

What about your bread, your beer, and your beef?

“Salted Lands: Our Farmers’ Glory
or
Our Farmers’ Nightmare.”



ReviveTheDeadlands.org

SaltedLands.org

(414) 731-0520

Donny Nelson Land

Case Study

One landowner's quest to repair his land.

Small Tract Owner's information provided by Nelson obtained from McKenzie County 2022 Great Plains Directory

Well information as of 06-03-2024



Agenda

- Background
- Government Comments
- Situation Today
- Donny's Notes
- Data Insights
- Original Notes
- Formal Calculations
- Photos and Documents
- Supplemental Information
- Hess Application for additional wells

• Oilfield Roughneck Fintan

- Donny Nelson
- Bakken Mega Site in background

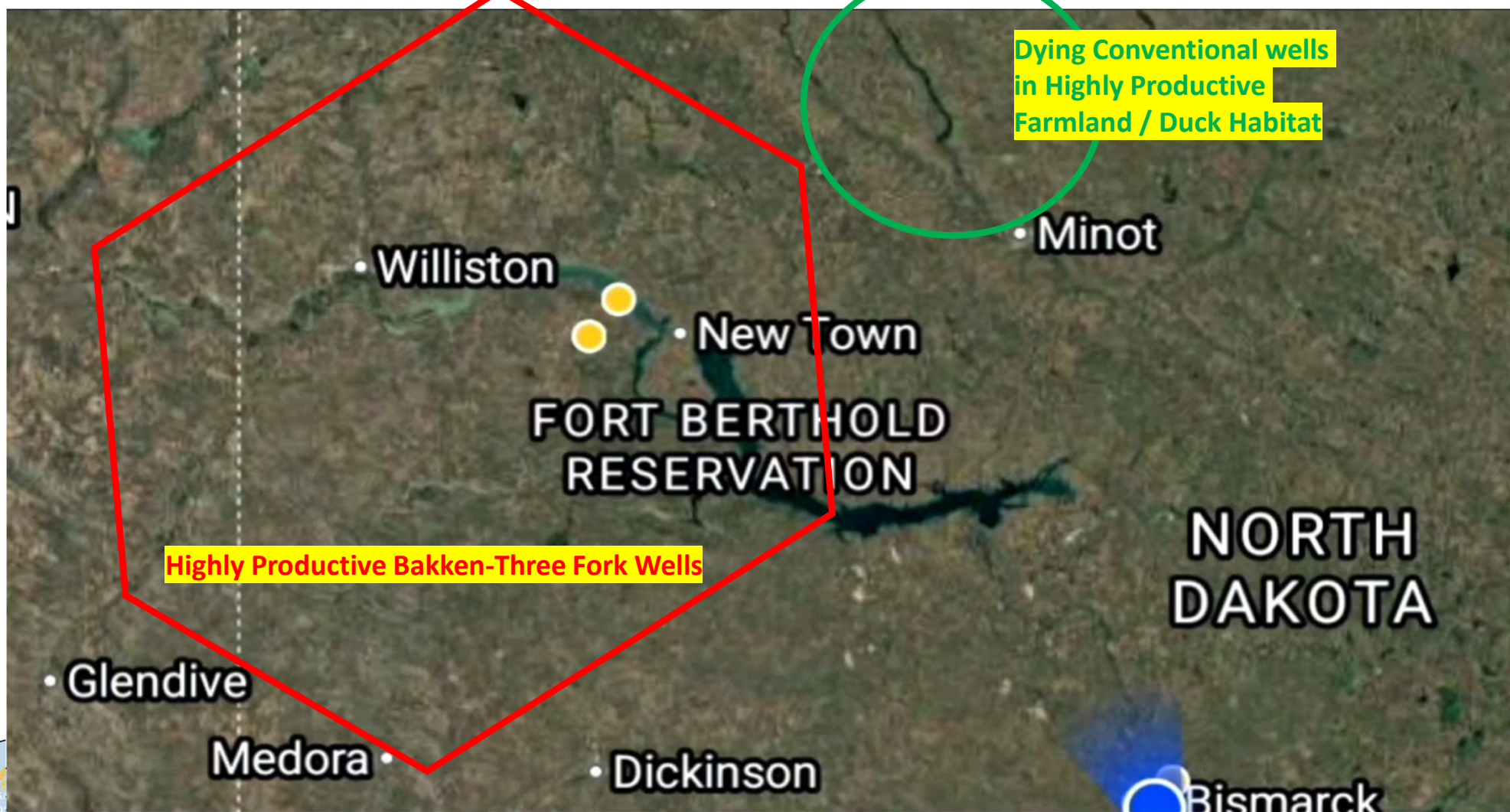


Well #12628 Dry 6/16/1968

- Abandoned Amoco - Tesoro - Marathon Tank Storage Site



- Background – Western part of state very productive





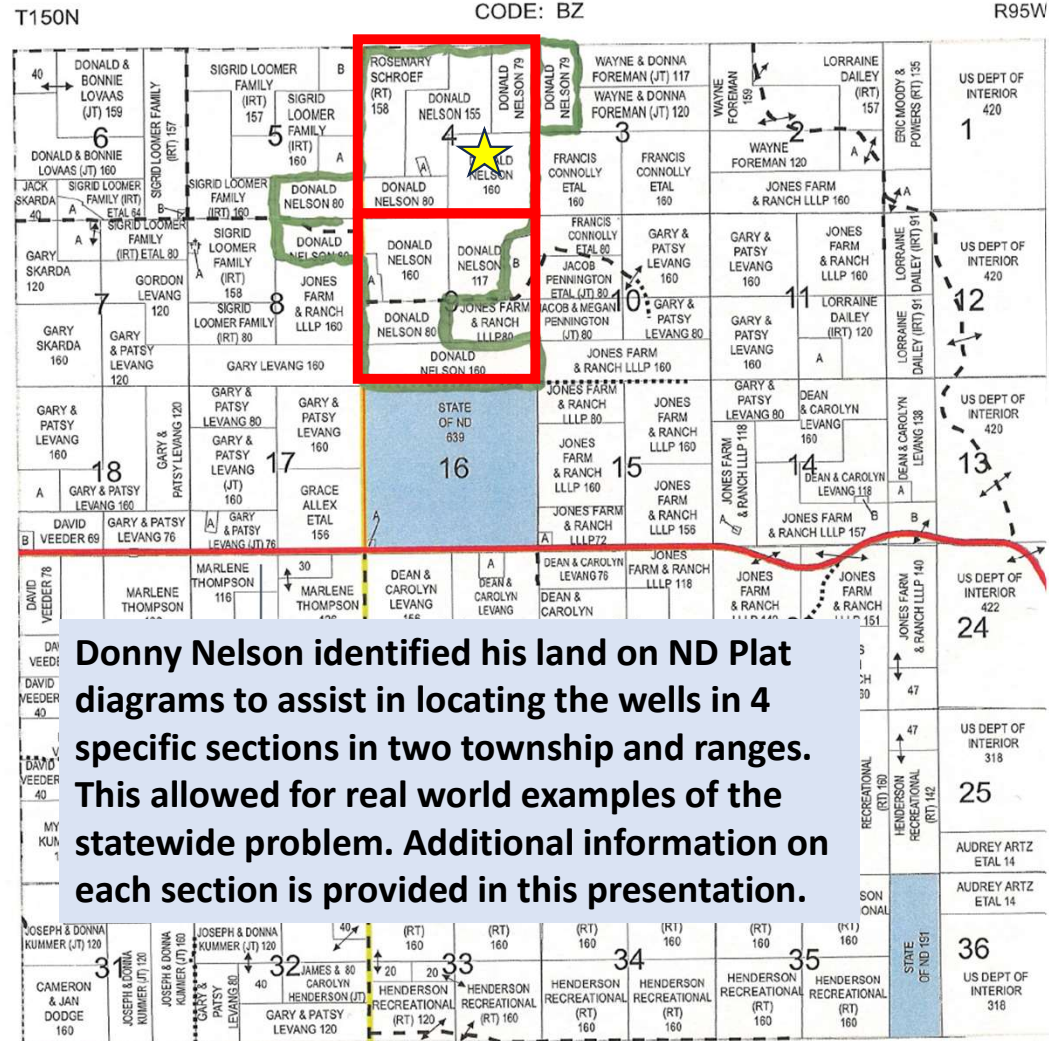
Mackenzie county mega sites of Bakken / 3 Fork horizontal frack wells. Typically, some wells live long productive lives. Others fail production within two years and many more become minimally profitable within 10-13 years. Note the considerable amount of land required for these mega sites, typically 5 – 15 acres.



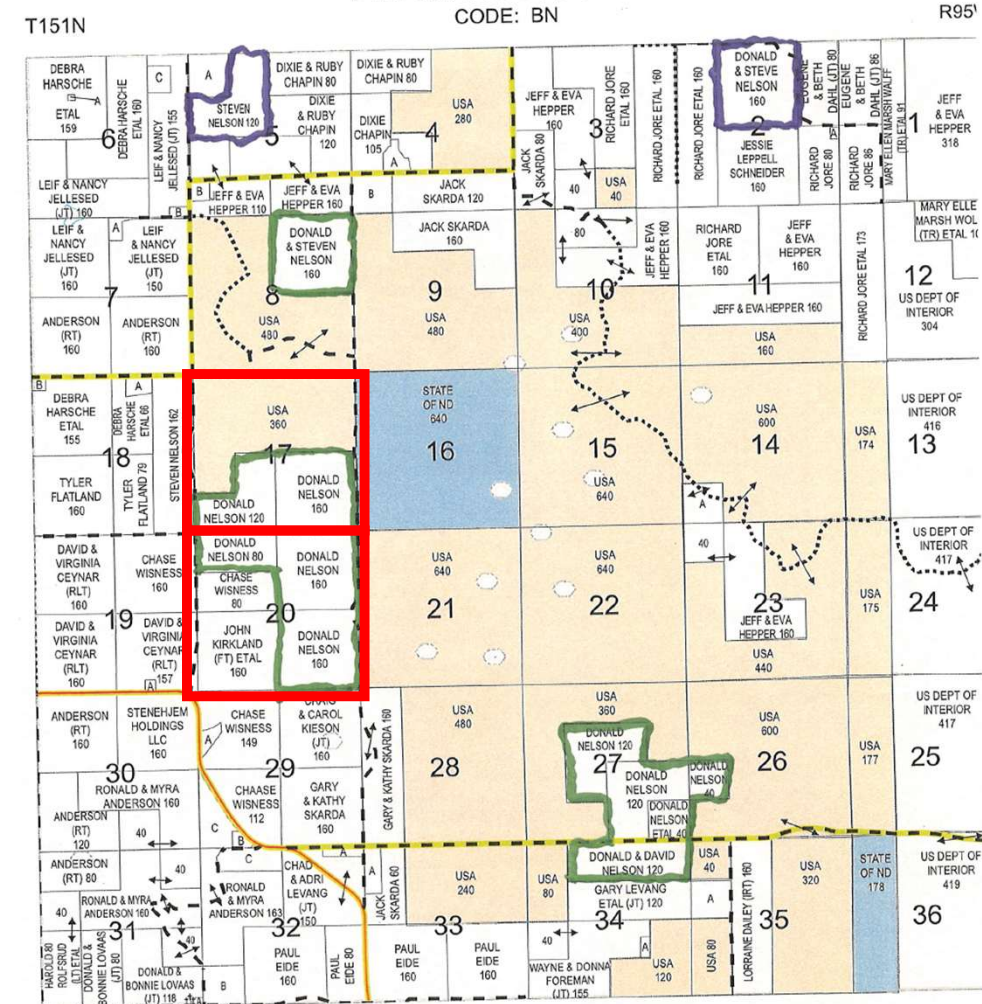
Nelson Lands in 4 Sections of 2 Townships / Ranges

Red Sections are from 6 Pages of Notes

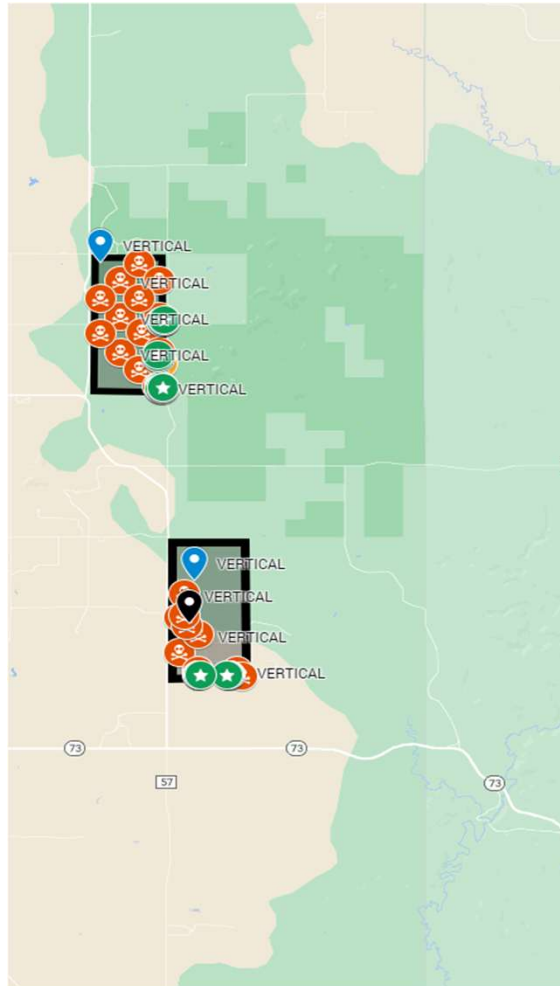
Page 1 of 4 in printed document T150N 95W PLAT



