1569 (Sheet 2). The majority of the upland area is farmed. An irrigation ditch parallels the main river channel. The right bank of the river is a long depositional peninsula. Old stream channels, especially near the end of the peninsula are readily identifiable by the maturation stages of the vegetation along natural levees to the barren end of the peninsula. Near River Mile 1568 the right bank of the river turns along a high steep bank as the channel narrows and begins to turn back north. Between River Mine 1568 and 1565, the river flows north-northeast in a narrow channel below a steep cut with dissected grasslands above the right bank. Level farmland is on the alluvial plain above the left bank.

The channel widens and turns north-northwesterly near River Mile 1564 (Sheet 3). On the left bank, the OHWM follows the approximate 1948 elevation contour line above a low willow flat. There is a hayed area with a rise in elevation. The OHWM dissects a hayed area along a contour change and then back-floods a low area behind the field before resuming its path downstream (LS15310228L3). An old oxbow northwest of River Mile 1562 had only one small channel near LS15310221L3 connecting it to the river by 1958. The drainage is on the downstream end of the oxbow and appears to flow into the river. Cropland separates the river from the oxbow on the upstream end. This oxbow area became known as Trenton Lake or Trenton Loop.

Well-established roads and major diversion ditches are in place by 1958 (north and east of the oxbow). Sandbar willow flats are above an irrigation ditch, but appear to be present due to upland runoff and a constructed dike holding back water flow from the river (Sheet 3). Vegetation below the dike is low willows with a few scattered trees, most likely peach-leaved willow. Upland areas are cut for hay as evidenced by bales remaining on field in Section 25.

Areas that are hayed have only slight rises in elevations, and the backwater areas are behind the hayed fields and below the road. It appears that the haying practices in this field include areas of exclusion, likely due to wetter soil conditions or willow encroachment.

Along the right bank in Sections 34 and north to Section 27 and 26 (T153N, R102W), the OHWM continues around the edge of an older peninsula. The majority of this peninsula is hayed or farmed. Areas with scattered or developed trees lie along the west edge and in a central area. In the 1943 photographs, the water appeared to flow through east/west across the north edge of Sec 34, 35 and 36. Most of the peninsula was farmed. Fields are more apparent in the 1943 aerial photograph. The tip of the peninsula in Section 22 is barren sandbars, with depositional willow flats along the right bank in Section 26. On the left bank, some areas appear to have been cut and the area is mostly used for hay fields. The areas in Section 26 do not appear to have been tilled near the water's edge. It also appears that someone tried unsuccessfully to cut a portion of the willow flat near a backwater channel.

Continuing on, the river diverts back to north in Section 19, and a large willow flat abuts the main river channel on the left bank (Sheet 3). Various older drainages dissect the prominent drainage giving the appearance of an older island that is below OHWM boundary. Irrigation ditches and field drainage has affected the area and the local hydrology. Fields in the area are hayed, but it does not appear that they were cultivated. The OHWM continues between willow flats and areas with scattered trees and established trails. Fields farther upland are drained into this area. The OHWM follows a slight low area in willow flat at the north end. The right bank in this area is along a steep cut bank at the river's edge.

In the north portion of Section 13, T153N, R102W, and continuing north into Section 12, the left bank of the OHWM follows along a cut bank with fields on the adjacent upland (Sheet 4). Continuing into Sections 1 and 6, the OHWM continues near the bank above a narrow band of willows. The right bank has small channels dissecting a wide willow flat in Section 7, narrowing to a cut bank near the bridge in Section 6. Level cropland areas are on the uplands.

East of the Lewis and Clark Bridge, the river narrows (Sheet 4). The left OHWM continues near the bank with occasional narrow flats between the main channel and the OHWM. Cropland areas are located on the upland area. The 1958 photograph shows the beginning of the levee construction on the left bank near Williston. Drainage channels are apparent on the 1958 photographs, which drain the old oxbow (as shown in the 1943 COE photo.)

The river widens and begins to deviate in Section 33, creating a bend on the left bank with several islands at the turn and a large depositional willow area on the right bank. Uplands are

farmed or hayed. In Section 35, the river begins to turn northeast, creating several sandbars along the right bank and large willow flat on the left bank.

The meandering river creates a large oxbow going into Sections 30 and 31 (Sheet 5). Uplands along the left bank are farmed to the depositional areas in Sections 5 and 6 where striated vegetation indicates the change is more recent. Large willow flats are common along the left bank. The river turns along the steep upper bank in the southeast corner of Section 6 before turning to the south.

The river continues in a southerly direction between River Mile 1542 and 1536 (Sheet 6), meandering from left to right between steep uplands. Areas between the steep banks are cultivated on more mature areas, and include dense willow growth on recent depositions. In Section 5, T152N, R100W, the river turns back east (Sheet 7). At this point, the river channel widens and sandbars become common. Depositional areas with dense willows are dominant on both sides of the river as it turns northerly in Sections 3 and 10.

The Missouri River continues its course north and east, meandering across the wide alluvial plain defined by the steep upland grasslands (Sheets 8-9). Similar depositional and erosion features are present with croplands interspersed along the striated floodplain. The density of the vegetation along the striated plains aided in the placement of the OHWM. Continuous standing water is often apparent in numerous older channels. Hayed fields are occasionally present below the OHWM but generally include several wetland areas and are presumed to be accessible or available to hay only during low water times, and even then will likely contain abundant wetland vegetation.

The Missouri River follows the edge of the alluvial plain in Sections 36, T154, R97W (Sheet 10). Well-vegetated islands are common in the main channel. In Section 25, the river begins to turn easterly, and cropland areas are present between the OHWM and the edge of the alluvial plain. Near LS15409729L1, the OHWM follows an obvious vegetation change back to the primary steep cut of the alluvial plain in Section 20 (Sheet 11). Two-tracks in the area are dry above the OHWM and become darker or wetter below the OHWM, appearing to be only accessed seasonally.

Below the OHWM, marshy areas with standing water and large wetland areas are present in the striated plain. Tobacco Garden Creek enters the Missouri river in Section 15 causing a delta area (Sheet 11). It appears that the area is low grassland and most likely grazed between the two water channels. Two-tracks in this area appear dry and the OHWM was delineated below this area. A field in Section 23 is included within the OHWM. It is presumed the area was created when waters receded. The 1958 photo shows standing water on both sides of the field.

In T154N, R96W, the river flows easterly (Sheet 12). Large wooded areas in Sections 20, 21 and 22 were delineated above the OHWM based on their apparent maturity. In Sections 23 and 24, Beaver Creek enters the Missouri River creating a small delta above the OHWM. In Section 25, the river shifts slightly to the south, creating a large deposit area along the right bank. This area includes some fields and trees, but old channels are apparent. It is presumed that these are only accessed seasonally. Through T154N, R95W, the OHWM is positioned above depositional areas that appear to be uniform low willow stands (Sheet 13). Determinations were made on variations in vegetation, with more mature vegetation identified above the OHWM.

The river turns near the south edge of T154N. A very large sandbar is present at the turn in Sections 34, T154N, R94W and Section 3 T153N, R94W. Mature vegetation is apparent on the sandbar (Sheet 14). On the right bank, the OHWM is above a narrow channel. A much wider channel is present on the left bank. The two channels converge in Section 10 as the river turns easterly.

In 1951, the White Earth River entered the Missouri River at the north edge of Section 2, T153N, R94W (Sheet 14). In 1943, the White Earth entered the Missouri farther downstream and farmland was present between the two rivers (COE 1943 aerial photograph). By 1951, the White Bear River turned and entered the Missouri River farther upstream, causing the farmed land in Section 2 to be inaccessible. In Section 2 and 1, and through Section 8, T153N, R93W, the OHWM follows the left bank of the former White Earth River channel (Sheets 14 and 15). In Section 17 and 20, the right bank of the river follows an old channel above a willow flat before turning against the high cut bank in Section 29 (Sheets 15 and 16). This turn creates a large depositional area on the left bank with various stages of vegetation growth. In this area, the OHWM follows a smaller old flow line, with backwater into Sections 21 and 22 (Sheet 16).

In Section 26, T153N, R93W, the main river channel becomes very narrow as it hits the high cut bank on the left bank and subsequently the river turns and heads south. In Section 10, T152N, R93W, the river turns creating a large depositional area on the right bank. The OHWM was delineated along a change in vegetation structure in Section 11. Based on the quality of the photograph, back channels were not visible. The Little Knife River enters the Missouri River on the east side of the channel in Section 11. From this point, the OHWM follows the cut bank.

The OHWM Phase II investigation was completed at the Highway 23 bridge crossing near the city of New Town.

OBJECTID	Transect	Comment	Photo_Date	Date_	Confidence	Township	Range	Section_	Photo_File	Topo
1	LS15410030L2	Cut bank, shadowing on wall, shading of upland vegetation	Aug. 1958	4/7/2010	Yes	154	100	30	BUL-2V-131	ga015_1943
2	LS15410030L1	Color change in photo, vegetation change near river, '43 topo elevation change	Aug. 1958	4/7/2010	Yes	154	100	30	BUL-2V-131	ga014_1943
3	LS15410030L3	Cut bank, shadowing on wall, vegetation change, old oxbow above OHWL	Aug. 1958	4/7/2010	Yes	154	100	30	BUL-2V-131	ga015_1943
4	LS15410125R1	Mature trees vs. low vegetation, '43 topo lines, clear riverbank	Aug. 1958	4/7/2010	Yes	154	101	25	BUL-2V-130	ga015_1943
5	LS15410136R1	River channel and cut above, Mature vegetation above and water below, willow flat below channel	Aug. 1958	4/7/2010	Yes	154	101	36	BUL-2V-130	ga015_1943
6	LS15410136R2	Mature vegetation along river edge, color change, '43 topo elevation change, on main river channel	Aug. 1958	4/7/2010	Yes	154	101	36	BUL-2V-130	ga015_1943
7	LS15410031L1	Clear change from main channel, mature vegetation, cut bank, old oxbow above OHWL	Aug. 1958	4/7/2010	Yes	154	100	31	BUL-2V-131	ga015_1943
8	LS15410031L2	Long line of mature trees into cut bank, willow flat west of tree line, turning point of high bank, riverbank north of tree line, old oxbow above OHWL	Aug. 1958	4/7/2010	Yes	154	100	31	BUL-2V-131	ga015_1943
9	LS15310006L1	Edge of willow area vs. row of trees below cultivated field, old oxbow above OHWL	Aug. 1958	4/7/2010	Yes	153	100	6	BUL-2V-131	ga015_1943
10	LS15310006L2	Abrupt change in vegetation, old water channel above OHWL with mature trees, willows below OHWL, old oxbow above OHWL	Aug. 1958	4/7/2010	Yes	153	100	6	BUL-2V-84	ga015_1943
11	LS15310005L1	Vegetation change, potentially willows above, follows '43 topo, old oxbow above OHWL	Aug. 1958	4/7/2010	NO	153	100	5	BUL-2V-84	ga015_1943
12	LS15310009L3	Cut bank with willows below, steep hills above, old oxbow above OHWL	Aug. 1958	4/7/2010	Yes	153	100	9	BUL-2V-82	ga019_1943
13	LS15310008L1	Above a smaller channel lined by willows, trees and open above the OHWL, ridge apparent in 2009 aerial imagery and 1943 photo	Aug. 1958	4/7/2010	Yes	153	100	8	BUL-2V-83	ga015_1943
14	LS15310008L2	Above a smaller channel lined be willows, trees and open above the OHWL, ridge apparent in 2009 aerial imagery and 1943 photo	Aug. 1958	4/7/2010	Yes	153	100	8	BUL-2V-83	ga015_1943
15	LS15310009L1	Above a willow flat, below start of larger vegetation	Aug. 1958	4/7/2010	Yes	153	100	9	BUL-2V-83	ga015_1943
16	LS15310009L2	Above a small channel, below a bank, at turn in river to a cut bank, '43 topo shows rise in elevation	Aug. 1958	4/7/2010	Yes	153	100	9	BUL-2V-83	ga019_1943
17	LS15310101R1	Cut bank, vegetation line, scattered trees above.	Aug. 1958	4/7/2010	Yes	153	101	1	BUL-2V-85	ga015_1943
18	LS15310101R2	Above willow flat, below cut bank noted on photo, vegetation line	Aug. 1958	4/7/2010	Yes	153	101	1	BUL-2V-85	ga015_1943
19	LS15310006R1	Above willow flat, below cut bank noted on photo, vegetation line	Aug. 1958	4/7/2010	Yes	153	100	6	BUL-2V-85	ga015_1943
20	LS15310006R2	Above willow flat, below cut bank noted on photo, vegetation line, appears to be upland drain above	Aug. 1958	4/7/2010	Yes	153	100	6	BUL-2V-85	ga015_1943
21	LS15310007R1	Larger, more dense vegetation above OHWL, shorter stature below, apparent small river in 2009 aerials indicating elevation change	Aug. 1958	4/7/2010	Yes	153	100	7	BUL-2V-84	ga015_1943
22	LS15310007R2	Larger, more dense vegetation above OHWL, shorter stature below, apparent small river in 2009 aerials indicating elevation change	Aug. 1958	4/7/2010	Yes	153	100	7	BUL-2V-84	ga015_1943
23	LS15310008R1	Larger, more dense vegetation above OHWL, shorter stature below, longer willow flat	Aug. 1958	4/7/2010	Yes	153	100	8	BUL-2V-84	ga015_1943
24	LS15310008R2	Cut bank at main river channel, evidence of farming or haying, clear riverbank and '43 topo line	Aug. 1958	4/7/2010	Yes	153	100	8	BUL-2V-83	ga015_1943
25	LS15310009R1	Apparent bank and '43 topo line	Aug. 1958	4/9/2010	Yes	153	100	9	BUL-2V-46	ga015_1943
26	LS15310009R2	Turn in peninsula, mature trees vs. barren ground, clear bank	Aug. 1958	4/9/2010	Yes	153	100	9	BUL-2V-46	ga015_1943
27	LS15310016R1	Change in vegetation density, shrubs and open vs. trees, '43 topo shows elevation change	Aug. 1958	4/9/2010	Yes	153	100	16	BUL-2V-46	ga015_1943
28	LS15310016R2	Depositional levee, some trees forming and establishing below OHWL, vegetation more dense and taller above OHWL, color change	Aug. 1958	4/9/2010	Yes	153	100	16	BUL-2V-46	ga015_1943
29	LS15310017R1	Depositional levee, some trees forming and establishing below OHWL but less then at LS15310016R2, vegetation more dense and taller above OHWL, color change	Aug. 1958	4/9/2010	Yes	153	100	17	BUL-2V-46	ga015_1943
30	LS15310020R1	Depositional levee, vegetation more dense and taller above OHWL, color change, below is relatively barren	Aug. 1958	4/9/2010	Yes	153	100	20	BUL-2V-46	ga015_1943
31	LS15310020R2	Vegetation more dense and taller above OHWL, color change, lower structure below	Aug. 1958	4/9/2010	Yes	153	100	20	BUL-2V-46	ga016_1943
32	LS15310019R1	Willow flat below OHWL, dense, more mature vegetation and trees above, at turn in river	Aug. 1958	4/9/2010	Yes	153	100	19	BUL-2V-45	ga016_1943
33	LS15310019R2	Cut bank, '43 topo elevation change	Aug. 1958	4/9/2010	Yes	153	100	19	BUL-2V-45	ga016_1943
34	LS15310016L1	Cut bank, at edge of main channel, vegetation above, water below.	Aug. 1958	4/9/2010	Yes	153	100	16	BUL-2V-47	ga019_1943
35	LS15310016L2	Cut bank, at edge of main channel, vegetation above, water below, two-tracks above OHWL	Aug. 1958	4/9/2010	Yes	153	100	16	BUL-2V-47	ga015_1943
36	LS15310016L3	Cut bank at main channel with wooded vegetation above, '43 topo shows elevation change	Aug. 1958	4/9/2010	Yes	153	100	16	BUL-2V-47	ga015_1943
37	LS15310020L1	Cut bank at main channel with wooded vegetation above, '43 topo shows elevation change, cultivated field and road within ¼ mile	Aug. 1958	4/9/2010	Yes	153	100	20	BUL-2V-47	ga016_1943
38	LS15310020L2	Bank of main river channel, some wooded vegetation above, two-tracks above	Aug. 1958	4/9/2010	Yes	153	100	20	BUL-2V-47	ga016_1943
39	LS15310020L3	Bank of main river channel, some wooded vegetation above, cultivated or hayed field 175ft above.	Aug. 1958	4/9/2010	Yes	153	100	20	BUL-2V-47	ga016_1943
40	LS15310030R1	Cut bank, vertical barren area along main channel, topo shows steep elevation change	Aug. 1958	4/9/2010	Yes	153	100	30	BUL-1V-68	ga016_1943
41	LS15310030R2	Cut bank, vertical barren area along main channel, topo shows steep elevation change	Aug. 1958	4/9/2010	Yes	153	100	30	BUL-1V-68	ga016_1943
42	LS15310029R1	Cut bank, vertical barren area along main channel, topo shows steep elevation change	Aug. 1958	4/9/2010	Yes	153	100	29	BUL-1V-68	ga016_1943
43	LS15310032R1	Cut bank, tree line above OHWL, apparent bank on main channel	Aug. 1958	4/9/2010	Yes	153	100	32	BUL-1V-68	ga016_1943
44	LS15310032R2	Along wooded vegetation adjacent to hay field, along main channel	Aug. 1958	4/9/2010	Yes	153	100	32	BUL-1V-68	ga016_1943
45	LS15310033R1	Along cut bank, along main channel, upland vegetation, trees	Aug. 1958	4/9/2010	Yes	153	100	33	BUL-1V-67	ga016_1943
46	LS15310033R2	Along clear bank on main river channel, cleared field above, river below	Aug. 1958	4/9/2010	Yes	153	100	33	BUL-1V-67	ga020_1943
47	LS15310034R1	Along clear bank on main river channel, cleared field above, river below	Aug. 1958	4/9/2010	Yes	153	100	34	BUL-1V-67	ga020_1943
48	LS15310034R2	North side is cut bank, turn in river, wooded above OHWL, lacking wooded vegetation below OHWL	Aug. 1958	4/9/2010	Yes	153	100	34	BUL-1V-66	ga020_1943
49	LS15310034R3	Wooded vegetation above OHWL, low structure vegetation below,	Aug. 1958	4/9/2010	Yes	153	100	34	BUL-1V-66	ga020_1943
50	LS15210006R1	Farmstead above, main river channel below, end of willow flat to the north	Aug. 1958	4/9/2010	Yes	152	100	6	BUL-1V-44	ga020_1943
51	LS15210005R1	Apparent cut on over bank, wooded dense vegetation above, fields behind trees	Aug. 1958	4/9/2010	Yes	152	100	5	BUL-1V-44	ga020_1943
52	LS15210005R2	Apparent bank along river channel, hay field above, section lines demarcated on 1958 photo are incorrect	Aug. 1958	4/9/2010	Yes	152	100	5	BUL-1V-44	ga020_1943
53	LS15210008R1	Apparent bank along river channel, hay or crop field above,	Aug. 1958	4/9/2010	Yes	152	100	8	BUL-1V-44	ga020_1943
54	LS15210008R2	Apparent bank along river channel, hay or crop field above, begins turn in river	Aug. 1958	4/9/2010	Yes	152	100	8	BUL-1V-44	ga020_1943
55	LS15210009R1	Apparent bank along river channel, wooded area to west and beginning of willow flat to the east, turns away from main channel	Aug. 1958	4/9/2010	Yes	152	100	9	BUL-1V-44	ga020_1943
56	LS15210009R2	Bank above secondary channel, willow flat below, wooded trees above, old oxbow behind	May-43	4/9/2010	Yes	152	100	9	MRD-8-114	ga020_1943
57	LS15210010R1	Apparent bank, behind secondary channel, willow flat below, wooded area above, hay field between and behind LS15210009R2 and LS15210010R1, old oxbow behind	Aug. 1958	4/9/2010	Yes	152	100	10	BUL-1V-47	ga022_1943
58	LS15210010R2	Behind secondary channel, transitional area, less then 50% tree species, apparent vegetation change along older bank, old oxbow behind	Aug. 1958	4/9/2010	No	152	100	10	BUL-1V-47	ga022_1943
59	LS15210003R1	Behind secondary channel, transitional area, less then 50% tree species, apparent vegetation change along older bank, old oxbow behind	Aug. 1958	4/9/2010	No	152	100	3	BUL-1V-47	ga022_1943
60	LS15210002R1	Behind secondary channel, transitional area, less then 50% tree species, apparent vegetation change along older bank, old oxbow behind	Aug. 1958	4/9/2010	No	152	100	2	BUL-1V-47	ga022_1943

OBJECTID	Transect	Comment	Photo_Date	Date_	Confidence	Township	Range	Section_	Photo_File	Topo
61	LS15210002R2	Secondary river channel, apparent bank above, trees behind, islands in front of channel	Aug. 1958	4/9/2010	Yes	152	100	2	BUL-1V-47	ga022_1943
62	LS15310029L1	Transition area between low, shrub and tree vegetation	Aug. 1958	4/9/2010	Yes	153	100	20	BUL-1V-67	ga016_1943
63	LS15310029L2	Transition area between low, shrub and tree vegetation, few trees below, but not 50%	Aug. 1958	4/9/2010	Yes	153	100	29	BUL-1V-67	ga016_1943
64	LS15310029L3	Transition area between low, shrub and tree vegetation, lacking vegetation below	Aug. 1958	4/9/2010	Yes	153	100	29	BUL-1V-67	ga016_1943
65	LS15310032L1	Transition area, area between OHWL and river is narrowing from upstream	Aug. 1958	4/9/2010	Yes	153	100	32	BUL-1V-67	ga016_1943
66	LS15310033L1	Along main river channel, narrow band of vegetation below a cultivated field above OHWL	Aug. 1958	4/9/2010	No	153	100	33	BUL-1V-67	ga016_1943
67	LS15310033L2	Along main river channel, narrow band of vegetation below a cultivated field above OHWL	Aug. 1958	4/9/2010	No	153	100	33	BUL-1V-67	ga016_1943
68	LS15310034L1	Along main river channel with few island forming, vegetation behind, potentially willow shrubs, hayed field 600' from OHWL	Aug. 1958	4/9/2010	No	153	100	34	BUL-1V-66	ga020_1943
69	LS15310034L2	River turns along cut bank, '43 topo shows steep change in elevation	Aug. 1958	4/9/2010	Yes	153	100	34	BUL-1V-66	ga020_1943
70	LS15310034L3	Vegetation transition line, dense above, low stature below	Aug. 1958	4/9/2010	Yes	153	100	34	BUL-1V-66	ga020_1943
71	LS15310035L1	Along main river channel, dense wooded vegetation above	Aug. 1958	4/9/2010	Yes	153	100	35	BUL-1V-66	ga020_1943
72	LS15210005L1	Along main river channel, dense wooded vegetation above, cultivated area within 100'	Aug. 1958	4/9/2010	Yes	152	100	5	BUL-1V-44	ga020_1943
73	LS15210005L2	Along main river channel, upland is dense wooded vegetation	Aug. 1958	4/9/2010	Yes	152	100	5	BUL-1V-44	ga020_1943
74	LS15210004L1	Transition area between shrubs and trees, taller vegetation above, willow flat below	Aug. 1958	4/9/2010	Yes	152	100	4	BUL-1V-44	ga020_1943
75	LS15210004L2	Behind secondary channel, above willow flat, below dense trees	Aug. 1958	4/9/2010	Yes	152	100	4	BUL-1V-44	ga020_1943
76	LS15210004L3	Above secondary channel, dense trees above, islands with low willows	Aug. 1958	4/9/2010	Yes	152	100	4	BUL-1V-47	ga022_1943
77	LS15210003L1	Above secondary channel, dense trees above, islands with low willows	Aug. 1958	4/9/2010	Yes	152	100	3	BUL-1V-47	ga022_1943
78	LS15210003L2	Along main river channel, sandy terrain below, wooded vegetation above	Aug. 1958	4/9/2010	Yes	152	100	3	BUL-1V-47	ga022_1943
79	LS15309931L1	Vegetation line between willow flat and trees, field within 160'	Aug. 1958	4/9/2010	Yes	153	99	31	BUL-1V-62	ga022_1943
80	LS15309931L2	Vegetation line between willow flat and trees	Aug. 1958	4/9/2010	Yes	153	99	31	BUL-1V-62	ga022_1943
81	LS15309932L1	Vegetation line between willow flat and trees	Aug. 1958	4/9/2010	Yes	153	99	32	BUL-1V-62	ga022_1943
82	LS15309932L2	Vegetation line between willow flat and trees	Aug. 1958	4/9/2010	Yes	153	99	32	BUL-1V-62	ga022_1943
83	LS15309933L1	On main channel, dense tree area above, farmed field 800' to the north	Aug. 1958	4/9/2010	Yes	153	99	33	BUL-1V-62	ga022_1943
84	LS15309933L2	On main channel, dense tree area above,	Aug. 1958	4/9/2010	Yes	153	99	33	BUL-1V-61	ga022_1943
85	LS15309933L3	On main river channel, vegetation above, farmed field 250' to the north	Aug. 1958	4/9/2010	Yes	153	99	33	BUL-1V-61	ga025_1943
86	LS15309934L1	On main river channel, vegetation on old clearing above, farmed field 320' to the north	Aug. 1958	4/9/2010	Yes	153	99	34	BUL-1V-61	ga025_1943
87	LS15309934L2	On main river channel and on an old channel, vegetation established, some upland areas are cultivated, beginning of old oxbow	Aug. 1958	4/9/2010	No	153	99	34	BUL-1V-59	ga025_1943
88	LS15309935L1	A bank above willow flat, upland vegetated with scattered trees and fields, beginning of old oxbow	Aug. 1958	4/9/2010	No	153	99	35	BUL-1V-59	ga025_1943
89	LS15309935L2	A bank above willow flat, upland vegetated with scattered trees and fields, beginning of old oxbow	Aug. 1958	4/9/2010	No	153	99	35	BUL-1V-59	ga025_1943
90	LS15309935L3	Entrance to oxbow, trees above OHWL, barren below with some low willows	Aug. 1958	4/9/2010	No	153	99	35	BUL-1V-59	ga025_1943
91	LS15309936L1	Trees above OHWL, barren below	Aug. 1958	4/9/2010	No	153	99	36	BUL-1V-59	ga025_1943
92	LS15309932R1	On main river channel, fields above, narrow band of dense vegetation with trees	Aug. 1958	4/9/2010	Yes	153	99	32	BUL-1V-62	ga022_1943
93	LS15309932R2	Near main river channel, dense vegetation between fields upland, two-track above	Aug. 1958	4/9/2010	No	153	99	32	BUL-1V-62	ga022_1943
94	LS15309932R3	Appears to be willow flats, barren areas, and hayed grass areas below; two-track on tilled fields above. old river channel area	Aug. 1958	4/9/2010	No	153	99	32	BUL-1V-61	ga022_1943
95	LS15309933R1	Appears to be willow flats, barren areas, and hayed grass areas below; two-track on tilled fields above. old river channel area	Aug. 1958	4/9/2010	No	153	99	33	BUL-1V-61	ga022_1943
96	LS15210001R1	Appears to be willow flats, barren areas, and hayed grass areas below; two-track on tilled fields above. old river channel area	Aug. 1958	4/9/2010	No	152	100	1	BUL-1V-49	ga025_1943
97	LS15209906R1	Cut bank of old river channel, willows and hayed grass below, Topo shows steep elevation change	Aug. 1958	4/9/2010	No	152	99	6	BUL-1V-49	ga025_1943
98	LS15209906R2	Cut bank of old river channel, willows and hayed grass below, Topo shows steep elevation change	Aug. 1958	4/9/2010	No	152	99	6	BUL-1V-49	ga025_1943
99	LS15209905R1	Cut bank of old river channel, willow below, topo shows steep elevation change	Aug. 1958	4/9/2010	Yes	152	99	5	BUL-1V-58	ga025_1943
100	LS15209905R2	Cut bank of main river channel, no vegetation below, topo shows steel elevation change	Aug. 1958	4/9/2010	Yes	152	99	5	BUL-1V-58	ga025_1943
101	LS15309935R1	Cut bank of main river channel, no vegetation below, trees above, topo shows steel elevation change	Aug. 1958	4/9/2010	Yes	153	99	35	BUL-1V-58	ga025_1943
102	LS15410131L1	Main river channel, construction behind, follows the line area where vegetation has not been disturbed	Aug. 1958	4/12/2010	Yes	154	101	31	BUL-2V-90	ga007_1943
103	LS15410132L1	On secondary channel behind willow sandbar, higher denser vegetation above	Aug. 1958	4/12/2010	Yes	154	101	32	BUL-2V-127	ga007_1943
104	LS15410132L2	On main river channel, above there are trees and shrubs for 300' and the rest fields	Aug. 1958	4/12/2010	Yes	154	101	32	BUL-2V-127	ga007_1943
105	LS15410132L3	On main river channel, narrow band of trees and fields behind, '43 COE photos show old river bed to the north	Aug. 1958	4/12/2010	Yes	154	101	32	BUL-2V-127	ga007_1943
106	LS15410133L1	Behind willow flat, below field, '43 COE photos show old river bed to the north	Aug. 1958	4/12/2010	Yes	154	101	33	BUL-2V-127	ga007_1943
107	LS15410133L2	Main river channel, upland is old field with two-track adjacent to river, '43 COE photos show old river bed to the north	Aug. 1958	4/12/2010	Yes	154	101	33	BUL-2V-127	ga007_1943
108	LS15410134L1	On main river channel behind sandbar. upland is field and two-track, '43 COE photos show old river bed to the north	Aug. 1958	4/12/2010	Yes	154	101	34	BUL-2V-128	ga011_1943
109	LS15410134L2	Main river channel, upland is old field with two-track adjacent to river, '43 COE photos show old river bed to the north	Aug. 1958	4/12/2010	Yes	154	101	34	BUL-2V-128	ga011_1943
110	LS15410134L3	Behind willow sandbar, field upland , '43 COE photos show old river bed to the north	Aug. 1958	4/12/2010	Yes	154	101	34	BUL-2V-128	ga011_1943
111	LS15410135L1	Above willow flat, upland is old river bed with trees, trees following old levees and expanding out, '43 COE photos show old river bed to the north	Aug. 1958	4/12/2010	Yes	154	101	35	BUL-2V-130	ga011_1943
112	LS15410135L2	Above willow flat, fields above with scattered trees, '43 COE photos show old river bed to the north	Aug. 1958	4/12/2010	Yes	154	101	35	BUL-2V-130	ga011_1943
113	LS15410135L3	Above willow flat, fields above with scattered trees, '43 COE photos show old river bed to the north	Aug. 1958	4/12/2010	No	154	101	35	BUL-2V-130	ga011_1943
114	LS15410125L1	Above willow flat, upland is corner of cleared field, drainage fields above levee construction, '43 COE photos show old river bed to the north	Aug. 1958	4/12/2010	No	154	101	25	BUL-2V-130	ga011_1943
115	LS15410125L2	Above willow flat, upland vegetation modified, drainage fields above levee construction	Aug. 1958	4/12/2010	No	154	101	25	BUL-2V-130	ga015_1943
116	LS15410125L3	Above willow flat, upland vegetation modified, drainage fields above levee construction	Aug. 1958	4/12/2010	No	154	101	25	BUL-2V-130	ga015_1943
117	LS15310106R3	On main river channel, wooded area with mature trees above, near bridge, old river channel behind	Aug. 1958	4/12/2010	Yes	153	101	6	BUL-2V-127	ga007_1943
118	LS15410132R1	Along tree line, vegetation more dense above and high stature, old river channel behind	Aug. 1958	4/12/2010	Yes	154	101	32	BUL-2V-127	ga007_1943
119	LS15410132R2	Along tree line, vegetation more dense above and high stature, old river channel behind	Aug. 1958	4/12/2010	Yes	154	101	32	BUL-2V-127	ga007_1943
120	LS15410133R1	Along tree line, vegetation more dense above and high stature, old river channel behind	Aug. 1958	4/12/2010	Yes	154	101	33	BUL-2V-127	ga007_1943

