



# North Dakota DMR Update

June 15, 2023

NARO





- Statistics
- Oil Prices
- The Next 10 Years (Bakken Development & EOR) (Legacy EOR)
- IIJA
- 2030 Vision





- **Statistics**
- **Oil Prices**
- **The Next 10 Years** (Bakken Development & EOR) (Legacy EOR)
- **IIJA**
- **2030 Vision**

## Oil Production

March	1,124,289 barrels/day (final)	NM 1,406,036
April	1,133,543 barrels/day (all-time high 1,519,037 BOPD Nov 2019)	
	1,092,552 barrels/day or 96% from Bakken and Three Forks	
	40,883 barrels/day or 4% from legacy pools	

## Gas Production and Capture

March Production	3,053,115 MCF/day
95% Capture	2,903,590 MCF/day
April Production	3,117,129 MCF/day (all-time high 3,179,517 MCFD Sep 2022)
95% Capture	2,973,714 MCF/day (all-time high 3,021,655 MCFD Sep 2022)

## April Gas Capture

Statewide	95%
Statewide Bakken	96%
Non-FBIR Bakken	95%
FBIR Bakken	98%
Trust FBIR Bakken	98%
Fee FBIR	97%



## Rig Count

March	46
April	45
May	43
Today	38 (all-time high was 218 on 5/29/2012)
Federal surface	0
New Mexico	107

## Wells

### Permitted

March	89
April	89
May	63 (all-time high was 370 in 10/2012)

### Completed

March	62 (preliminary)
April	51 (preliminary)
May	138 (preliminary) RF+130%
Revised Revenue Forecast	60

### Waiting on Completion

March	483
April	458



## Producing

March 17,656

April 17,740 (preliminary) (all-time high 17,791 October 2022)

15,485 wells or 87% are now unconventional Bakken - Three Forks wells

2,255 wells or 13% produce from legacy conventional pools

## Inactive

March 1,900

April 1,899

## IIJA Initial Grant

Wells PA

Sites Reclaimed

January

1

0

February

4

0

March

1

0

April

8

0

May

15

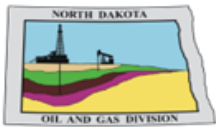
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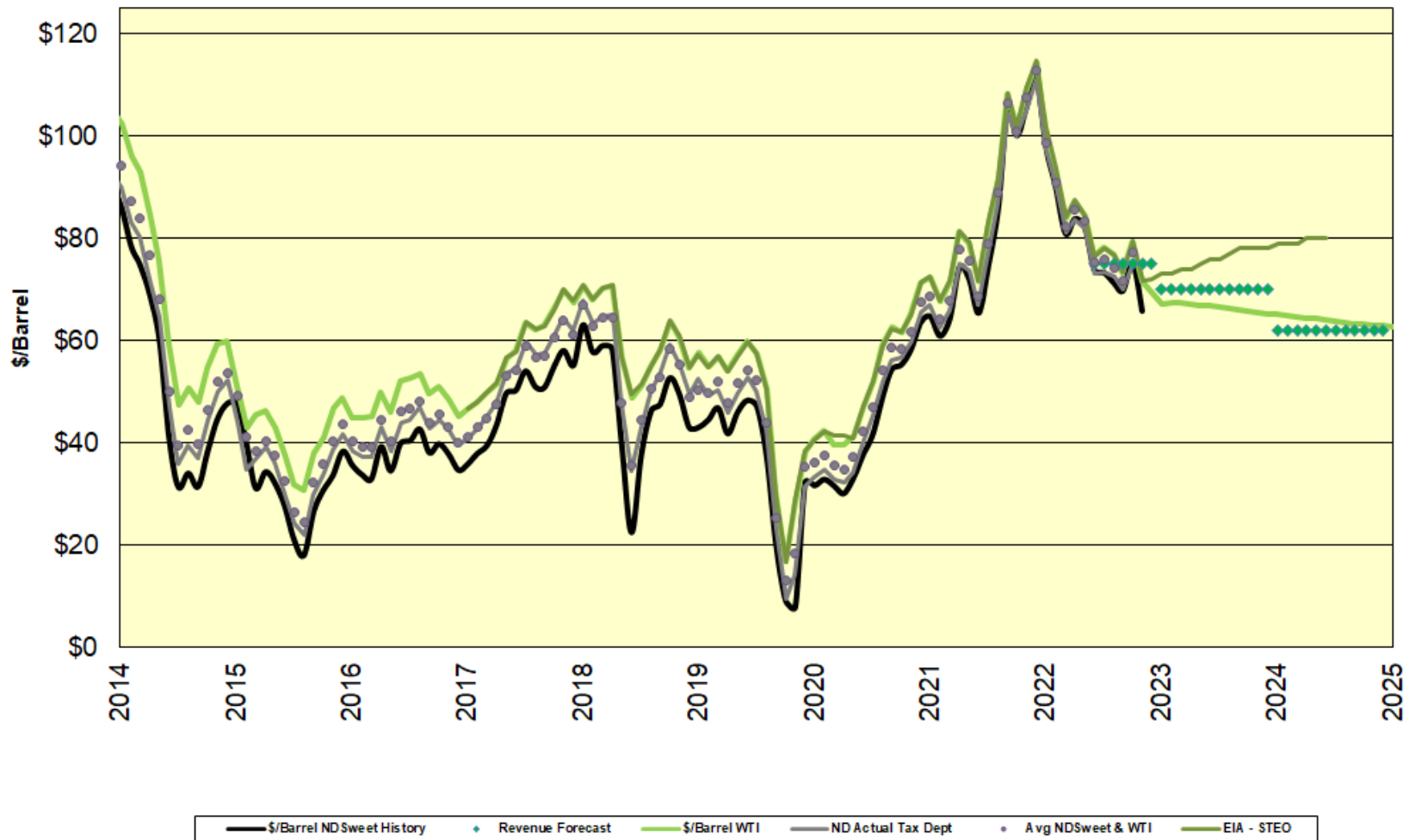


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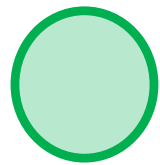
### North Dakota Oil Price Projections



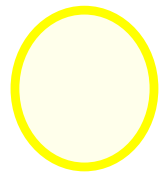


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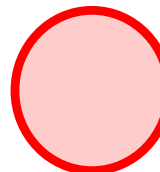




Core=Tier 1 > EOR  
 80-85% developed  
 +8,000 wells  
 1-2% growth = 35 rigs = 8 years