Page 3 of 4 in printed document T151N R95W PLAT



Nelson 63 Wells in 4 Sections of Townships / Ranges

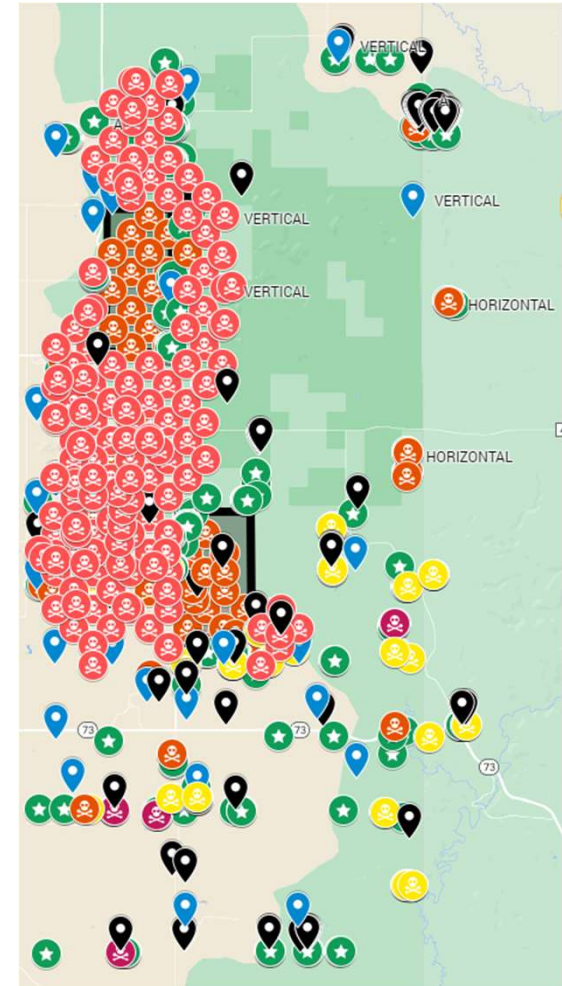


- ★ A (361)
- ☠ PA (203)
- 📍 PNC (87)
- 📍 DRY (26)
- 📍 IA (20)
- 📍 Confidential (11)
- 📍 AB (4)
- 📍 DRL (4)
- 📍 EXPIRED PERMIT (1)

The problem is not limited to the Nelson lands in the 4 sections.

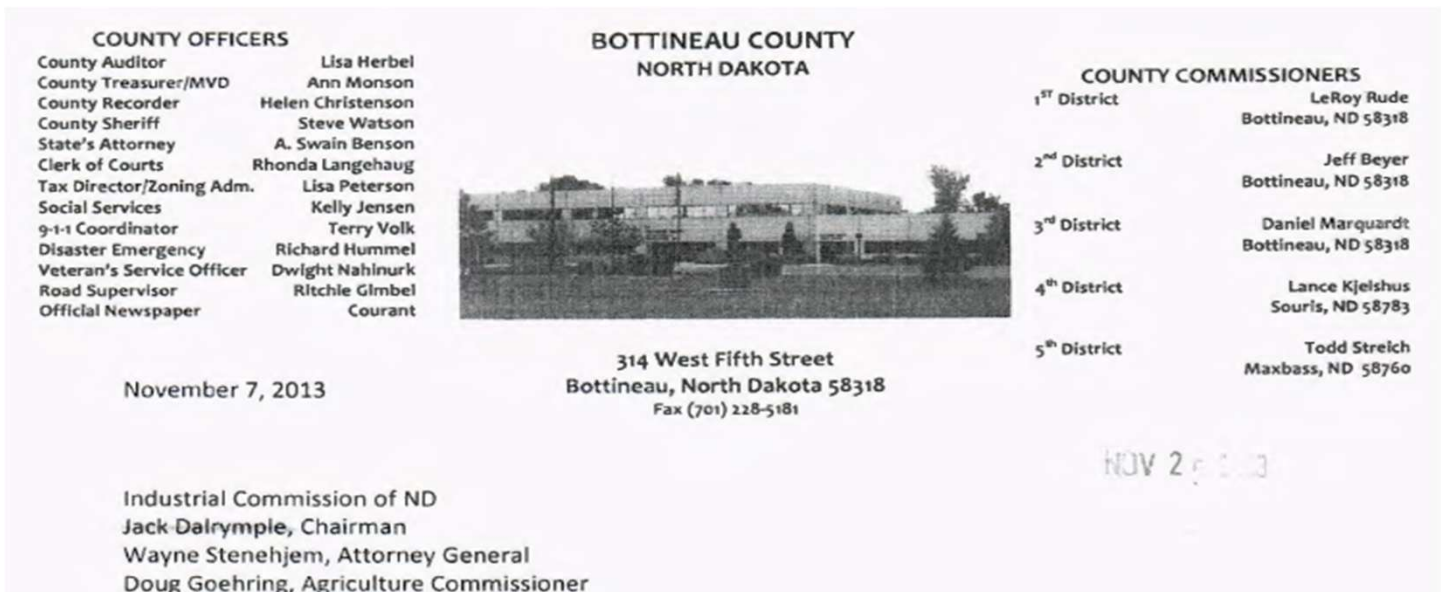
Looking at all 72 sections in the 2 townships reveals a considerably larger problem.

All wells in 72 Sections of 2 Townships, 655 Total



Note the large number of Plugged and Abandoned Wells in just two townships.

➤ Government Comments



The Bottineau County Commission is writing this letter to show our support for responsible oil development and express our appreciation of the prosperity and economic benefits the oil development brings to our county and citizens.

The Commissioners believe however, that positive actions must be taken to reclaim current sites and prevent future damage from oil field saltwater spills. These spills are happening at an alarming rate and are causing devastating damage to our prime farm and ranch land.

We are asking the Industrial Commission to assist our County with the positive actions to reclaim and protect our land, tax base, and the future of agricultural production and producers in Bottineau County.



We request that the Commission:

1. Require regulatory enforcement that holds violators fully accountable with real consequences for damaging the land that will sustain our rural prosperity for generations to come.
2. Use available resources to do an accounting of acres affected by oil field spills and inadequate reclamation of well sites.
3. **Develop a plan to reclaim land to pre-exploration conditions so the land regains full productivity.**

We look forward to working with your Commission and hearing from you soon.

Respectfully submitted,



Jeff Beyer,
Bottineau County|Commissioner Chairman



COUNTY OFFICERS

County Auditor	Lisa Herbel
County Treasurer/MVD	Ann Monson
County Recorder	Helen Christenson
County Sheriff	Steve Watson
State's Attorney	A. Swain Benson
Clerk of Courts	Rhonda Langehaug
Tax Director/Zoning Adm.	Lisa Peterson
Social Services	Kelly Jensen
9-1-1 Coordinator	Terry Volk
Disaster Emergency	Richard Hummel
Veteran's Service Officer	Dwight Nahinurk
Road Supervisor	Ritchie Gimbel
Official Newspaper	Courant

**BOTTINEAU COUNTY
NORTH DAKOTA**



314 West Fifth Street
Bottineau, North Dakota 58318
Fax (701) 228-5181

COUNTY COMMISSIONERS

1 st District	LeRoy Rude Bottineau, ND 58318
2 nd District	Jeff Beyer Bottineau, ND 58318
3 rd District	Daniel Marquardt Bottineau, ND 58318
4 th District	Lance Kjelshus Souris, ND 58783
5 th District	Todd Streich Maxbass, ND 58760

December 5, 2013

Industrial Commission of ND
Jack Dalrymple, Chairman
Wayne Stenehjerm, Attorney General
Doug Goehring, Agriculture Commissioner

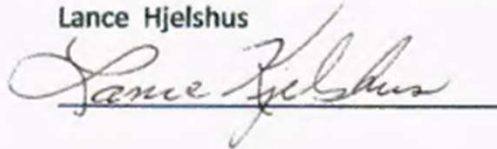
The Bottineau County commission has established a committee to write a letter to your commission with concerns about salt water and oil spills within our County. A letter was sent to your commission on the 7th of November, listing the concerns that the County Commission has over this issue. Our committee was wondering if anything has or will be done about these concerns and if the County will receive any type of response from your Commission.

At the November Bottineau County Commission meeting members of the NW Landowners Association attended and brought these concerns to the County Commission and requested a letter of support. Also, at the meeting was a representative from the Farm Credit Bureau who was asked about obtaining a loan on any land with salt water damage. He said it would be hard to obtain a loan on that land, if not impossible.

Because of all the damage that is done by salt water spills, our committee feels that it is up to all of us to do whatever we can to protect the lands of North Dakota from the severe damage that salt water causes. We are in no way against oil production within the of State North Dakota, but would like to see stiffer enforcement of regulations that relate to oil production to help protect and preserve the lands of our fine State of North Dakota.

Looking forward again to your response

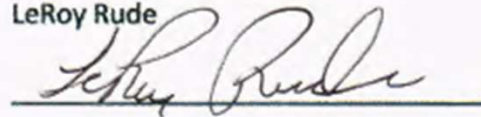
Bottineau County Commission Co-Chair
Lance Hjelshus



Northwest Landowners Association
Larry Peterson



Bottineau County Commission
LeRoy Rude



Northwest Landowners Association
Pete Artz





INDUSTRIAL COMMISSION OF NORTH DAKOTA

Jack Dalrymple
Governor

Wayne Stenehjem
Attorney General

Doug Goehring
Agriculture Commissioner

December 31, 2013

Dear Sirs:

This is in response to your recent letters regarding salt water and oil spills in Bottineau County. I am responding on behalf of the Industrial Commission.

The North Dakota Industrial Commission and the Oil and Gas Division are committed to the responsible stewardship of our State's mineral, land and water resources.

The statutory mission of the Oil and Gas Division is to encourage and promote the development, production and utilization of oil and gas in the State in such a manner as will prevent waste, maximize economic recovery, and fully protect the correlative rights of all owners to the end that landowners, the royalty owners, the producers and the general public realize possible good from these vital natural resources.

In keeping with that mission we recognize the potential for the detrimental effects that accidental spills and leaks can have on the State's precious land and water resources.

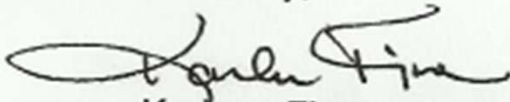


Doug Goehring
Agriculture Commissioner

We continue to use our resources to respond to these situations, most effectively, on a case-by-case basis, recognizing that every case is unique, with different geographic, geologic and land-use considerations.

Statutes and rules currently exist that require impaired lands to be reclaimed to their original conditions and are based on sound scientific principles and engineering best practices. Plans for reclamation are and continue to be most effectively evaluated on a case-by-case basis.

