

FISCAL NOTE
Requested by Legislative Council
02/07/2017

Amendment to: HB 1347

- 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						
Expenditures				\$5,500,000		
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).*

This measure increases legacy reclamation to \$5 million, and requires five studies to be conducted, and a continuation of one study.

- 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.*

Section 1 of this measure provides a \$3.5 million increase per biennium on the amount that can be spent from the Abandoned Oil & Gas Well Plugging and Site Reclamation Fund (AWPSRF) on reclamation and restoration of land and water resources impacted before August 1, 1983.

Section 2 of this measure requires the Industrial Commission to conduct/oversee and report on five studies dealing with remediation of legacy brine ponds, landowner compensation for legacy brine pond contamination, continuation of Oil & Gas Research Council study on best techniques for legacy brine pond contamination remediation, best techniques for oil and gas soil compaction remediation, and a pilot project study and testing on best techniques for legacy brine pond contamination remediation. The total amount for the studies is up to \$5 million, appropriated as one-time funding from AWPSRF.

Section 3 of this measure provides for the continuation of the Energy and Environmental Research Center study regarding pipeline leak detection. The total amount for the study is up to \$500,000 to be paid from the Oil & Gas Research Fund.

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.*

There is no revenue impact at this time.

- 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.*

Special Fund expenditures are payments from AWPSRF (\$5 million) and Oil & Gas Research Fund (\$500,000).

- 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.*

The \$5 million is appropriated as one-time funding from AWPSRF.

Name: Robyn Loumer

Agency: Industrial Commission

Telephone: 701-328-8011

Date Prepared: 01/23/2017

FISCAL NOTE
Requested by Legislative Council
01/16/2017

Bill/Resolution No.: HB 1347

- 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						
Expenditures				\$5,500,000		
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).*

This measure increases legacy reclamation to \$5.5 million, and requires five studies to be conducted.

- 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.*

Section 1 of this measure provides a \$4 million increase per biennium on the amount that can be spent from the Abandoned Oil & Gas Well Plugging and Site Reclamation Fund (AWPSRF) on reclamation and restoration of land and water resources impacted before August 1, 1983.

Section 2 of this measure requires the Industrial Commission to conduct/oversee and report on five studies dealing with remediation of legacy brine ponds, landowner compensation for legacy brine pond contamination, continuation of Oil & Gas Research Council study on best techniques for legacy brine pond contamination remediation, best techniques for oil and gas soil compaction remediation, and a pilot project study and testing on best techniques for legacy brine pond contamination remediation. The total amount for the studies is up to \$5.5 million, appropriated as one-time funding from AWPSRF.

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.*

There is no revenue impact at this time; however Section 13 of HB1075 would reduce the biennium cap on production tax transfers to AWPSRF by \$5 million (\$2.5 million/fiscal year).

- 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.*

Special Fund expenditures are payments from AWPSRF.

- 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.*

The \$5.5 million is appropriated as one-time funding from AWPSRF.

Name: Robyn Loumer

Agency: Industrial Commission

Telephone: 701-328-8011

Date Prepared: 01/23/2017

2017 HOUSE APPROPRIATIONS

HB 1347

2017 HOUSE STANDING COMMITTEE MINUTES

Appropriations Committee
Roughrider Room, State Capitol

HB 1347
1/26/2017
27488

- Subcommittee
 Conference Committee

Bergquist

Explanation or reason for introduction of bill/resolution:

Minutes:

Attachment 1

Called the committee to order;

Representative Anderson: District 6 Last session we had HB 1358 We had Environmental and Energy Research Center do some research for us, and we'd like to continue that. A lot of the oil pads up in the Bottineau area where done in the late 1950's and early 1960's, that was at the time that there was very little rules and regulations. We have some pads up there where the salt was left and left a lot of damage, we also have some cases where land owners where paid for damages and then they sell the land and the new owners are stuck with the damage. We're not really sure what we're dealing with up there. We would like to have some research money to find out what we need to clean up these areas and to make that land productive again.

We also have 2.5 million acres of saline type soil; if we could find anything to help these spots we could probably use the same research to fix this problem too.

3:10 **Chairman Delzer:** When I read the bill you are changing the 1.5 to 5 million and also a continuation? If you're appropriated for the 5 million in a biennium, why do we have to leave it with the continuation?

Representative Anderson: We do also have a sunset clause for 2019

Chairman Delzer: In the language you're not changing anything about it being biennium, to biennium, which I agree with but then why the continuing appropriation.

Adam Mathiak, Legislative Council: It already has that language for continuing appropriation, it's just clarifying it. It's a little redundant in the last section of the bill but in discussions with Allen he thinks it's fine to leave it in there.

Chairman Delzer: Well they can only spend this amount for each biennium why have it continuing, is it two years or are you taking the sunset away?

Mr. Mathiak: As far the appropriation in section two it's just saying that of the 5.5 that's referenced in section one, these are the specific items that are intended to be used for that.

Chairman Delzer: If we give them a continuing appropriation, then two years from now and there isn't a bill or anything they're can just do whatever they want with it.

Mr. Mathiak: You could just appropriate from the fund and remove some the language of the continuing appropriation.

8:05 Representative Anderson: I would think that within two years they could complete this study

Chairman Delzer: This is funded by 4% of the first 1% of oil and gas production tax not to exceed 7 ½ million, and there's about 14 million in this fund right now? Governor Burgum and Governor Dalrymple both wanted to cap that at 5 million, issues with that on your side?

Representative Anderson: I think that over the long term we are going to have a lot of these well pads and areas that we are going to need to deal with.

Chairman Delzer: But since 1984 there should be some kind of bond on it. That should take care of the problem for things after that.

Representative Anderson: There's about 22 hundred wells, yes the new wells are covered

10:00- 52:10 Lynn Helms, Director of Department of Mineral Resources (see attachment 1)

13:50 Chairman Delzer: The information I have off of our legislative pick with 48 dollars a barrel and 900 thousand wells, and this one here from the council it shows 10.5, so that's over the. So do we need to grow it that fast?

Mr. Helms: No, I don't think we need to grow it that fast, I think we could do a little less than the 5 million.

17:10 Chairman Delzer: (Pages 8 & 9 of attachment 1) Was there any responsibility to the new home owners?

Mr. Helms: Well when we opened it up we found it wasn't plugged properly, the bureau of land management had allowed them to put a surface plug in there, had it been properly taken care of we would have better chance of perusing them. They bought the land from private property.

Representative Kading: Was there record that the well was there? Did your owner know of the well when he purchased the land?

Mr. Helms: Yes, there was on our web site and also at the county court house.

Representative Kading: I think there should be some buyer beware if they do know that the well was there.

Mr. Helms: That's what some of this money is for, we want to find out, maybe the landowners were already paid for damages, we want to make sure that it's our responsibility before we go in and clean it up.

Representative Kempenich: Isn't there a certain distance that the pipe has to be put down to?

Mr. Helms: This is a classic case or BLM rules are the time conflicting with NDIC rules. Our rules require it to be cut off 3-5 feet below the surface. At that time, they required you leave a piece of pipeline sticking out of the ground as a historical marker, which probably caused the problem.

21:10 Mr. Helms: (page 10 of attachment 1) Truck drivers were illegally dumping salt water, this is before and after 456 thousand dollars this is the after pictures.

23:20 **Chairman Delzer:** (page 14 & 15 of attachment1) What do you do with the soil in cases like these?

Mr. Helms: Oil contamination we were able to move it to a central tank battery and land farm it, we use bacteria and straw to reduce the higher carbon content until it could be reused. If it's salt contamination goes into a special waste land fill

Mr. Helms: (page 18 of attachment 1) Shot holes, we spent about 115 thousand dollars total on those.

26:20 **Chairman Delzer:** The first part that has the continuing appropriation on it, now that's none legacy? I there any kind of limit on how much you can spend in a biennium?

Mr. Helms: There is not, there's no kind of limits on the none legacy site expenditures in a biennium other then what is in the fund.

Chairman Delzer: When did we start to fund it with the production tax?

Mr. Helms: 2013

Representative Kempenich: If they do expose them what if they want to reuse them?

Mr. Helms: We put out bulletin and advertised that we were going to clean up legacy sites and we've only found 11 so far, I don't think we'll have too many problem sites. There are almost 8700 reclaimed sites in western ND, we've only found 11.

Representative Kempenich: Unless there's problems we'll just leave them alone

Mr. Helms: There were a couple of times that there was record of the well site being there and they dug into it, we stuck to our guns and they have to do it on their own expense.

Rule about burying garbage went into effect in 1981, so before that tin, pallets stuff like that did get buried.

30:00 **Mr. Helms:** Big request (page 26 of attachment 1) 121 old brine sites, in 1982 last brine pond was closed and buried

34:30 **Mr. Helms:** First thing we would like to do is send a company go look at all 121 of the sites and eliminate the ones that are in good shape, how many sites are we talking about?

Second part, hire a land man to look at property records, check into settlements that have been paid, really look into who should be responsible for the cleanup.

36:10 **Chairman Delzer:** Wouldn't the first part have to be done before we could do the second part?

Mr. Helms: You are correct; we are hoping by next winter the first part would be done.

Chairman Delzer: How didn't you come up with the estimate of 125?

Mr. Helms: Asked a land guy what it would cost to look into 121, this should easily cover it because we're hoping for much fewer sites.

Part C: two year continuing project at NDSU, trying to find plants that would grow and remove the salt

Part D: It take decades before the soil compaction ends, we have a proposal from NDSU

41:10 **Representative Schmidt:** As I read this, (pages 34-41 of attachment 1) USDA and NRSC have been working on saline leeks for years, reading this, it doesn't seem to be any deeper in-depth than what's already been done and utilized as cost share for USDA. It seems to me that the alkaline research should be enough, seems like there's some duplication.

Second part is dealing with the tile drains; there's a few other bills that deal with the time and they seem to be running into environmental and some permitting issues.

Mr. Helms: The duplication, I am not aware of, I don't believe the NDSU talked about cost share about this.

On the time tile drain situation, recognizing that with what we are doing here is we are required to hook the tile into a sump and dispose of it instead of trying to permit it the drain.

Dealing with the compaction thing, one at coal mines, pipeline right away through oil and gas council, this would be the third, but this would be specific for this area, we have trucks driving over and compacting the land.

45:30 EERC (page 41-42 attachment 1) They believed that they had a site, site tripled in size, water table is very low in the area and the operator shut the site down when the oil prices dropped. Go study two other site and come back and tell us what it would cost.

48:15 Chairman Delzer: So 5 ½ million is 3 on page 25 under your short term budget estimates and then the addition of these other things, that comes out to 5 ½?

Mr. Helms: Yes

Representative Brandenburg: Do you ever think about the DOT or the farmers that already have programs that deals with wet land irrigation matters, rather than spend all this money, are these acres that we could use as mitigation acres? Sometimes it's 10 thousand for 1 acre

Mr. Helms: We have had that discussion instead of spending money over the next 20 years. We think we need to find out how many site we are dealing with and how many people have already been compensated?

Chairman Delzer: Would these qualify as mitigated acres?

Mr. Helms: Not without any work but we may be able to do something cheaper as mitigation then if we were to reclaim it.

51:40 Representative Brandenburg: NRSC could explain all of this.

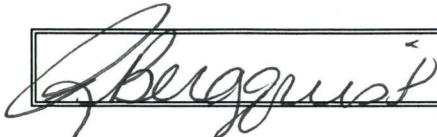
Further discussion? Hearing none we'll close the hearing.

2017 HOUSE STANDING COMMITTEE MINUTES

Appropriations Committee
Roughrider Room, State Capitol

HB 1347
1/26/2017
27510

- Subcommittee
 Conference Committee



Relating to the abandoned oil and gas well plugging and site reclamation fund; to provide an appropriation; and to provide a report to the legislative management.

Minutes:

46:45 Discussions on HB 1347

Chairman Delzer: Let's have a little discussion, 5 ½ is pretty good, the questions are how much do we want to let go into that fund this time because if we lower that amount it would flow into the buckets but on the same token having some money in this fund isn't bad. I don't like the continuing appropriations; but them seem to be handling it pretty well. I don't know how you come up with the right number for the first part.

Representative Kempenich: We want to make sure we have this fund in case there where ever something like intentional dumping, we've broadened it over the last few years.

Chairman Delzer: Anything since 1984 there should be laws for bonding and thing so we know who's responsible even if they go broke, there should be bonds out there to cover that. As far as reclamation on the ones that nobodies responsible for this should cover those.

Representative Kempenich I'll make the motion to Do Pass HB 1347

Second Representative Brandenburg

Representative Meier: Weren't we discussing lower this amount?

Chairman Delzer: I was talking about lower the amount that would be going into that fund during the next two years, this is the amount that will be used out of the fund. There's 14 million in the fund so how fast do we need to build fund refill? It's 4% of the first 1% of the production tax capped at 7 ½ a year. The Governor Bergum and HB 1366 both propose to cap

that 5 million a year. That's what I was wondering about, if we could lower that cap. It would actually be done in HB 1015, OMB budget bill

Representative Kempenich: these are known factors, I think we need to find out where the real problems are and how many there are.

Chairman Delzer 3 million is for the known sites the other 2 million are for the study on how they will actually do something with the saline situations up there.

Representative Kading: I am opposing, people buying land should know what they are buying

Representative Kempenich: I am not sure, some of those sites we do need to clean up

Chairman Delzer: That is part of this money, we would find out for sure who has the land and who's been paid

Representative Boe: This is two separate issues; this is a surface issue verses something that was done weather you liked it or not. I don't think it's fair to say they're not entitled for some compensation. I think there should be a bonding situation for the mineral owner and the company that abstracted it.

Chairman Delzer: They want to look at it, have they already been compensated for it, this is only to find out how much work there is to do

Representative Schmidt: I am resisting because I think there is some duplication

Chairman Delzer: I think they are looking into that but where are you thinking?

Representative Meier: Are we lowering this? To 4 million?

Representative Kempenich: They are put in to go to these special funds, not like they are going to blow the money.

Chairman Delzer: This fund is coming out of oil tax, so this is what the money is for.

Chairman Delzer: We'll hold it until next week

2017 HOUSE STANDING COMMITTEE MINUTES

Appropriations Committee
Roughrider Room, State Capitol

HB1347
2/2/2017
27790

- Subcommittee
 Conference Committee

Bragg

Explanation or reason for introduction of bill/resolution:

Relating to the abandoned oil and gas well plugging and site reclamation fund; to provide an appropriation; and to provide a report to the legislative management.

Minutes:

Att. 1

Chairman Delzer: Sponsored by Representative Anderson, it deals with the legacy fund, it does use the words "continuing appropriation" in the heading for the abandoned oil and gas plugging and site reclamation fund. If you read the existing language that was already in there, this just clarifies that, it's meant to be used for site spills for cleanup and to be recaptured from responsible parties. The second part of the bill deals with how much they want to be able to spend out of the fund, I believe there is 14 million in the fund, section two they could spend up to 5 ½ million. There's about 3 million in legacy work and they would like 2 million for research for soil reclamation and responsible parties for the old well sites.

With discussion with Mr. Helms, he said the mediation work is going to be done this biennium so he thinks they could get by with 5 million. We did have a discussion about how much we want to put in the fund, governor has capped it at 5 million a year. The current language is 7 1/2, I think that discussion will be had. I think in the end we will want to do no more than 5.

3:20 There is one more issue, on the pipeline, there's another third study to make sure about pipeline safety (see attachment 1) This would allow them to spend 500 thousand either out of here or the oil and gas research fund; my understanding is that there would be enough money in there and this really is more research to me and abandoned well.

5:15 Representative Schmidt: I did contact the Public Service Commission soil scientist and ND professional soil classifiers; they couldn't identify what might be duplicate. They also indicated that in sever saturated saline conditions the current mitigating may not work.

Chairman Delzer: My understanding is this is looking at soil that are more highly saturated in with salt then some of the studies that have been done.

Representative Schmidt: There's nothing identifying exactly what we are going to do in this bill.

Chairman Delzer: It was brought up to move these acres to mitigation acres for wet land or the highway department.

Representative Brandenburg: That is correct, there's about 1400 acres that might be able to be used.

Representative J. Nelson: I would be surprised if the land owners would be in favor of that. There's a difference between salt water disposal acres and natural acres; the natural part of that is because of the high water. If you're mitigating wet lands, basically storing more water on there, that could raise the levels of salt.

Chairman Delzer: That's not an issues for this bill, I think that is come across from another bill.

9:40 Representative J. Nelson: I would make the motion to move it to 5 million, page 3 line 15, as well as the study amendment as it was passed out.

Representative Streyle seconded that motion

Representative Boehning: Where is the change exactly? Would we also have to change line 13 on page 2 as well?

Chairman Delzer: Yes, simply remove the 500 thousand from that line.

Voice vote All in Favor, Motion Carries

15:00 Representative J. Nelson I make a motion to Do Pass as Amended

Representative Delmore seconded the motion

A Roll Call vote was taken. Yea: 18 Nay: 1 Absent: 2

Motion Carries

Representative J. Nelson will carry that bill

Handwritten initials and date:
2/2/17
H/PC

PROPOSED AMENDMENTS TO HOUSE BILL NO. 1347

Page 2, line 13, overstrike "five hundred thousand"

Page 3, line 15, replace "\$5,500,000" with "\$5,000,000"

Page 4, after line 14, insert:

"SECTION 3. OIL AND GAS RESEARCH FUND - CONTINUATION OF PIPELINE LEAK DETECTION STUDY - EXEMPTION - REPORT TO THE LEGISLATIVE MANAGEMENT. The industrial commission shall use \$500,000, or so much of the sum as may be necessary, from the oil and gas research fund to contract with the energy and environmental research center to continue a study regarding pipeline leak detection technology, for the biennium beginning July 1, 2017, and ending June 30, 2019. The study must include an analysis of leak detection and monitoring technology and a risk assessment of new and existing pipeline systems. Notwithstanding any oil and gas research program policies, the contract does not require matching funds. The energy and environmental research center shall provide a report to the industrial commission and the legislative management by September 30, 2018, regarding the results and recommendations of the study."

Re-number accordingly

STATEMENT OF PURPOSE OF AMENDMENT:

This amendment decreases the appropriation from the abandoned oil and gas well plugging and site reclamation fund from \$5.5 million to \$5 million for various studies. This amendment also adds a new section to designate \$500,000 from the oil and gas research fund for the Energy and Environmental Research Center to continue a study regarding pipeline leak detection.

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

**2017 HOUSE STANDING COMMITTEE
 ROLL CALL VOTES
 BILL/RESOLUTION NO. HB 1347**

House Appropriations Committee

Subcommittee

Amendment LC# or Description: 5 million 500 thousand to 5 million add amendment for research

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 J. Nelson Seconded By Representative Streyle

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

Total (Yes) _____ No _____

Absent _____

Floor Assignment _____

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

Motion carries

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

**2017 HOUSE STANDING COMMITTEE
 ROLL CALL VOTES
 BILL/RESOLUTION NO. HB 1347**

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 J. Nelson Seconded By Representative Delmore

Representatives	Yes	No	Representatives	Yes	No
Chairman Delzer	X				
Representative Kempenich	X		Representative Streyle	X	
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	X				
Representative Nathe	X				
Representative J. Nelson	X				
Representative Pollert	X				
Representative Sanford	X				
Representative Schatz	X				
Representative Schmidt	A				

Total (Yes) 18 No 1

Absent 2

Floor Assignment Representative J. Nelson

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

REPORT OF STANDING COMMITTEE

HB 1347: Appropriations Committee (Rep. Delzer, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (18 YEAS, 1 NAYS, 2 ABSENT AND NOT VOTING). HB 1347 was placed on the Sixth order on the calendar.