OBJECTID	Transect	Comment	Photo_Date	Date_	Confidence	Township	Range	Section_	Photo_File	Topo
121	LS15310104R1	Along tree line, vegetation more dense above and high stature, old river channel behind	Aug. 1958	4/12/2010	Yes	153	101	4	BUL-2V-127	ga011_1943
122	LS15310103R1	Along tree line, vegetation more dense above and high stature, old river channel behind	Aug. 1958	4/12/2010	Yes	153	101	3	BUL-2V-128	ga011_1943
123	LS15310103R2	Along tree line, vegetation more dense above and high stature, old river channel behind, homestead adjacent, some standing water below	Aug. 1958	4/12/2010	Yes	153	101	3	BUL-2V-128	ga011_1943
124	LS15310103R3	Along back channel, below hayed field	Aug. 1958	4/12/2010	Yes	153	101	3	BUL-2V-128	ga011_1943
125	LS15310102R1	Behind old channel with willow flat, below field	Aug. 1958	4/12/2010	Yes	153	101	2	BUL-2V-130	ga011_1943
126	LS15310102R2	Behind old channel with willow flat, below field	Aug. 1958	4/12/2010	Yes	153	101	2	BUL-2V-130	ga011_1943
127	LS15410136R1	Cut bank along main river channel, upland is wooded and fields	Aug. 1958	4/12/2010	Yes	154	101	36	BUL-2V-130	ga011_1943
128	LS15410136R2	Along wooded tree line, narrow willow flat below,	Aug. 1958	4/12/2010	Yes	154	101	36	BUL-2V-130	ga015_1943
129	LS15410136R3	Along main river channel cut bank	Aug. 1958	4/12/2010	Yes	154	101	36	BUL-2V-130	ga015_1943
130	LS15309936R1	Cut on main river channel, wooded vegetation upland, may include some wetland vegetation from runoff	Aug. 1958	4/12/2010	Yes	153	99	36	BUL-1V-58	ga025_1943
131	LS15309936R2	Cut on main river channel, wooded vegetation upland, may include some wetland vegetation from runoff	Aug. 1958	4/12/2010	Yes	153	99	36	BUL-1V-57	ga027_1943
132	LS15309831R1	Above willow flat with more wooded species above	Aug. 1958	4/12/2010	Yes	153	98	31	BUL-1V-57	ga027_1943
133	LS15309831R2	Above wetland area in sandbar flat, trees above	Aug. 1958	4/12/2010	Yes	153	98	31	BUL-1V-57	ga027_1943
134	LS15309832R1	Above wetland area in sandbar flat, trees above	Aug. 1958	4/12/2010	Yes	153	98	32	BUL-1V-57	ga027_1943
135	LS15309832R2	Above channel area in sandbar flat, trees above	Aug. 1958	4/12/2010	Yes	153	98	32	BUL-1V-57	ga027_1943
136	LS15309832R3	Above secondary channel and willow flat, below field	Aug. 1958	4/12/2010	Yes	153	98	32	BUL-1V-56	ga027_1943
137	LS15309833R1	Above secondary channel and willow flat, below wooded area and field	Aug. 1958	4/12/2010	Yes	153	98	33	BUL-1V-56	ga027_1943
138	LS15309828R1	On main channel, upland is wooded areas between fields	Aug. 1958	4/12/2010	Yes	153	98	28	BUL-1V-55	ga027_1943
139	LS15309833R2	Old river bed area, primarily low & clumped willows, some trees but not many, fields are within area but have obvious drains, adjacent uplands steep & have significant runoff drainages influencing the area	Aug. 1958	4/12/2010	No	153	98	33	BUL-1V-54	ga030_1943
140	LS15309834R1	Old river bed area, primarily low & clumped willows, some trees but not many, fields are within area but have obvious drains, adjacent uplands steep & have significant runoff drainages influencing the area	Aug. 1958	4/12/2010	No	153	98	34	BUL-1V-54	ga030_1943
141	LS15309834R2	Old river bed area, primarily low & clumped willows, some trees but not many, fields are within area but have obvious drains, adjacent uplands steep & have significant runoff drainages influencing the area	Aug. 1958	4/12/2010	No	153	98	34	BUL-1V-54	ga030_1943
142	LS15309834R3	Old river bed area, primarily low & clumped willows, some trees but not many, fields are within area but have obvious drains, adjacent uplands steep & have significant runoff drainages influencing the area	Aug. 1958	4/12/2010	No	153	98	34	BUL-1V-54	ga030_1943
143	LS15309826R1	Old river bed area, primarily low & clumped willows, some trees but not many, fields are within area but have obvious drains, adjacent uplands steep & have significant runoff drainages influencing the area	Aug. 1958	4/12/2010	No	153	98	26	BUL-1V-54	ga030_1943
144	LS15309826R2	Old river bed area, primarily low & clumped willows, some trees but not many, fields are within area but have obvious drains, adjacent uplands steep & have significant runoff drainages influencing the area	Aug. 1958	4/12/2010	No	153	98	26	BUL-1V-54	ga030_1943
145	LS15309826R3	Old river bed area, primarily low & clumped willows, some trees but not many, fields are within area but have obvious drains, adjacent uplands steep & have significant runoff drainages influencing the area	Aug. 1958	4/12/2010	No	153	98	26	BUL-1V-54	ga030_1943
146	LS15309823R1	Old river bed area, primarily low & clumped willows, some trees but not many, fields are within area but have obvious drains, adjacent uplands steep & have significant runoff drainages influencing the area	Aug. 1958	4/12/2010	No	153	98	23	BUL-1V-53	ga030_1943
147	LS15309926L1	River is turning and creating an oxbow, OHWL is drawn at waters edge, vegetation is low with some trees, wet areas and fields apparent above OHWL,	Aug. 1958	4/12/2010	No	153	99	26	BUL-1V-59	ga025_1943
148	LS15309926L2	River is turning and creating an oxbow, OHWL is drawn at waters edge, vegetation is low with some trees, wet areas and fields apparent above OHWL,	Aug. 1958	4/12/2010	No	153	99	26	BUL-1V-59	ga025_1943
149	LS15309926L3	River is turning and creating an oxbow, OHWL is drawn at waters edge, vegetation is low with some trees, wet areas and fields apparent above OHWL,	Aug. 1958	4/12/2010	No	153	99	26	BUL-1V-59	ga025_1943
150	LS15309923L1	Cut bank with steep elevations above	Aug. 1958	4/12/2010	No	153	99	23	BUL-1V-59	ga025_1943
151	LS15309923L2	Cut bank with steep elevations above	Aug. 1958	4/12/2010	No	153	99	23	BUL-1V-59	ga025_1943
152	LS15309924L1	Cut bank with steep elevations above	Aug. 1958	4/12/2010	No	153	99	24	BUL-1V-59	ga025_1943
167	LS15309813L2	Willows below most likely sandbar with diamond, scattered trees above in linear formations	Aug. 1958	4/19/2010	No	153	98	13	BUL-2V-61	ga029_1943
168	LS15309814L1	Willows below most likely sandbar with diamond, scattered trees above in linear formations and a hayed area	Aug. 1958	4/19/2010	No	153	98	14	BUL-2V-61	ga029_1943
169	LS15309811L1	Along secondary channel, willow flat area, old river bed above	Aug. 1958	4/19/2010	No	153	98	11	BUL-2V-61	ga029_1943
170	LS15309811L2	Cut bank, elevation changes above, along main river channel	Aug. 1958	4/19/2010	Yes	153	98	11	BUL-2V-68	ga029_1943
171	LS15309811L3	Cut bank, elevation changes above, along main river channel	Aug. 1958	4/19/2010	Yes	153	98	11	BUL-2V-68	ga029_1943
172	LS15309802L1	Sandbar flat below, steep bank and road above	Aug. 1958	4/19/2010	Yes	153	98	2	BUL-2V-68	ga029_1943
173	LS15309802L2	In a willow flat, channel above as assumed to be from overland flow, cultivated fields above	Aug. 1958	4/19/2010	Yes	153	98	2	BUL-2V-68	ga029_1943
174	LS15409835L1	On main river channel. consistent with topo change, steep elevation change	Aug. 1958	4/19/2010	Yes	154	98	35	BUL-2V-68	ga029_1943
175	LS15409836L1	On main river channel. consistent with topo change, steep elevation change	Aug. 1958	4/19/2010	Yes	154	98	36	BUL-2V-68	ga029_1943
176	LS15409836L2	On main river channel. consistent with topo change, steep elevation change	Aug. 1958	4/19/2010	Yes	154	98	36	BUL-2V-149	ga029_1943
177	LS15409825L1	Above channel, behind willow sandbar, some fields above, topo shows elevation change	Aug. 1958	4/19/2010	Yes	154	98	25	BUL-2V-149	ga029_1943
178	LS15409730L1	Above willows and below field	Aug. 1958	4/19/2010	Yes	154	97	30	BUL-2V-149	ga032_1943
179	LS15409730L2	On main river channel. below field	Aug. 1958	4/19/2010	Yes	154	97	30	BUL-2V-149	ga031_1943
180	LS15409730L3	On main river channel, below tree growth, old river bed above	Aug. 1958	4/19/2010	No	154	97	30	BUL-2V-149	ga031_1943
181	LS15309824R1	On main river channel, below an older depositional area	Aug. 1958	4/19/2010	Yes	153	98	24	BUL-2V-61	ga030_1943
182	LS15309824R2	On main river channel, at steep bank above	Aug. 1958	4/19/2010	Yes	153	98	24	BUL-2V-61	ga030_1943
183	LS15309813R1	On main river channel, at steep bank above	Aug. 1958	4/19/2010	Yes	153	98	13	BUL-2V-61	ga029_1943
184	LS15309813R2	On main river channel, at steep bank above	Aug. 1958	4/19/2010	Yes	153	98	13	BUL-2V-61	ga029_1943
185	LS15309813R3	On main river channel, old river channel above with two-tracks through the area	Aug. 1958	4/19/2010	Yes	153	98	13	BUL-2V-61	ga029_1943
186	LS15309812R1	On main river channel, old river channel above with two-tracks and fields through the area	Aug. 1958	4/19/2010	Yes	153	98	12	BUL-2V-68	ga029_1943
187	LS15309811R1	Above willow flat, remnant back channel	Aug. 1958	4/19/2010	Yes	153	98	11	BUL-2V-68	ga029_1943
188	LS15309811R2	Above willow flat, remnant back channel	Aug. 1958	4/19/2010	Yes	153	98	11	BUL-2V-68	ga029_1943
189	LS15309802R1	On bank with field above	Aug. 1958	4/19/2010	Yes	153	98	2	BUL-2V-68	ga029_1943
190	LS15309801R1	Cut bank, fields above	Aug. 1958	4/19/2010	Yes	153	98	1	BUL-2V-68	ga029_1943
191	LS15409836R1	On cut bank along main channel	Aug. 1958	4/19/2010	Yes	154	98	36	BUL-2V-68	ga029_1943
192	LS15409836R2	On cut bank along main channel	Aug. 1958	4/19/2010	Yes	154	98	36	BUL-2V-68	ga029_1943
193	LS15409731R1	On cut bank along main channel, scattered trees and fields above	Aug. 1958	4/19/2010	Yes	154	97	31	BUL-2V-149	ga032_1943
194	LS15409730R1	On cut bank along main channel, scattered trees and fields above	Aug. 1958	4/19/2010	Yes	154	97	30	BUL-2V-150	ga032_1943

OBJECTID	Transect	Comment	Photo_Date	Date_	Confidence	Township	Range	Section_	Photo_File	Topo
195	LS15409730R2	On main river channel, willow flat below, scattered trees and fields above	Aug. 1958	4/19/2010	Yes	154	97	30	BUL-2V-150	ga032_1943
196	LS15409729R1	On main river channel, island forming below, above scattered trees and two-track to field	Aug. 1958	4/19/2010	Yes	154	97	29	BUL-2V-150	ga032_1943
197	LS15409729R2	Placement based on vegetation density, willows and channels below, above older river bed, two-tracks, fields, remnant channel segments above	Aug. 1958	4/19/2010	Yes	154	97	29	BUL-2V-150	ga032_1943
198	LS15409728R1	Placement based on vegetation density, willows and channels below, above older river bed, two-tracks, fields, remnant channel segments above	Aug. 1958	4/19/2010	Yes	154	97	28	BUL-2V-150	ga032_1943
199	LS15409728R2	Above back channel, narrow wooded banded field above	Aug. 1958	4/19/2010	Yes	154	97	28	BUL-2V-150	ga032_1943
200	LS15409727R1	Above back channel, narrow wooded banded field above	Aug. 1958	4/19/2010	Yes	154	97	27	BUL-2V-152	ga035_1943
201	LS15409727R2	On main river channel, dense wooded area above	Aug. 1958	4/19/2010	Yes	154	97	27	BUL-2V-152	ga034_1943
202	LS15409726R1	On main river channel, fields above	Aug. 1958	4/19/2010	Yes	154	97	26	BUL-2V-152	ga034_1943
203	LS15409723R1	On main river channel, fields above	Aug. 1958	4/19/2010	Yes	154	97	23	BUL-2V-152	ga034_1943
204	LS15409724L1	Above secondary channel, fields above	Sept. 1951	4/19/2010	Yes	154	97	24	340-271	ga034_1943
205	LS15409724L2	On main river channel, fields above	Sept. 1951	4/19/2010	Yes	154	97	24	340-271	ga034_1943
206	LS15409724L3	On main river channel, fields above	Sept. 1951	4/19/2010	Yes	154	97	24	340-271	ga034_1943
207	LS15409619L1	On main river channel, fields above	Sept. 1951	4/19/2010	Yes	154	96	19	340-271	ga036_1943
208	LS15409630L1	On main river channel, fields above	Sept. 1951	4/19/2010	Yes	154	96	30	340-271	ga036_1943
209	LS15409630L2	Line of demarcations, between river flow direction, vegetation below shows east, west growth, above vegetation shows north, south growth with scattered trees along old levees, '43 topo shows sandbar below OHWL	Sept. 1951	4/19/2010	Yes	154	96	30	340-271	ga036_1943
210	LS15409629L1	On main river channel, wooded vegetation above, on old river channel	Sept. 1951	4/19/2010	Yes	154	96	29	340-271	ga036_1943
211	LS15409629L2	On main river channel, wooded vegetation above, on old river channel	Sept. 1951	4/19/2010	Yes	154	96	29	340-271	ga036_1943
212	LS15409629L3	Above sandbar willow flat, dense larger wooded vegetation above	Sept. 1951	4/19/2010	Yes	154	96	29	340-271	ga036_1943
213	LS15409621L1	Above sandbar willow flat, dense larger wooded vegetation above	Sept. 1951	4/19/2010	Yes	154	96	21	340-271	ga036_1943
214	LS15409628L1	On main river channel, wooded vegetation above, on old river channel	Sept. 1951	4/19/2010	Yes	154	96	28	340-271	ga036_1943
215	LS15409627L1	On main river channel, wooded vegetation above, on old river channel	Sept. 1951	4/19/2010	Yes	154	96	27	340-271	ga036_1943
216	LS15409627L2	Above sandbar willow flat, dense larger wooded vegetation above	Sept. 1951	4/19/2010	Yes	154	96	27	340-271	ga038_1943
217	LS15409627L3	Above sandbar willow flat, dense larger wooded vegetation above	Sept. 1951	4/19/2010	Yes	154	96	27	340-271	ga038_1943
218	LS15409626L1	Above sandbar willow flat, dense larger wooded vegetation above	Sept. 1951	4/19/2010	Yes	154	96	26	340-271	ga038_1943
219	LS15409626L2	On main river channel, appears to be an old field above	Sept. 1951	4/19/2010	Yes	154	96	26	340-271	ga038_1943
220	LS15409723R2	Above sandbar willow flat, dense larger wooded vegetation above	Sept. 1951	4/19/2010	Yes	154	97	23	340-271	ga034_1943
221	LS15409725R1	Above sandbar willow flat, dense larger wooded vegetation above	Sept. 1951	4/19/2010	Yes	154	97	25	340-271	ga034_1943
222	LS15409726R2	Above secondary channel, sandbar willow flat below, fields above	Sept. 1951	4/19/2010	Yes	154	97	26	340-271	ga035_1943
223	LS15409736R1	Above sandbar willow flat, dense larger wooded vegetation above	Sept. 1951	4/19/2010	Yes	154	97	36	340-271	ga035_1943
224	LS15409736R2	Above sandbar willow flat, dense larger wooded vegetation above	Sept. 1951	4/19/2010	Yes	154	97	36	340-271	ga035_1943
225	LS15409631R1	Above sandbar willow flat, dense larger wooded vegetation above	Sept. 1951	4/19/2010	Yes	154	96	31	340-271	ga035_1943
226	LS15409630R1	Along main river channel cut, elevation change, field above	Sept. 1951	4/19/2010	Yes	154	96	30	340-271	ga037_1943
227	LS15409630R2	On main river channel, elevation change, potential fields above	Sept. 1951	4/19/2010	Yes	154	96	30	340-271	ga037_1943
228	LS15409629R1	On main river channel, elevation change, potential fields above	Sept. 1951	4/19/2010	Yes	154	96	29	340-271	ga037_1943
229	LS15409629R2	Above sandbar willow flat, '43 topo shows elevation change	Sept. 1951	4/19/2010	Yes	154	96	29	340-271	ga037_1943
230	LS15409628R1	Above sandbar willow flat, '43 topo shows elevation change	Sept. 1951	4/19/2010	Yes	154	96	28	340-271	ga037_1943
231	LS15409628R2	On main river channel, dense wooded area above, large island in river	Sept. 1951	4/19/2010	Yes	154	96	28	340-271	ga037_1943
153	LS15309924L2	Cut bank with trees and fields above	Aug. 1958	4/12/2010	No	153	99	24	BUL-1V-58	ga025_1943
154	LS15309925L1	Cut bank with trees and fields above	Aug. 1958	4/12/2010	No	153	99	24	BUL-1V-58	ga025_1943
155	LS15309830L1	Cut bank with trees and fields above	Aug. 1958	4/12/2010	No	153	98	30	BUL-1V-57	ga027_1943
156	LS15309830L2	OHWL at obvious line between shrubs and trees	Aug. 1958	4/12/2010	No	153	98	30	BUL-1V-57	ga027_1943
157	LS15309831L1	On main river channel, near oxbow outlet, cut bank with trees above	Aug. 1958	4/12/2010	Yes	153	98	31	BUL-1V-57	ga027_1943
158	LS15309830L3	On main river channel, cut bank with trees above	Aug. 1958	4/12/2010	Yes	153	98	30	BUL-1V-56	ga027_1943
159	LS15309829L1	On main river channel, cut bank with trees and fields above	Aug. 1958	4/12/2010	Yes	153	98	29	BUL-1V-56	ga027_1943
160	LS15309829L2	On main river channel, cut bank with trees and fields above	Aug. 1958	4/12/2010	Yes	153	98	29	BUL-1V-56	ga027_1943
161	LS15309822L1	Cut bank, barren sandbar below, elevation changes above	Aug. 1958	4/19/2010	Yes	153	98	22	BUL-2V-60	ga030_1943
162	LS15309822L2	Cut bank, trees above, along main river channel	Aug. 1958	4/19/2010	Yes	153	98	22	BUL-2V-60	ga030_1943
163	LS15309823L1	Cut bank, trees above, along main river channel	Aug. 1958	4/19/2010	Yes	153	98	23	BUL-2V-60	ga030_1943
164	LS15309823L2	Cut bank, trees above, along main river channel	Aug. 1958	4/19/2010	Yes	153	98	23	BUL-2V-61	ga030_1943
165	LS15309824L1	Cut bank, scattered trees above, along main river channel	Aug. 1958	4/19/2010	Yes	153	98	24	BUL-2V-61	ga030_1943
166	LS15309813L1	Above willow flat with few tress, several trees above	Aug. 1958	4/19/2010	Yes	153	98	13	BUL-2V-61	ga029_1943
399	LS15210312L2	Wooded area with fields and irrigation canal above OHWL, OHWL on main channel	Aug. 1958	4/22/2010	Yes	152	103	12	BUL-1V-38	ga004_1943
400	LS15210207L1	Wooded area with fields and irrigation canal above OHWL, OHWL on main channel	Aug. 1958	4/22/2010	Yes	152	102	7	BUL-1V-38	ga004_1943
401	LS15210206L1	Wooded area with fields and irrigation canal above OHWL, OHWL on main channel	Aug. 1958	4/22/2010	Yes	152	102	6	BUL-1V-38	ga004_1943
402	LS15210206L2	Wooded area with fields above OHWL, OHWL on main channel	Aug. 1958	4/22/2010	Yes	152	102	6	BUL-1V-38	ga004_1943
403	LS15310234L1	Along main river channel, wetland vegetation above OHWL attributed to upland drains from fields above	Aug. 1958	4/22/2010	Yes	153	102	34	BUL-2V-7	ga004_1943
404	LS15310233L1	Along main river channel, fields above with drainage lines to river creating some wetland above OHWL	Aug. 1958	4/22/2010	Yes	153	102	33	BUL-2V-7	ga004_1943
405	LS15310233L2	OHWL above willow flat, fields above with drains to river, unable to determine vegetation type immediately	Aug. 1958	4/22/2010	Yes	153	102	33	BUL-2V-7	ga004_1943
406	LS15310228L1	OHWL above willow flat, hayed field directly above	Aug. 1958	4/22/2010	Yes	153	102	27	BUL-2V-7	ga004_1943

