Shale Reservoir Development Act

HB 1909

Oklahoma State Legislature

2011 Regular Session

Presented to the Legal and Regulatory Committee at IOGCC's 2011 Annual Meeting

October 18, 2011

Buffalo, New York

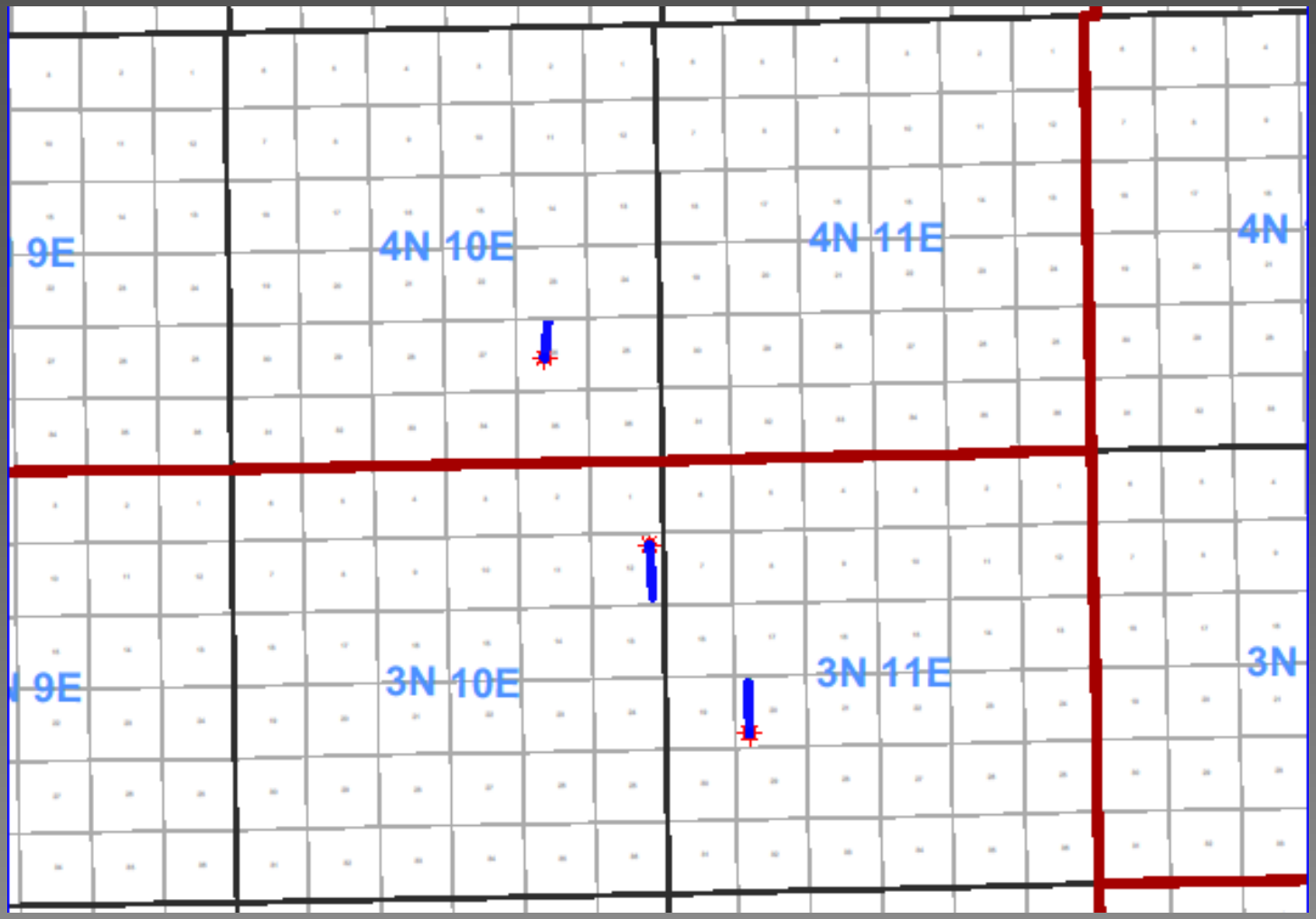
The slides in this presentation have been adapted from a presentation given by the following panelists at the Oklahoma Corporation Commission Oil and Gas Institute in Tulsa, Oklahoma on September 23, 2011:

Dana L. Murphy, Chair, Oklahoma Corporation Commission
John R. Reeves, Attorney at Law
Terry Stowers, Attorney at Law, National Association of Royalty Owners
Loyd Tinsley, Senior Land Advisor, Devon Energy Production Corp.
Mark Fisher, Southern Region Land Manager, Continental Resources, Inc.

