NORTH Dakota | Mineral Resources
Be Legendary.

REGULATORY DISCUSSION ON EXTENDED REACH LATERALS:

U-SHAPED, J-SHAPED, AND N-SHAPED

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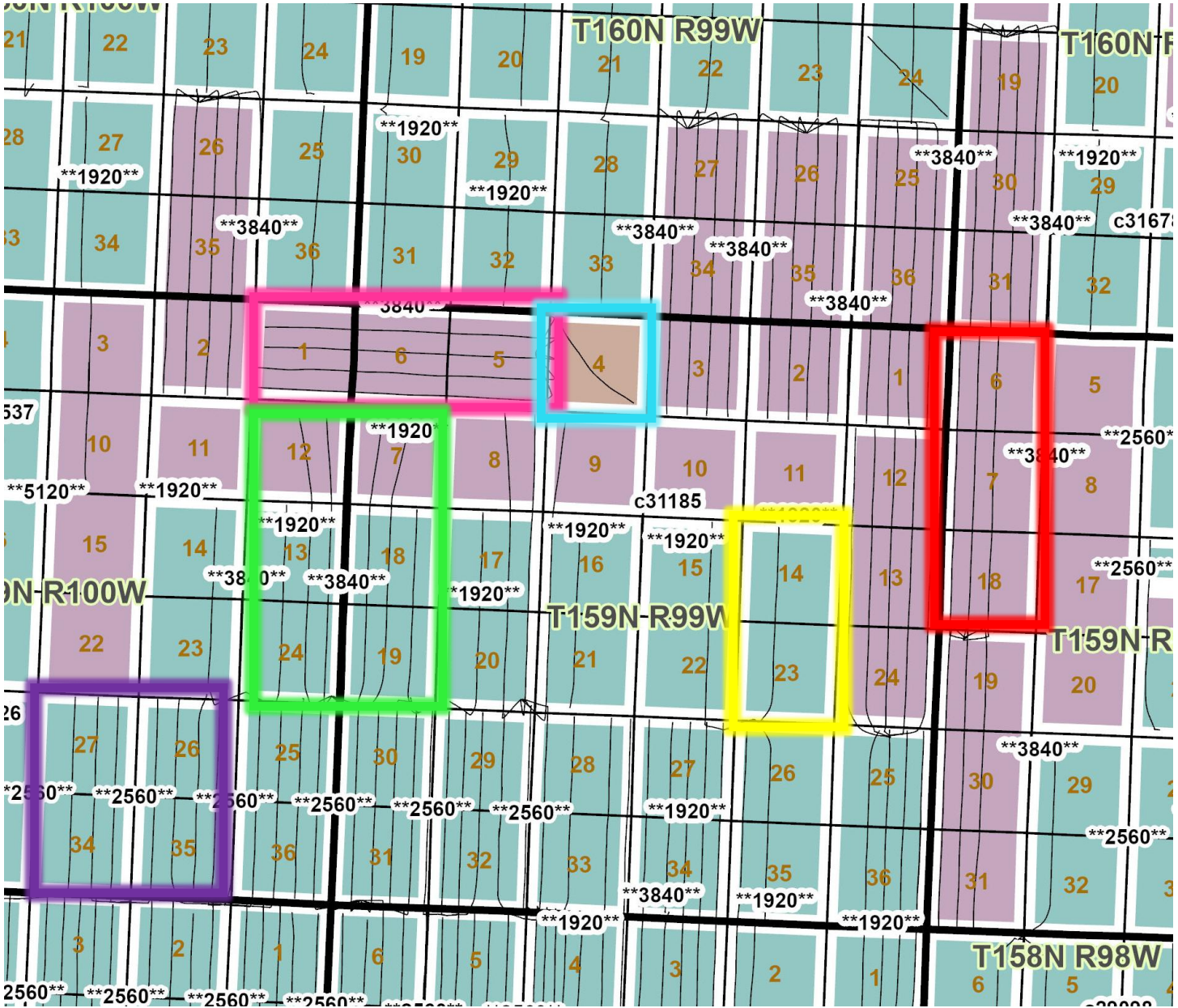
IOGCC ANNUAL BUSINESS MEETING

May 19, 2026

NORTH DAKOTA
OIL & GAS DIVISION
MISSION:

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 the landowners, the royalty owners, the producers, and the general-public realize the greatest possible good from these vital natural resources.

THE GIANT GAME OF TETRIS (4-Mile vs. 3-Mile vs. 2-Mile Development)



OVERCOMING CHALLENGES

- Reservoir quality and market expectations
- Stranded 640
- 1280, 1920, 2560 and 3840 acre unit development
- Lease line wells require new spacing units to accommodate drilling
- Correlative rights with 3 and 4-mile laterals
- Future development preservation

Example: NW of Ray, North Dakota.

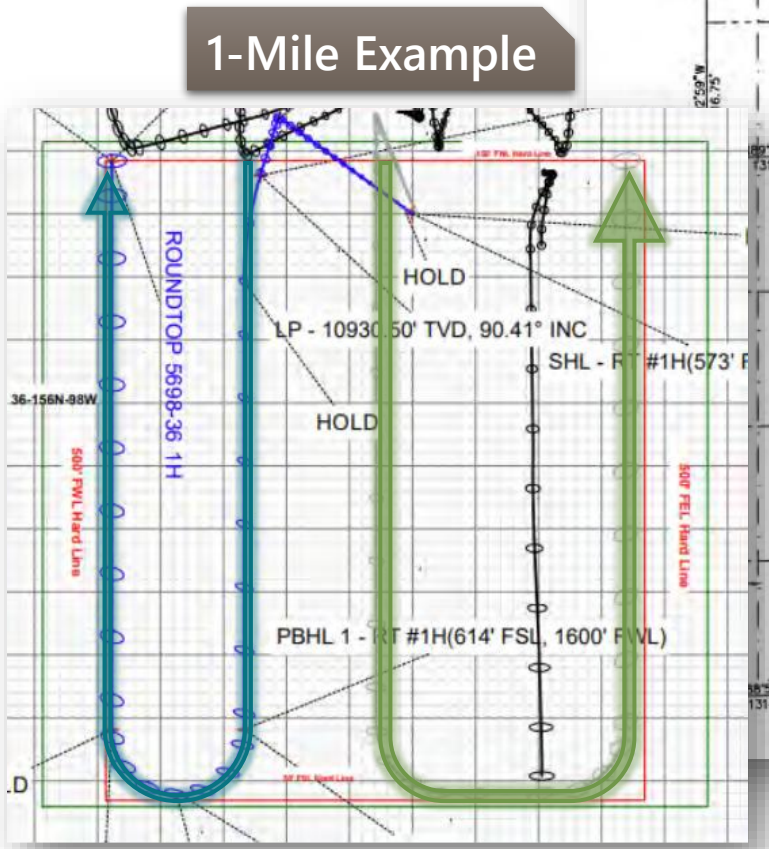
CORRELATIVE RIGHTS

- Charged with protecting correlative rights of all owners, working interest and mineral interest
- Evolution of lateral length, 1-mile to 2-mile to 3-mile to 4-mile
- 5-mile laterals on horizon
- 6 x 6 mile townships – township corrections
- 6 is divisible by 1, 2, and 3 - Not divisible by 4 and 5
- Existing spacing units in area may be fully or partially developed
- Operators look out for their interests, Commission must look out for all interests
- Operator competition for spacing units – may have different development ideas
- May need development plan for area to evaluate correlative rights concerns
- Well economics matter – used to be concerned with stranding a 640 for 1-mile development, were on verge of being concerned with stranding a 1280 for 2-mile development

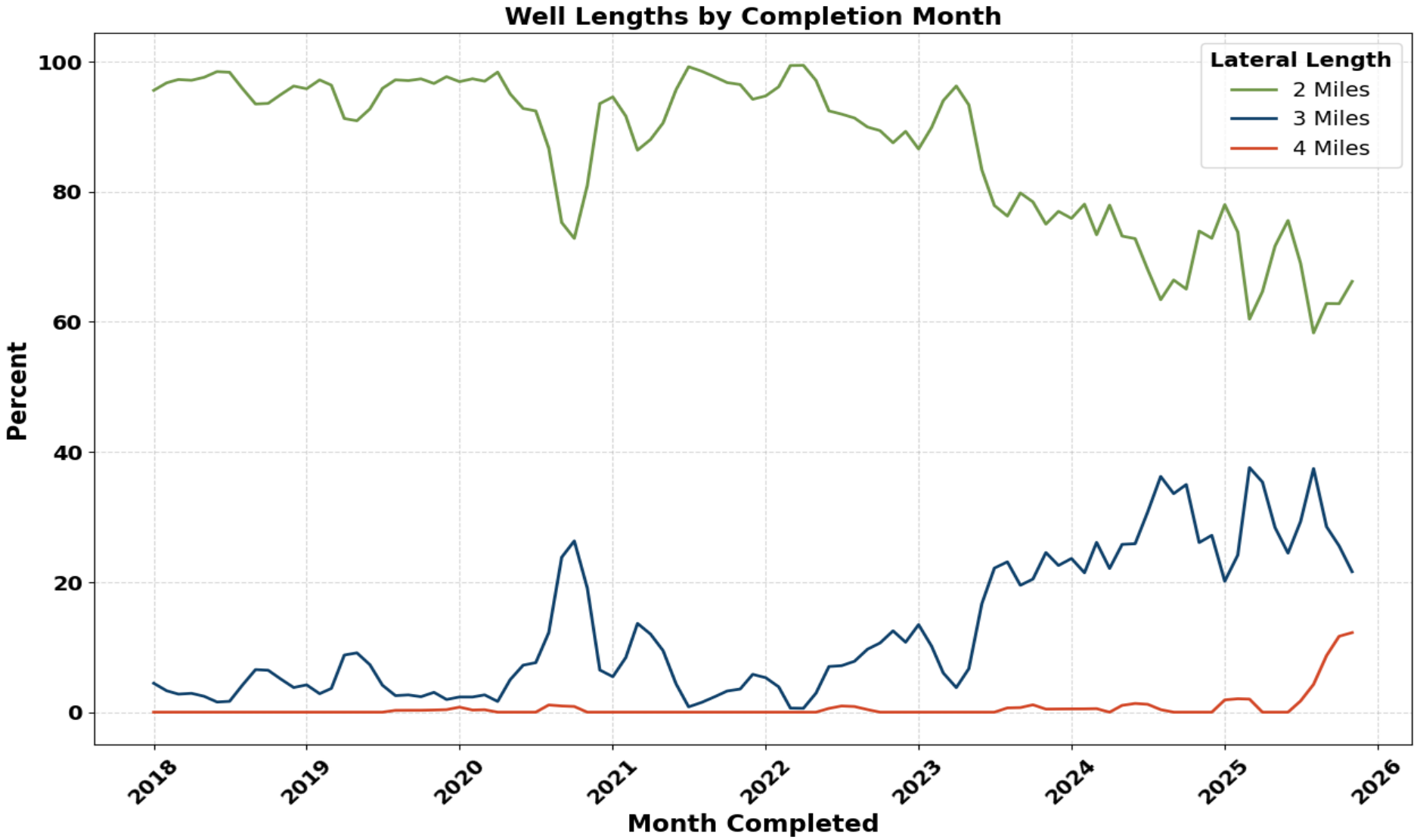
UNIQUELY SHAPED WELLS

Prolonged soft oil prices have pushed innovation of longer laterals and U-shaped wells in order to meet economic thresholds and compete with other US on-shore basins

