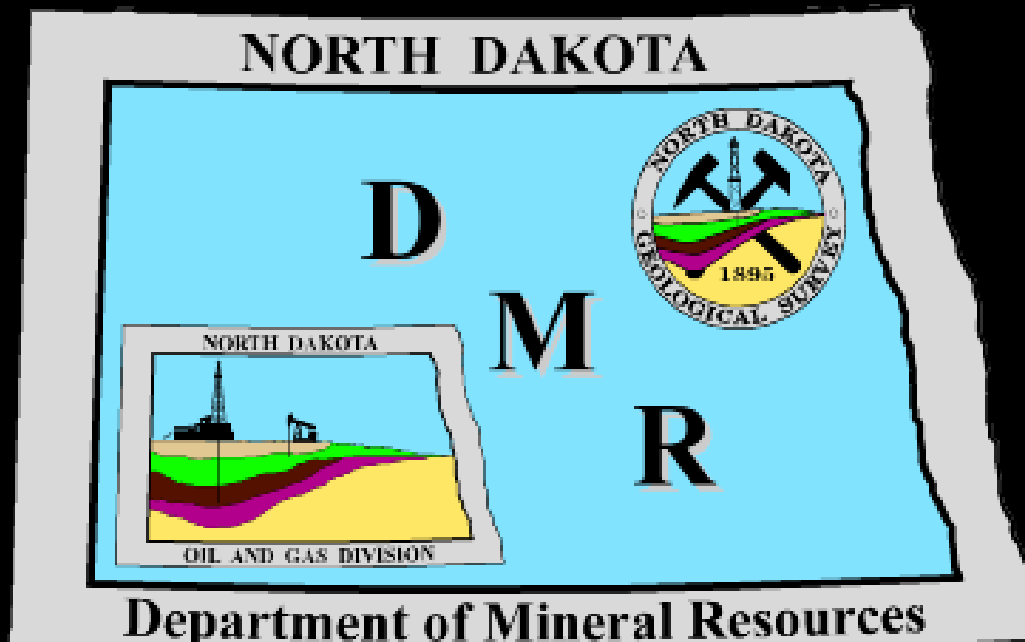


North Dakota Department of Mineral Resources



<http://www.oilgas.nd.gov>

<http://www.state.nd.us/ndgs>

600 East Boulevard Ave. - Dept 405

Bismarck, ND 58505-0840

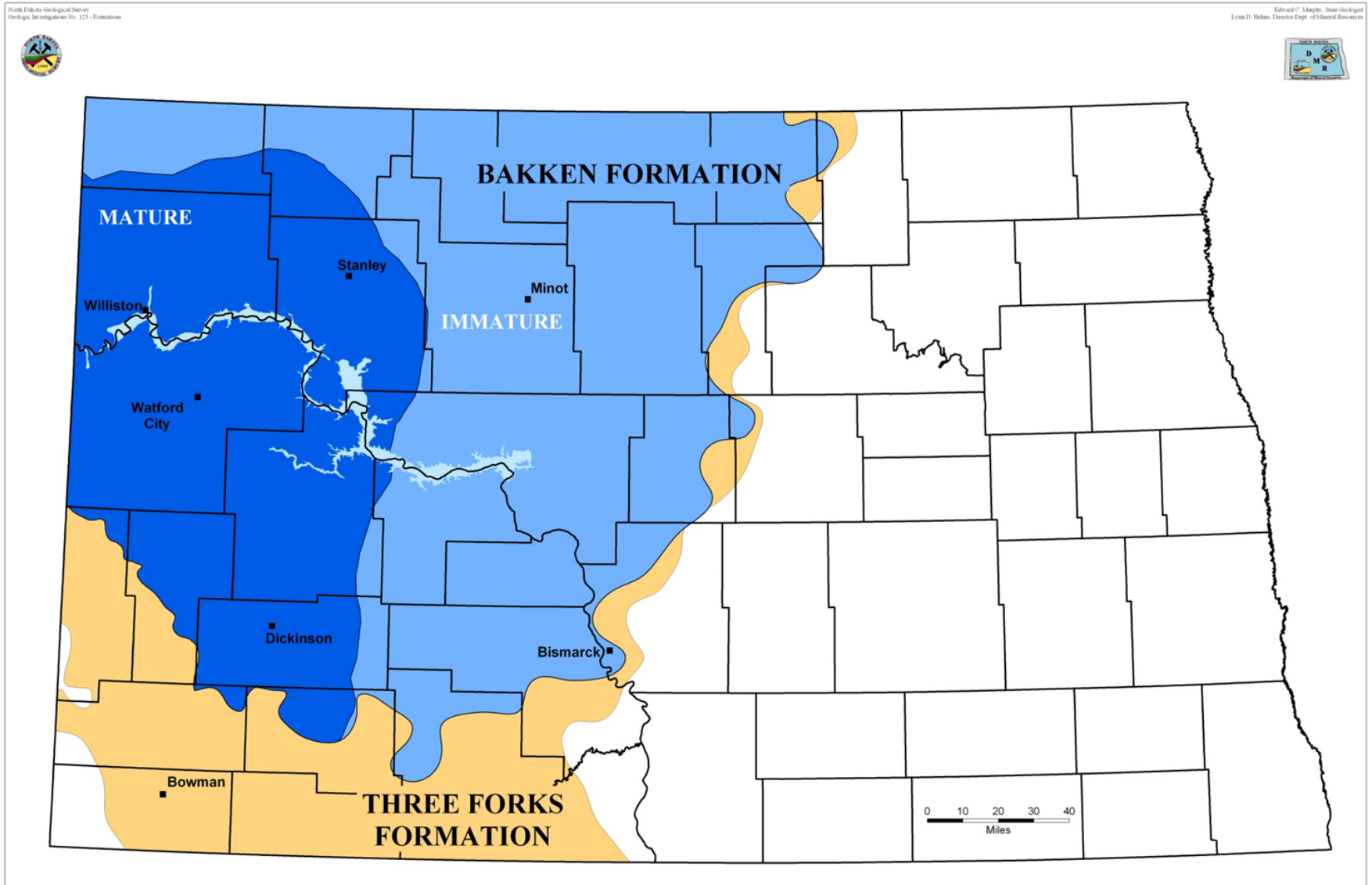
(701) 328-8020

(701) 328-8000

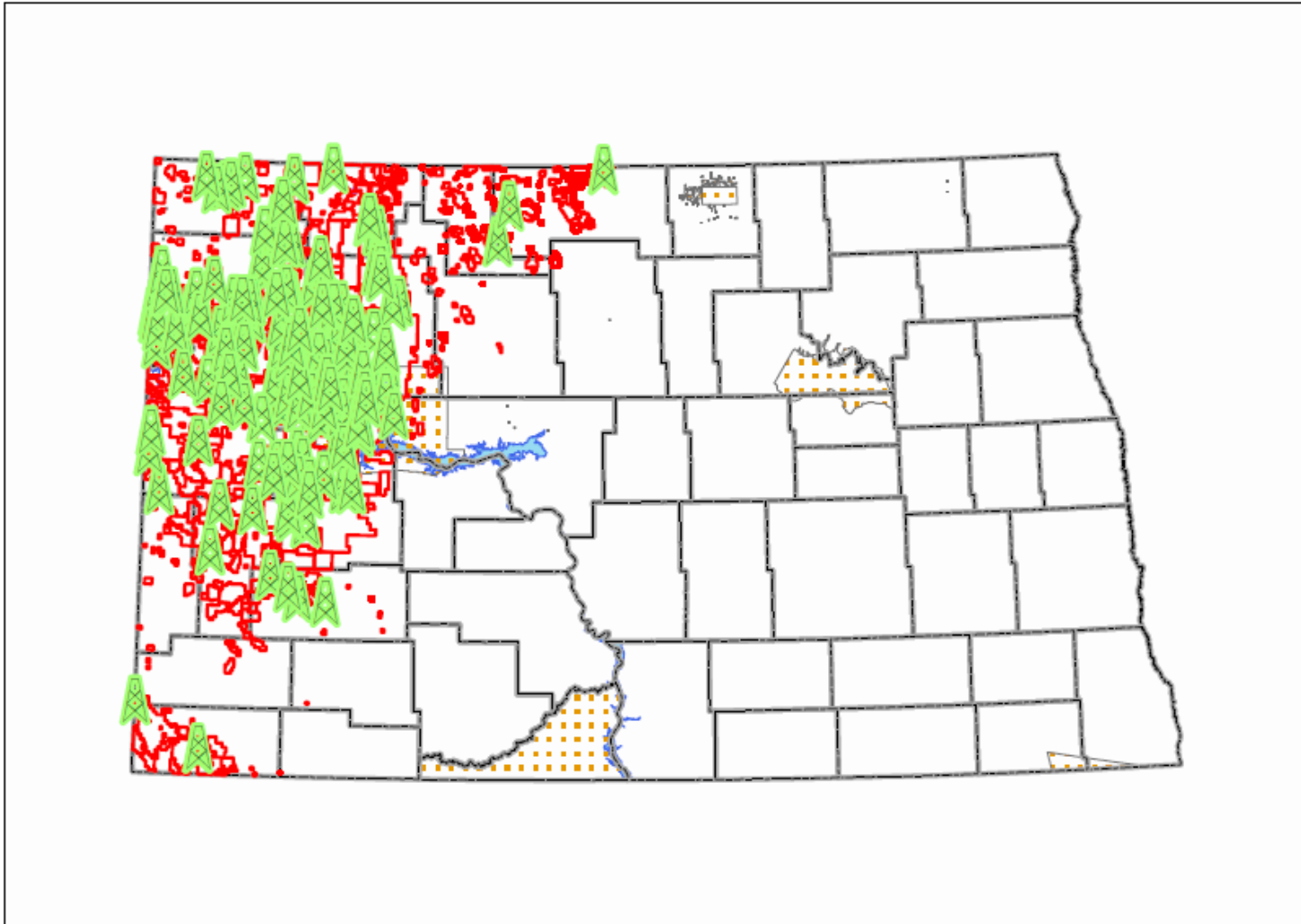
Phase 1

“Discovery”