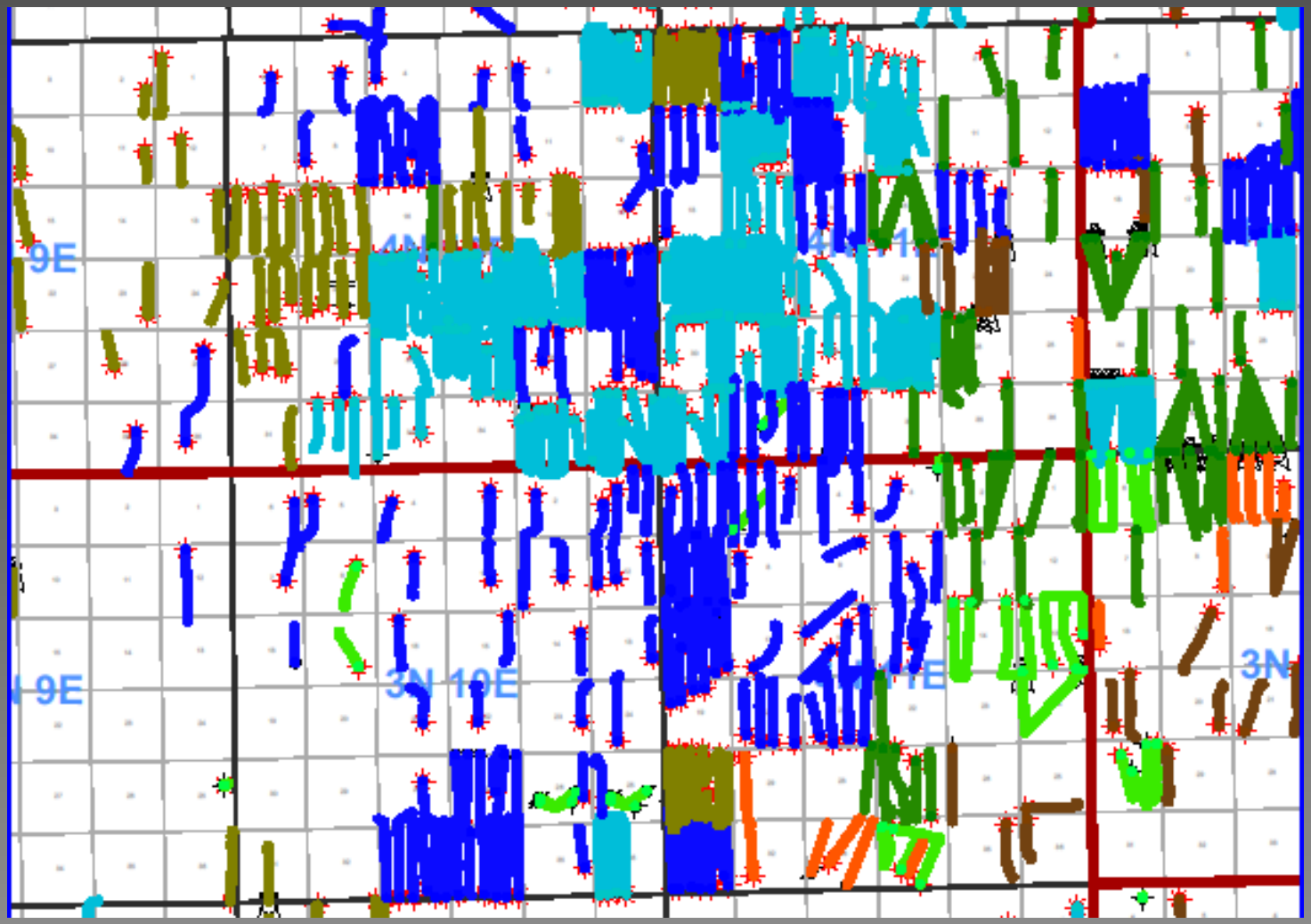
SHALE RESERVOIR DEVELOPMENT ACT

Signing of HB 1909 on April 13, 2011

Woodford Horizontal Wells June 30, 2005

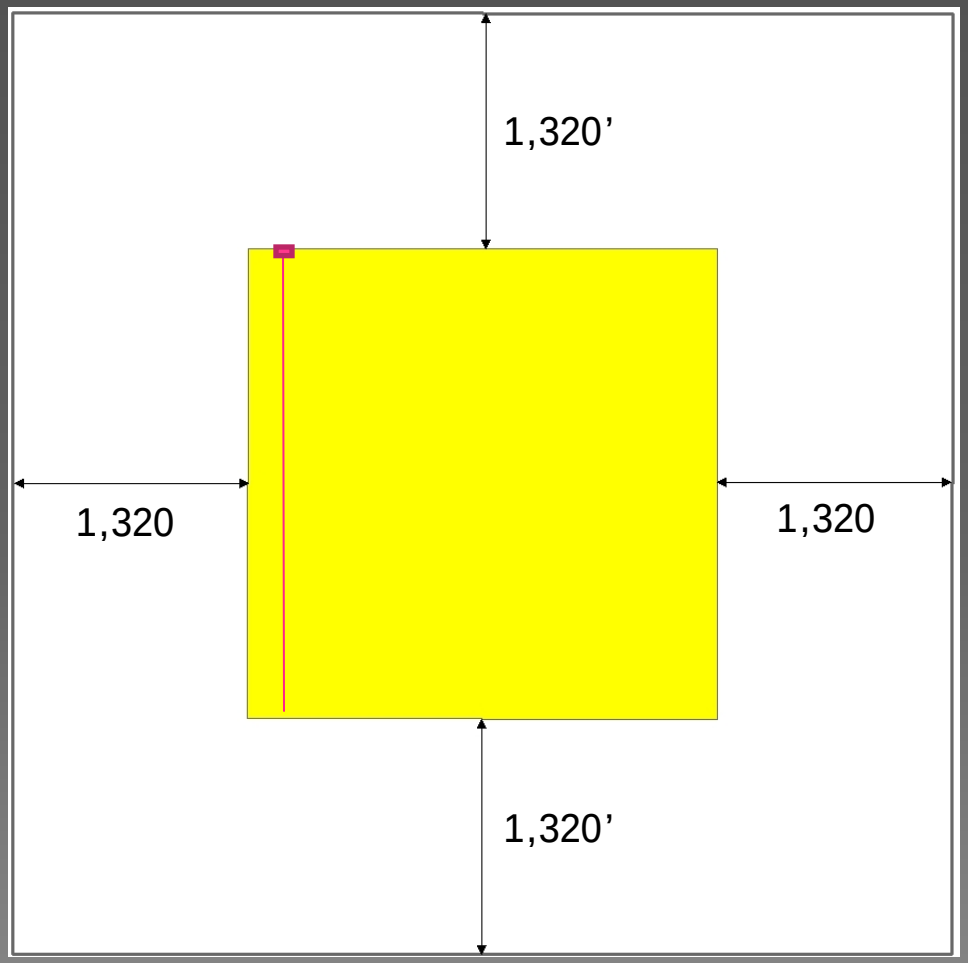


Woodford Horizontal Wells June 30, 2011



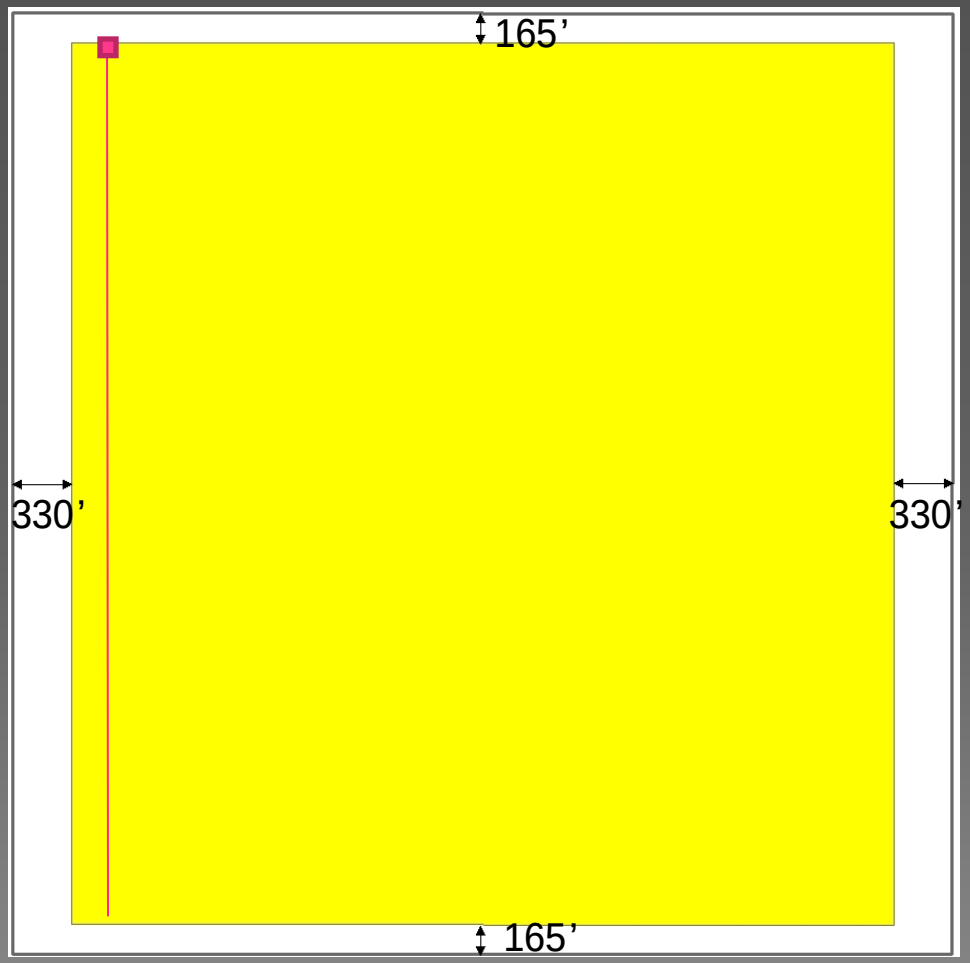
640-Acre Unit Set Backs

2640’ Lateral



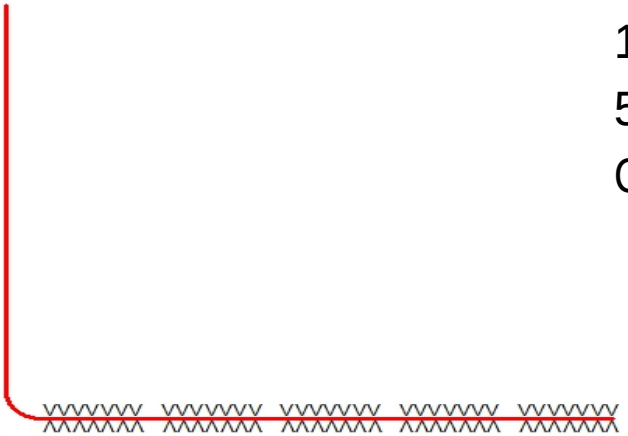
Woodford Shale 640-Acre Unit Industry-Standard Set Backs

