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THE LAW OF FRACKING
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SPECIAL INSTITUTE

The Role of
Conservation Regulation

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MCGINNIS LOCHRIDGE

INTRODUCTION AND DEFINITIONS

- Foundational Principles
 - Prevention of Waste
 - Protection of Correlative Rights
 - Conserving Natural Resources
- Conservation Regulation Began in 19th Century
 - ABA has published three volumes of the history of conservation regulation 1938, 1948, 1960
- Ohio Oil Co. v. Indiana, 177 US 190 (1900) – Upheld regulation preventing flaring of gas that would be injurious to others



INTRODUCTION AND DEFINITIONS

- **“Well spacing is concerned with the location of wells and the density of drilling into a reservoir”**
- Bruce M. Kramer & Patrick H. Martin, *The Law of Pooling and Unitization* Sec. 502 (2018)
- Well spacing is: **“The regulation of the number and location of wells over an oil and gas reservoir, as a conservation measure”**
 - Patrick H. Martin & Bruce M. Kramer, 8 *Williams & Meyers Oil & Gas Law* 1145-46 (2018)
[hereinafter *Manual of Terms*]



INTRODUCTION AND DEFINITIONS

- **“Pooling, or a pooled unit, will describe the joining together of small tracts or portions of tracts for the purpose of having sufficient acreage to receive a well drilling permit under the relevant state or local spacing laws and regulations, and for the purpose of sharing production by interest owners in such a pooled unit”**
 - Kramer & Martin, sec. 1.02
 - Where federal lands are involved pooling is referred to as **“communization”**
 - **“Without minimum well spacing requirements, pooling as such would not have developed”** Id.



INTRODUCTION AND DEFINITIONS

- **“Unitization or unit operations, . . . , refer to the consolidation of mineral or leasehold interests covering all or part of a common source of supply”**
 - Kramer & Martin, sec. 1.02
 - **“The primary function of unit operations is to maximize production by efficiently draining the reservoir, utilizing the best engineering techniques that are economically feasible”**
- Role of H.L. Doherty to encourage and/or require oil and gas operators to unitize oil and gas fields for the public good. Id at 3.02[2]



INTRODUCTION AND DEFINITIONS

- Benefits of Unitization
 - Prevents waste
 - Prevents overdrilling
 - Prevents wasteful dissipation of natural reservoir pressure
 - Allows for secondary and tertiary recovery projects
 - Efficiencies of scale
 - Surface use minimized
 - Maximizes recovery of hydrocarbons



INTRODUCTION AND DEFINITIONS

- Types of Spacing Regulation
 - Statewide Rules
 - Local or Field Rules
 - Exception Permits – Rule 37 Exceptions in Texas
 - Lineal Spacing Rules – Setbacks from lease lines/other wells
 - Density Spacing Rules – Minimum acreage
 - Both types of rules may exist within a jurisdiction
 - Kramer & Martin, at 5.02



INTRODUCTION AND DEFINITIONS

- A frack hit is: **“The intrusion or surge of fluids from a hydraulic fracturing operation into a formation producing from another well. This phenomenon may be described as ‘fracture intersection,’ ‘interwellbore communication,’ ‘unplanned interconnectivity of wells’ or ‘unplanned surges of pressurized fluids from one wellbore into another wellbore’”**
 - Manual of Terms at 406-07



INTRODUCTION AND DEFINITIONS

- Compulsory Pooling
 - Adopted by Kansas municipalities in the 1920s.
 - **New Mexico** and **Oklahoma** adopted the first state statutes authorizing the oil and gas conservation agency or commission to force pool mineral owners to create sufficient acreage to comply with spacing/well permit requirements
- Constitutional Challenges Unsuccessful
 - *Marrs v. City of Oxford*, 24 F. 541 (D. Kan. 1928), *aff'd*, 32 F. 134 (8th Cir. 1929), *cert denied*, 280 U.S. 573 (1929)
 - *Gawenis v. Arkansas Oil & Gas Commission*, 210 Ark. 238, 464 S.W.3d 453
 - *Hunter Co. v. McHugh*, 11 So. 2d 495 (La. 1943), *app. disp'd*, 320 U.S. 222 (1943)



INTRODUCTION AND DEFINITIONS

- Well Spacing Without Compulsory Pooling
 - Bernstein v. Bush, 29 Cal.2d 773, 177 P.2d 913 (1947)
- **Invalid**
 - Hunter v. Justice's Court, 36 Cal. 2d 315, 223 P.2d 465 (1950) - **Valid** because small tract owners given the opportunity to participate in production



INTRODUCTION AND DEFINITIONS

- Compulsory Unitization
 - 1929 ABA Section of Mineral Law adopts policy in favor of having statutory or compulsory unitization process
 - Oklahoma – Adopts first state compulsory unitization statute in 1945;
 - Palmer Oil Corp. v. Phillips Petroleum Co., 1951 OK 78, 231 P.2d 997 (1951), app. dismissed, 343 U.S. 790 (1952) – Validates OK compulsory unitization statute (5-4 vote)