Define the area



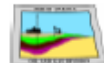
35 rigs in April 2006
200 rigs in January 2012
completed first phase of drilling



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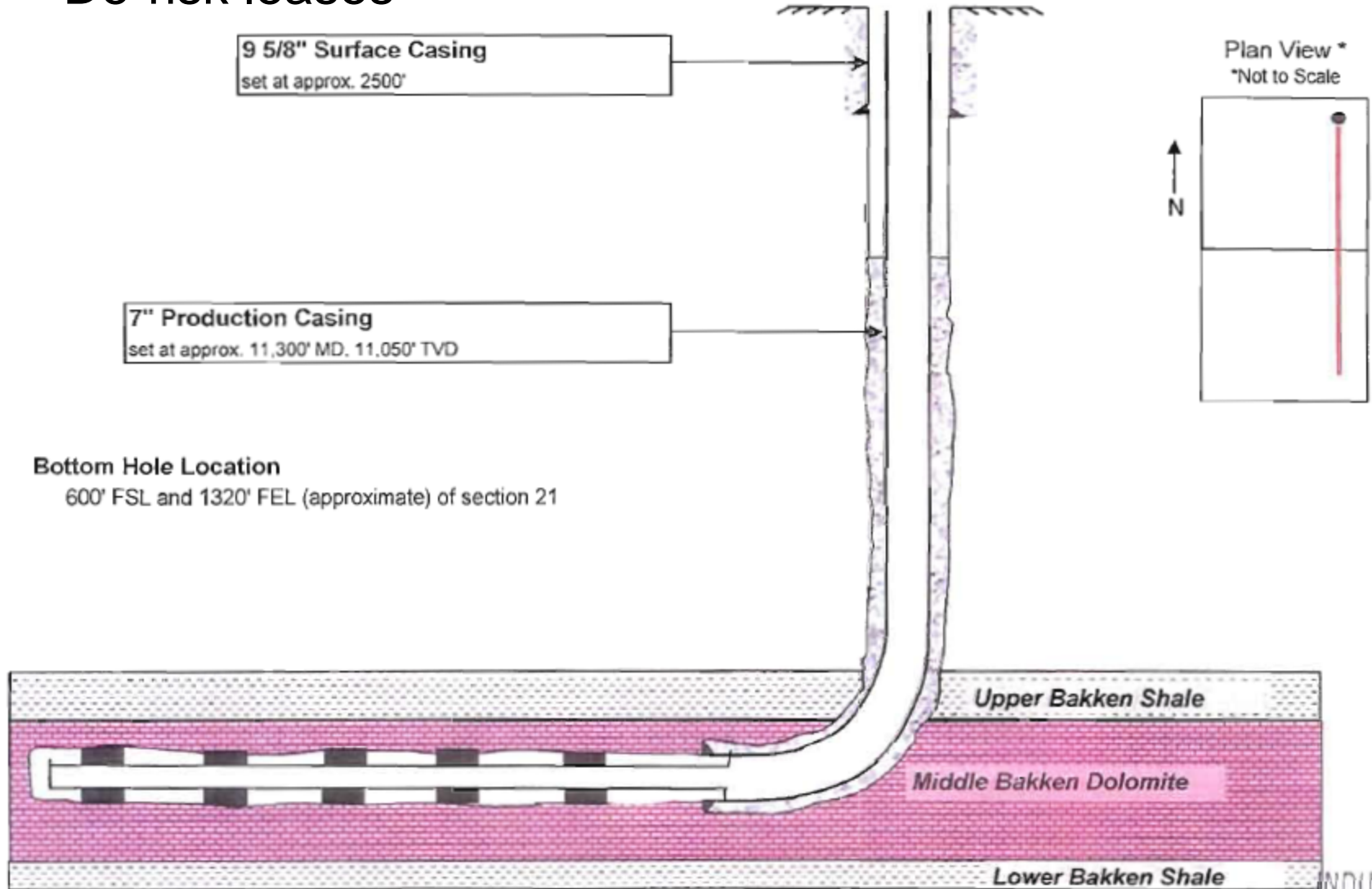
0 35 70 140 Miles