4950’ Lateral



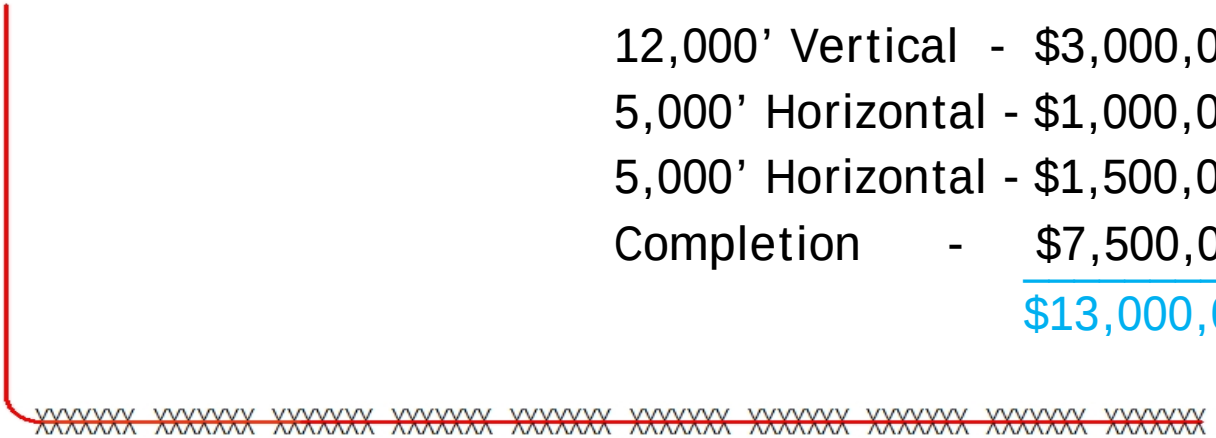
5,000' Lateral vs. 10,000' Lateral

5,000'
Lateral Well



12,000' Vertical	-	$3,000,000
5,000' Horizontal	-	$1,000,000
Completion	-	$4,000,000
		$8,000,000

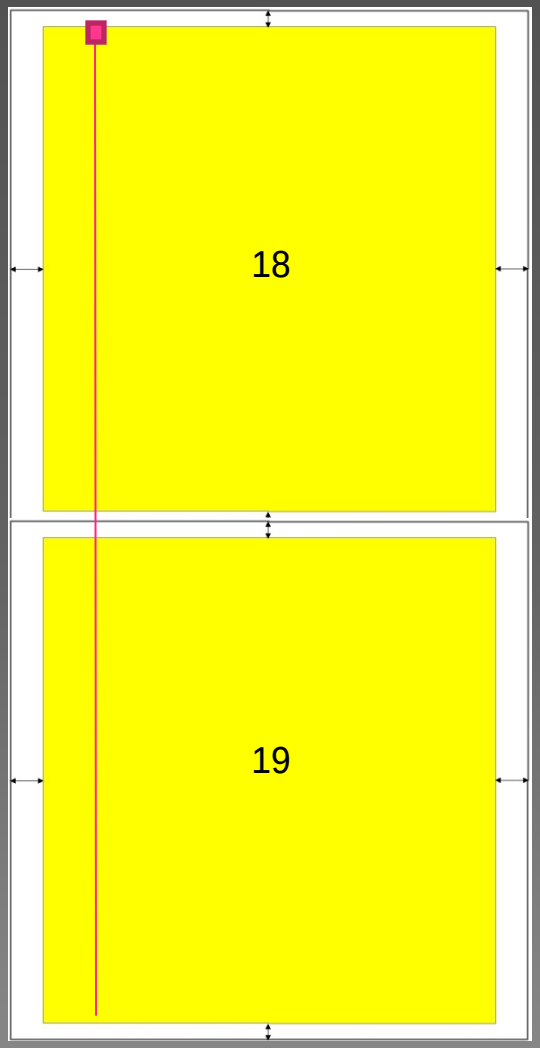
10,000'
Lateral Well



12,000' Vertical	-	$3,000,000
5,000' Horizontal	-	$1,000,000
5,000' Horizontal	-	$1,500,000
Completion	-	$7,500,000
		$13,000,000