Page 2, line 13, overstrike "five hundred thousand"

Page 3, line 15, replace "\$5,500,000" with "\$5,000,000"

Page 4, after line 14, insert:

"SECTION 3. OIL AND GAS RESEARCH FUND - CONTINUATION OF PIPELINE LEAK DETECTION STUDY - EXEMPTION - REPORT TO THE LEGISLATIVE MANAGEMENT. The industrial commission shall use \$500,000, or so much of the sum as may be necessary, from the oil and gas research fund to contract with the energy and environmental research center to continue a study regarding pipeline leak detection technology, for the biennium beginning July 1, 2017, and ending June 30, 2019. The study must include an analysis of leak detection and monitoring technology and a risk assessment of new and existing pipeline systems. Notwithstanding any oil and gas research program policies, the contract does not require matching funds. The energy and environmental research center shall provide a report to the industrial commission and the legislative management by September 30, 2018, regarding the results and recommendations of the study."

Renumber accordingly

STATEMENT OF PURPOSE OF AMENDMENT:

This amendment decreases the appropriation from the abandoned oil and gas well plugging and site reclamation fund from \$5.5 million to \$5 million for various studies. This amendment also adds a new section to designate \$500,000 from the oil and gas research fund for the Energy and Environmental Research Center to continue a study regarding pipeline leak detection.

2017 SENATE APPROPRIATIONS

HB 1347

2017 SENATE STANDING COMMITTEE MINUTES

Appropriations Committee
Harvest Room, State Capitol

HB 1347
3/21/2017
JOB # 29499

- Subcommittee
 Conference Committee

Committee Clerk Signature

Emmery Holberg for Alice Dever

Explanation or reason for introduction of bill/resolution:

A BILL for an Act to amend and reenact NDCC, relating to the abandoned oil and gas well plugging and site reclamation fund; to provide an appropriation; and to provide a report to legislative management.

Minutes:

Attachments: #1 - 2

Chairman Holmberg: Called the Committee to order on HB 1347 at 10:00 am in the Harvest Room. All committee members were present. Sheila Peterson, OMB and Adam Mathiak, Legislative Council were also present.

Representative Dick Anderson, District 6: I am here to talk about Section 2 on HB 1347 and presented Testimony attached # 1, photos of the area in his district regarding reclamation.

Committee Discussion: In response to a question from V. Chairman Bowman, Representative Anderson clarified the location of the water and oil in the pictures he provided to the committee.

Senator Dever: Are any of these wells near Souris?

Rep. Anderson: They are close to Souris, most would be west of there on the western edge of Bottineau county.

Senator Erbele: So the areas where nothing grows are the salt areas?

Rep. Anderson: That is correct and in one of the pictures there was some oil pipe that was left underneath the ground that nobody knew about and they hadn't rinsed the pipe out properly and I think the oil ran out of the pipe and eventually the high water pushed that oil up to the top of the ground. We've made a lot of headway on cleaning up this land in the last few years but I think there are about 2,600 wells that don't have the proper liner and pad underneath so we need to keep working on it.

Senator Dever: It is my understanding that they will normally come back in when they abandon a well and plug it with concrete, correct?

Rep. Anderson: That is correct. Some of the areas you are looking at the soil is often wet since we get a lot of rain and sometimes we get water that can run over the pad and salt water on the pad sometimes gets out in the fields and its hard on the crops. We are just trying to clean some of this stuff up. We would like to reclaim some of the old oil pads and get the land back to full productivity if it is possible.

Senator Grabinger: Two years ago in the Judiciary committee we had folks come in from the Bottineau area that had some contaminated farm land and there was effort to put some funding together and get that cleaned up. Do you know if that has been taken care of for those families up there and what the situation is with them?

Rep. Anderson: I know there is ongoing cleaning but what they have cleaned up and what is left I wouldn't know.

V. Chairman Bowman: Does NDSU work with the oil companies? We put quite a bit of money into a project for salty soils and I don't know if there is any correlation between what they do and what is happening here but I would be interested to know that because sometimes when you spend money you want to find out if it did any good or not. Do all companies work with and are they making progress towards neutralizing their soil?

Rep. Anderson: I don't think they work with the oil companies directly but I think they work with the Department of Mineral Resources and I know they work with the Department of Agriculture and the pipeline reclamation program so they work with the local soil conservation districts because there are so many different soil types through the state and I think they work with them trying to find out what vegetation would do best in these areas.

V. Chairman Krebsbach: After the 2011 flood, NDSU did some research and worked with some of the land that had been damaged by the flood.

Rep. Anderson: There is kind of a bonus to doing this study because we have 2.5 million acres of land in ND that are affected by saline so if we could find some something that could restore some of this land it is not only a benefit to the oil industry and the landowners, it's a benefit to agriculture. If we could find some information that would work, we can use it in other places.

Committee Discussion: Senator Wanzek and Representative Anderson discussed the effects of the salt water spill on the field in the picture and potentiality of subsurface draining to alleviate the effects the salt water spill.

Senator Robinson: Are other states not dealing with this same issue and have they been able to resolve some of these issues with salinity?

Rep. Anderson: I think we are doing a better job up here than the other states that have oil.

Senator Robinson: There is 2.5 million acres in the state that have this salt problem. Are all of those acres the result of spills?

Representative Anderson: No they are not. As a farmer, I see a lot of spots where there is no oil and they have a soil problem. But this study may help some of those farmers with saline issues.

Senator Robinson: The 2.5 million acres include the alkali acres as well?

Rep. Anderson: The study does not but the result of the study could help if we can find some technology.

(0.11.59 – 39:10) **Lynn D. Helms, Director of Mineral Resources:** Testified in favor of HB 1347 and presented a power point production of his written Testimony attached # 2, regarding well plugging and site restoration fund (AWPSRF).

Senator Oehlke: I was curious to know if the \$500,000 in the very last part is part of the \$5M or is that a separate appropriation?

Lynn Helms: That is a separate appropriation. The \$5M would be from the abandoned wellsite restoration fund for the project I identified and this would come out of the \$10M oil and gas research fund. It was tacked onto this bill because it is a handy place to put it but it's separate.

Senator Grabinger: On bonds and civil penalties collected, you are only talking \$300,000. Is that because most of these companies that created these problems are bankrupt or gone?

Lynn Helms: That is right. All of these sites are bonded but the typical site by the time we inherit it, the company is bankrupt and has not assets other than the bond. We typically assess a penalty against them and get a court judgement against them so if they ever try to get back into our business in ND or we ever find any assets, we have the authority through the fund to go after those assets. There are a lot of uncollected penalties out there but that is because they go bankrupt.

Senator Grabinger: You mentioned you wanted to hire an employee or engineer for the 121 sites and you were hoping there would be less when this analysis is done. Yet you go on and you said in your testimony that the chances are that these things grow so is it logical to think there may be less?

Lynn Helms: We think the number will be less. Some of these sites were very small in the 1984 study and questionable. We think that some of those may have taken care of themselves. I think the number of sites will be less but the number of acres will be more.

Senator Grabinger: It just kind of conflicts with what you are saying because you are saying these sites don't get better as they get older but you are also saying they take care of themselves. How does that happen if you take care of themselves?

Lynn Helms: That is a good question. I presented to you the worst case scenario. The worst 7 or 8 sites that had the largest ponds that we know the practices for operating those ponds were the worst and we know that these 2 or 3 dozen that we get ongoing complaints about are getting worse over time instead of better. We do believe that some of the smaller sites that were operated by a better class of operators when they were closed did in fact take care of themselves. I am not trying to promise you that the acres are going to go down. I think we'll eliminate some of the 121 sites but I think the acres will be more.

Senator Dever: Where there are responsible parties, are those legacy sites that they are responsible for being remediated in the same fashion?

Lynn Helms: They are to some extent. We have pursued complaints against those companies through the civil process and some of the consent agreements we sign. We level a large penalty and then suspend part of that to encourage them to clean up the site. That is an uncommon occurrence; maybe 1 out of 10 because the vast majority of them go bankrupt and disappear and have no assets to do anything with. We are working with a company right now in McKenzie County that has some abandoned sites and we already have a \$900,000 judgement against them. The best we will probably be able to do is collect from them \$250,000 in bonds and they will go off the landscape. Maybe 10% or more of the responsible parties that we pursue a civil penalty or a notice of violation and we suspend some of that penalty so they can spend that money on the site restoration which is always our first choice to find a responsible party and get them to do the work.

V. Chairman Bowman: Are our bonding requirements too low if we are only recapturing part of the cost?

Lynn Helms: Our bonding requirements are at or above our neighbor states. If you look at any individual sites, you might think they were too low but in aggregate, they are working extremely well. For example, when you consider the fact that over time we have had over \$30,000 oil wells drilled in ND and sites constructed and our total number of projects that this fund has had to deal with is less than seventy-five. It was a great concept to build the fund and I think in aggregate they're great even if they are not enough for each individual site.

Chairman Holmberg: Appointed Senator Sorvaag V. Chairman Bowman: and Senator Grabinger for the subcommittee on HB 1347 and closed the hearing on HB 1347.

2017 SENATE STANDING COMMITTEE MINUTES

Appropriations Committee
Harvest Room, State Capitol

HB 1347
3/28/2017
Job # 29756

- Subcommittee
 Conference Committee

Committee Clerk Signature

Jana Bellamy for Rose Laning

Explanation or reason for introduction of bill/resolution:

A BILL for an Act to amend and reenact NDCC, relating to the abandoned oil and gas well plugging and site reclamation fund.

Minutes:

Testimony Attached # 1

Legislative Council: Brady Larson
OMB: Becky Keller

Senator Sorvaag called the sub-committee to order on HB 1347. **Senator Bowman** and **Senator Grabinger** were also present.

Senator Sorvaag: Asked by committee chairman to look at this and see if there are questions. Going to do a thorough walk through. Going to cover a questions or points that anyone has. We have Cody sitting in for Lynn Helm's today.

Senator Bowman: I'm looking at first part of section 1 of the bill, do they know how many dollars they are talking about in section 1. May expend up to \$5M.

Senator Sorvaag: How much is in the fund now?

Brady Larson: At the end of the 15-17 biennium, the estimated balance was around \$15M. At the end of the 17-19 biennium the estimated balance is \$12-13M. That would be including this bill.

Senator Sorvaag: This is the only thing taking money out of this fund as of now?

Brady Larson: There might be some smaller amounts.

Senator Sorvaag: It's accruing through the biennium, so that would be 17 and this would take it to 12 plus earnings. So there is adequate funding in there that won't pull away from other projects.

Senator Bowman: I think it's important that this gets done and when they get the results of the study they bring it forward. We don't want this to get out of control and get a handle on it. So that we can avoid the problems and make it a good investment for the state.

(0:03:22) Cody VanderBusch, Reclamation Specialist, DMR Oil & Gas Division:

Senator Sorvaag: I know the study is to find out how many there is, but do you have an estimate?

Cody VanderBusch: Currently, what we have from a 1984 study is 121. There will more than likely be less, but that's the current number we're going with.

Senator Sorvaag: Because they've been reclaimed or disappeared with time?

Cody VanderBusch: They could have disappeared with time, we haven't done a full study, we only know of certain ones that have been current issues that keep coming up.

Senator Bowman: When your studying brine, that's a tough thing to get a handle on isn't it. Some goes down, some spreads out, does it have anything to do with the soils where brine is. Soils have a lot to do with movement of any types of liquid. Is that what you're going to try to find out. The end results of the study would be what?

Cody VanderBusch: That is what the studies are for, is to determine, especially the EERC one, is to study how far, what type of impact, if there are any limiting factors on keeping that brine up, like an aquatard. To keep it from going down or out. The situation where these are in, is glacial till, which makes it very difficult because you have unconsolidated sediments. It's going out, it's going down, and it looks like there might be a layer stopping it from going down and that's why these are still here is because the water table is so high. It keeps bringing them up and down on the wet and dry cycles. It's possible that there are other ponds in other parts of the state that because of the geology, you don't see them.

(0:5:58) Senator Grabinger: On page 34 of the DMR book (Testimony Attached # 1), I'm looking at section 2. What is the exemption that is stated in there? Are these the studies that you are looking at doing?

Cody VanderBusch: Those are the studies that are being put out. It is one that would be to study how many ponds are out there. Part B is a clause that if a landowner signed off on damages or was paid for damages from a company, we're going to do a background, such as a land check to make sure nothing has been signed off or damages haven't been paid on a certain area of land. That is what Part A and Part B on page 34 are meant to do. Part C goes into studying the best techniques for clean-up.

Senator Sorvaag: Does this study, is that working with the EERC on this too? Where is the \$5M going?

Cody VanderBusch: What we call the Legacy fund, is currently capped at \$1.5M per biennium. To up it to \$5M it would allow us to finish the projects we have on the books, and to do these studies and would extend the study for the EERC being able to study the brine ponds contamination cleanup. NDSU also has an agricultural growing study.

Senator Sorvaag: All of them would be involved in the study, NDSU, EERC. Section 3 is a separate fund and that's strictly on EERC for pipeline detection leaks.

Cody VanderBusch: It's to expand what had already been done in a study once and bring it to do a risk evaluation of sensitive areas.

Senator Bowman: When you're studying pipeline leaks, are there sensors that are put on the pipelines and can detect from a sensor that it's leaking. What will the study find out? It's kind of a big issue, we've had a few over a period of years.

Cody VanderBusch: It's the study to find what technology is out there to be able to put on these high risk areas to see what we can put on there, sensors, monitoring devices of some sort. Whether across creek or river crossings. Things along that sense.

Senator Bowman: If you've got the sensors on there, would a drone pick up readings or would a person need to get them. How do you read the sensor?

Cody VanderBusch: They have automated systems now, that have call out devices that send out through wireless signal or satellite. They can be monitored 24/7. The parameters would be set, and if it fell outside the parameters it could set off an alarm and call someone. It's all automated. You could do a drone program, but that's not necessarily real time. You could have real time data come back to a computer.

Senator Sorvaag: How much is in the Oil and Gas Research Fund?

(0:11:23) Karlene Fine, Executive Directors, ND Industrial Commission: That fund gets \$10M a biennium. There will be sufficient funding to cover that. It's like our other research programs, where people bring in projects that have matching funds, but this would not have matching funds, it would be carved out specifically for this study.

Senator Sorvaag: Do you usually spend down every biennium?

Karlene Fine: Because we had close to that, it really depends on quality of the applications that come in and we select for the research projects. I believe, we do have about \$2M right now. The industrial commission makes the final determination, it goes to the oil and gas research council, comes to the commission for final approval of those research projects.

Senator Sorvaag: This would not short change you at all?

Karlene Fine: No, the Oil and Gas Research Council and the commission were very much involved in the prior study on the pipeline leak detection and the continuance of that and just got a report on that. They are in support of this. Technology is evolving all the time.

Senator Sorvaag: It's just continuing what's been going on anyway. So they could have come to you with this without even putting it into the bill

Karlene Fine: If they would have come to us **they** would need matching funds.

Senator Sorvaag: That's the reason for the bill, is to avoid the matching.

Senator Sorvaag: (asked for any discussion) I'm fine supporting it the way it is.

Senator Grabinger: I would be to, my only concern is the \$5M. Where it's going, what are we doing. My concern is that I don't want to let up on the taking of the bonds and the penalties being reduced because we're putting more money into this. That would be the only thing I'm afraid of. Is that an unwarranted concern?

Cody VanderBusch: This program is only for where there is no more liability and no more bonds associated. That's where, especially for the brine ponds, where Section B would be to do that background check to make sure no one is paid off. And to make sure there is no more legal obligation to those ponds for someone else to take responsibility so that it's not coming from state tax dollars.

Senator Grabinger: I was just concerned that if you got the money, you'd be like, ah, we've got the money to take care of it.

Cody VanderBusch: That is of no concern. We look into every one of those. If the bond is still active we're going to hold those companies liable if that's the case.

Senator Sorvaag: We will recommend to the committee that we support the bill.

Senator Bowman & Senator Grabinger agreed.

Senator Sorvaag: Closed the hearing on HB 1347

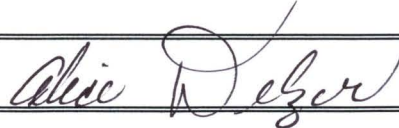
2017 SENATE STANDING COMMITTEE MINUTES

Appropriations Committee
Harvest Room, State Capitol

HB 1347
3/31/2017
JOB # 29857

- Subcommittee
 Conference Committee

Committee Clerk Signature



Explanation or reason for introduction of bill/resolution:

A DO PASS regarding the bill relating to Abandoned oil & gas well plugging & site reclamation fund.

Minutes:

No testimony submitted

Chairman Holmberg: called the Committee to order on HB 1347. Roll call was taken. All committee members were present. Adam Mathiak, Legislative Council and Lori Laschkewitsch, OMB were also present. We will have you all circle back at 10:30 to see if we have some time to pass out bills. We are going to do 1347 right away.

Senator Sorvaag: The subcommittee appointed had one meeting and we reviewed the bill and had discussions with Department of Resources individuals that were there and kind of cleared things up and your committee was supportive of going forward. There is \$5m that is going to be studying buying ponds and reviving these soils that are being hurt by salt throughout the state. There is 121 identified sites. That \$5m comes out of the Abandoned Well Reclamation Fund, take \$5m, they will still end up at the end of the next biennium even with this \$5m about \$12m is anticipated. The second part, Section 3, is 1/2m to the ERC to continue to do research on pipeline leak detection. And there again, that will come out of the Oil and Gas Research Fund, which has about \$10m at this time. We talked about a few things, there was a little concern but it was stated again, which was stated then, that these are only going to be sites that have gone through all the legal issues and are clear of any legal liability or bonding concerns.

Senator Sorvaag: moved a Do Pass. 2nd by V. Chairman Bowman.

Chairman Holmberg: Discussion? Would you call the roll on a Do Pass on 1347?

A Roll Call vote was taken. Yea: 14; Nay: 0; Absent: 0. Senator Sorvaag will carry the bill.

The hearing was closed on HB 1152

Date: 3-31-17

Roll Call Vote #: 1

2017 SENATE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. 1347

Senate 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 Sorvaag Seconded By Bowman

Senators	Yes	No	Senators	Yes	No
Chairman Holmberg	✓		Senator Mathern	✓	
Vice Chair Krebsbach	✓		Senator Grabinger	✓	
Vice Chair Bowman	✓		Senator Robinson	✓	
Senator Erbele	✓				
Senator Wanzek	✓				
Senator Kilzer	✓				
Senator Lee	✓				
Senator Dever	✓				
Senator Sorvaag	✓				
Senator Oehlke	✓				
Senator Hogue	✓				

Total (Yes) 14 No 0

Absent 0

Floor Assignment Sorvaag

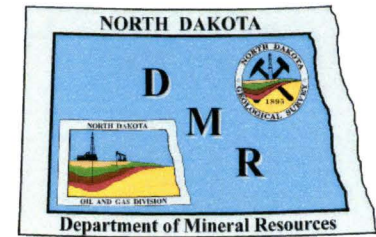
If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

HB 1347, as engrossed: Appropriations Committee (Sen. Holmberg, Chairman)
recommends **DO PASS** (14 YEAS, 0 NAYS, 0 ABSENT AND NOT VOTING).
Engrossed HB 1347 was placed on the Fourteenth order on the calendar.