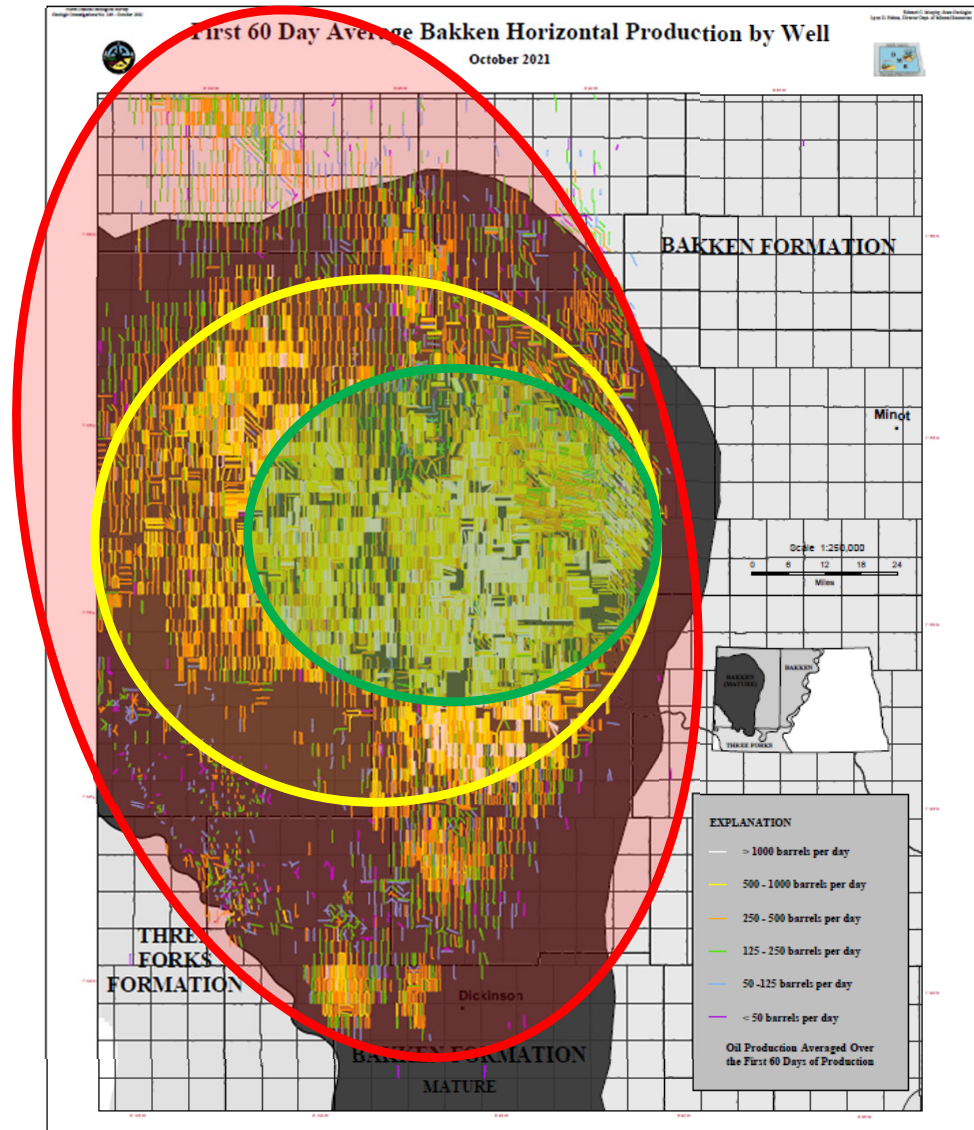


Tier 2 > 3 mi laterals  
 50% developed  
 +8,000 wells  
 1-2% growth = 50 rigs = 6 years

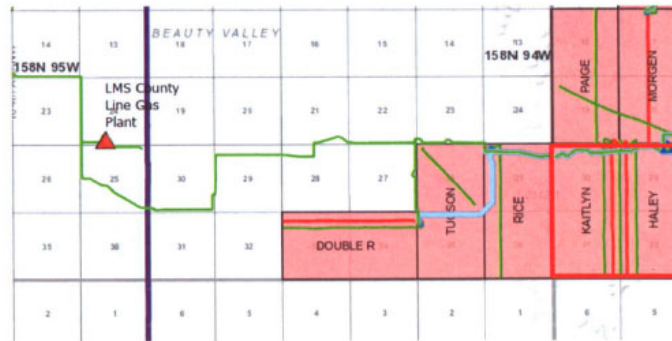


Tier 3 > 3-4 mi laterals  
 25% developed  
 +7,000 wells  
 1-2% growth = 75 rigs = 4 years

Total = 23,000 wells & 18 years  
 Current 17,000 wells & 16 years



## Features of Project Location



- 2560-acre Spacing Unit of Interest
- Existing Middle Bakken Horizontal
- Existing Three Forks Horizontal
- Existing Gas Pipeline (LMS)
- Existing Water Pipeline (LMS)

- Location selected based on results and learnings from prior Bakken EOR pilots, specifically the “Stomping Horse” pilot documented in NDIC Case No. 27926.
- Utilizes more recently completed infill wells (August '19); limited depletion.
- Accesses rich gas via connection to the gas plant gathering line.
- Liberty operates most of the offsetting DSUs.
- Well & completion design provides for favorable conformance along the horizontal interval using cemented liners with “Plug & Perf” completions.
- Jet pump operations ease well conversion to injection.
- Offset well configuration allows for surveillance and boundaries.

INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA  
RPT 6-17-21 CASE NO. 28830  
INTRODUCED BY Liberty  
CHIEF E-2  
IDENTIFIED BY Pospisil

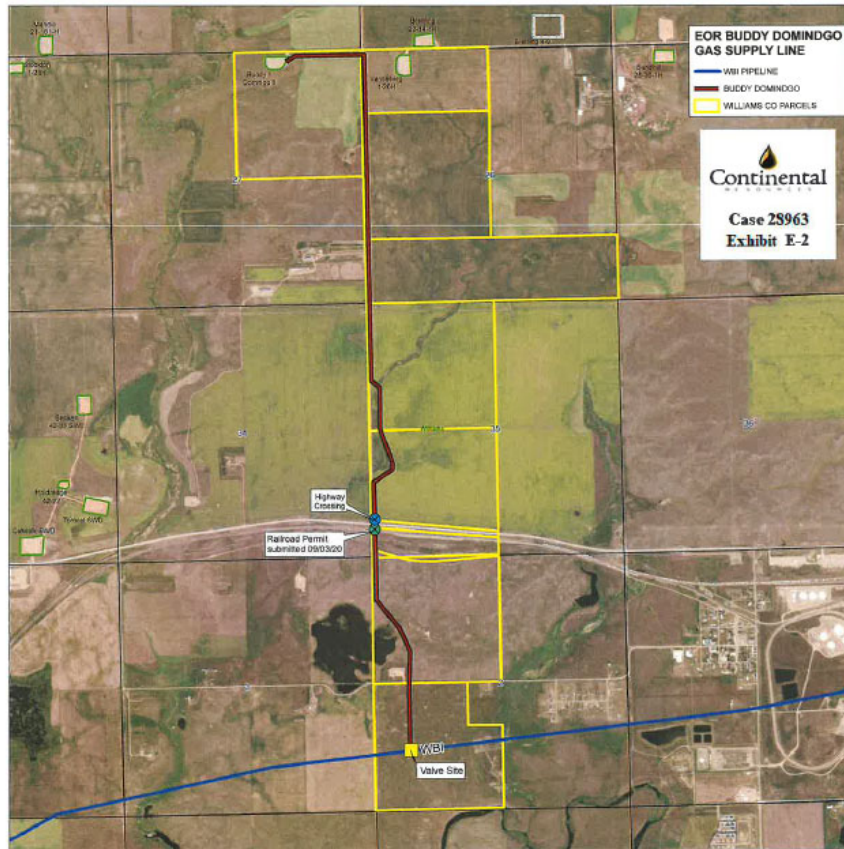




### Location Map – Hess WI

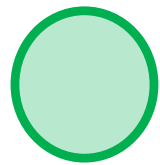


Case # 27836  
10/23/19  
Exhibit 3

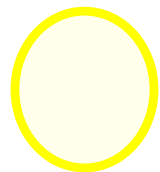


INDUSTRIAL DIVISION  
 STATE OF OREGON  
 DATE 9-30-21 FILE NO 28963  
 APPROVED BY Continental  
 EXHIBIT E-2  
 DRAWN BY Bennett