- **Benefits**:
  - Increase production and profits from a single well
  - Increased value and potential of acreage portfolio
  - Reduction in drilling times and cost
    - Drilling two laterals from a single vertical wellbore
    - Savings on completion costs: casing, tubing, and surface facilities
  - Reduced surface footprint
  - Less environmental impact – Less emissions
- **Optimal for:**
  - Stranded sections
  - Odd-shaped tracts
  - Surface challenges
  - J-shaped wells



LATERAL LENGTHS OVER TIME



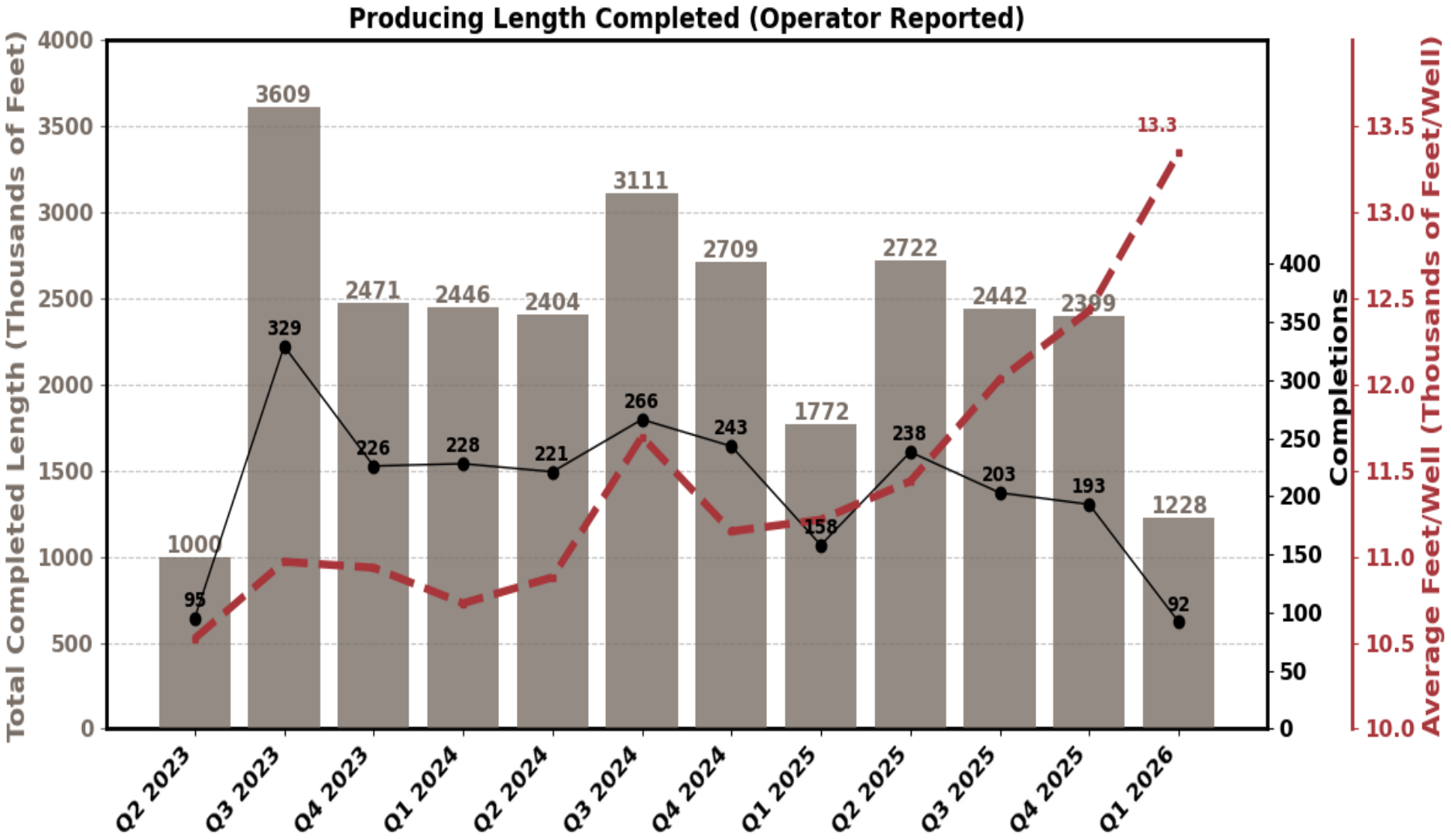
Total Percentage of Permits by Lateral Length

- ~66% = 2-mile
- ~22% = 3-mile
- ~12% = 4-mile

Lateral Length Categorization:
(First to last perforation)

- 1.5-2.24 miles = 2-mile
- 2.25-3.24 miles = 3-mile
- 3.25-4.24 miles = 4-mile

COMPLETED FOOTAGE OVER TIME

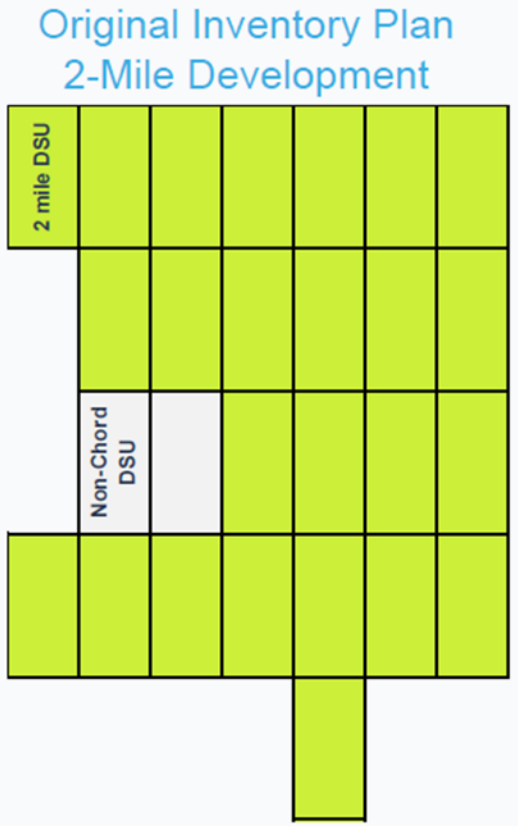


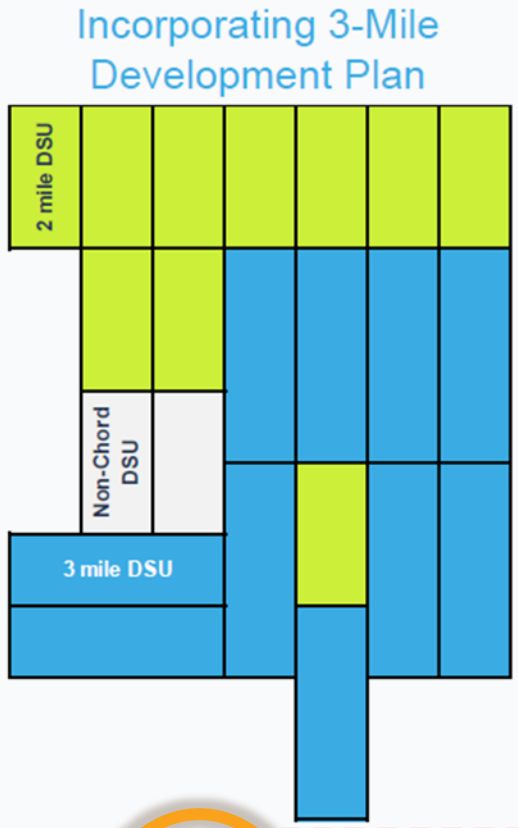
Trend of Lateral Lengths

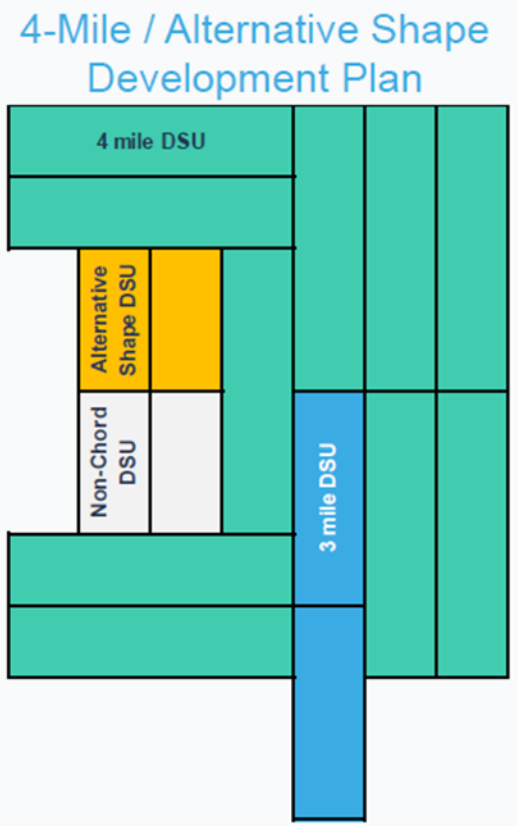
- 2024 = 10,671,000 total feet completed
- 2025 = 9,335,000 total feet completed
- Estimated average lateral length completed by year:
  - 2023 = 10,554
  - 2024 = 11,149
  - 2025 = 11,787
  - 2026 YTD = 13,348
- Jan-Feb 2026 average completed lateral footage per well at an all time high of 13,348’

In < 3 years there has been a 2800 ft/well increase in completed lateral lengths

CHORD'S LONG-LATERAL DEVELOPMENT EVOLUTION







Spacing Scenario[2]	2-Mile	3-Mile	4-Mile	Alternative	Total	% Long Lateral	CapEx Savings
Original	100				100	0%	
Incorporating 3-Mile	40	40			80	50%	-12%
4-Mile / Alternative		8	40	4	52	100%	-24%

(1) Illustrative development spacing example; (2) Table reflects gross operated stick counts

Highlights

- Growing long-lateral inventory w/ spacing optimization
- Contiguous acreage well suited for 4-mile development
- Organically improves inventory quality, lowers breakevens and enhances economics
- Goal: >80% long-lateral inventory across acreage 19