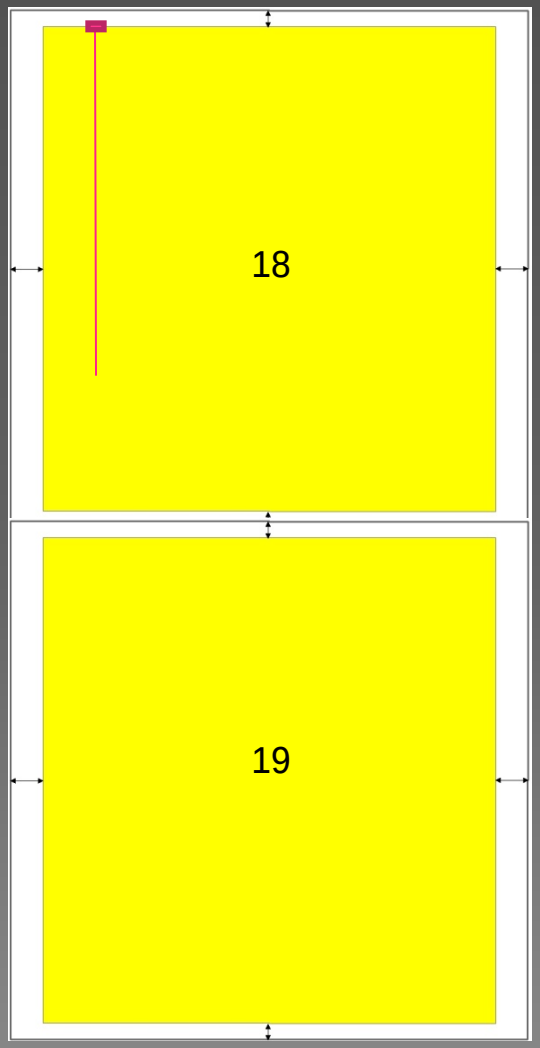
1280-Acre Spacing

10,000’ Lateral



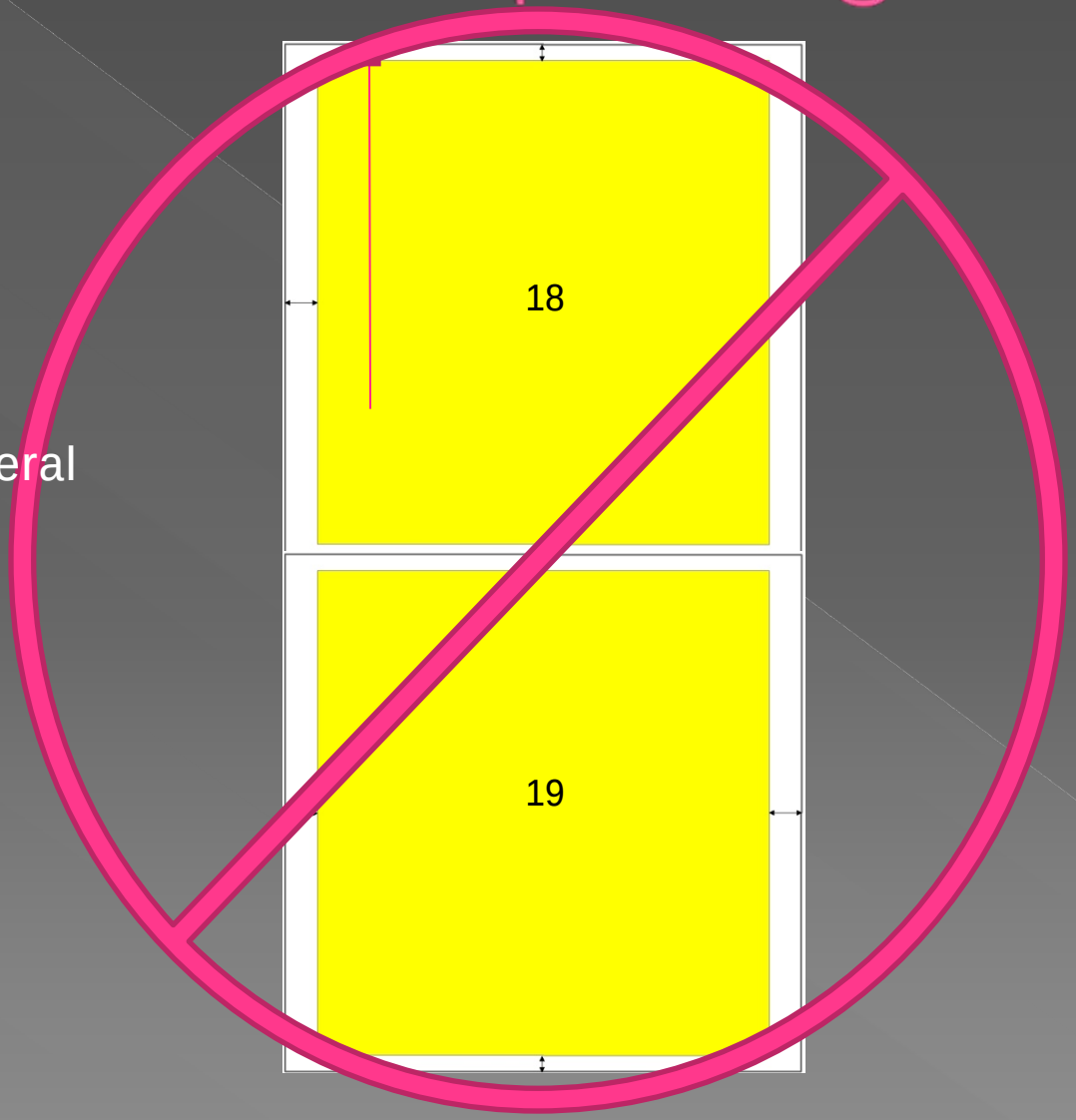
1280-Acre Spacing

3,500’ Lateral



1280-Acre Spacing

3,500’ Lateral



2011 Shale Reservoir Development Act

- Advances in horizontal drilling techniques for wells drilled and completed in shale reservoirs (*i.e.,* Woodford) advanced beyond Oklahoma's historical statutory spacing scheme, in particular with laterals exceeding 5,280 feet in length.

- Attempts by various producers during the 2009 and 2010 Legislative Sessions to create larger, 1,280-acre drilling and spacing units were met with great resistance by mineral owner representatives and numerous producers.

- After the 2010 Legislative Session, Oklahoma Corporation Commissioner Dana Murphy was asked to assemble a working group of the stakeholders to work on proposed legislation to construct an equitable solution to fully develop shale reservoirs.

2011 Shale Reservoir Development Act

- The stakeholders assembled consisted of representatives for the: (a) operators actively drilling horizontal shale wells; (b) operators currently drilling horizontal shale wells in other states; (c) mineral owners; (d) Oklahoma Independent Petroleum Association; and (e) Mid-Continent Oil and Gas Association.

- Over the course of almost nine months beginning in August 2010, the working group invested hundreds of hours in discussing, drafting and re-drafting proposed legislation to address the issues raised by the stakeholders during the meetings.

- HB 1909 passed the House on March 17, 2011, by an 87-0 vote, and the Senate by a 45-0 vote on April 6, 2011. It was signed by the Governor on April 13, 2011.

2011 Shale Reservoir Development Act

- HB 1909 codified at 52 O.S. § 87.6 *et seq.*
- The Act provides two new tools for development of shale reservoirs:
  - Tool 1 — Allows drilling of horizontal wells in shale reservoirs across existing unit boundaries, with the costs, production and proceeds allocated to each of the affected units
  - Tool 2 — Creates a new type of unit for horizontal shale development (a hybrid which incorporates portions of existing legal authority for drilling and spacing units and enhanced recovery units)

Multiunit Horizontal Wells

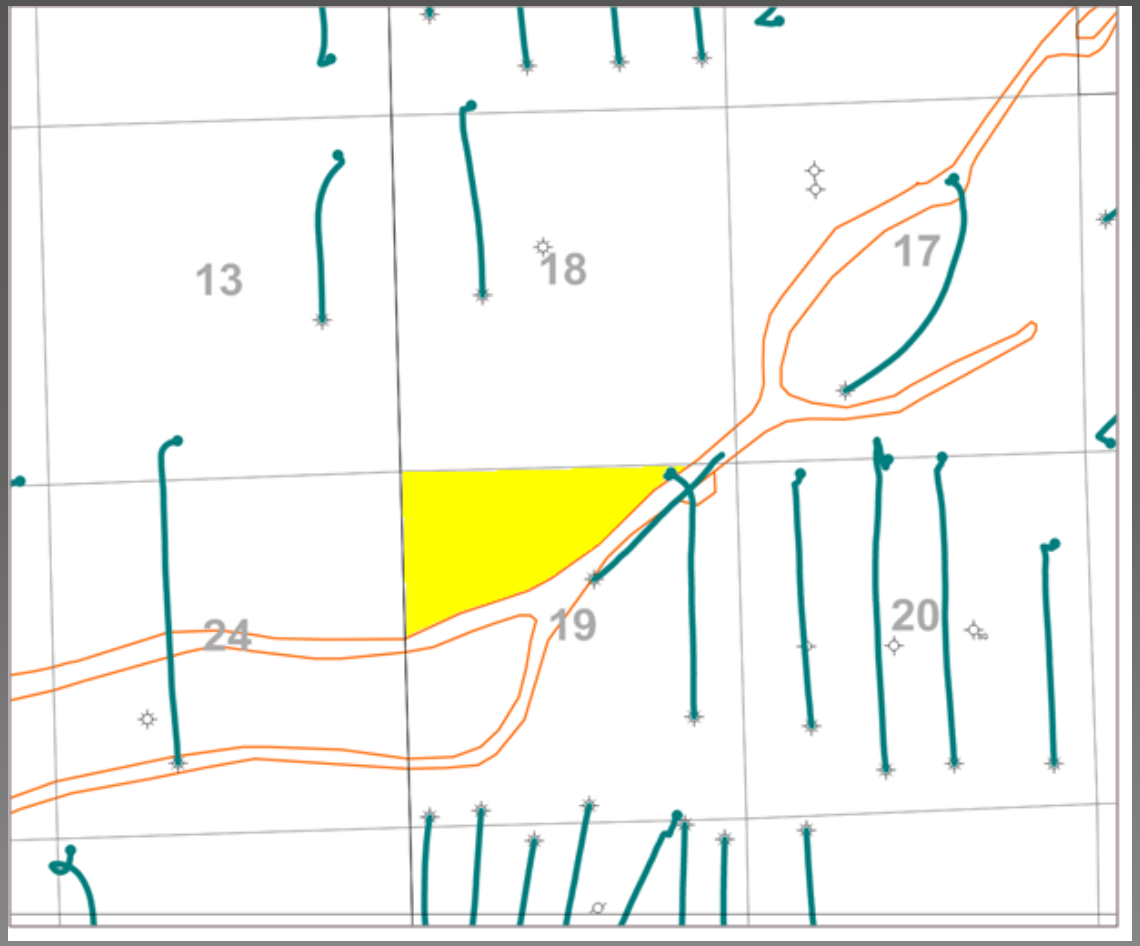
- Tool 1 allows drilling of horizontal wells in shale reservoirs across existing unit boundaries (*i.e.*, across two or more existing 640-acre units).
  - The drilling & production costs, the oil and gas production and the sales proceeds will be allocated to each of the affected units in a manner to protect the correlative rights of parties in each unit.
    - The default allocation is a proration between the units based upon the feet of perforations in each of the units.
    - Based upon reasonable testimony, the OCC can adjust the allocations to protect the correlative rights of the parties in each unit, if necessary.
  - The portion of the completed horizontal lateral in each unit will be treated as a separate well for that unit.