2017 TESTIMONY

HB 1347



**North Dakota Mineral Resources
Abandoned Well Plugging and Site Restoration Fund
Status and Outlook**

House Appropriations Committee

January 26, 2017

**Lynn D. Helms, Director
Department of Mineral Resources
North Dakota Industrial Commission**

Handwritten:
#1
HB 1347
1-26-17

Abandoned Well Plugging and Site Restoration Fund “AWPSRF”

- Established 1983
- Pay plugging and reclamation costs where no responsible party exists
- Originally funded by:
 - Fees paid to the Oil and Gas Division
 - Confiscated bonds
- Amended 2013 the fund is currently supported through a combination of:
 - A portion of the gross production tax (\$7.5 million per fiscal year)
 - Fees paid to the Oil and Gas Division
 - Confiscated bonds
 - Collected civil penalties
- The AWPSRF currently has approximately \$14.5 million dollars
 - Fund capped at \$100 million
 - General Program
 - Legacy Program limited to \$1.5 million per biennium

HB 1032: AWPSRF Balance Sheet

July 1, 2015 - Dec. 31, 2016

•	July 1, 2015 beginning balance	\$11.5 Million
<hr/>		
•	<u>Revenue</u>	<u>\$8.1 M</u>
	– Gross Production Tax	\$6.7 M
	– Conf. Bonds/Civil Penalties	\$0.3 M
	– OGD Fees	\$0.4M
•	<u>General Program</u>	<u>\$1.8 M</u>
	– Plugging and Reclaim	\$1.7 M
	– Illegal Dumping	\$0.1M
•	<u>Legacy Program</u>	<u>\$1.2 M</u>
	– Site Reclaim	\$0.9 M
	– Study	\$0.3 M
•	<u>Legislative Transfers</u>	<u>\$2.1 M</u>
<hr/>		
•	AWPSRF	\$14.5 Million

Abandoned Well Plugging and Site Restoration Fund “AWPSRF”

HB1075

Credit four percent of the amount available under this subsection to the abandoned oil and gas well plugging and site reclamation fund, but not in an amount exceeding ~~seven~~five million ~~five hundred thousand~~ dollars in a state fiscal year and not in an amount that would bring the balance in the fund to more than one hundred million dollars; and

HB1366

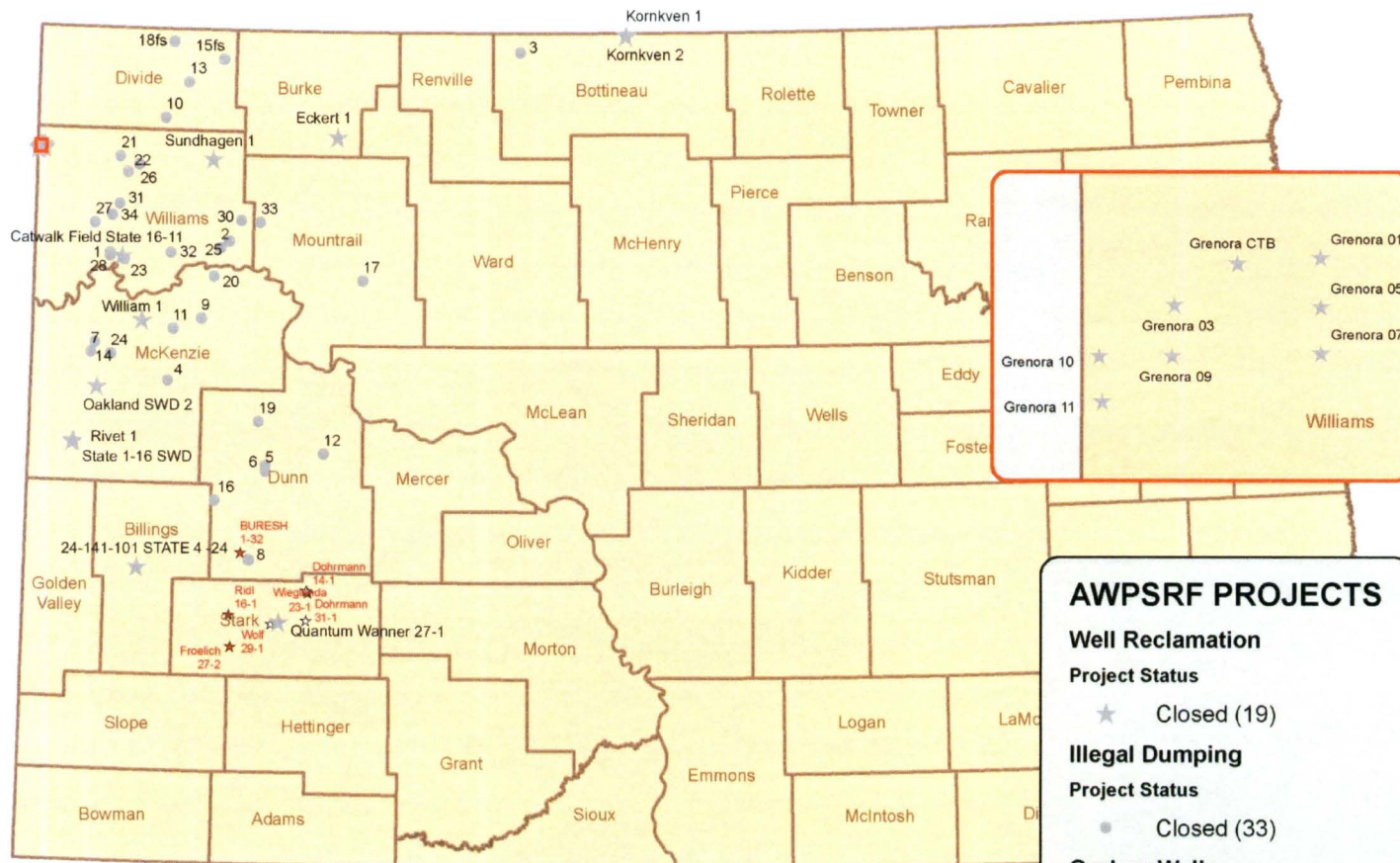
~~Credit~~The state treasurer shall allocate four percent of the amount available under this subsection to the abandoned oil and gas well plugging and site reclamation fund, but not in an amount exceeding ~~seven million five hundred thousand~~five million dollars ~~in a state~~per fiscal year and not in an amount that would bring the balance in the fund to more than one hundred million dollars

AWPSRF – General Program

- General Program
 - Plugging and reclamation of sites (1983-present)
 - Where a company has defaulted on their responsibilities and the state seized the bond, equipment, and salable oil
 - The commission shall seek reimbursement for all reasonable expenses incurred in plugging any well or reclaiming any well site through an action instituted by the Attorney General
 - Illegal dumping of oil-field waste
 - Examples include:
 - Production Water
 - Filter Socks
 - Frac fluid and proppant
 - Production equipment

AWPSRF – General Program

Abandoned Well Plugging and Site Restoration Fund Program (AWPSRF)

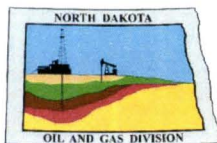


AWPSRF PROJECTS

Well Reclamation
 Project Status
 ☆ Closed (19)

Illegal Dumping
 Project Status
 ● Closed (33)

Orphan Wells
 Project Status
 ★ Open (3)
 ☆ Closed (4)



North Dakota Industrial Commission
 Department of Mineral Resources
 Oil and Gas Division

State 4-24: Re-plugging Billings County, ND; Spring 2016



Well PA 1984 – 2 historical operators – no longer exist

State 4-24: Re-plugging Billings County, ND; Spring 2016



\$180,000 – re-plugged and reclaimed

AWPSRF #9: Illegal Dumping McKenzie County, ND; Winter 2014-Spring 2016



Salt water dumped off county road onto private pasture
Affected ½ mile of drainage and two stock ponds
No responsible party identified

AWPSRF #9: Illegal Dumping McKenzie County, ND; Winter 2014-Spring 2016



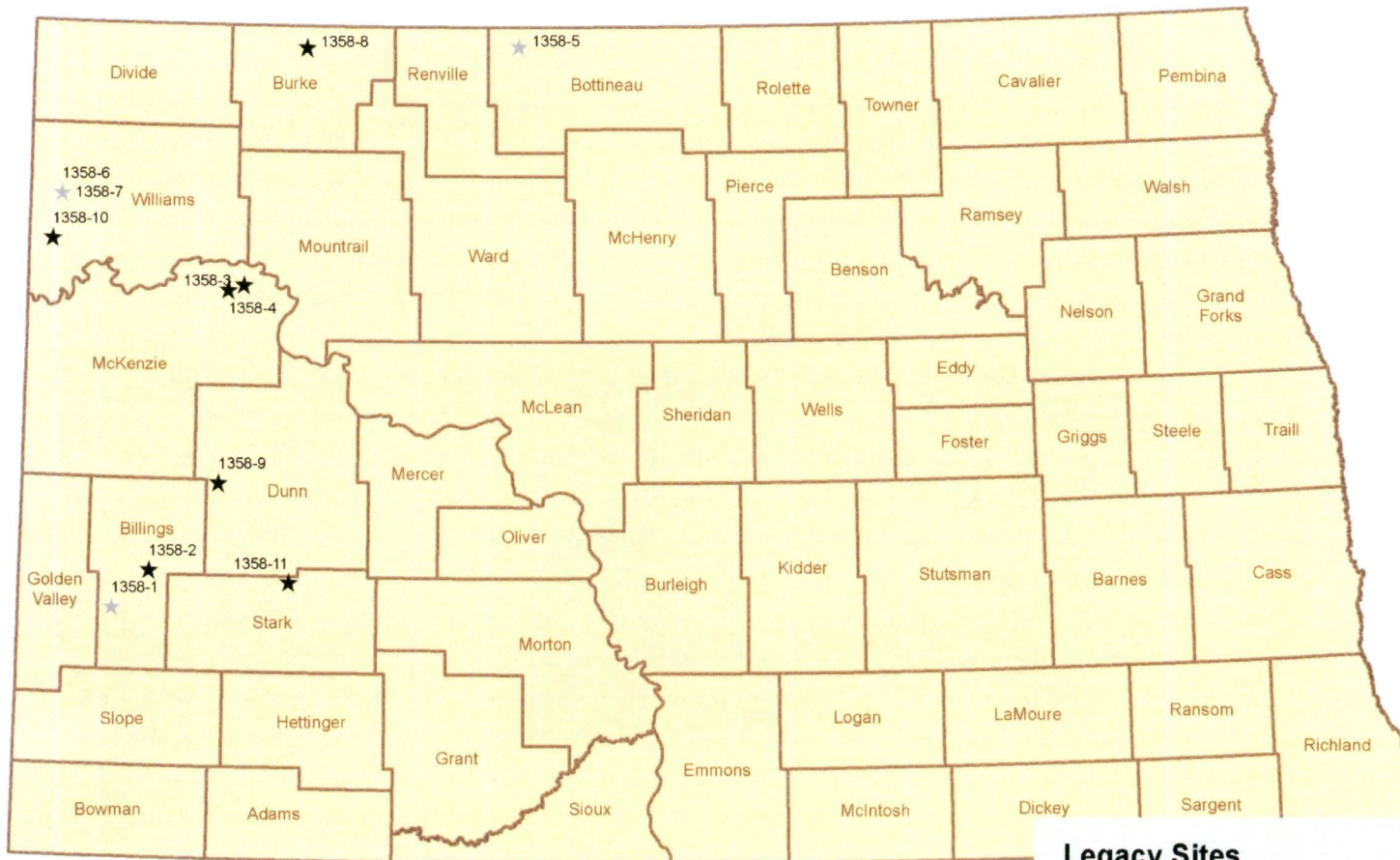
\$456,000 - remediation, reclamation, revegetation

AWPSRF - Legacy Program

- 2015 State Legislature expanded the scope of the AWPSRF to include the legacy program
- Allocated additional \$1.5 million dollars per biennium
 - Dedicated to “legacy” pre-1983 oil field issues
 - No continuing reclamation responsibility covered under state law
 - Situations originated prior to state laws requiring reclamation
 - Allowed AWPSRF to cover reclamation of eligible pre-1983 oil filed issues
 - Examples include:
 - Reclaiming old reserve pits
 - Properly abandoning old flowlines
 - Plugging seismic “shot holes”

AWPSRF - Legacy Program

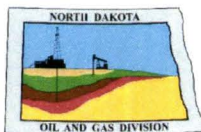
House Bill 1358 Legacy Sites



Legacy Sites

Project Status

- ★ Closed (4)
- ★ Open (7)



North Dakota Industrial Commission
 Department of Mineral Resources
 Oil and Gas Division

1358-1: Historical Reserve Pit

Billings County, ND; Fall 2015-Spring 2016



Dry hole plugged and released from bond in 1966
Met all reclamation requirements at the time
Reserve pit eroding into Little Missouri River

1358-1: Historical Reserve Pit Billings County, ND; Fall 2015-Spring 2016



\$569,000 – excavated and reclaimed

1358-5: Flow line

Bottineau County, ND; Fall 2015



Wells plugged in 1968 and 2001
No flow line abandonment rules at that time
Flow line to central tank battery