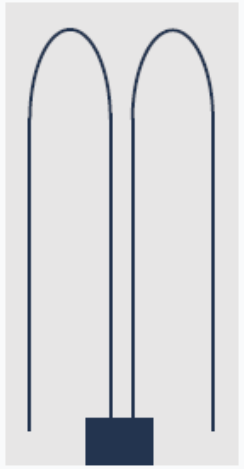
CHORD'S ALTERNATE SHAPE DESIGNS
UNLOCKING LONG-LATERAL ECONOMICS

Highlights

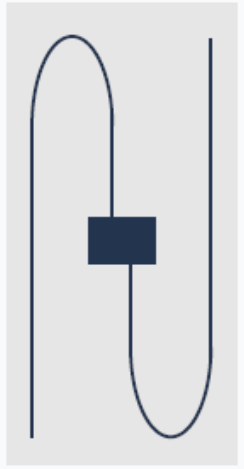
- Driving long-lateral economics in smaller DSUs
- 11 alternate shape wells expected to TIL in FY25 (8 TIL'd YTD)
- Costs trending below initial estimates
- Hairpin pioneering achievement - first 4-mile alternate shape well
- **~10% of long-term inventory[1]**

Alternate Shape Well Designs

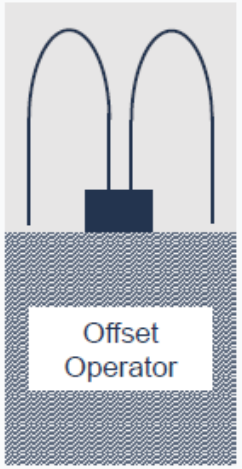
Hairpin (2-mile to 4-mile)

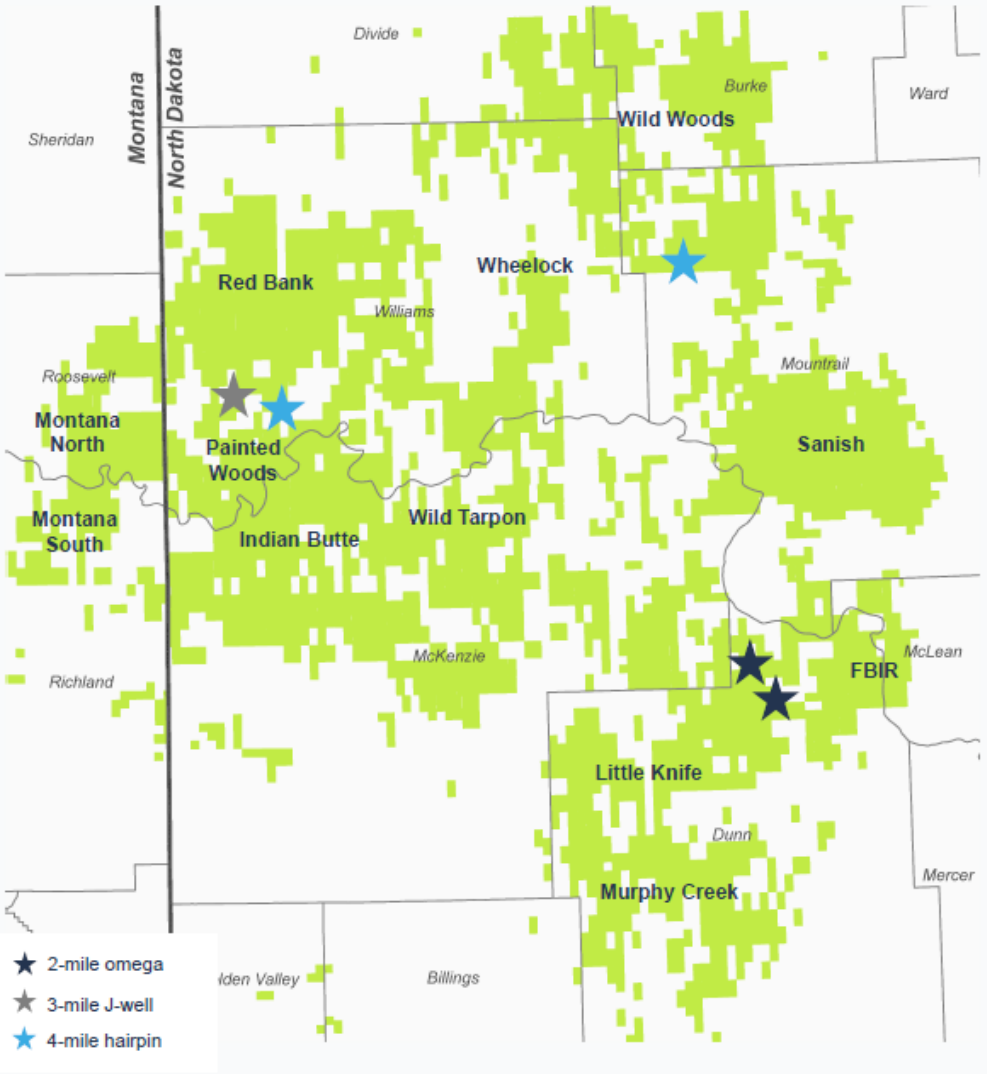


J-Well (2-mile to 3-mile)



Omega (1-mile to 2-mile)





(1) Mgmt estimate as of 9/30/25; represents 10K' equivalent gross operated locations.