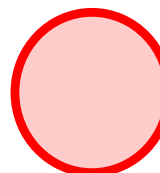




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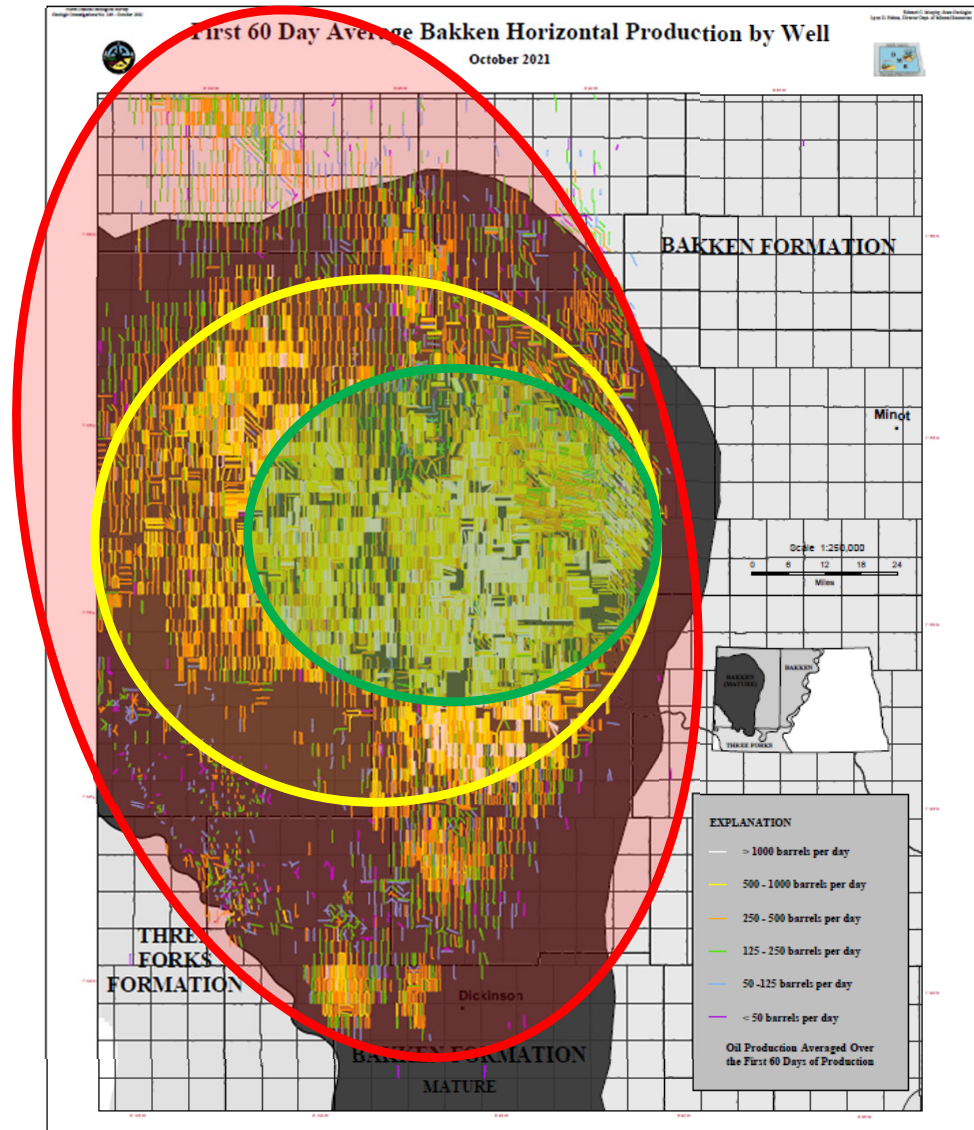


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 Current 17,000 wells & 16 years





Click down arrow to choose

3055

Fort Peck Indian Reservation

Medicine Lake Natl Wildlife Refuge

Wolf Point

Sidney

Glendive

Miles City

3596 ft

2005

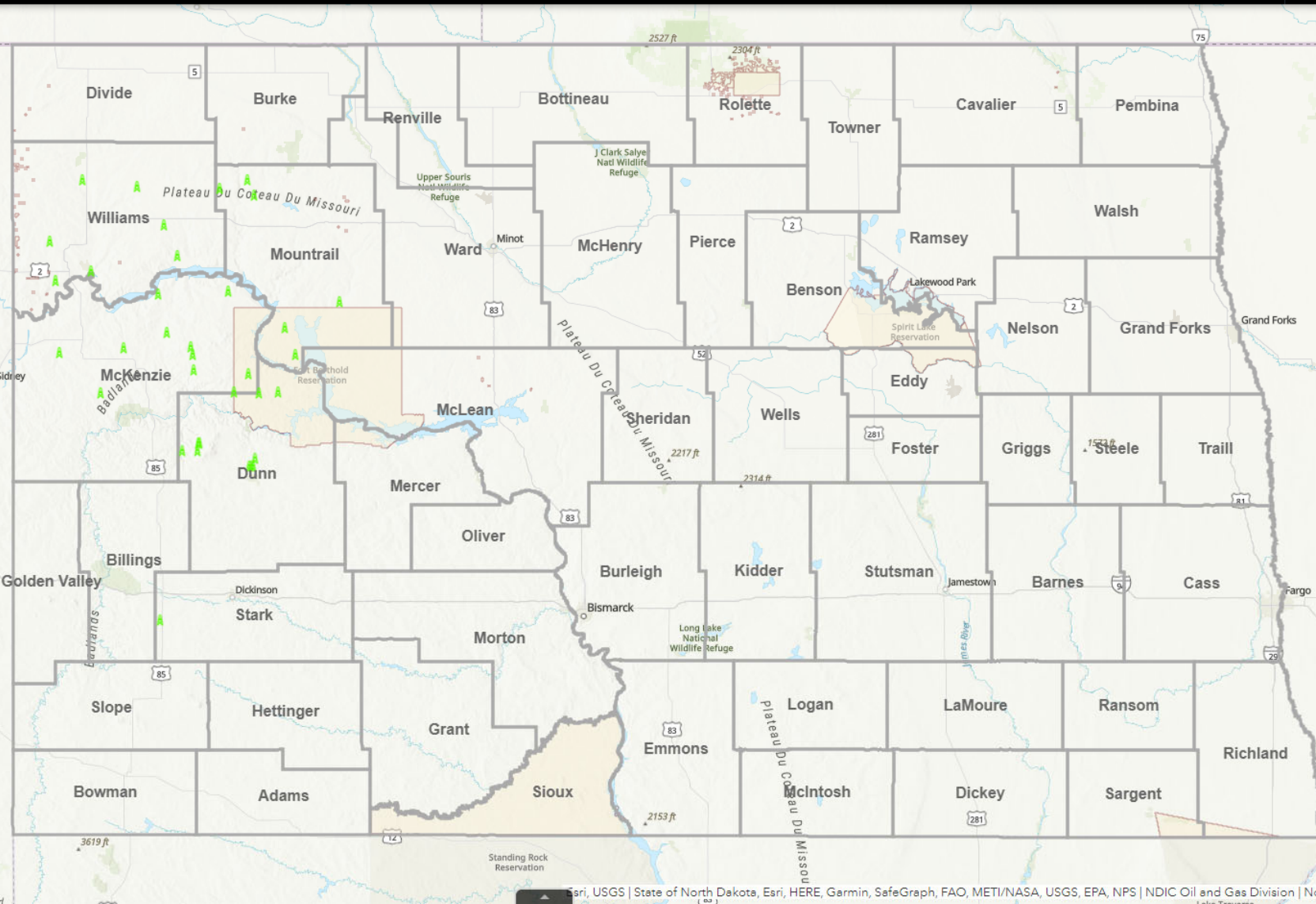
16

13

59

4195 ft

Blue Mud



35 rigs

30mi  
-101.92549 48.89801 Degrees





Click down arrow to choose

3055

Fort Peck Indian Reservation

Wolf Point

Medicine Lake Natl Wildlife Refuge

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3596 ft

2005

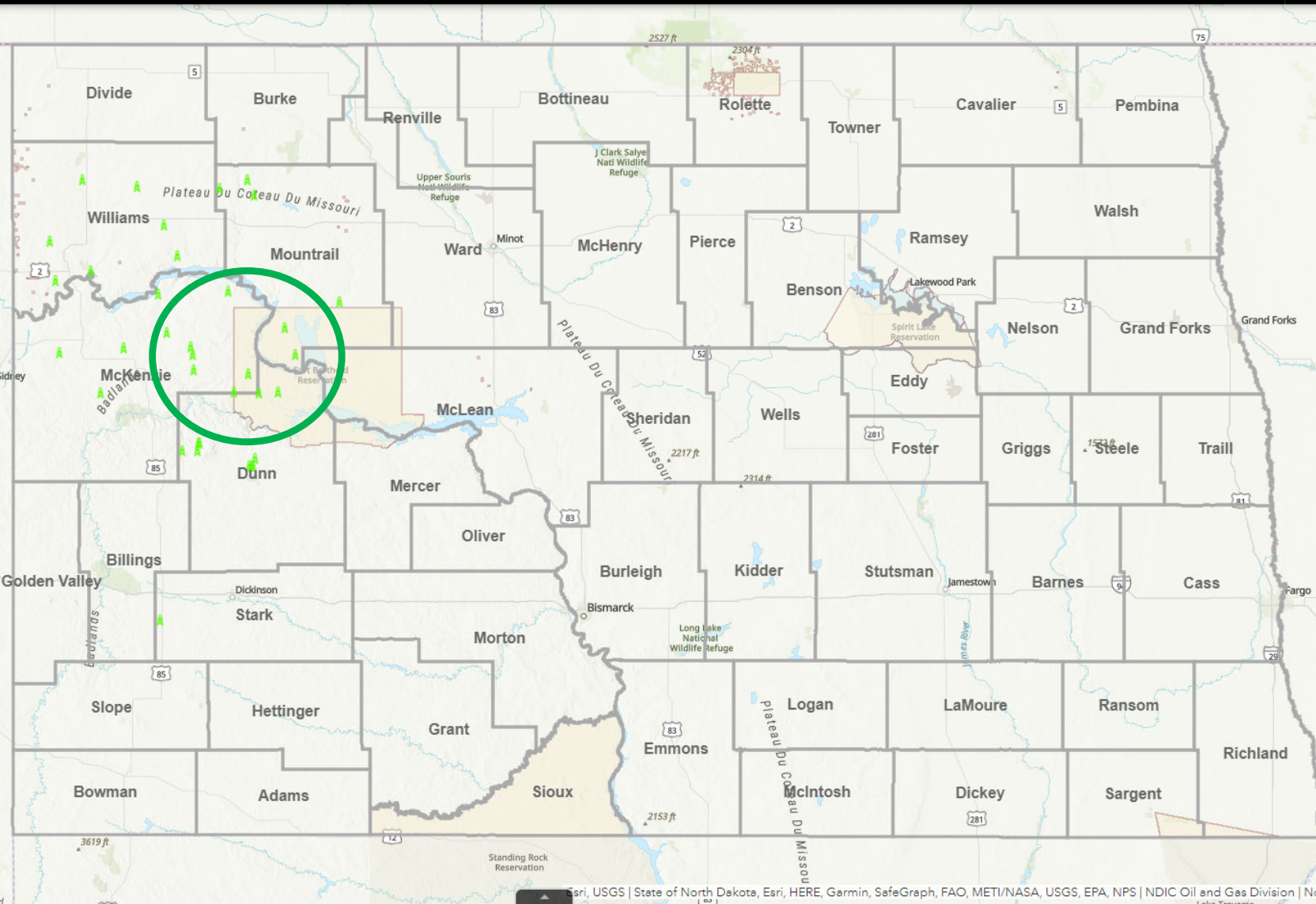
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13