Sincerely,



Karlene Fine
Executive Director and Secretary
North Dakota Industrial Commission



➤ Situation Today

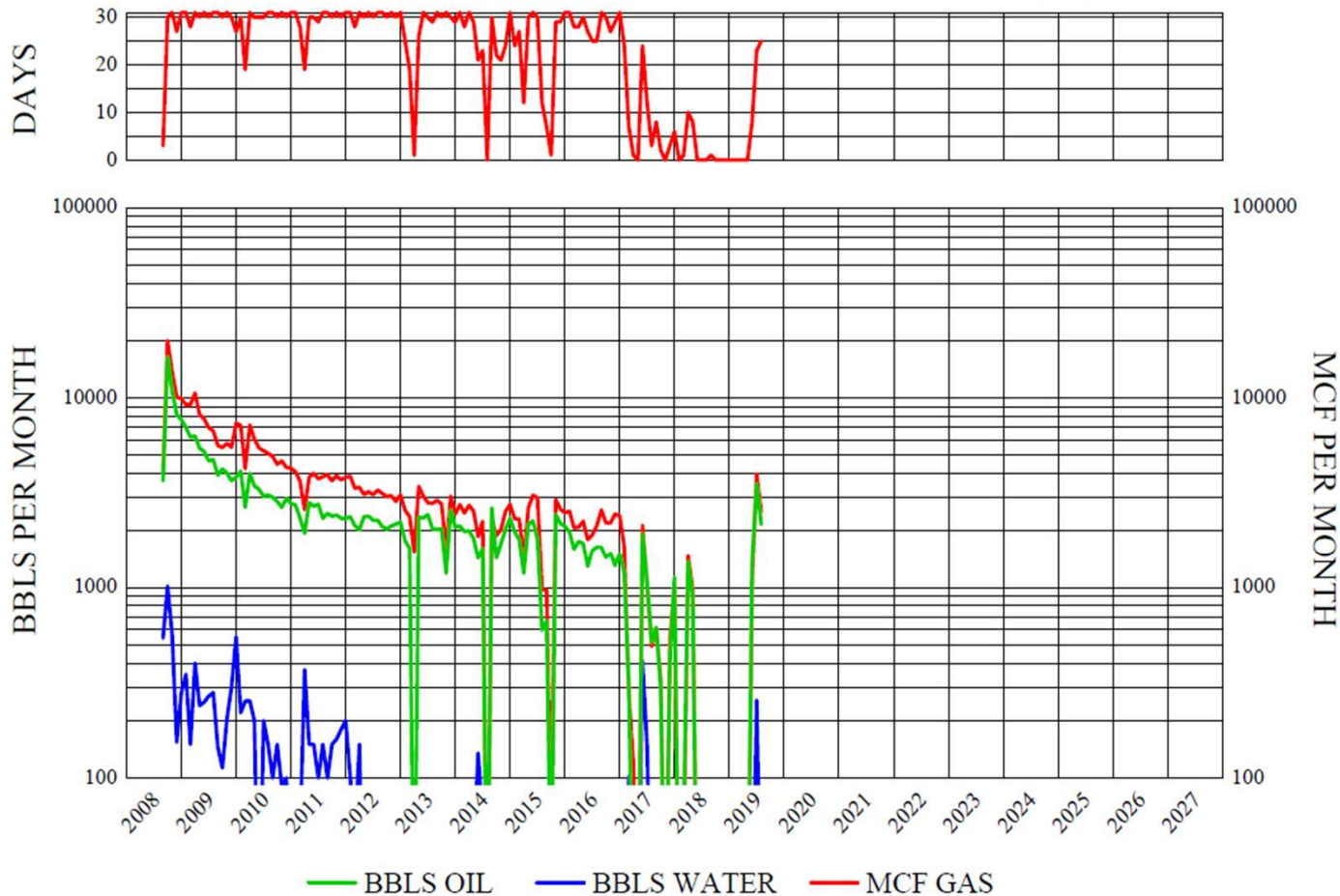
#17241 33-053-02879-00-00 SESE 9-T150N-R95W
BB-OLSON-150-95- 09H-1
HESS BAKKEN INVESTMENTS II, LLC
BLUE BUTTES-BAKKEN

CUM OIL = 299107
CUM WATER = 11860
CUM GAS = 420377

Page 1 of 1
3/1/2024

Sample of production for well on Nelson land.
Note: The Plugged and Abandoned status date is **1/17/2023**. **Four years** after the well was no longer productive.

What took them so long to Plug and Abandon the well?



Donny Nelson Land by the Numbers

4 - 640 Acre Sections in 2 Townships, 6 Pages of Google Maps with notes to define the scope for study.

38 Sites were specifically mentioned in his notes containing 63 Wells; The total No. of Acres Mentioned: **73.94**

22 Vertical (Conventional) wells, 2 Dry, **20** Plugged and Abandoned, **0 Active**

41 Horizontal (Fracked) wells, **37 Active Hess Bakken Wells Produced 54,205 BBLs in Feb 2025 or 0.18% of the entire state.**

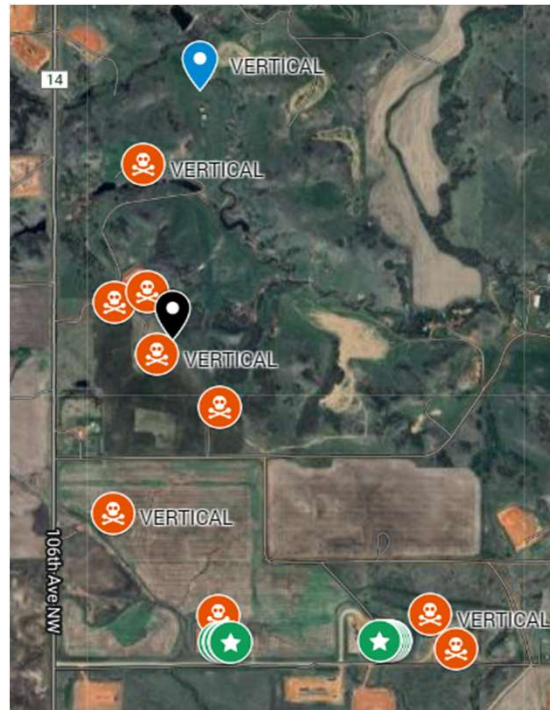
1 Abandoned, 1 Permit Now Cancelled, 2 Plugged and Abandoned

37 Active Wells with *problems* involving saltwater contamination or *negligent* release of methane gas. *Why is this ignored?*

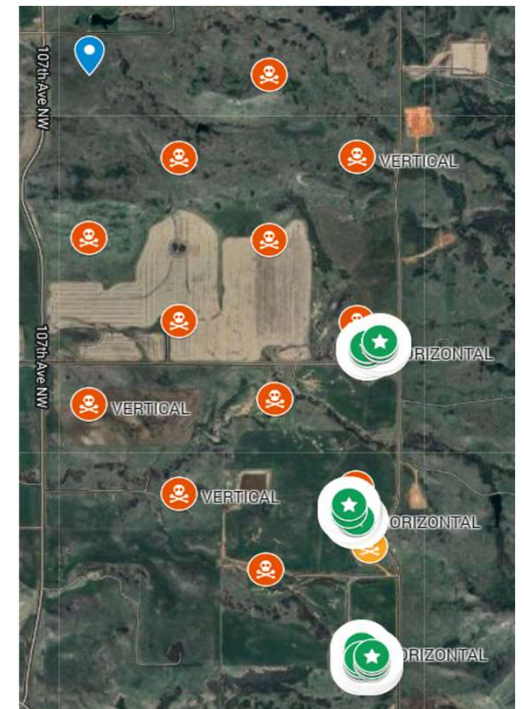
Nelson Wells in 4 Sections		
Well Status	Well Count	Last Status
HORIZONTAL		
Abandoned (Shut-In > 12 Months)	1	3/15/2020
Active	34	9/1/2023
Inactive (Shut-In >= 3 and <= 12 Months)	3	5/17/2024
Permit Now Cancelled	1	7/30/2012
Plugged and Abandoned	2	1/17/2023
HORIZONTAL Total	41	5/17/2024
VERTICAL		
Dry Hole	2	8/11/1994
Plugged and Abandoned	20	5/12/2021
VERTICAL Total	22	5/12/2021
Grand Total	63	5/17/2024

- ★ A (37) Active
- ☠ PA (22) Plugged and Abandoned
- 📍 DRY (2) Dry Well
- ☠ AB (1) Abandoned
- 📍 PNC (1) Permit now Cancelled

T 150N – 95W – 4 & 9



T 151N – 95W - 17 & 20

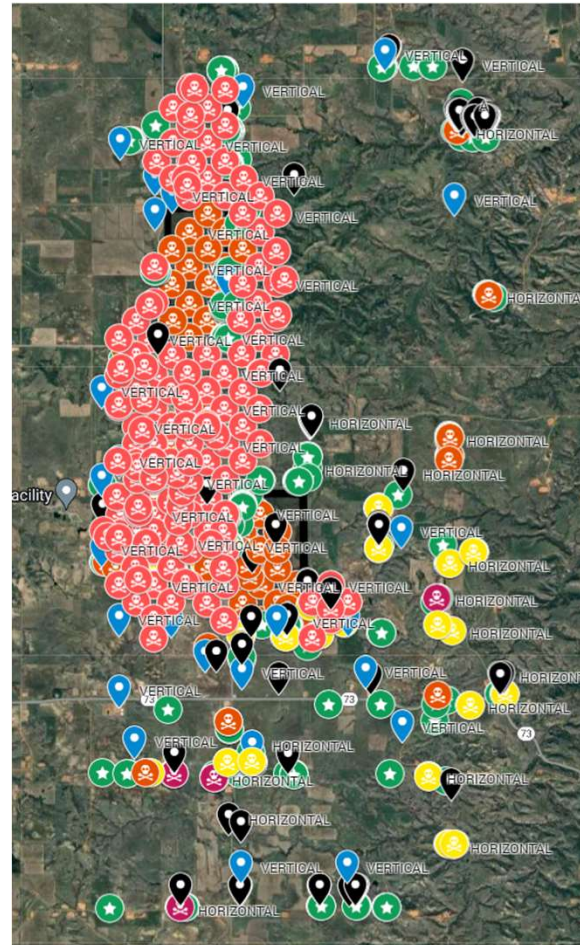


By the Numbers: Wells in 72 Sections of 2 Townships

2 Township/Ranges equals 72 Sections. The number of acres is extremely large when you include the roads, tanks, pipelines and site pads. A total of **718** wells are in the 72 section with only **298 active horizontal** or 41.5%.

Are any of those *non-productive*? 9 vertical wells or 1.25% all of which are *Saltwater Disposal Wells*.

Non-Nelson in TRSs			
Well Status	Well Count	Last Status Date	% All TRS
Nelson	63	5/17/2024	8.77%
Others			
Confidential			
Confidential	6		0.84%
Confidential Total	6		0.84%
DIRECTIONAL			
Active	1	10/3/2023	0.14%
DIRECTIONAL Total	1	10/3/2023	0.14%
HORIZONTAL			
Abandoned (Shut-In > 12 Months)	7	3/19/2024	0.97%
Active	298	5/30/2024	41.50%
Drilling	5	9/20/2023	0.70%
Dry Hole	1	7/28/2014	0.14%
Inactive (Shut-In >= 3 and <= 12 Months)	36	5/17/2024	5.01%
Permit Now Cancelled	76	10/26/2022	10.58%
Permitted Location to Drill	1	4/10/2024	0.14%
Plugged and Abandoned	13	10/17/2023	1.81%
HORIZONTAL Total	437	5/30/2024	60.86%
HORIZONTAL RE-ENTRY			
Plugged and Abandoned	9	4/28/2021	1.25%
HORIZONTAL RE-ENTRY Total	9	4/28/2021	1.25%
VERTICAL			
Active	9	10/3/2023	1.25%
Dry Hole	23	10/16/1997	3.20%
Expired Permit	1	10/13/2023	0.14%
Permit Now Cancelled	10	5/17/1990	1.39%
Plugged and Abandoned	159	5/7/2022	22.14%
VERTICAL Total	202	10/13/2023	28.13%
Others Total	655	5/30/2024	91.23%
Grand Total	718	5/30/2024	100.00%

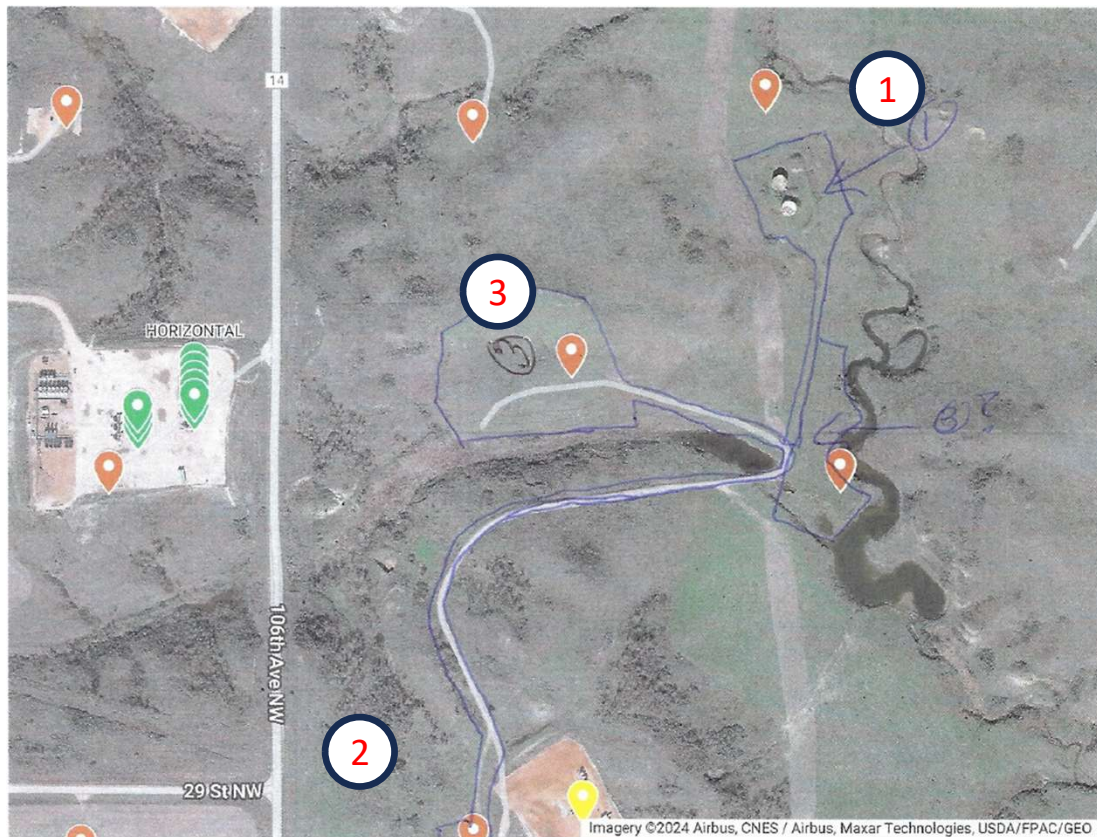


307 active wells
 9 Vertical SWD wells
 2 Horizontal SWD wells
 296 Horizontal OG Wells
 All part of the Bakken Pool