20

PERMITS AND COMPLETIONS BY LATERAL TYPE

U-SHAPED LATERALS

- 29 Permits
- 15 Wells Completed

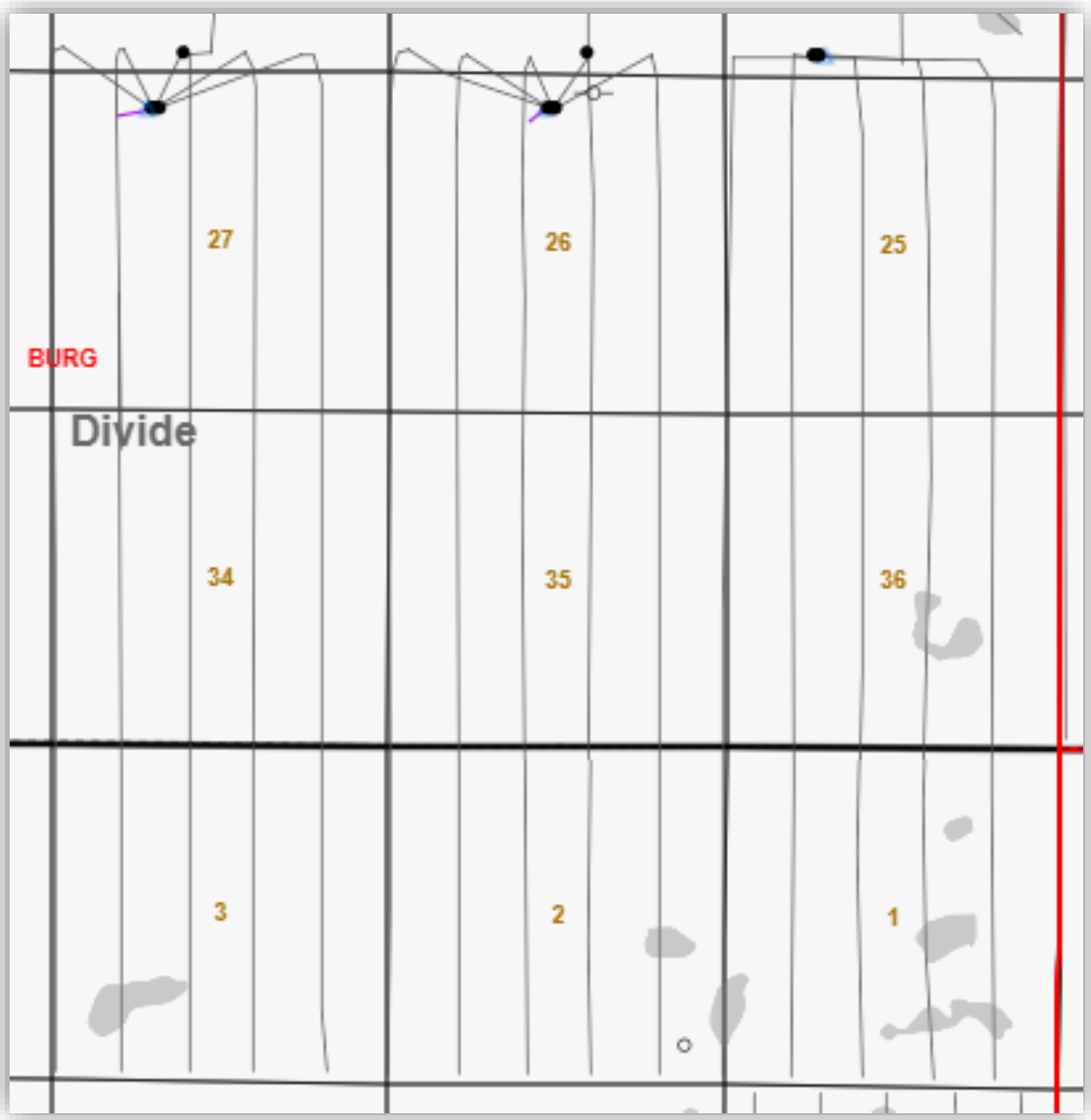
3-MILE LATERALS

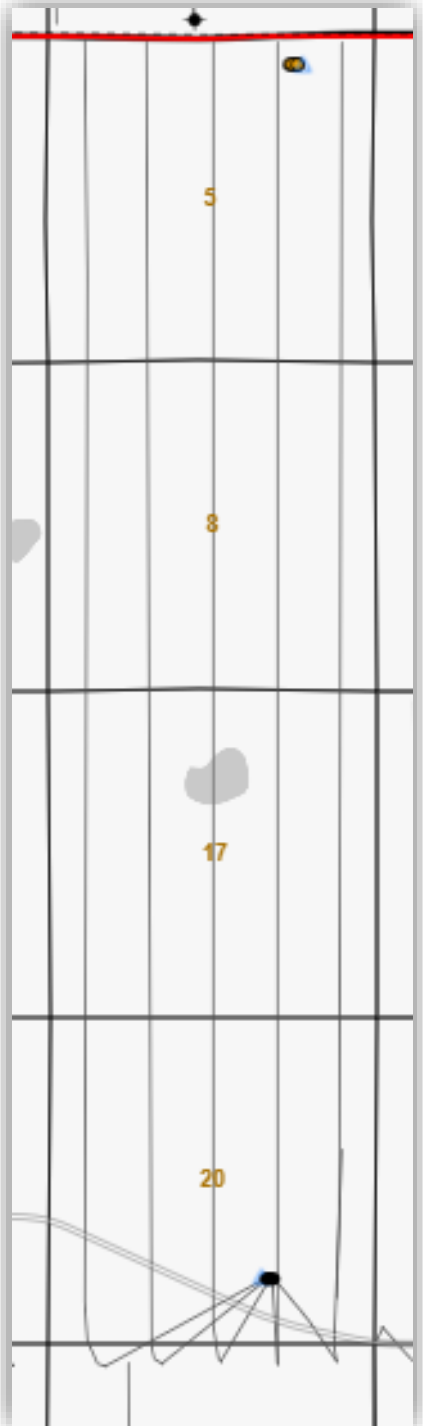
- 1,383 Permits
- 729 Wells Completed

4-MILE LATERALS

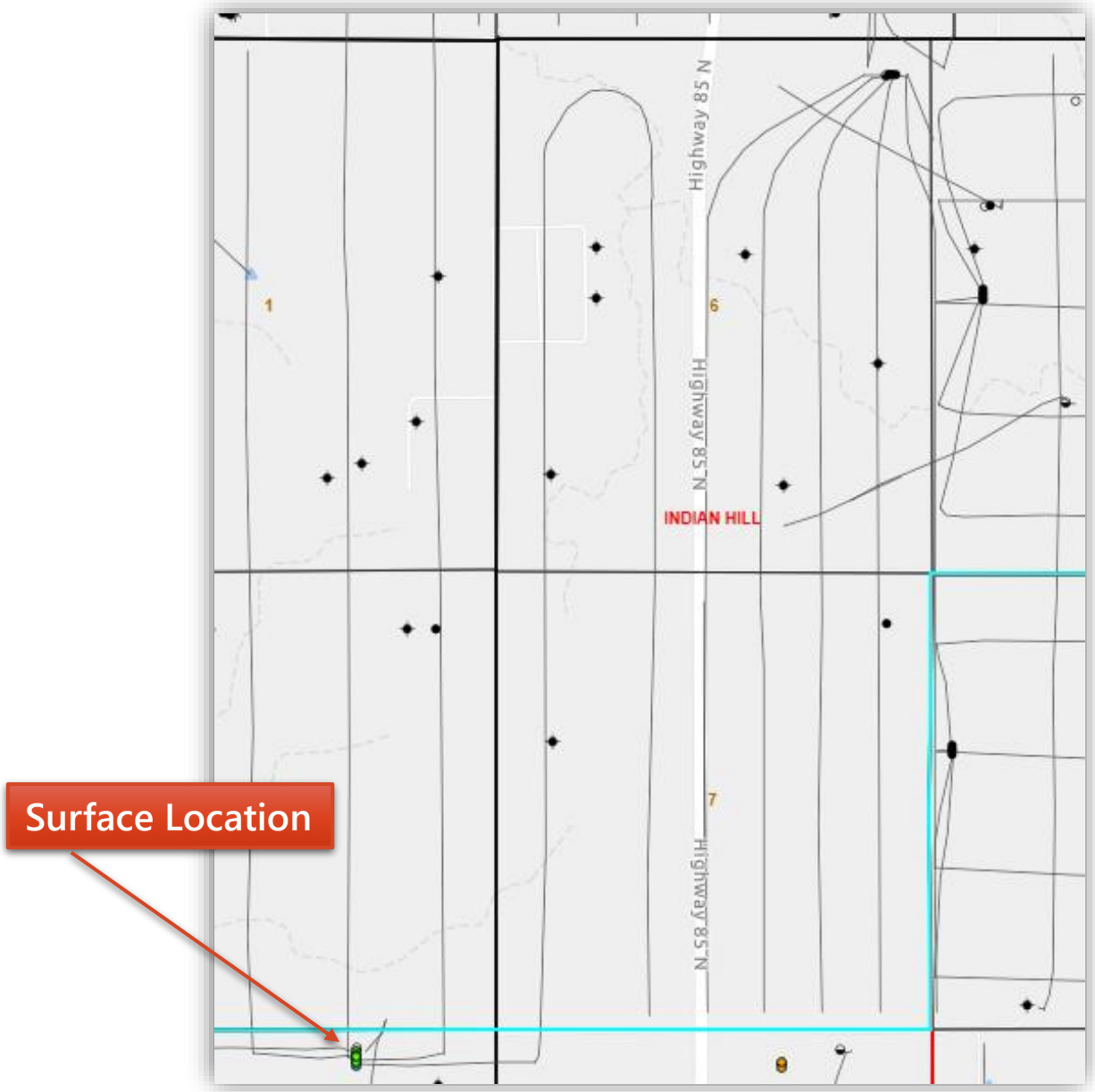
- 219 Permits
- 39 Wells Completed