1358-5: Flow line
Bottineau County, ND; Fall 2015



\$102,000 – excavated, reclaimed, and reseeded

1358-6/7: Plugged Shot Holes

Williams County, ND; Fall 2015-Spring 2016



Artesian flow from 16 seismic shot holes improperly plugged in the 1970s

Approximately 45 acres too wet to farm now dry

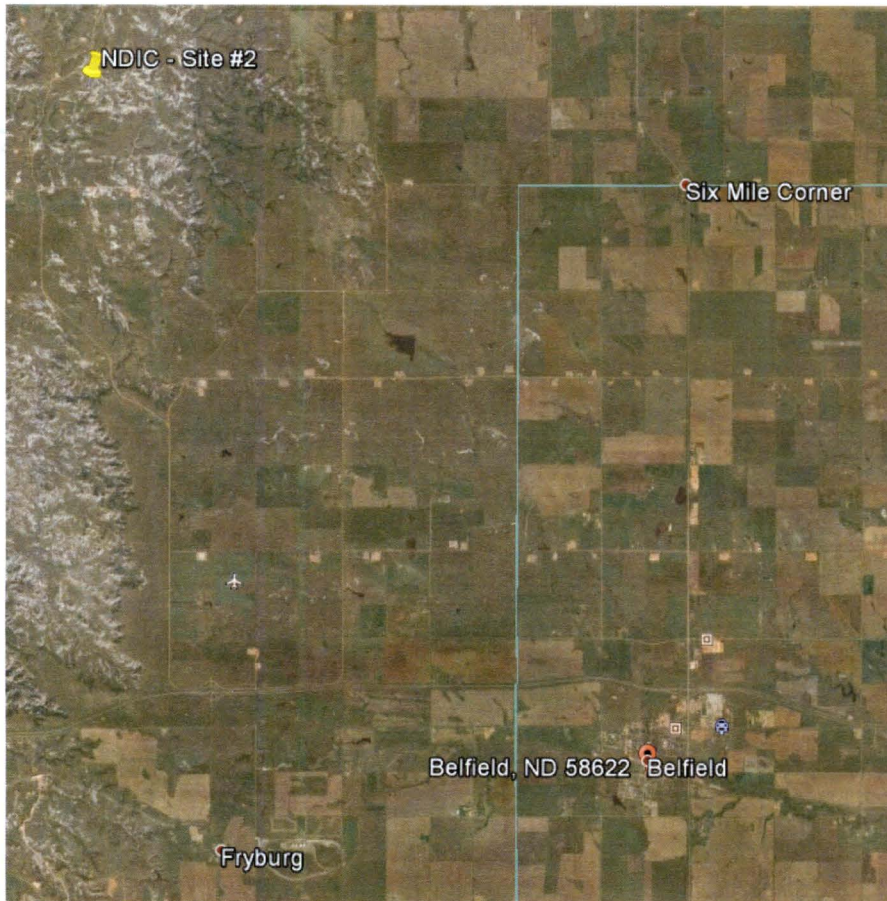
1358-6/7: Plugged Shot Holes

Williams County, ND; Fall 2015-Spring 2016

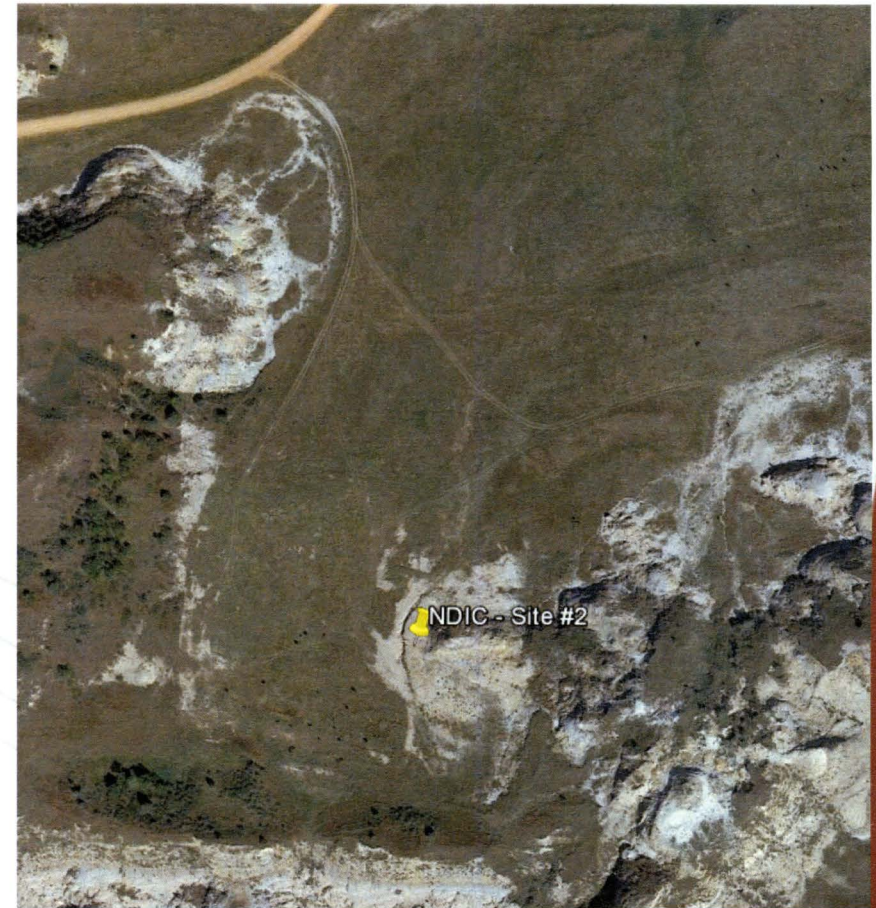


\$115,000 – plugged and ready to farm next spring

Site #2 – Pit Washing into Pasture Land, NW of Fryburg / Belfield, ND

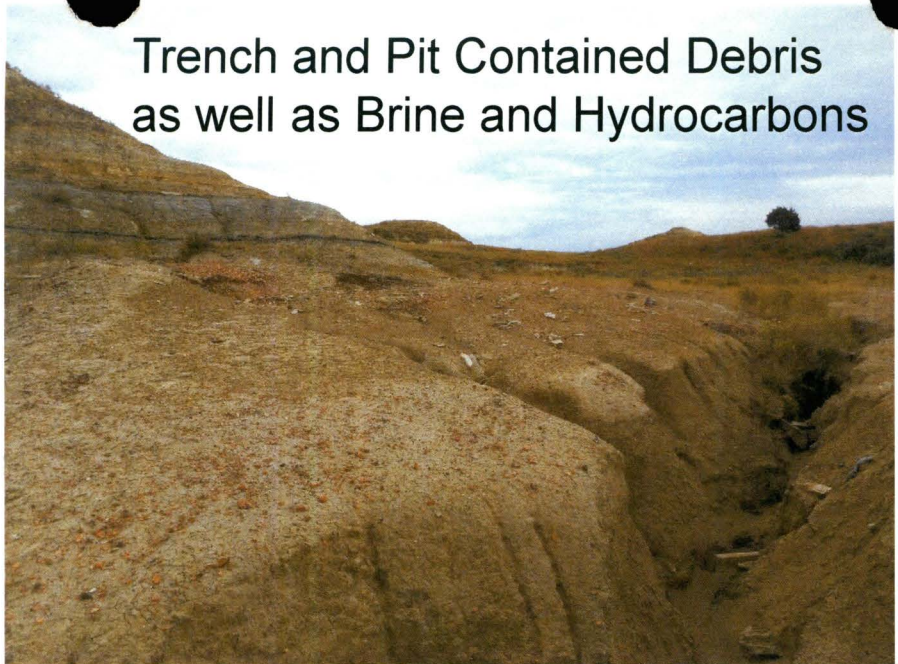


Approximately 9 miles north of Fryburg, ND

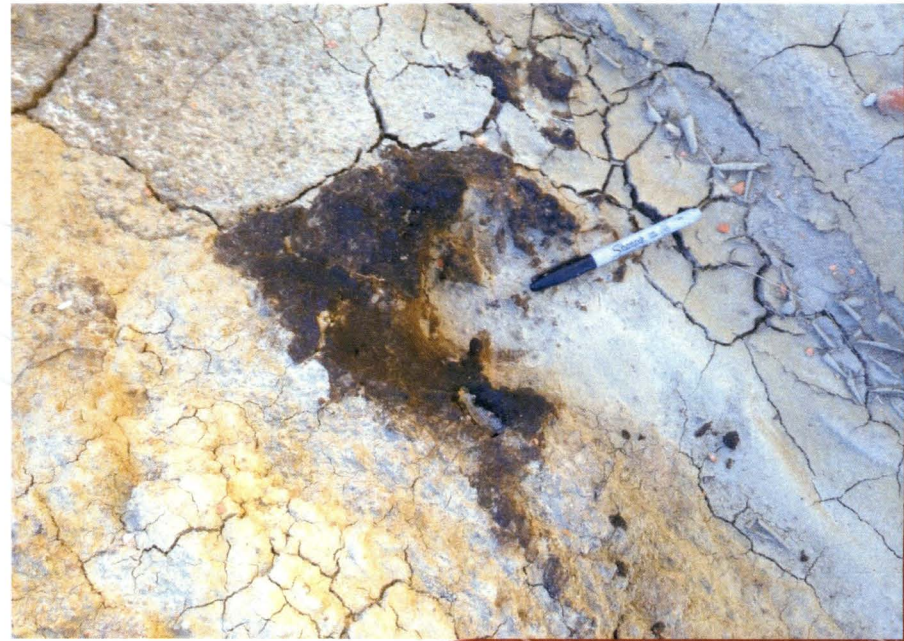
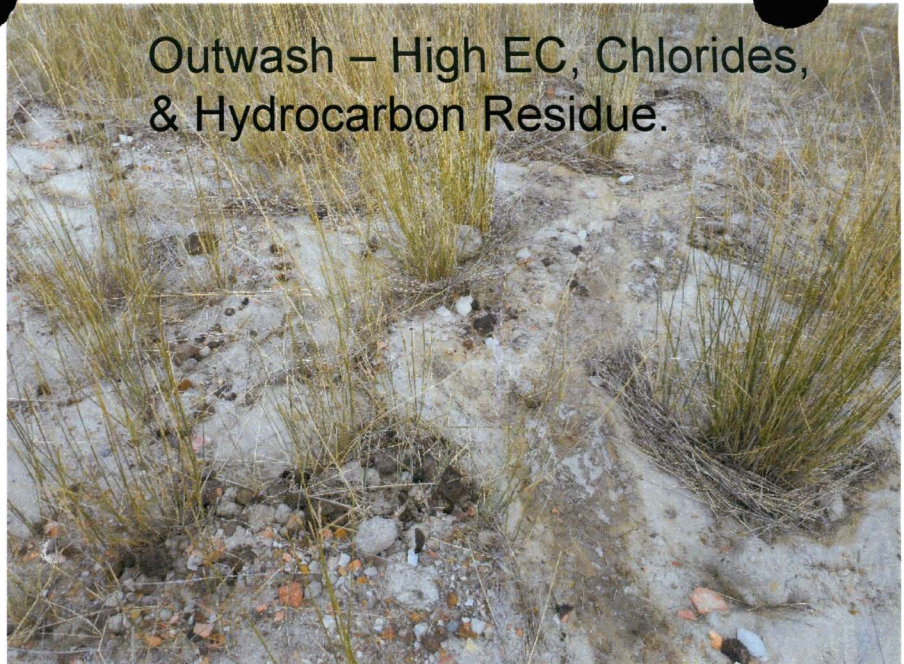


10 foot gully cutting through pit – depositing NE

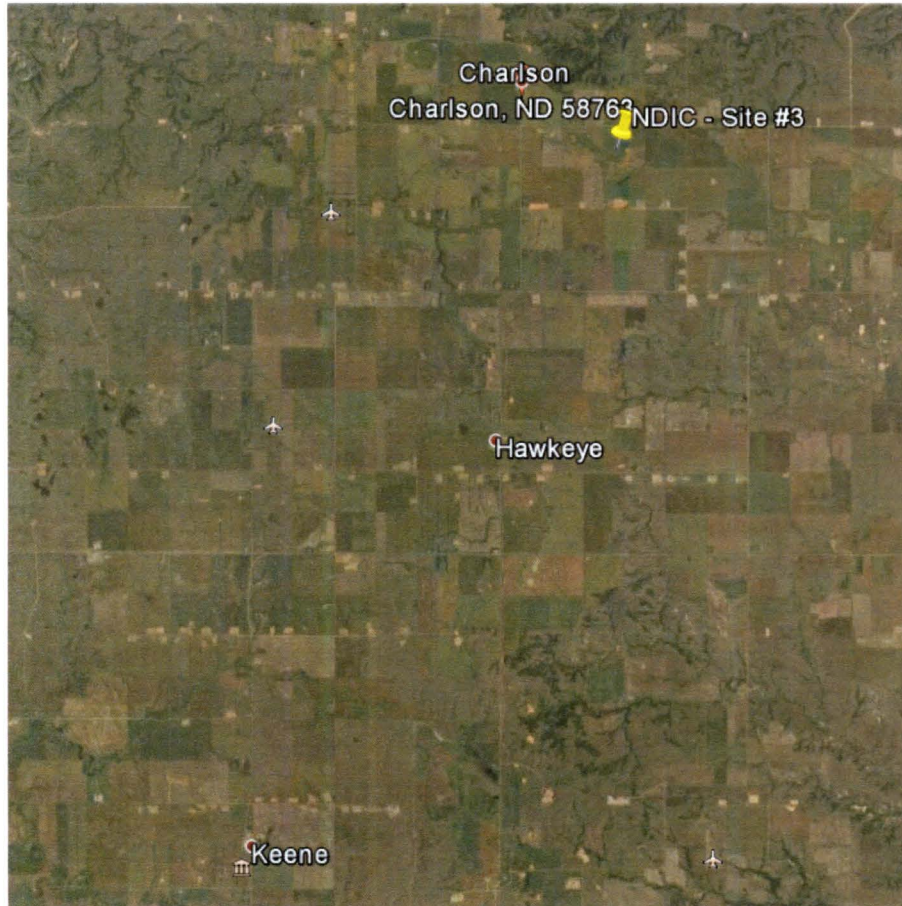
Trench and Pit Contained Debris
as well as Brine and Hydrocarbons



Outwash – High EC, Chlorides,
& Hydrocarbon Residue.



Site #3 – Pit Washing into Little Antelope Creek SE of Charlson, NE of Keene, ND



Approximately 12 miles Northeast of Keene, ND



Pit washing into coulee.





Short-Term Budget

Estimated Costs

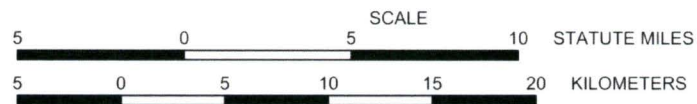
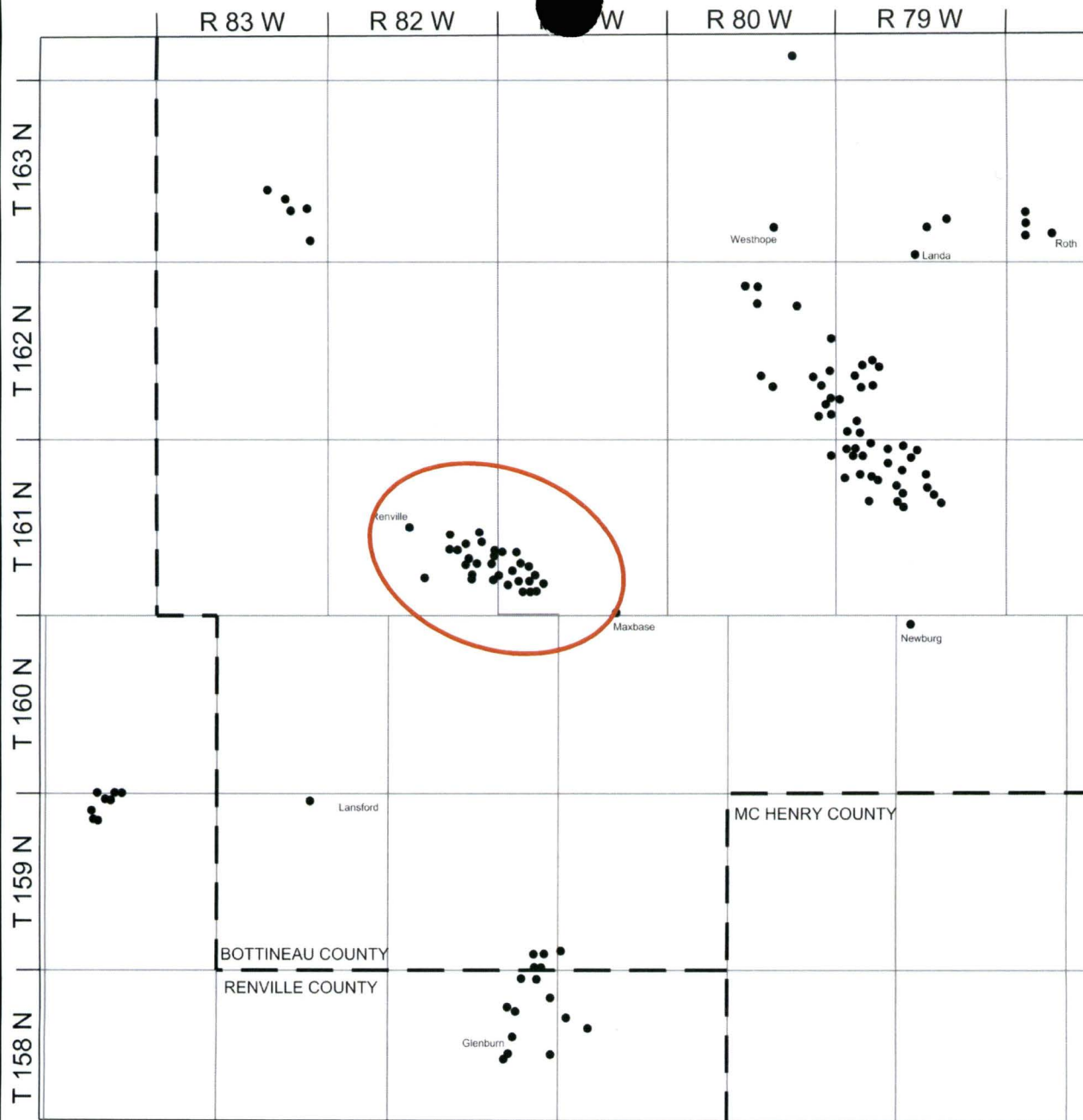
	<u>Description</u>	<u>Status</u>	<u>Cost estimate</u>	<u>Project Cost to Date</u>
Site #1	Pit	Done		\$568,853
Site #2	Pit		\$678,000	\$33,997
Site #3	Pit		\$2,742,400	\$45,861
Site #4	Doesn't Qualify			
Site #5	Leaking Pipeline	Done		\$102,200
Site #6	Seismic Shot Holes	Done		\$68,340
Site #7	Seismic Shot Holes	Done		\$56,494
Site #8	Possible Leaking well		\$190,000	
Site #9	Seismic Shot Holes	Done		\$28,000
Site #10	Seismic Shot Holes	Done		\$20,000
<u>Site #11</u>	<u>Seismic Shot Holes</u>		<u>\$50 to 70K</u>	
Total			\$3 million	\$918,783

NDSU SOILS DEPT 1984 STUDY

Identified 121 old brine pond sites in Bottineau and Renville Counties.

Estimated the area contaminated by old brine ponds at 1,450 acres (average of 12 acres per site).

Interpreted aerial photographs from various years and scales.



Stratton SWD #1 site (Edson Brown #1)



Drilled in 1959 by Cardinal Petroleum (Edson Brown #1). Produced oil from 1959-1970. Converted to a saltwater disposal well by Phillips Petroleum in 1978 (Stratton SWD #1). The site contained two brine holding ponds from 1959 to at least 1970 (with dimensions of 100 x 90 ft and 60 x 100 ft and 5 feet deep). Produced 178,000 barrels of saltwater.

Stratton SWD #1 (Fossum Site 1)



1985

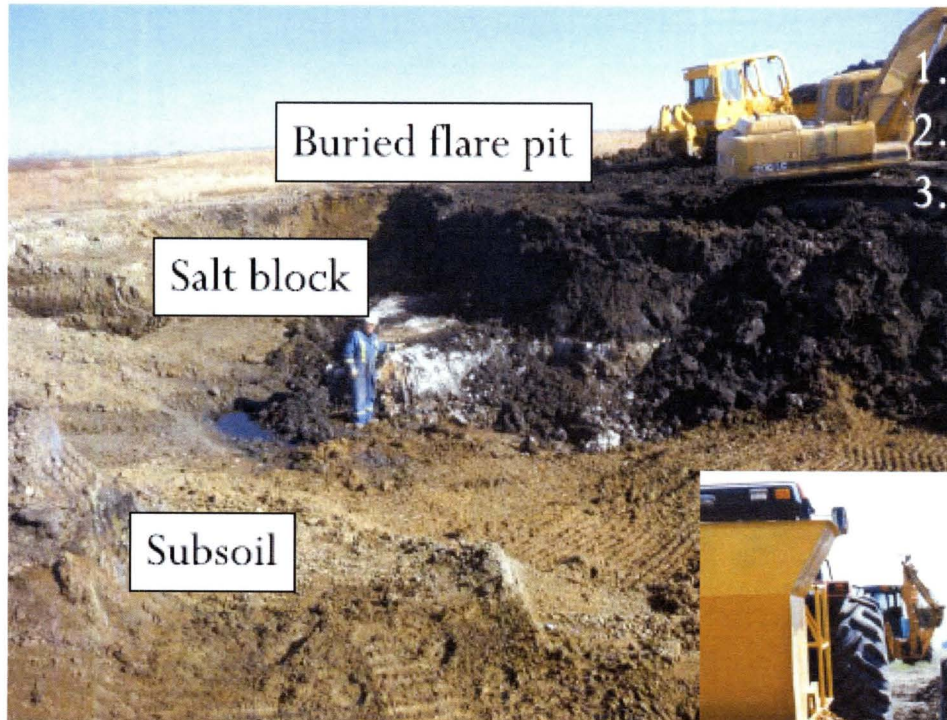
A high salinity plume extends laterally around the site over an area of 250,000 ft² (about 6 acres).

Plume extends to a depth of over 80 feet (highest concentrations in top 40 feet).

Plume restricted to till and not impacting any useable water supply (ND Health Dept. concurred in 2006).

High chloride levels at 160 feet (500 - 750 mg/l) appear to be coming from the underlying Fox Hills Formation (hydraulic heads).

Manitoba Remediation Process



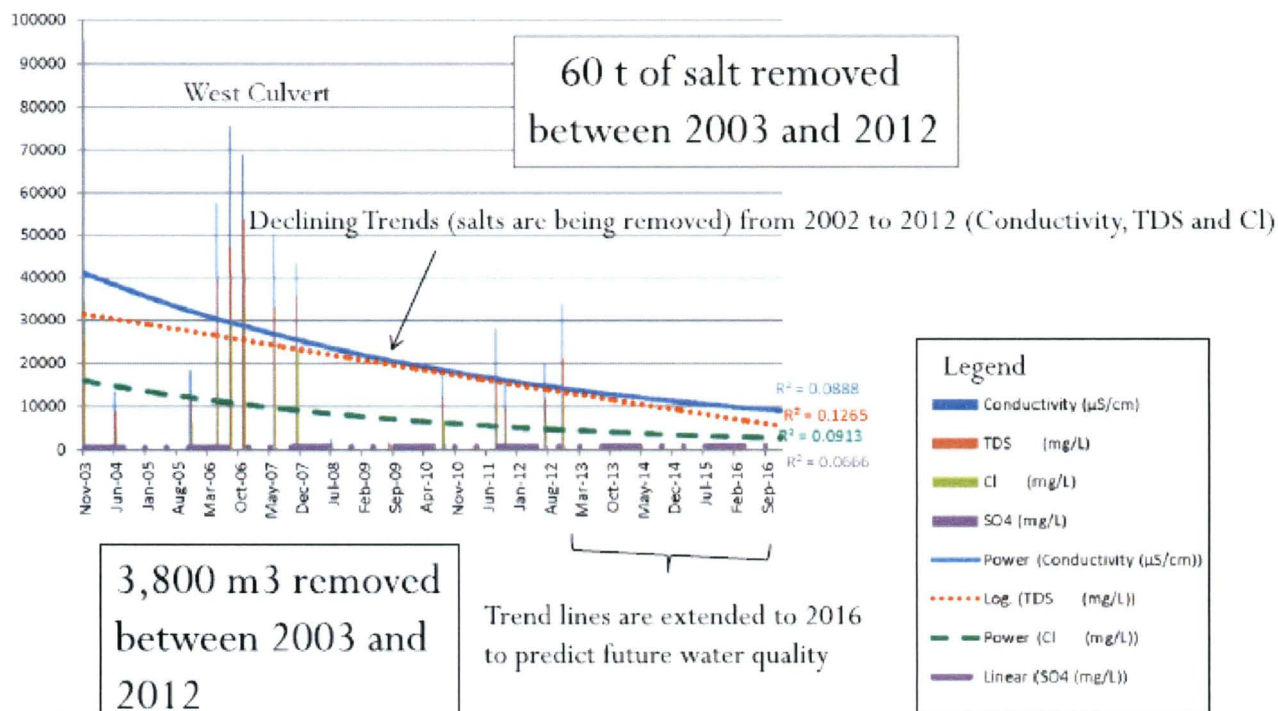
1. Remove source (flare pit).
2. Install sub-surface tile drains
3. Add surface amendments (calcium nitrate, gypsum & straw).