OBJECTID	Transect	Comment	Photo_Date	Date_	Confidence	Township	Range	Section_	Photo_File	Topo
407	LS15310228L2	Above willow flat with some hayed areas, upland includes hayed fields and several irrigation manipulations	Aug. 1958	4/22/2010	Yes	153	102	28	BUL-2V-8	ga004_1943
408	LS15310221L1	OHWL at elevation change in hayed area	Aug. 1958	4/22/2010	Yes	153	102	21	BUL-2V-8	ga004_1943
409	LS15310228L3	OHWL follows contour lines and wetland vegetation in back water channel, diverting north at this point, resuming it flow downstream	Aug. 1958	4/22/2010	Yes	153	102	28	BUL-2V-8	ga004_1943
410	LS15310221L2	Above channel where Trenton Lake enters into the river, sandbar willow below OHWL, trees above	Aug. 1958	4/22/2010	Yes	153	102	21	BUL-2V-8	ga004_1943
411	LS15310221L3	OHWL above sandbar willow flat and below field areas, irrigation canal about 1000' north of OHWL	Aug. 1958	4/22/2010	Yes	153	102	21	BUL-2V-36	ga004_1943
412	LS15310222L1	OHWL above willow flat, below row of trees along irrigation dam and fields	Aug. 1958	4/22/2010	Yes	153	102	22	BUL-2V-36	ga004_1943
413	LS15310222L2	Above willow flat, upland is a field	Aug. 1958	4/22/2010	Yes	153	102	22	BUL-2V-36	ga004_1943
414	LS15310222L3	Above sandbar willow flat, follows vegetation line and irrigation ditch	Aug. 1958	4/22/2010	Yes	153	102	22	BUL-2V-38	ga004_1943
415	LS15310223L1	Above sandbar willow flat, follows vegetation line and irrigation ditch	Aug. 1958	4/22/2010	Yes	153	102	23	BUL-2V-38	ga004_1943
416	LS15310226L1	Above sandbar willow flat, upland distinguished by tree growth and two-tracks	Aug. 1958	4/22/2010	Yes	153	102	26	BUL-2V-38	ga004_1943
417	LS15310226L2	Above willow flat, below hayed area with significant disturbance of trailing and cultivation	Aug. 1958	4/22/2010	Yes	153	102	26	BUL-2V-5	ga004_1943
418	LS15310225L1	Above sandbar willow flat, with one small hayed inclusion, upland area includes fields, road, and trails	Aug. 1958	4/22/2010	Yes	153	102	25	BUL-2V-5	ga008_1943
419	LS15310225L2	Above sandbar willow flat, with one small hayed inclusion, upland area includes fields, road, and trails	Aug. 1958	4/22/2010	Yes	153	102	25	BUL-2V-5	ga008_1943
420	LS15310225L3	Back water area, OHWL above back water channel, below upland road	Aug. 1958	4/22/2010	Yes	153	102	25	BUL-2V-5	ga008_1943
421	LS15310225L4	OHWL above sandbar willow flat, below wooded area with established trails	Aug. 1958	4/22/2010	Yes	153	102	25	BUL-2V-5	ga008_1943
422	LS15310130L1	On main river channel, upland low vegetation with established trails	Aug. 1958	4/22/2010	Yes	153	101	30	BUL-2V-5	ga008_1943
423	LS15310119L1	Above willow flat, below area with scattered trees and established trails	Aug. 1958	4/22/2010	Yes	153	101	19	BUL-2V-5	ga008_1943
424	LS15310119L2	Above willow flat, below area with scattered trees and established trails	Aug. 1958	4/22/2010	Yes	153	101	19	BUL-2V-39	ga008_1943
425	LS15310118L1	OHWL is between sandbar willow flat, and area with dense tree growth	Aug. 1958	4/22/2010	Yes	153	101	18	BUL-2V-39	ga007_1943
426	LS15310118L2	Follows lower channel in willow flat, drained fields above	Aug. 1958	4/22/2010	Yes	153	101	18	BUL-2V-39	ga007_1943
427	LS15310213L1	Cut bank with fields above	Aug. 1958	4/22/2010	Yes	153	102	13	BUL-2V-91	ga007_1943
428	LS15310112L1	Cut bank with fields above	Aug. 1958	4/22/2010	Yes	153	102	12	BUL-2V-91	ga007_1943
429	LS15310212L2	On main river channel, field upland	Aug. 1958	4/22/2010	Yes	153	102	12	BUL-2V-91	ga007_1943
430	LS15310201L1	On main river channel, upland is disturbed from railroad	Aug. 1958	4/22/2010	Yes	153	102	1	BUL-2V-91	ga007_1943
431	LS15310106L1	On main river channel, upland is disturbed from railroad	Aug. 1958	4/22/2010	Yes	153	101	6	BUL-2V-91	ga007_1943
432	LS15310106L2	On main river channel, upland is disturbed from railroad	Aug. 1958	4/22/2010	Yes	153	101	6	BUL-2V-91	ga007_1943
433	LS15210321R1	Above willow flat, trees and fields above	Aug. 1958	4/22/2010	Yes	152	103	21	BUL-1V-13	ga002_1943
434	LS15210315R1	Above willow flat, trees and fields above	Aug. 1958	4/22/2010	Yes	152	103	15	BUL-1V-13	ga002_1943
435	LS15210315R2	Along construction area for Furlong diversion, willows below OHWL	Aug. 1958	4/22/2010	Yes	152	103	15	BUL-1V-13	ga002_1943
436	LS15210315R3	Above older back channel, with wooded area above	Aug. 1958	4/22/2010	Yes	152	103	15	BUL-1V-13	ga002_1943
437	LS15210315R4	Above older back channel, with wooded area above	Aug. 1958	4/22/2010	Yes	152	103	15	BUL-1V-13	ga002_1943
438	LS15210310R1	Above older back channel, with wooded area above	Aug. 1958	4/22/2010	Yes	152	103	10	BUL-1V-13	ga002_1943
439	LS15210315R5	OHWL above willow flat, below wooded area	Aug. 1958	4/22/2010	Yes	152	103	15	BUL-1V-13	ga002_1943
440	LS15210315R6	OHWL above back channel, follows more mature tree growth	Aug. 1958	4/22/2010	Yes	152	103	15	BUL-1V-13	ga002_1943
441	LS15210323R1	Follows back channel along more mature tree growth	Aug. 1958	4/22/2010	Yes	152	103	23	BUL-1V-11	ga002_1943
442	LS15210323R2	OHWL above barren shore area and below established trees	Aug. 1958	4/22/2010	Yes	152	103	23	BUL-1V-11	ga002_1943
443	LS15210314R1	Cut bank along main river channel	Aug. 1958	4/22/2010	Yes	152	103	14	BUL-1V-11	ga002_1943
444	LS15210313R1	Cut bank along main river channel with small willow flat in front of bank, steep elevation change	Aug. 1958	4/22/2010	Yes	152	103	13	BUL-1V-11	ga005_1943
445	LS15210313R2	Cut bank along main river channel	Aug. 1958	4/22/2010	Yes	152	103	13	BUL-1V-11	ga005_1943
446	LS15210312R1	Cut bank along main river channel	Aug. 1958	4/22/2010	Yes	152	103	12	BUL-1V-38	ga005_1943
447	LS15210207R1	Cut bank along main river channel	Aug. 1958	4/22/2010	Yes	152	102	7	BUL-1V-38	ga004_1943
448	LS15210207R2	Cut bank along main river channel	Aug. 1958	4/22/2010	Yes	152	102	7	BUL-1V-38	ga004_1943
449	LS15210206R1	Cut bank along main river channel	Aug. 1958	4/22/2010	Yes	152	102	6	BUL-1V-38	ga004_1943
450	LS15210206R2	Cut bank along main river channel	Aug. 1958	4/22/2010	Yes	152	102	6	BUL-1V-38	ga004_1943
451	LS15310234R1	On cut bank behind secondary channel, willow flat island in front, fields upland	Aug. 1958	4/22/2010	Yes	153	102	34	BUL-1V-38	ga004_1943
452	LS15310234R2	Cut bank along main river channel, fields upland	Aug. 1958	4/22/2010	Yes	153	102	34	BUL-1V-38	ga004_1943
453	LS15310234R3	Cut bank along main river channel, upland is established wooded area	Aug. 1958	4/22/2010	Yes	153	102	34	BUL-2V-7	ga004_1943
454	LS15310227R1	Cut bank along main river channel, scattered trees and fields above	Aug. 1958	4/22/2010	Yes	153	102	27	BUL-2V-8	ga004_1943
455	LS15310227R2	Cut bank along main river channel, scattered trees and fields above	Aug. 1958	4/22/2010	Yes	153	102	27	BUL-2V-8	ga004_1943
456	LS15310227R3	On main river channel, field upland	Aug. 1958	4/22/2010	Yes	153	102	27	BUL-2V-37	ga004_1943
457	LS15310222R1	On main river channel, sandbar in front and field upland	Aug. 1958	4/22/2010	Yes	153	102	22	BUL-2V-37	ga004_1943
458	LS15310227R4	Sandbar willow below, field upland	Aug. 1958	4/22/2010	Yes	153	102	27	BUL-2V-37	ga004_1943
459	LS15310226R1	Sandbar willows flat below with numerous channels though it, hayed field upland	Aug. 1958	4/22/2010	Yes	153	102	26	BUL-2V-6	ga004_1943
460	LS15310226R2	Sandbar willows flat below with numerous channels though it, hayed field upland	Aug. 1958	4/22/2010	Yes	153	102	26	BUL-2V-6	ga004_1943
461	LS15310226R3	Dense vegetation below with channel though willows, farming has been attempted in a portion of it below OHWL, OHWL follows road with drier fields above	Aug. 1958	4/22/2010	Yes	153	102	26	BUL-2V-6	ga004_1943
462	LS15310236R1	OHWL above back channel and willow flat, upland includes a road and fields	Aug. 1958	4/22/2010	Yes	153	102	36	BUL-2V-6	ga004_1943
463	LS15310225R1	OHWL above willow flat, sparse vegetation with road and a line of trees above	Aug. 1958	4/22/2010	Yes	153	102	25	BUL-2V-6	ga008_1943
464	LS15310225R2	OHWL on cut bank, willow flat below, more mature vegetation and fields above	Aug. 1958	4/22/2010	Yes	153	102	25	BUL-2V-5	ga008_1943
465	LS15310130R1	OHWL on cut bank, willow flat below, more mature vegetation and fields above	Aug. 1958	4/22/2010	Yes	153	101	30	BUL-2V-5	ga008_1943
466	LS15310130R2	Depositional dirt from upland, row of trees above OHWL	Aug. 1958	4/22/2010	Yes	153	101	30	BUL-2V-5	ga008_1943

OBJECTID	Transect	Comment	Photo_Date	Date_	Confidence	Township	Range	Section_	Photo_File	Topo
467	LS15310130R3	On main channel, road directly above that parallels river channel	Aug. 1958	4/22/2010	Yes	153	101	30	BUL-2V-40	ga008_1943
468	LS15310120R1	On main channel, road directly above that parallels river channel	Aug. 1958	4/22/2010	Yes	153	101	20	BUL-2V-40	ga008_1943
469	LS15310120R2	On main channel, road directly above that parallels river channel	Aug. 1958	4/22/2010	Yes	153	101	20	BUL-2V-40	ga008_1943
470	LS15310117R1	On main channel, road directly above that parallels river channel	Aug. 1958	4/22/2010	Yes	153	101	17	BUL-2V-40	ga007_1943
471	LS15310118R1	On main channel, road directly above that parallels river channel	Aug. 1958	4/22/2010	Yes	153	101	18	BUL-2V-40	ga007_1943
472	LS15310118R2	OHWL is behind a mostly barren depositional area, upland vegetation is mature trees	Aug. 1958	4/22/2010	Yes	153	101	18	BUL-2V-91	ga007_1943
473	LS15310107R1	OHWL follows old back channel with various flow striations, upland is more dense vegetation and fields	Aug. 1958	4/22/2010	Yes	153	101	7	BUL-2V-91	ga007_1943
474	LS15310107R2	OHWL follows old back channel with various flow striations, upland is more dense vegetation and fields	Aug. 1958	4/22/2010	Yes	153	101	7	BUL-2V-91	ga007_1943
475	LS15310106R1	OHWL follows old back channel with various flow striations, upland is more dense vegetation and fields	Aug. 1958	4/22/2010	Yes	153	101	6	BUL-2V-91	ga007_1943
476	LS15310106R2	OHWL above sandbar willow flat with line of trees and road upland	Aug. 1958	4/22/2010	Yes	153	101	6	BUL-2V-91	ga007_1943
477	LS15309402L2	Cut bank on former White Earth River, creek combined with river in the north edge of section 2, OHWL follows cut bank	Sept. 1951	4/28/2010	Yes	153	94	2	340-275	ga051_1943
478	LS15309402L3	Cut bank on former White Earth River, river combined with Missouri river in the north edge of section 2, OHWL follows cut bank	Sept. 1951	4/28/2010	Yes	153	94	2	340-275	ga051_1943
479	LS15309401L1	Cut bank on former White Earth River, river combined with Missouri river in the north edge of section 2, OHWL follows cut bank	Sept. 1951	4/28/2010	Yes	153	94	1	340-275	ga051_1943
480	LS15309401L2	Cut bank on former White Earth River, river combined with Missouri river in the north edge of section 2, OHWL follows cut bank	Sept. 1951	4/28/2010	Yes	153	94	1	340-275	ga051_1943
481	LS15309401L3	Cut bank on former White Earth River, river combined with Missouri river in the north edge of section 2, OHWL follows cut bank	Sept. 1951	4/28/2010	Yes	153	94	1	340-275	ga051_1943
482	LS15309306L1	Cut bank on former White Earth River, river combined with Missouri river in the north edge of section 2, OHWL follows cut bank	Sept. 1951	4/28/2010	Yes	153	93	6	340-275	ga051_1943
232	LS15409627R1	On main river channel, field above, large island in river	Sept. 1951	4/19/2010	Yes	154	96	27	340-271	ga037_1943
233	LS15409627R2	On main river channel, field above, large island in river	Sept. 1951	4/19/2010	Yes	154	96	27	340-271	ga039_1943
234	LS15409626R1	On main river channel, field above	Sept. 1951	4/19/2010	Yes	154	96	26	340-271	ga039_1943
235	LS15409626R2	On main river channel, '43 topo shows elevation change	Sept. 1951	4/19/2010	Yes	154	96	26	340-271	ga038_1943
236	LS15409626R3	Follows old channel, old island below OHWL, evidenced by '43 photos and follows 1800' '43 topo line	Sept. 1951	4/20/2010	No	154	96	26	340-271	ga039_1943
237	LS15409625R1	Follows old channel, old island below OHWL, evidenced by '43 photos and follows 1800' '43 topo line	Sept. 1951	4/20/2010	No	154	96	25	340-271	ga039_1943
238	LS15409624L1	On main river channel, fields above, cut bank	Sept. 1951	4/20/2010	Yes	154	96	24	340-273	ga038_1943
239	LS15409625L1	On main river channel, fields above, cut bank	Sept. 1951	4/20/2010	Yes	154	96	25	340-273	ga038_1943
240	LS15409530L1	On main river channel, fields above, cut bank	Sept. 1951	4/20/2010	Yes	154	95	30	340-273	ga040_1943
241	LS15409530L2	On secondary river channel. behind some islands, fields above	Sept. 1951	4/20/2010	Yes	154	95	30	340-273	ga040_1943
242	LS15409529L1	On secondary river channel. behind some islands, fields above	Sept. 1951	4/20/2010	Yes	154	95	29	340-273	ga040_1943
243	LS15409529L2	On secondary river channel. behind some islands, fields above	Sept. 1951	4/20/2010	Yes	154	95	29	340-273	ga041_1943
244	LS15409529L3	On main river channel, below stabilized oxbow area with trees above	Sept. 1951	4/20/2010	Yes	154	95	29	340-273	ga041_1943
245	LS15409533L1	On main river channel, below stabilized oxbow area with trees above	Sept. 1951	4/20/2010	Yes	154	95	33	340-273	ga041_1943
246	LS15409528L1	At edge of sandbar willow flat in oxbow, below older oxbow area, less dense vegetation and scattered trees above	Sept. 1951	4/20/2010	No	154	95	28	340-273	ga041_1943
247	LS15409528L2	At edge of sandbar willow flat in oxbow, below older oxbow area, less dense vegetation, trails below believe to be associated with pipeline in area	Sept. 1951	4/20/2010	No	154	95	28	340-273	ga041_1943
248	LS15409521L1	At edge of sandbar willow flat in oxbow, below older oxbow area, less dense vegetation, trails below believe to be associated with pipeline in area	Sept. 1951	4/20/2010	No	154	95	21	340-273	ga041_1943
249	LS15409522L1	At edge of sandbar willow flat in oxbow, below older oxbow area, less dense vegetation, trails below believe to be associated with pipeline in area	Sept. 1951	4/20/2010	No	154	95	22	340-273	ga041_1943
250	LS15409522L2	At edge of sandbar willow flat in oxbow, below older oxbow area, less dense vegetation, trails below believe to be associated with pipeline in area, trees above	Sept. 1951	4/20/2010	No	154	95	22	340-273	ga042_1943
251	LS15409526L1	On main river channel, behind islands, wooded growth above	Sept. 1951	4/20/2010	Yes	154	95	26	340-273	ga042_1943
252	LS15409625R2	Follows old channel, old island below OHWL, evidenced by '43 photos and follows 1800' '43 topo line	Sept. 1951	4/20/2010	No	154	96	25	340-273	ga039_1943
253	LS15409531R1	Follows old channel, old island below OHWL, evidenced by '43 photos and follows 1800' '43 topo line	Sept. 1951	4/20/2010	No	154	95	31	340-273	ga039_1943
254	LS15409531R2	Follows old channel, old island below OHWL, evidenced by '43 photos and follows 1800' '43 topo line	Sept. 1951	4/20/2010	No	154	95	31	340-273	ga041_1943
255	LS15409531R3	Follows old channel, old island below OHWL, evidenced by '43 photos and follows 1800' '43 topo line	Sept. 1951	4/20/2010	No	154	95	31	340-273	ga041_1943
256	LS15409532R1	Along main river channel, where it appears back channel enters river	Sept. 1951	4/20/2010	No	154	95	32	340-273	ga041_1943
257	LS15409532R2	On main river channel. wooded vegetation and fields above	Sept. 1951	4/20/2010	Yes	154	95	32	340-273	ga041_1943
258	LS15409533R1	On main river channel. wooded vegetation and fields above	Sept. 1951	4/20/2010	Yes	154	95	33	340-273	ga041_1943
259	LS15409533R2	On main river channel. wooded vegetation and fields above	Sept. 1951	4/20/2010	Yes	154	95	33	340-273	ga041_1943
260	LS15409534R1	On main river channel. wooded vegetation and fields above, turns above a small sandbar willow flat	Sept. 1951	4/20/2010	Yes	154	95	34	340-273	ga041_1943
261	LS15409527R1	On main river channel. wooded vegetation and fields above, turns along wood line edge downstream	Sept. 1951	4/20/2010	Yes	154	95	27	340-273	ga041_1943
262	LS15409527R2	Along edge of sandbar willow flat, below wooded vegetation	Sept. 1951	4/20/2010	Yes	154	95	27	340-273	ga043_1943
263	LS15409526R1	Along edge of sandbar willow flat, below wooded vegetation	Sept. 1951	4/20/2010	Yes	154	95	26	340-273	ga043_1943
264	LS15409526R2	Along edge of sandbar willow flat, below wooded vegetation	Sept. 1951	4/20/2010	Yes	154	95	26	340-273	ga043_1943
265	LS15409525R1	Along edge of sandbar willow flat, below wooded vegetation	Sept. 1951	4/20/2010	Yes	154	95	25	340-273	ga043_1943
266	LS15409536R1	On main river channel. trees above	Sept. 1951	4/20/2010	Yes	154	95	36	340-273	ga043_1943
267	LS15409526L2	On main river channel. trees above	Sept. 1951	4/20/2010	Yes	154	95	26	340-273	ga042_1943
268	LS15409526L3	On back channel, above sandbar willow flat, taller more mature trees above	Sept. 1951	4/20/2010	Yes	154	95	26	340-273	ga042_1943
269	LS15409525L1	On back channel, above sandbar willow flat, taller more mature trees above	Sept. 1951	4/20/2010	Yes	154	95	25	340-273	ga042_1943
270	LS15409525L2	On back channel, above sandbar willow flat, taller more mature trees above	Sept. 1951	4/20/2010	Yes	154	95	25	340-273	ga042_1943
271	LS15409430L1	On wider back channel, island below and taller more mature trees above	Sept. 1951	4/20/2010	Yes	154	94	30	340-273	ga042_1943
272	LS15409430L2	On wider back channel, island below and taller more mature trees above	Sept. 1951	4/20/2010	Yes	154	94	30	340-273	ga047_1943
273	LS15409431R1	On main river channel, cut bank, '43 topo shows elevation change	Sept. 1951	4/20/2010	Yes	154	94	31	340-273	ga043_1943
274	LS15409431R2	On main river channel, cut bank, '43 topo shows elevation change	Sept. 1951	4/20/2010	Yes	154	94	31	340-273	ga043_1943
275	LS15409431R3	On main river channel, cut bank, '43 topo shows elevation change, beginning of older oxbow downstream	Sept. 1951	4/20/2010	Yes	154	94	31	340-273	ga047_1943

OBJECTID	Transect	Comment	Photo_Date	Date_	Confidence	Township	Range	Section_	Photo_File	Topo
276	LS15409429L1	Above sandbar willow flat behind back channel, more mature vegetation above	Sept. 1951	4/20/2010	Yes	154	94	29	340-275	ga047_1943
277	LS15409429L2	Above sandbar willow flat behind back channel, more mature vegetation above	Sept. 1951	4/20/2010	Yes	154	94	29	340-275	ga047_1943
278	LS15409428L1	Above sandbar willow flat behind back channel, more mature vegetation above	Sept. 1951	4/20/2010	Yes	154	94	28	340-275	ga047_1943
279	LS15409428L2	Above sandbar willow flat behind back channel, more mature vegetation above	Sept. 1951	4/20/2010	Yes	154	94	28	340-275	ga047_1943
280	LS15409428L3	On main channel, cut bank, steep elevation change above	Sept. 1951	4/20/2010	Yes	154	94	28	340-275	ga047_1943
281	LS15409427L1	On main channel, cut bank, steep elevation change above	Sept. 1951	4/20/2010	Yes	154	94	27	340-275	ga047_1943
282	LS15409427L2	On main channel, cut bank, steep elevation change above	Sept. 1951	4/20/2010	Yes	154	94	27	340-275	ga051_1943
283	LS15409435L1	On main channel, cut bank, steep elevation change above	Sept. 1951	4/20/2010	Yes	154	94	35	340-275	ga051_1943
284	LS15409435L2	On main channel, cut bank, steep elevation change above	Sept. 1951	4/20/2010	Yes	154	94	35	340-275	ga051_1943
285	LS15309402L1	Cut bank, field directly above	Sept. 1951	4/20/2010	Yes	153	94	2	340-275	ga051_1943
286	LS15309307L1	Above willows behind back channel, steep elevation changes upland	Sept. 1951	4/20/2010	Yes	153	93	7	340-275	ga051_1943
287	LS15309307L2	Above willows behind back channel, steep elevation changes upland	Sept. 1951	4/20/2010	Yes	153	93	7	340-275	ga058_1943
288	LS15309308L1	Above sandbar willow flat, behind back channel, upland change to older river bed	Sept. 1951	4/20/2010	Yes	153	93	8	340-275	ga058_1943
289	LS15309317L1	On main river bank, farmland upland,	Sept. 1951	4/20/2010	Yes	153	93	17	340-275	ga058_1943
290	LS15309317L2	On main river bank, farmland upland,	Sept. 1951	4/20/2010	Yes	153	93	17	340-275	ga058_1943
291	LS15309320L1	On main river bank, mature vegetation upland	Sept. 1951	4/20/2010	Yes	153	93	20	340-275	ga058_1943
292	LS15309320L2	On main river bank, mature vegetation upland	Sept. 1951	4/20/2010	Yes	153	93	20	340-275	ga059_1943
293	LS15309620L3	On main river bank, mature woodland vegetation upland	Sept. 1951	4/20/2010	Yes	153	90	20	340-275	ga059_1943
294	LS15409432R1	On main river channel, old river bed upland, '43 topo shows elevation change	Sept. 1951	4/20/2010	Yes	154	94	32	340-275	ga047_1943
295	LS15409432R2	On main river channel, old river bed upland, '43 topo shows elevation change	Sept. 1951	4/20/2010	Yes	154	94	32	340-275	ga047_1943
296	LS15409433R1	On main river channel, old river bed upland, '43 topo shows elevation change	Sept. 1951	4/20/2010	Yes	154	94	33	340-275	ga047_1943
297	LS15409433R2	On main river channel, mature vegetation on upland peninsula	Sept. 1951	4/20/2010	Yes	154	94	33	340-275	ga047_1943
298	LS15409428R1	Elevation change above a barren area on main river channel, mature vegetation upland	Sept. 1951	4/20/2010	Yes	154	94	28	340-275	ga047_1943
299	LS15409434R1	Vegetation changes at OHWL, mature upland vegetation, sandbar willows below on back channel	Sept. 1951	4/20/2010	Yes	154	94	34	340-275	ga047_1943
300	LS15409433R3	Vegetation changes at OHWL, mature upland vegetation, sandbar willows below on back channel	Sept. 1951	4/20/2010	Yes	154	94	33	340-275	ga047_1943
301	LS15409433R4	Vegetation changes at OHWL, mature upland vegetation, sandbar willows below on back channel, large island formed between back channel and main channel	Sept. 1951	4/20/2010	Yes	154	94	33	340-275	ga047_1943
302	LS15309404R1	Vegetation changes at OHWL, mature upland vegetation, sandbar willows below on back channel, large island formed between back channel and main channel	Sept. 1951	4/20/2010	Yes	153	94	4	340-275	ga047_1943
303	LS15309404R2	Vegetation changes at OHWL, mature upland vegetation, behind a smaller back channel with sandbar willow flat	Sept. 1951	4/20/2010	Yes	153	94	4	340-275	ga047_1943
304	LS15309409R1	Along steep edge of upland, sandbar willow flat below	Sept. 1951	4/20/2010	Yes	153	94	9	340-275	ga047_1943
305	LS15309410R1	Along steep edge of upland, sandbar willow flat below	Sept. 1951	4/20/2010	Yes	153	94	10	340-275	ga047_1943
306	LS15309410R2	On bank of main channel, below steep upland elevation change, cut bank	Sept. 1951	4/20/2010	Yes	153	94	10	340-275	ga047_1943
307	LS15309410R3	On bank of main channel, below steep upland elevation change, cut bank	Sept. 1951	4/20/2010	Yes	153	94	10	340-275	ga051_1943
308	LS15309411R1	On bank of main channel, below steep upland elevation change, cut bank	Sept. 1951	4/20/2010	Yes	153	94	11	340-275	ga051_1943
309	LS15309411R2	Sandbar willows below OHWL, elevation change with mature vegetation upland	Sept. 1951	4/20/2010	Yes	153	94	11	340-275	ga051_1943
310	LS15309412R1	Sandbar willows below OHWL, elevation change with field upland	Sept. 1951	4/20/2010	Yes	153	94	12	340-275	ga051_1943
311	LS15309412R2	On main river channel, elevation change and woodland vegetation upland	Sept. 1951	4/20/2010	Yes	153	94	12	340-275	ga051_1943
312	LS15309307R1	On main river channel, elevation change and woodland vegetation upland	Sept. 1951	4/20/2010	Yes	153	93	7	340-275	ga051_1943
313	LS15309318R1	On main river channel, elevation change and field upland	Sept. 1951	4/20/2010	Yes	153	93	18	340-275	ga051_1943
314	LS15309318R2	On main river channel, elevation change and mature vegetation upland	Sept. 1951	4/20/2010	Yes	153	93	18	340-275	ga058_1943
315	LS15309317R1	On main river channel, elevation change and mature vegetation upland	Sept. 1951	4/20/2010	Yes	153	93	17	340-275	ga058_1943
316	LS15309317R2	Above sandbar willow flat with trees above, follows back channel	Sept. 1951	4/20/2010	Yes	153	93	17	340-275	ga058_1943
317	LS15309320R1	Follows back channel, above sandbar willow flat, old river bed behind	Sept. 1951	4/20/2010	Yes	153	93	20	340-275	ga058_1943
318	LS15309320R2	Follows back channel, above sandbar willow flat, old river bed behind	Sept. 1951	4/20/2010	Yes	153	93	20	340-275	ga059_1943
319	LS15309320R3	On main river channel behind sandbar, old river bed behind	Sept. 1951	4/20/2010	Yes	153	93	20	340-275	ga059_1943
320	LS15309329L1	On main river bank, on elevation change, mature vegetation upland	Sept. 1951	4/20/2010	Yes	153	93	29	340-301	ga059_1943
321	LS15309329L2	Above barren sand area on main river channel, mature vegetation above.	Sept. 1951	4/20/2010	Yes	153	93	29	340-301	ga059_1943
322	LS15309328L1	Above area with little vegetation. along main river channel, more mature vegetation above	Sept. 1951	4/20/2010	Yes	153	93	28	340-301	ga059_1943
323	LS15309328L2	Along flow line, slight change in vegetation cover, trees developing above on old river bed	Sept. 1951	4/20/2010	Yes	153	93	28	340-301	ga059_1943
324	LS15309327L1	Along flow line, slight change in vegetation cover, trees developing above on old river bed	Sept. 1951	4/20/2010	Yes	153	93	27	340-301	ga059_1943
325	LS15309327L2	Along vegetation line, created by backwater flooding, trees and fields above OHWL	Sept. 1951	4/20/2010	Yes	153	93	27	340-301	ga059_1943
326	LS15309328L3	Along vegetation line, created by backwater flooding, trees and fields above OHWL	Sept. 1951	4/20/2010	Yes	153	93	28	340-301	ga059_1943
327	LS15309321L1	Along vegetation line, created by backwater flooding, trees and fields above OHWL	Sept. 1951	4/20/2010	Yes	153	93	21	340-301	ga059_1943
328	LS15309322L1	Along vegetation line, created by backwater flooding, trees and fields above OHWL	Sept. 1951	4/20/2010	Yes	153	93	22	340-301	ga059_1943
329	LS15309327L3	Along vegetation line, created by backwater flooding, trees above OHWL	Sept. 1951	4/20/2010	Yes	153	93	27	340-301	ga059_1943
330	LS15309326L1	On main river channel, at elevation change	Sept. 1951	4/20/2010	Yes	153	93	26	340-301	ga066_1943
331	LS15309326L2	On main river channel, cut bank at elevation change	Sept. 1951	4/20/2010	Yes	153	93	26	340-301	ga066_1943
332	LS15309326L3	On main river channel, cut bank at elevation change, two-track above	Sept. 1951	4/20/2010	Yes	153	93	26	340-301	ga066_1943
333	LS15309335L1	On main river channel, mature trees upland	Sept. 1951	4/20/2010	Yes	153	93	35	340-301	ga066_1943
334	LS15309335L2	Above sandbar willow flat, upland with mature trees	Sept. 1951	4/20/2010	Yes	153	93	35	340-301	ga066_1943
335	LS15209304L1	Above back channel cut, mature trees upland, island in front of channel	Sept. 1951	4/20/2010	Yes	152	93	4	340-301	ga066_1943