- ★ A (37) Active
- ☠ PA (22) Plugged and Abandoned
- 📍 DRY (2) Dry Well
- 📍 AB (1) Abandoned
- 📍 PNC (1) Permit now Cancelled

➤ Donny's Notes

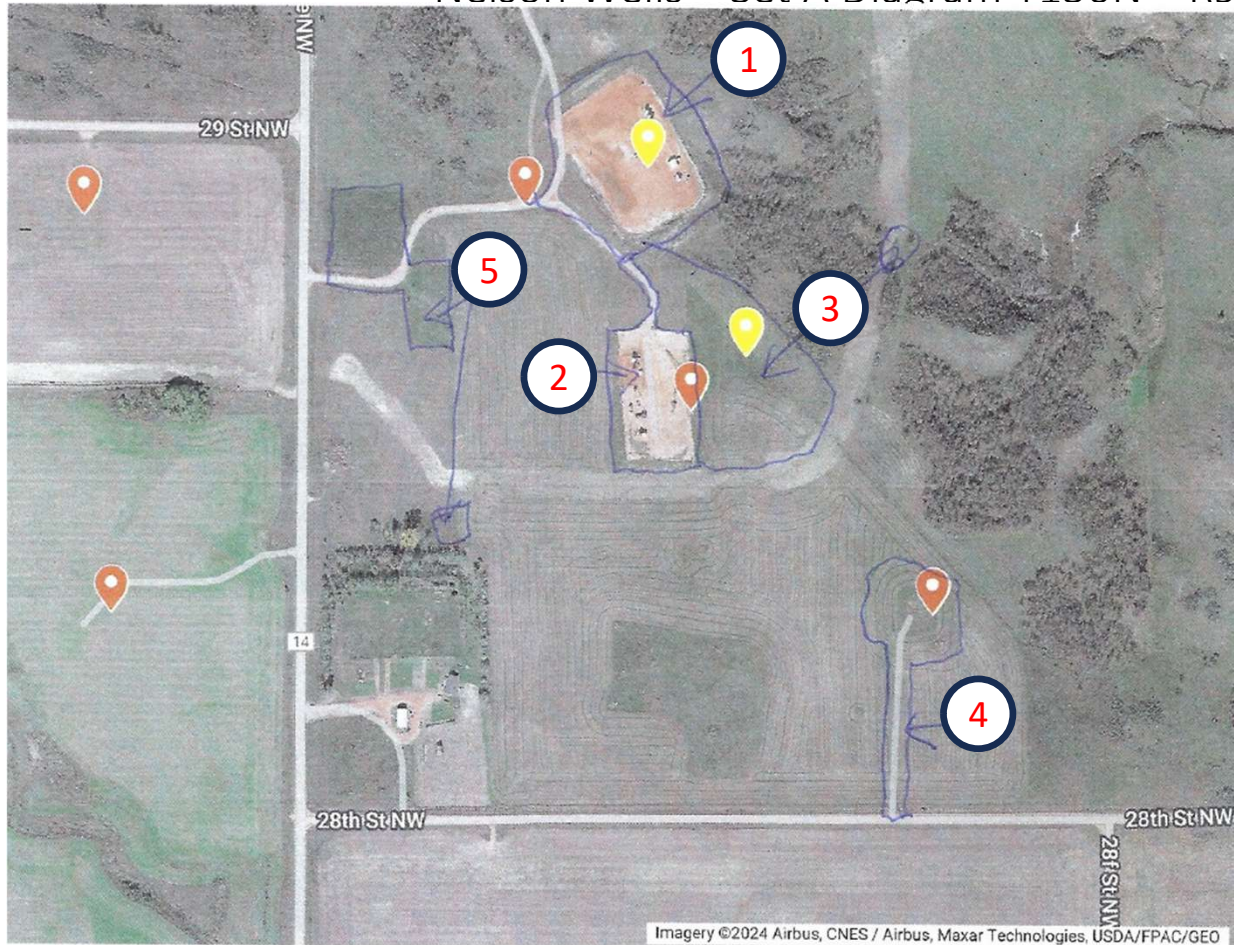
Nelson Wells – Set A Diagram T150N – R95W Section 4 page 1



1. Well No. 12628 Spud date 5/24/1989 Last status date 06/16/1989 - Dry vertical well; Texaco Inc; Amoco?
Old tanks never any reclaim done, huge oil leak 60s?.
Ran all the way to the lake. (Tanks removed July 2025.
Over 30 years of lost grazing ability for cattle)
2. Well No. 2423 Spud date 8/2/1989 Last status date 11/5/2012 – Plugged and abandoned vertical well
Hess Bakken Investment II, LLC; Reclaimed huge area on a scale 4 to 5, did well with cleanup.
3. Well No. 9737 Spud date 9/7/1982 Last status date 9/17/1998 - Plugged and abandoned vertical well Hess Corporation; Very good reclamation.



Nelson Wells – Set A Diagram T150N – R95W Section 9 page 2



1. Well No. 16829 Spud date 10/17/2007 Last status date 5/8/2021 – Plugged and abandoned Horizontal well Hess Bakken Investment II, LLC; 6.58 Acres to be reclaimed, **waiting for 3 years as of June 2024.**

2. Well No. 9414 Spud date 3/7/1982 Last status date 7/18/2017 – Plugged and abandoned vertical well Hess Bakken Investment II, LLC; 3.16 Acres to be reclaimed for 3 years where Finn & I looked at huge hole (dig & haul)

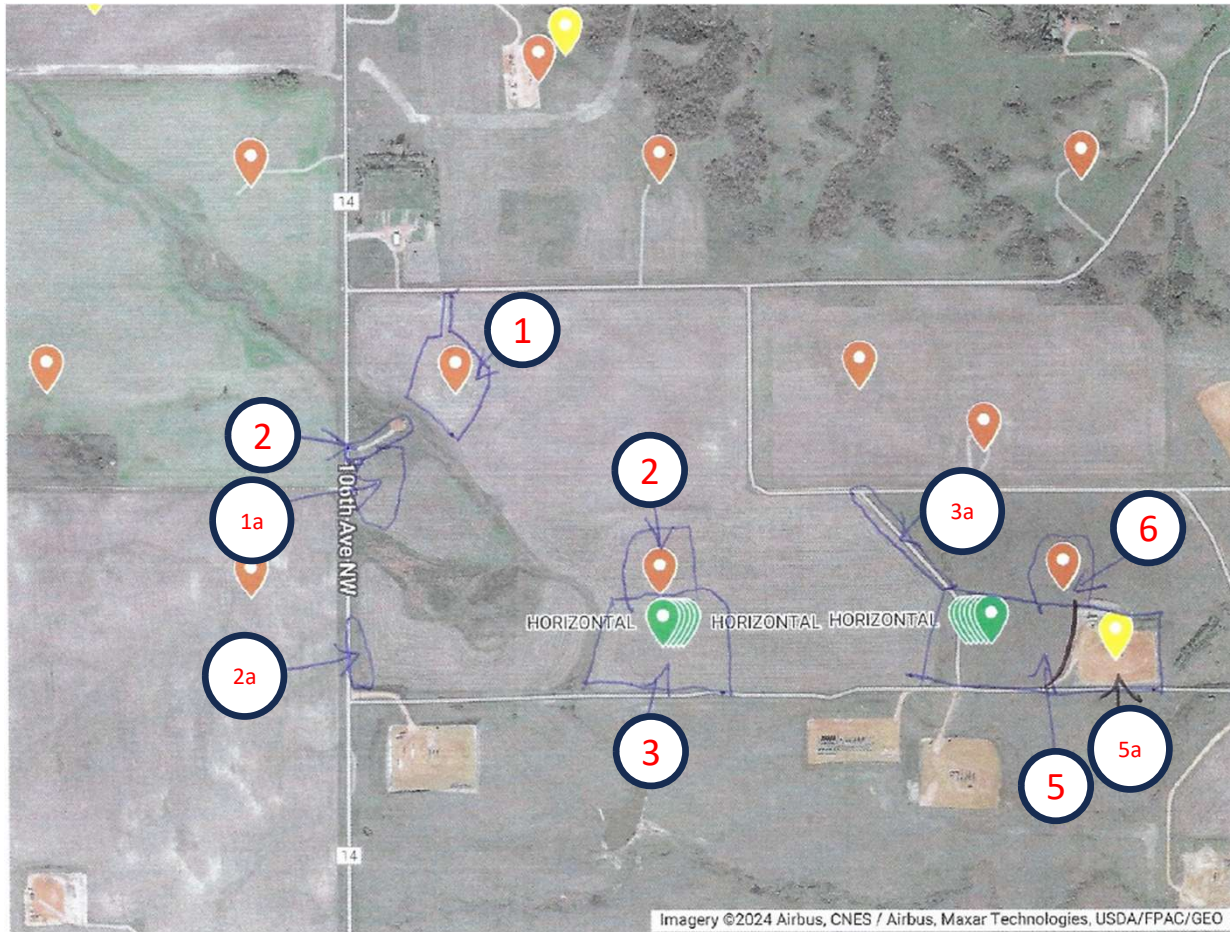
3. Well No. 19425 Last status date 7/30/2012 – Permit now cancelled Horizontal well Hess Bakken Investment II, LLC; 4.10 Acres Reclaimed few years ago scale 4

4. Well No. 2256 Spud date 5/29/1959 Last status date – Plugged and abandoned Vertical well Hess Bakken Investment II, LLC; 1.81 acres reclaimed twice or 3 times just recently scale 1 ½

5. Well No. NA; Well, risers, etc. 2.78 acres. Scale 3



Nelson Wells – Set A Diagram T150N – R95W Section 9 page 3



1. Well No. 2116 Spud date 12/14/1958 Last status date 9/8/2006 – Plugged and abandoned Vertical well Hess Bakken Investment II, LLC; 6.51 acres reclaimed ? late 90's Scale 2 ½

2. Well No. NA; .40 acres disposal well site

3. Well No. 38272-38276 Spud date 9/22/2022 Last status date 4/17/2024. All wells Active Horizontal Hess Bakken Investment II, LLC; 7.75 Acres Bakken just drilled

3a. Road to be reclaimed

4. Well No. 2255 = Spud date 4/15/1959 Last status date 5/30/2000 – Plugged and abandoned Vertical well Amanda Hess Corporation; 1.65 Acres Old Well? Road? Scale 5

5. Well No. 35255-35260 Spud date 05/25/2019 Last status date 12/05/2019
All wells Active Horizontal well Hess Bakken Investment II, LLC;
21.0 Acres 2 Bakken Pads to be reclaimed

5a. Well No. 17241 Spud date 06/09/2008 Last status date 01/17/2023
Plugged and abandoned Vertical well Hess Bakken Investment II, LLC; Bakken to be reclaimed
NA; =Well, risers, etc. 2.78 acres. Scale 3

6. Well No. 1716 Spud date 01/08/1958 Last status date 06/22/1997 - Plugged and abandoned Vertical well Amerada Hess Corporation; 2.0 Acres, old well?