59

4195 ft

Blue Mud





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3055

Fort Peck Indian Reservation

Wolf Point

Medicine Lake Natl Wildlife Refuge

Upper Souris Natl Wildlife Refuge

J Clark Salye Natl Wildlife Refuge

Minot

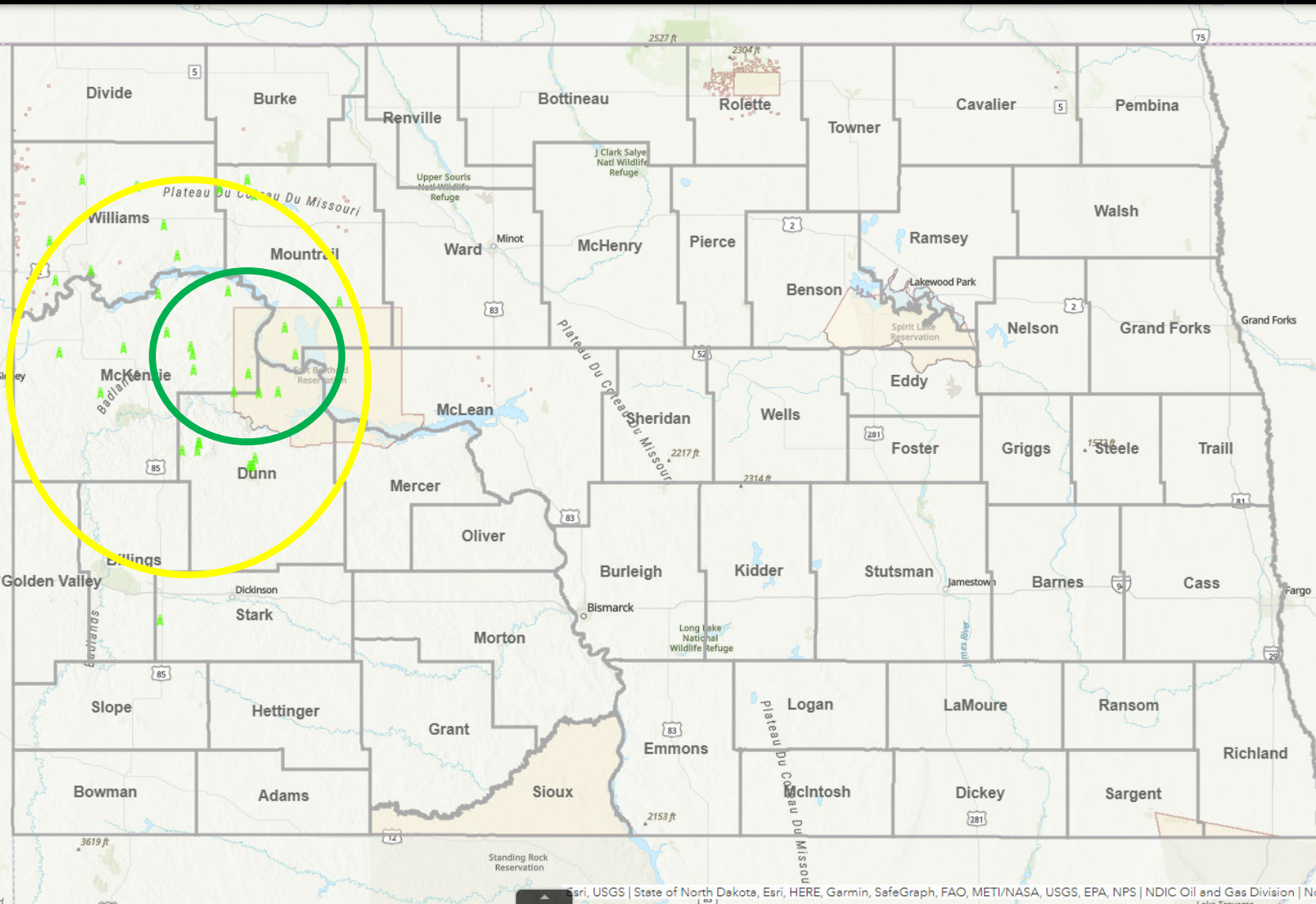
Spirit Lake Reservation

Lakewood Park

South Dakota Reservation

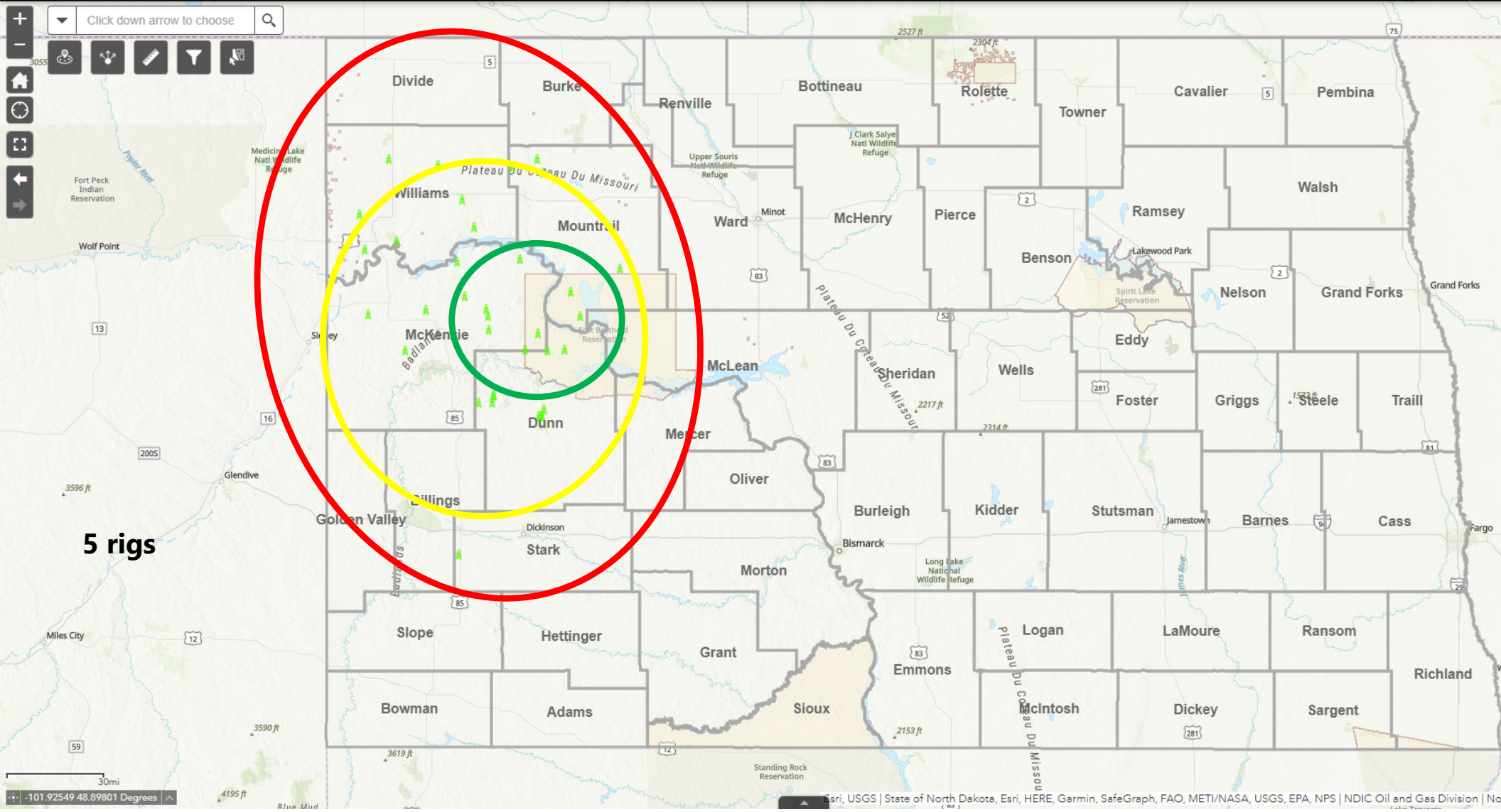
Long Lake National Wildlife Refuge

Standing Rock Reservation



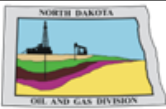
20 rigs



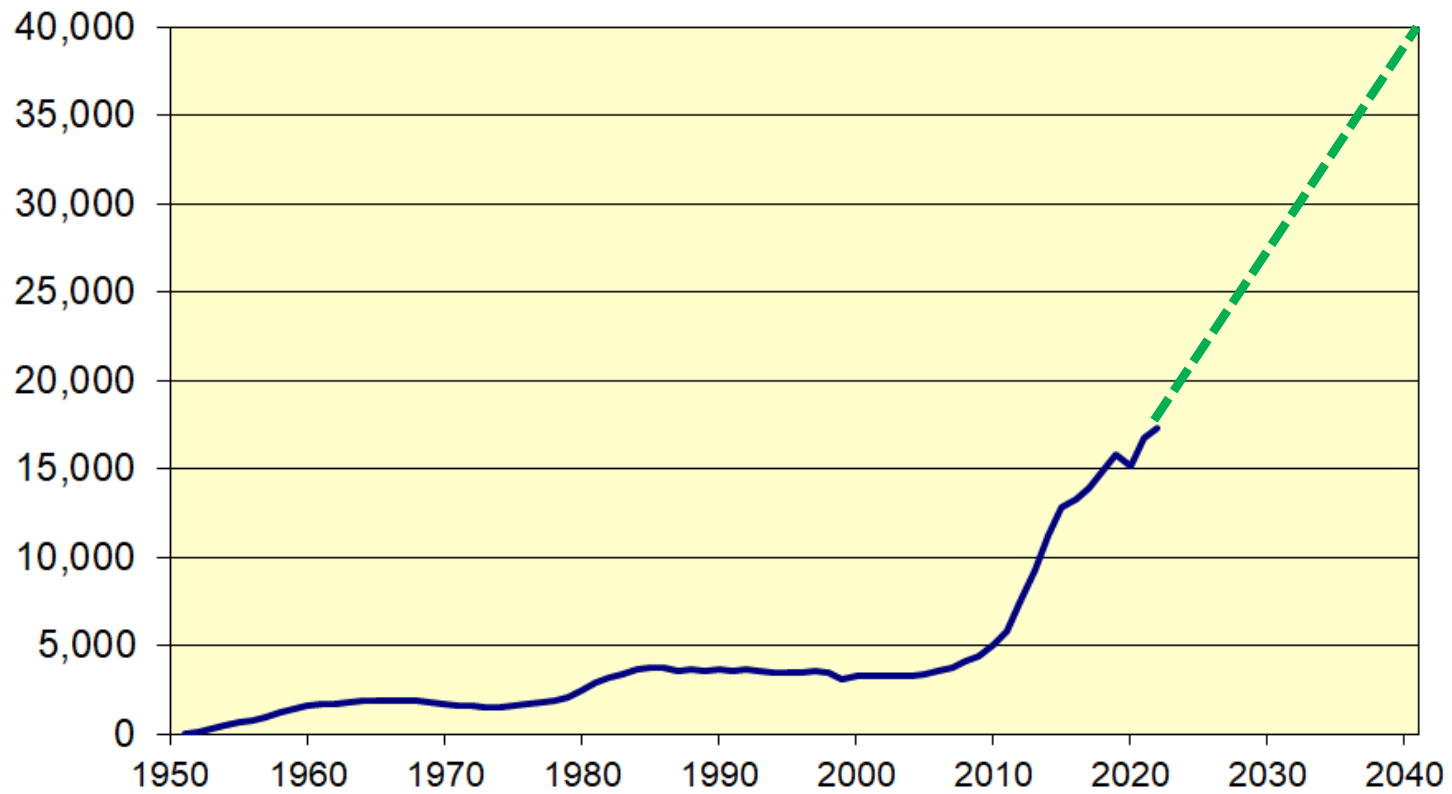


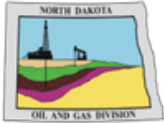
5 rigs