Prepared by N.D.I.C.
Oil and Gas Division
DATE : 10/8/2010
Time : 7:20:05 AM



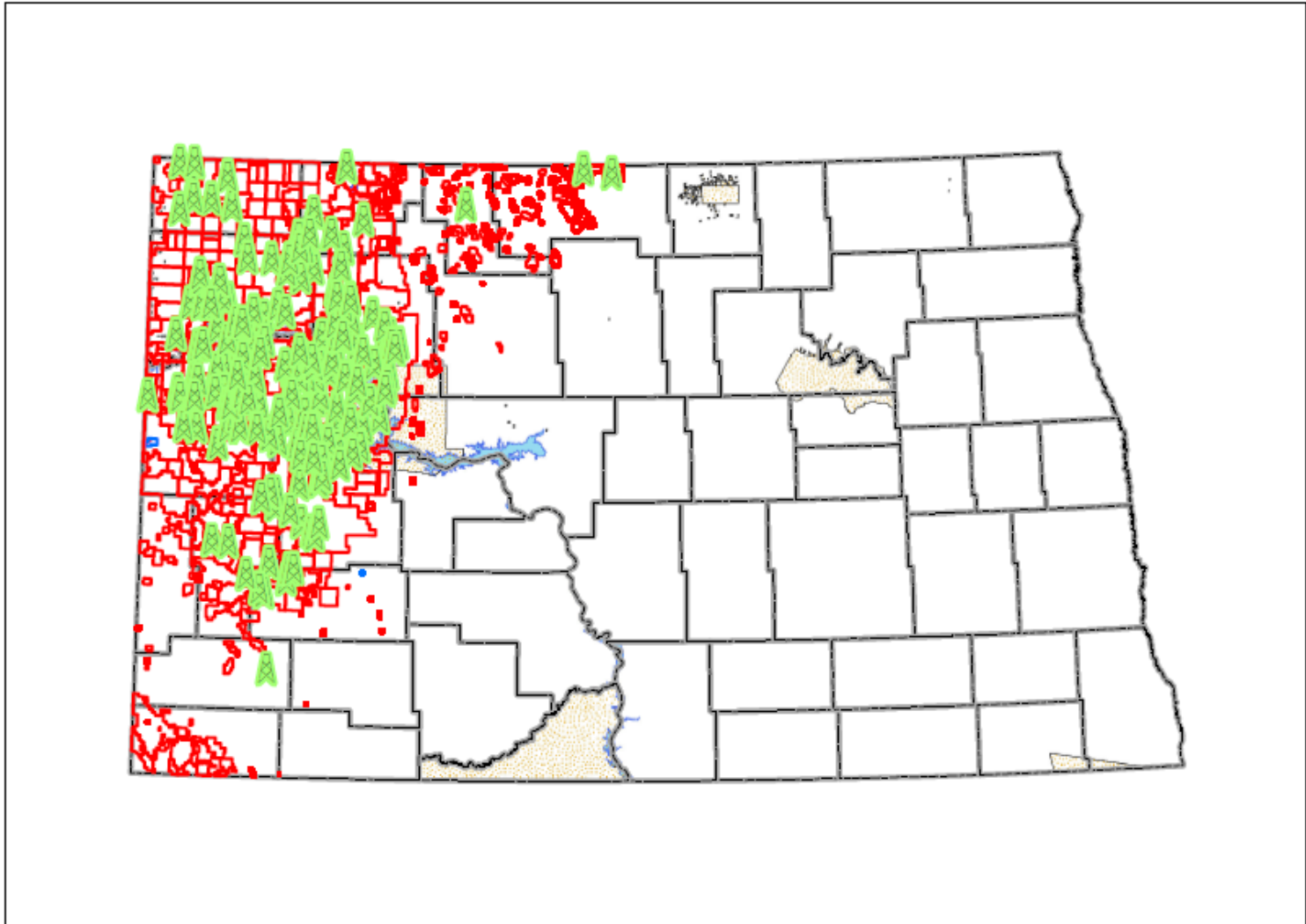
Phase 2 "Homesteading" De-risk leases

Sec's 16 & 21, T148N, R95W
Dunn County, ND



Bottom Hole Location
600' FSL and 1320' FEL (approximate) of section 21

218 rigs in May 2012
190 rigs through January 2015
complete phase 2 of drilling

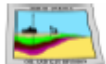


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0 30 60 120 Miles

Prepared by N.D.I.C.
Oil and Gas Division

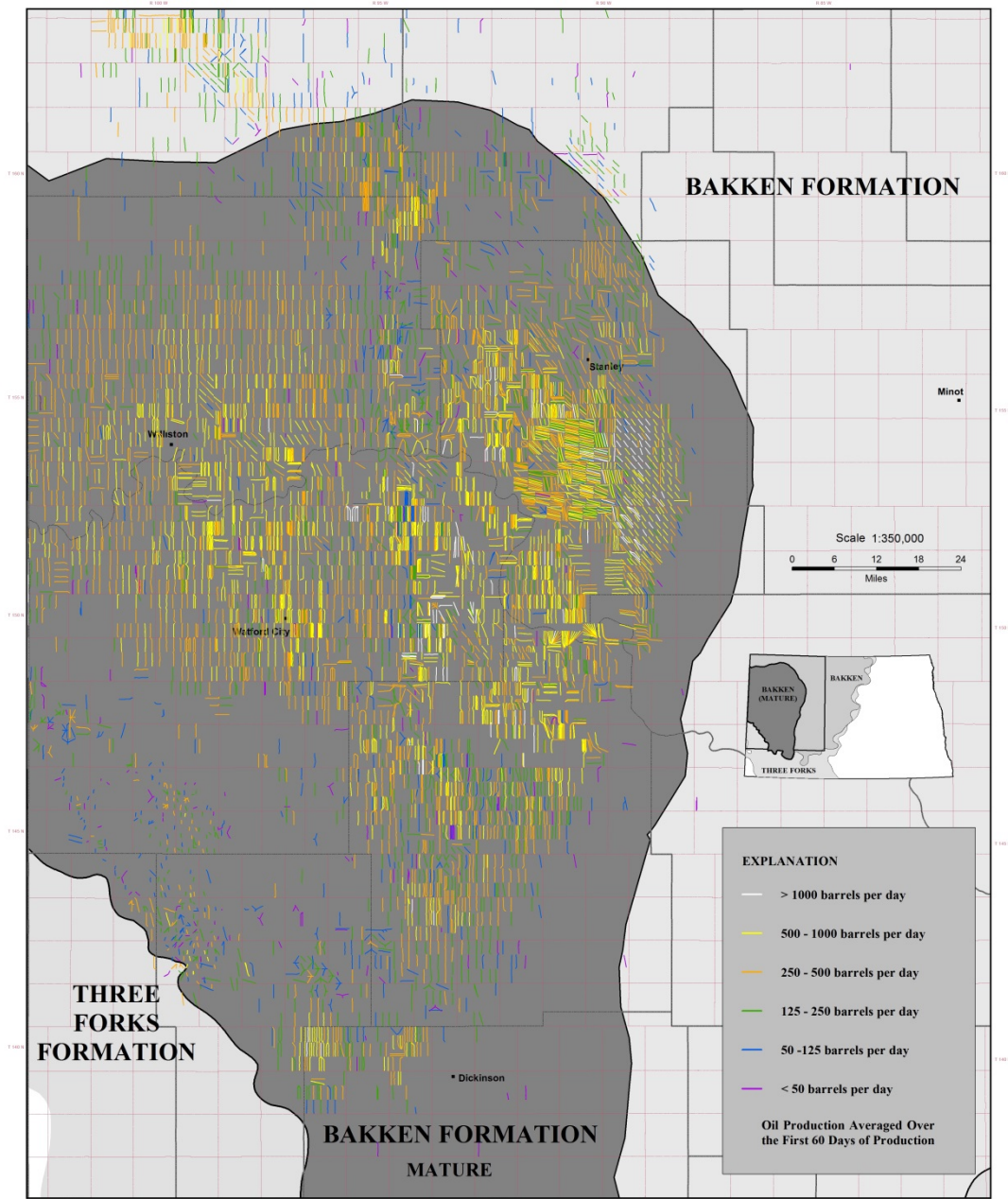
1/17/2014
4:08:20 PM





First 60 Day Average Bakken Horizontal Production by Well

January 2014



North Dakota Spacing Units and well pads are designed for multiple wells

Phase 3

“Harvest”