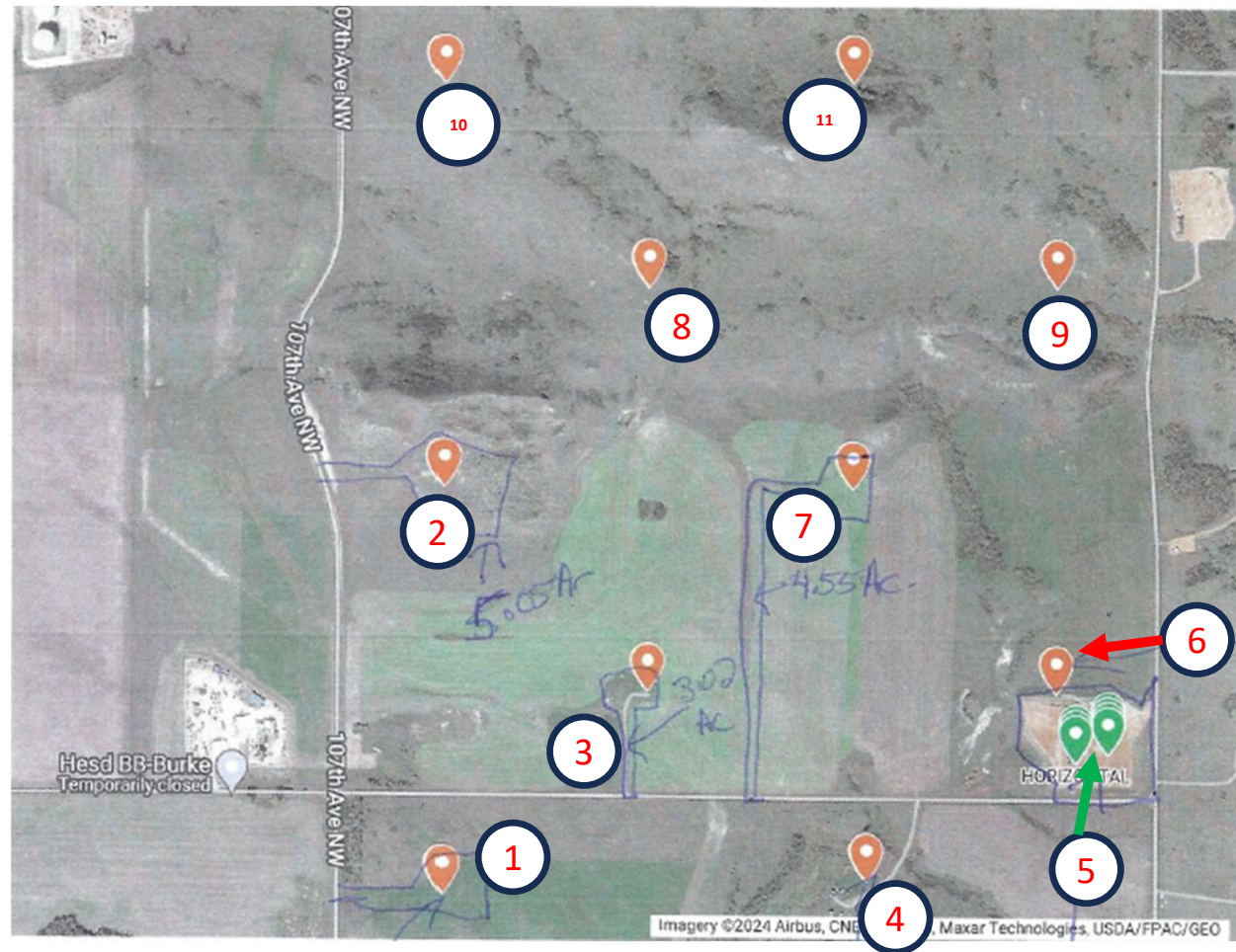
1a. 2.0 Acres, thought something here at one time.

2a. Old saltwater spill, maybe some natural salt

3a. 1.25 Acres, road reclaimed 4 or 5 years ago, scale 2 ½



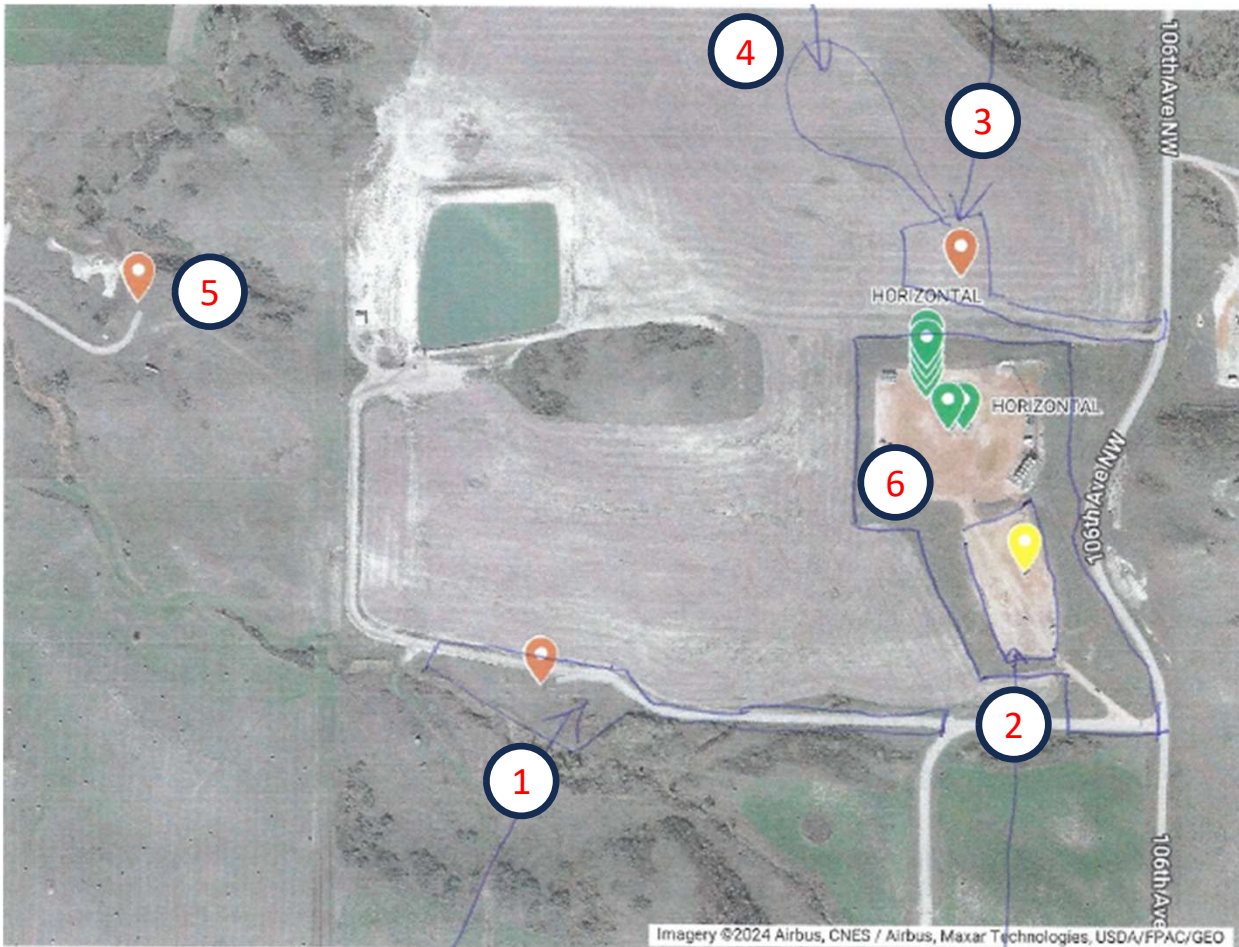
Nelson Wells – Set B Diagram T151N – R95W Section 17 page 1



1. Well No. 1276 Spud date 04/14/1957 Last status date 10/06/2008 - PA VERTICAL OG well HESS BAKKEN INVESTMENTS II, LLC;
2. Well No. 1543 Spud date 09/11/1957 Last status date 11/30/1993 - PA VERTICAL OG well TEXACO EXPLORATION & PRODUCTION INC.; 5.05 Acres
3. Well No. 1049 Spud date 01/01/1956 Last status date 05/12/2021 - PA VERTICAL OG well HESS BAKKEN INVESTMENTS II, LLC; 3.02 Acres
4. Well No. 1328 Spud date 07/22/1957 Last status date 12/10/1993 - PA VERTICAL OG well TEXACO EXPLORATION & PRODUCTION INC.; .35 Acres
5. All wells Active HORIZONTAL OG well HESS BAKKEN INVESTMENTS II, LLC; 12.7 Acres Bakken
Well No. 30082-30084 Spud date 12/27/2014 Last status date 08/15/2018
Well No. 36520-36523 Spud date 06/18/2021 Last status date 10/21/2021
6. Well No. 1272 Spud date 10/24/1956 Last status date 08/01/2006 - PA VERTICAL OG well HESS BAKKEN INVESTMENTS II, LLC;
7. Well No. 1104 Spud date 05/09/1956 Last status date 09/22/1987 - PA VERTICAL OG well TEXACO EXPLORATION & PRODUCTION INC.;
8. Well No. 1185 Spud date 07/03/1956 Last status date 03/30/1993 - PA VERTICAL OG well TEXACO EXPLORATION & PRODUCTION INC.;
9. Well No. 1397 Spud date 03/25/1957 Last status date 07/20/1994 - PA VERTICAL OG well AMERADA HESS CORPORATION;
10. Well No. 2634 Spud date 05/16/1960 Last status date 08/11/1994 - DRY VERTICAL WI well AMERADA HESS CORPORATION;
11. Well No. 1210 Spud date 08/10/1956 Last status date 03/30/1993 - PA VERTICAL OG well TEXACO EXPLORATION & PRODUCTION INC.;

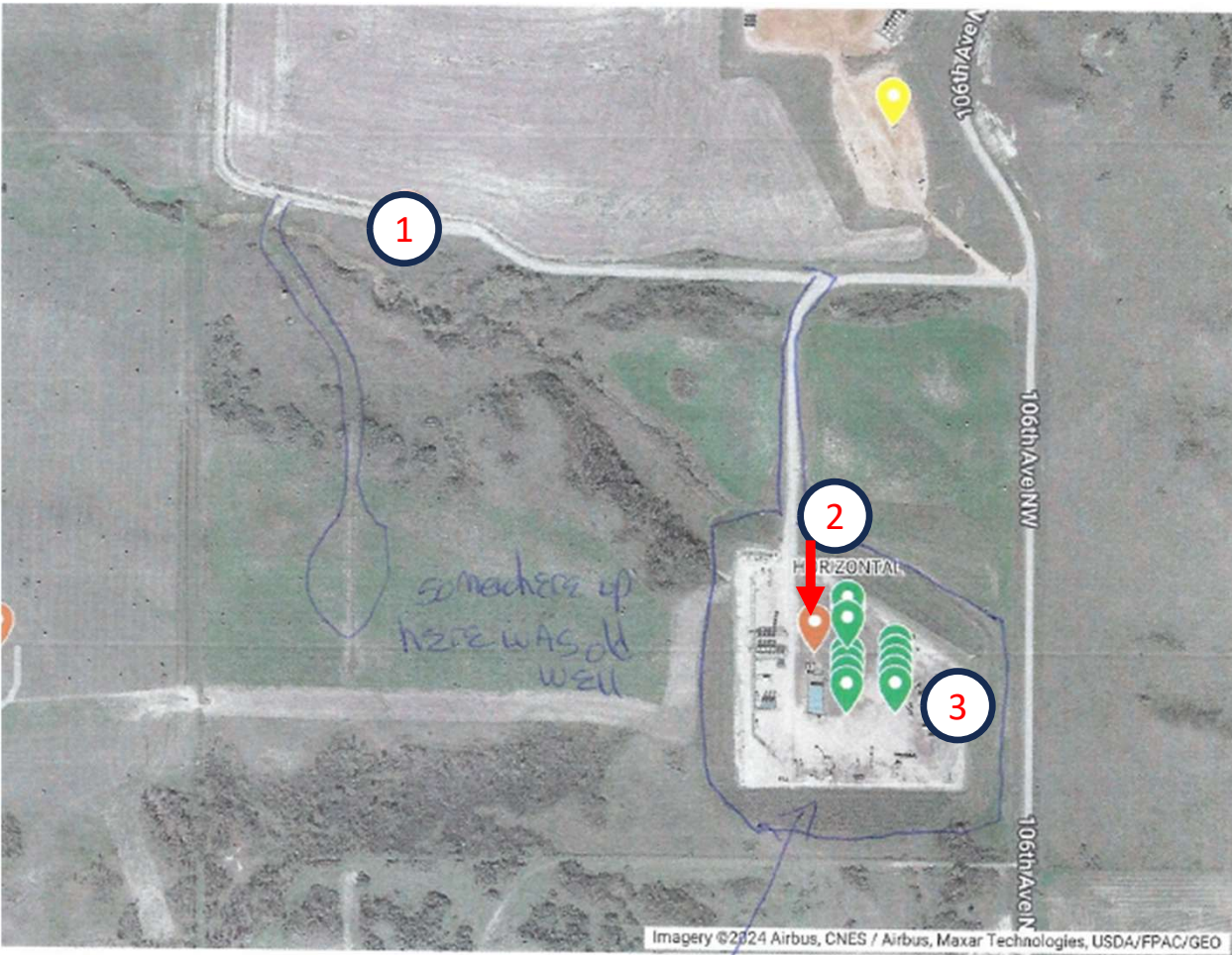


Nelson Wells – Set B Diagram T151N – R95W Section 20 page 2



1. Well No. 1288 Spud date 03/12/1957 Last status date 11/15/201 - Plugged and abandoned VERTICAL OG well HESS BAKKEN INVESTMENTS II, LLC; 3.06 Acres Reclaimed Recently; Scale 4
 2. Well No. 16492 Spud date 04/01/2007 Last status date 03/15/2020 - Abandoned HORIZONTAL OG well HESS BAKKEN INVESTMENTS II, LLC; Acres 16.3, 2.02 Inside is inactive Bakken to be reclaimed
 3. Well No. 1595 Spud date 07/11/1959 Last status date 10/07/1999 - Plugged and abandoned VERTICAL OG well AMERADA HESS CORPORATION;
 4. Thought there would be one to be done.
 5. Well No. 1243 Spud date 01/15/1957 Last status date 10/06/2008 - Plugged and abandoned VERTICAL OG well HESS BAKKEN INVESTMENTS II, LLC;
 6. Well No. 35448 Spud date 11/21/2019 Last status date 05/10/2020
Well No. 34727-34730 Spud date 11/20/2019 Last status date 04/29/2020
Well No. 23167 Spud date 09/04/2012 Last status date 03/03/2023
Well No. 23168 Spud date 08/02/2012 Last status date 05/17/2024
- All wells Active HORIZONTAL OG well HESS BAKKEN INVESTMENTS II, LLC;