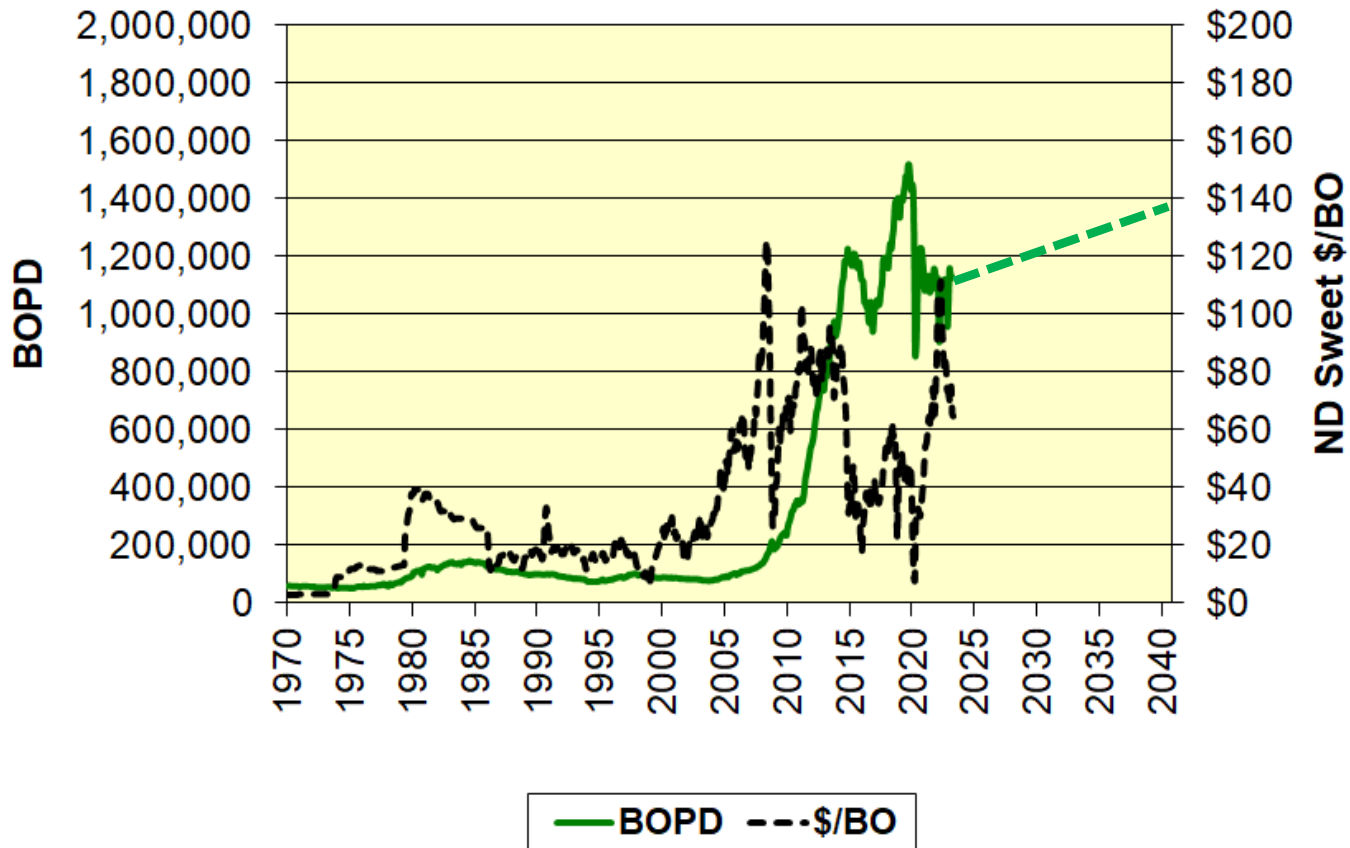


## North Dakota Wells Producing



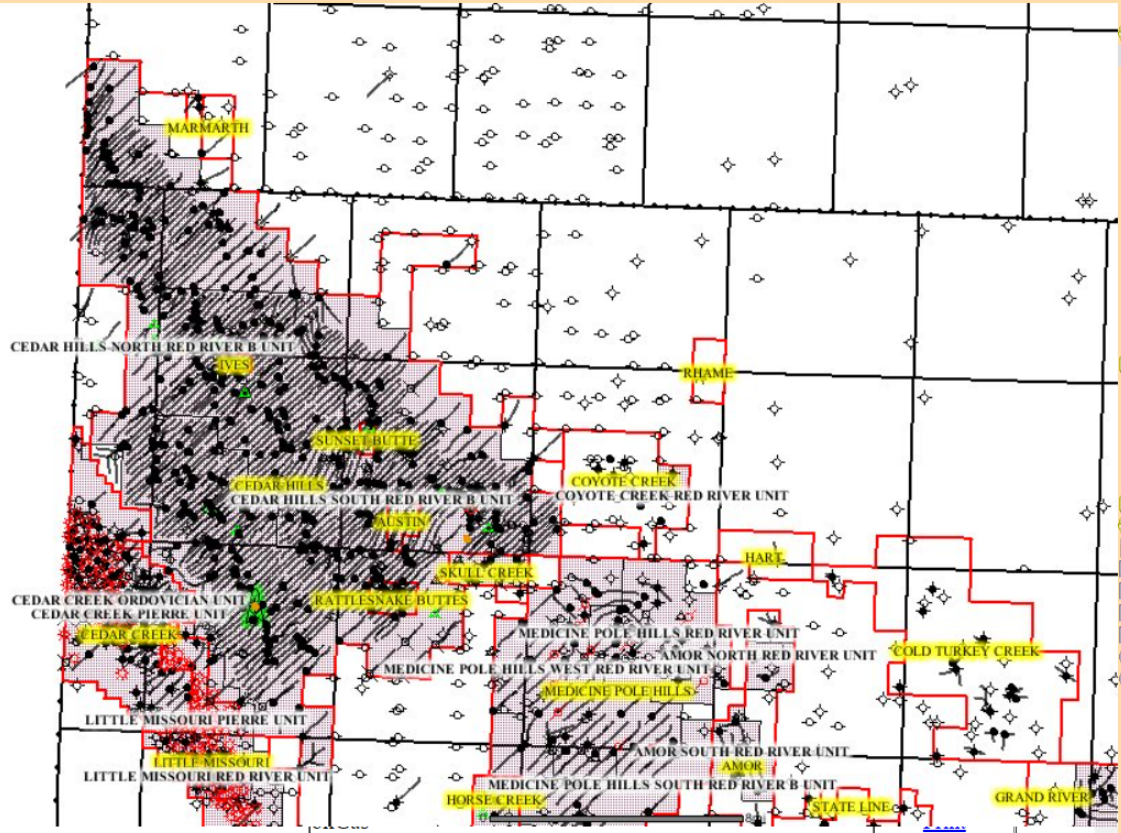


### North Dakota Daily Oil Produced and Price



# Oil and Gas : ArcIMS Viewer

- Legend / Layers
- Overview Map
- View Entire State
- Previous View
- Clear Selection
- Search
- Create PDF
- Zoom In
- Zoom Out
- Pan
- Rect Identify
- Select Object
- Buffer
- Distance
- Find Well
- Find Field / Unit
- Find Section
- Browser Settings Suggestion



Download Shape Files

**ND OIL & GAS LAYERS**

- Oil and Gas
  - Wells
  - Permit Status Before Spud
  - Rig Location
  - Directional Surveys