Multiunit Horizontal Wells

- Tool 1 (cont.)
  - The application for a multiunit horizontal well must include a map showing: (1) all existing wells in each of the affected units; (2) the currently proposed multiunit horizontal well(s); and (3) all other wells that are anticipated to be necessary for the full and efficient development of the shale reservoir.
  - The application for a multiunit horizontal well must include the proposed allocation factors for the well.
  - The application and notice of hearing must be served on all owners who have a right to share in proceeds from the affected units.
  - Payment of proceeds from a multiunit horizontal well shall be subject to the provision of the Production Revenue Standards Act (PRSA).

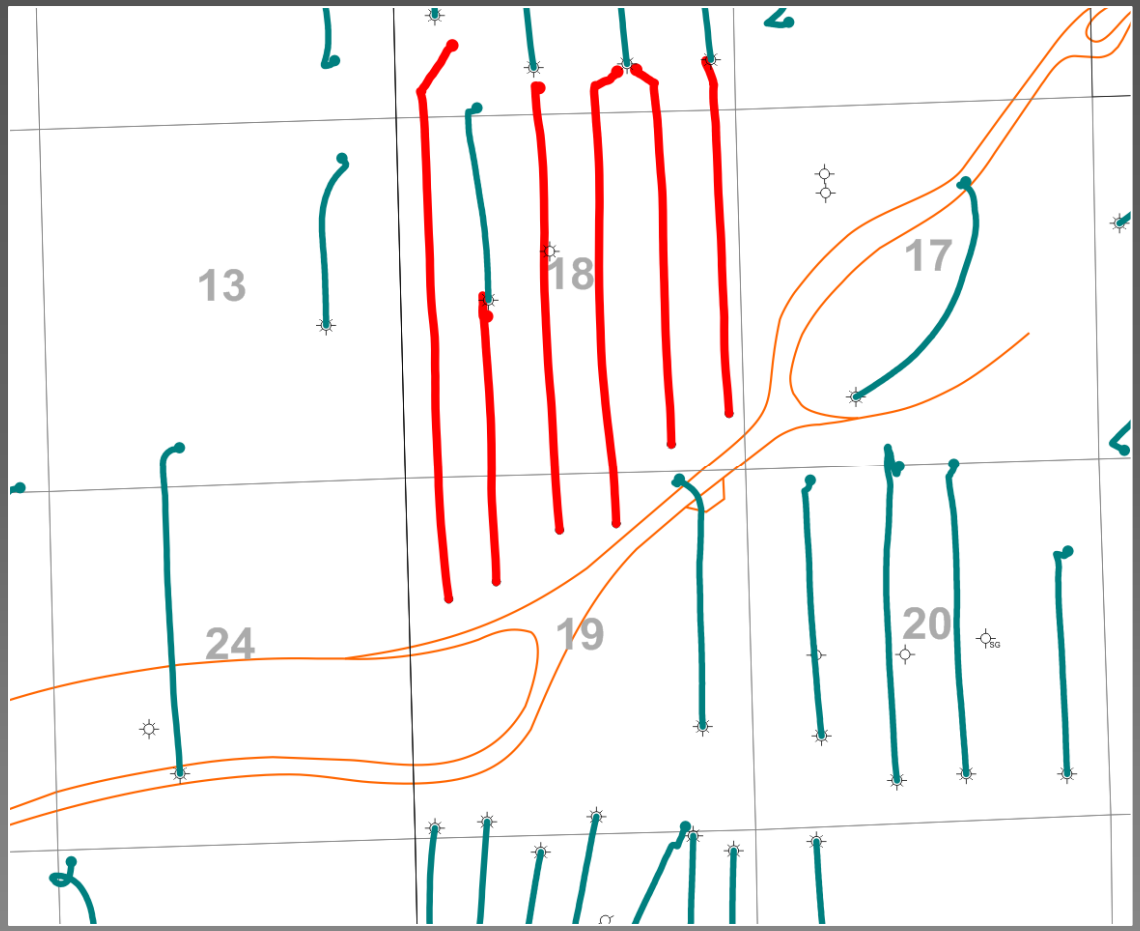
Multiunit Drilling – Stranded Reserves

Sections 18 & 19-3N-11E Coal County

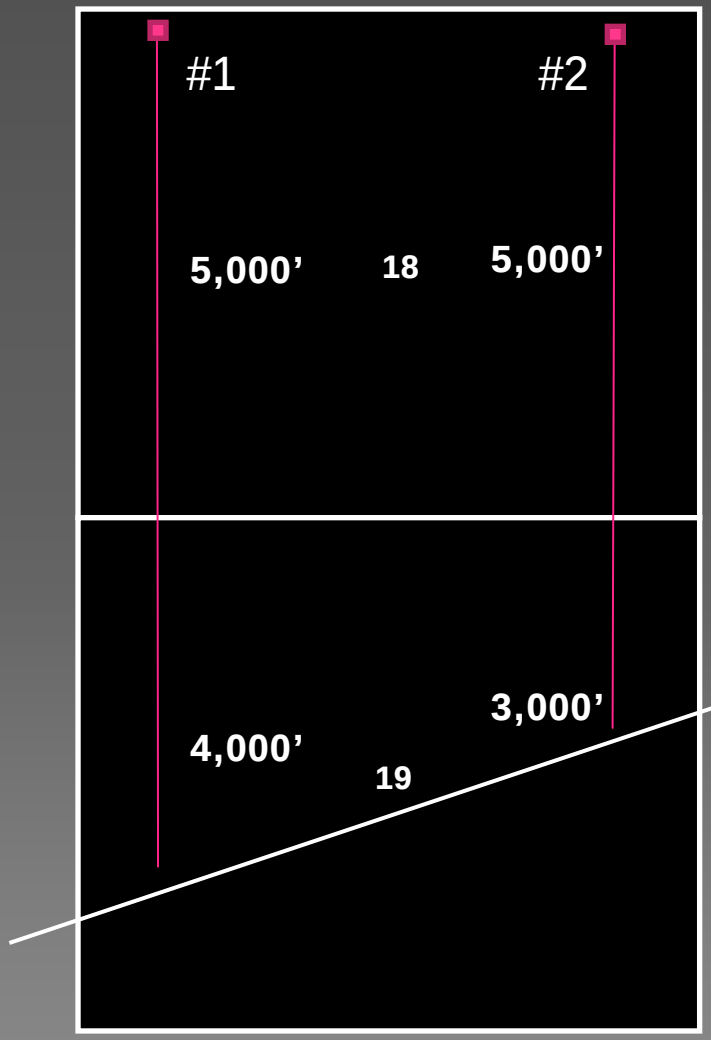


Multiunit Drilling

Sections 18 & 19-3N-11E Coal County



Allocation Factor



5,000’ / 9,000’
55.56%

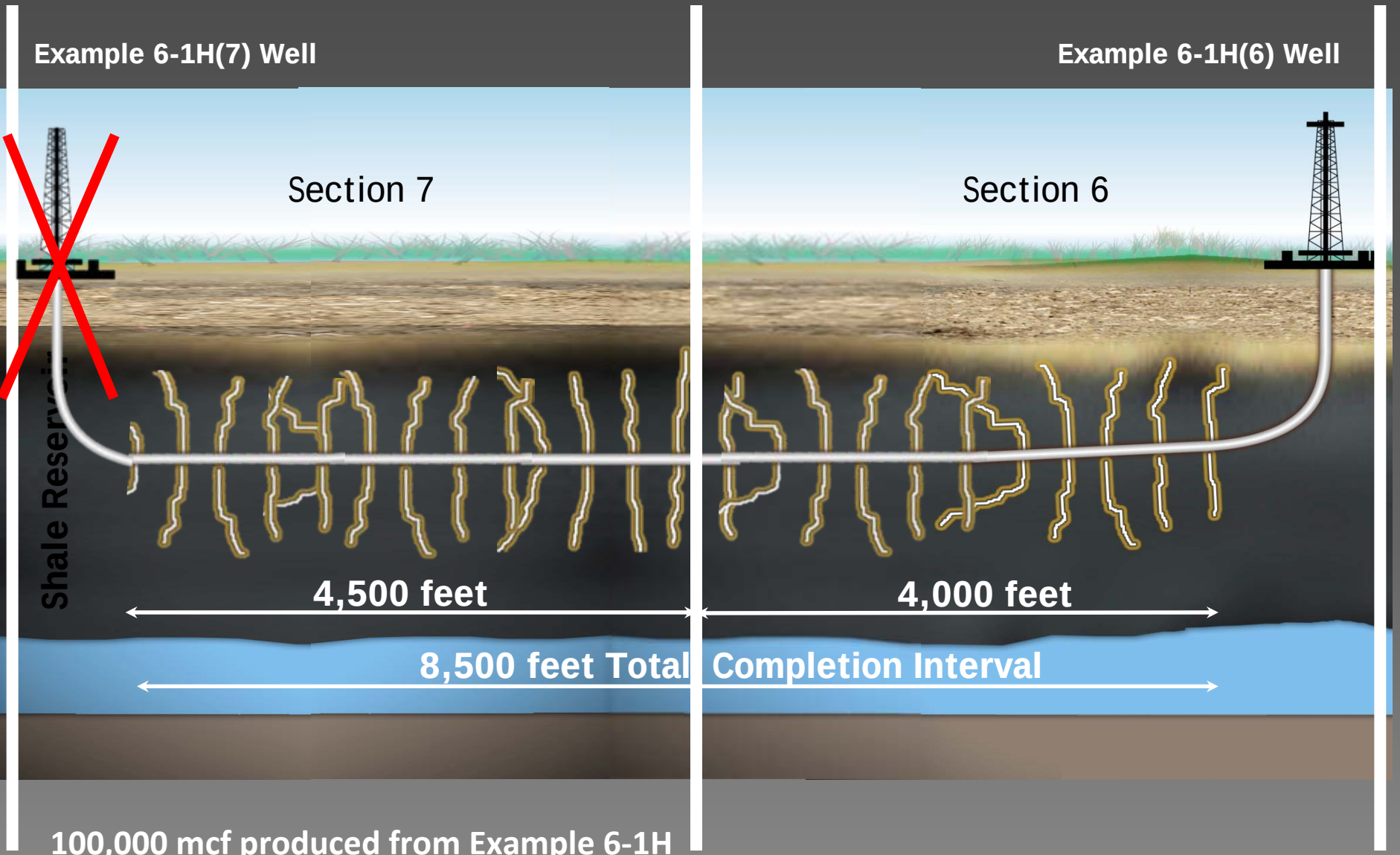
5,000’ / 8,000’
62.50%

4,000’ / 9,000’
44.44%

3,000’ / 8,000’
37.50%

Multiunit Horizontal Well

The Act treats the lateral in each section as a separate well.



100,000 mcf produced from Example 6-1H

52,941 mcf from Example 6-1H(7) – 100,000 mcf X 4,500/8,500 = 52,941 mcf

47,059 mcf from Example 6-1H(6) – 100,000 mcf X 4,000/8,500 = 47,059 mcf

Example of Royalty Payments with a Multiunit Horizontal Well

Total Sales for Cross-unit Horizontal Well = $1,000

PRSA Concept - All RO share proportionately in all sales.
Easy application **if operator sells 100% of gas for ALL WI**

Unit 1
Allocation Factor = 60%
Sales Allocated to Unit 1
$1,000 X 60% = $600.00