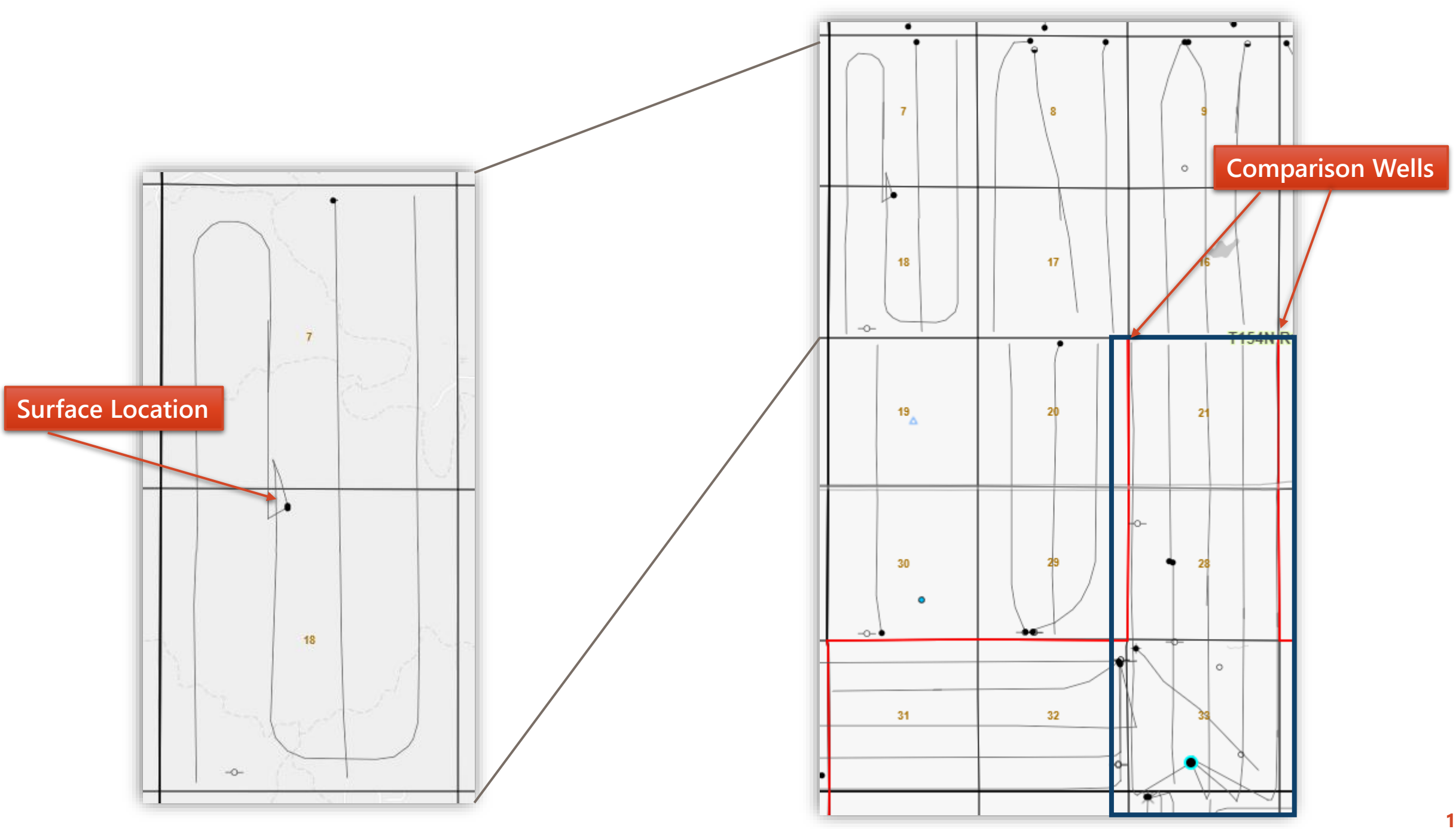
3 AND 4-MILE WELL EXAMPLES



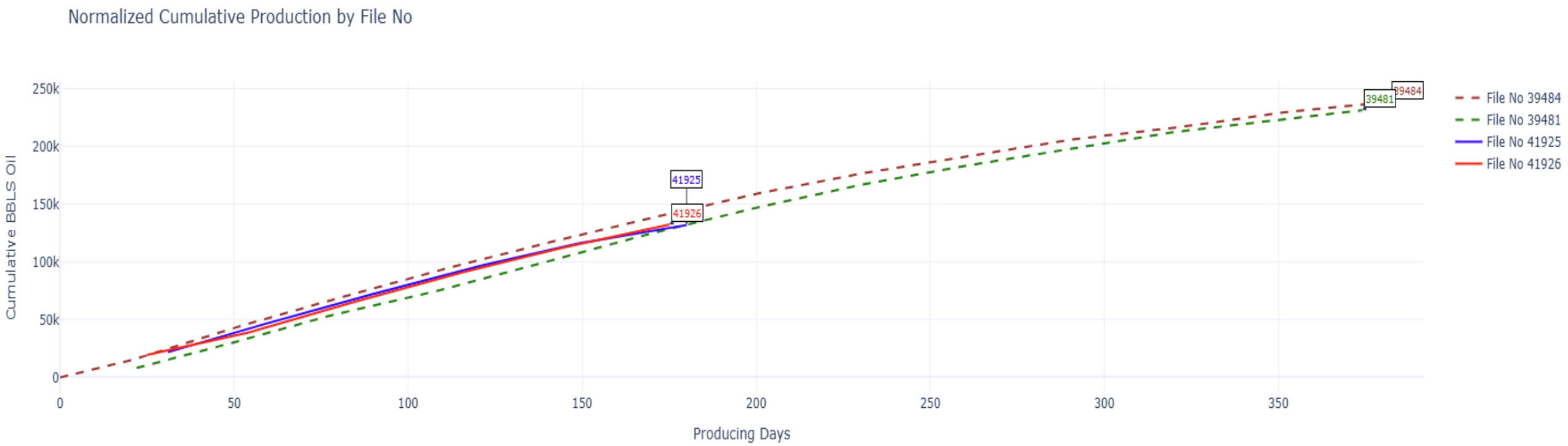


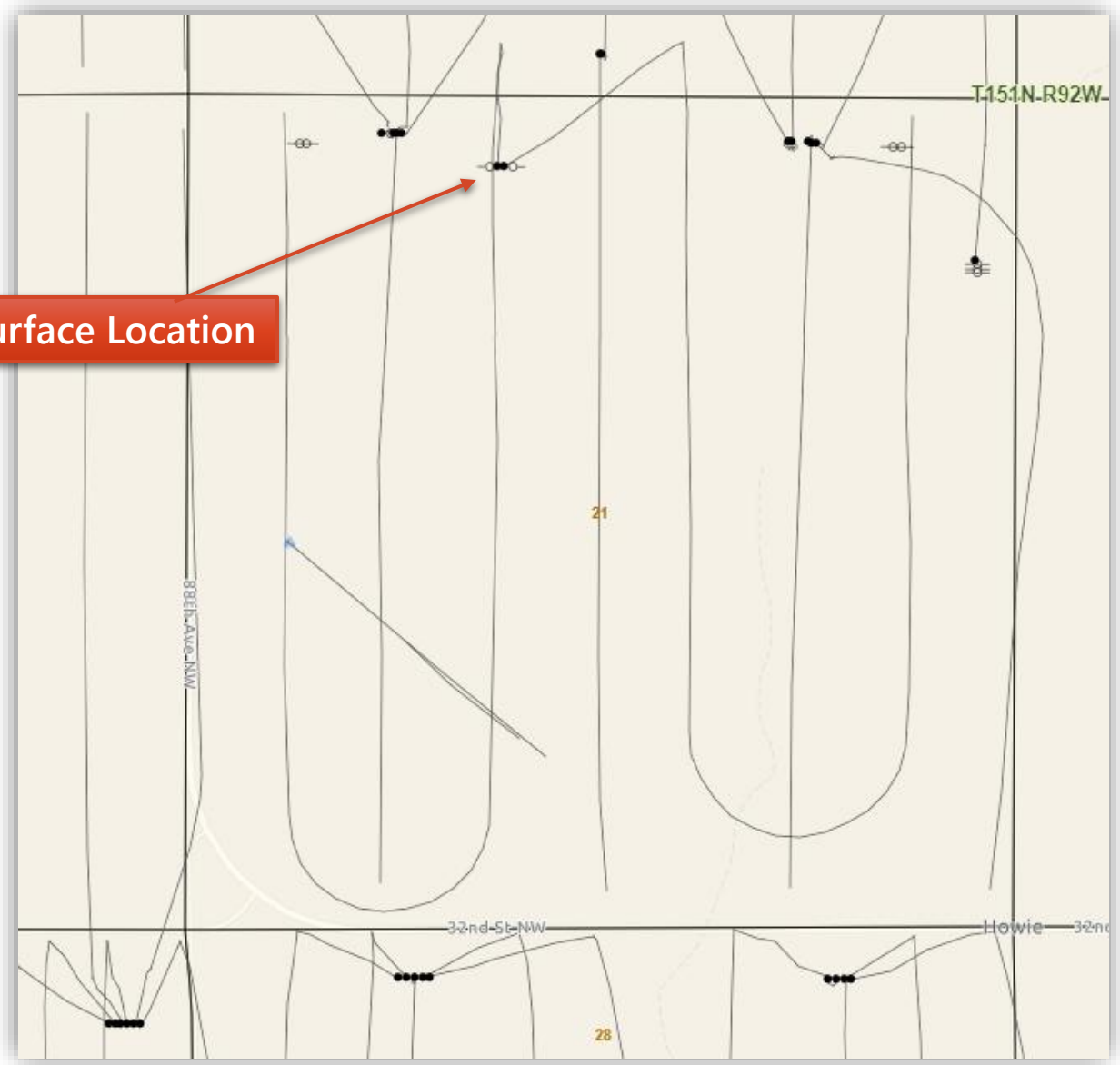
DRILLED WELL EXAMPLES

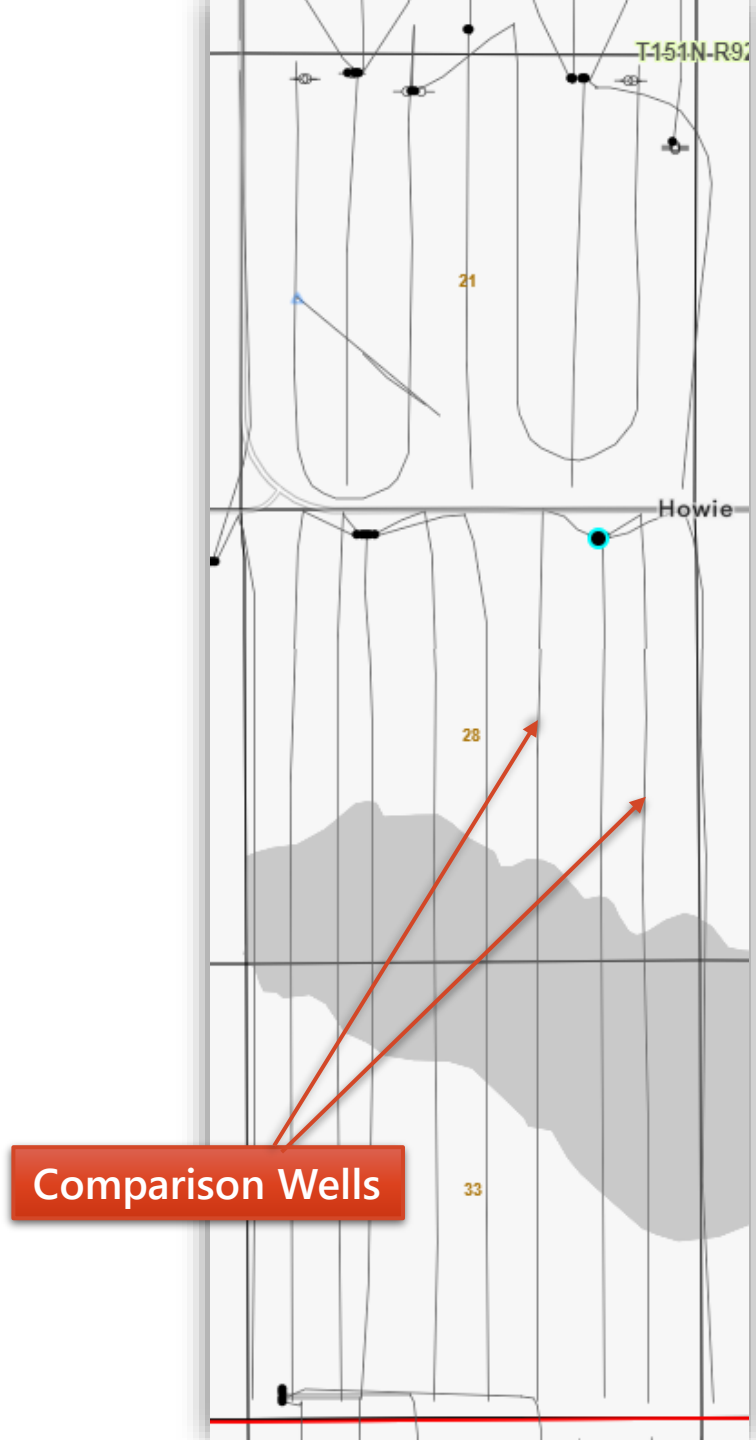



Surface Location
Comparison Wells
7
18
7
8
9
18
17
16
T154N R
19
20
21
30
29
28
31
32
33