Increased well density

190 rigs will take
20 years to
complete phase 3
of drilling

100% area

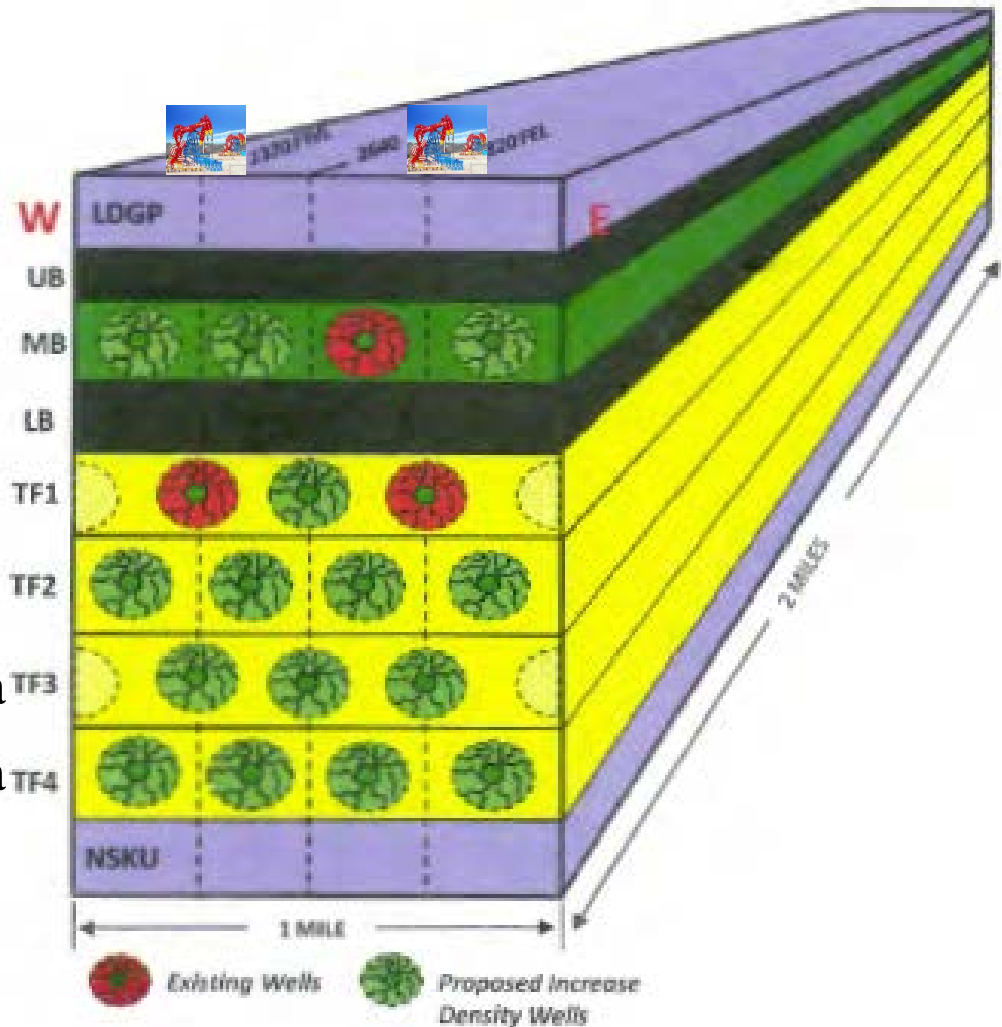
3/4 area

1/2 area

1/4 area

1/8 area

8–20 wells per 1,280 acres proposed



7/29/2005

Stanley, ND 58784, USA

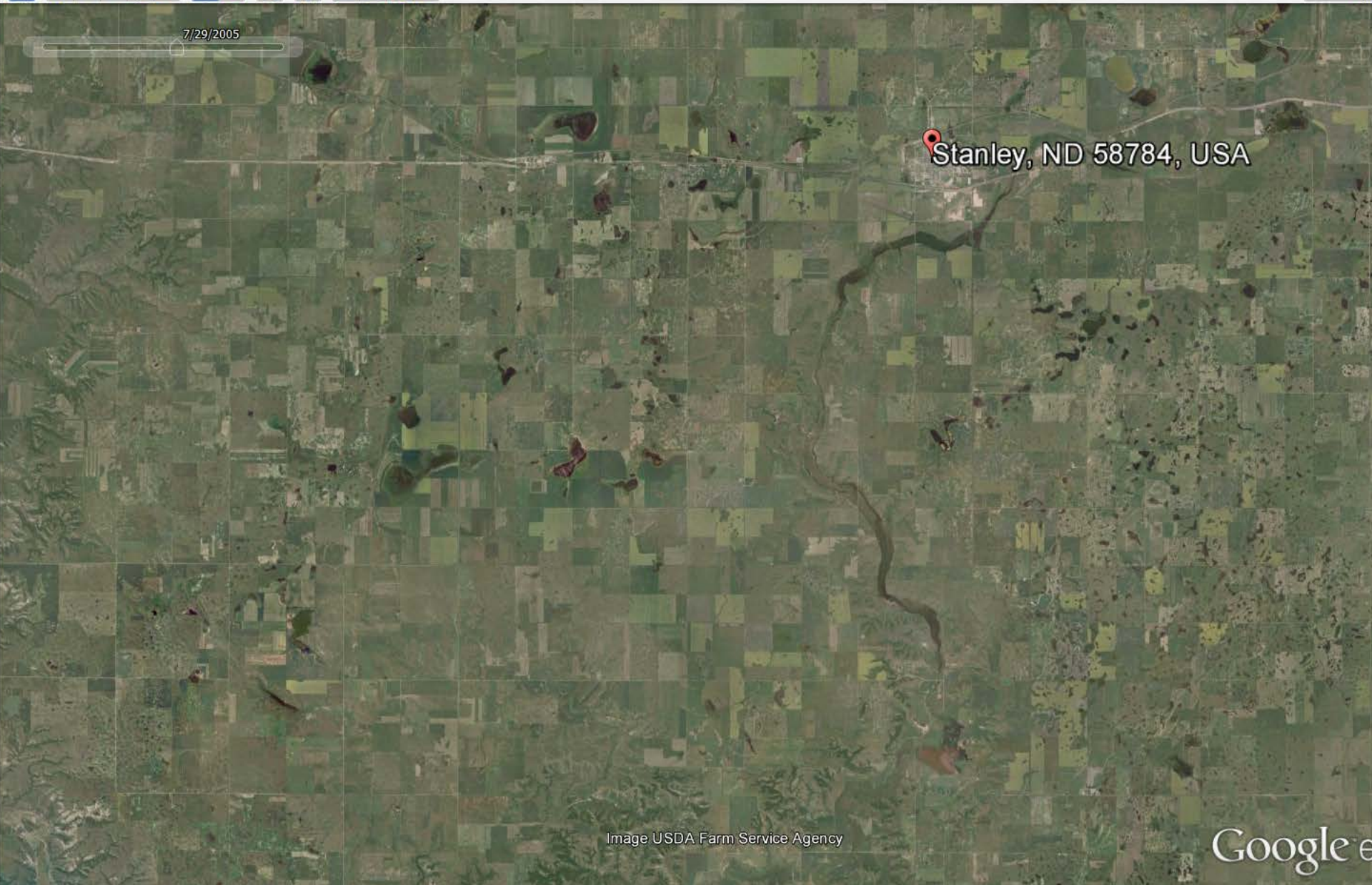


Image USDA Farm Service Agency

Google e

8/31/2009

Stanley, ND 58784, USA

Image USDA Farm Service Agency

Google e

12/30/2010
1995 2013

Stanley, ND 58784, USA

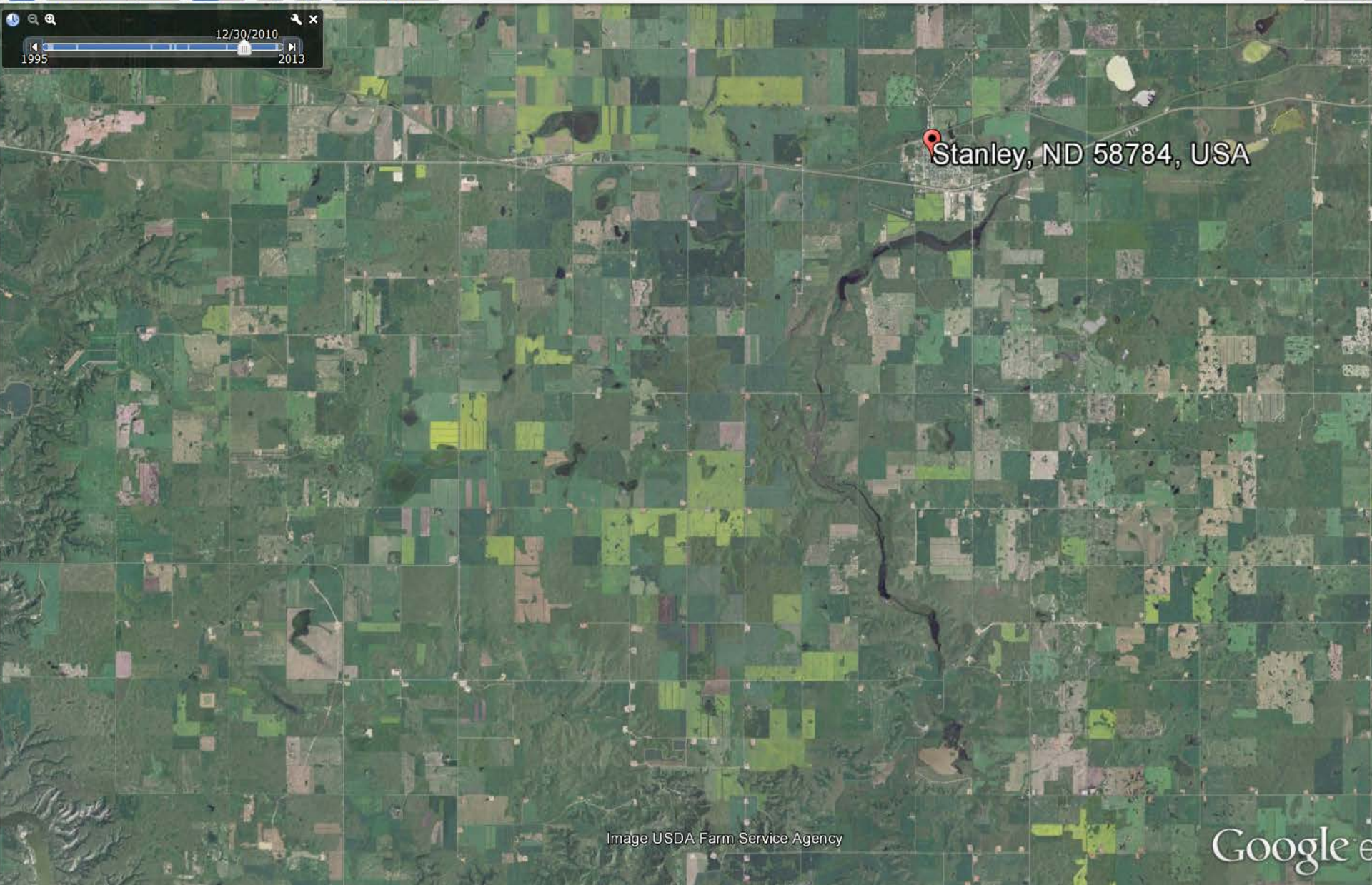
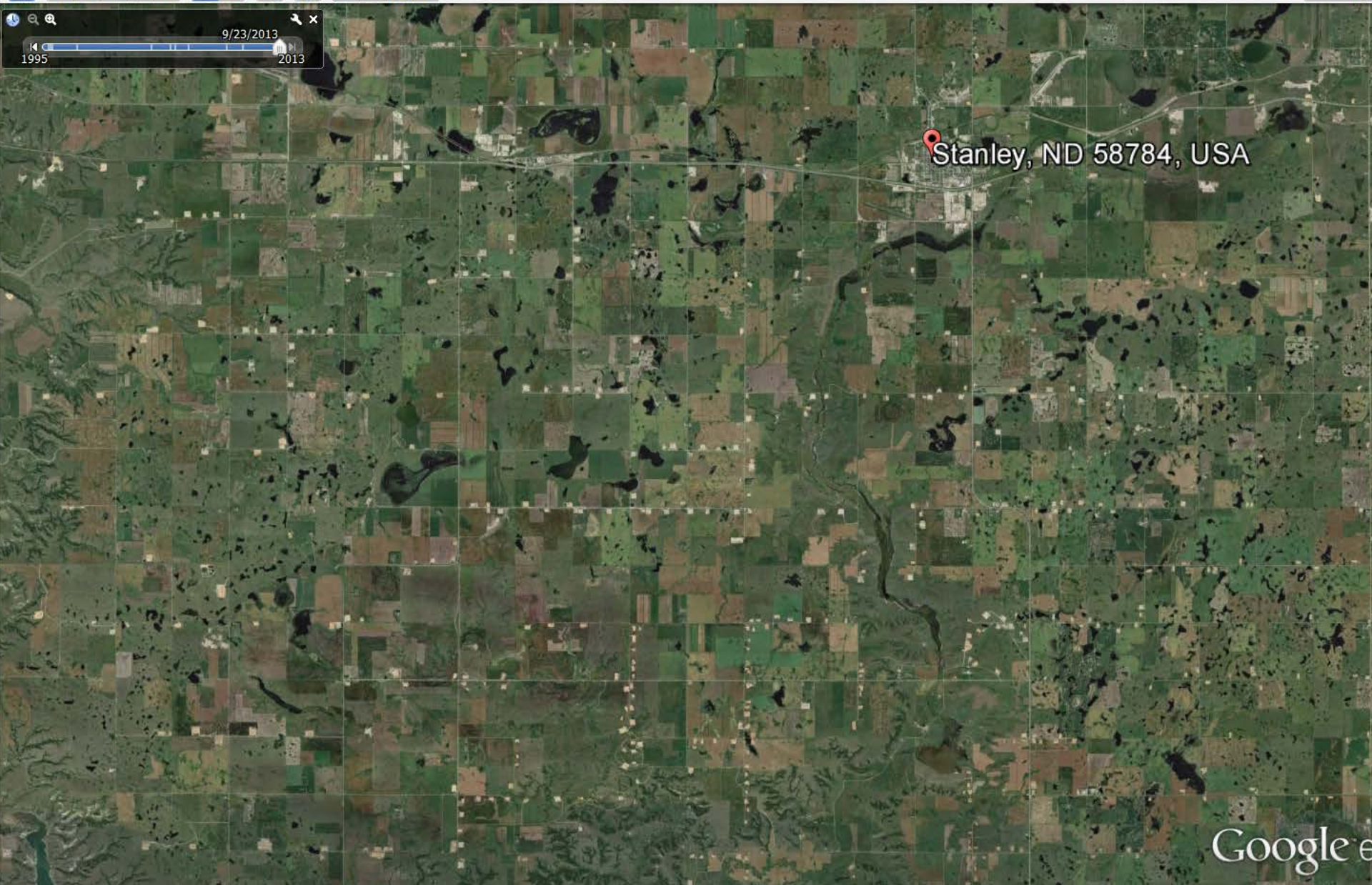