Royalty Share (PRSA 570.2(9)) = 18.75%

Royalty Proceeds = $112.50
(PRSA 579.2(8))

Unit 2
Allocation Factor = 40%
Sales Allocated to Unit 2
$1,000 X 40% = $400.00
Royalty Share (PRSA 570.2(9)) = 15.00%

Royalty Proceeds = $ 60.00
(PRSA 579.2(8))

Royalty Proceeds Unit 1 = $112.50
Royalty Proceeds Unit 2 = $ 60.00

Total Royalty Proceeds = $172.50

But, what if Operator only owns Unit 1 and WI #2 owns Unit 2 only, with the Operator selling 100% of the gas for itself and not for WI#2. In order to carryout the PRSA Concept, we have to make some adjustments.

"Wellbore royalty interest " shall mean, for each separate multi-unit horizontal well, the sum of resulting products of each affected unit's royalty share for that unit, as defined by the PRSA, multiplied by that unit's allocation factor for production and proceeds.

	Unit 1		Unit 2	
Royalty Share	18.75%		15.00%	
Allocation Factor	X 60%		X 40%	
	---		---	
Wellbore Royalty Interest	**.1125**	**+**	**.06**	**= .1725**

"Wellbore royalty proceeds" shall mean the proceeds or other revenue derived from or attributable to any production of oil and gas from the multi-unit horizontal well multiplied by the wellbore royalty interest.

Total Sales	$1,000.00
Wellbore Royalty Interest	X .1725

Wellbore Royalty Proceeds	**$172.50**

"Unit's royalty contribution factor" shall mean the royalty share for an affected unit, as defined by PRSA, multiplied by that unit's allocation factor, then divided by the total wellbore royalty interest.

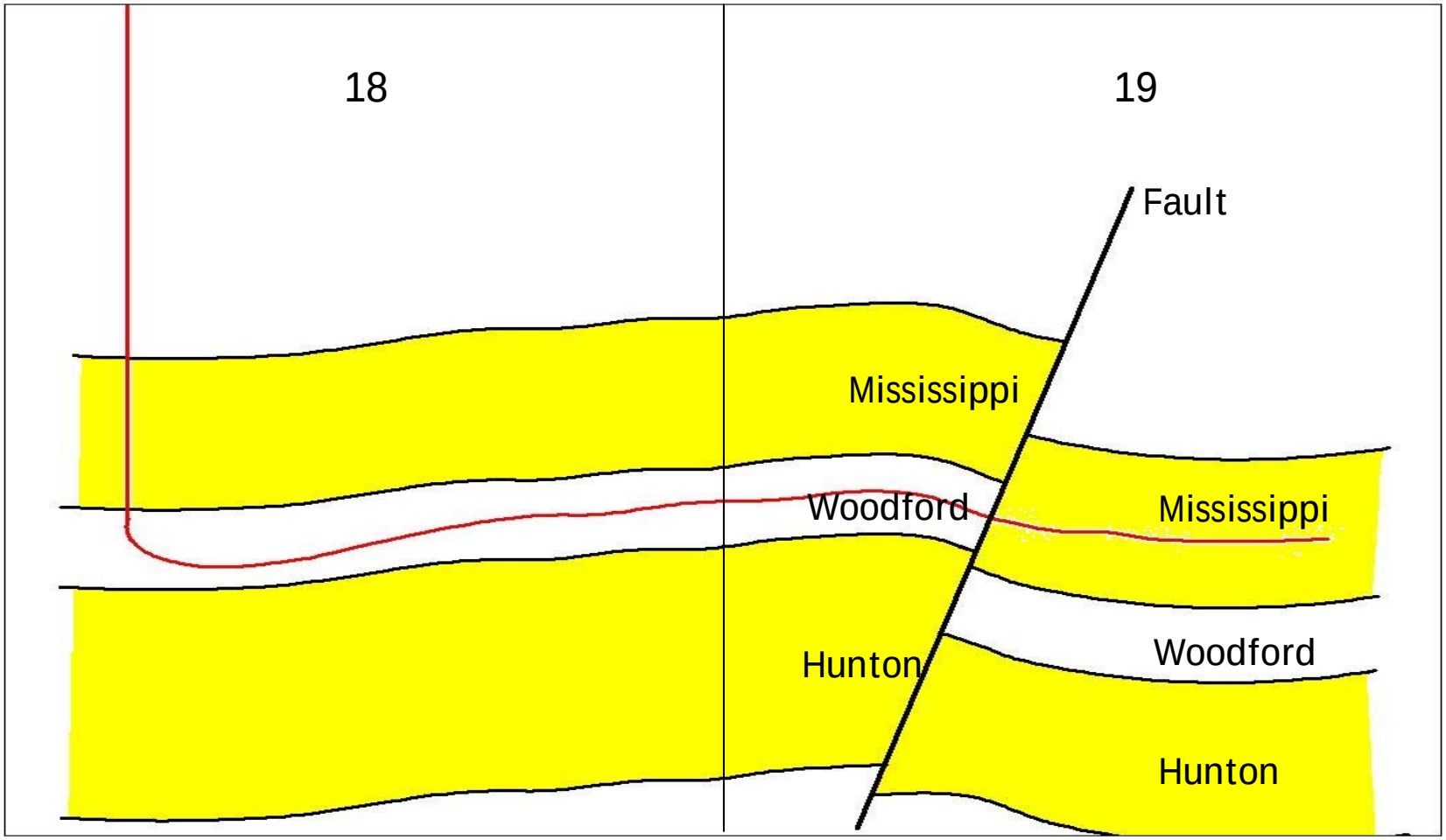
	Unit 1	Unit 2
Royalty Share	18.75%	15.00%
Allocation Factor	X 60%	X 40%
	---	---
	.1125	.06
Wellbore Royalty Interest	÷.1725	÷.1725
	---	---
Unit's royalty contribution factor	**.65217391**	**.34782609**