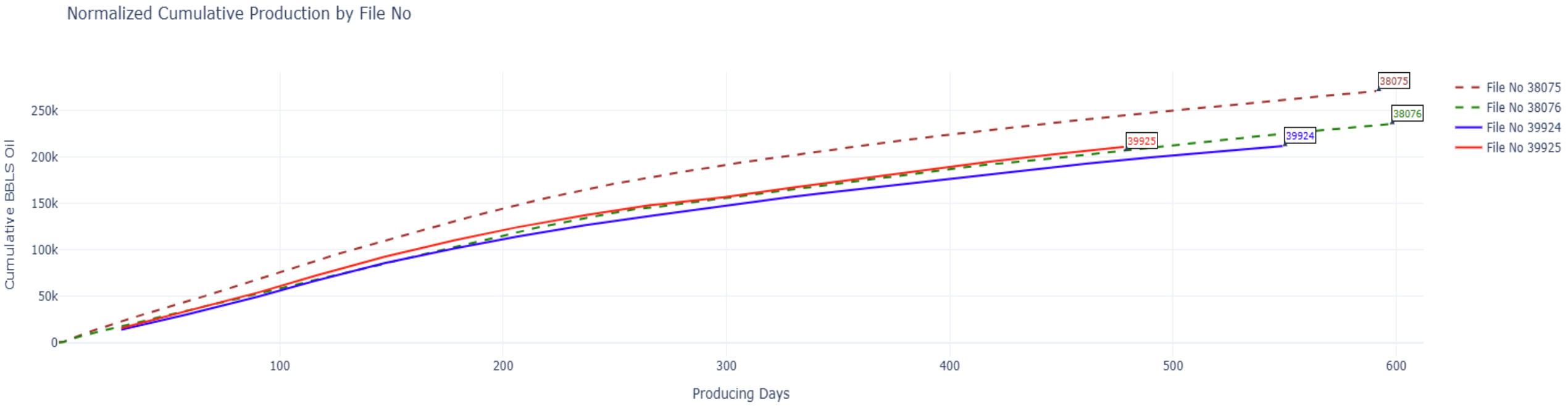
NORMALIZED CUMULATIVE PRODUCTION

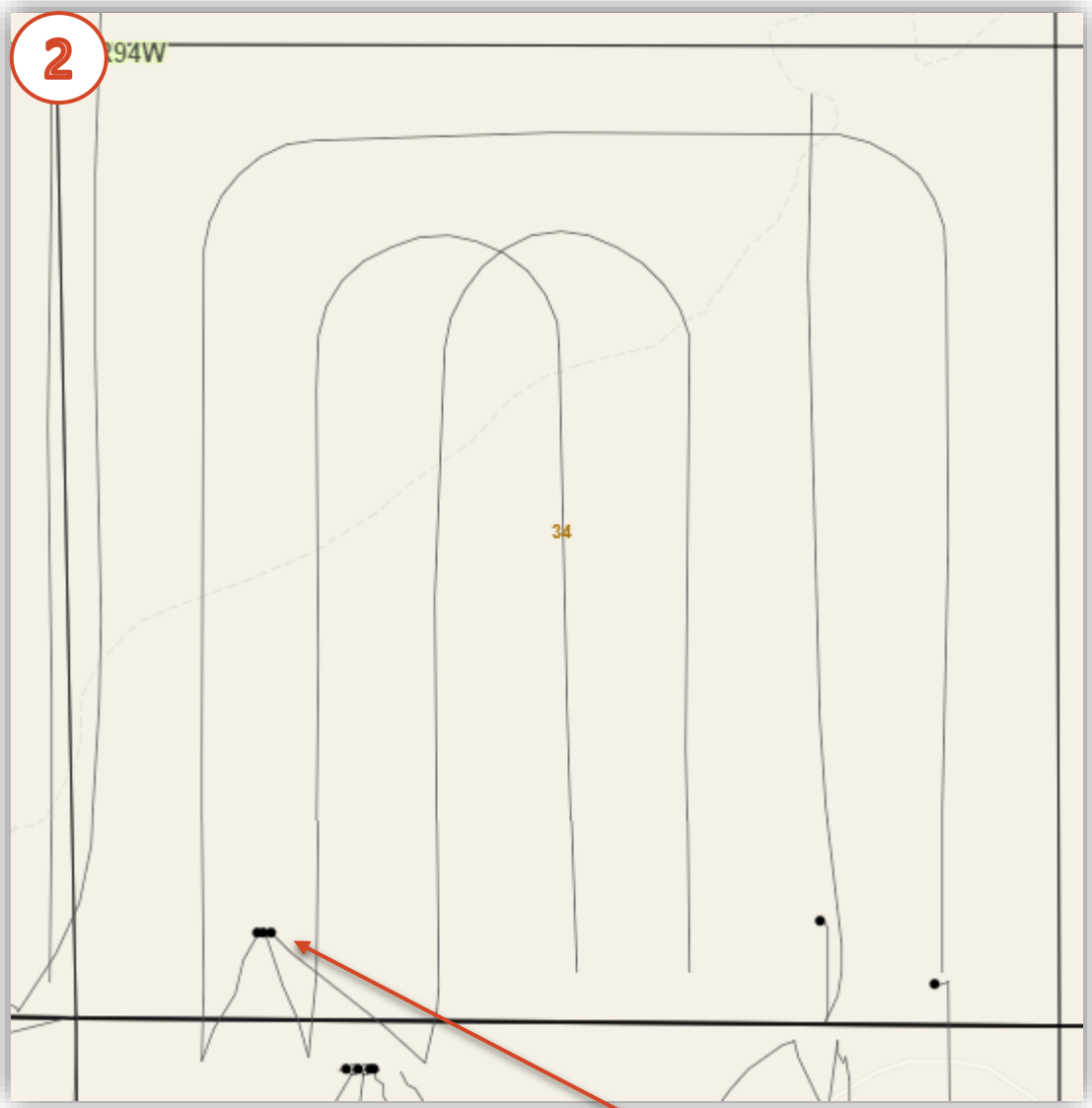


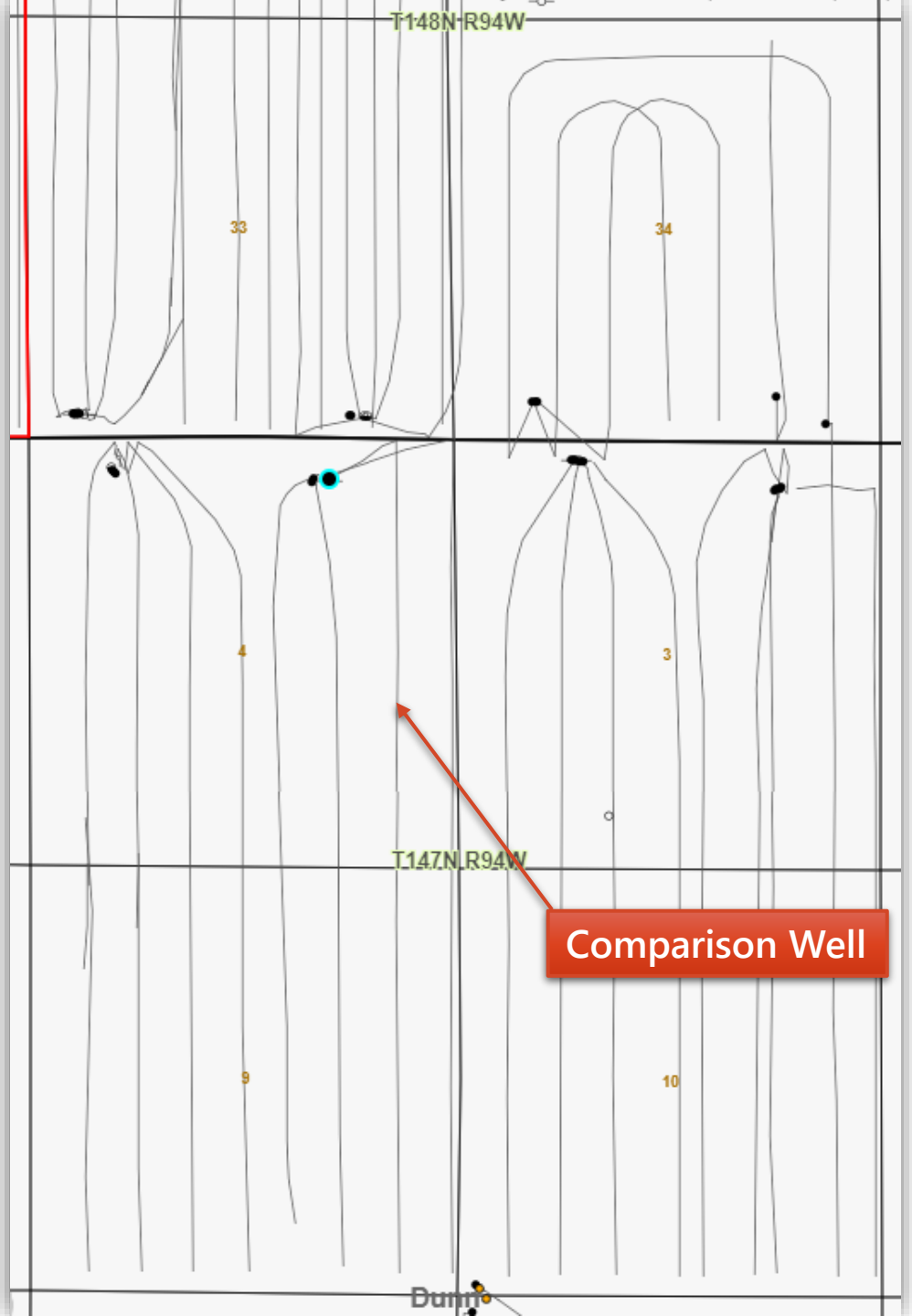

T151N-R92W
Surface Location
21
88th Ave NW
32nd St NW
Howie
28


T151N-R92
21
Howie
28
Comparison Wells
33

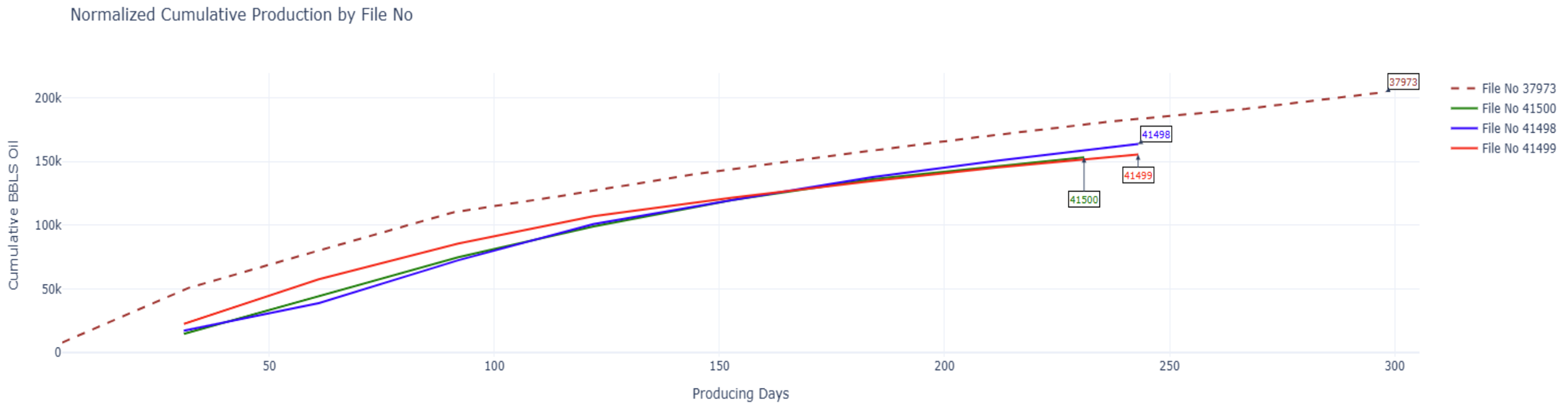
NORMALIZED CUMULATIVE PRODUCTION




2
34