Nelson Wells – Set B Diagram T151N – R95W Section 20 page 3

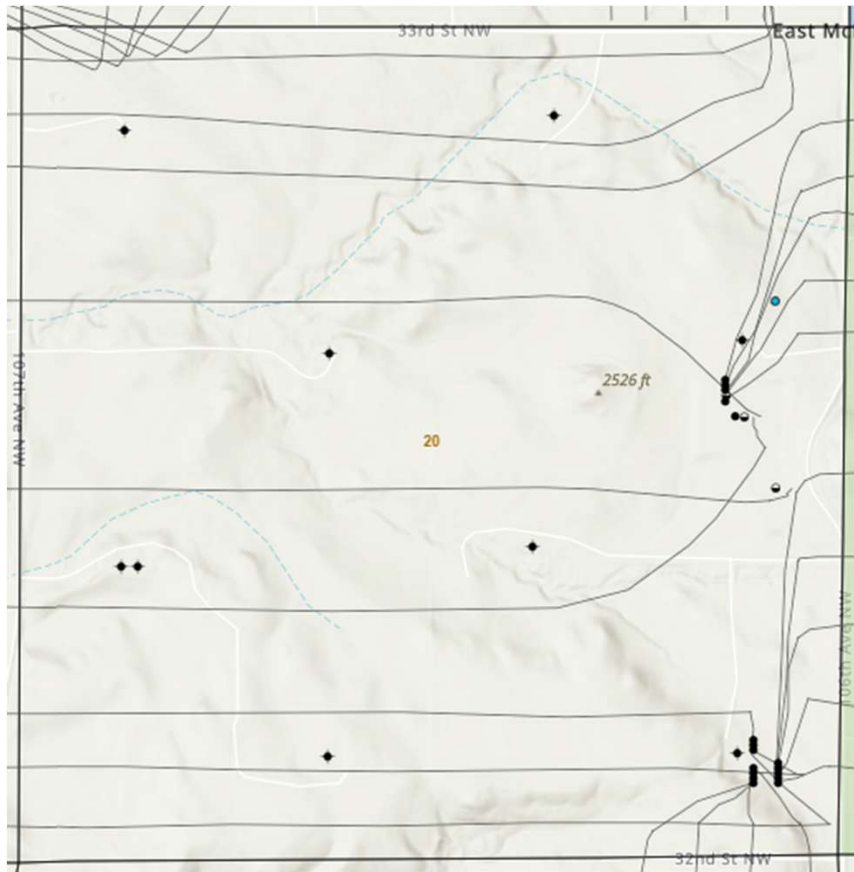


1. Somewhere up here was old well
2. Well No. 1597 Spud date 09/14/1958 Last status date 09/24/2002
- PA VERTICAL OG well HESS BAKKEN INVESTMENTS II, LLC;
3. All following wells Active HORIZONTAL OG well HESS BAKKEN INVESTMENTS II, LLC;
Well No. 31891 Spud date 06/28/2016 Last status date 06/19/2020
Well No. 31892 Spud date 06/30/2016 Last status date 11/10/2016
Well No. 31893 Spud date 06/29/2016 Last status date 01/15/202
Well No. 32952 Spud date 02/22/2017 Last status date 07/02/2017
Well No. 32953 Spud date 02/21/2017 Last status date 07/06/2017
Well No. 32954 Spud date 02/19/2017 Last status date 07/10/2017
Well No. 32955 Spud date 02/18/2017 Last status date 07/15/2019
Well No. 33735 Spud date 03/14/2018 Last status date 07/15/2019
Well No. 33735 Spud date 03/14/2018 Last status date 07/15/2019
Well No. 33736 Spud date 03/15/2018 Last status date 09/26/2018
Well No. 33737 Spud date 03/16/2018 Last status date 07/15/2019
Well No. 33738 Spud date 03/17/2018 Last status date 09/19/2018
Well No. 33739 Spud date 03/18/2018 Last status date 09/01/2023



Section 20 – Set B

Well numbers with directional information



➤ Data Insights

- Monthly Production information for Hess Wells on Nelson land in 4 sections
 - All wells in 150N-95W and 151N-95W
 - Hess Bakken Investments sold 54,205 BBLs produced on Nelson Family land in Feb 2025 at \$63.94 / BBL
 - Or \$3,465,867.70
 - The cost of restoration for one site on Nelson family lands would exceed \$637,127 or **.0153% of Annual Production Dollars.**
 - That site involves a compromised pit, abandoned tanks, and likely off-site spills of chemicals and oil field brine.
 - Nelson can accurately calculate acres of grazing and crop land taken out of production for the entire life of each site.
 - Roads are a substantial factor in the calculation.



Page 2

Page 4

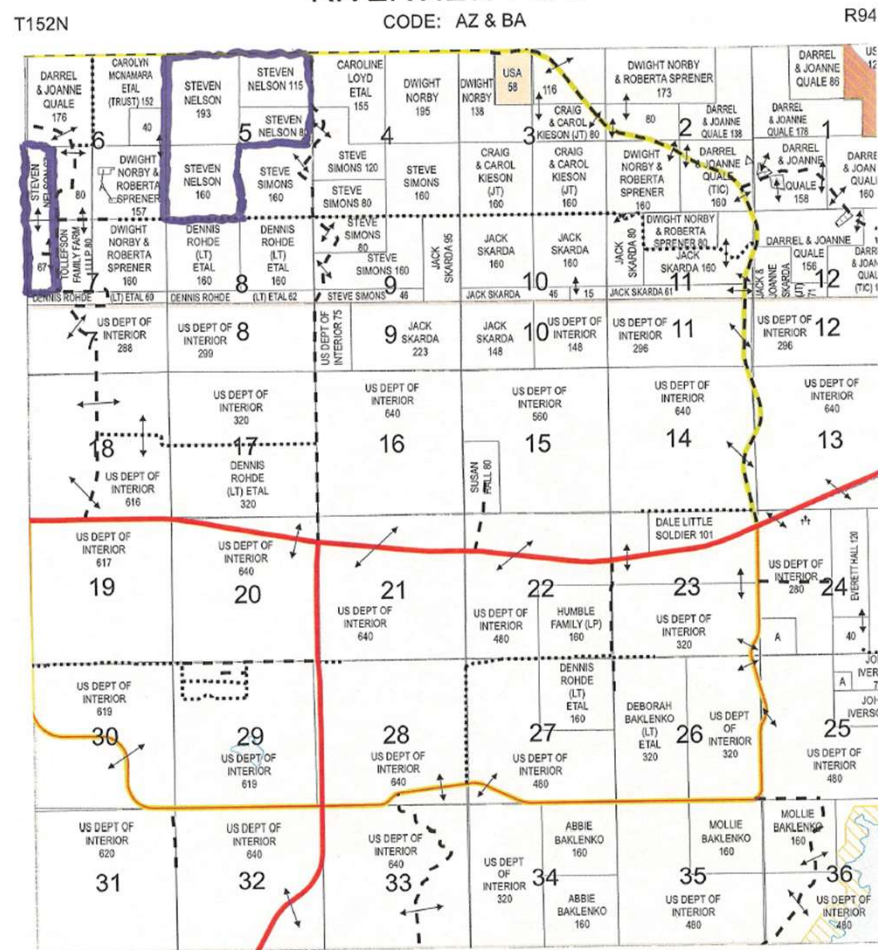
RIVERVIEW PLAT

CODE: AZ & BA

T152N

R94

Other Nelson land in two different townships not included in analysis. Indicates much larger problem for this *one* landowner. Note all the other landowners in these townships.



T150N-95W and T151W-95W Official Oil and Gas Well Diagrams



Information from North Dakota Industrial Commission on well directions when horizontal drilling is performed.



➤ Original Notes to calculate costs

A

RATES USED

EQUIPMENT AND RATES

DISPOSAL SOIL \$200/TON
 " HOT " OR EQUIPMENT - 3

DOZER \$300/HR 250
 SCRAPER \$375/HR
 EXCAVATOR \$250/HR
 TRUCK \$160/HR
 SERVICE TRUCK \$100/HR
 WHEELED LOADER \$150/HR
 MOTOR GRADER \$140/HR 300
 PLUGGING UNKNOWN

\$627,450

THE BASE NUMBER FROM CONVENTIONAL USED FOR
 FIGURING BAKKEN COST \$3,000,000

MESSETHES IN - RIVERVIEW
 I LIVE IN - HAWKEYE
 BAKKEN - UNORGANIZED
 CONVENTIONAL - GRAIL

≈ 23 PADS 170+ WELLS PROBABLY MORE
 ALL ON MY FAMILY'S LAND

Donald Nelson 4/11/2025

Handwritten estimates to cleanup one site on Donny Nelson land.

The information provided is based on **real-world experience** from a landowner who has been through this process more than once.

B1

Cont 1

150N 95W SEC. 4 SW 1/4
 ~5.0 ACRES VERTICAL

COMPROMISED RESERVE PIT ON

RECLAIMED WELL & UNRECLAIMED OIL STORAGE PAD

from 50's & 60's

PIT EXCAVATION:

Phase 1 $50' \times 50' \times 8' = 20,000 \div 27 = 741 \text{ YDS}$

$741 \div 21 \text{ YDS/Truck} = 35 \text{ LOADS}$

SITE EXCAVATION: ON PER ACRE BASIS

Phase 2 $43,560 \text{ ft}^2 \times 2 \text{ IN} (\frac{1}{16}) = 5445 \text{ YDS} \div 27 = 201 \text{ YDS}$

$404 \text{ YDS} \div 22 \text{ YDS/Truck} = 18 \text{ LOADS}$

COMBINED:

PIT: $741 \text{ YDS SITE} - 404 \text{ YDS/AC} \times 5 \text{ AC} = 2020 \text{ YDS} + 741 \text{ YDS} = 2761 \text{ YDS}$ for disposal

$2761 \text{ YDS} \times 200 \text{ TON} = \$552,200$

$35 \text{ LOADS} + 18 \text{ LOADS/AC} \times 5 \text{ AC} = 90 \text{ LOADS} + 35 = 125 \text{ LOADS}$

$125 \text{ LOADS} \times 4 \text{ HRS/LOAD (2-6 hrs)} = 500 \times 160 \text{ /HR} = \$80,000$

- TRUCKING $\$80,000$

- EXCAVATOR $30 \times 250 = 7,500$

- DOZER $80 \times 300 = 24,000$

- LOADER $30 \times 180 = 5,400$

- SCRAPER $90 \times 375 = 33,750$

- SERVICE TRUCK $90 \times 100 = 9,000$

- GRADER $40 \times 140 = 5,600$

$\$165,250$

Donald Nelson 4/11/2025

Handwritten estimates to cleanup
 one site on Donny Nelson land.