A(5) - **The wellbore royalty proceeds for a multi-unit horizontal well shall be allocated to each affected unit by multiplying the unit's royalty contribution factor by the wellbore royalty proceeds, with the resulting product being the royalty proceeds for that unit.**

Royalty Proceeds for:	**Unit 1**	**Unit 2**
Contr. Factor	.65217391	.34782609
Royalty proceeds	X $172.50	X $172.50
	---	---
	$112.50	**$60.00**

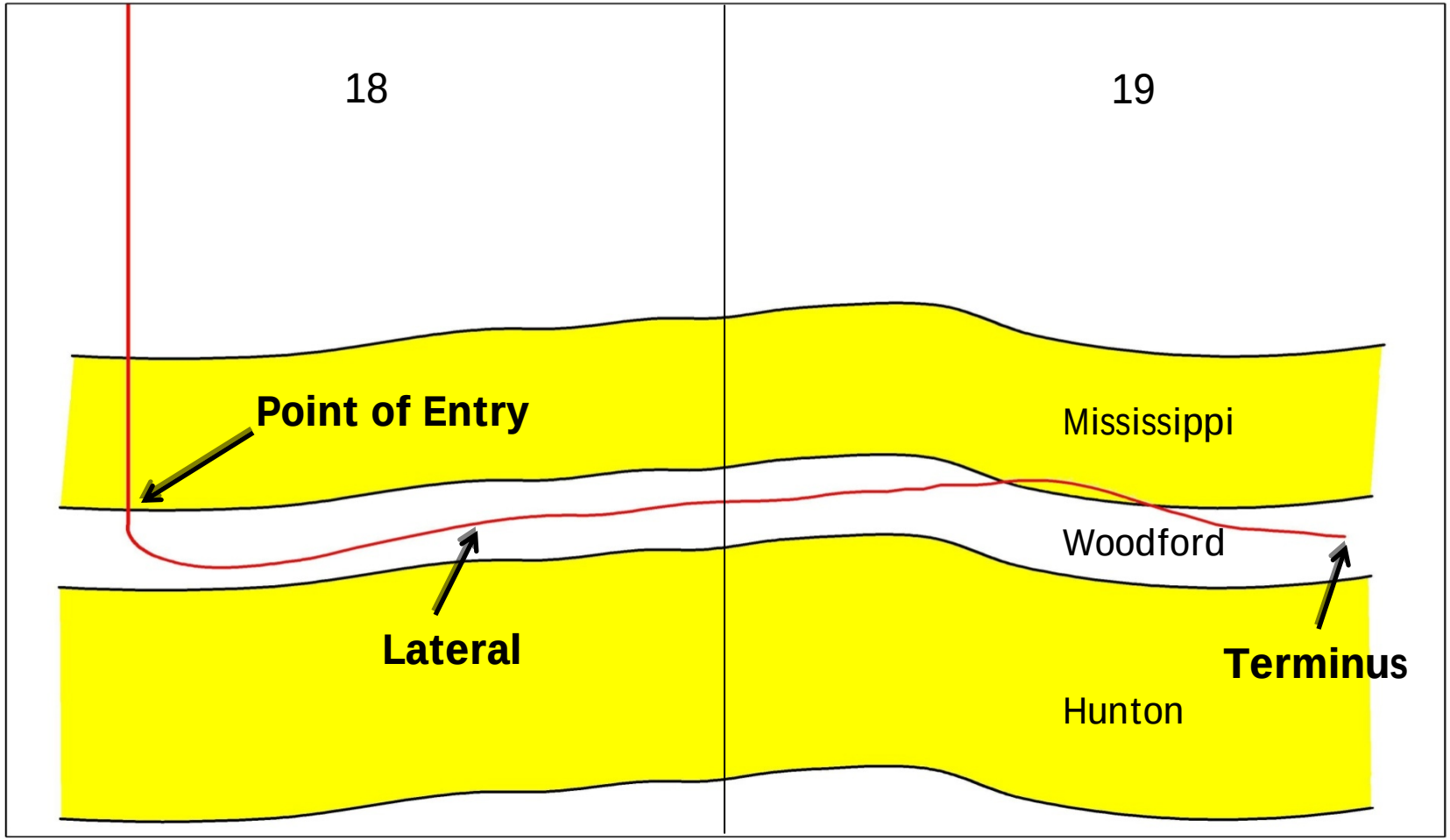
The Royalty Proceeds for each Unit is then multiplied by a Royalty Owner's proportionate royalty decimal in that Unit. The Royalty Owner's decimal does NOT change for each Multiunit Horizontal Well drilled in the Unit, only the allocation of production to each Unit changes from well to well.