Surface Location

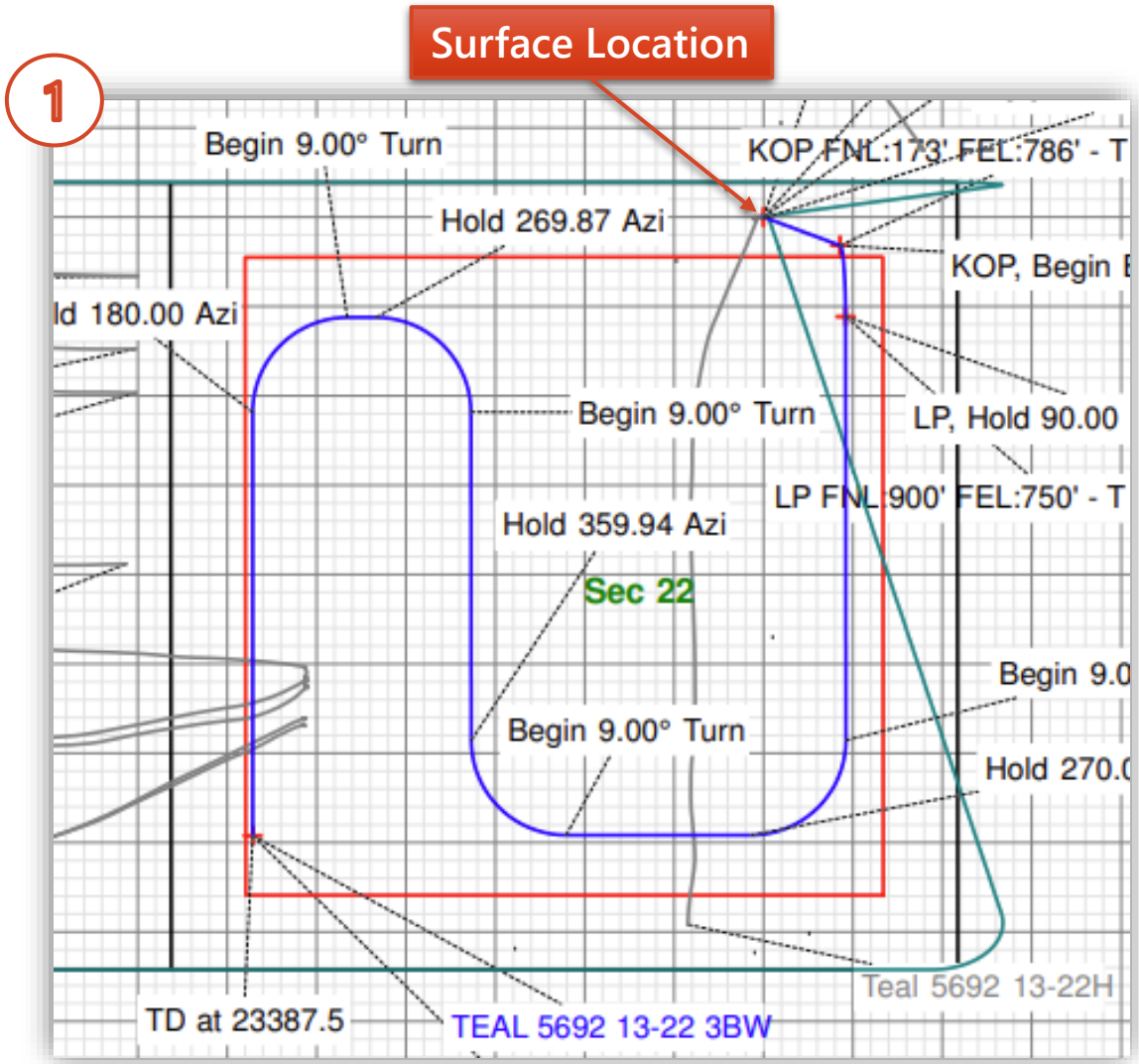

T148N-R94W
33
34
4
3
T147N-R94W
Comparison Well
9
10

NORMALIZED CUMULATIVE PRODUCTION

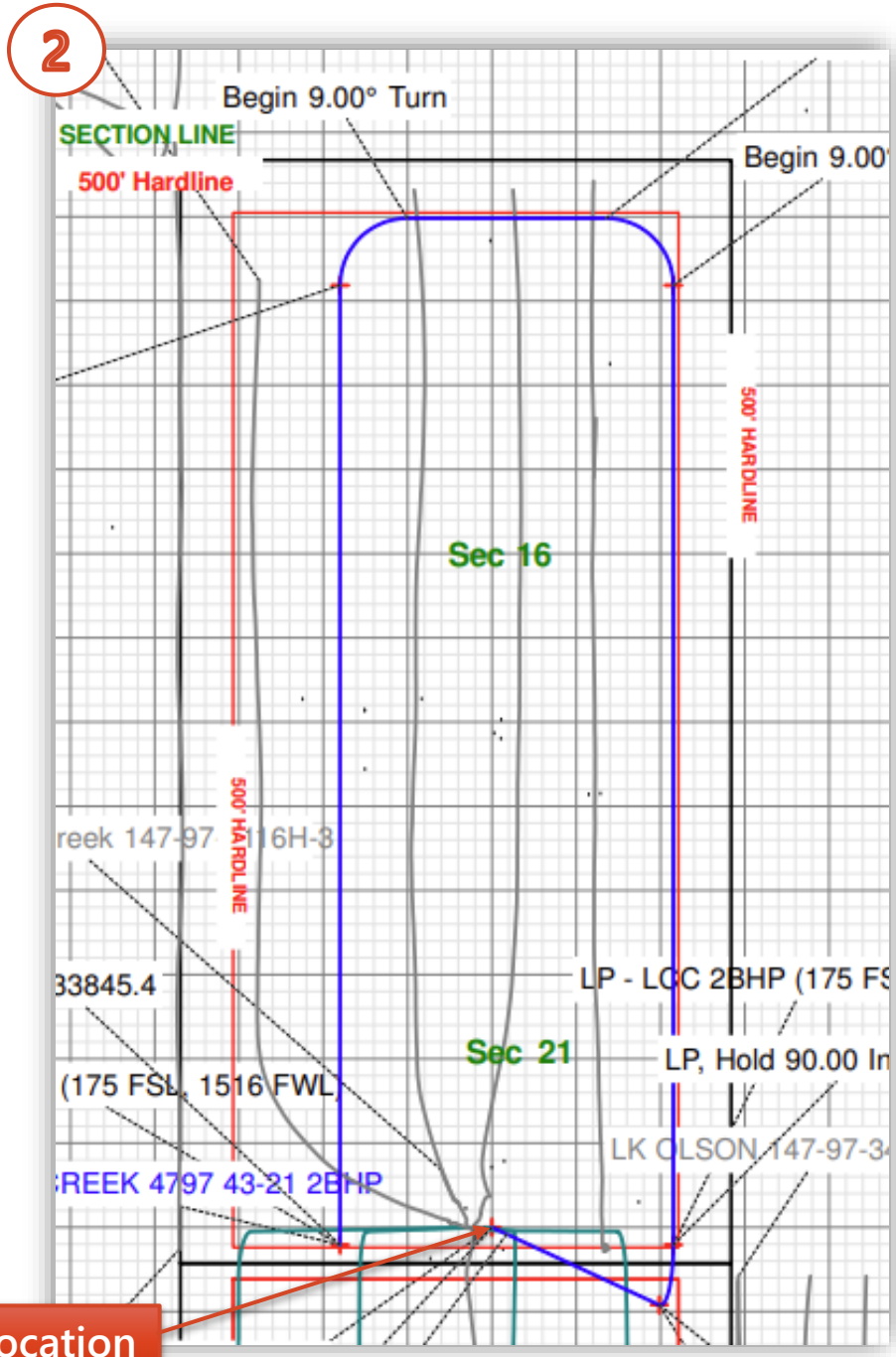


PERMITTED PLANS

1



2



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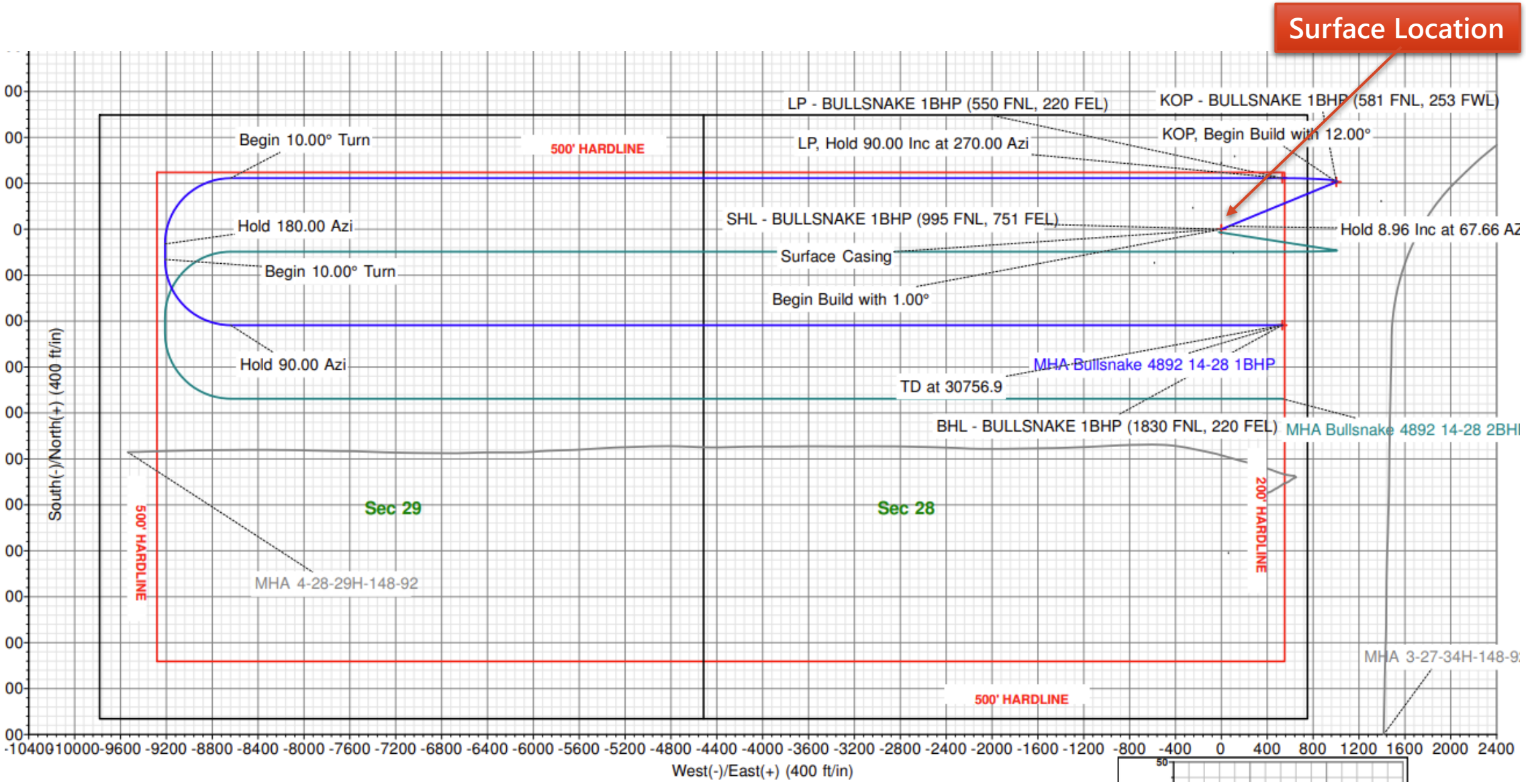
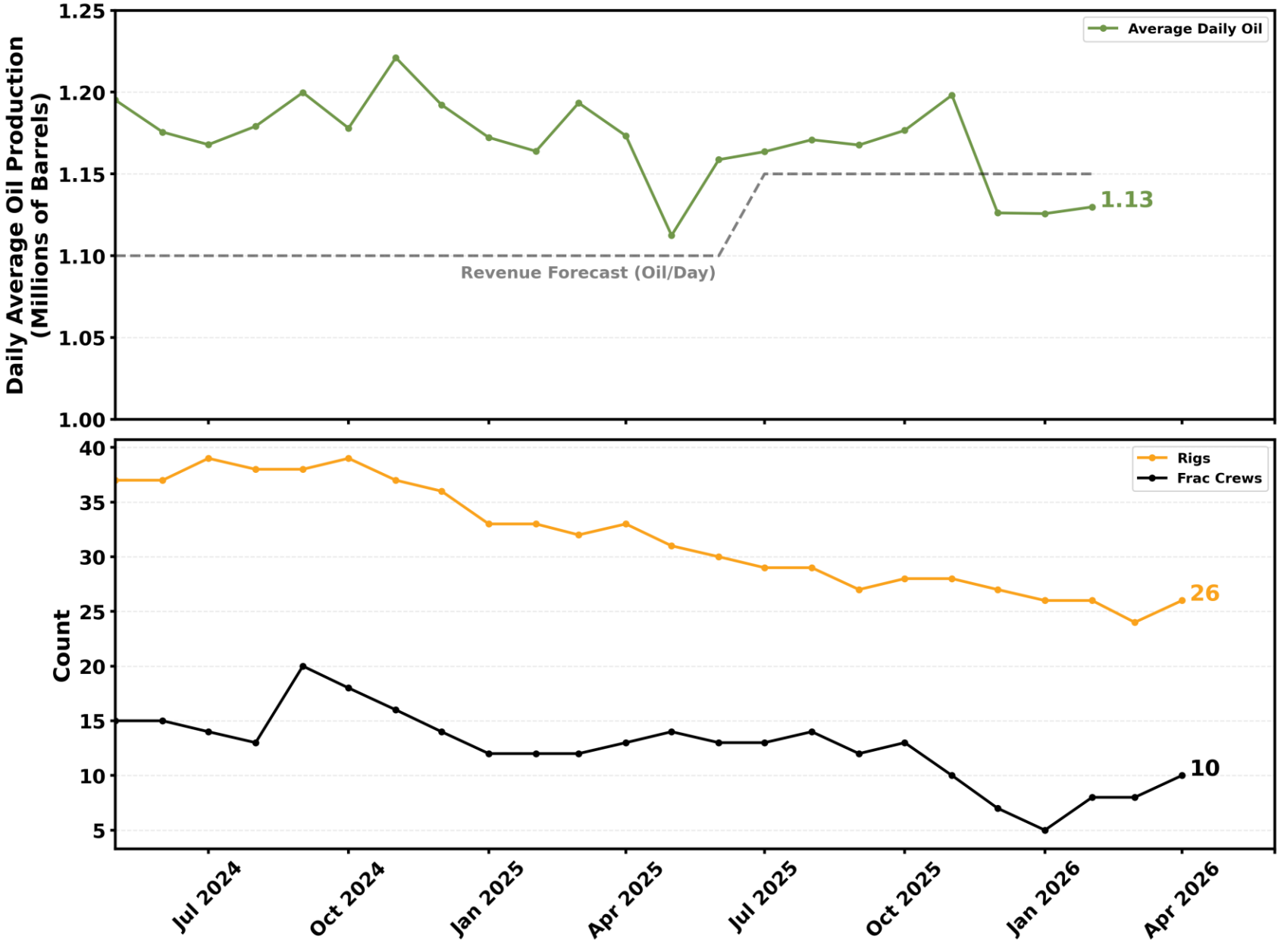