4. Grow forages and dewater the tile system.



Chain trencher, sock tile, & crushed rock

2. Water: Pump Out Water Quality of Tile System



Thank you

jennifer@goodlandsenviro.com

**2002:
Before tile system**



2013



Long Term Budget with Brine Pond Remediation

Years	Max Wells	Well Plug & Reclaim	Illegal Dumping	Legacy Sites	Brine Ponds	Total
2007-2012	9,244	\$729,506				
2013-2017	18,222	\$278,314	\$1,924,728	\$2,879,956		\$3,339,705
2018-2022	30,001	\$701,653	\$1,104,283	\$8,473,500	\$9,535,600	\$19,815,037
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		\$7,888,341	\$4,749,731	\$16,437,555	\$200,888,347	\$229,963,974

SECTION 2. APPROPRIATION - ABANDONED OIL AND GAS WELL PLUGGING AND SITE RECLAMATION FUND - ONE-TIME FUNDING - EXEMPTION - BRINE POND AND SOIL REMEDIATION STUDIES - REPORT TO LEGISLATIVE MANAGEMENT.

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a. A study of the number of brine ponds in the north central portion of this state which were active between 1951 and 1984 and which require the remediation of salt and any other contamination from the surrounding soil. The industrial commission may contract with or cooperate with research facilities in this state to conduct the study. **Estimate \$100,000**

b. A study of the number of brine ponds in the north central portion of this state which were active between 1951 and 1984 and for which landowners received compensation due to contamination to the surrounding soil. **Estimate \$125,000**

SECTION 2. APPROPRIATION - ABANDONED OIL AND GAS WELL PLUGGING AND SITE RECLAMATION FUND - ONE-TIME FUNDING - EXEMPTION - BRINE POND AND SOIL REMEDIATION STUDIES - REPORT TO LEGISLATIVE MANAGEMENT.

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c. A study of the best techniques for remediating salt and any other contamination from the soil surrounding brine ponds in the north central portion of this state which were active between 1951 and 1984 as a continuation of the study conducted pursuant to section 9 of chapter 254 of the 2015 Session Laws.

Estimate \$435,000

**Reclamation Options for Soils Surrounding Legacy
Brine Waste Pits in Northcentral North Dakota**



Ryan Limb¹, Aaron Daigh², Kevin Sedivec¹, Thomas DeSutter²,
Amit Chatterjee², Frank Casey², Shawn DeKeyser¹

¹Range Program, ²Department of Soil Science - School of Natural Resource Sciences
North Dakota State University

Summary

- Phytoremediation using gypsum, composite, gypsum + composite, and crystalized inhibitor (Ferric ferrocyanide ($C_{18}Fe_7N_{18}$)) treatments failed to lower EC levels four months after treatment on legacy brine waste pit sites contaminated in 1980s. We will re-collected EC data in June, 2017 to determine if any of these treatments reduced EC levels 12 months after treatments.
- Alkali Sacaton had the greatest average percent survival at all sites across all treatments compared to western wheatgrass and inland saltgrass. Western wheatgrass had the lowest average percent survival at all sites across all treatments.
- The gypsum + composite treatment had the highest percent survival rates for all species at sites exhibiting the highest EC levels. Across all sites and all plant species, the gypsum + composite treatment had the highest percent survival rate. Across all sites and all plant species, the crystalized inhibitor treatment had the lowest survival rate.
- Germination rate for all plant species differed significantly as a result of seed conditioning level, with western wheat having the highest average germination rate (80%) at a soil EC of 16 dS m⁻¹ when conditioning with a 0.2M NaCl solution. Alkali sacaton had the second highest germination rate across all soil and seed conditioning EC levels (23.3%). Based on our results, inland saltgrass was least salt tolerant during germination. There was a significant difference in percent emergence between the 0.0 and 0.2M ($p=0.00$) and 0.1 and 0.2M ($p=0.012$) conditioning treatments across all soil EC levels for western wheat.

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d. A study of the best techniques for remediating soil compaction due to oil and gas operations on well and facility sites in this state. The industrial commission may contract with or cooperate with research facilities in this state to conduct the study. Estimate \$370,000

Reducing soil compaction for improved reclamation of lands impacted by oil and gas well-pad site development



Kevin Sedivec¹, Thomas DeSutter², Ryan Limb¹, Aaron Daigh², Amit Chatterjee²,
and Frank Casey²

¹Range Program, ²Department of Soil Science - School of Natural Resource
Sciences
North Dakota State University

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e. A pilot project to study and to test the best techniques for remediating salt and any other contamination from the soil surrounding brine ponds in the north central portion of this state which were active between 1951 and 1984. The industrial commission may contract with or cooperate with research facilities in this state to conduct the study. **Estimate \$720,000**



EERC Pilot Project to Remediate Soil Surrounding Legacy Brine Pits

**Oil & Gas Research Council Meeting
Bismarck, North Dakota
Thursday, August 20, 2015**

**John Harju
Associate Director**

**Jay Almlie
Sr. Research Manager**



Energy & Environmental Research Center (EERC)

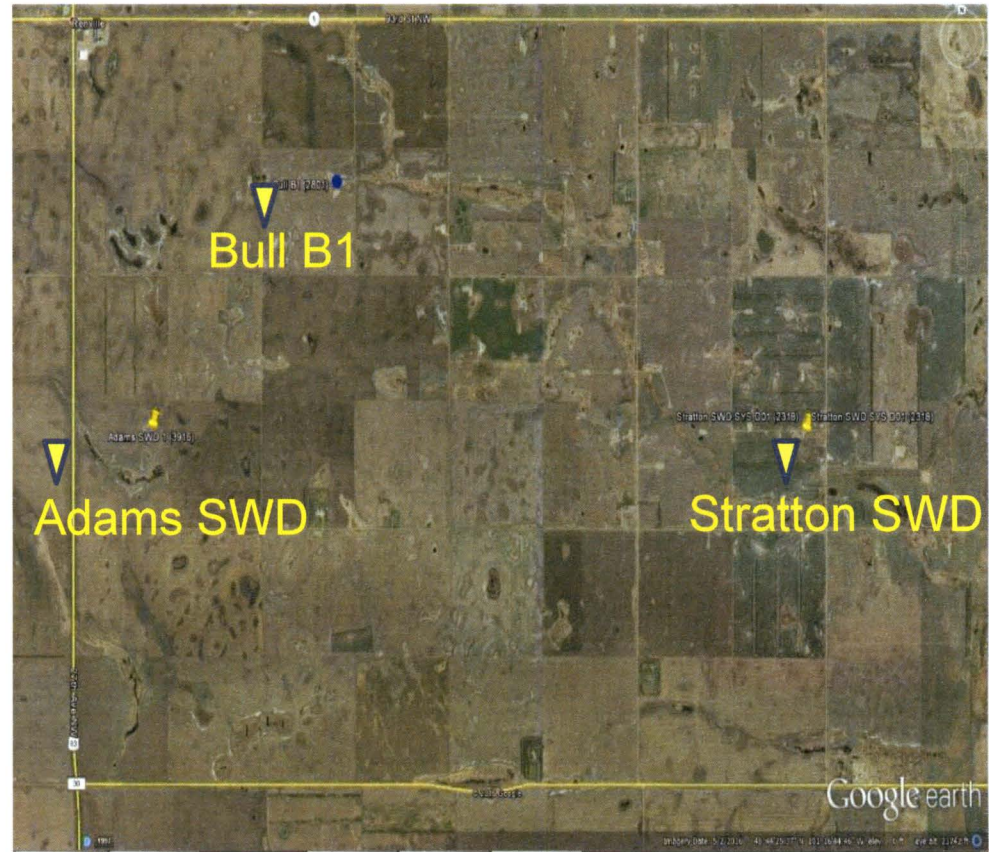


Challenges to Original Plan

- Deeper and wider contamination tripled the volume of soil needing treatment.
- Test wells to 210' and 320' produced sufficient water quality, but insufficient flow rate for irrigation.
- Extremely shallow current water table sits 2'–3' below surface, immersing nearly the entire concentrated pit.
- Current site operator has shut in all OG and SWD wells in the area due to oil price environment, and has laid off workers, leaving no convenient disposal options.
- Long-term leachate disposal needs created by scope adjustment create a post-project liability.

New Sites to Be Evaluated

- Bull B1 will be compared with:
 - Adams SWD 1
 - ◆ Spud: 7/21/65
 - ◆ Previously studied: *NO*
 - ◆ Operator: Ram Oil Co.
 - ◆ Landowner: Bryan Adams
 - ◆ Approval: *YES*
 - Stratton SWD SYS D01
 - ◆ Spud: 5/7/59
 - ◆ Previously studied: *YES (NDGS)*
 - ◆ Operator: Denbury (*sale in process*)
 - ◆ Landowner: Fossum Foundation (*NDSU*)
 - ◆ Approval: *YES, last week*



Install	\$76,000 per acre
Irrigate	\$22,000 per acre/year
SWD	\$84,000 per acre/year

SECTION XX. OIL AND GAS RESEARCH PROGRAM - CONTINUATION OF PIPELINE LEAK DETECTION STUDY - REPORT TO LEGISLATIVE MANAGEMENT

The amount of \$500,000 from the oil and gas research fund, or so much of the amount as may be necessary, may be used for the purpose of funding, on a nonmatching basis, a special project through the energy and environmental research center at the university of North Dakota during the biennium beginning July 1, 2017, and ending June 30, 2019 for a pipeline leak detection and risk assessment study or studies. The industrial commission through the oil and gas research program shall contract with the energy and environmental research center to further analyze leak detection and monitoring technology and risk assessment on new and existing pipeline systems, and provide a report with recommendations to the industrial commission and the energy development and transmission committee.

#1 HB1347 3-21-17
Rep. Anderson



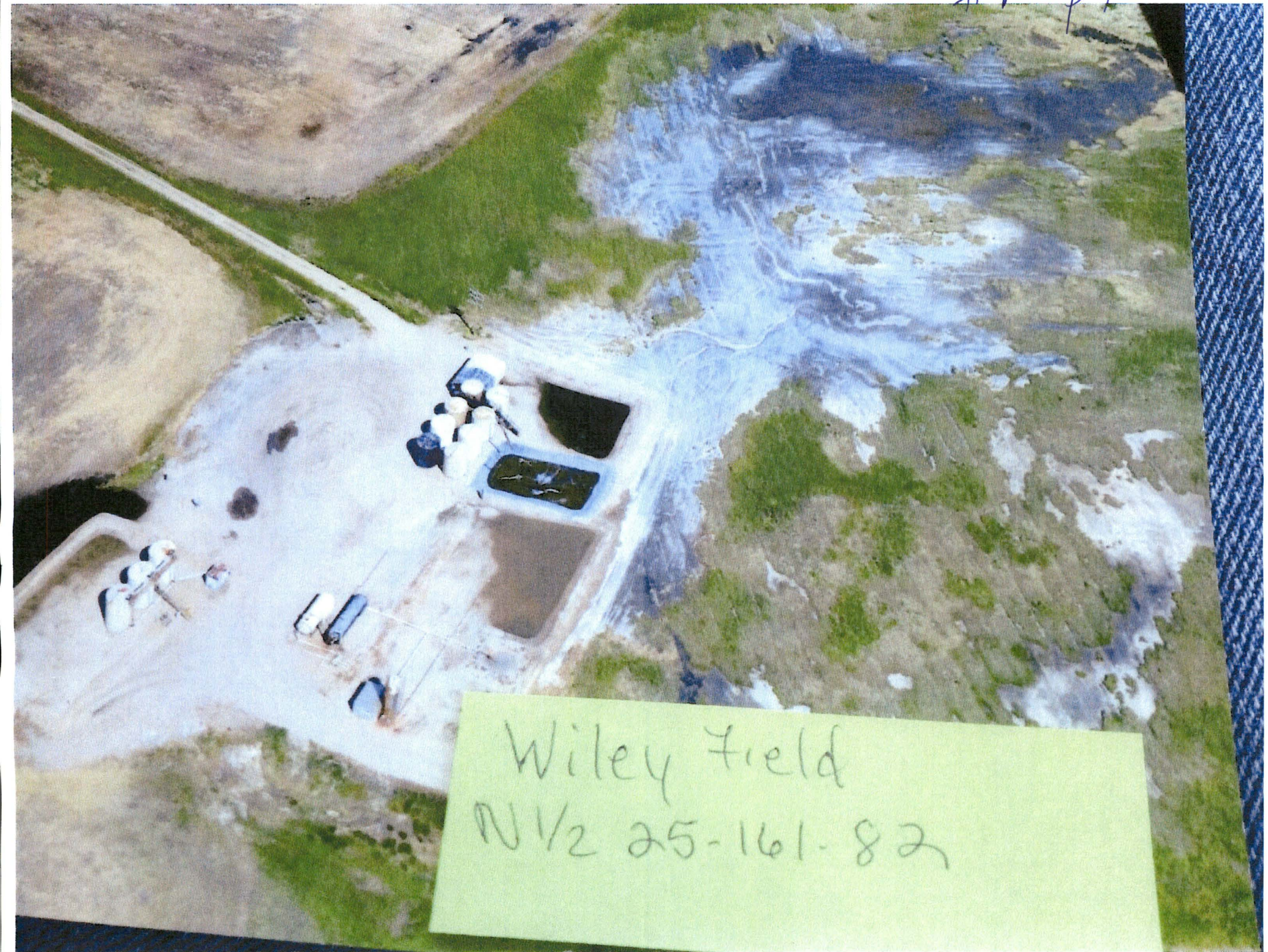
#1
P2



#1 p3



#1 p4



Wiley Field
N 1/2 25-161-82

3-21-17

HB1347

#2

p1



**North Dakota Mineral Resources
Abandoned Well Plugging and Site Restoration Fund
Status and Outlook**

Senate Appropriations Committee

March 21, 2017

**Lynn D. Helms, Director
Department of Mineral Resources
North Dakota Industrial Commission**

Abandoned Well Plugging and Site Restoration Fund “AWPSRF”

- Established 1983
- Pay plugging and reclamation costs where no responsible party exists
- Originally funded by:
 - Fees paid to the Oil and Gas Division
 - Confiscated bonds
- Amended 2013 the fund is currently supported through a combination of:
 - A portion of the gross production tax (\$7.5 million per fiscal year)
 - Fees paid to the Oil and Gas Division
 - Confiscated bonds
 - Collected civil penalties
- The AWPSRF currently has approximately \$14.5 million dollars
 - Fund capped at \$100 million
 - General Program
 - Legacy Program limited to \$1.5 million per biennium

HB 1032: AWPSRF Balance Sheet

July 1, 2015 - Dec. 31, 2016

• July 1, 2015 beginning balance	\$11.5 Million
<hr/>	
• <u>Revenue</u>	<u>\$8.1 M</u>
– Gross Production Tax	\$6.7 M
– Conf. Bonds/Civil Penalties	\$0.3 M
– OGD Fees	\$0.4M
• <u>General Program</u>	<u>\$1.8 M</u>
– Plugging and Reclaim	\$1.7 M
– Illegal Dumping	\$0.1M
• <u>Legacy Program</u>	<u>\$1.2 M</u>
– Site Reclaim	\$0.9 M
– Study	\$0.3 M
• <u>Legislative Transfers</u>	<u>\$2.1 M</u>
<hr/>	
• AWPSRF	\$14.5 Million

Abandoned Well Plugging and Site Restoration Fund “AWPSRF”

57-51-15. Gross production tax allocation.

The gross production tax must be allocated monthly as follows:

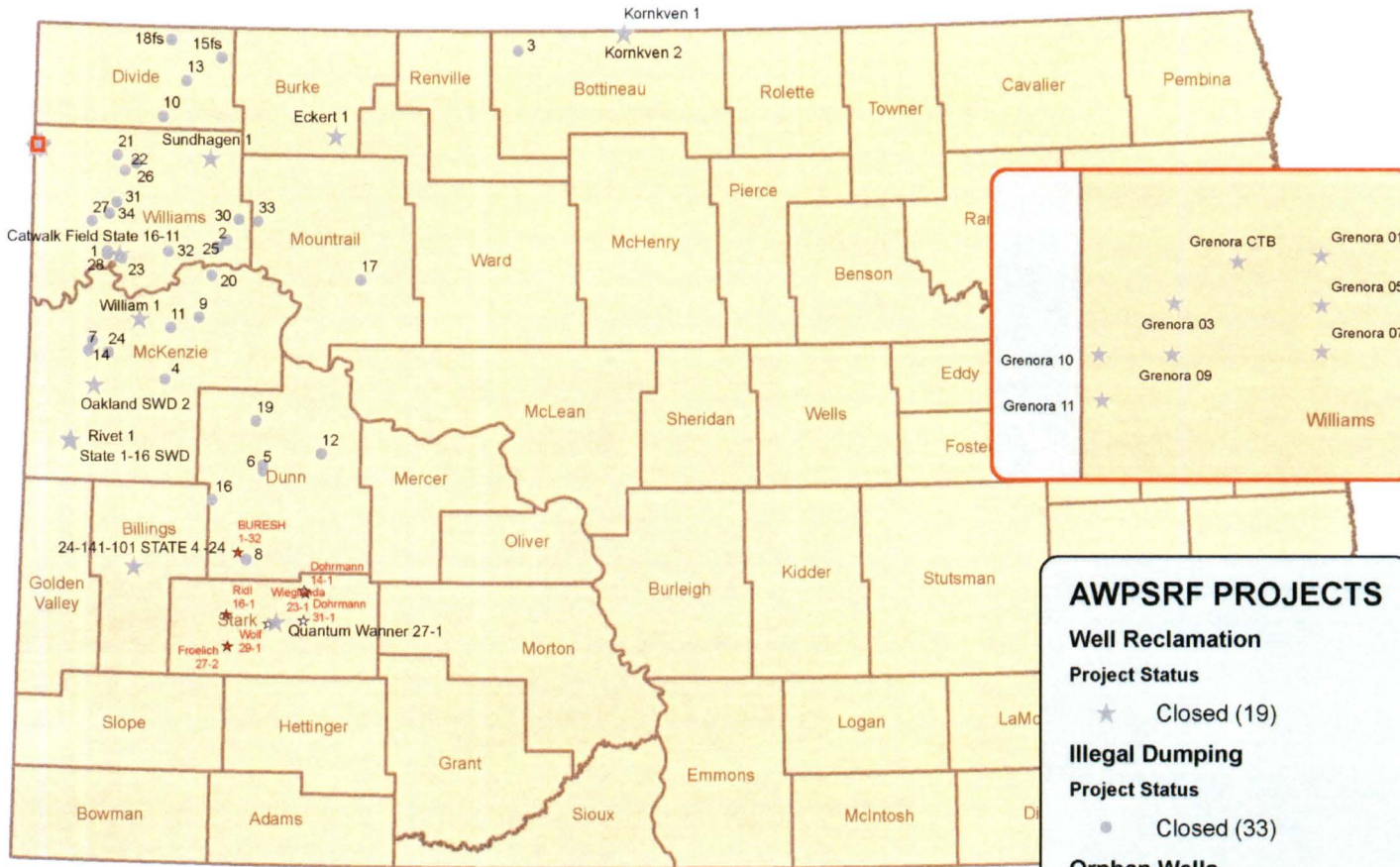
1. First the tax revenue collected under this chapter equal to one percent of the gross value at the well of the oil and one-fifth of the tax on gas must be deposited with the state treasurer who shall:
 - g. Credit four percent of the amount available under this subsection to the abandoned oil and gas well plugging and site reclamation fund, but not in an amount exceeding seven million five hundred thousand dollars in a state fiscal year and not in an amount that would bring the balance in the fund to more than one hundred million dollars; and