Image USDA Farm Service Agency

Google e

9/23/2013
1995 2013

Stanley, ND 58784, USA





Vern Whitten Photography

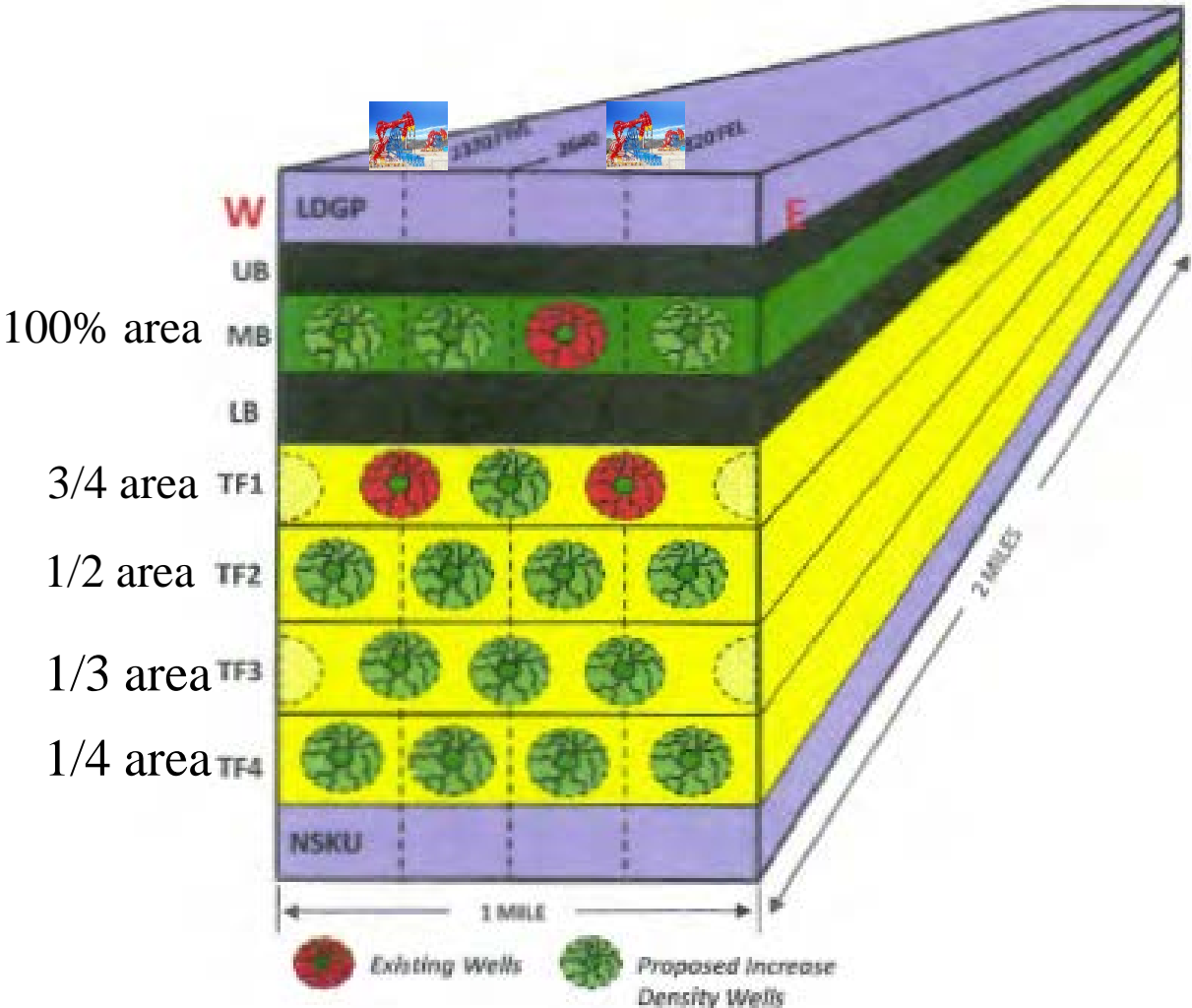


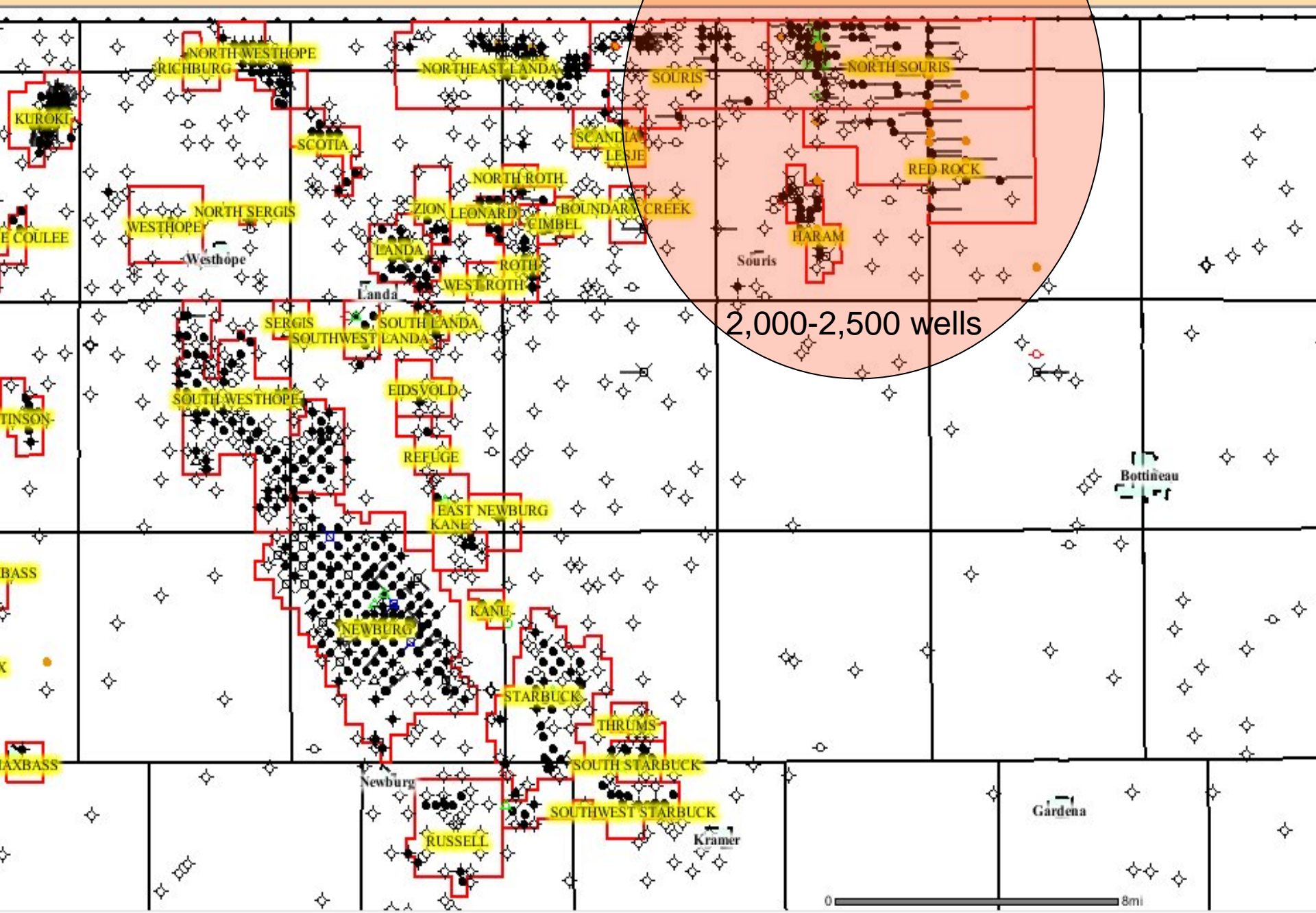
Vern Whitten Photography

6 wells producing - drilling 7-12 - and 11-18 coming soon

North Dakota Spacing Units and well pads are designed for multiple wells

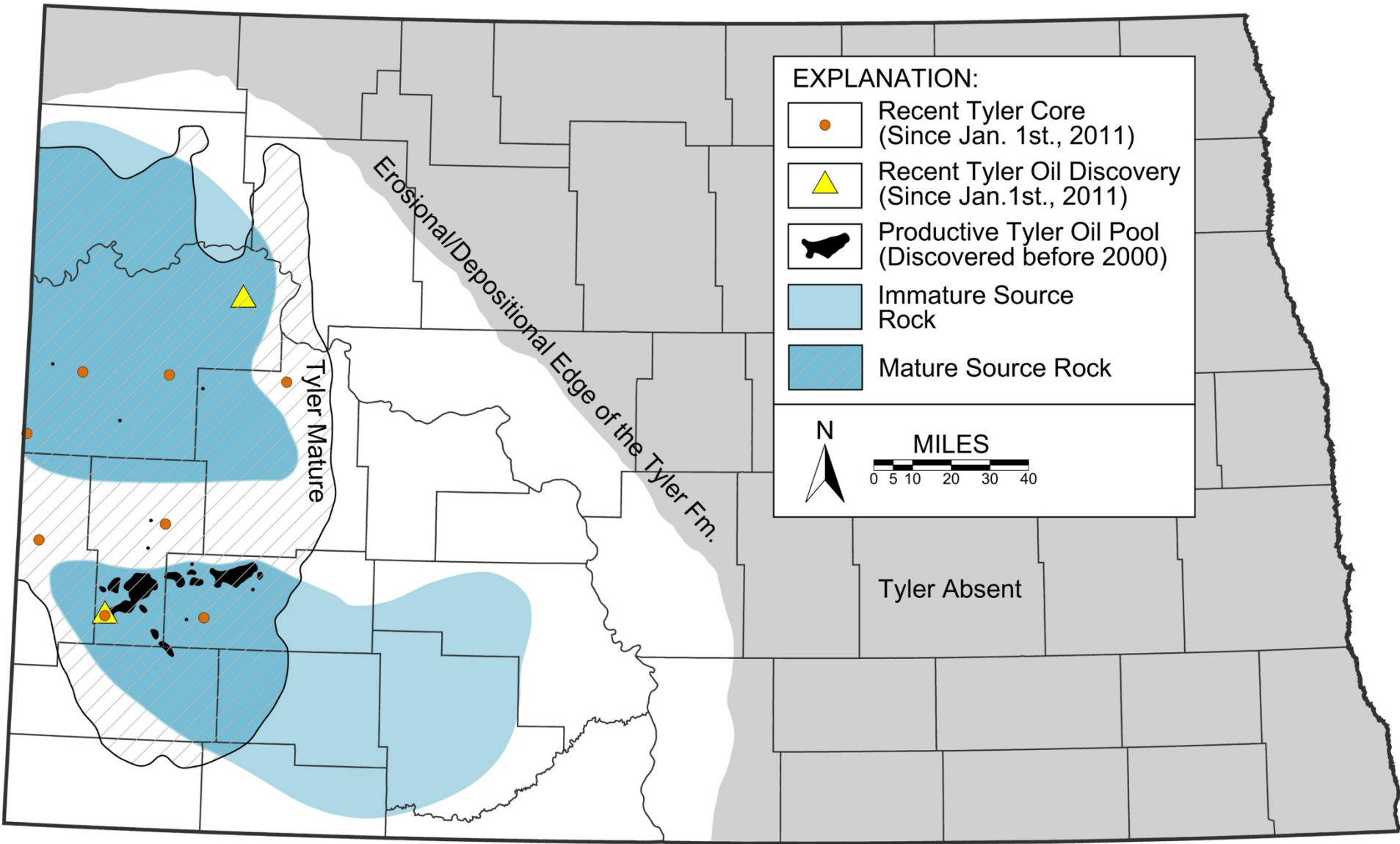
Phase 4?
“EOR”