  - Directional Legs
  - Horizontal Surveys
  - Horizontal Legs
  - Cases Docketed
  - Oil Fields
  - Unit Boundaries
  - Inspector Areas
  - Drilling / Spacing
  - Seismic
  - Gas Plants
  - Other

Refresh Map

Auto Refresh

Help:

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<input type="radio"/>	<a href="#">CENTENNIAL</a>	oilGas	<a href="#">Print</a>
<input type="radio"/>	<a href="#">CHAMA</a>	oilGas	<a href="#">Print</a>
<input type="radio"/>	<a href="#">CHARBONNEAU</a>	oilGas	<a href="#">Print</a>
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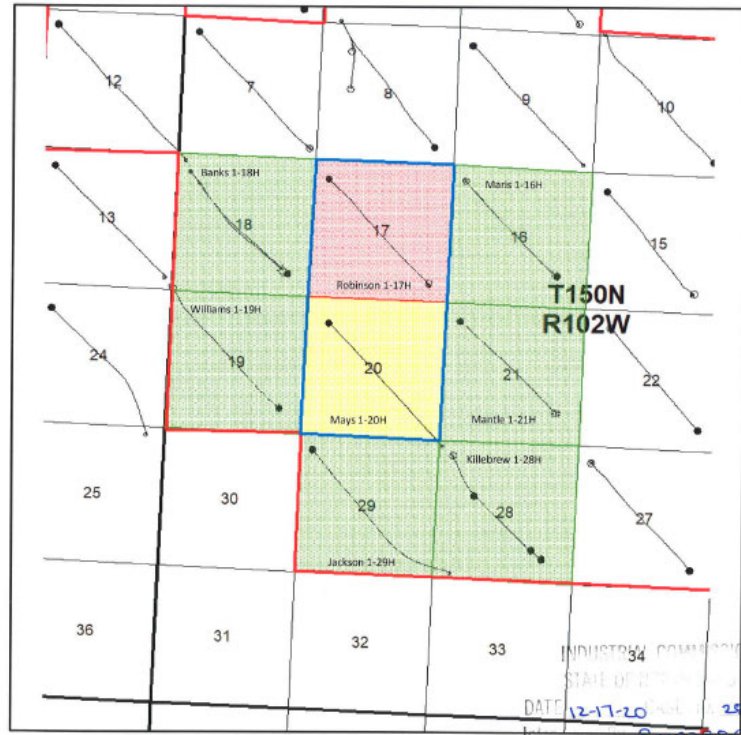
Find