AWPSRF – General Program

- General Program
 - Plugging and reclamation of sites (1983-present)
 - Where a company has defaulted on their responsibilities and the state seized the bond, equipment, and salable oil
 - The commission shall seek reimbursement for all reasonable expenses incurred in plugging any well or reclaiming any well site through an action instituted by the Attorney General
 - Illegal dumping of oil-field waste
 - Examples include:
 - Production Water
 - Filter Socks
 - Frac fluid and proppant
 - Production equipment

AWPSRF – General Program

Abandoned Well Plugging and Site Restoration Fund Program (AWPSRF)

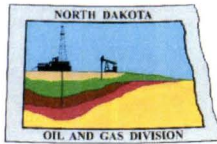


AWPSRF PROJECTS

Well Reclamation
Project Status
 ★ Closed (19)

Illegal Dumping
Project Status
 ● Closed (33)

Orphan Wells
Project Status
 ★ Open (3)
 ☆ Closed (4)



North Dakota Industrial Commission
 Department of Mineral Resources
 Oil and Gas Division

State 4-24: Re-plugging Billings County, ND; Spring 2016



Well PA 1984 – 2 historical operators – no longer exist

State 4-24: Re-plugging Billings County, ND; Spring 2016



\$180,000 – re-plugged and reclaimed

AWPSRF #9: Illegal Dumping McKenzie County, ND; Winter 2014-Spring 2016



Salt water dumped off county road onto private pasture
Affected ½ mile of drainage and two stock ponds
No responsible party identified

AWPSRF #9: Illegal Dumping McKenzie County, ND; Winter 2014-Spring 2016



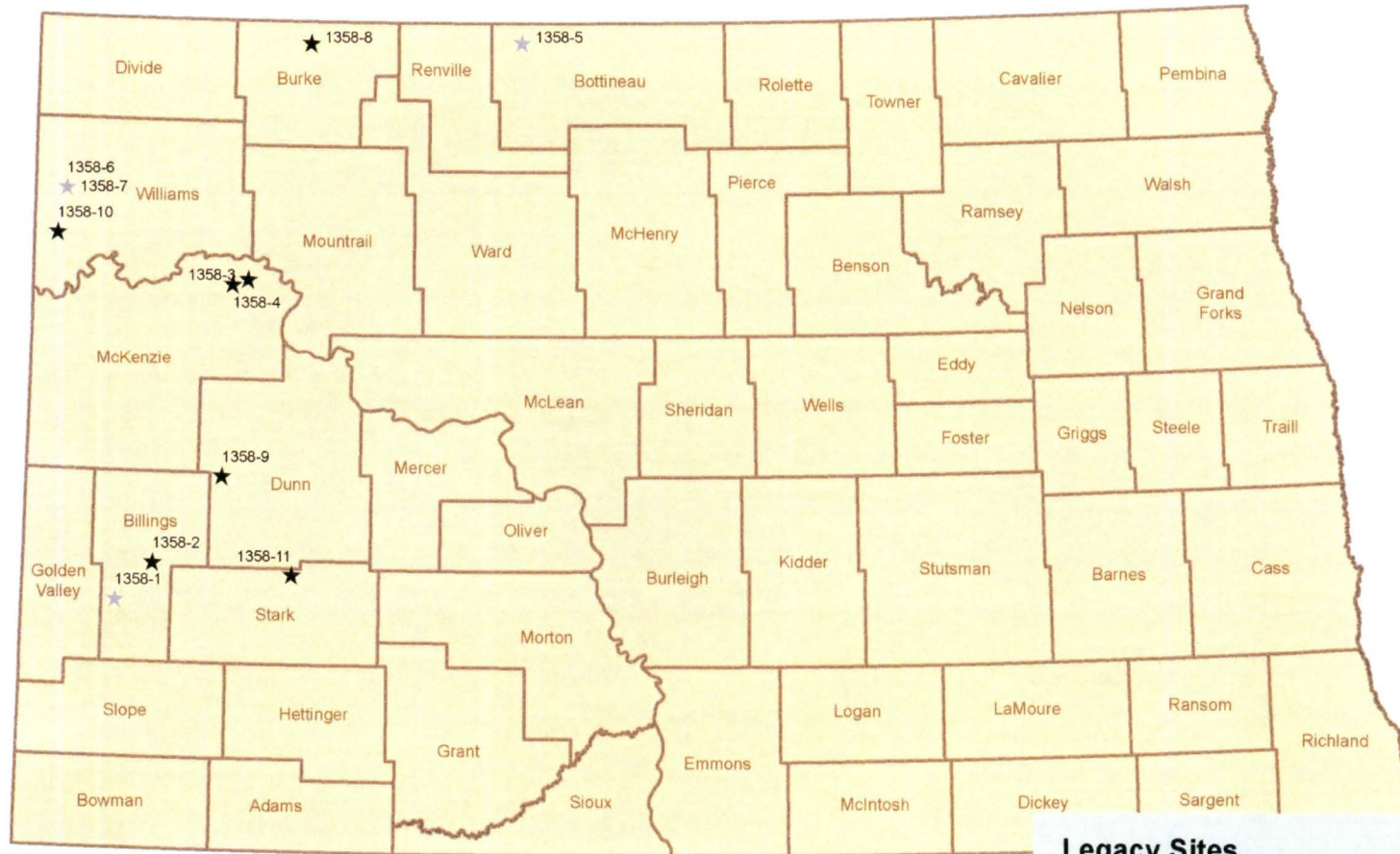
\$456,000 - remediation, reclamation, revegetation

AWPSRF - Legacy Program

- 2015 State Legislature expanded the scope of the AWPSRF to include the legacy program
- Allocated additional \$1.5 million dollars per biennium
 - Dedicated to “legacy” pre-1983 oil field issues
 - No continuing reclamation responsibility covered under state law
 - Situations originated prior to state laws requiring reclamation
 - Allowed AWPSRF to cover reclamation of eligible pre-1983 oil filed issues
 - Examples include:
 - Reclaiming old reserve pits
 - Properly abandoning old flowlines
 - Plugging seismic “shot holes”

AWPSRF - Legacy Program

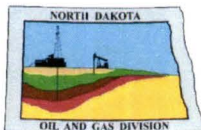
House Bill 1358 Legacy Sites



Legacy Sites

Project Status

- ★ Closed (4)
- ★ Open (7)



North Dakota Industrial Commission
 Department of Mineral Resources
 Oil and Gas Division

1358-1: Historical Reserve Pit

Billings County, ND; Fall 2015-Spring 2016



Dry hole plugged and released from bond in 1966
Met all reclamation requirements at the time
Reserve pit eroding into Little Missouri River

1358-1: Historical Reserve Pit

Billings County, ND; Fall 2015-Spring 2016



\$569,000 – excavated and reclaimed

1358-5: Flow line

Bottineau County, ND; Fall 2015



Wells plugged in 1968 and 2001
No flow line abandonment rules at that time
Flow line to central tank battery

1358-5: Flow line
Bottineau County, ND; Fall 2015



\$102,000 – excavated, reclaimed, and reseeded

1358-6/7: Plugged Shot Holes

Williams County, ND; Fall 2015-Spring 2016



Artesian flow from 16 seismic shot holes improperly plugged in the 1970s

Approximately 45 acres too wet to farm now dry

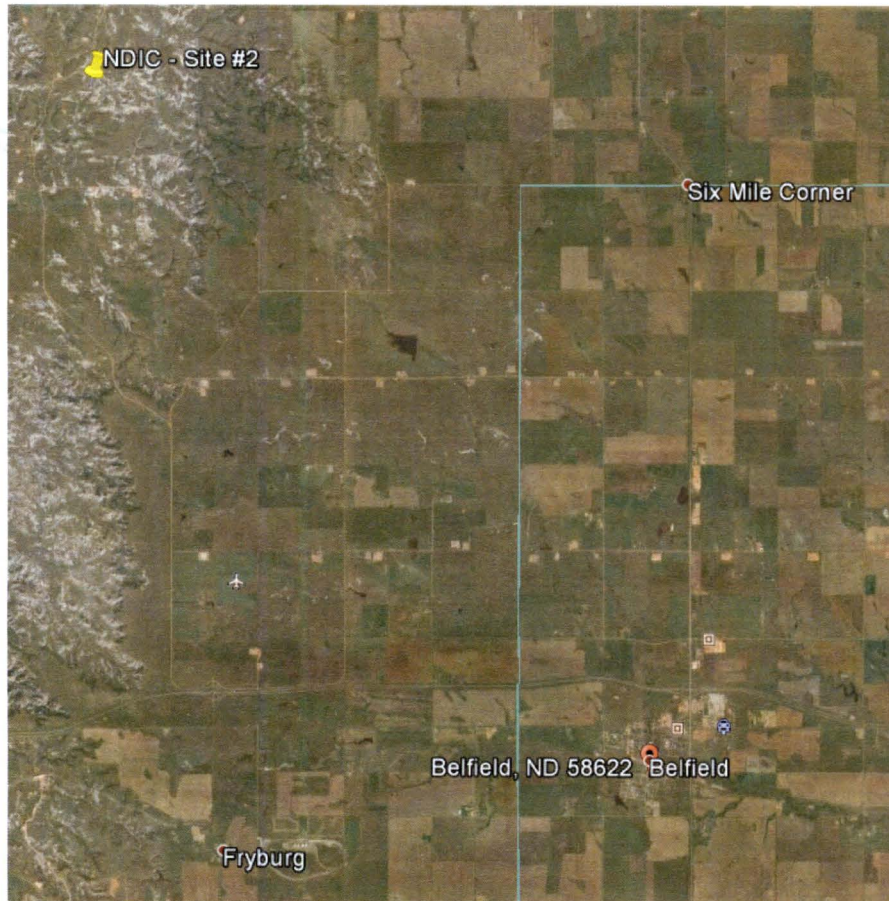
1358-6/7: Plugged Shot Holes

Williams County, ND; Fall 2015-Spring 2016

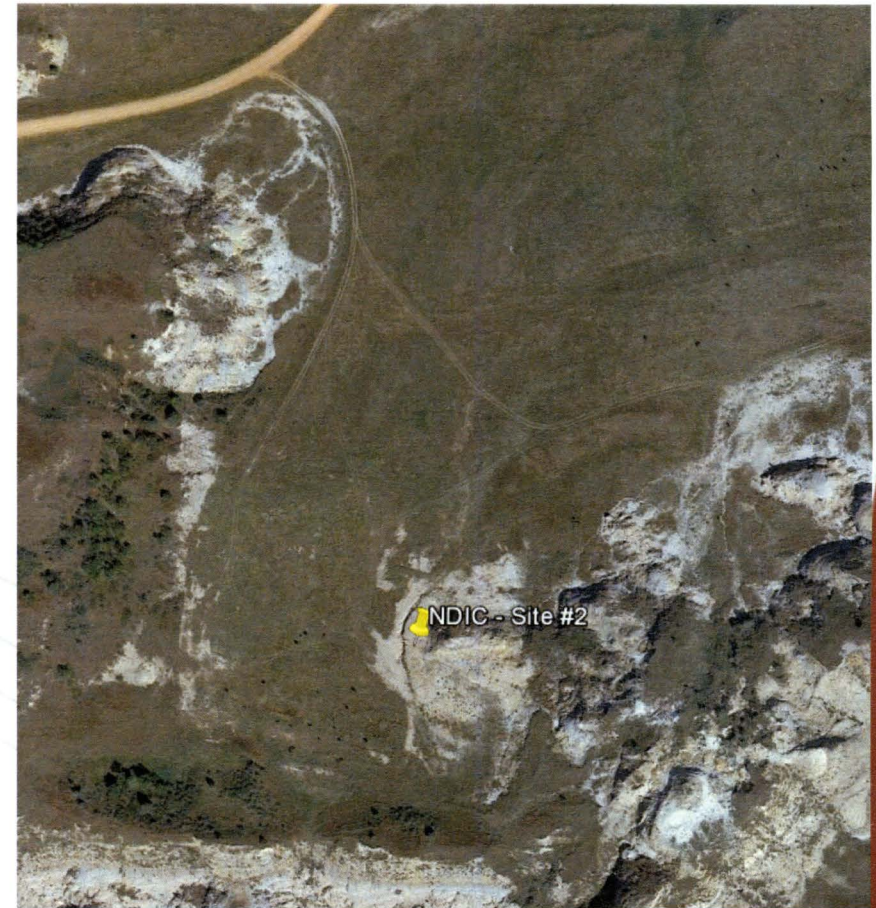


\$115,000 – plugged and ready to farm next spring

Site #2 – Pit Washing into Pasture Land, NW of Fryburg / Belfield, ND

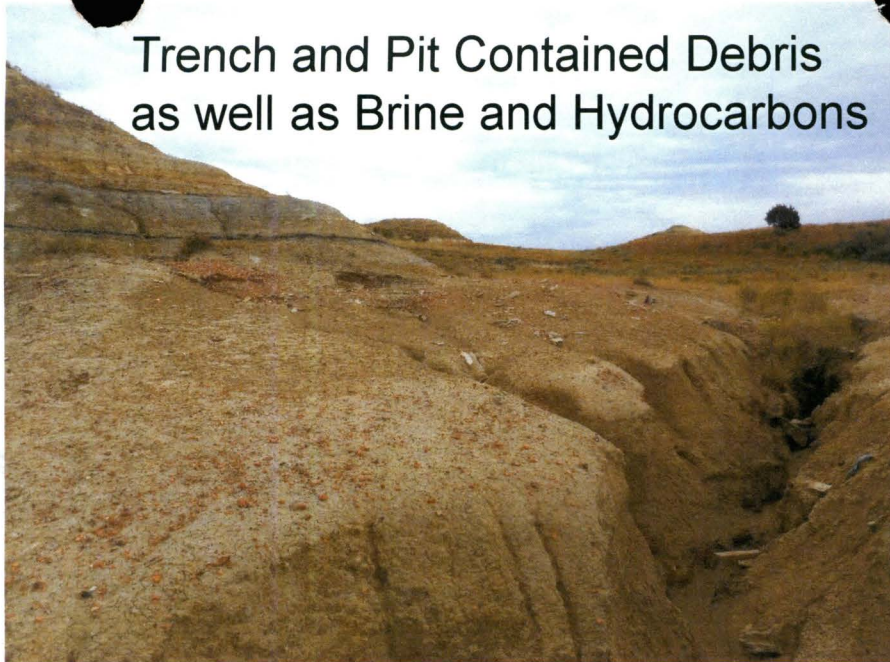


Approximately 9 miles north of Fryburg, ND

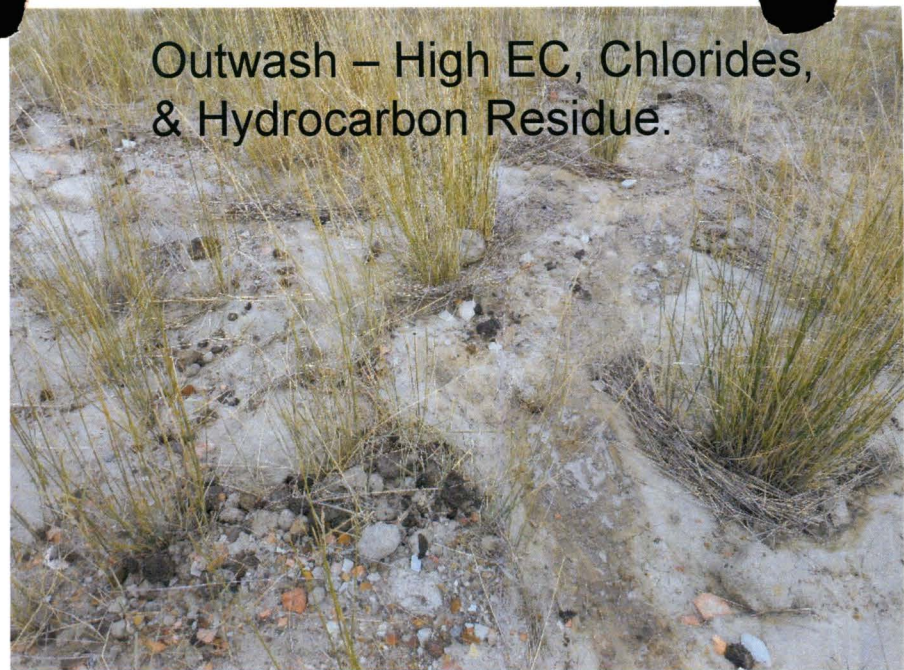


10 foot gully cutting through pit – depositing NE

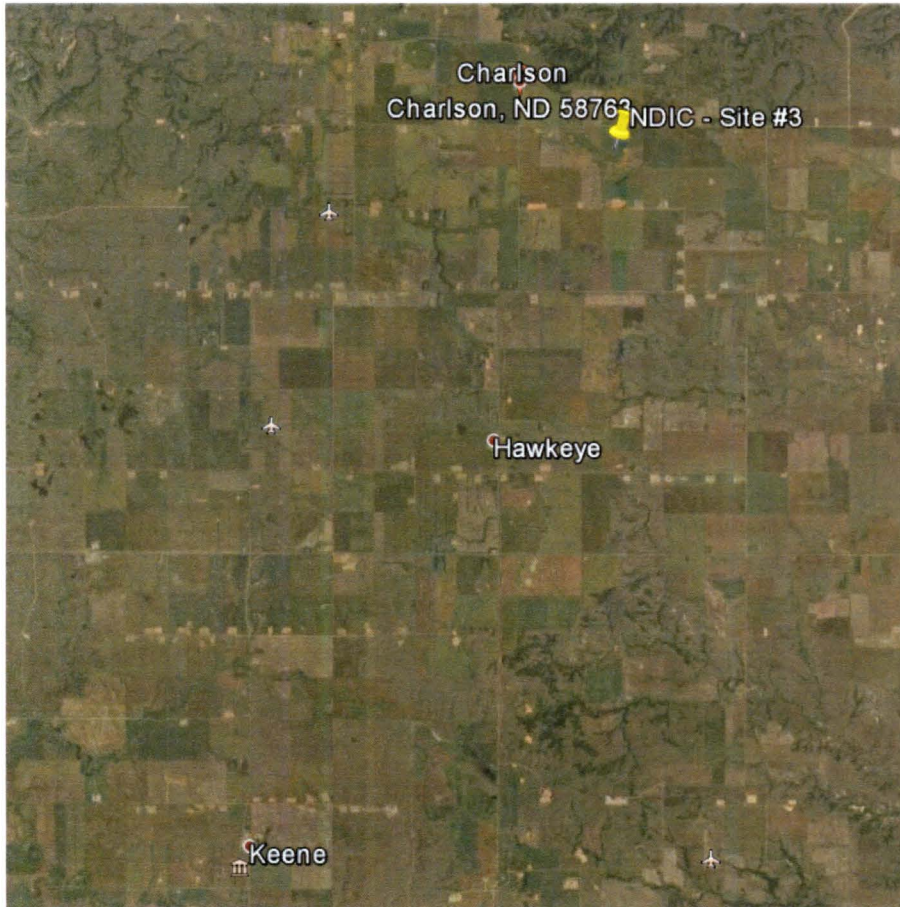
Trench and Pit Contained Debris
as well as Brine and Hydrocarbons



Outwash – High EC, Chlorides,
& Hydrocarbon Residue.