OBJECTID	Transect	Comment	Photo_Date	Date_	Confidence	Township	Range	Section_	Photo_File	Topo
336	LS15209304L2	On main river channel, mature trees upland,	Sept. 1951	4/20/2010	Yes	152	93	4	340-301	ga066_1943
337	LS15209304L3	Above sandbar willow flat on main river channel, mature trees upland	Sept. 1951	4/20/2010	Yes	152	93	4	340-301	ga066_1943
338	LS15209310L1	Above sandbar willow flat on main river channel, mature trees upland	Sept. 1951	4/20/2010	Yes	152	93	10	340-301	ga066_1943
339	LS15209310L2	On main river channel, houses upland	Sept. 1951	4/20/2010	Yes	152	93	10	340-301	ga066_1943
340	LS15209311L1	On main river channel, two-track and major drainage upland, drainage enter river downstream	Sept. 1951	4/20/2010	Yes	152	93	11	340-301	ga066_1943
341	LS15209311L2	On main river channel, just below where drainage enters river, steep topo change	Sept. 1951	4/20/2010	Yes	152	93	11	340-301	ga074_1943
342	LS15209311L3	On main river channel, steep topo change, cut bank	Sept. 1951	4/20/2010	Yes	152	93	11	340-301	ga074_1943
343	LS15209314L1	On main river channel, steep topo change, cut bank	Sept. 1951	4/20/2010	Yes	152	93	14	340-301	ga074_1943
344	LS15309329R1	On topo change. above a sandbar with a band of sandbar willow	Sept. 1951	4/20/2010	Yes	153	93	29	340-301	ga059_1943
345	LS15309329R2	On main river channel, at topo elevation change, two-track on upland	Sept. 1951	4/20/2010	Yes	153	93	29	340-301	ga059_1943
346	LS15309332R1	On main river channel, at topo elevation change, two-track on upland	Sept. 1951	4/20/2010	Yes	153	93	29	340-301	ga059_1943
347	LS15309333R1	On main river channel, at topo elevation change, field upland	Sept. 1951	4/20/2010	Yes	153	93	33	340-301	ga059_1943
348	LS15309333R2	On main river channel, at topo elevation change, field upland	Sept. 1951	4/20/2010	Yes	153	93	33	340-301	ga059_1943
349	LS15309334R1	On main river channel, at topo elevation change, field upland	Sept. 1951	4/20/2010	Yes	153	93	34	340-301	ga059_1943
350	LS15309327R1	On main river channel, at topo elevation change, field upland	Sept. 1951	4/20/2010	Yes	153	93	27	340-301	ga059_1943
351	LS15309327R2	On main river channel, at topo elevation change, on old river bed	Sept. 1951	4/20/2010	Yes	153	93	27	340-301	ga066_1943
352	LS15309326R1	Follows water line on willow flat, field upland	Sept. 1951	4/20/2010	Yes	153	93	26	340-301	ga066_1943
353	LS15309335R1	On main river channel, topo change	Sept. 1951	4/20/2010	Yes	153	93	35	340-301	ga066_1943
354	LS15309335R2	On flow line above willow flat,	Sept. 1951	4/20/2010	Yes	153	93	35	340-301	ga066_1943
355	LS15209305R1	On flow line above willow flat,	Sept. 1951	4/20/2010	Yes	152	93	5	340-301	ga066_1943
356	LS15209305R2	On main river channel, small elevation change	Sept. 1951	4/20/2010	Yes	152	93	5	340-301	ga066_1943
357	LS15209304R1	On flow line, above willow flat	Sept. 1951	4/20/2010	Yes	152	93	5	340-301	ga066_1943
358	LS15209309R1	On main river channel, topo change, field upland	Sept. 1951	4/20/2010	Yes	152	93	9	340-301	ga066_1943
359	LS15209310R1	On main river channel, topo change, field upland	Sept. 1951	4/20/2010	Yes	152	93	10	340-301	ga066_1943
360	LS15209310R2	On main river channel, topo change, old depositional area with trees upland	Sept. 1951	4/20/2010	Yes	152	93	10	340-301	ga066_1943
361	LS15209310R3	On main river channel, topo change, old depositional area with trees upland	Sept. 1951	4/20/2010	Yes	152	93	10	340-301	ga067_1943
362	LS15209311R1	Above depositional willow flat with trees upland	Sept. 1951	4/20/2010	Yes	152	93	11	340-301	ga067_1943
363	LS15209314R1	Above depositional willow flat with trees upland	Sept. 1951	4/20/2010	Yes	152	93	14	340-301	ga067_1943
364	LS15409729L1	On main river channel, cut bank, mature trees upland, small willow trees on turning point of main river channel	Aug. 1958	4/21/2010	Yes	154	97	29	BUL-2V-189	ga031_1943
365	LS15409720L1	OHWL based on vegetation structure, low willows below and taller trees above	Aug. 1958	4/21/2010	Yes	154	97	20	BUL-2V-189	ga031_1943
366	LS15409720L2	OHWL above marshy area indicated by standing water, OHWL dissects trees area based on density of trees, more trees above OHWL vs. scattered trees below and indication of saturation area based on appearance of two-track	Aug. 1958	4/21/2010	Yes	154	97	20	BUL-2V-189	ga031_1943
367	LS15409720L3	OHWL above marshy area, upland has a row of trees in front of a silty barren area from drainage	Aug. 1958	4/21/2010	Yes	154	97	20	BUL-2V-189	ga031_1943
368	LS15409720L4	OHWL is above back channel, standing water below	Aug. 1958	4/21/2010	Yes	154	97	20	BUL-2V-189	ga031_1943
369	LS15409721L1	On cut bank, upland steep elevation change with barren hills, standing water below OHWL	Aug. 1958	4/21/2010	Yes	154	97	21	BUL-2V-189	ga031_1943
370	LS15409721L2	On cut bank, upland steep elevation change with barren hills, standing water below OHWL	Aug. 1958	4/21/2010	Yes	154	97	21	BUL-2V-189	ga031_1943
371	LS15409721L3	On cut bank, upland steep elevation change with barren hills, standing water below OHWL	Aug. 1958	4/21/2010	Yes	154	97	21	BUL-2V-189	ga031_1943
372	LS15409722L1	On cut bank, standing water below OHWL	Aug. 1958	4/21/2010	Yes	154	97	22	BUL-2V-188	ga034_1943
373	LS15409722L2	On cut bank, standing water below OHWL	Aug. 1958	4/21/2010	Yes	154	97	22	BUL-2V-186	ga034_1943
374	LS15409714L1	On cut bank, standing water below OHWL, Tobacco Garden Creek on upland above, low structure vegetation with two-tracks in area	Aug. 1958	4/21/2010	Yes	154	97	14	BUL-2V-186	ga034_1943
375	LS15409714L2	On cut bank, marshy below. above OHWL steep elevation change, fields upland	Aug. 1958	4/21/2010	Yes	154	97	14	BUL-2V-186	ga034_1943
376	LS15409723L1	On cut bank, along main river channel, sandbar in front, upland includes farmstead. roads and fields	Aug. 1958	4/21/2010	Yes	154	97	23	BUL-2V-186	ga034_1943
377	LS15309829L3	OHWL below mature trees, above willow flat with hayed fields	Aug. 1958	4/21/2010	Yes	153	98	29	BUL-1V-55	ga027_1943
378	LS15309821L1	OHWL below mature trees, above willow flat with hayed fields	Aug. 1958	4/21/2010	Yes	153	98	21	BUL-1V-55	ga027_1943
379	LS15309821L2	OHWL below mature trees, above willow flat with hayed fields, steep elevation change	Aug. 1958	4/21/2010	Yes	153	98	21	BUL-1V-55	ga027_1943
380	LS15309821L3	OHWL below mature trees, above willow flat with hayed fields, steep elevation change	Aug. 1958	4/21/2010	Yes	153	98	21	BUL-1V-55	ga027_1943
381	LS15210321L1	Above a mostly barren sandbar flat with vegetation beginning establishment on the farther downstream, mature trees on large old oxbow above that is farmed (1958); topo lines indicate low cut bank	Aug. 1958	4/22/2010	Yes	152	103	21	BUL-1V-13	ga002_1943
382	LS15210316L1	On main river channel, mature trees on large old oxbow above that is farmed (1958) above an irrigation ditch 1500' above bank, area within 1500' is drained, but does include some barren areas with wetland veg	Aug. 1958	4/22/2010	Yes	152	103	16	BUL-1V-13	ga002_1943
383	LS15210316L2	Above sandbar willow flat, below established trees, willow flats above assumed from drained field	Aug. 1958	4/22/2010	Yes	152	103	16	BUL-1V-13	ga002_1943
384	LS15210309L1	OHWL lies between an area with low dense sandbar willows below with mature trees and fields above with developed roads	Aug. 1958	4/22/2010	Yes	152	103	9	BUL-1V-13	ga002_1943
385	LS15210309L2	OHWL follows wooded line, fields above with developed roads, upland drainage channel, sandbar willow flat below	Aug. 1958	4/22/2010	Yes	152	103	9	BUL-1V-34	ga001_1943
386	LS15210309L3	Above willow flat, upland is blocked from over land drainage above from irrigation canal and roads, follows '43 topo line	Aug. 1958	4/22/2010	Yes	152	103	9	BUL-1V-34	ga001_1943
387	LS15210304L1	Above willow flat, upland is blocked from over land drainage above from irrigation canal and roads, follows '43 topo line	Aug. 1958	4/22/2010	Yes	152	103	4	BUL-1V-34	ga001_1943
388	LS15210303L1	cut channel on main river course, upland is blocked from over land drainage above from irrigation canal and roads, follows '43 topo line	Aug. 1958	4/22/2010	Yes	152	103	3	BUL-1V-34	ga001_1943
389	LS15210303L2	cut channel on main river course, upland is blocked from over land drainage above from irrigation canal and roads, follows '43 topo line	Aug. 1958	4/22/2010	Yes	152	103	3	BUL-1V-34	ga001_1943
390	LS15210303L3	cut channel on main river course, upland is blocked from over land drainage above from irrigation canal and roads, follows '43 topo line	Aug. 1958	4/22/2010	Yes	152	103	3	BUL-1V-35	ga001_1943
391	LS15210311L1	cut channel on main river course, upland is blocked from over land drainage above from irrigation canal and roads, follows '43 topo line	Aug. 1958	4/22/2010	Yes	152	103	11	BUL-1V-35	ga001_1943
392	LS15210311L2	cut channel on main river course, upland is blocked from over land drainage above from irrigation canal and roads, follows '43 topo line	Aug. 1958	4/22/2010	Yes	152	103	11	BUL-1V-35	ga002_1943
393	LS15210311L3	cut channel on main river course, upland is blocked from over land drainage above from irrigation canal and roads, follows '43 topo line	Aug. 1958	4/22/2010	Yes	152	103	11	BUL-1V-35	ga002_1943
394	LS15210314L1	On main river channel, below wooded area on depositional peninsula	Aug. 1958	4/22/2010	Yes	152	103	14	BUL-1V-11	ga002_1943
395	LS15210314L2	near end of depositional peninsula; barren sandbar below with island developing; developed vegetation above OHWL	Aug. 1958	4/22/2010	Yes	152	103	14	BUL-1V-11	ga002_1943

OBJECTID	Transect	Comment	Photo_Date	Date_	Confidence	Township	Range	Section_	Photo_File	Topo
396	LS15210313L1	On main river channel, below wooded area on depositional peninsula	Aug. 1958	4/22/2010	Yes	152	103	13	BUL-1V-11	ga005_1943
397	LS15210313L2	Wooded area with fields above OHWL, OHWL on main channel	Aug. 1958	4/22/2010	Yes	152	103	13	BUL-1V-11	ga005_1943
398	LS15210312L1	Wooded area with fields and irrigation canal above OHWL, OHWL on main channel	Aug. 1958	4/22/2010	Yes	152	103	12	BUL-1V-11	ga005_1943

#6
2-2-17
HB 1199
Heiser

TESTIMONY ON HOUSE BILL NO. 1199

House Energy and Natural Resources Committee

Gerald (Jerry) Heiser, Sovereign Land Manager
Office of the State Engineer
February 2, 2017

Mr. Chairman and members of the House Energy and Natural Resources Committee, my name is Jerry Heiser. I am the Sovereign Land Manger for the Office of the State Engineer. I am here on behalf of State Engineer Garland Erbele to present our testimony regarding House Bill No. 1199, which seeks to describe the ordinary high water mark of the Missouri River within those lands acquired by the United States for the creation of Lake Sakakawea.

Let me start off by saying that given the various, ongoing sovereign land-related lawsuits that the Office of the State Engineer is party to, I am limited as to the information I may be able to provide and the questions I may be able to address. Therefore, my testimony will focus on providing background information as it relates to the State Engineer's responsibilities to manage the state's sovereign lands.

North Dakota's sovereign lands are those areas, including beds and islands, lying within the ordinary high water mark of the state's navigable waters.

There are two key terms in the definition I just gave you that I would like to further clarify. The first is "navigable waters." The United States Supreme Court has stated that navigable waters are those waters that are navigable in fact when they are used, or are susceptible of being used, as highways for commerce in the customary modes of trade or travel.

The second important term is "ordinary high water mark" which the North Dakota Supreme Court has affirmed as that line below which the action of the water is frequent enough to either prevent the growth of vegetation or to restrict its growth to predominantly wetland species. The delineation of the ordinary high water mark is a critical component of sovereign land management because it identifies the specific areas in and around the state's navigable waters that are under state jurisdiction and ownership.

Given the importance of the ordinary high water mark when it comes to determining the boundary of the state's sovereign land, in 2007 the Office of the State Engineer developed a document entitled, "Ordinary High Water Mark Delineation Guidelines," the goal of which was to develop a consistent and technically defensible approach for delineating the ordinary high water mark in both riverine and lake settings in North Dakota. This document spells out the various indicators that can be used to delineate the ordinary high water mark. A delineation will normally involve the

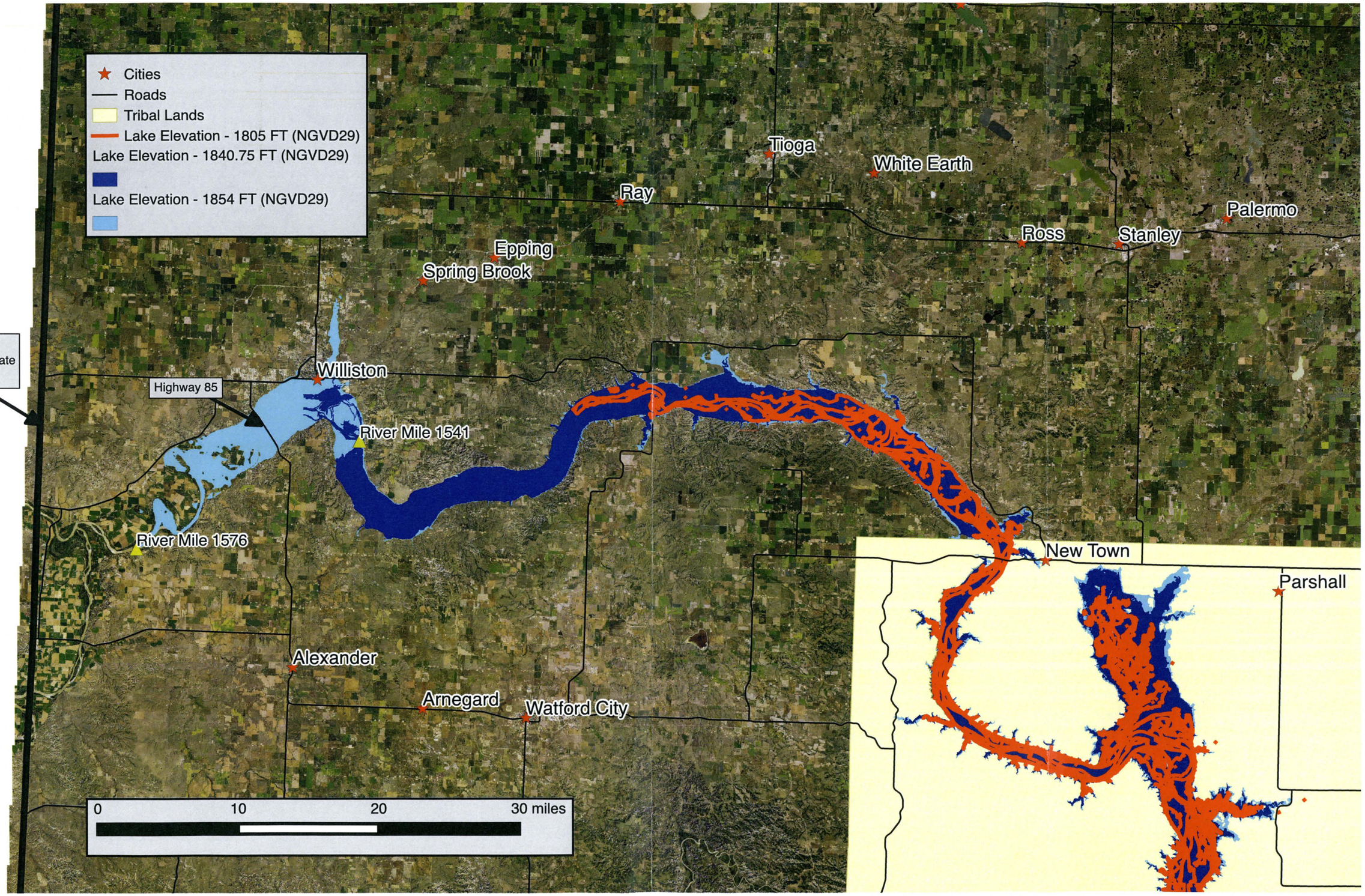
assessment of a combination of several different indicators including: vegetation, soils, hydrology, and other physical indicators. Because of the widely varying indicators needing to be considered, a delineation often requires the application of expertise in various scientific disciplines. It should also be noted that the ordinary high water mark moves as the river or lake changes course or elevation. So too does the state's ownership change. As an example, as a river erodes property, the boundary of the state's ownership would move with that erosion. Conversely, as sediment accumulates in the bend of an oxbow, the landowner adjacent to the river could gain property and the state would lose ownership. Similarly, if the river cuts a new channel through an oxbow, the state's ownership interest would move with the water and the previous oxbow would return to the upland owners. Finally, a further example is Devils Lake, where the state's ownership rises and falls with the level of the lake.

The western-most boundary of the 1854 feet msl elevation is located at approximately river-mile 1,576. The average yearly high lake elevation from 1969 to 2014 is 1840.75 feet msl with the western-most extent of that elevation being located at approximately river-mile 1541, a distance of approximately 35 river-miles between the two points.

The State Engineer is opposed to House Bill No. 1199 because it appears to treat that 35-mile section of the Missouri River like a lake with a fixed boundary and ordinary high water mark, when it in fact, that 35-mile section of the Missouri River behaves like a river with no fixed boundary the vast majority of the time.

It is the State Engineer's responsibility, as statutorily mandated in N.D.C.C. § 61-33-05 to manage, operate, and supervise North Dakota's sovereign lands for multiple uses that are consistent with the Public Trust Doctrine and in the best interest of present and future generations. Therefore, it is the State Engineer that determines which waters are navigable and the ordinary high water mark on those waters.

Thank you for the opportunity to comment on this matter.


Cities
Roads
Tribal Lands
Lake Elevation - 1805 FT (NGVD29)
Lake Elevation - 1840.75 FT (NGVD29)
Lake Elevation - 1854 FT (NGVD29)
Tioga
White Earth
Ray
Palermo
Ross
Stanley
Epping
Spring Brook
North Dakota State Border
Williston
Highway 85
River Mile 1541
River Mile 1576
Alexander
Arnegard
Watford City
New Town
Parshall
0
10
20
30 miles

#7
2-2-17
HB1199
Lynch

Testimony of Edward Lynch

Concerning HB 1199

ND House Energy and Natural Resources Committee

February 2nd, 2017, 8:30 AM

Honorable Representatives and Committee Members, my name is Edward P. Lynch. I was born and raised in Williston North Dakota.

I am here representing myself and my family as well as the Lynch family and members of the Vohs Family past and present. The Lynch and Vohs familys of Williston have very long and storied history's in Western, ND. The Patriarch of the Vohs family Adolph Vohs migrated from South St.Paul, MN with wife Helen Sackett, in the early years after ND was granted Statehood to a small town called Inkster, ND in order to operate and manage a meat market / Butcher shop. Adolph Vohs hired by JD Sears of Swift and Company was by all accounts a success in this venture. So much so that he was once yet again tasked with migrating to Williston in 1904 to do the same, open a butcher shop meat market on main street Williston, ND in the original location of Vohs Meat Market known now as the Grand Theater. The original Vohs homestead located about 7 miles NW of Williston, and also the cattle line ranch located next to the Missouri River approximately 5 miles or so SW of Williston, directly across the Hwy 85 bridge on the west side (township 153 Range 101 sections 6 and 7.)

For many years through trial and hardship, through fires and thievery the Vohs Family endured for 60 and more years. The Vohs Family served and contributed through public service in more ways than one to the community, the city of Williston, Williams County and moreover to the history of State of North Dakota. In 1952 under public Land Order 1809 and Executive order 10355 dated May 26, 1952 The Vohs Family was required to abandon the land they owned and operated due to the building of Garrison Dam which would inundate that area. The Public Land Notice 1809 *(See attached)* describes in detail the lands effected by township, range and sections. At that time, the surface land was being withdrawn from public use, the Vohs Family like so many others at that time were able to reserve the mineral interests.

In 1989 upon the death and passing of my great Aunt Esther Vohs, she bequeathed to me, Grand Nephew and God Son, her portion of mineral acreage located at the former Vohs cattle ranch. There are a total of approximately 276 mineral acers which are owned by the three surviving members of the Vohs Family, Suzanne Vohs, John Vohs and Marge Vohs and myself. The minerals were leased in whole once prior mid 1980's and then again in 2010. At this point the State of ND and the State Land board had never indicated any interest in this property.

In 2012, drilling permits were issued for the Continental Resources Atlanta Super Pad, Continental Resources of course being required to perform due diligence hired Lear and Lear a professional title search and research company to document a detailed historical document of title /chain ownership for the 2560 acre spacing area. It was July of 2014 that I as well as the other Vohs members received from Continental Resources a division order for these Atlanta Wells for the entire 276 + mineral acers as were documented in the official title of ownership

record used by Continental Resources. It was several months later that we also received an amended division order stating that we did not own all of the minerals as was stated in the official title of ownership, and then it was again in January of 2015 we received yet another amended division order stating again that we all owned even less than before.