Map Data Last Updated : 7/19/2021



# Mays Waterflood Test Plat

Foreman Butte Field: Madison Pool

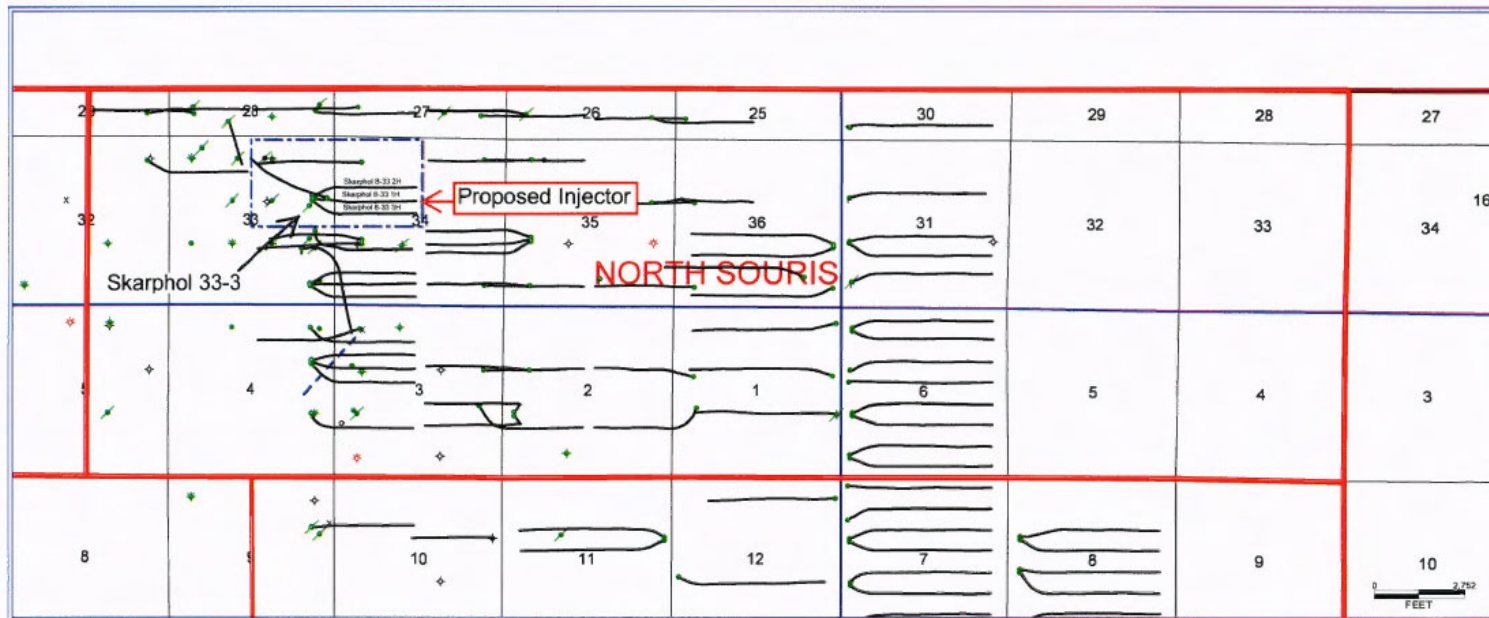


INDUSTRIAL COMMISSION  
STATE OF OKLAHOMA  
DATE 12-17-20  
Initialed by Samson  
Exhibit 4  
Identified by Hatcher

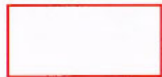
Mays 1-20H – Injector	<span style="display:inline-block; width:15px; height:15px; background-color:yellow;"></span>	Mays/Robinson Unit	<span style="display:inline-block; width:15px; height:15px; border:1px solid blue;"></span>
Robinson 1-17H – Producer	<span style="display:inline-block; width:15px; height:15px; background-color:red;"></span>		
6 Monitoring Wells	<span style="display:inline-block; width:15px; height:15px; background-color:green;"></span>		

Exhibit: 4  
Docket Case No. 28572

## Proposed horizontal water injection well location and offset vertical type well



Spacing Unit - Case 21763, Ballantyne Oil, LLC leasehold



North Souris Field Boundary

INDUSTRIAL COMMISSION  
 STATE OF NORTH DAKOTA  
 DATE 01/26/21 CASE NO. 28924  
 Introduced By Ballantyne  
 Exhibit 2  
 Identified By Jennings

Ballantyne Oil, LLC  
 Case No. 27266  
 Exhibit 2



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Orphaned Well Site Plugging, Remediation, and Restoration  
Section 40601 of the Infrastructure Investment and Jobs Act

**Grant Timeline**

**2021**

11/15/2021 Enactment of the Infrastructure Investment and Jobs Act. (Section 40601 - )

11/30/2021 Report documented orphan wells as of 11/15/21 to IOGCC

12/30/2021 Notice of Intent to Apply for "Formula" Funding Grant

**2022**

1/29/2022 Posting of "Formula" Funding Grant amounts online

5/14/2022 Application deadline for "Initial-25" Funding Grants

6/13/2022 (If "Initial-25" Grant Received) - Date funds received by state.

9/11/2022 No less than 90% of "Initial-25" Grant funds received must be obligated.

10/11/2022 Earliest date to apply for "Performance-Regulatory Improvement" & "Performance-Matching" Grant that could allow for earliest receipt of funds.

12/10/2022 Earliest date "Performance-Regulatory Improvement" & "Performance-Matching" Grant funds may be received.

**2023**

6/13/2023 Deadline for "Initial-25" Funding Grants to be obligated.

6/30/2023 1st "Performance-Matching" Grant fund expensed.

9/30/2023 Final Report on "Initial-25" Funding Grants due.

**2031**

6/30/2031 Deadline for all "Performance-Matching" Grant eligibility. Not to exceed a total amount received of \$30,000,000 between 2022-2031 per state.

**2032**

12/7/2032 Reimbursement for failure to maintain protections under the "Performance-Regulatory Improvement" Grant Due, if applicable.

**Table 13. Updated Data on Documented Orphan Wells**

\* Report the number of documented orphan wells as of November 15, 2021, if available. If the reported number relates to a different date, please specify that date.

State	Total Documented Orphan Wells*	Documented Orphan Wells on State and Private Lands*	Date of Reported Number if other than November 15, 2021
Alabama			
Alaska			
Arizona			
Arkansas			
California			
Colorado			
Florida			
Georgia			
Idaho			
Illinois			
Indiana			
Kansas			
Kentucky			
Louisiana			
Maryland			
Michigan			
Mississippi			
Missouri			
Montana			
Nebraska			
Nevada			
New Mexico			
New York			
North Carolina			
North Dakota	232	186	11/30/2021
Ohio			
Oklahoma			
Oregon			
Pennsylvania			
South Carolina			
South Dakota			
Tennessee			
Texas			
Utah			
Virginia			
Washington			
West Virginia			
Wyoming			
Totals - States:			

Please provide an explanation if the orphan well count differs by 10% or more from the count as of December 31, 2020:

The reduction in wells reported between December 31, 2020 and November 30, 2021 is a result of North Dakota's ongoing plugging and reclamation work completed.



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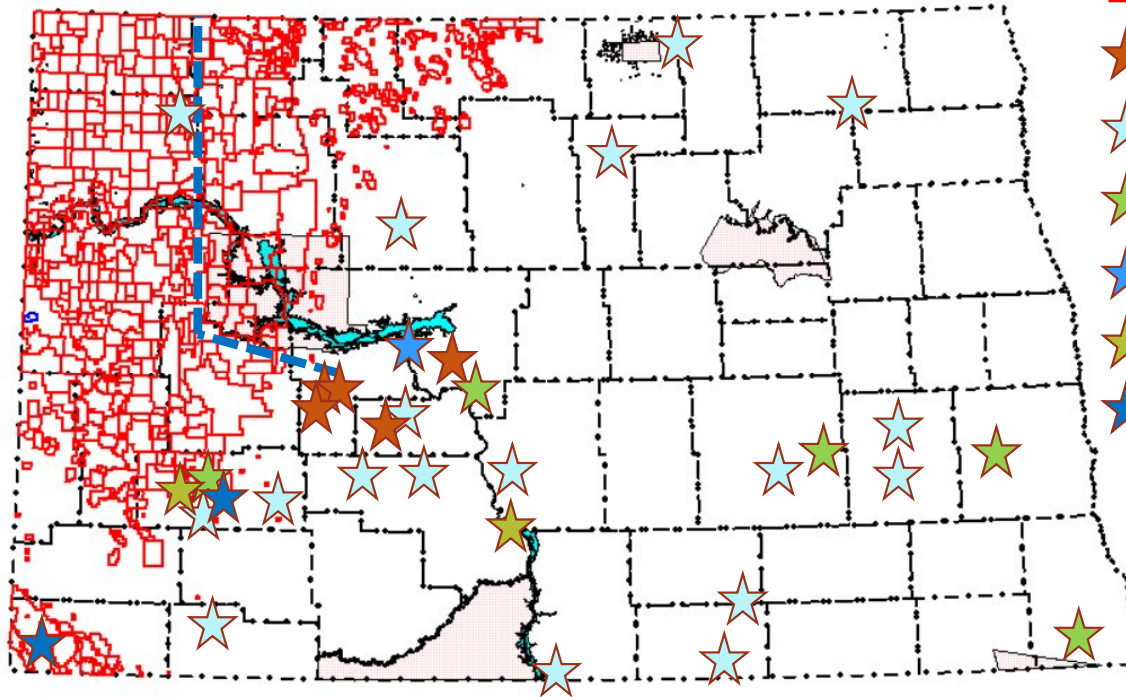
Distance

Find Well

Find Field / Unit

Find Section

Browser Settings  
Suggestion



Current ND energy landscape

-  Oil & Gas
-  Coal-ElecGen
-  Wind Farm
-  Ethanol
-  Hydro
-  Refinery
-  CCUS