Note: July 2025 removal begun after 30 years of requests.

b-7 Conv. 2

RESTORATION: Donald Moberg 4/11/2005

Phase 3

- Fill Dirt: $741 \text{ YDS} \times \$8/\text{YD} = \$5,928$
- Top Soil: $43,650 \times \$5/6\text{in} = 21,780 \div 24 = 906 \text{ YDS}/\text{Ac.}$
- $906 \text{ YDS}/\text{Ac} \times 5 \text{ Ac} = 4,530 \text{ YDS} + 46 \text{ YDS per Pit} = 4,080 \text{ YDS}$
- $4,080 \text{ YDS} \times \$20/\text{YD} = \$81,600$
- $741 \div 23 = 32 \text{ loads Pit/Fill} + 4,080 \text{ YDS} \div 23 = 177 \text{ loads} = 210 \text{ loads}$
- $210 \times 2 \text{ HRS} = 420 \times \$160/\text{HR} = \$67,200$
- Trucking 67,200
- DOZER $40 \times 300 = 12,000$
- GRADER $40 \times 140 = 5,600$
- SCRAPER $40 \times 375 = 15,000$
- Service Truck $40 \times 100 = 4,000$
- \$103,200

Finishing, Prep & Seeding:

Phase 4

- Tractor & Disk $4 \text{ HRS} \times 25 = 100$
- " & Drag $2 \text{ " } \times 15 = 30$
- " & Drill $2 \text{ " } \times 25 = 50$
- Motor Grader & Mize $4 \times 140 = 560 + 440 = 1,000$
- SEED 150
- \$1330

Phase 1

2	$552,200 + 165,250 = 717,450$	$552,200 \div 2 = 276,100$
3	$81,600 + 103,200 = 184,800$	
4	$1330 = 1330$	
Total	$903,580 - 276,100 =$	<u>$\\$627,480$</u>

Nothing for Plugging or Equipment Removal



Unproductive field from spills and brine disposal



➤ Formal Calculations

GRS Reclamation Detail Calculations (Can be used on any location)

Location **T150N R95W Sec 4 SW1/4**
Compromised Reserve Pit on Reclaimed Well & Oil Storage Pad from 1950's and 60's

Author Gary Swick

Excavation	Length	Width	Depth
Phase 1	In Feet		
Pit Excavation	50	50	8
Cubic Feet	20,000		
Cubic Yards	741		
CY / Truck	21		
Pit Loads	35		

Phase 2	Depth Inches	CY / Truck
Site Excavation per Acre	3.00	22.00
Total Cubic Feet	10,890	
Cubic Yards per Acre	404	
Site Loads:	18	
No. Acres	5.00	

Pit Loads:	35
Site Loads x No. Acres	90
Total Loads:	125
Time per Load, Average Hrs.	4
Total Time in Hours	500

Disposal	
CY for Disposal	2,761
Price Per Ton / CY	\$200
Disposal Cost	\$552,200

Location **T150N R95W Sec 4 SW1/4**
Compromised Reserve Pit on Reclaimed Well & Oil Storage Pad from 1950's and 60's

Equipment and Rates	# Hours	Per Hour	Total
Trucking	500	\$160	\$80,000
Excavator	30	\$250	\$7,500
Dozer	80	\$300	\$24,000
Loader	30	\$180	\$5,400
Scraper	90	\$375	\$33,750
Service Truck	90	\$100	\$9,000
Grader	40	\$140	\$5,600
Total Equipment	860		\$165,250
Total Phase 1 & 2 Excavation			\$717,450

Restoration

Phase 3	CY	Total
Pit Fill Dirt per CY	741	\$5,928
Top Soil Depth Inches	806	
Number of Acres	5	
Top Soil Cost per CY	4,077	\$81,530
Total Fill & Soil		\$87,458

Pit Fill Loads	35
Top Soil Loads	185
Total Loads	220
Hours Per Load	2
Total Hours	440

Equipment and Rates	# Hours	Per Hour	Total
Trucking	440	\$160	\$70,400
Dozer	40	\$300	\$12,000
Grader	40	\$140	\$5,600
Scraper	40	\$375	\$15,000
Service Truck	40	\$100	\$4,000
Total Equipment	600		\$107,000
Total Phase 3 Fill & Top Soil			\$194,458



GRS Reclamation Total

Location	T150N R95W Sec 4 SW1/4		
	Compromised Reserve Pit on Reclaimed Well & Oil Storage Pad from 1950's and 60's		
Phase 4			
Finishing, Prep & Seeding			
Tractor & Disk	4	\$25	\$100
Tractor & Drag	2	\$15	\$30
Tractor & Drill	2	\$25	\$50
Grader	4	\$140	\$560
Miscl.	4	\$110	\$440
Seed	1	\$150	\$150
Total Phase 4 Finishing	17		\$1,330
Total for Site			
Phase 1 - Included in Phase 2			
Phase 2 - Excavation, Pit and Site		\$717,450	
Phase 3 - Fill Dirt		\$194,458	
Phase 4 - Finishing & Seeding		\$1,330	
Total All Phases		\$913,238	
Less 1/2 Disposal		(\$276,100)	
Net Total		\$637,138	



➤ Photographs and Documentation of site in question.



Photos of abandoned storage tanks. Many years of no production waiting for company to clean up their mess



Succession of owners, **none** of them paying for restoration of site.



Debris and Chemical Residue Everywhere!!



➤ Supplemental Information

The Daryl Anderson Property has been the subject of extensive evaluation to determine the most effective and economically feasible approach for its remediation. After careful assessment, several options were proposed, each varying in cost, environmental impact, and scope of implementation. Below is a detailed analysis of the recommended solution and comparisons of all alternatives considered.

Daryl Anderson Alternatives

The most cost-effective option for remediating the Daryl Anderson Property is **Option #3 – Tile Draining to Phytoremediation Cell**, with an estimated total cost of **\$672,060** [1].

Here's a quick comparison of all three options:

Option	Estimated Cost	Estimated Soil Removed	Key Notes
Option #1 – Full Excavation	\$5,036,000	22,493 cubic yards (≈30,365 tons)	Most thorough but most expensive
Option #2 – Capillary Break + Phytoremediation	\$1,220,580	15,700 cubic yards (≈21,195 tons)	Moderate cost, reuses soil, includes flushing
Option #3 – Tile Drainage + Phytoremediation	\$672,060	Estimated 5,000–8,000 cubic yards (≈6,750–10,800 tons)	Least invasive and least costly [1]

Summary:

- **Option #3** is the most cost-effective and least disruptive, though it has not been previously field-tested.
- **Option #2** offers a balance between cost and effectiveness, with pilot testing showing positive results.
- **Option #1** is the most comprehensive but also the most expensive by a wide margin.

References

[1] [CAP - Anderson](#)



Sample calculation for Mega-site cleanup. At least 16.5 acres of land are involved

C-1

151N 95W SEC. 20
≈ 16.5 ACRES Horizontal
BAKKEU Site
RECLAIM SITE AND ROAD
(NOT TO ORIGINAL)

Probably 3.5 TIMES the size of VERTICAL
SO $\$621,480 \times 3.5 = \$2,196,180$

PAD ONLY

Cut 243,005 CY

Fill 117,434 CY

Topsoil 16,725 CY

1/2 of ABOVE

2550 LOADS to TRUCK OUT is \$1,633,280

120,500 CYs to RESTORE ? is \$668,250

\$2301,530

STILL NEED TO REMOVE EQUIPMENT, Plug Well,
HAUL IN MORE Topsoil, AND FINISH & SEED

SO ? \$3,000,000

As a Bakken site becomes a stripper
well the amount of \$3,000,000 should
be deposited in a Bank of ND Trust Fund
to reclaim the well.