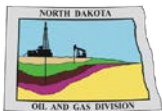


Entering Phase 2

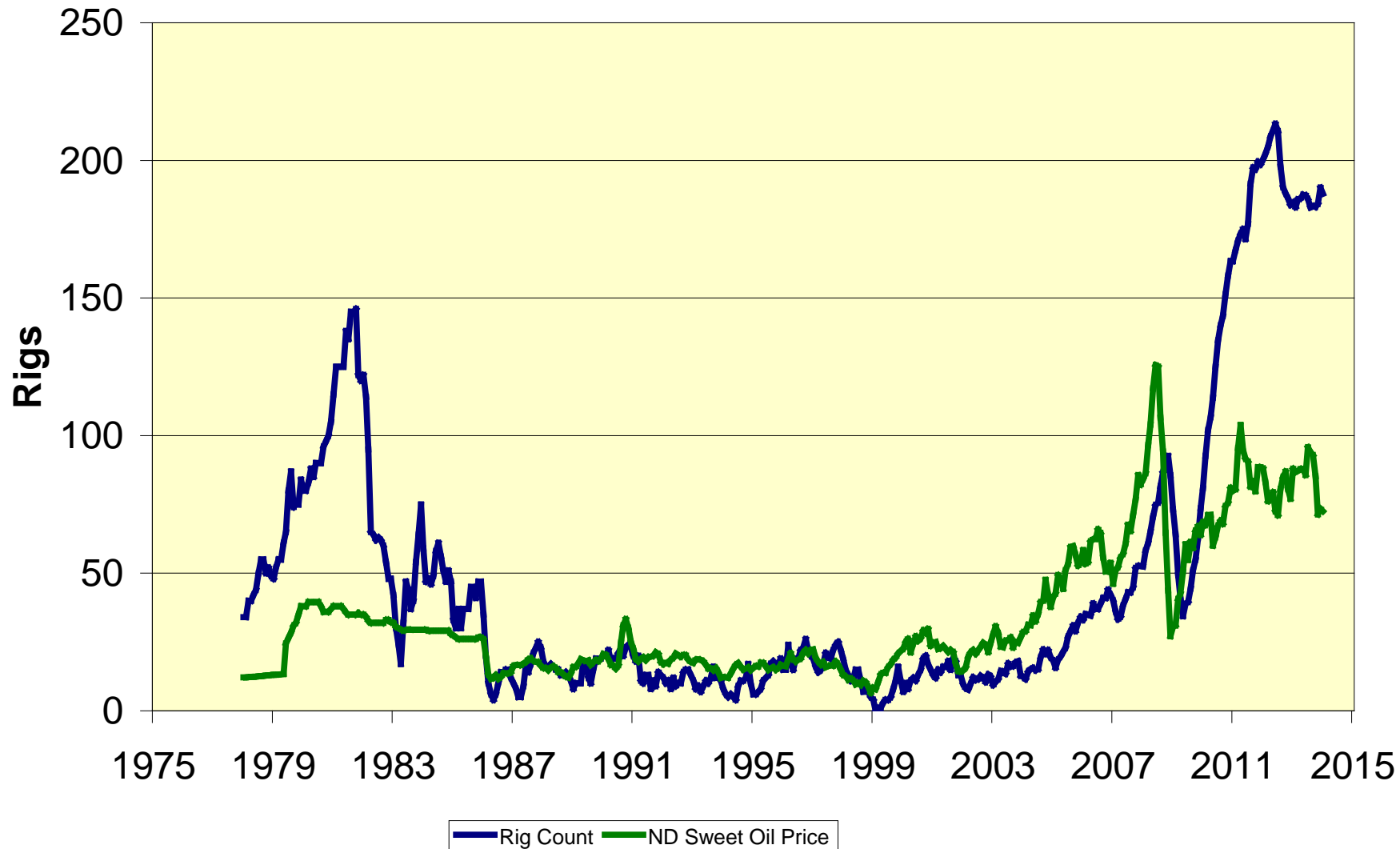
3 rigs = 3-6 years



Starting Phase 1



North Dakota Average Monthly Rig Count



Western North Dakota

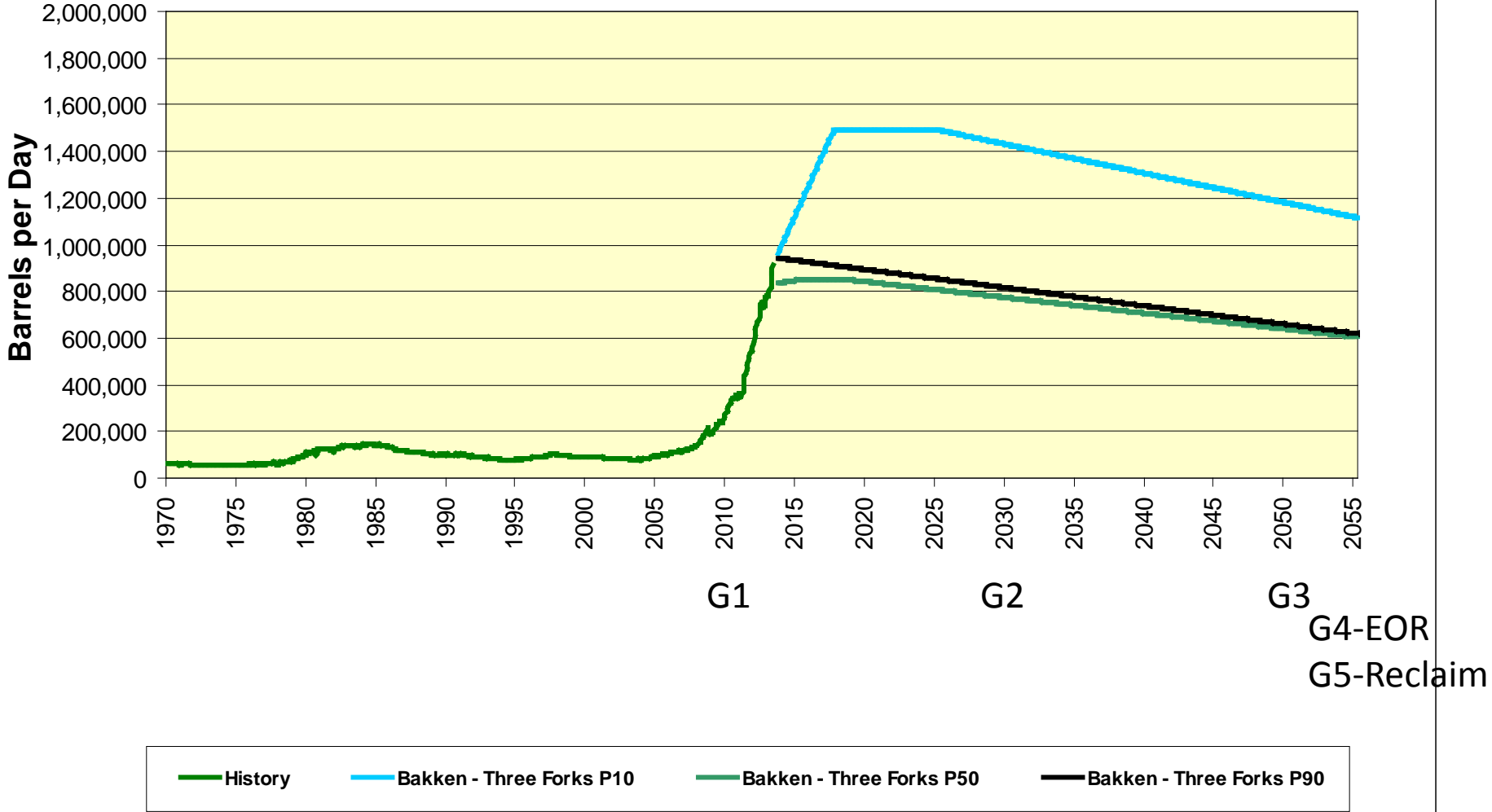
- 1,100 to 2,700 wells/year = 2,000 expected
 - 190 rigs = 2,280 wells per year
 - 218 rigs in May 2012 completed first phase of drilling mid 2012
 - 190 rigs will complete the second phase of drilling in 6-12 months
 - 190 rigs will require about 20 years to complete phase 3 drilling
 - 40,000 / 60,000 / 70,000 new wells