Site #3 – Pit Washing into Little Antelope Creek SE of Charlson, NE of Keene, ND



Approximately 12 miles Northeast of Keene, ND



Pit washing into coulee.



Short-Term Budget Estimated Costs

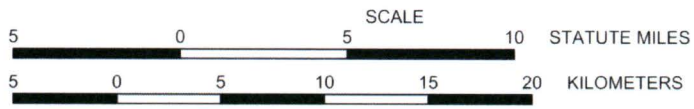
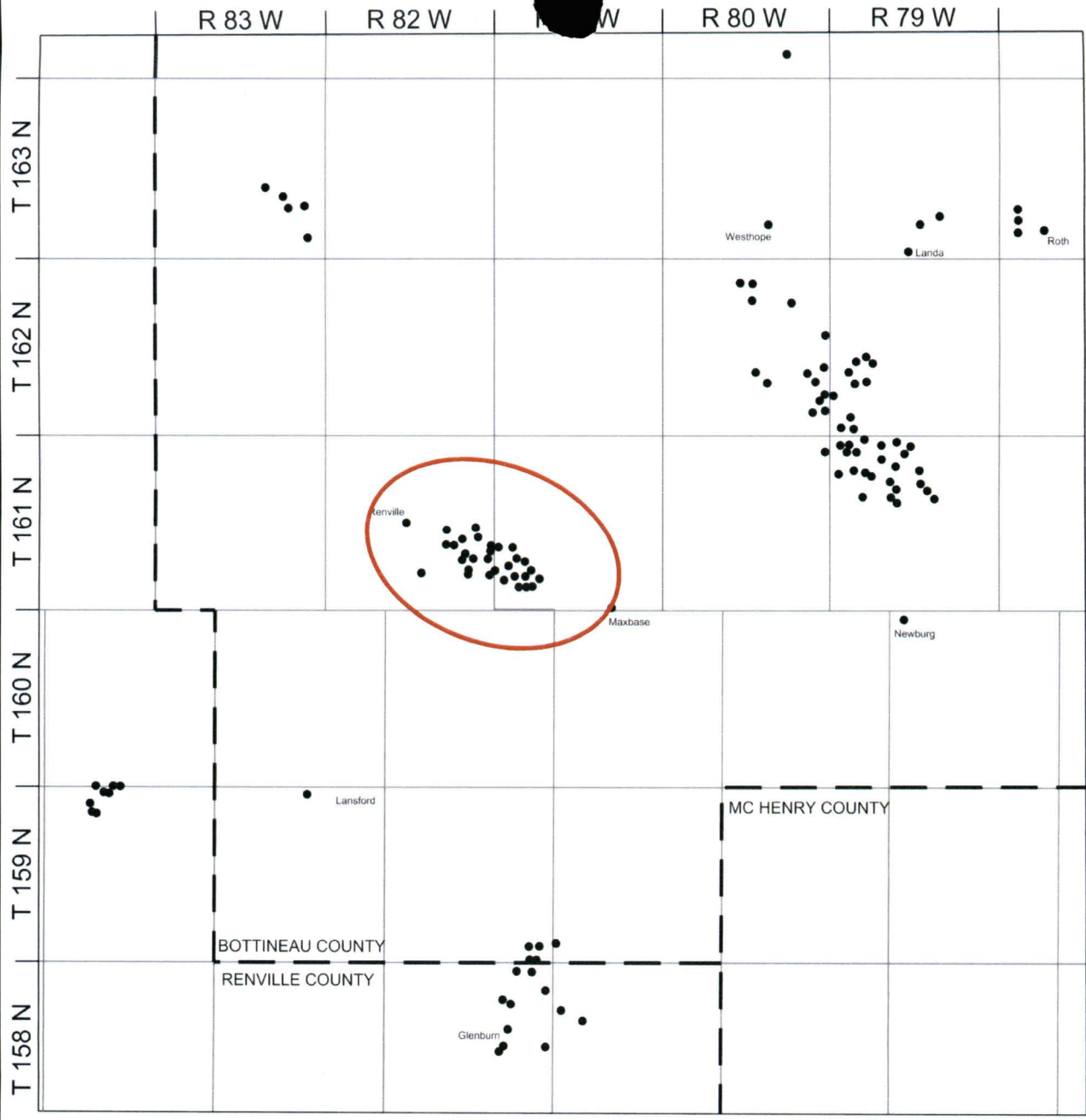
	<u>Description</u>	<u>Status</u>	<u>Cost estimate</u>	<u>Project Cost to Date</u>
Site #1	Pit	Done		\$568,853
Site #2	Pit		\$678,000	\$33,997
Site #3	Pit		\$2,742,400	\$45,861
Site #4	Doesn't Qualify			
Site #5	Leaking Pipeline	Done		\$102,200
Site #6	Seismic Shot Holes	Done		\$68,340
Site #7	Seismic Shot Holes	Done		\$56,494
Site #8	Possible Leaking well		\$190,000	
Site #9	Seismic Shot Holes	Done		\$28,000
Site #10	Seismic Shot Holes	Done		\$20,000
<u>Site #11</u>	<u>Seismic Shot Holes</u>		<u>\$50 to 70K</u>	
Total			\$3 million	\$918,783

NDSU SOILS DEPT 1984 STUDY

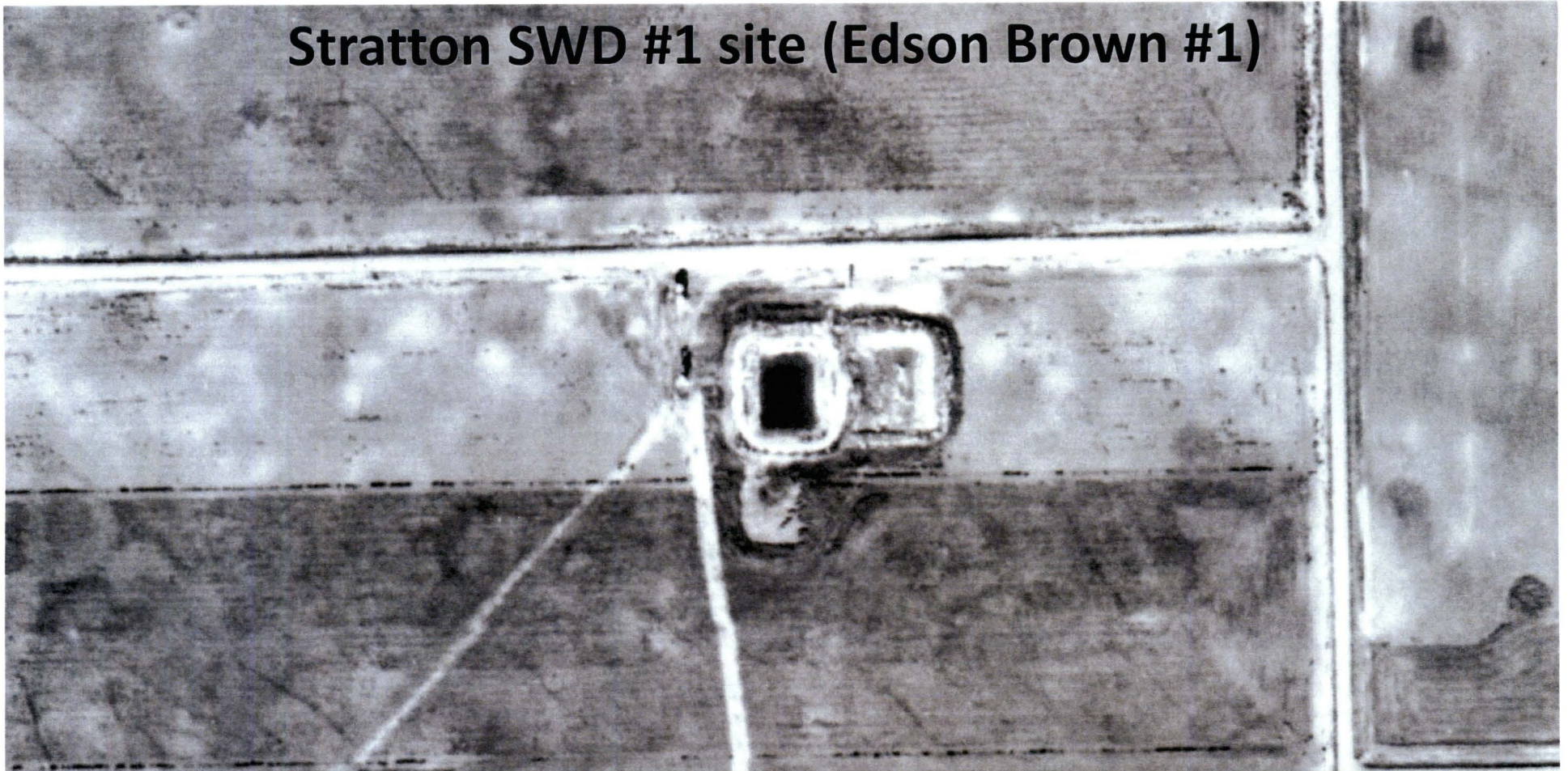
Identified 121 old brine pond sites in Bottineau and Renville Counties.

Estimated the area contaminated by old brine ponds at 1,450 acres (average of 12 acres per site).

Interpreted aerial photographs from various years and scales.



Stratton SWD #1 site (Edson Brown #1)



Drilled in 1959 by Cardinal Petroleum (Edson Brown #1). Produced oil from 1959-1970. Converted to a saltwater disposal well by Phillips Petroleum in 1978 (Stratton SWD #1). The site contained two brine holding ponds from 1959 to at least 1970 (with dimensions of 100 x 90 ft and 60 x 100 ft and 5 feet deep). Produced 178,000 barrels of saltwater.

Stratton SWD #1 (Fossum Site 1)



1985

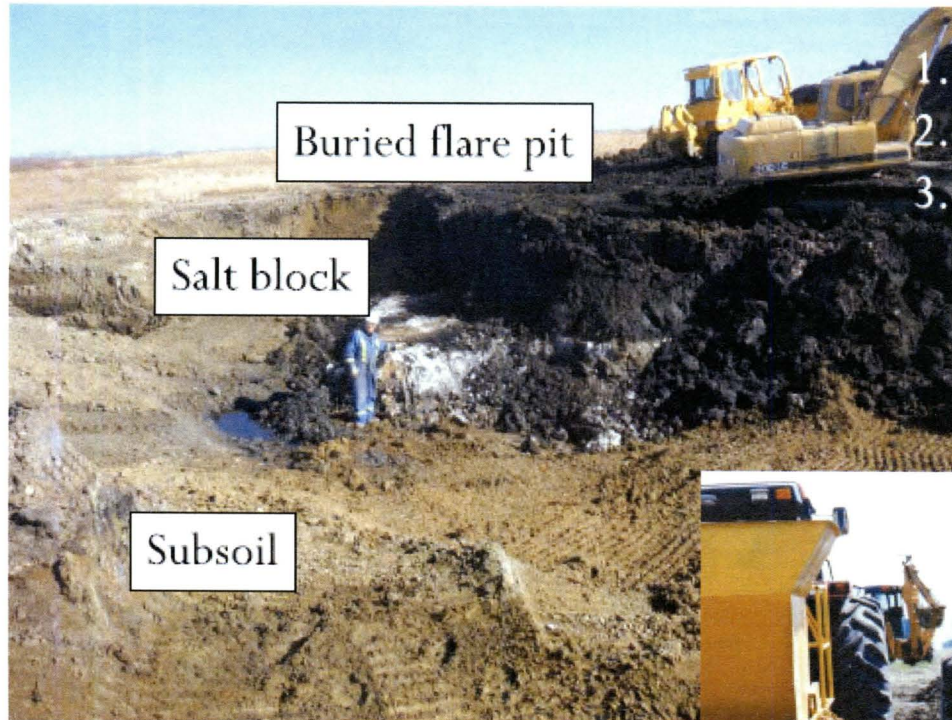
A high salinity plume extends laterally around the site over an area of 250,000 ft² (about 6 acres).

Plume extends to a depth of over 80 feet (highest concentrations in top 40 feet).

Plume restricted to till and not impacting any useable water supply (ND Health Dept. concurred in 2006).

High chloride levels at 160 feet (500 - 750 mg/l) appear to be coming from the underlying Fox Hills Formation (hydraulic heads).

Manitoba Remediation Process

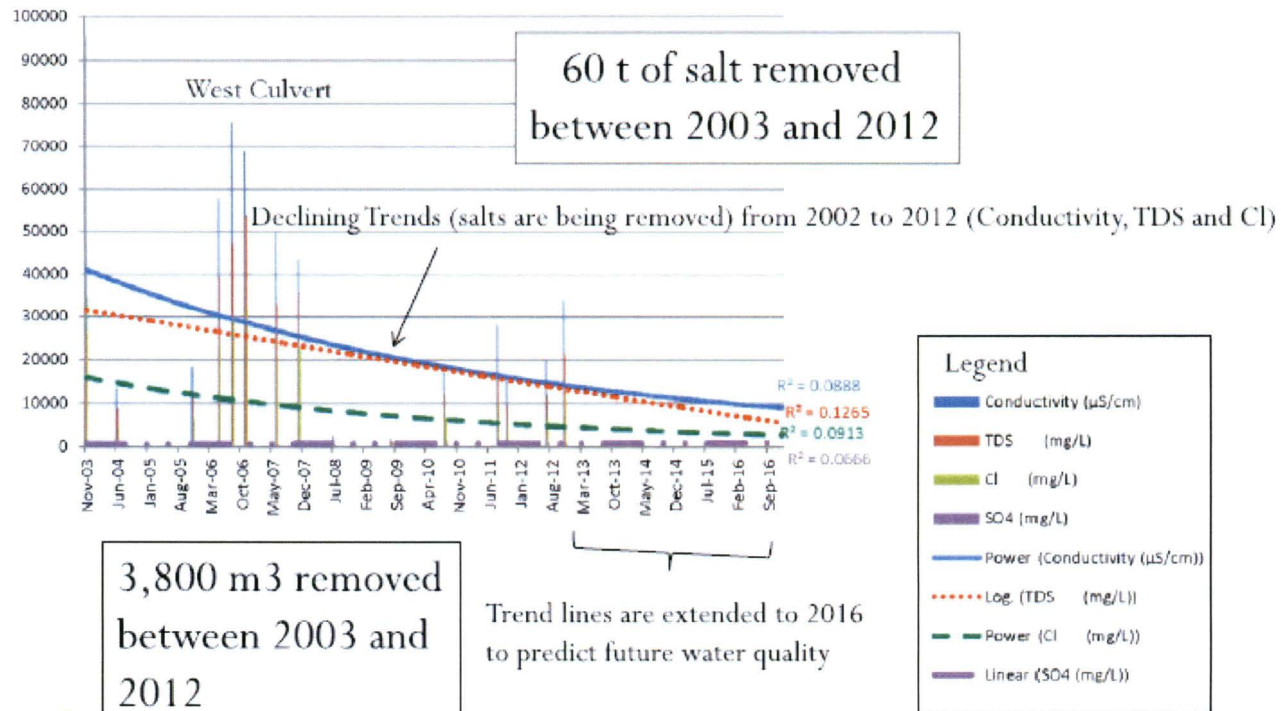


1. Remove source (flare pit).
2. Install sub-surface tile drains
3. Add surface amendments (calcium nitrate gypsum & straw).

4. Grow forages and dewater the tile system.



2. Water: Pump Out Water Quality of Tile System



Thank you

jennifer@goodlandsenviron.com

2002:
Before tile system



2013



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b. A study of the number of brine ponds in the north central portion of this state which were active between 1951 and 1984 and for which landowners received compensation due to contamination to the surrounding soil. **Estimate \$125,000**

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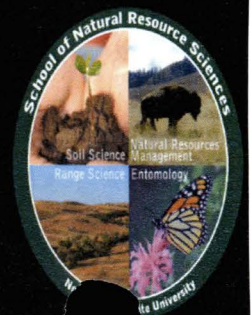
Estimate \$435,000

Reclamation Options for Legacy Brine Waste Pits in North-central North Dakota: Effects of remediation techniques on grass species

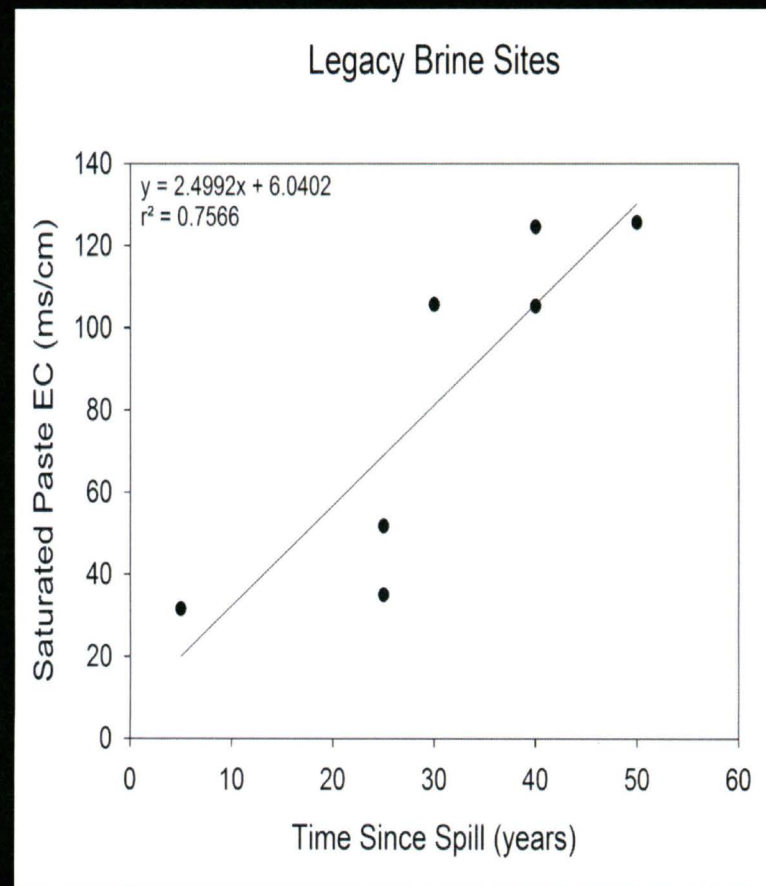
Funded by Abandoned Oil and Gas Well Reclamation Fund 405-448-15