Multiunit Horizontal Well Associated Common Source of Supply

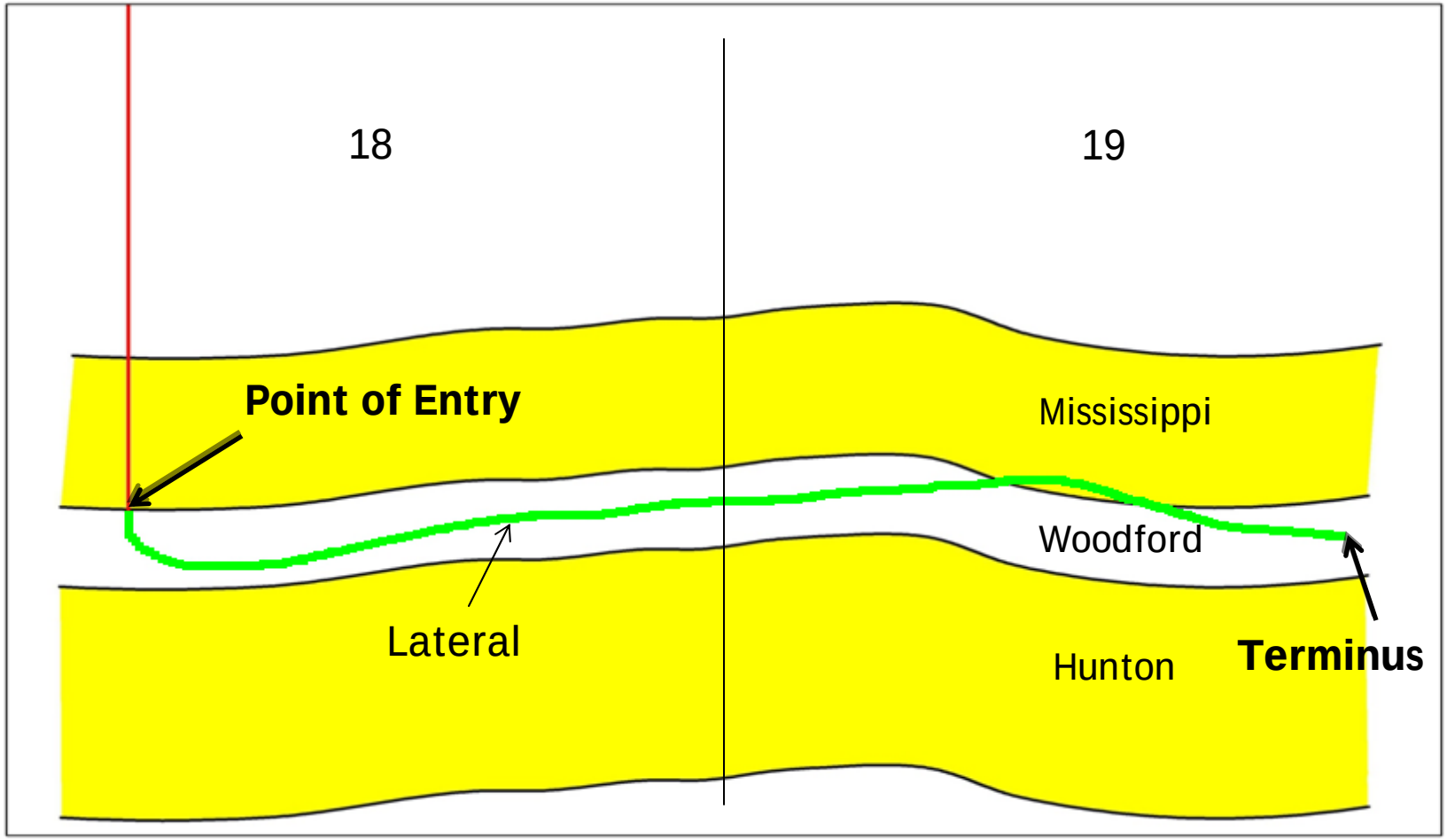


Multiunit Horizontal Well Associated Common Source of Supply

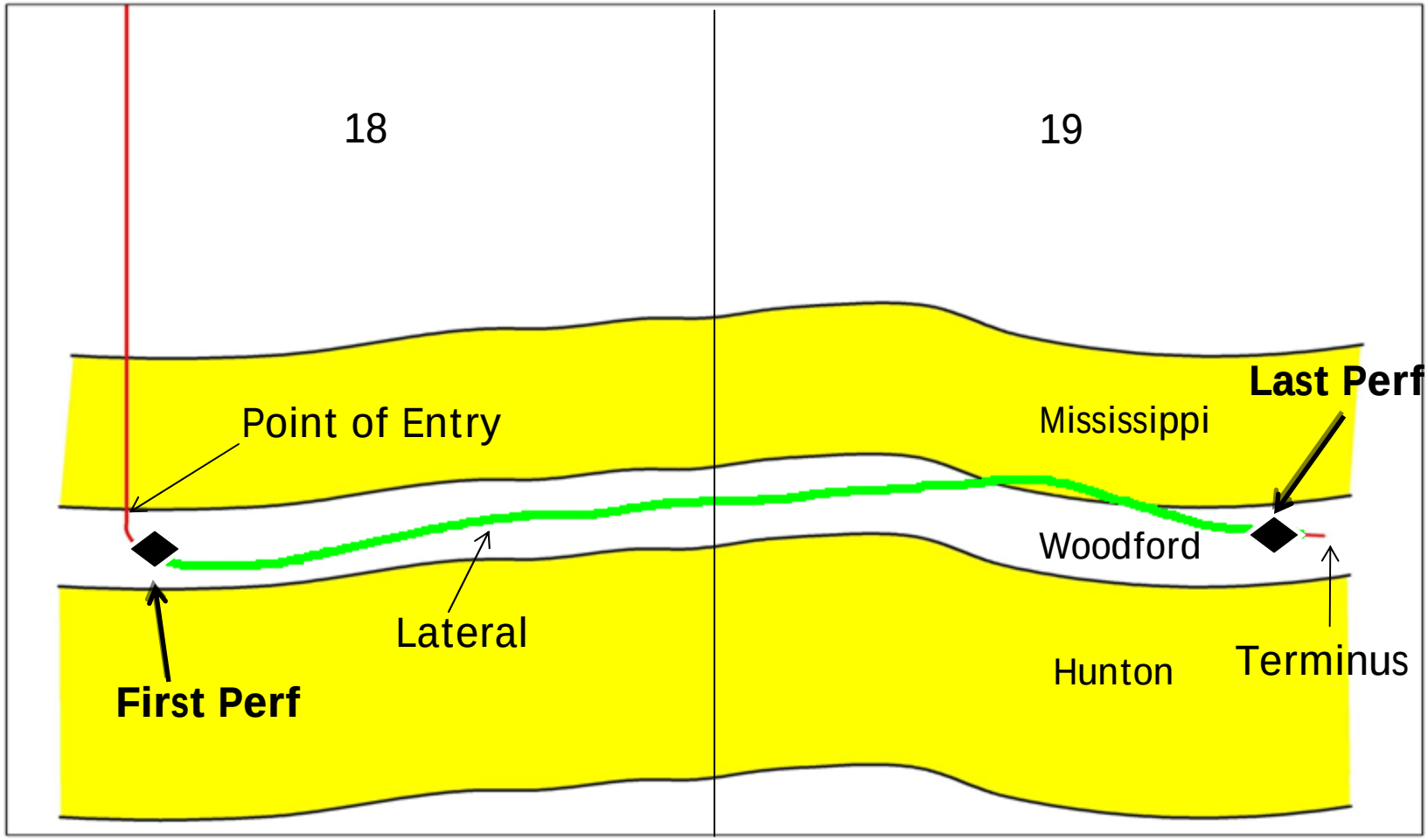
Point of Entry – Lateral – Terminus



Open Hole Completion Interval



Cased & Cemented Completion Interval



Horizontal Well Unitization

- Tool 2 creates a new hybrid-type of unit for horizontal shale development (a hybrid between a §87.1-drilling and spacing unit and a §287.1 enhanced recovery unit, which has been used for decades for secondary recovery methods (often referred to as a "unitization").
  - The new hybrid unit would be two governmental sections (*i.e.*, 1,280 acres).
  - The unit could be expanded up to four governmental sections if necessary and under certain conditions.
  - The application must include a Plan of Development for the full and efficient development of shale reservoir.
  - Costs and proceeds shall be shared just as in a standard §87.1 drilling and spacing unit (all owners share proportionately based upon their ownership), unless adjustments are necessary because of existing development.

Horizontal Well Unitization

- Tool 2 (cont.)
  - The new larger unit can only be created with the express written consent of at least 63% of working interest owners and 63% of the royalty owners (based on number of acres owned, not number of parties). This is similar to the existing requirement for enhanced recovery units.
  - The application and notice of hearing must be served on all owners who have a right to share in proceeds from the affected units.
  - Payment of proceeds from a horizontal well unitization shall be subject to the provision of the Production Revenue Standards Act (PRSA).

2011 Shale Reservoir Development Act

- Other provisions of the bill:
  - Modifies § 87.1 of Title 52 to clarify the ability to utilize irregularly shaped units (*e.g.*, 640-acre unit that is 1/2 mile wide by 2 miles long).
  - Modifies § 287.1 of Title 52 to clarify that enhanced recovery units are not available for primary production (confirming a recent ruling by the OCC).

Multiunit Horizontal Well Application

BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

APPLICANT: CONTINENTAL RESOURCES, INC.

RELIEF SOUGHT: MULTIUNIT HORIZONTAL WELL

LANDS COVERED: SECTION 2, TOWNSHIP 15 NORTH, RANGE 11 WEST, BLAINE COUNTY, OKLAHOMA AND SECTION 35, TOWNSHIP 16 NORTH, RANGE 11 WEST, BLAINE COUNTY, OKLAHOMA

CAUSE CD NO.

201 103139

FILED

JUN 24 2011

COURT CLERK'S OFFICE - OKC
CORPORATION COMMISSION
OF OKLAHOMA

APPLICATION

Multiunit Wells and Horizontal Well Unitizations

- Factors to be considered:
  - Geology
  - Technology
  - Cost
  - Potential untapped reserves
  - Reduced footprint