At that time I then wanted to find out and investigate what was going on but I could not get any straight answers from Continental. I was able to find out later that The ND Department of School Trust Lands (The ND Land Board had also leased our minerals to Continental Resources and was thus the State of ND was claiming ownership of over 2/3rd's of the original 276 + mineral acreage.
The title record of ownership of these minerals have mineral deeds and chain of title deeds filed in Williams County as well as McKenzie County and all of these title records go back many years. Despite the fact that Continentals own official record of title and ownership specifically states that these minerals are owned in fact by myself and the Vohs family, the State of ND Land Board ignores this fact and by the use of some clever legal maneuvering and clever legalese albeit through a legal disclaimer, they have successfully taken private property from myself as well as numerous others. Without so much as a simple phone call, a simple letter or any type of notification, the rightful owners of record for these minerals have had their constitutional rights to private property and due process trampled upon.

The ND Land Board claims and has assumed ownership but then in the same breath use this disclaimer.

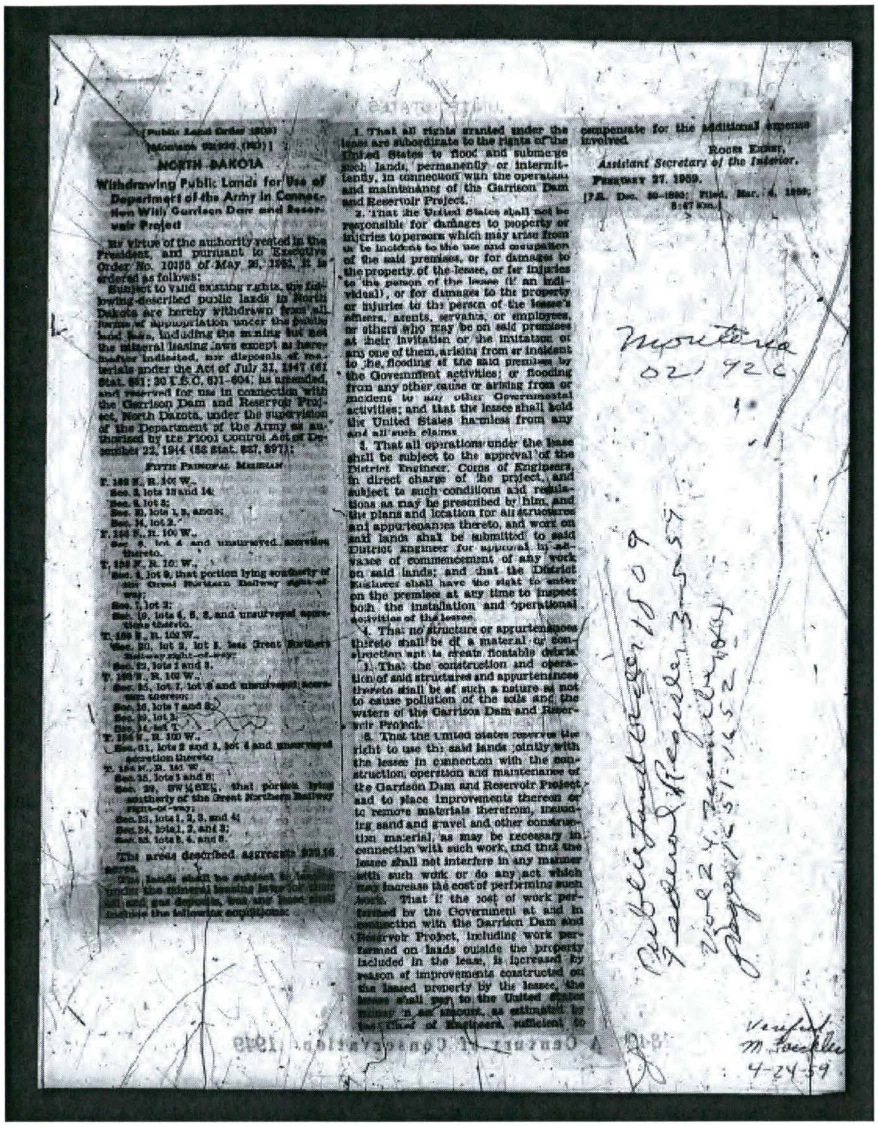
Disclaimer: The work completed under this contract is to delineate the ordinary high water mark (OHWM) and is not a final legal determination as to whether any specific property is "sovereign land".

I have read and understand the above disclaimer. ☐

Please note Honorable members of this Committee, I am not a wealthy individual, I have worked hard all these years to be somewhat successful and to raise two wonderful children who were also born in the State of North Dakota. I have always had a very strong connection to this State as well, I have tried to instill pride in my children. I have to say I am deeply disappointed at this time. The State of ND gave no notification of this unconstitutional taking of private property as required under the ND Constitution and also the US Constitution.

I respectfully request that the State of ND by and through legislation or any other means return the private property which was wrongfully taken from myself and others. The State of ND was granted title to the riverbed of the Historical Missouri River and other lakes and such when granted Statehood. Now because of a huge Oil Boom we are witnessing crony capitalism at its finest and the manufacturing of a massive land grab of private property by the land board.

As I previously e-mailed a concern regarding the draft legislation of Senate Bill 2134, my concern is the language of the bill which delineates the highway 85 bridge as the end of Lake Sakakawea. Clearly all of the lands and property as listed in Public Land Order 1809 prior to Garrison Dam are effected, it is just that simple. The State of North Dakota has spent huge sums of money hiring Bartlett and West for multiple surveys attempting to delineate this OHWM. In my eyes there is nothing ordinary in anyway with regards to taking private property with creative legal manuvering by and of the ND Land Department.



[Public Land Order 1809]

[Montana 021926 (ND)]

NORTH DAKOTA

Withdrawing Public Lands for Use of Department of the Army in Connection With Garrison Dam and Reservoir Project

By virtue of the authority vested in the President, and pursuant to Executive Order No. 10355 of May 26, 1952, it is ordered as follows:

Subject to valid existing rights, the following-described public lands in North Dakota are hereby withdrawn from all forms of appropriation under the public land laws, including the mining but not the mineral leasing laws except as hereinafter indicated, nor disposals of materials under the Act of July 31, 1947 (61 Stat. 681; 30 U.S.C. 601–604), as amended, and reserved for use in connection with the Garrison Dam and Reservoir Project, North Dakota, under the supervision of the Department of the Army as authorized by the Flood Control Act of December 22, 1944 (58 Stat. 887, 897):

FIFTH PRINCIPAL MERIDIAN

T. 152 N., R. 102 W.,
Sec. 3, lots 13 and 14;
Sec. 8, lot 3;
Sec. 10, lots 1, 2, and 3;
Sec. 14, lot 2.

T. 153 N., R. 100 W.,
Sec. 8, lot 4 and unsurveyed accretion thereto.

T. 153 N., R. 102 W.,
Sec. 4, lot 9, that portion lying southerly of the Great Northern Railway right-of-way;
Sec. 7, lot 2;
Sec. 19, lots 4, 5, 8, and unsurveyed accretions thereto.

T. 153 N., R. 103 W.,
Sec. 20, lot 2, lot 3, less Great Northern Railway right-of-way;
Sec. 21, lots 1 and 3.

T. 153 N., R. 102 W.,
Sec. 25, lot 7, lot 8 and unsurveyed accretion thereto;
Sec. 26, lots 7 and 8;
Sec. 29, lot 3;
Sec. 34, lot 7.

T. 154 N., R. 100 W.,
Sec. 31, lots 2 and 3, lot 4 and unsurveyed accretion thereto.

T. 154 N., R. 101 W.,
Sec. 25, lots 1 and 8;
Sec. 29, SW¼SE¼, that portion lying southerly of the Great Northern Railway right-of-way;
Sec. 23, lots 1, 2, 3, and 4;
Sec. 24, lots 1, 2, and 3;
Sec. 25, lots 2, 4, and 6.

The areas described aggregate 920.16 acres.

The lands shall be subject to leasing under the mineral leasing laws for their oil and gas deposits, but any lease shall include the following conditions:

1. That all rights granted under the lease are subordinate to the rights of the United States to flood and submerge such lands, permanently or intermittently, in connection with the operation and maintenance of the Garrison Dam and Reservoir Project.

2. That the United States shall not be responsible for damages to property or injuries to persons which may arise from or be incident to the use and occupation of the said premises, or for damages to the property of the lessee, or for injuries to the person of the lessee (if an individual), or for damages to the property or injuries to the person of the lessee's officers, agents, servants, or employees, or others who may be on said premises at their invitation or the invitation of any one of them, arising from or incident to the flooding of the said premises by the Government activities; or flooding from any other cause or arising from or incident to any other Governmental activities; and that the lessee shall hold the United States harmless from any and all such claims.

3. That all operations under the lease shall be subject to the approval of the District Engineer, Corps of Engineers, in direct charge of the project, and subject to such conditions and regulations as may be prescribed by him, and the plans and location for all structures and appurtenances thereto, and work on said lands shall be submitted to said District Engineer for approval in advance of commencement of any work on said lands; and that the District Engineer shall have the right to enter on the premises at any time to inspect both the installation and operational activities of the lessee.

4. That no structure or appurtenances thereto shall be of a material or construction apt to create floatable debris.

5. That the construction and operation of said structures and appurtenances thereto shall be of such a nature as not to cause pollution of the soils and the waters of the Garrison Dam and Reservoir Project.

6. That the United States reserves the right to use the said lands jointly with the lessee in connection with the construction, operation and maintenance of the Garrison Dam and Reservoir Project and to place improvements thereon or to remove materials therefrom, including sand and gravel and other construction material, as may be necessary in connection with such work, and that the lessee shall not interfere in any manner with such work or do any act which may increase the cost of performing such work. That if the cost of work performed by the Government at and in connection with the Garrison Dam and Reservoir Project, including work performed on lands outside the property included in the lease, is increased by reason of improvements constructed on the leased property by the lessee, the lessee shall pay to the United States money in an amount, as estimated by the Chief of Engineers, sufficient to compensate for the additional expense involved.

ROGER ERNST,
Assistant Secretary of the Interior.

FEBRUARY 27, 1959.

[F.R. Doc. 59-1890; Filed, Mar. 4, 1959; 8:47 a.m.]

Montana 021926

But, since the Garrison dam was built, the land has flooded regularly, most recently in 2011 and 2014 when the reservoir was operated at maximum capacity. Please see attached photos the historical photos all the way through current day.

This photograph was taken April of 2014 driving west from atop Indian Hill SE of Williston, the area inundated by flood waters is West of Hwy 85 Bridge.

Hwy 85 West roughly 2.5 miles from Hwy 85 Lewis & Clark Bridge, the entire 2560 acre spacing unit is flooded

Groups ask for higher releases through Garrison Dam ASAP

APRIL 09, 2014 10:24 PM • BY BRIAN GEPHING

BISMARCK, N.D. _ Despite the U.S. Army Corps of Engineers' forecast that the risk of flooding along the upper Missouri River Basin is minimal this spring, some groups want stepped up releases through Garrison Dam to begin as soon as possible.

The corps hosted a public meeting in Bismarck on Wednesday night on plans for reservoir management in 2014, one of five such meetings conducted along river cities from Missouri to Montana.

Col. Bill Leady, deputy commander for the corps' northwest division, said he believes there is enough storage in the system to handle runoff this spring.

The corps' April 1 runoff forecast was for 32 million acre-feet of water to enter the system through July.

He said average runoff is about 26 million acre-feet. An acre-foot of water is roughly the size of a football field covered with a foot of water.

Still, the North Dakota State Water Commission and other groups urged the corps to crank up releases sooner rather than later to avoid a repeat of 2011 flooding.

According to the corps, current reservoir levels are well below 2011 levels; Fort Peck is 14.5 feet lower, Lake Sakakawea is 5.2 feet lower and Lake Oahe 10.4 feet lower.

Bruce Engelhardt of the State Water Commission's water development division, said conditions in the upper basin have been "more volatile" in recent decade.

Engelhardt said releases can be increased while still maintaining balance on the upper three reservoirs — Fort Peck, Lake Sakakawea and Lake Oahe — which contain about 90 percent of the water storage for the basin.

"Constant vigilance must be maintained," he said, to avoid flooding like in 2011.

Mountain snowpack above Fort Peck is 133 percent of normal and 139 percent of normal between Fort Peck and Garrison.

Jody Farhat, water management chief for the corps, said plans are to step up releases through Garrison Dam from the current 18,000 cubic feet per second to 24,000 cfs by April 15 and 25,000 cfs by the end of the month.

Farhat said May average releases should be around 27,000 cfs and 30,000 cfs for June.

Press Release in the Bismarck Tribune Requesting higher releases from Garrison Dam, April 2014

Historical Photographs of 153 / 101 Sec 6 & 7

August 1995

August 23rd 2003

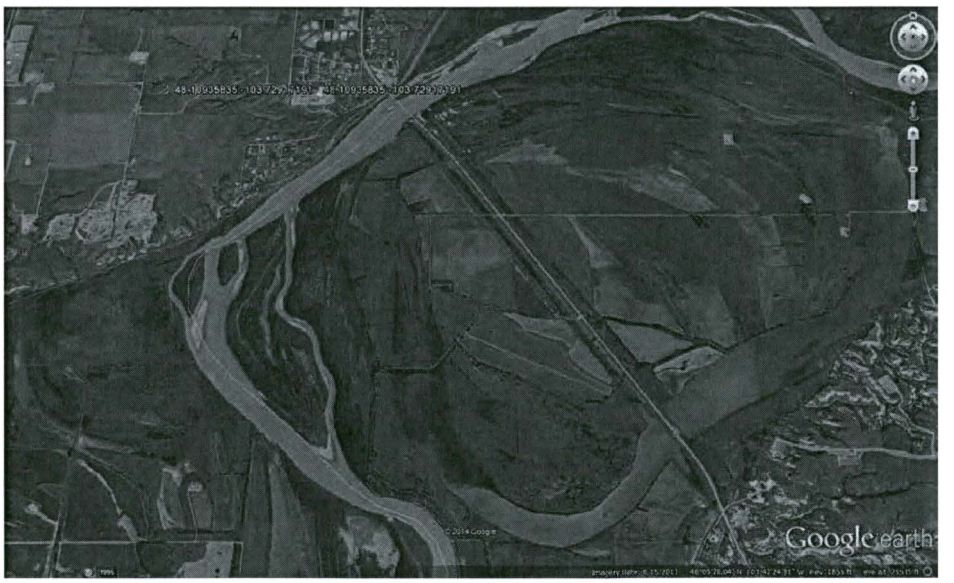
July 29th 2005

August 8th 2006

August 31st 2009

December 30th 2010

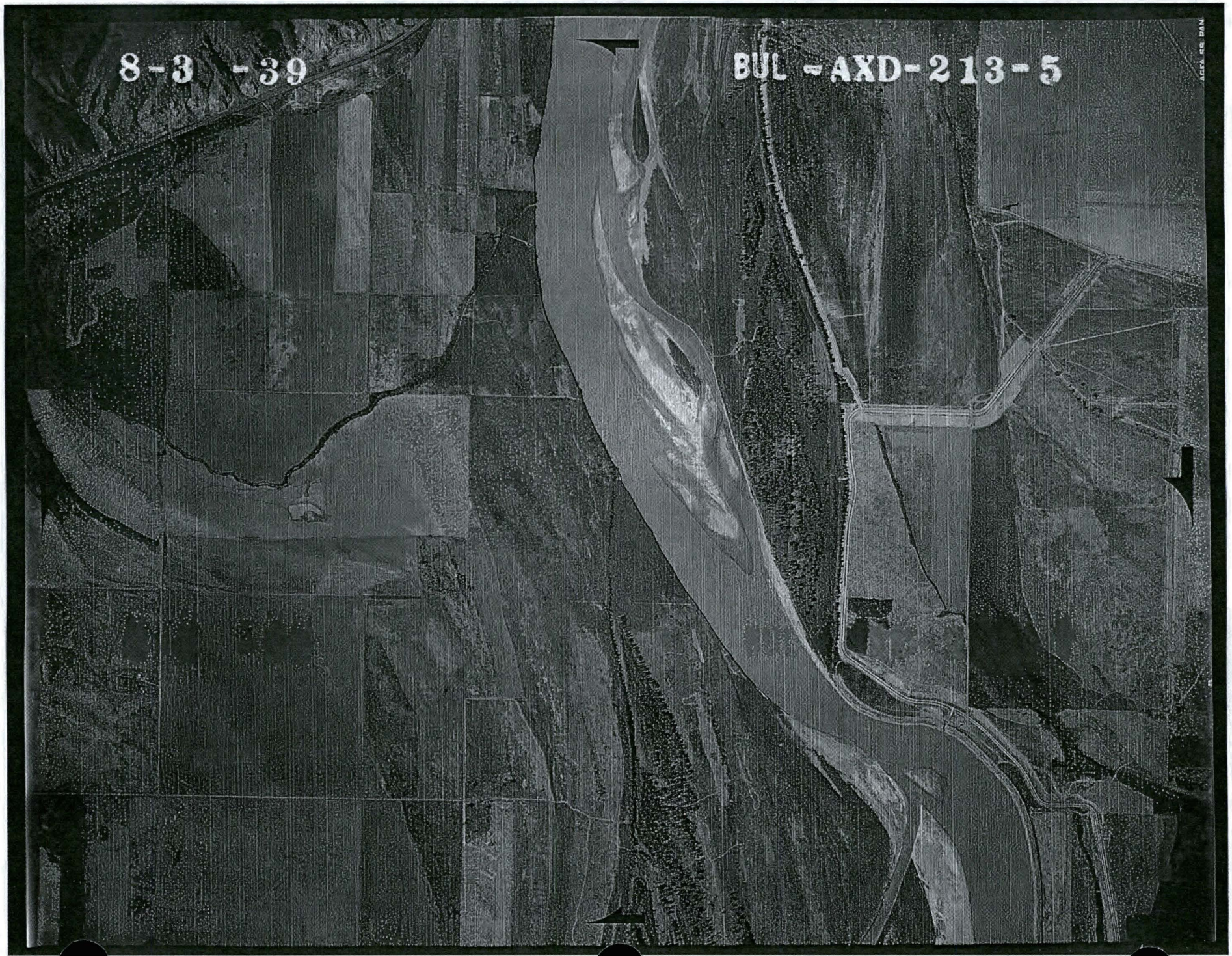
December 9th 2011



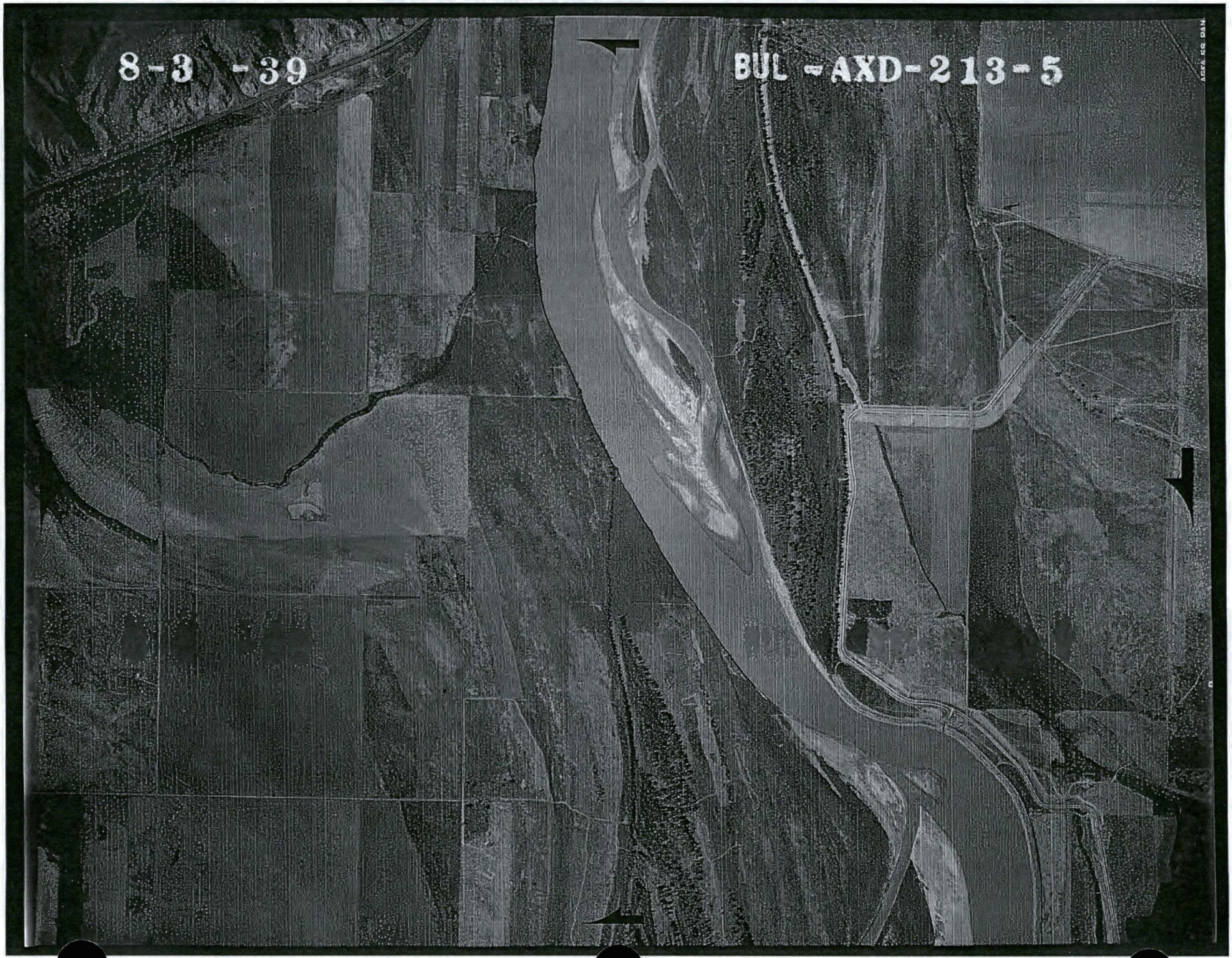
August 15th 2013

Aerial view above the Atlanta Well Pad December 2012


8-3 -39
BUL - AXD-213-3

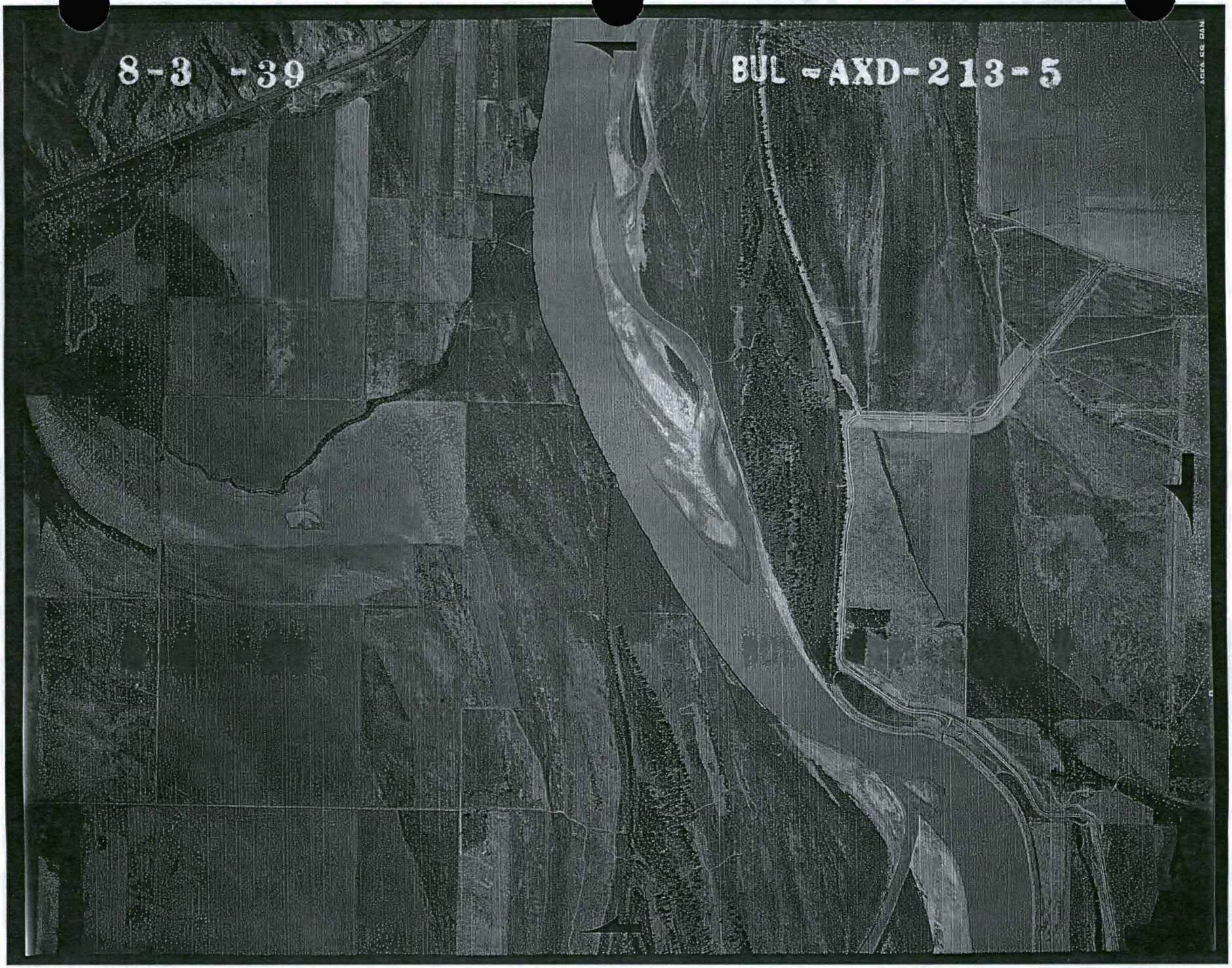

8-3 -39
BUL -AXD-213-5


8-3 -39
BUL - AXD-213-3


8-3 -39
BUL-AXD-213-5


8-28-49
AXD-13F- 17


8-3 -39
BUL - AXD-213-3


8-3 -39
BUL-AXD-213-5


8-28-49
AXD-13F- 17

527305

STATE OF NORTH DAKOTA
RELEASE OF ESTATE TAX LIEN

Re: Estate of Esther A. Vohs, Deceased.

I, M.K. Heidi Heitkamp, duly qualified and acting Tax Commissioner for the State of North Dakota, do hereby certify that:

1. The decedent at the time of her death on October 9, 1989, was a resident of the City of Williston, County of Williams, and State of North Dakota and was owner of certain real property in North Dakota described as follows (specify type of ownership as sole ownership, joint tenancy, life estate, etc., and specify joint tenants where applicable):

(SOLE OWNERSHIP)

WILLIAMS COUNTY, NORTH DAKOTA:

An undivided 6.4/160ths of the oil, gas and other minerals in and under the following:

Township 157 North, Range 96 West
Section 33: SE¼

An undivided 2/160ths of the oil, gas and other minerals in and under the following:

Township 156 North, Range 96 West
Section 20: E½NE¼
Section 21: W½NW¼

MCKENZIE COUNTY, NORTH DAKOTA:

An undivided 92.27/276.80ths interest in and to the oil, gas and other minerals in and under the following:

Township 153 North, Range 101 West
Section 6: Lot 10
Section 7: Portions of Lots 1, 4, and 5, described on a deed recorded in Book 87, Page 505 in the office of the McKenzie County Register of Deeds.