- 1,100 to 2,700 wells/year = 2,000 expected
 - 2014 drilling = 1,537 permits to drill approved and 829 pending approval
 - 185-195 rigs for 12 months
 - 2015-2019 drilling = 1,099 orders approved for 7,075 more wells
 - 3 orders for 28 wells / SU
 - 1 order for 22 wells / SU
 - 1 order for 21 wells / SU
 - 3 orders for 19 wells / SU
 - 3 orders for 18 wells / SU
 - 3 orders for 17 wells / SU
 - 6 orders for 16 wells / SU
 - 7 orders for 15 wells / SU
 - 40 orders for 14 wells / SU
 - 5 orders for 13 wells / SU
 - 25 orders for 12 wells / SU
 - 5 orders for 11 wells / SU
 - 35 orders for 10 wells / SU
 - 14 orders for 9 wells / SU
 - 155 orders for 8 wells / SU
 - 219 orders for 7 wells / SU
 - 107 orders for 6 wells / SU
 - 81 orders for 5 wells / SU
 - 416 orders for 4 wells / SU

266 orders for approximately 1,700 increased density wells pending approval



North Dakota Oil Production



Reclamation

- 26,346 wells permitted as of 9/1/13
 - 1,291 approved locations
 - 1,136 drilling and completing
 - 9,096 producing
-
- **8,432 reclaimed locations**



MORGAN DRAW

T144N R102W



8070

9078

8234

10935

MORGAN DRAW

T144N R102W

13309

9515

9803

13228

9766



MORGAN DRAW

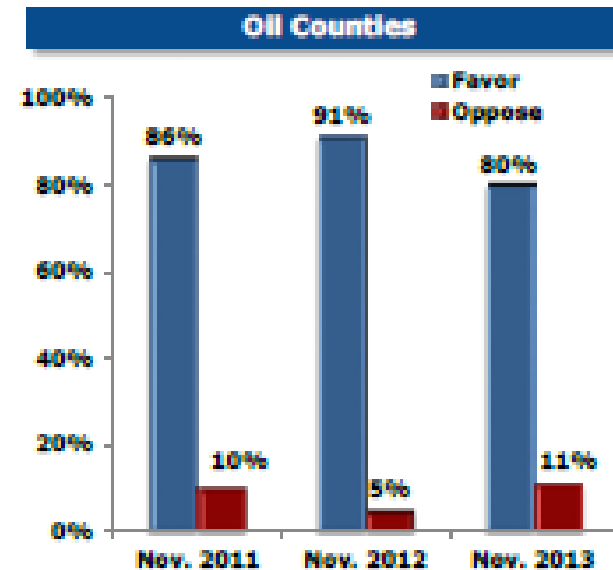
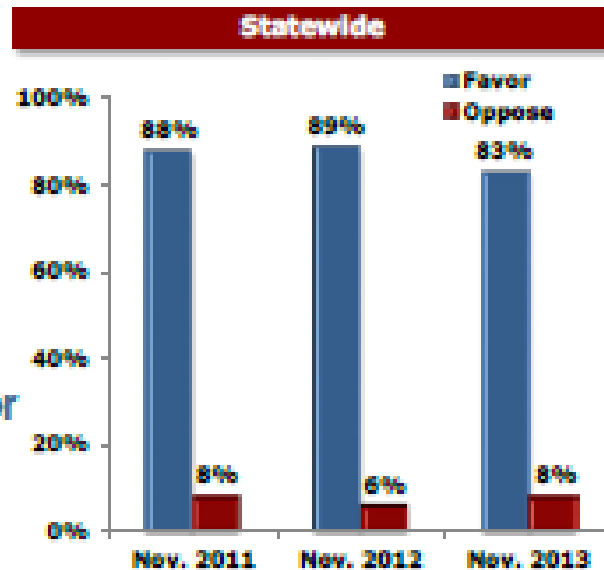
T144N R102W

Widespread support for oil development in North Dakota

“Do you favor or oppose oil development in North Dakota?”

» **83%** statewide favor
» **49%** strongly favor

» **80%** oil counties favor
» **50%** strongly favor

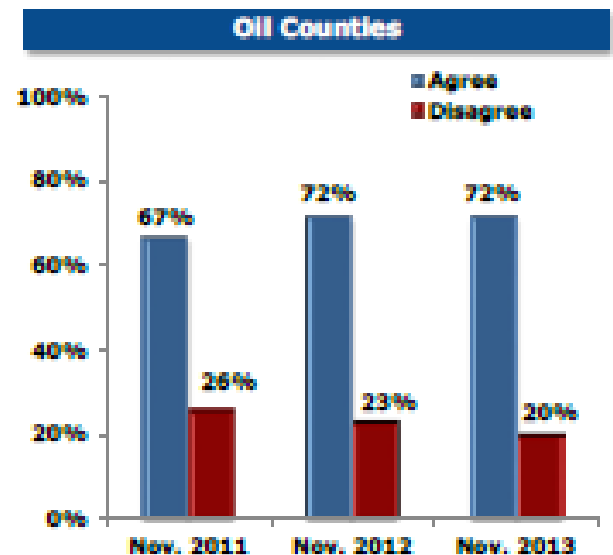
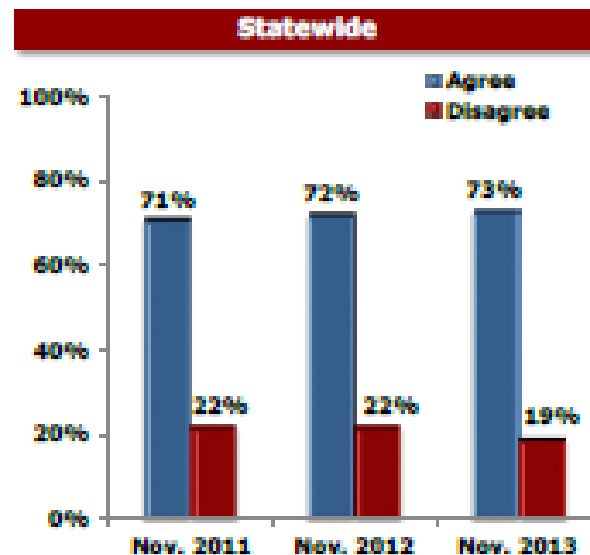


Benefits of oil development outweigh risks

“Do you agree or disagree that the benefits of oil development outweigh the risks?”

» **73%** Statewide agree

» **72%** Oil counties agree



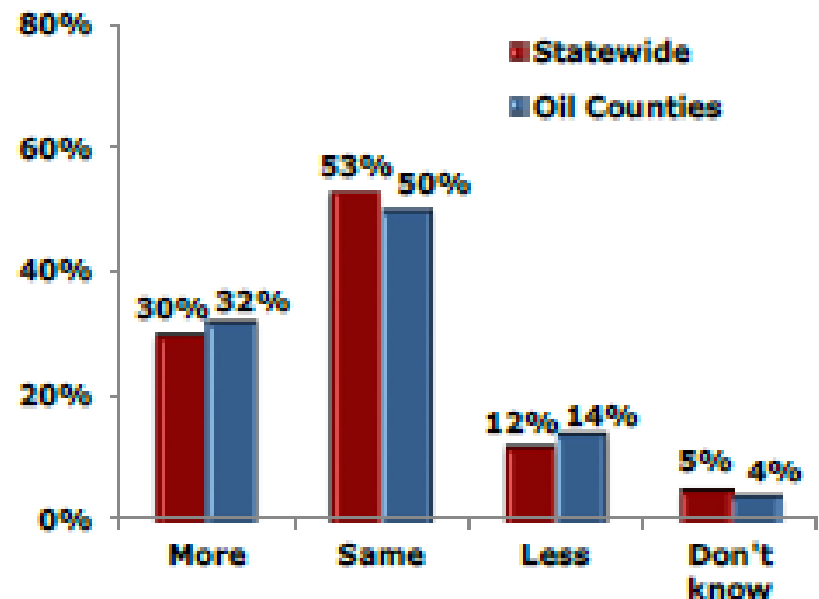
Wide majority wants to maintain or increase production

“Do you think there should be more oil and natural gas production in the state, the same amount, or less?”

» **83%** statewide &

» **82%** in oil counties

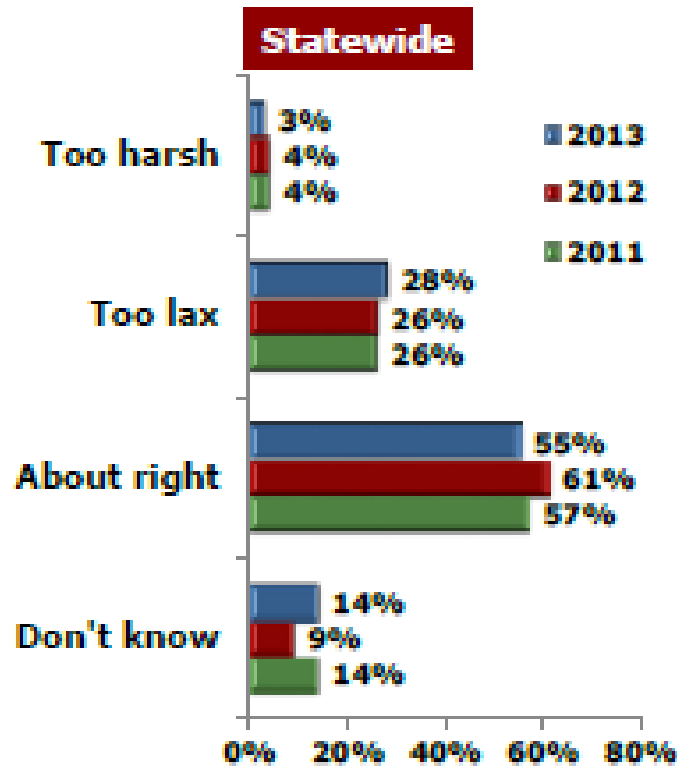
think production should increase or stay the same.