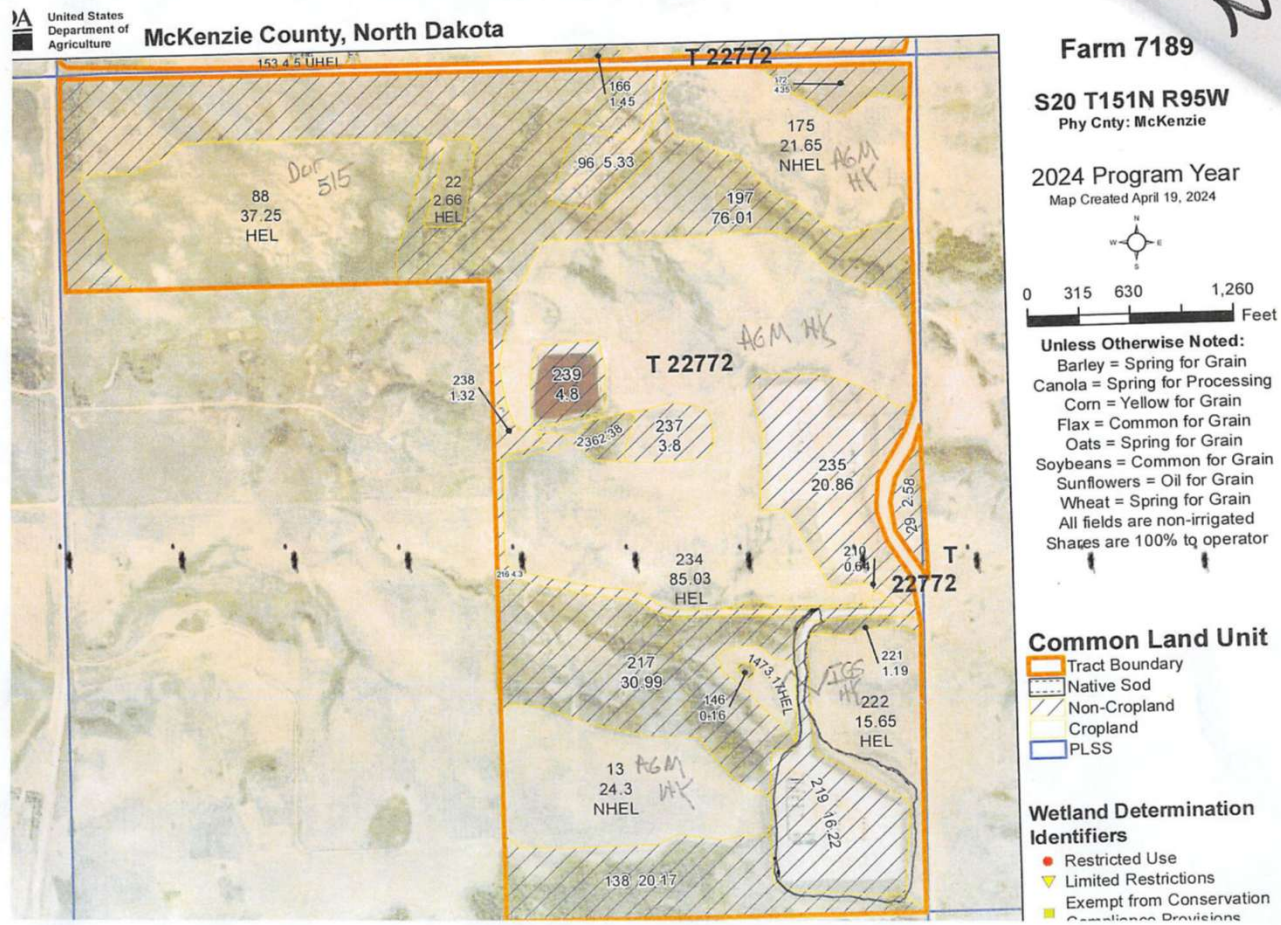
Donald Nelson 4/11/2026



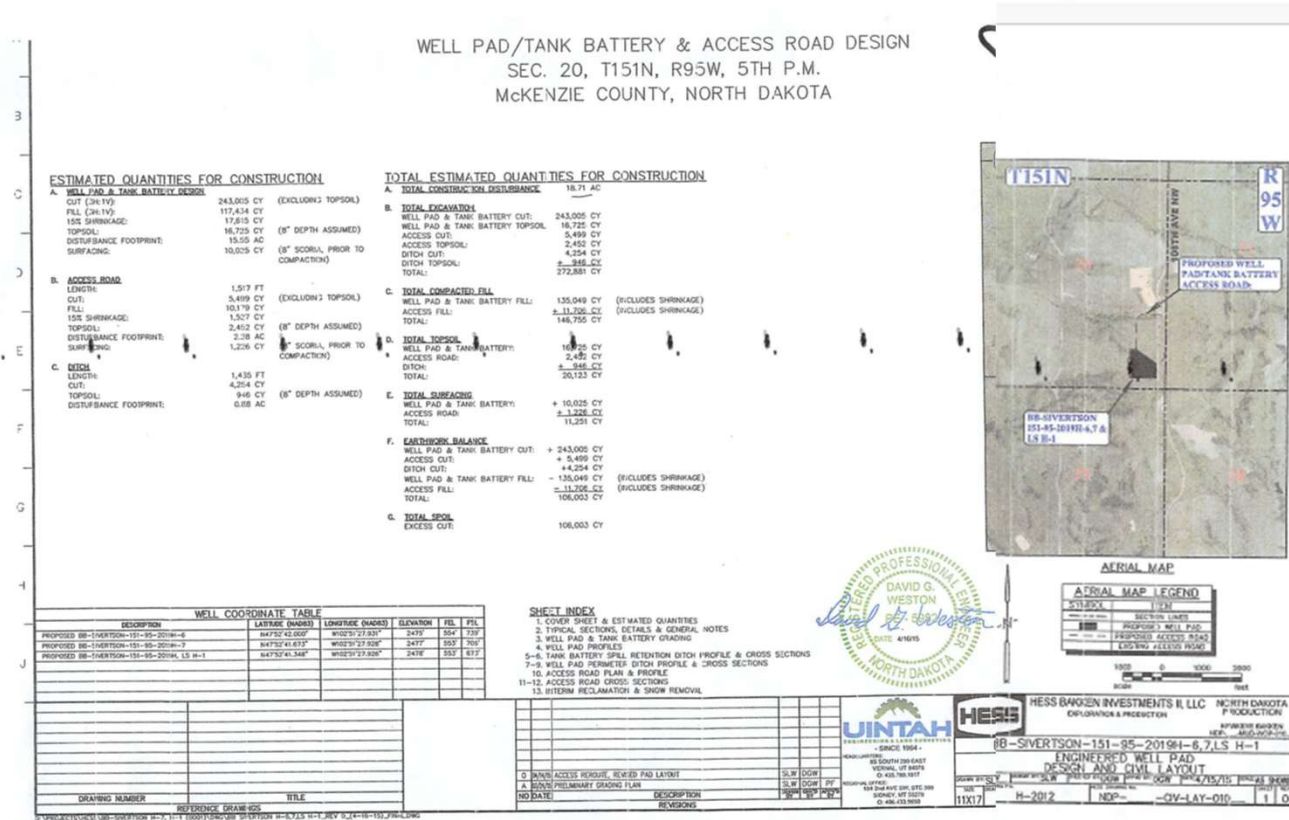
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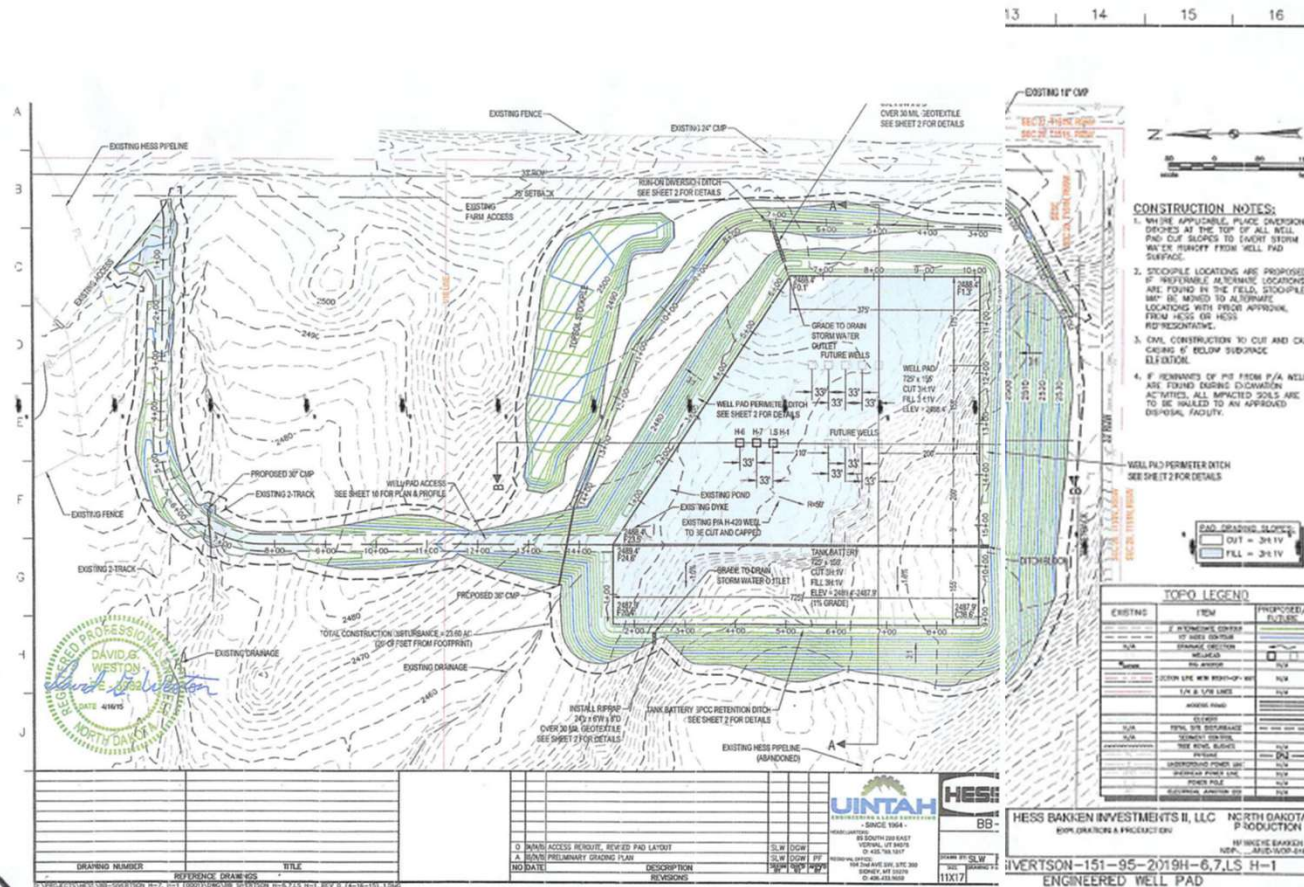
USDA mapping of cropland for sections reviewed.



Additional information related to site.



Additional Construction Notes



Question presented by McKenzie County's Frack Wells

FileNo	CurrentOperator	CountyName	FieldName	ProducedPools	Wellbore	WellType	WellStatus	WellStatusDate
	23649 BURLINGTON RESOURCES OIL & GAS COMPANY LP	MCKENZIE	BLUE BUTTES	BAKKEN	HORIZONTAL	OG	PA	8/2/2021

39 Bakken Style Horizontal Wells Plugged and Abandoned from 8/2008 Thru 1/2024.

When will these site be reclaimed?

17251 OASIS PETROLEUM NORTH AMERICA LLC	MCKENZIE	SPOTTED HORN	BAKKEN	HORIZONTAL	OG	IA	12/19/2023
16959 OASIS PETROLEUM NORTH AMERICA LLC	MCKENZIE	BLUE BUTTES	BAKKEN	HORIZONTAL	OG	PA	8/4/2014
29327 OASIS PETROLEUM NORTH AMERICA LLC	MCKENZIE	GRAIL	BAKKEN	HORIZONTAL	OG	AB	10/27/2020
18973 OASIS PETROLEUM NORTH AMERICA LLC	MCKENZIE	BLUE BUTTES	BAKKEN	HORIZONTAL	OG	IA	3/17/2023
28166 OASIS PETROLEUM NORTH AMERICA LLC	MCKENZIE	GRAIL	BAKKEN	HORIZONTAL	OG	IA	9/19/2023
28168 OASIS PETROLEUM NORTH AMERICA LLC	MCKENZIE	GRAIL	BAKKEN	HORIZONTAL	OG	IA	3/17/2023
28689 OASIS PETROLEUM NORTH AMERICA LLC	MCKENZIE	GRAIL	BAKKEN	HORIZONTAL	OG	IA	1/17/2024
29827 OASIS PETROLEUM NORTH AMERICA LLC	MCKENZIE	GRAIL	BAKKEN	HORIZONTAL	OG	IA	3/17/2023
30607 OASIS PETROLEUM NORTH AMERICA LLC	MCKENZIE	GRAIL	BAKKEN	HORIZONTAL	OG	AB	3/29/2021
24685 OASIS PETROLEUM NORTH AMERICA LLC	MCKENZIE	GRAIL	BAKKEN	HORIZONTAL	OG	IA	3/17/2023
17260 OASIS PETROLEUM NORTH AMERICA LLC	MCKENZIE	SPOTTED HORN	BAKKEN	HORIZONTAL	OG	IA	11/17/2023
30710 OASIS PETROLEUM NORTH AMERICA LLC	MCKENZIE	SPOTTED HORN	BAKKEN	HORIZONTAL	OG	IA	9/19/2023
30712 OASIS PETROLEUM NORTH AMERICA LLC	MCKENZIE	SPOTTED HORN	BAKKEN	HORIZONTAL	OG	IA	10/17/2023
30907 OASIS PETROLEUM NORTH AMERICA LLC	MCKENZIE	SPOTTED HORN	BAKKEN	HORIZONTAL	OG	IA	5/17/2023
26811 SPOTTED HAWK DEVELOPMENT, LLC	MCKENZIE	CLARKS CREEK	BAKKEN	HORIZONTAL	OG	PA	10/17/2023
27040 SPOTTED HAWK DEVELOPMENT, LLC	MCKENZIE	CLARKS CREEK	BAKKEN	HORIZONTAL	OG	IA	11/17/2023
29752 SPOTTED HAWK DEVELOPMENT, LLC	MCKENZIE	CLARKS CREEK	BAKKEN	HORIZONTAL	OG	PA	5/17/2023
29753 SPOTTED HAWK DEVELOPMENT, LLC	MCKENZIE	CLARKS CREEK	BAKKEN	HORIZONTAL	OG	PA	5/17/2023
29754 SPOTTED HAWK DEVELOPMENT, LLC	MCKENZIE	CLARKS CREEK	BAKKEN	HORIZONTAL	OG	PA	4/18/2023
29755 SPOTTED HAWK DEVELOPMENT, LLC	MCKENZIE	CLARKS CREEK	BAKKEN	HORIZONTAL	OG	IA	12/19/2023
29962 SPOTTED HAWK DEVELOPMENT, LLC	MCKENZIE	CLARKS CREEK	BAKKEN	HORIZONTAL	OG	PA	4/18/2023
29964 SPOTTED HAWK DEVELOPMENT, LLC	MCKENZIE	CLARKS CREEK	BAKKEN	HORIZONTAL	OG	PA	4/18/2023
34373 WHITE BUTTE OIL OPERATIONS, LLC	MCKENZIE	CLARKS CREEK	BAKKEN	HORIZONTAL	OG	IA	1/17/2024
25550 XTO ENERGY INC	MCKENZIE	BLUE BUTTES	BAKKEN	HORIZONTAL	OG	PA	11/24/2022



➤ Hess Application for additional wells



*Hess has a lot
4 mile
laterals*

**The application for Hess to
continue creating new lateral wells
in Williams County.**

Application of Hess Bakken Investments II, LLC for an order amending the applicable orders for the Ray-Bakken Pool, Williams County, ND, to (i) establish an overlapping standup 2560-acre spacing unit described as Sections 13, 24, 25 and 36, T.157N., R.97W., Williams County, ND, and authorize four horizontal wells to be drilled on such unit; (ii) establish an overlapping standup 3840-acre spacing unit described as Sections 23, 24, 25, 26, 35 and 36, T.157N., R.97W., and authorize one horizontal well to be drilled on such unit; or (iii) granting such other relief as may be appropriate.

North Dakota Industrial Commission

Case # 31393
February 26, 2025

*100% Pay out
in 18 mo
new wells*



Hess is Infilling wells with 4-mile laterals



Note: Well symbols are located at BHL

-  Existing DSU Outline
-  Requested 2560 DSU Outline
-  Requested 3840 DSU Outline

Case # 31393
February 26, 2025
Exhibit # 1

2



**Ray Bakken Pool – Williams County
Reservoir / Economic Summary for single 3-mile MB well**

Reservoir data

Gross Thickness, ft	85 ft
Porosity, %	6%
Oil Saturation, %	52%
Formation Volume Factor (Bo)	1.7 RB/STB
Acreage (A)	3,840 Acres
Oil In Place (OIP)	40,426 MSTB
Economic Ultimate Recovery (EUR)	612 MSTB
Recovery Factor (RF)	1.5%

Economic Summary

Well Cost (CAPEX)	\$10,250,000
Operating expense per Well (OPEX)	\$16M/Mo
30 day average Oil Rate (IP30)	970 BOPD
Gas Oil Ratio (GOR)	1.95 mscf/stb
AT NPV10	\$10.4 MM
Rate of Return	>100%
AT Payout (1st invest)	1.6 (Yrs)

Note: Econs run at 100% WI, 80% NRI at \$62/bbl (oil) and \$2.75/mcf (gas)

Case # 31393
February 26, 2025
Exhibit # 7

48

**Ray Bakken Pool – Williams County
Reservoir / Economic Summary for single 4-mile MB well**

Reservoir data

Gross Thickness, ft	85 ft
Porosity, %	6%
Oil Saturation, %	52%
Formation Volume Factor (Bo)	1.7 RB/STB
Acreage (A)	2,560 Acres
Oil In Place (OIP)	26,950 MSTB
Economic Ultimate Recovery (EUR)	670 MSTB
Recovery Factor (RF)	2.5%

Economic Summary

Well Cost (CAPEX)	\$11,350,000
Operating expense per Well (OPEX)	\$16M/Mo
30 day average Oil Rate (IP30)	970 BOPD
Gas Oil Ratio (GOR)	1.95 mscf/stb
AT NPV10	\$11.3 MM
Rate of Return	>100%
AT Payout (1st invest)	1.5 (Yrs)

Note: Econs run at 100% WI, 80% NRI at \$62/bbl (oil) and \$2.75/mcf (gas)

Case # 31393
February 26, 2025
Exhibit # 8

89