2. Pursuant to Chapter 57-37.1 of the North Dakota Century Code there is no estate tax liability with respect to the estate of the above-named decedent, and as such, no estate tax lien exists on the estate of said decedent.

Dated this 10th day of January, 1990, at Bismarck, ND.

M.K. Heidi Heitkamp
TAX COMMISSIONER

Estate Tax Examiner

RECORD THIS INSTRUMENT FOR RELEASE OF ESTATE TAX LIENS

STATE OF NORTH DAKOTA)
ss.
COUNTY OF WILLIAMS)

I hereby certify that with this office on the _____ day o'clock _____.M., and was duly _____ on page _____ _____.

Register of Deeds
Williams County, N.D.
I hereby certify that the within instrument was filed in this state for record the 17 day of January A.D. 1990 at 08:57:51 o'clock AM., and was duly recorded as microfilm document No. 527305

Register of Deeds
Recording Fee 5.00

(Submit in Duplicate)

1 Dec 19 2010
2 Dec 19 2011
3 Dec 19 2012

~~PAID UP~~ OIL AND GAS LEASE

LEASE - 100K plus -

COPY

OIL AND GAS LEASE

PROD 88

THIS LEASE AGREEMENT is made as of the 19th day of December, 2009 between Edward Patrick Lynch, a married man dealing in his sole and separate property, whose post office address is 694 Hamlet Circle, Goose Creek, SC 29445, hereinafter called Lessor (whether one or more) and Golden Eye Resources, LLC, whose post office address is P. O. Box 2270, Littleton, CO 80161 hereinafter called Lessee. All printed portions of this lease were prepared by the party hereinabove named as Lessee, but all other provisions (including the completion of blank spaces) were prepared jointly by Lessor and Lessee.

Grant of Leased Premises. In consideration of a cash bonus in hand paid and the covenants herein contained, Lessor hereby grants, leases and lets exclusively to Lessee the following described land, hereinafter called leased premises :

Township 153 North, Range 101 West, of the 5th P.M.
Section 6: Lot 10 (41.00)
Section 7: Parts of Lots 1, 4 & 5 more fully described in Book 87 of Deeds-Page 505.
Including any and all accretions or riparian rights thereto.

in the County of McKenzie, State of North Dakota, containing 276.80 gross acres, more or less (including any interests therein which Lessor may hereafter acquire by reversion, prescription or otherwise), for the purpose of exploring for, developing, producing and marketing oil and gas, along with all hydrocarbon and non-hydrocarbon substances produced in association therewith ("Oil and Gas Substances"). The term "gas" as used herein includes helium, carbon dioxide, gaseous sulfur compounds, methane produced from coal formations and other commercial gases, as well as normal hydrocarbon gases. In addition to the above-described land, this lease and the term "leased premises" also covers accretions and any small strips or parcels of land now or hereafter owned by Lessor which are contiguous or adjacent to the above-described land, and, in consideration of the aforementioned cash bonus, Lessor agrees to execute at Lessee's request any additional or supplemental instruments for a more complete or accurate description of the land so covered. For the purpose of determining the amount of any payments based on acreage hereunder, the number of gross acres above specified shall be deemed correct, whether actually more or less.

1. **Ancillary Rights.** The rights granted to Lessee hereunder shall include the right of ingress and egress on the leased premises or lands pooled or unitized therewith, along with such rights as may be reasonably necessary or beneficial to conduct operations for exploring, developing, producing and marketing Oil and Gas Substances, including but not limited to geophysical operations, the drilling of wells, and the construction and use of roads, canals, pipelines, tanks, water wells, disposal wells, injection wells, pits, electric and telephone lines, power stations, and other facilities for Lessee to explore, discover, produce, store, treat and/or transport Oil and Gas Substances and water produced from the leased premises or other lands that share central facilities and are jointly operated with the leased premises for gathering, treating, compression, transporting, processing and water disposal. Lessee may use in such operations, free of cost, any oil, gas, water and/or other substances produced on the leased premises, except water from Lessor's wells or ponds. In exploring, developing, producing or marketing from the leased premises or lands pooled or unitized therewith, the ancillary rights granted herein shall apply (a) to the entire leased premises, notwithstanding any partial release or other partial termination of this lease; and (b) to any other lands in which Lessor now or hereafter has authority to grant such rights in the vicinity of the leased premises or lands pooled or unitized therewith. When requested by Lessor in writing, Lessee shall bury its pipelines below ordinary plow depth on cultivated lands. No well shall be located less than 200 feet from any house or barn now on the leased premises or other lands of Lessor used by Lessee hereunder, without Lessor's consent, and Lessee shall pay for damage caused by its operations to buildings and other improvements now on the leased premises or such other lands, and to commercial timber and growing crops thereon. Lessee shall have the right at any time to remove its fixtures, equipment and materials, including well casing, from the leased premises or such other lands during the term of this lease or within a reasonable time thereafter.

2. **Term of Lease.** This lease shall be in force for a primary term of three (3) years from the date hereof, and for as long thereafter as oil or gas or other substances covered hereby are produced in paying quantities from the leased premises or from lands pooled or unitized therewith or this lease is otherwise maintained in effect pursuant to the provisions hereof.

3. **Operations.** If Lessee drills a well which is incapable of producing in paying quantities (hereinafter called "dry hole") on the leased premises or lands pooled or unitized therewith, or if all production (whether or not in paying quantities) permanently ceases from any cause, including a revision of unit boundaries pursuant to the provisions of this lease or the action of any governmental authority, then in the event this lease is not otherwise being maintained in force it shall nevertheless remain in force if Lessee commences further operations for reworking an existing well or for drilling an additional well or for otherwise obtaining or restoring production on the leased premises or lands pooled or unitized therewith within 90 days after completion of operations on such dry hole or within 90 days after such cessation of all production. If after the primary term this lease is not otherwise being maintained in force, but Lessee is then engaged in Operations, as defined below, this lease shall remain in force so long as any one or more of such Operations are prosecuted with no interruption of more than 90 consecutive days, and if any such Operations result in the production of Oil and Gas Substances, as long thereafter as there is production in paying quantities from the leased premises or lands pooled or unitized therewith. After completion of a well capable of producing in paying quantities hereunder, Lessee shall drill such additional wells on the leased premises or lands pooled or unitized therewith as a reasonably prudent operator would drill under the same or similar circumstances to (a) develop the leased premises as to reservoirs then capable of producing in paying quantities on the leased premises or lands pooled or unitized therewith, or (b) protect the leased premises from uncompensated drainage by any well or wells located on other lands not pooled or unitized therewith. There shall be no covenant to drill exploratory wells or any additional wells except as expressly provided herein. As used herein, the term Operations shall mean any activity conducted on or off the leased premises that is reasonably calculated to obtain or restore production, including without limitation, (i) drilling or any act preparatory to drilling (such as obtaining permits, surveying a drill site, staking a drill site, building roads, clearing a drill site, or hauling equipment or supplies); (ii) reworking, plugging back, deepening, treating, stimulating, refitting, installing any artificial lift or production-enhancement equipment or technique; (iii) constructing facilities related to the production, treatment, transportation and marketing of substances produced from the lease premises; (iv) contracting for marketing services and sale of Oil and Gas Substances; and (v) construction of water disposal facilities and the physical movement of water produced from the leased premises.

4. **Shut-in Royalty.** If after the primary term one or more wells on the leased premises or lands pooled or unitized therewith are capable of producing Oil and Gas Substances in paying quantities, but such well or wells are either shut in or production therefrom

20

is not being sold by Lessee, such well or wells shall nevertheless be deemed to be producing in paying quantities for the purpose of maintaining this lease. If for a period of 90 consecutive days such well or wells are shut in or production therefrom is not sold by Lessee, then Lessee shall pay an aggregate shut-in royalty of one dollar per acre then covered by this lease. The payment shall be made to Lessor on or before the first anniversary date of the lease following the end of the 90-day period and thereafter on or before each anniversary while the well or wells are shut in or production therefrom is not being sold by Lessee; provided that if this lease is otherwise being maintained by operations under this lease, or if production is being sold by Lessee from another well or wells on the leased premises or lands pooled or unitized therewith, no shut-in royalty shall be due until the first anniversary date of the lease following the end of the 90-day period after the end of the period next following the cessation of such operations or production, as the case may be. Lessee's failure to properly pay shut-in royalty shall render Lessee liable for the amount due, but shall not operate to terminate this lease. It is agreed, however, that no well may be shut-in and perpetuate this lease for more than three (3) years beyond the primary term; actual production and payment on production is required to perpetuate this lease beyond such period.

5. **Royalty Payment**. For all Oil and Gas Substances that are physically produced from the leased premises, or lands pooled, unitized or communitized therewith, and sold, lessor shall receive as its royalty **three sixteenths (3/16ths)** of the sales proceeds actually received by lessee or, if applicable, its affiliate, as a result of the first sale of the affected production to an unaffiliated party, less this same percentage share of all Post Production Costs and this same percentage share of all production, severance, ad valorem and other taxes. As used in this provision, Post Production Costs shall mean all costs actually incurred by lessee or its affiliate and all losses of produced volumes whether by use as fuel, line loss, flaring, venting or otherwise from and after the wellhead to the point of sale. These costs include without limitation, all costs of gathering, marketing, compression, dehydration, transportation, removal of liquid or gaseous substances or impurities from the affected production, and any other treatment or processing required by the first unaffiliated party who purchases the affected production. For royalty calculation purposes, lessee shall never be required to adjust the sales proceeds to account for the purchaser's costs or charges downstream of the point of sale.

Lessee or its affiliate shall have the right to construct, maintain and operate any facilities providing some or all of the services identified as Post Production Costs. If this occurs, the actual costs of such facilities shall be included in the Post Production Costs as a per barrel or per mcf charge, as appropriate, calculated by spreading the construction, maintenance and operating costs for such facilities over the reasonably estimated total production volumes attributable to the well or wells using such facilities.

If Lessee uses the Oil and Gas Substances (other than as fuel in connection with the production and sale thereof) in lieu of receiving sale proceeds, the price to be used under this provision shall be based upon arm's-length sale(s) to unaffiliated parties for the applicable month that are obtainable, comparable in terms of quality and quantity, and in closest proximity to the leased premises. Such comparable arm's-length sales price shall be less any Post Production Costs applicable to the specific arms-length transaction that is utilized.

6. **Pooling.** Lessee shall have the right but not the obligation to pool all or any part of the leased premises or interest therein with any other lands or interests, as to any or all depths or zones, and as to any or all substances covered by this lease, either before or after the commencement of drilling or production, whenever Lessee deems it necessary or proper to do so in order to prudently develop or operate the leased premises, whether or not similar pooling authority exists with respect to such other lands or interests. The creation of a unit by such pooling shall be based on the following criteria (hereinafter called "pooling criteria"): A unit for an oil well (other than a horizontal completion) shall not exceed 40 acres plus a maximum acreage tolerance of 10%, and for a gas well or a horizontal completion shall not exceed 640 acres plus a maximum acreage tolerance of 10%; provided that a larger unit may be formed for an oil well or gas well or horizontal completion to conform to any well spacing or density pattern that may be prescribed or permitted by any governmental authority having jurisdiction to do so. For the purpose of the foregoing, the terms "oil well" and "gas well" shall have the meanings prescribed by applicable law or the appropriate governmental authority, or, if no definition is so prescribed, "oil well" means a well with an initial gas-oil ratio of less than 100,000 cubic feet per barrel and "gas well" means a well with an initial gas-oil ratio of 100,000 cubic feet or more per barrel, based on a 24-hour production test conducted under normal producing conditions using standard lease separator facilities or equivalent testing equipment; and the term "horizontal completion" means a well in which the horizontal component of the completion interval in the reservoir exceeds the vertical component in such interval. In exercising its pooling rights hereunder, Lessee shall file of record a written declaration describing the unit and stating the effective date of pooling. Production, drilling or reworking operations anywhere on a unit which includes all or any part of the leased premises shall be treated as if it were production, drilling or reworking operations on the leased premises, except that the production on which Lessor's royalty is calculated shall be that proportion of the total unit production which the net acreage covered by this lease and included in the unit bears to the total acreage in the unit, but only to the extent such proportion of unit production is sold by Lessee. In the event a unit is formed hereunder before the unit well is drilled and completed, so that the applicable pooling criteria are not yet known, the unit shall be based on the pooling criteria Lessee expects in good faith to apply upon completion of the well; provided that within a reasonable time after completion of the well, the unit shall be revised if necessary to conform to the pooling criteria that actually exist. Pooling in one or more instances shall not exhaust Lessee's pooling rights hereunder, and Lessee shall have the recurring right but not the obligation to revise any unit formed hereunder by expansion or contraction or both, either before or after commencement of production, in order to conform to the well spacing or density pattern prescribed or permitted by the governmental authority having jurisdiction, or to conform to any productive acreage determination made by such governmental authority. To revise a unit hereunder, Lessee shall file of record a written declaration describing the revised unit and stating the effective date of revision. To the extent any portion of the leased premises is included in or excluded from the unit by virtue of such revision, the proportion of unit production on which royalties are payable hereunder shall thereafter be adjusted accordingly.

7. **Unitization.** Lessee shall have the right but not the obligation to commit all or any part of the leased premises or interest therein to one or more unit plans or agreements for the cooperative development or operation of one or more oil and/or gas reservoirs or portions thereof, if in lessee's judgment such plan or agreement will prevent waste and protect correlative rights, and if such plan or agreement is approved by the federal, state or local governmental authority having jurisdiction. When such a commitment is made, this lease shall be subject to the terms and conditions of the unit plan or agreement, including any formula prescribed therein for the allocation of production from a unit. Upon permanent cessation thereof, Lessee may terminate the unit by filing of record a written declaration describing the unit and stating the date of termination. Pooling hereunder shall not constitute a cross-conveyance of interests.

8. **Payment Reductions.** If Lessor owns less than the full mineral estate in all or any part of the leased premises, payment of royalties and shut-in royalties hereunder shall be reduced as follows: royalties and shut-in royalties for any well on any part of the leased premises or lands pooled therewith shall be reduced to the proportion that Lessor's interest in such part of the leased premises bears to the full mineral estate in such part of the leased premises. To the extent any royalty or other payment attributable

to the mineral estate covered by this lease is payable to someone other than Lessor, such royalty or other payment shall be deducted from the corresponding amount otherwise payable to Lessor hereunder.

9. **Ownership Changes.** The interest of either Lessor or Lessee hereunder may be assigned, devised or otherwise transferred in whole or in part, by area and/or by depth or zone, and the rights and obligations of the parties hereunder shall extend to their respective heirs, devisees, executors, administrators, successors and assigns. No change in Lessor's ownership shall have the effect of reducing the rights or enlarging the obligations of Lessee hereunder, and no change in ownership shall be binding on Lessee until 60 days after Lessee has been furnished the original or duly authenticated copies of the documents establishing such change of ownership to the satisfaction of Lessee or until Lessor has satisfied the notification requirements contained in Lessee's usual form of division order. In the event of the death of any person entitled to shut-in royalties hereunder, Lessee may pay or tender such shut-in royalties to the credit of decedent or decedent's estate. If at any time two or more persons are entitled to shut-in royalties hereunder, Lessee may pay or tender such shut-in royalties to such persons either jointly or separately in proportion to the interest which each owns. If Lessee transfers its interest hereunder in whole or in part Lessee shall be relieved of all obligations thereafter arising with respect to the transferred interest, and failure of the transferee to satisfy such obligations with respect to the transferred interest shall not affect the rights of Lessee with respect to any interest not so transferred. If Lessee transfers a full or undivided interest in all or any portion of the area covered by this lease, the obligation to pay or tender shut-in royalties hereunder shall be divided between Lessee and the transferee in proportion to the net acreage interest in this lease then held by each

10. **Release of Lease.** Lessee may, at any time and from time to time, deliver to Lessor or file of record a written release of this lease as to a full or undivided interest in all or any portion of the area covered by this lease or any depths or zones thereunder, and shall thereupon be relieved of all obligations thereafter arising with respect to the interest so released. If Lessee releases less than all of the interest or area covered hereby, Lessee's obligation to pay or tender shut-in royalties shall be proportionately reduced in accordance with the net acreage interest retained hereunder.

11. **Regulation and Delay.** Lessee's obligations under this lease, whether express or implied, shall be subject to all applicable laws, rules, regulations and orders, governmental action or inaction of any governmental authority having jurisdiction, including restrictions on the drilling and production of wells, and regulation of the price or transportation of oil, gas and other substances covered hereby. When drilling, reworking, production or other operations are prevented or delayed by such laws, rules, regulations or orders, or by inability to obtain necessary permits, equipment, services, material, water, electricity, fuel, access or easements, or by fire, flood, adverse weather conditions, war, sabotage, rebellion, insurrection, riot, strike or labor disputes, or by inability to obtain a satisfactory market for production or failure of purchasers or carriers to take or transport such production, or by any other cause not reasonably within Lessee's control, this lease shall not terminate because of such prevention or delay, and, at Lessee's option, the period of such prevention or delay shall be added to the term hereof. Lessee shall not be liable for breach of any provisions or implied covenants of this lease when drilling, production or other operations are so prevented or delayed.

12. **Breach or Default.** No litigation shall be initiated by Lessor for damages, forfeiture or cancellation with respect to any breach or default by Lessee hereunder, for a period of at least 60 days after Lessor has given Lessee written notice fully describing the breach or default, and then only if Lessee fails to remedy the breach or default within such period.

13. **Warranty of Title.** Lessor Lessee at Lessee's option may pay and discharge any taxes, mortgages or liens existing, levied or assessed on or against the leased premises. If Lessee exercises such option, Lessee shall be subrogated to the rights of the party to whom payment is made, and, in addition to its other rights, may reimburse itself out of any royalties or shut-in royalties otherwise payable to Lessor hereunder. In the event Lessee is made aware of any claim inconsistent with Lessor's title, Lessee may suspend the payment of royalties and shut-in royalties hereunder, without interest, until Lessee has been furnished satisfactory evidence that such claim has been resolved.

14. **Pugh Clause.** Notwithstanding any provisions of this lease to the contrary, upon expiration of the primary term, or upon cessation of "continuous drilling operations" (as hereinafter defined), whichever is later, this lease shall terminate as to all the lands covered hereby except lands within a production or a spacing unit prescribed by law or administrative authority, on which is located a well producing, or capable of producing, oil and/or gas. Lessee shall be considered to be engaged in "continuous drilling operations" for the purposes hereof if (I) Lessee is engaged in drilling, reworking or completion operations on a well located on the leased lands, or on lands included in a production or a spacing unit which contains a portion of the leased lands, or (II) Lessee has completed or abandoned a well located on the leased lands, or on lands included in a production or a spacing unit which contains a portion of the leased lands, within 180 days prior to the end of the primary term. Lessee shall be deemed to be engaged in continuous drilling operations for as long thereafter as Lessee conducts drilling, reworking or completion operations on the leased lands, or on lands included in a production or a spacing unit which contains a portion of the leased lands, with not more than 180 days elapsing between the completion or abandonment of one well and the beginning of operations for the drilling of an additional well or reworking an existing well.

IN WITNESS WHEREOF, this lease is executed to be effective as of the date first written above, but upon execution shall be binding on the signatory and the signatory's heirs, devisees, executors, administrators, successors and assigns, whether or not this lease has been executed by all parties hereinabove named as Lessor.

LESSOR(S)

Edward Patrick Lynch

Edward Patrick Lynch

22

PAID UP OIL AND GAS LEASE

OIL AND GAS LEASE

PROD 88

THIS LEASE AGREEMENT is made as of the 19th day of December, 2009 between Edward Patrick Lynch, a married man dealing in his sole and separate property, whose post office address is 694 Hamlet Circle, Goose Creek, SC 29445, hereinafter called Lessor (whether one or more) and Golden Eye Resources, LLC, whose post office address is P. O. Box 2270, Littleton, CO 80161 hereinafter called Lessee. All printed portions of this lease were prepared by the party hereinabove named as Lessee, but all other provisions (including the completion of blank spaces) were prepared jointly by Lessor and Lessee.

Grant of Leased Premises. In consideration of a cash bonus in hand paid and the covenants herein contained, Lessor hereby grants, leases and lets exclusively to Lessee the following described land, hereinafter called leased premises :

Township 153 North, Range 101 West, of the 5th P.M.
Section 6: Lot 10 (41.00)
Section 7: Parts of Lots 1, 4 & 5 more fully described in Book 87 of Deeds-Page 505.
Including any and all accretions or riparian rights thereto.

in the County of McKenzie, State of North Dakota, containing 276.80 gross acres, more or less (including any interests therein which Lessor may hereafter acquire by reversion, prescription or otherwise), for the purpose of exploring for, developing, producing and marketing oil and gas, along with all hydrocarbon and non-hydrocarbon substances produced in association therewith ("Oil and Gas Substances"). The term "gas" as used herein includes helium, carbon dioxide, gaseous sulfur compounds, methane produced from coal formations and other commercial gases, as well as normal hydrocarbon gases. In addition to the above-described land, this lease and the term "leased premises" also covers accretions and any small strips or parcels of land now or hereafter owned by Lessor which are contiguous or adjacent to the above-described land, and, in consideration of the aforementioned cash bonus, Lessor agrees to execute at Lessee's request any additional or supplemental instruments for a more complete or accurate description of the land so covered. For the purpose of determining the amount of any payments based on acreage hereunder, the number of gross acres above specified shall be deemed correct, whether actually more or less.

1. **Ancillary Rights.** The rights granted to Lessee hereunder shall include the right of ingress and egress on the leased premises or lands pooled or unitized therewith, along with such rights as may be reasonably necessary or beneficial to conduct operations for exploring, developing, producing and marketing Oil and Gas Substances, including but not limited to geophysical operations, the drilling of wells, and the construction and use of roads, canals, pipelines, tanks, water wells, disposal wells, injection wells, pits, electric and telephone lines, power stations, and other facilities for Lessee to explore, discover, produce, store, treat and/or transport Oil and Gas Substances and water produced from the leased premises or other lands that share central facilities and are jointly operated with the leased premises for gathering, treating, compression, transporting, processing and water disposal. Lessee may use in such operations, free of cost, any oil, gas, water and/or other substances produced on the leased premises, except water from Lessor's wells or ponds. In exploring, developing, producing or marketing from the leased premises or lands pooled or unitized therewith, the ancillary rights granted herein shall apply (a) to the entire leased premises, notwithstanding any partial release or other partial termination of this lease; and (b) to any other lands in which Lessor now or hereafter has authority to grant such rights in the vicinity of the leased premises or lands pooled or unitized therewith. When requested by Lessor in writing, Lessee shall bury its pipelines below ordinary plow depth on cultivated lands. No well shall be located less than 200 feet from any house or barn now on the leased premises or other lands of Lessor used by Lessee hereunder, without Lessor's consent, and Lessee shall pay for damage caused by its operations to buildings and other improvements now on the leased premises or such other lands, and to commercial timber and growing crops thereon. Lessee shall have the right at any time to remove its fixtures, equipment and materials, including well casing, from the leased premises or such other lands during the term of this lease or within a reasonable time thereafter.

2. **Term of Lease.** This lease shall be in force for a primary term of three (3) years from the date hereof, and for as long thereafter as oil or gas or other substances covered hereby are produced in paying quantities from the leased premises or from lands pooled or unitized therewith or this lease is otherwise maintained in effect pursuant to the provisions hereof.

3. **Operations.** If Lessee drills a well which is incapable of producing in paying quantities (hereinafter called "dry hole") on the leased premises or lands pooled or unitized therewith, or if all production (whether or not in paying quantities) permanently ceases from any cause, including a revision of unit boundaries pursuant to the provisions of this lease or the action of any governmental authority, then in the event this lease is not otherwise being maintained in force it shall nevertheless remain in force if Lessee commences further operations for reworking an existing well or for drilling an additional well or for otherwise obtaining or restoring production on the leased premises or lands pooled or unitized therewith within 90 days after completion of operations on such dry hole or within 90 days after such cessation of all production. If after the primary term this lease is not otherwise being maintained in force, but Lessee is then engaged in Operations, as defined below, this lease shall remain in force so long as any one or more of such Operations are prosecuted with no interruption of more than 90 consecutive days, and if any such Operations result in the production of Oil and Gas Substances, as long thereafter as there is production in paying quantities from the leased premises or lands pooled or unitized therewith. After completion of a well capable of producing in paying quantities hereunder, Lessee shall drill such additional wells on the leased premises or lands pooled or unitized therewith as a reasonably prudent operator would drill under the same or similar circumstances to (a) develop the leased premises as to reservoirs then capable of producing in paying quantities on the leased premises or lands pooled or unitized therewith, or (b) protect the leased premises from uncompensated drainage by any well or wells located on other lands not pooled or unitized therewith. There shall be no covenant to drill exploratory wells or any additional wells except as expressly provided herein. As used herein, the term Operations shall mean any activity conducted on or off the leased premises that is reasonably calculated to obtain or restore production, including without limitation, (i) drilling or any act preparatory to drilling (such as obtaining permits, surveying a drill site, staking a drill site, building roads, clearing a drill site, or hauling equipment or supplies); (ii) reworking, plugging back, deepening, treating, stimulating, refitting, installing any artificial lift or production-enhancement equipment or technique; (iii) constructing facilities related to the production, treatment, transportation and marketing of substances produced from the lease premises; (iv) contracting for marketing services and sale of Oil and Gas Substances; and (v) construction of water disposal facilities and the physical movement of water produced from the leased premises.

4. **Shut-in Royalty.** If after the primary term one or more wells on the leased premises or lands pooled or unitized therewith are capable of producing Oil and Gas Substances in paying quantities, but such well or wells are either shut in or production therefrom

396124

Return to:
TRANSCONTINENT OIL CO
621 17TH ST STE 1555
DENVER CO 80293-1201

County Recorder
McKenzie County
Watford City ND 58854
Page 1 of 4

is not being sold by Lessee, such well or wells shall nevertheless be deemed to be producing in paying quantities for the purpose of maintaining this lease. If for a period of 90 consecutive days such well or wells are shut in or production therefrom is not sold by Lessee, then Lessee shall pay an aggregate shut-in royalty of one dollar per acre then covered by this lease. The payment shall be made to Lessor on or before the first anniversary date of the lease following the end of the 90-day period and thereafter on or before each anniversary while the well or wells are shut in or production therefrom is not being sold by Lessee; provided that if this lease is otherwise being maintained by operations under this lease, or if production is being sold by Lessee from another well or wells on the leased premises or lands pooled or unitized therewith, no shut-in royalty shall be due until the first anniversary date of the lease following the end of the 90-day period after the end of the period next following the cessation of such operations or production, as the case may be. Lessee's failure to properly pay shut-in royalty shall render Lessee liable for the amount due, but shall not operate to terminate this lease. It is agreed, however, that no well may be shut-in and perpetuate this lease for more than three (3) years beyond the primary term; actual production and payment on production is required to perpetuate this lease beyond such period.