DAILY PRODUCTION, RIG COUNT, AND FRAC CREWS



BAKKEN-THREE FORKS INVENTORY

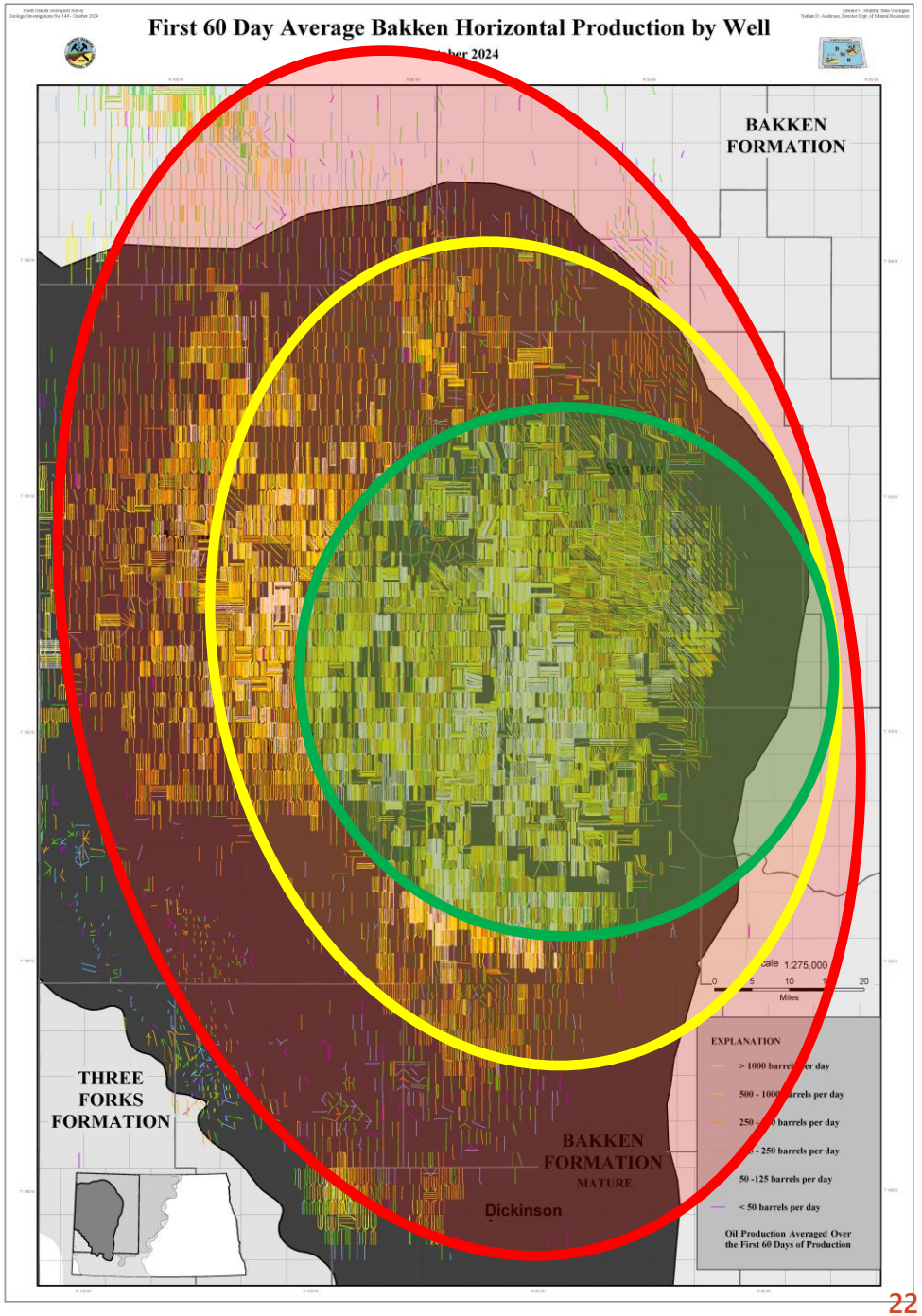
Core=Tier 1
85-90% developed
+2,600 wells
1-2% growth = 22 rigs for 5 years

Tier 2
50% developed
+11,000 wells
1-2% growth = 16 rigs for 5 years = 1920 wells
Remaining inventory 9080 wells

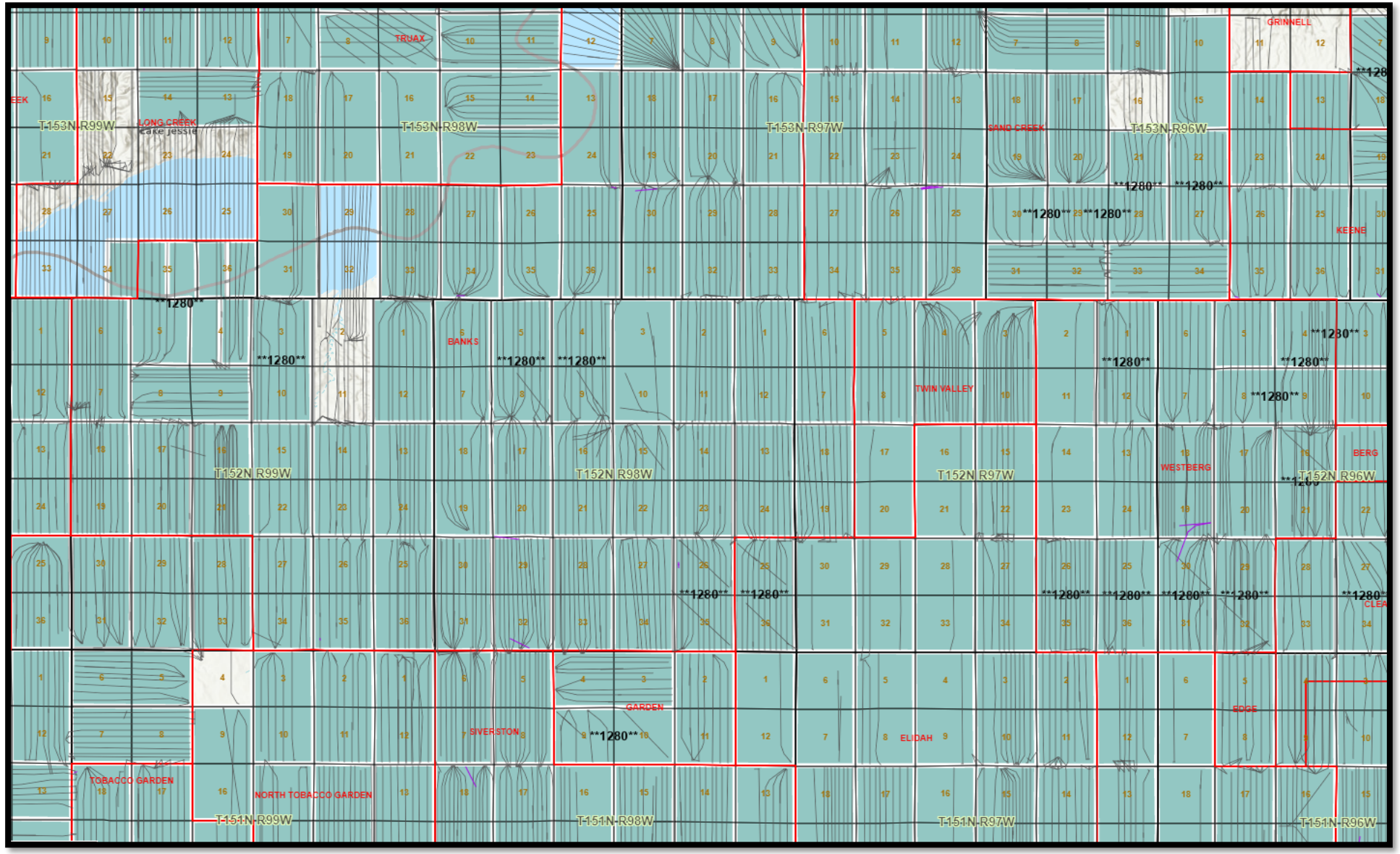
Tier 3
15% developed
+10,000 wells
1-2% growth = 2 rigs for 5 years = 240 wells
Remaining inventory 9760 wells

Total: +23,600 wells
EOR expected to extend inventory in the future

**Assumes 15 days/well, 24 wells/year, 2-mile lateral equivalents*



UNIFORM SPACING



WHAT TO EXPECT GOING FORWARD

- 25-30 Active Rigs in North Dakota
- ~7-10 Frac Crews
- Flat oil production
- Flat gas production
- Numerous factors impacting oil price
- Similar capital programs to the last 12 months by operators

OPERATIONAL EFFICIENCIES THROUGH TECHNOLOGY AND INNOVATION

- Fewer Completions
- Fewer new Well Spuds
- Similar drilled and completed footage of rock
- Flat Production
- Longer Laterals
- U-shaped Drilling
- Lease Line Drilling
- Infill Drilling
- Extension of historical economic boundaries of the Bakken
- Increased water production
- Increased demand for Salt Water Disposal wells

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[questions]

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