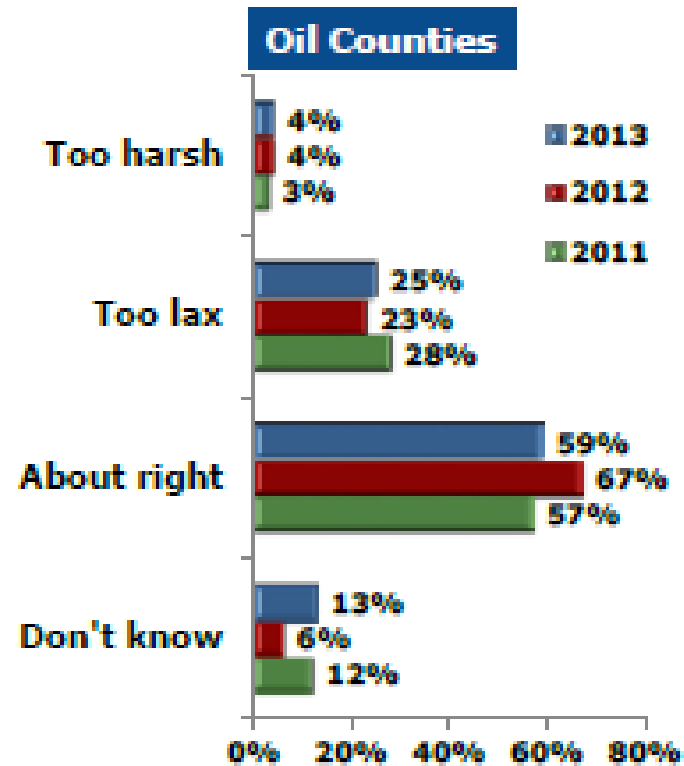
State regulations on oil and gas are about right

"Would you say the state regulations on oil and natural gas development are...?"

» **55%** statewide
say about right



» **59%** in oil counties
say about right



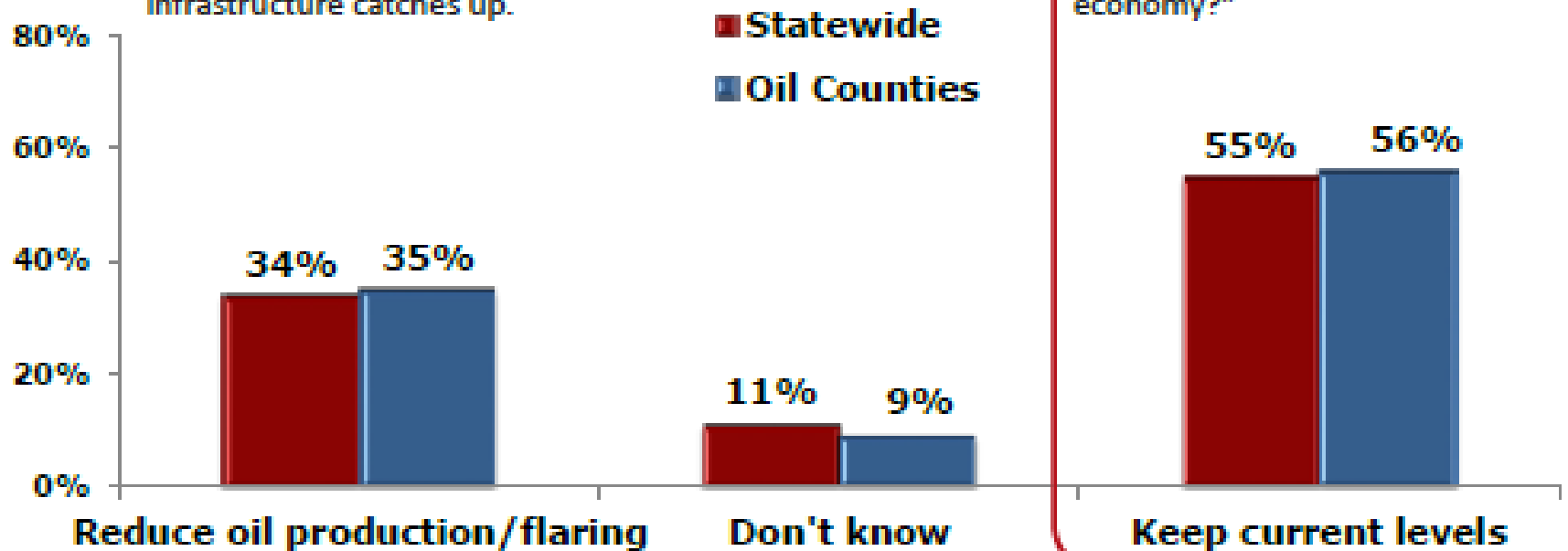
More than half support current oil and gas production levels despite flaring

"Which one of the following statements comes closest to your view?"

Flaring is a waste of a valuable energy resource. I support reducing oil development and the amount of oil produced in order to reduce flaring until natural gas infrastructure catches up.

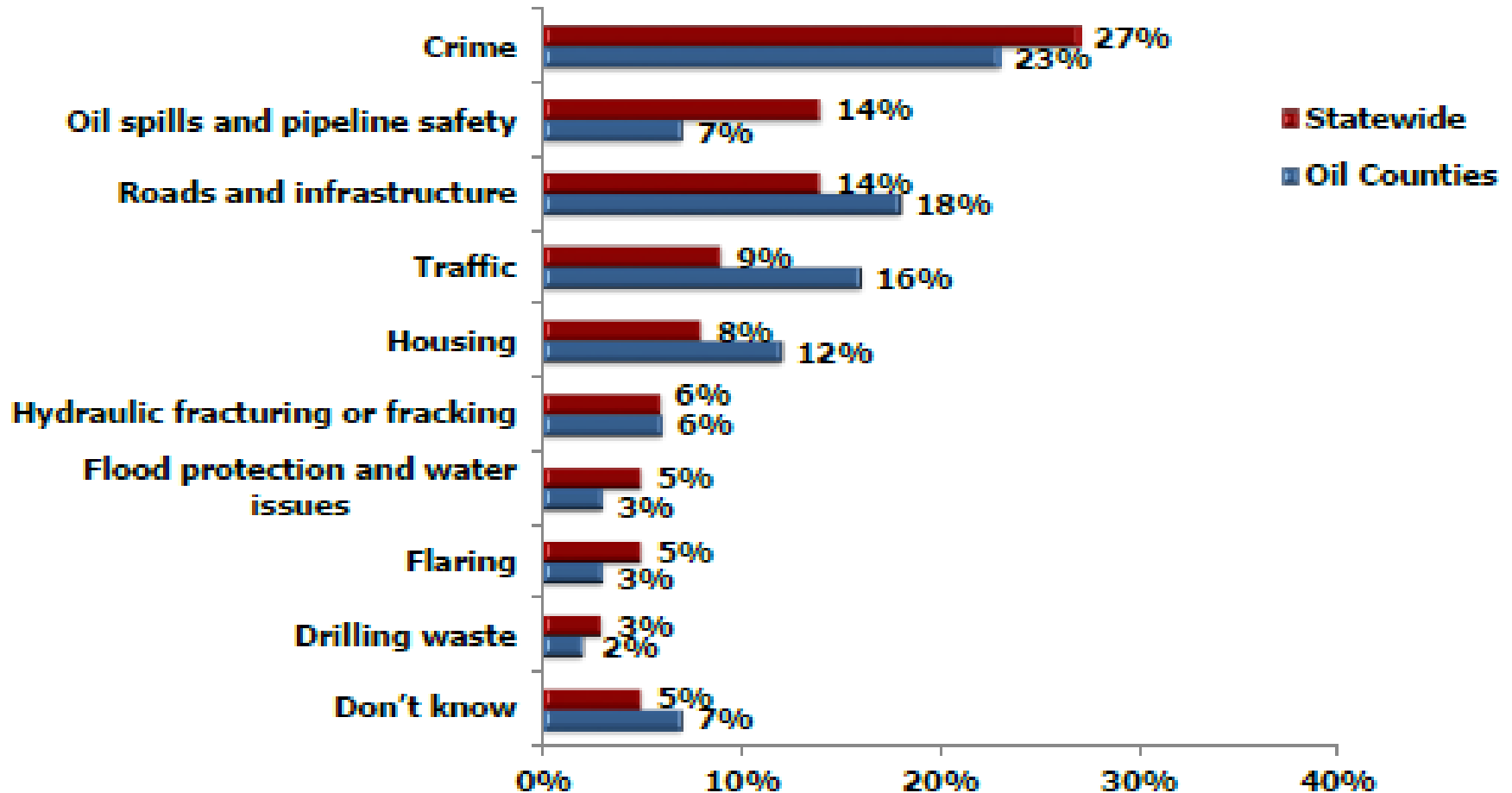
OR

I believe natural gas infrastructure is being improved to reduce flaring and I support keeping oil development at current levels to keep more jobs for North Dakota and a strong state economy?"



Social issues & infrastructure remain primary concerns

“Which one of the following concerns you most about oil and natural gas development in North Dakota?”



Majority do not blame oil industry for decrease in wildlife

“As you may know, some wildlife populations in North Dakota have declined in recent years. Here are two views on this issue, we will call them Smith and Jones. Smith blames the oil and natural gas industry for the decline, saying that as oil and natural gas well sites and roads to these sites continue to be built, some wildlife is being pushed away from its prime habitat and food sources. Jones says the oil and natural gas industry is not the cause but blames the decline in some wildlife populations on declining acreage in the Conservation Reserve Program, or CRP and three brutal winters starting in 2008. Which view comes closest to your own?”