5. **Royalty Payment**. For all Oil and Gas Substances that are physically produced from the leased premises, or lands pooled, unitized or communitized therewith, and sold, lessor shall receive as its royalty **three sixteenths (3/16ths)** of the sales proceeds actually received by lessee or, if applicable, its affiliate, as a result of the first sale of the affected production to an unaffiliated party, less this same percentage share of all Post Production Costs and this same percentage share of all production, severance, ad valorem and other taxes. As used in this provision, Post Production Costs shall mean all costs actually incurred by lessee or its affiliate and all losses of produced volumes whether by use as fuel, line loss, flaring, venting or otherwise from and after the wellhead to the point of sale. These costs include without limitation, all costs of gathering, marketing, compression, dehydration, transportation, removal of liquid or gaseous substances or impurities from the affected production, and any other treatment or processing required by the first unaffiliated party who purchases the affected production. For royalty calculation purposes, lessee shall never be required to adjust the sales proceeds to account for the purchaser's costs or charges downstream of the point of sale.

Lessee or its affiliate shall have the right to construct, maintain and operate any facilities providing some or all of the services identified as Post Production Costs. If this occurs, the actual costs of such facilities shall be included in the Post Production Costs as a per barrel or per mcf charge, as appropriate, calculated by spreading the construction, maintenance and operating costs for such facilities over the reasonably estimated total production volumes attributable to the well or wells using such facilities.

If Lessee uses the Oil and Gas Substances (other than as fuel in connection with the production and sale thereof) in lieu of receiving sale proceeds, the price to be used under this provision shall be based upon arm's-length sale(s) to unaffiliated parties for the applicable month that are obtainable, comparable in terms of quality and quantity, and in closest proximity to the leased premises. Such comparable arm's-length sales price shall be less any Post Production Costs applicable to the specific arms-length transaction that is utilized.

6. **Pooling.** Lessee shall have the right but not the obligation to pool all or any part of the leased premises or interest therein with any other lands or interests, as to any or all depths or zones, and as to any or all substances covered by this lease, either before or after the commencement of drilling or production, whenever Lessee deems it necessary or proper to do so in order to prudently develop or operate the leased premises, whether or not similar pooling authority exists with respect to such other lands or interests. The creation of a unit by such pooling shall be based on the following criteria (hereinafter called "pooling criteria"): A unit for an oil well (other than a horizontal completion) shall not exceed 40 acres plus a maximum acreage tolerance of 10%, and for a gas well or a horizontal completion shall not exceed 640 acres plus a maximum acreage tolerance of 10%; provided that a larger unit may be formed for an oil well or gas well or horizontal completion to conform to any well spacing or density pattern that may be prescribed or permitted by any governmental authority having jurisdiction to do so. For the purpose of the foregoing, the terms "oil well" and "gas well" shall have the meanings prescribed by applicable law or the appropriate governmental authority, or, if no definition is so prescribed, "oil well" means a well with an initial gas-oil ratio of less than 100,000 cubic feet per barrel and "gas well" means a well with an initial gas-oil ratio of 100,000 cubic feet or more per barrel, based on a 24-hour production test conducted under normal producing conditions using standard lease separator facilities or equivalent testing equipment; and the term "horizontal completion" means a well in which the horizontal component of the completion interval in the reservoir exceeds the vertical component in such interval. In exercising its pooling rights hereunder, Lessee shall file of record a written declaration describing the unit and stating the effective date of pooling. Production, drilling or reworking operations anywhere on a unit which includes all or any part of the leased premises shall be treated as if it were production, drilling or reworking operations on the leased premises, except that the production on which Lessor's royalty is calculated shall be that proportion of the total unit production which the net acreage covered by this lease and included in the unit bears to the total acreage in the unit, but only to the extent such proportion of unit production is sold by Lessee. In the event a unit is formed hereunder before the unit well is drilled and completed, so that the applicable pooling criteria are not yet known, the unit shall be based on the pooling criteria Lessee expects in good faith to apply upon completion of the well; provided that within a reasonable time after completion of the well, the unit shall be revised if necessary to conform to the pooling criteria that actually exist. Pooling in one or more instances shall not exhaust Lessee's pooling rights hereunder, and Lessee shall have the recurring right but not the obligation to revise any unit formed hereunder by expansion or contraction or both, either before or after commencement of production, in order to conform to the well spacing or density pattern prescribed or permitted by the governmental authority having jurisdiction, or to conform to any productive acreage determination made by such governmental authority. To revise a unit hereunder, Lessee shall file of record a written declaration describing the revised unit and stating the effective date of revision. To the extent any portion of the leased premises is included in or excluded from the unit by virtue of such revision, the proportion of unit production on which royalties are payable hereunder shall thereafter be adjusted accordingly.

7. **Unitization.** Lessee shall have the right but not the obligation to commit all or any part of the leased premises or interest therein to one or more unit plans or agreements for the cooperative development or operation of one or more oil and/or gas reservoirs or portions thereof, if in lessee's judgment such plan or agreement will prevent waste and protect correlative rights, and if such plan or agreement is approved by the federal, state or local governmental authority having jurisdiction. When such a commitment is made, this lease shall be subject to the terms and conditions of the unit plan or agreement, including any formula prescribed therein for the allocation of production from a unit. Upon permanent cessation thereof, Lessee may terminate the unit by filing of record a written declaration describing the unit and stating the date of termination. Pooling hereunder shall not constitute a cross-conveyance of interests.

8. **Payment Reductions.** If Lessor owns less than the full mineral estate in all or any part of the leased premises, payment of royalties and shut-in royalties hereunder shall be reduced as follows: royalties and shut-in royalties for any well on any part of the leased premises or lands pooled therewith shall be reduced to the proportion that Lessor's interest in such part of the leased premises bears to the full mineral estate in such part of the leased premises. To the extent any royalty or other payment attributable

to the mineral estate covered by this lease is payable to someone other than Lessor, such royalty or other payment shall be deducted from the corresponding amount otherwise payable to Lessor hereunder.

9. **Ownership Changes.** The interest of either Lessor or Lessee hereunder may be assigned, devised or otherwise transferred in whole or in part, by area and/or by depth or zone, and the rights and obligations of the parties hereunder shall extend to their respective heirs, devisees, executors, administrators, successors and assigns. No change in Lessor's ownership shall have the effect of reducing the rights or enlarging the obligations of Lessee hereunder, and no change in ownership shall be binding on Lessee until 60 days after Lessee has been furnished the original or duly authenticated copies of the documents establishing such change of ownership to the satisfaction of Lessee or until Lessor has satisfied the notification requirements contained in Lessee's usual form of division order. In the event of the death of any person entitled to shut-in royalties hereunder, Lessee may pay or tender such shut-in royalties to the credit of decedent or decedent's estate. If at any time two or more persons are entitled to shut-in royalties hereunder, Lessee may pay or tender such shut-in royalties to such persons either jointly or separately in proportion to the interest which each owns. If Lessee transfers its interest hereunder in whole or in part Lessee shall be relieved of all obligations thereafter arising with respect to the transferred interest, and failure of the transferee to satisfy such obligations with respect to the transferred interest shall not affect the rights of Lessee with respect to any interest not so transferred. If Lessee transfers a full or undivided interest in all or any portion of the area covered by this lease, the obligation to pay or tender shut-in royalties hereunder shall be divided between Lessee and the transferee in proportion to the net acreage interest in this lease then held by each

10. **Release of Lease.** Lessee may, at any time and from time to time, deliver to Lessor or file of record a written release of this lease as to a full or undivided interest in all or any portion of the area covered by this lease or any depths or zones thereunder, and shall thereupon be relieved of all obligations thereafter arising with respect to the interest so released. If Lessee releases less than all of the interest or area covered hereby, Lessee's obligation to pay or tender shut-in royalties shall be proportionately reduced in accordance with the net acreage interest retained hereunder.

11. **Regulation and Delay.** Lessee's obligations under this lease, whether express or implied, shall be subject to all applicable laws, rules, regulations and orders, governmental action or inaction of any governmental authority having jurisdiction, including restrictions on the drilling and production of wells, and regulation of the price or transportation of oil, gas and other substances covered hereby. When drilling, reworking, production or other operations are prevented or delayed by such laws, rules, regulations or orders, or by inability to obtain necessary permits, equipment, services, material, water, electricity, fuel, access or easements, or by fire, flood, adverse weather conditions, war, sabotage, rebellion, insurrection, riot, strike or labor disputes, or by inability to obtain a satisfactory market for production or failure of purchasers or carriers to take or transport such production, or by any other cause not reasonably within Lessee's control, this lease shall not terminate because of such prevention or delay, and, at Lessee's option, the period of such prevention or delay shall be added to the term hereof. Lessee shall not be liable for breach of any provisions or implied covenants of this lease when drilling, production or other operations are so prevented or delayed.

12. **Breach or Default.** No litigation shall be initiated by Lessor for damages, forfeiture or cancellation with respect to any breach or default by Lessee hereunder, for a period of at least 60 days after Lessor has given Lessee written notice fully describing the breach or default, and then only if Lessee fails to remedy the breach or default within such period.

13. **Warranty of Title.** Lessor Lessee at Lessee's option may pay and discharge any taxes, mortgages or liens existing, levied or assessed on or against the leased premises. If Lessee exercises such option, Lessee shall be subrogated to the rights of the party to whom payment is made, and, in addition to its other rights, may reimburse itself out of any royalties or shut-in royalties otherwise payable to Lessor hereunder. In the event Lessee is made aware of any claim inconsistent with Lessor's title, Lessee may suspend the payment of royalties and shut-in royalties hereunder, without interest, until Lessee has been furnished satisfactory evidence that such claim has been resolved.

14. **Pugh Clause.** Notwithstanding any provisions of this lease to the contrary, upon expiration of the primary term, or upon cessation of "continuous drilling operations" (as hereinafter defined), whichever is later, this lease shall terminate as to all the lands covered hereby except lands within a production or a spacing unit prescribed by law or administrative authority, on which is located a well producing, or capable of producing, oil and/or gas. Lessee shall be considered to be engaged in "continuous drilling operations" for the purposes hereof if (I) Lessee is engaged in drilling, reworking or completion operations on a well located on the leased lands, or on lands included in a production or a spacing unit which contains a portion of the leased lands, or (II) Lessee has completed or abandoned a well located on the leased lands, or on lands included in a production or a spacing unit which contains a portion of the leased lands, within 180 days prior to the end of the primary term. Lessee shall be deemed to be engaged in continuous drilling operations for as long thereafter as Lessee conducts drilling, reworking or completion operations on the leased lands, or on lands included in a production or a spacing unit which contains a portion of the leased lands, with not more than 180 days elapsing between the completion or abandonment of one well and the beginning of operations for the drilling of an additional well or reworking an existing well.

IN WITNESS WHEREOF, this lease is executed to be effective as of the date first written above, but upon execution shall be binding on the signatory and the signatory's heirs, devisees, executors, administrators, successors and assigns, whether or not this lease has been executed by all parties hereinabove named as Lessor.

LESSOR(S)

Edward Patrick Lynch

Edward Patrick Lynch

ACKNOWLEDGEMENTS

STATE OF ND)
) ss.
COUNTY OF WILLIAMS)

On this 20th day of DECEMBER, 2009, before me, the undersigned Notary Public in and for said county and state, personally appeared **Edward Patrick Lynch, a married man dealing in his sole and separate property** known to me to be the person or persons whose names are subscribed to the foregoing instrument, and acknowledged that the same was executed and delivered as their free and voluntary act for the purposes therein set forth. In witness whereof I hereunto set my hand and official seal as of the date hereinabove stated.

My Commission Expires 11/3/2012

Kent M Lynch
Notary Public
Williston, ND

KENT M LYNCH
NOTARY PUBLIC
STATE OF NORTH DAKOTA
My Commission Expires November 3, 2012

COUNTY RECORDER
McKENZIE COUNTY
STATE OF NORTH DAKOTA

County Recorder 396124
McKenzie County
Watford City ND 58854 Page 4 of 4
COUNTY RECORDER, MCKENZIE COUNTY, ND
I certify that this instrument was filed and recorded, 396124
Ann M Johnsrud, County Recorder Fee $19.00
By Ann M. Johnsrud Jan 07, 2010 03:59 PM

26

HB 1199
3-17-17
Att #1
pg 1

HB1199 Representative Marvin E. Nelson

Senate Natural Resources Committee Senator Jessica Unruh, Chairman

HB1199 can be summed up fairly easily. If the State of ND owns the minerals in trust for the people of ND, you can't give them away, and if the State of ND doesn't own the minerals, you can't give them away.

United Plainsmen v. N.D. State Water Com. Is a case often cited to show that the state cannot alienate property held in trust for the public. There are many others for it has been a relatively common thing for government to attempt to gift property held in trust.

The whole thing hinges on the fact, does the State of ND own the minerals. It is not a matter for us to decide with a law, it is a fact to be decided in a court of law. Trying to give up any rights creates a big problem. You can't gift the minerals if they belong to the people. Every person in ND would have standing to bring lawsuit, and if the money is released you put the people receiving it in danger of losing their income and having to repay the money at the same time.

Now I would hope that those on the committee understand the effects of the equal footing doctrine under which ND came into the union of the states under an equal footing and under which the state receives the bed of the navigable waters of the state up to the high-water mark. The state received the bed of the Missouri River at statehood and the River was navigable under all tests of navigability through its entire length in the state.

Also important is the gift clause of our Constitution. Just as you cannot take private property without just compensation, you cannot give up the property held in trust for the people of ND without just compensation. Both those have applied in water laws in ND. ND was given under the equal footing clause the bed of navigable waters up to the high-water mark, we had a law that said the riparian owner took to the low water mark, well that was thrown out because that was a gift, uncompensated at that and thus unconstitutional. So today we are a high-water state and it has been adjudicated the state has the minerals to the high-water mark. That would be Reep v. State, 2013 WL 6835003 (N.D. 2013).

Also at one time the state passed a law saying all meandered lakes were navigable. I don't know if it was adjudicated but I know the opinion came down that some of those lakes likely weren't navigable in fact so we could take them, but we'd have to pay and the law was changed back.

Rivers are funny creatures sometimes they move across the land both slowly and suddenly, and both cases are covered. It does not matter where the river was, the question is rather where is it. In addition, people want to say the reason it is where it is influences ownership of the bed, but both natural and made man changes are treated the same. We don't for instance go along Bismarck Mandan and speculate where the river might be today if people had not rip rapped, we own where the river is, not where it might have been. Man made changes are treated the same as natural.

We have a court case very pertinent to these matters that took place right in ND. J.P. Furlong Enterprises v. Sun Exploration and Production, 423 N.W.2d 130 (N.D. 1988). I believe people often refer to it as the oxbow

HB 1199
3-17-17
Att #1
Pg 2

case. The Corps. of Engineers took land, but not the mineral rights under eminent domain. Then the Corps dug a channel through which the river flowed. The plaintiffs had the mineral rights, a part of the bed of the new river. They sued and won arguing that under the law the new river bed became the property of the state of ND, and that they were to be compensated with the minerals under the former riverbed, an oxbow of much greater area. That case shows minerals are part of the bed, and man made changes are treated the same as natural changes. You can read the case on your LexisNexis if you desire.

The question of what the effects of reliction, the gradual falling away of the water or it's opposite, submergence, has been shown in 101 Ranch v United States which was here in ND. If the water leaves, the state loses the ownership of the bed, if water comes and submerges the land, the state owns it.

It doesn't matter what might have been, it doesn't matter that the water is affected by man made changes, what matters for the ownership of the minerals is where is the high-water mark today. You can't change that fact. Nor the fact the state owns the minerals and you can't give them away. For those reasons, you must defeat HB1199. You can't give the minerals away.

HB 1199
3-17-17
Att #2
pg 1

House Bill 1199
Energy and Natural Resources Committee
March 17, 2017
Testimony of Mark Fox, Chairman MHA Nation

Mr. Chairman and members of the Committee, my name is Mark Fox and I am the Chairman of the Mandan Hidatsa and Arikara Nation. We oppose House Bill 1199 because it unlawfully claims as sovereign lands the Missouri riverbed and underlying minerals within the Fort Berthold Indian Reservation. The current Reservation lies within the aboriginal territory of the MHA Nation. The Mandan, Hidatsa and Arikara people have lived here for centuries, long before North Dakota became a state. The United States Government acknowledged the MHA Nation's territory in the 1851 treaty of Fort Laramie. Our current boundaries have always specifically encompassed and included the Missouri River bed and underlying minerals. The current Reservation boundaries were redrawn by Executive Order in 1870, before North Dakota reached statehood, by specific reference to points that began and ended at a point on the Missouri river. When North Dakota became a state in 1889 it disclaimed all right and title to lands held by the MHA Nation as it was required to do by the federal Enabling Act.

The United States reaffirmed the Missouri riverbed was owned in trust for the MHA Nation in a 1936 title opinion by the Solicitor for the United States Department of the Interior, which was approved by the Department. The MHA Nation's trust title was again reaffirmed in 1979 by the Interior Board of Land Appeals in a federal administrative proceeding in which the State of North Dakota actively participated. The latest reaffirmation that the riverbed and underlying minerals are held in trust for the MHA Nation came in a letter from the Department of Interior, Assistant Secretary for Indian Affairs, dated November 13, 2016.

HB 1199
3-17-17
Att #2
Pg 2

When Congress took Reservation land for the Garrison Dam, Congress recognized the MHA Nation's title to the riverbed and underlying minerals and included them in the takings legislation. In 1984 the riverbed minerals were returned to the MHA Nation pursuant to the Fort Berthold Mineral Restoration Act. In the Restoration Act, Congress specifically declared that the minerals within the Reservation which were acquired by the United States for the Garrison Dam "are hereby declared to be held in trust by the United States for the benefit and use of the Three Affiliated Tribes of the Fort Berthold Reservation."

House Bill 1199 fails to acknowledge the United States and MHA Nation's ownership of the riverbed within the Fort Berthold Indian Reservation. No state has the authority to affect the United States' title or its trust title to Indian land. The Bill should be rejected, or amended to exclude the riverbed and underlying minerals within the Fort Berthold Indian Reservation.

Thank you.

HB 1199
3-17-17
Att #3
Pg 1

1707 North 9th Street
PO Box 5523
Bismarck, ND 58506-5523
Phone: (701) 328 – 2800
Fax: (701) 328 – 3650

www.land.nd.gov

DEPARTMENT OF
ND TRUST LANDS
INVESTING FOR EDUCATION

Lance D. Gaebe, Commissioner

TESTIMONY OF LANCE GAEBE
on HOUSE BILL 1199

SENATE ENERGY AND NATURAL RESOURCES COMMITTEE
March 17, 2017

I am Lance Gaebe, Commissioner of University and School Lands. Along with my coworkers in the Department of Trust Lands, I work for the Board of University and School Lands. I appear before you today to discuss Engrossed House Bill 1199.

The State Constitution and Century Code designate the Board of University and School Lands (Board) as the governing body for a grant of land received at statehood for the benefit of education and certain institutions. The land, proceeds and investments are managed in several permanent trusts, including the Common Schools Trust Fund, for the benefit of the institutions for which the land was granted.

This responsibility for permanent trusts is separate and distinct from the oversight of sovereign minerals. At the time of statehood, the federal government conveyed ownership of the beds of navigable lakes and streams to North Dakota under the Equal Footing Doctrine. According to statute, the Board manages oil, gas and related hydrocarbons within the beds of the State's navigable waters. The Board oversees the Strategic Investment and Improvements Fund (SIIF) which receives oil and gas revenues from sovereign and State acquired minerals. The Board has had this management responsibility since at least 1977.

The Board leases the rights to produce oil and gas from the minerals associated with sovereign lands, which N.D.C.C. ch. 61-33 defines as "those areas, including beds and islands, lying within the ordinary high watermark [OHWM] of navigable lakes and streams." The Office of the State Engineer has responsibility for defining the OHWM and management responsibility for the bed of navigable waters and any other minerals therein.

Under the Missouri River within Lake Sakakawea, mineral acres have long been leased based upon where the river existed prior to inundation by the reservoir. West of the lake, sovereign minerals beneath the Missouri and Yellowstone Rivers are leased based upon the OHWM of the current river. The Highway 85 Bridge near Williston serves as an easily distinguished division between these practices.

While Engrossed HB 1199 positively codifies the Board's present practices of leasing minerals within the OHWM of the historical Missouri River channel beneath Lake Sakakawea, because this bill would change present leasing practices west of Williston to using historical, rather than the actual OHWM and would contradict mineral ownership already decided by the State Supreme Court, I oppose this bill.

Portions of the mineral ownership this bill impacts have already been reviewed and decided by the North Dakota Supreme Court in *J.P. Furlong Enterprises, Inc. v. Sun Exploration and Production Co.*, 423 N.W. 2d 130 (N.D. 1988). Using the ordinary high water mark of the riverbed channel as it existed before inundation of the channel that created the lake based on historical records would contradict this decision.

HB 1199
3-17-17
Att #3
pg 2

There has been leasing and production of sovereign oil and gas interests for decades. However, there was not substantial interest in inundated mineral acres until the onset of horizontal drilling in North Dakota.

The Office of the State Engineer established the Ordinary High Water Mark Delineation Guidelines in 2007. In response to active interest in leasing sovereign mineral acres, the Board worked in close cooperation with the State Engineer to formally and scientifically delineate the OHWM of the Yellowstone and Missouri Rivers from the Montana border to the area near Williston.

In 2009, Bartlett and West was contracted to complete studies of the Yellowstone and Missouri Rivers' OHWM for areas with potential oil and gas development. The purpose of the studies was to determine the location of the OHWM, it was not to determine sovereign lands. Phase I of the study focused on the area west of the Williston. Bartlett and West used the State's OHWM delineation guidelines and conducted an on-the-ground analysis of the vegetation, soils and hydraulic characteristics for a determination of the OHWM of the rivers. The Board and State Engineer believe that this survey is the most current and accurate in existence.

Phases II and IV of the study focused on the areas east of Williston. Bartlett and West used a combination of pre-reservoir maps and photos, and high resolution scanning equipment to gather the best information available on the historic OHWM of the Missouri River as it existed prior to the formation of Lake Sakakawea. Since the State has always asserted the public's ownership of rivers to be within the OHWM, these studies were conducted to determine, with greater accuracy, where those boundaries lie.

To investigate the historic OHWM, these studies examined the river location and depiction of vegetation in aerial photographs taken by the Army Corps of Engineer from 1943, 1951 and 1958 and utilized North Dakota Geological Survey topographic information. The review of the area between the Highway 85 Bridge and the Four Bears Bridge is referred to as Phase II, and from Four Bears to the Garrison Dam is referenced as Phase IV. Bartlett and West utilized the expertise gained during the on-the-ground survey it conducted to determine the current OHWM west of Williston (Phase I). These studies were done by a qualified firm using the best available historic records, photos and data. I believe that these studies would be the basis information used to accomplish the objective of HB 1199 to depict the historical OHWM. However, sovereign subsurface mineral ownership within the location as the bill states: "as close as possible to the ordinary high water mark of the riverbed channel as it existed before the inundation of the channel that created the lake based upon historical records"; would be incomplete without a technical review of the islands, accretions and meanders. In other words- the OHWM study is a key starting point of the determination of sovereign lands, but in some cases further analaysis needs to be done by the Office of the State Engineer.

The technical reports issued by Bartlett and West for each phase of the study are available on the Department of Trust Lands' website: https://land.nd.gov/minerals/oilandgasleasing.aspx . The reports each describe the general background and methodology, and include detailed and technical information within the body of the report. This web site also includes GIS information, acreage depictions, and tract-by-tract acreage data and maps.

These studies have been used to manage mineral acres underlying navigable waterways and are used as the initial steps in the process of determining eligible acreages for state-issued oil and gas leases on sovereign lands. Embedded islands and previous stipulations were examined on a case-by-case basis. *See Furlong*, 423 N.W.2d 130. Ultimately under N.D.C.C. ch. 61-33, the State Engineer has final authority as to the boundaries of sovereign lands. The State Engineer has not made a determination of the OHWM east of the Highway 85 Bridge.

HB 1199
3-17-17

Att #3
pg 3

Prior to these studies, the Department determined sovereign hydrocarbon ownership using in-house aerial photographs, with acreage generally determined only when specific tracts were nominated for oil and gas leasing.

During its meeting on October 18, 2016, the Board stated that it has been consistent in its leasing practices concerning the minerals under the Missouri River and Lake Sakakawea. During its discussion, the Board stressed for purposes of leasing sovereign minerals, it has utilized the Phase I survey, which established the OHWM of the Yellowstone and Missouri Rivers from the Montana state line to the Highway 85 Bridge. The Board also emphasized its policy to continue leasing minerals between the Highway 85 Bridge and the Four Bears Bridge using the Phase II study which investigated the historic river channel as it existed immediately prior to inundation by Lake Sakakawea.

In response to rumors of a plan to expand the State's sovereign acreage claim, the Board adopted a motion at this October meeting which emphasized that it will not change its mineral leasing practices under the Missouri River and Lake Sakakawea until such time as the Legislature has had the opportunity to consider a definition of the OHWM as it is used in establishing the State's sovereign ownership of oil and gas minerals. I do not believe that this motion was a plea for the legislature to change the Board's practices, but rather to validate and codify the methodology that it has used.

The OHWM studies were undertaken to protect the integrity of sovereign assets by having a scientific and defensible basis of evidence of State acreage available to lease. The provisions of the Equal Footing Doctrine, the Public Trust Doctrine and the Submerged Lands Act, as well as the State's anti-gift clause of the Constitution, have all guided the management of sovereign land and minerals for the benefit of all North Dakota citizens.

In partnership with industry that has leased these assets, the State has benefitted from substantial oil and gas revenue from these publicly owned lands. Other than its administrative appeals to the federal government regarding overlapping claims, the Board has not initiated any of the litigation regarding the minerals.

Since the United States was formed, land ownership along bodies of water have been complex issues for many states. State and federal courts have heard numerous cases involving issues surrounding property rights along waterways and have built a complex set of laws governing the ownership of those properties. The reality is that rivers move and lakes expand and retract in ways that are not entirely within man's control. The legal system is the mechanism for resolving these disputes.

In 2013, the North Dakota Supreme Court affirmed the State's ownership of minerals up to the OHWM in *Reep v. State,* 2013 ND 253, 841 N.W.2d 664. In its opinion, the Supreme Court stated that the minerals within the shore zone (area between the OHWM and ordinary low watermark) cannot be given to upland owners due to the anti-gift clause within Section 18 of Article X of the North Dakota Constitution. *Id.* ¶ 1. The Board believes that it has claimed what the public is rightfully due.