Download Shape










## ND OIL & GAS LAYERS

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Zoom In



## **HB1014 – DMR budget**

Move website from on site servers to cloud

Streamline NorthSTAR

\$11.3 million for salt cavern project

\$1.5 million for critical mineral / rare earth research

\$3 million for litigation

\$3 million for IPIPE

\$50 million for CSEA grants and \$390 million CSEA loans

\$3.2 million for orphan well to water well conversions

## **HB1272**

Creates a new category “enhanced oil recovery potential” for idle wells

## **HB1286**

Removes oil extraction tax trigger

## **HB1427**

Extraction tax reduction for restimulations

## **SB2009 & SB2194**

Creates and funds royalty owner ombudsman program

## **SB2057**

Amends 38-22-06 to streamline mineral owner notice requirement for CCS

## **SB2058**

Amends 30-08-04 to place all equipment located at or on an oil or gas well sites and underground pipeline surface facilities under NDIC jurisdiction

## **SB2059**

Increases abandoned well fund limit to \$100 million

## **SB2089**

Creates a \$3 million OGRC grant program, added tank vapor capture technologies, gas lift, and temporary gas injection

## **SB2289**

Amends 54-35-18 to require EDTC committee to develop a statewide energy policy

## **SB2209, SB2212, SB2313, SB2314, SB2228, SB2317, SB2383 > NWLA lawsuit**

Carbon dioxide pipelines, storage (also oil & gas), and eminent domain

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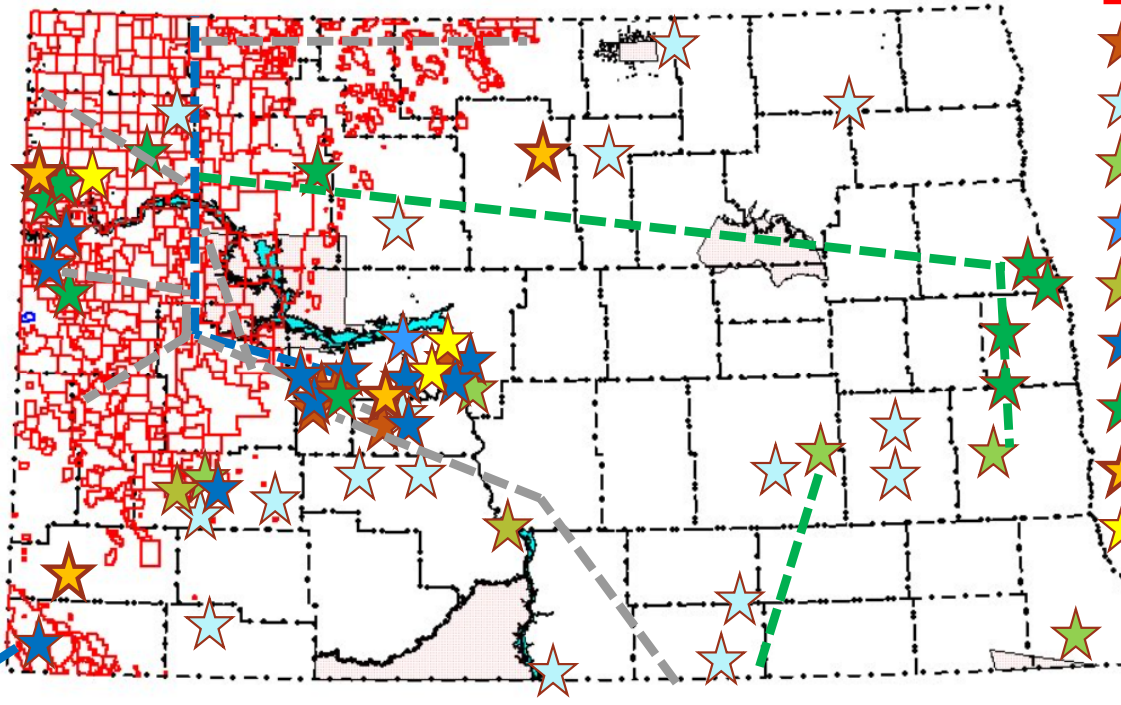
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-  Oil & Gas
-  Coal-ElecGen
-  Wind Farm
-  Ethanol
-  Hydro
-  Refinery
-  CCUS
-  NG / Industrial
-  Minerals
-  Data Center

ND Energy Landscape >2030

Download Shape










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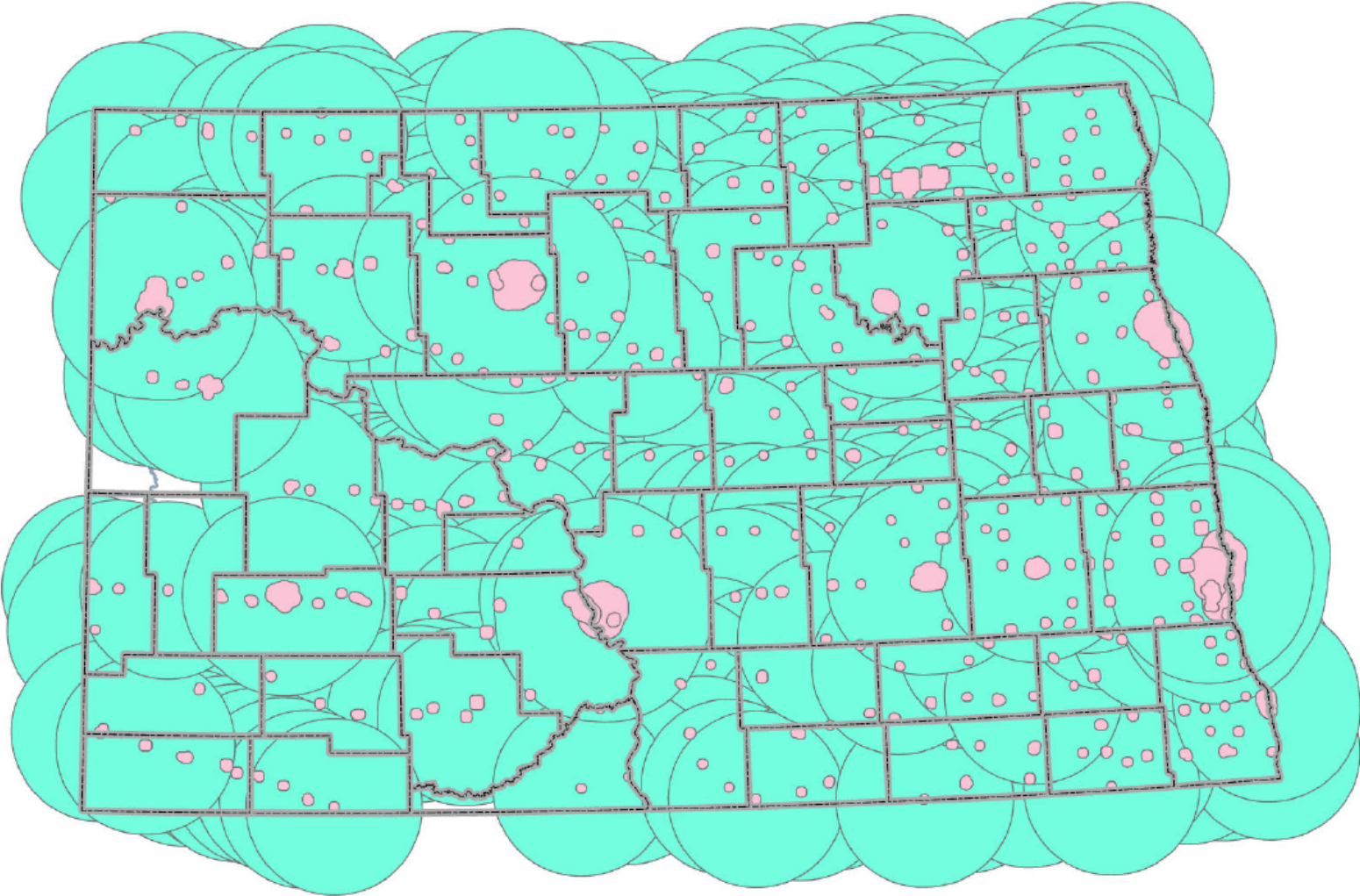
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Zoom In



**Extraterritorial Jurisdiction +25 miles**





**North Dakota**  
**Department of Mineral Resources**  
**[www.dmr.nd.gov](http://www.dmr.nd.gov)**

Phone: 701.328.8020      Email: [oilandgasinfo@nd.gov](mailto:oilandgasinfo@nd.gov)  
Mailing Address: 600 East Boulevard Ave. Dept 474; Bismarck, ND 58505