**Drs. Ryan Limb, Kevin Sedivec,
Aaron Daigh, and Tom DeSutter**

*School of Natural Resource
Sciences*



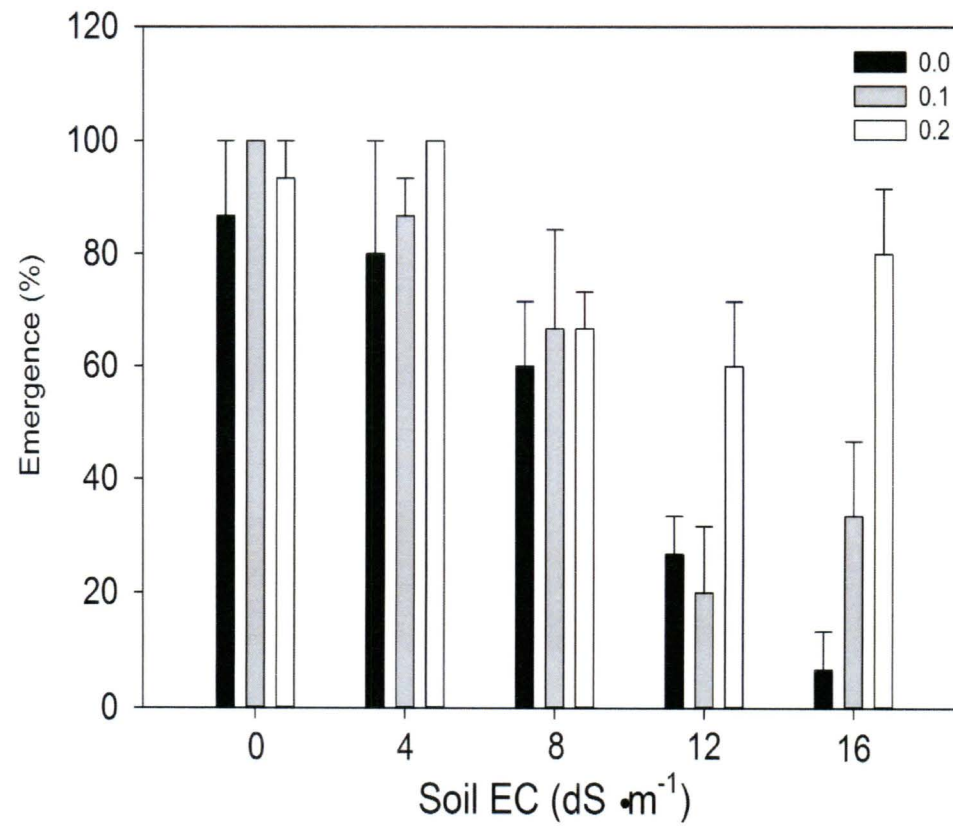
Electrical Conductivity (EC) of selected legacy sites in north-central North Dakota



Data collected by

37

Western wheatgrass

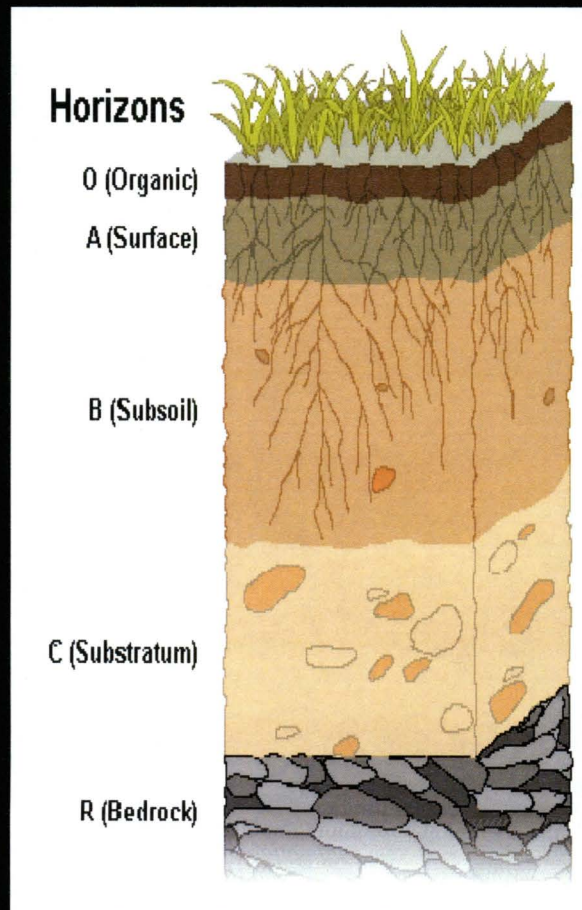


Leaching Column Results

- No difference between amendment types (commercial vs gypsum)
- There was a more than one magnitude reduction in EC (78.4 to 4.67 dS m⁻¹) for all treatments after trial termination.
 - Based on these findings, we CAN MOVE water and salt down the soil profile

Findings to Date

- Harvest the salts from the soil through the plants



Findings to Date

- Ferric hexacyanoferrate ($C_{18}F_7N_{18}$) crystallization inhibitor DID NOT work on legacy sites
- Nuttall alkaligrass, alkali sacaton, inland saltgrass were superior grass species to plant on brine impacted soils
 - Western wheatgrass worked successfully on soils with EC levels $< 20 \text{ dS m}^{-1}$

Plans for Current Project in 2017

- Collect field data on grass plug and seeded plots to test impacts of amendments (survivability)
 - May - June 2017
- Write-up a final report on the current project by June 30, 2017

Future Directions

- Continue current project to determine long-term impacts of amendments tested
 - Plant survival
 - Salt removal from the soil profile by amendment and plant species
 - By seeding technique

Future Directions

- ▶ Layer the remediation techniques by soil profile
 - ▶ Apply amendments on subsoil
 - ▶ Incorporate
 - ▶ Add water (in real world wait for substantial rain event)
 - ▶ Re-spread surface soil
 - ▶ Repeat amendment application
 - ▶ Compare different amendments
 - ▶ Add water (rain)

Soil Profile

Horizons

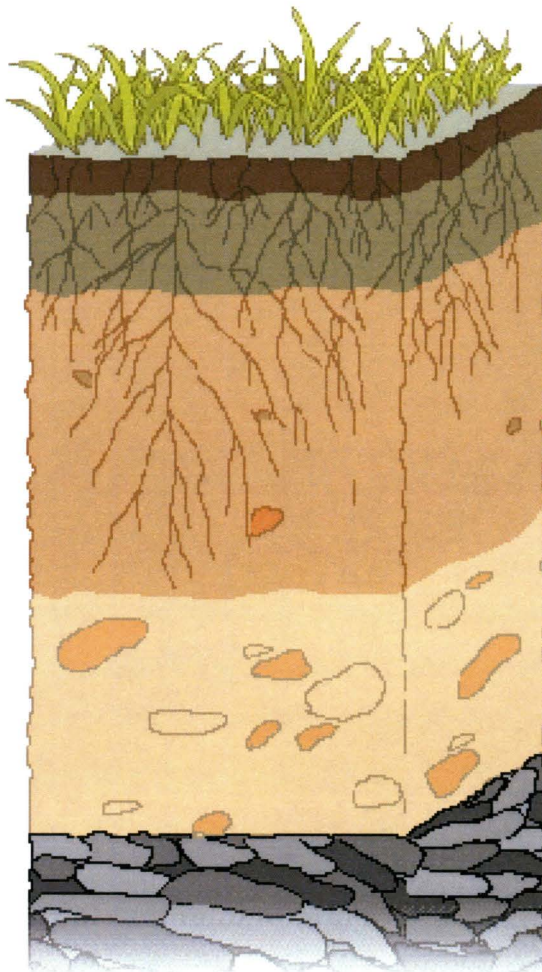
O (Organic)

A (Surface)

B (Subsoil)

C (Substratum)

R (Bedrock)



Amendments

- Moist Organic Matter (readily available)
 - Fresh cut alfalfa
 - Manure
- Gypsum
 - With and without
- Incorporate

SECTION 2. APPROPRIATION - ABANDONED OIL AND GAS WELL PLUGGING AND SITE RECLAMATION FUND - ONE-TIME FUNDING - EXEMPTION - BRINE POND AND SOIL REMEDIATION STUDIES - REPORT TO LEGISLATIVE MANAGEMENT.

1. Notwithstanding section 38-08-04.5, there is appropriated out of any moneys in the abandoned oil and gas well plugging and site reclamation fund in the state treasury, not otherwise appropriated, the sum of \$5,000,000, or so much of the sum as may be necessary, to the industrial commission for the purpose of conducting brine pond and soil remediation studies, for the biennium beginning July 1, 2017, and ending June 30, 2019. The funding provided in this section is considered a one-time funding item. The industrial commission shall conduct the following studies, during the biennium beginning July 1, 2017, and ending June 30, 2019:

d. A study of the best techniques for remediating soil compaction due to oil and gas operations on well and facility sites in this state. The industrial commission may contract with or cooperate with research facilities in this state to conduct the study. Estimate \$370,000

Reducing soil compaction for improved reclamation of lands impacted by oil and gas well-pad site development



Kevin Sedivec¹, Thomas DeSutter², Ryan Limb¹, Aaron Daigh², Amit Chatterjee²,
and Frank Casey²

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Sciences

North Dakota State University

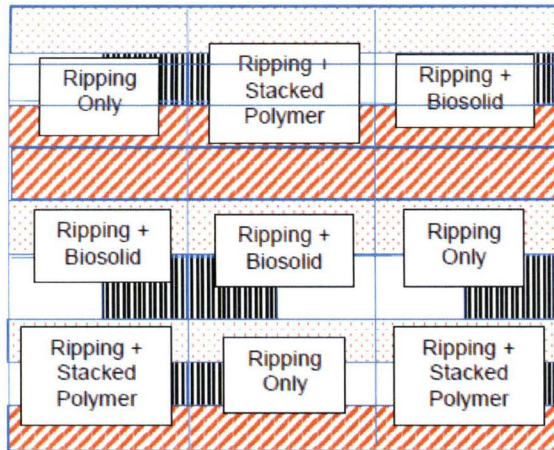





Figure 4. Study design using a split-split plot design representing hydroseeding , mulch seedbed , and no seedbed  preparation prior to seeding perennial grass mixture.

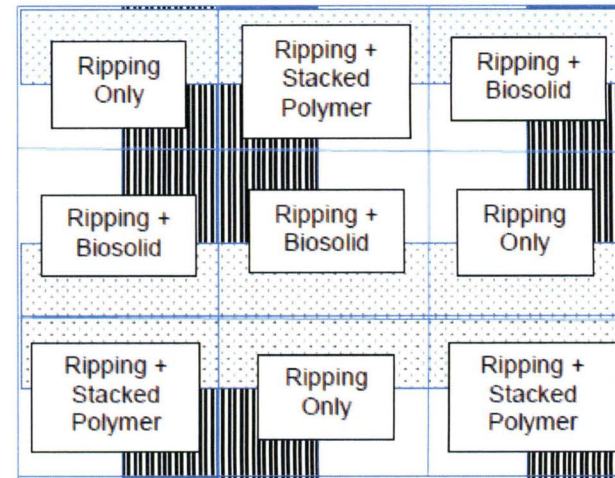


Figure 3. Study design using a split plot design representing 2016 cash grain: 2017 cash grain crop , and 2016 cover crop: 2017 cash grain crop .

Proposed Action 1 – Study soil ripping with and without injection of selected amendments on compacted soils of oil well-pads.

Proposed Action 2 – Study different seed bed preparation techniques on soils treated with different ripping treatments on compacted soils of oil well-pads.

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e. A pilot project to study and to test the best techniques for remediating salt and any other contamination from the soil surrounding brine ponds in the north central portion of this state which were active between 1951 and 1984. The industrial commission may contract with or cooperate with research facilities in this state to conduct the study. Estimate \$720,000



Energy & Environmental
Research Center

LEGACY BRINE PIT PROJECT

Wednesday, March 15, 2017

Presentation to the North Dakota Industrial
Commission
Bismarck, ND

Bethany Kurz
Principal Hydrogeologist

Critical Challenges. **Practical Solutions.**

Challenges to Original Plan

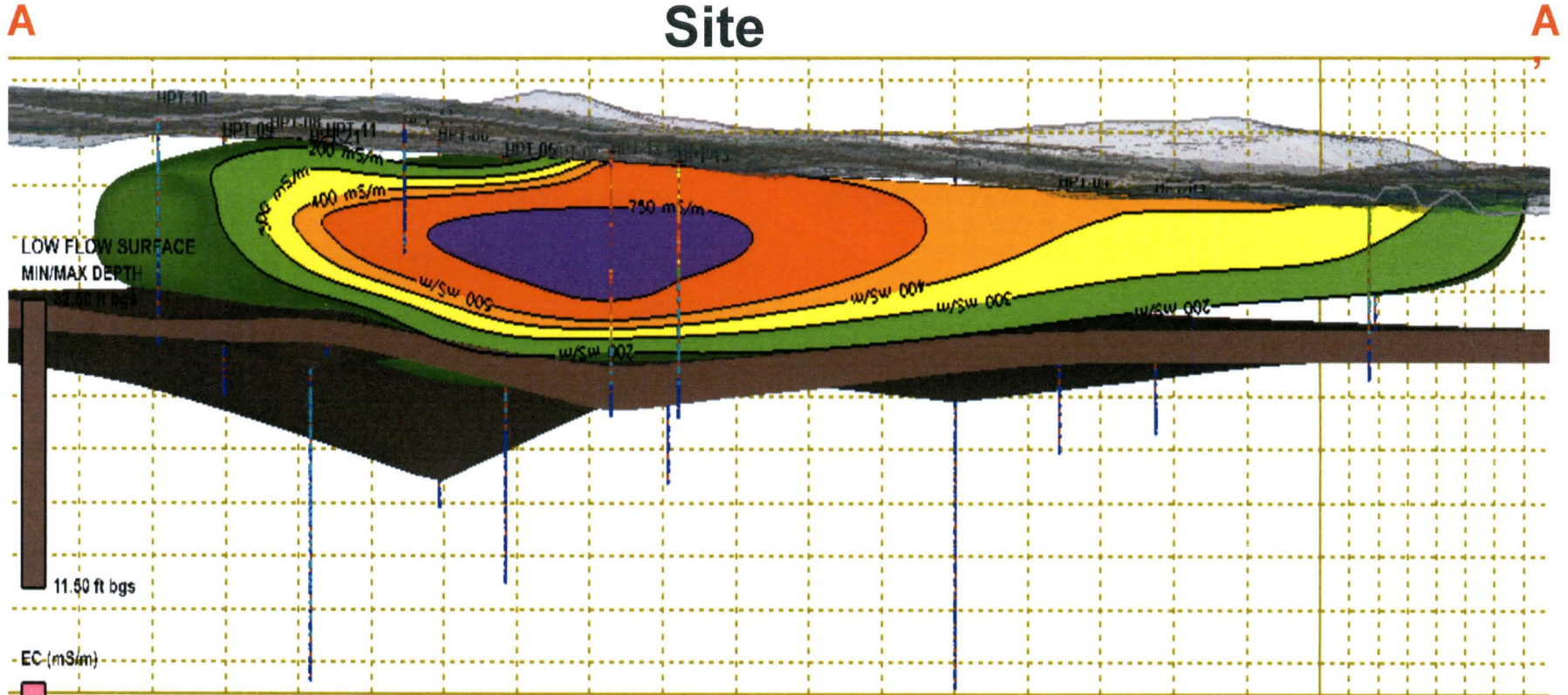
- Deeper and wider contamination tripled the volume of soil needing treatment.
- Test wells to 210' and 320' produced sufficient water quality, but insufficient flow rate for irrigation.
- Extremely shallow current water table sits 2'–3' below surface, immersing nearly the entire concentrated pit.
- Current site operator has shut in all OG and SWD wells in the area due to oil price environment, and has laid off workers, leaving no convenient disposal options.
- Long-term leachate disposal needs created by scope adjustment create a post-project liability.

3D Visualization of Electrical Conductivity (mS/m)
EERC - 0263.16 (Bull)
Minot, ND
Vertical Exaggeration = 5:1

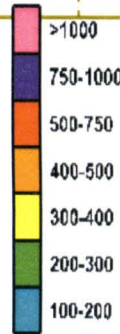
CONDUCTIVITY above 200 mS/m

Vertical Slice, Easting = 1,782,961.0 ft
Slice Azimuth = 25 degrees

Bull B1 Site



EC (mS/m)



CONDUCTIVITY above 200 mS/m

Key Conclusions

- Very little is known about the lateral extent and depth of contamination at legacy brine pit sites.
- Salt-impacted zones extend well beyond the original pit area and may be increasing in size.
 - Contaminant migration is exacerbated by the shallow water table in the prairie pothole region.
- Soil remediation (soil amendments/irrigation) coupled with drain tile may be a mechanism to remediate the near surface soils (0–6 feet), but costs are highly dependent on availability of freshwater supplies for irrigation as well as disposal options for the drain tile effluent.
- Given the low-permeability of the soils, in-situ treatment of the deeper zones will likely be challenging, and excavation of the contaminated soils is very expensive.

Recommendations for Future Work

- Characterization of additional sites.
 - Tools now exist for faster and more complete site characterization at a lower cost.
 - Will enable a more thorough assessment of potential remediation options.
- Pilot-scale evaluation of soil remediation coupled with tile drainage to better assess the economics and efficacy of the approach.
 - This should include an evaluation of water supply and disposal options and costs.
- Evaluation of alternate remediation approaches of the brine pits and/or surrounding salt-impacted soils (i.e. – in-situ treatment of the deeper zones of contamination; phytoremediation and/or constructed wetlands to treat surrounding soils).

SECTION 3. OIL AND GAS RESEARCH FUND - CONTINUATION OF PIPELINE LEAK DETECTION STUDY - EXEMPTION - REPORT TO THE LEGISLATIVE MANAGEMENT.

The industrial commission shall use \$500,000, or so much of the sum as may be necessary, from the oil and gas research fund to contract with the energy and environmental research center to continue a study regarding pipeline leak detection technology, for the biennium beginning July 1, 2017, and ending June 30, 2019. The study must include an analysis of leak detection and monitoring technology and a risk assessment of new and existing pipeline systems. Notwithstanding any oil and gas research program policies, the contract does not require matching funds. The energy and environmental research center shall provide a report to the industrial commission and the legislative management by September 30, 2018, regarding the results and recommendations of the study.

SECTION 2. APPROPRIATION - ABANDONED OIL AND GAS WELL PLUGGING AND SITE RECLAMATION FUND - ONE-TIME FUNDING - EXEMPTION - BRINE POND AND SOIL REMEDIATION STUDIES - REPORT TO LEGISLATIVE MANAGEMENT.

1. Notwithstanding section 38-08-04.5, there is appropriated out of any moneys in the abandoned oil and gas well plugging and site reclamation fund in the state treasury, not otherwise appropriated, the sum of \$5,000,000, or so much of the sum as may be necessary, to the industrial commission for the purpose of conducting brine pond and soil remediation studies, for the biennium beginning July 1, 2017, and ending June 30, 2019. The funding provided in this section is considered a one-time funding item. The industrial commission shall conduct the following studies, during the biennium beginning July 1, 2017, and ending June 30, 2019:

a. A study of the number of brine ponds in the north central portion of this state which were active between 1951 and 1984 and which require the remediation of salt and any other contamination from the surrounding soil. The industrial commission may contract with or cooperate with research facilities in this state to conduct the study. **Estimate \$100,000**

b. A study of the number of brine ponds in the north central portion of this state which were active between 1951 and 1984 and for which landowners received compensation due to contamination to the surrounding soil. **Estimate \$125,000**

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SECTION 2. APPROPRIATION - ABANDONED OIL AND GAS WELL PLUGGING AND SITE RECLAMATION FUND - ONE-TIME FUNDING - EXEMPTION - BRINE POND AND SOIL REMEDIATION STUDIES - REPORT TO LEGISLATIVE MANAGEMENT.

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c. A study of the best techniques for remediating salt and any other contamination from the soil surrounding brine ponds in the north central portion of this state which were active between 1951 and 1984 as a continuation of the study conducted pursuant to section 9 of chapter 254 of the 2015 Session Laws.

Estimate \$435,000

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