The State's position and methods have already been validated in State District Court and the State Supreme Court. Most recently these policies and practices were tested in litigation before the Williams County District Court in *Wilkinson v. Board of University and School Lands* (No. 53-2012-CV-00038). The Court was asked to determine ownership of a particular tract located within the area that the bill addresses. The Court gave credence to these practices by finding in the favor of the State. In its May 18, 2016 Amended Order on Summary Judgement Motion the Court stated: "The Phase I Delineation should be used to determine the OHWM for the Property rather than the Phase II Investigation. Therefore, the Property, both surface and mineral interests, is determined to be sovereign land of the State of North Dakota." *Id.* at 11. This case is active and is currently on appeal to the North Dakota Supreme Court.

The Board has worked to protect the integrity of the process in the establishment of escrow accounts where title conflict exists, ratifying in its rule and by resolution its commitment to return mineral revenue if an adjudicative process finds that the minerals are not sovereign. The Board established an assigned fund balance within the SIIF to accommodate refunds if a court finds the State does not own the minerals it has leased. These steps are all implemented to ensure the funds are available if an alternate ownership decision is finalized by the courts.

Moving the use of historical OHWM for determination of State mineral ownership westward to an elevation of 1854 feet mean sea level, as House Bill 1199 would do, will result in adjusting acreage of private and sovereign mineral tracts in an area already determined by the North Dakota Supreme Court, *Furlong*, 423 N.W.2d 130, and within the area before the North Dakota Supreme Court in *Wilkinson*. It will also necessitate the return of lease bonuses and mineral royalties already collected. This bill would permanently fix the OHWM in areas where the river moves by natural forces. The result could be that someday the State's sovereign minerals would underlie land which is above the OHWM.

The U.S. Army Corps of Engineers has recorded the elevation of Lake Sakakawea since December 1953. From December 1953 through 2009, the Lake has had an elevation equal to or greater than 1854 feet a total of 36 out of 20,485 daily measurements. During this same time period, the elevation of Lake Sakakawea reached an elevation of 1850 feet in only four years.

During the 2009 OHWM Phase I survey work, the highest daily elevation of Lake Sakakawea was 1842.61 feet, and the annual average was 1834.8 feet. Parts of the delineation effort were delayed because even these elevations, 20 feet less than 1854 msl, were above the actual OHWM. The OHWM should fall somewhere between the average elevation and the maximum elevation- it is not flood plain or necessarily water's edge. Because the lake has rarely reached the full pool elevation of 1854 feet, the OHWM would likely be below this maximum elevation.

The Department prepared a fiscal note at Legislative Council's request. Because the Board has already leased oil and gas minerals based on historical records east of the Hwy 85 Bridge, this bill would not change the mineral acreage presently leased and there would be no apparent fiscal change. The fiscal impact would be from the changes in sovereign land acreage due to the modification in the definition of the OWHM to utilize historical records to an area near the Confluence of the Missouri and Yellowstone Rivers. Because the State's mineral claim between Hwy 85 and the Confluence would be reduced by an estimated 4,761 acres, there would be a fiscal impact to the SIIF in the reduction of collected bonus, rent and royalty and the loss of future royalty and leasing revenue.

This cost would include the return to lessees of an estimated $14,739,147 of bonuses and rent; the repayment to operators of $7,228,281 in royalties collected and anticipated through FY 2017; and the forfeiture of the State's claim to $4,312,664 of presently escrowed royalties.

The sovereign minerals changes that could result from the proposed bill may also impact working interest owners and could potentially change the majority operator of wells and result in more litigation.

Continuing appropriation authority, N.D.C.C. §§ 15-05-19, 15-07-22, is used to manage, preserve, and enhance the value of the funds. However, the Board and Department almost certainly do not have the authority to distribute funds from the SIIF on the scale of the estimated fiscal impact. In order to accommodate these refunds if this bill is adopted, the Legislature will need to approve appropriation authority for the return of these dollars.

Royalties held in escrow due to ownership disputes may also be returned to the operating companies until they can disperse funds to their lessors. The State's rules require escrowing of disputed royalties. Private and federal leases likely do not have a similar mechanisms, thus under State leases, these funds

HB 1199
3-17-17
Att #3
Pg 5

can be protected until the courts can resolve these issues. If title disputes continue to exist, the companies are likely to hold the royalties in suspense.

Attached for review are:

1) Citations to law relating to the public's ownership of navigable waters and associated lands;
2) A timeline of the State's practices and actions related to sovereign lands;
3) An excerpt of the Bartlett and West presentation related to Phase II, including a list of the references used to determine the historic OHWM;
4) Summary of maximum, minimum and average annual information of the U.S. Army Corps of Engineers' Lake Sakakawea Daily Elevation Readings; and
5) Map of the areas of the rivers and lake that have been reviewed for the OHWM and an approximate depiction of the "take" line;

HB 1199
3-17-17
Att #3
Pg 6

Applicable Laws and Standards

Equal Footing Doctrine - Those States entering the Union after 1789 did so on "equal footing" with the original Thirteen, possessing the same ownership over sovereignty lands.

Submerged Lands Act of 1953. 43 U.S.C. § 1301

North Dakota Century Code (excerpts)

61-33-01. Definitions.
As used in this chapter, unless the context otherwise requires:
1. "Board" means the sovereign lands advisory board.
2. "Board of university and school lands" means that entity created by section 15-01-01.
3. "Sovereign lands" means those areas, including beds and islands, lying within the ordinary high watermark of navigable lakes and streams. Lands established to be riparian accretion or reliction lands pursuant to section 47-06-05 are considered to be above the ordinary high watermark and are not sovereign lands.
4. "State engineer" means the person appointed by the state water commission pursuant to section 61-03-01.

61-33-03 Transfer of possessory interests in real property. All possessory interests now owned or that may be acquired except oil, gas, and related hydrocarbons, in the sovereign lands of the state owned or controlled by the state or any of its officers, departments, or the Bank of North Dakota, together with any future increments, are transferred to the state of North Dakota, acting by and through the state engineer. All such possessory interests in oil, gas, and related hydrocarbons in the sovereign lands of the state are transferred to the state of North Dakota, acting by and through the board of university and school lands. These transfers are self-executing. No evidence other than the provisions of this chapter is required to establish the fact of transfer of title to the state of North Dakota, acting by and through the state engineer and board of university and school lands. Proper and sufficient delivery of all title documents is conclusively presumed.

. . .

61-33-06. Duties and powers of the board of university and school lands. The board of university and school lands shall manage, operate, and supervise all properties transferred to it by this chapter; may enter into any agreements regarding such property; may enforce all subsurface rights of the owner in its own name; and may make and execute all instruments of release or conveyance as may be required pursuant to agreements made with respect to such assets, whether such agreements were made heretofore, or are made hereafter.

North Dakota Administrative Code (Article 89-10),
North Dakota Sovereign Lands Management Plan,
North Dakota Office of the State Engineer- Ordinary High Water Mark Delineation Guidelines

HB 1199
3-17-17
Att #3
pg 7

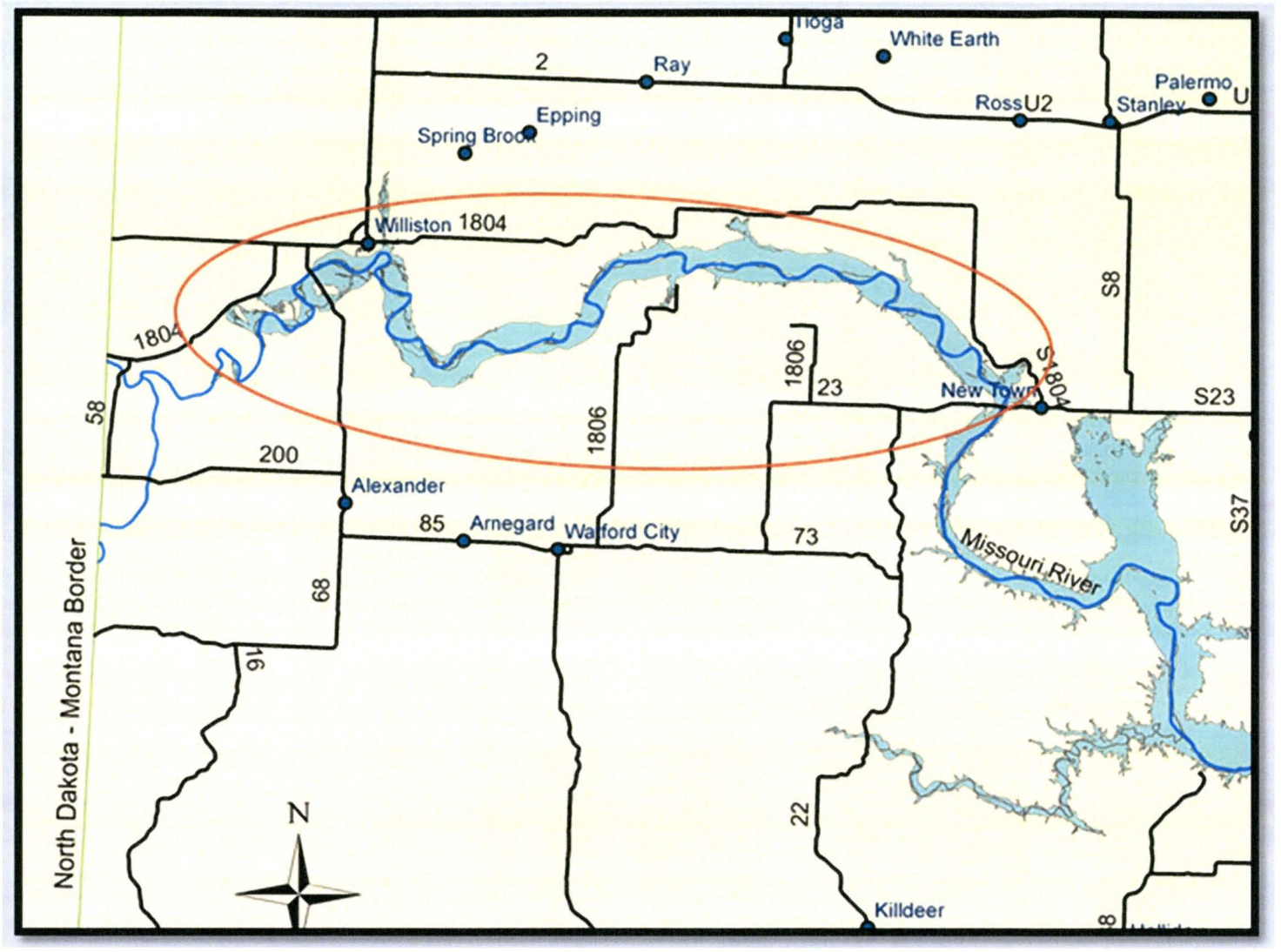
Timeline of State Activity Related to Sovereign Lands

- The 1977 Legislature defined "sovereign lands" as everything "within the ordinary high watermark." 1977 N.D. Session Laws ch. 144 § 1 (repealed 1989 N.D. Sess. L. ch. 552, § 4).
- From 1977 to 1989, the Board had authority over both the surface and subsurface of sovereign lands, including the power to convey interests.
- In 1989, the Legislature again defined state title as everything "within the ordinary high watermark." N.D.C.C. ch. 61-33, 1989 N.D. Session Laws ch. 552
- The 1989 legislature gave the State Engineer's Office authority to manage the surface and the Board authority over the oil, gas and hydrocarbons within the subsurface, with each agency having the power to convey interests.
- In 2007, the Office of the State Engineer issued the North Dakota Sovereign Land Management Plan and Ordinary High Water Mark Delineation Guidelines.
- In 2009, the Board and the State Engineer engaged Bartlett & West, a private engineering company, to undertake a comprehensive study of the OHWM along the Yellowstone River and the Missouri River from the Montana border to river mile marker 1549 near Williston (Phase I Delineation).
- In 2010, the Board again contracted with Bartlett & West to approximate the location of the OHWM of the Missouri River before inundation by Lake Sakakawea from river mile marker 1574 near the Furlong Loop to river mile marker 1482, the border of the Fort Berthold Reservation (Phase II)[1]. Study was completed using historical aerial photography, elevation data, and topographic maps.
- In 2010, the Board authorized Phase III to investigate specific and isolated sections of the Missouri and Yellowstone Rivers between Williston to the Montana border that could not be fully completed under Phase I due to location and complexity.
- In 2012, the Board initiated the review of the estimated historic OHWM between the Four Bears Bridge and the Garrison Dam (Phase IV) using the same techniques as Phase II.
- In 2013, the North Dakota Supreme Court issued a decision in *Reep v. State* and *Brigham v. State* holding that the State owns the mineral interests up to the ordinary high water mark of navigable rivers and water bodies.

[1] The State Engineer did not participate in the Phase II, Phase III or Phase IV studies.

HB 1199
3-17-17
Att #B
pg 8

Selections of a 2011 Bartlett and West Presentation Related to Phase II

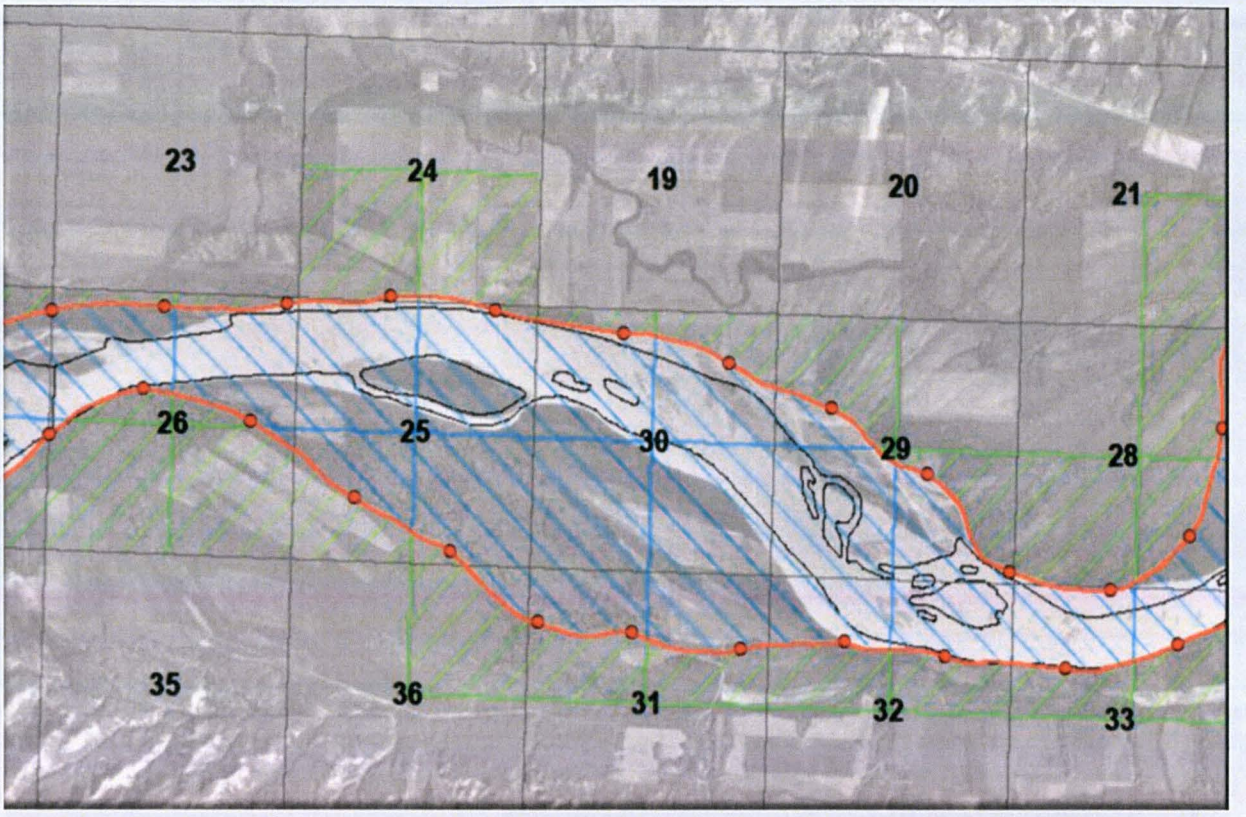


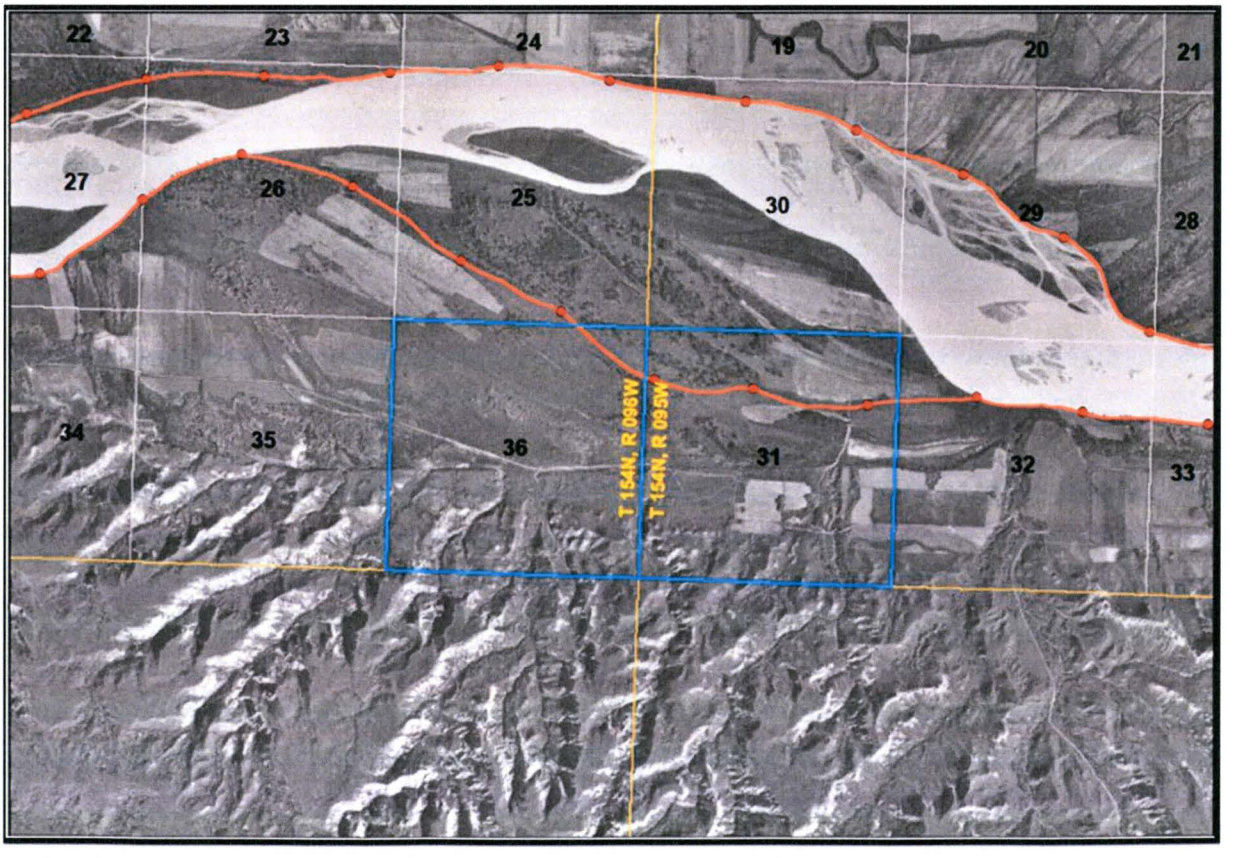
AERIAL PHOTOS/TOPO DATA

- 1943 – Corps of Engineers (Aerial and Topo)
  - Section Corners Identified
  - Photos used to generate the topographic information
- 1951 – ND Geological Survey
- 1958 – ND Geological Survey (Best Quality)
- USGS Quad Maps; 2009 Aerial Photos; GLO

HB 1199
3-17-17
Att #3
Pg 9

INVESTIGATION





HB 1199
3-17-17
Att #3
pg 10

Summarized Annual Lake Sakakawea Elevations

Source: U.S Army Corps of Engineers Daily Elevation Readings

Year	Max of Lake Sakakawea	Min of Lake Sakakawea	Average of Lake Sakakawea
1953	1704.76	1688.42	1701.07
1954	1739.95	1704.57	1725.95
1955	1776.11	1739.40	1763.39
1956	1788.89	1776.00	1782.44
1957	1806.35	1778.96	1793.29
1958	1806.48	1793.51	1800.97
1959	1807.10	1791.32	1799.54
1960	1813.01	1796.48	1807.47
1961	1809.20	1798.40	1802.95
1962	1820.30	1795.90	1808.61
1963	1831.90	1816.40	1824.53
1964	1831.90	1816.00	1824.46
1965	1844.80	1815.90	1831.50
1966	1844.80	1833.60	1838.86
1967	1849.50	1828.40	1839.06
1968	1847.90	1835.70	1841.70
1969	1850.80	1836.60	1844.03
1970	1849.20	1837.20	1842.59
1971	1849.20	1839.10	1844.65
1972	1849.20	1840.10	1846.11
1973	1849.50	1842.30	1845.32
1974	1849.60	1838.50	1843.39
1975	1854.80	1838.50	1845.38
1976	1848.90	1840.00	1843.53
1977	1839.90	1831.00	1835.79
1978	1849.50	1825.20	1839.38
1979	1846.26	1834.27	1842.20
1980	1842.09	1833.53	1837.99
1981	1836.18	1828.13	1832.48
1982	1845.92	1828.46	1838.43
1983	1846.63	1839.11	1842.45
1984	1849.54	1838.89	1843.27
1985	1841.55	1835.70	1839.18
1986	1848.68	1832.78	1841.78
1987	1843.59	1837.34	1841.24
1988	1837.60	1823.17	1829.86
1989	1827.07	1820.00	1823.37
1990	1823.37	1819.13	1820.78
1991	1829.17	1815.04	1822.20
1992	1825.09	1818.80	1822.09
1993	1837.75	1816.77	1828.18
1994	1845.29	1836.18	1840.53

HB 1199
3-17-17
Att #3
pg 11

Source: U.S Army Corps of Engineers Daily Elevation Readings

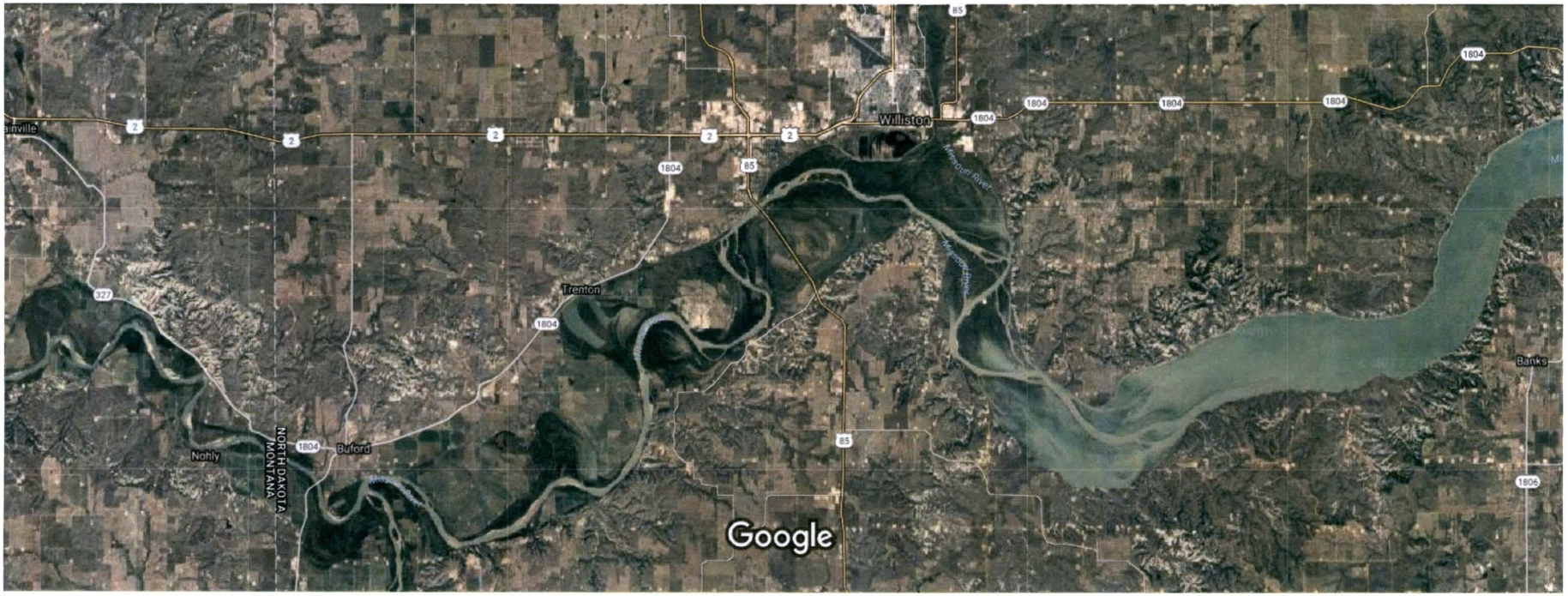
Year	Max of Lake Sakakawea	Min of Lake Sakakawea	Average of Lake Sakakawea	
1995	1851.86	1835.07	1841.56	
1996	1849.56	1837.40	1842.50	
1997	1854.37	1837.90	1845.36	
1998	1843.45	1838.85	1840.82	
1999	1847.39	1838.84	1842.64	
2000	1840.68	1829.00	1835.62	
2001	1834.65	1828.25	1831.12	
2002	1831.90	1822.47	1827.91	
2003	1827.33	1818.42	1822.02	
2004	1818.41	1809.99	1814.67	
2005	1817.66	1805.76	1811.75	
2006	1817.40	1807.82	1811.80	
2007	1818.29	1806.64	1811.93	
2008	1826.45	1807.27	1817.41	
2009	1842.61	1823.30	1834.80	
2010	1851.40	1837.13	1843.35	
2011	1854.55	1837.69	1844.49	
2012	1839.34	1829.46	1835.38	After
2013	1836.71	1827.15	1831.85	survey
2014	1846.47	1831.37	1839.88	work
2015	1845.24	1838.20	1840.85	performed
2016	1842.17	1836.95	1839.17	
2017	1838.09	1837.47	1837.68	

HB 1199
3-17-17
Att #3
pg 12

ND Phase I OHWM
Phase IV Estimated Historic OHWM
Phase II Estimated Historic OHWM
Lands Affected by SB2134
Lands Affected by SB2134 Amendment extending West
Lands Affected by SB2134 Amendment within Fort Berthold Reservation
Corp of Engineers' determination of Missouri River
Corp of Engineers' acquired tracts for the Pick Sloan Garrison Dam Project
Approximation of Reservoir
Fort Berthold Indian Reservation

1199 Fiscal Note Impact
Bonus & Rent = $14,739,147
Royalties Collected = $7,228,281
Royalties Escrowed = $4,312,664
Projected Future FY 17-19 = $1,932,520
Projected Future FY 19-21 = $1,932,520

Google Maps



Imagery ©2017 TerraMetrics, Map data ©2017 Google 2 mi

Fr. Lance Gaebe

(Opposed today 3-17-17)

#HB 1139
3-17-17
Att #4
pg 1