INTRODUCTION AND DEFINITIONS

- Compulsory Unitization
 - Kerns v. Chesapeake Exploration, LLC, 2018 U.S. Dist. LEXIS 99180 (N.D. Ohio June 13, 2018), app. pending
 - Upheld constitutionality of Ohio's compulsory unitization statute against a regulatory takings challenge (Ohio Rev. Code 1509.28)
 - Oral argument before 6th Circuit set for end of January
 - Author filed an amicus brief supporting Chesapeake's and Ohio's position on behalf of the Ohio Oil & Gas Association



SPACING AND POOLING

- Not all spacing statutes and regulations are the same
- Pooling procedures may also differ from state to state
- Definitions of spacing unit, drilling unit, proration unit may also differ
 - La. Rev. Stat. 30:9(B) once read: **“A drilling unit. . . means the maximum area which may be efficiently and economically drained by one well.”** It was subsequently amended to read: **“A drilling unit. . . means the maximum area which may be efficiently drained by the well or wells designated to serve the drilling unit as the unit well, the substitute unit well, or alternate unit well”**



SPACING AND POOLING

- Gatti v. State Department of Conservation, 2014 La. App. Unpub. LEXIS 7, 2014 WL 3517548 (La. App. Jan. 15, 2014), rev'd, 146 So. 3d 541 (2014)
 - Court of Appeals decision found that earlier version of drilling unit statute did not authorize Commissioner of Conservation to have multi-well drilling and pooling units as was its practice in dealing with both conventional and non-conventional development
 - Louisiana Supreme Court reversed in a short opinion dealing with the court's jurisdiction, or lack thereof, because of the collateral attack doctrine
 - Louisiana Legislature then changed the statute



SPACING AND POOLING

- Examples of Statutory Definitions of Spacing/ Drilling Unit
 - Ohio Rev. Code 1509.01 (G) – **“Drilling unit means the minimum acreage on which one well may be drilled. . .”**
 - Mont. Code 82-11-201(3) – **“Permanent spacing units do not need to be uniform in size or shape but must result in the efficient and economic development of the pool as a whole. . .”**
 - Kan. Stat. Ann. 55-703a – **“The drilling and completion of a gas well shall not of itself entitle said well to an allowable for production; and the commission, may, in its discretion, provide for well spacing in any such common source of supply and provide for the orderly development thereof”**



SPACING AND POOLING

- Colo. Rev. Stat. 34-60-116(3) – **“The order establishing drilling units shall permit only one well to be drilled and produced from the common source of supply. . .”**
- N.D.C.C. 38-08-07 – **“The commission shall set spacing units as follows: 1. When necessary to prevent waste, to avoid the drilling of unnecessary wells, or to protect correlative rights, the commission shall establish spacing units for a pool. . . 2. The size and shape of spacing units are to be such as will result in the efficient and economical development of the pool as a whole”**
- N.M. Stat. Ann. 70-2-17 – ‘Proration unit’ is **“the area that can be efficiently and economically drained and developed by one well”**



SPACING AND POOLING

- Spacing Predicated on Legal/Scientific Fiction that the area so spaced would be effectively and efficiently drained by a single well
- Minimizes the negative ramifications of the Rule of Capture ownership regime
- Works reasonably well in conventional formations
- Information on subsurface drainage patterns less clear in non-conventional development so that there is greater uncertainty about the appropriate size for drilling, spacing and/or proration units



SPACING AND POOLING

Dealing with REALITY

- Kramer & Martin, sec. 5.05
 - Compares Horizontal versus Vertical Models
 - Exception well locations – Rule 37; N.D.C.C. 38-08-07
 - Kramer & Martin, Sec. 5.02[2]
 - Statewide versus Field or Local Rules
 - **Texas**
 - Ohio – Ohio Rev. Cod 1509.25 – Authorizes creation of “**special orders**” for drilling units in any particular pool
 - **Montana** – Mont. Rev. Code 82-11-201 – Temporary or Permanent Spacing Units



SPACING AND POOLING

Dealing with REALITY

- Multiple well units – Kramer & Martin, sec. 5.05[3], 14.02
 - Infill drilling – “Drilling of an additional well or additional wells in excess of those provided for by a spacing order. . . “ Manual of Terms, at 503
 - Alternate unit well – Louisiana Commissioner of Conservation
 - Increased density order – “A regulatory order permitting an exception to the normally applicable spacing rules by drilling an additional well or wells in a single drilling and spacing unit.” Manual of Terms, at 493
 - Despacing/Respacing order – Kramer & Martin sec. 14.02[2] – widely used in OK



SPACING AND POOLING

Dealing with REALITY

- Allowables/Proration
- Allocation wells – “**horizontal well[s] that traverse[s] the boundary between two or more leases that have not been pooled . . .**”

Manual of Terms, at 41



SPACING AND POOLING

Dealing with REALITY

- Compulsory Pooling Without a Commission Order
 - 58 Pa. Stat. 34.1
 - Gives an operator of multiple contiguous leases the power to jointly develop those leases by horizontal drilling unless express leasehold language expressly prohibits such joinder
 - Lease without a pooling clause does not expressly prohibit
 - Allocation to be determined by the operator

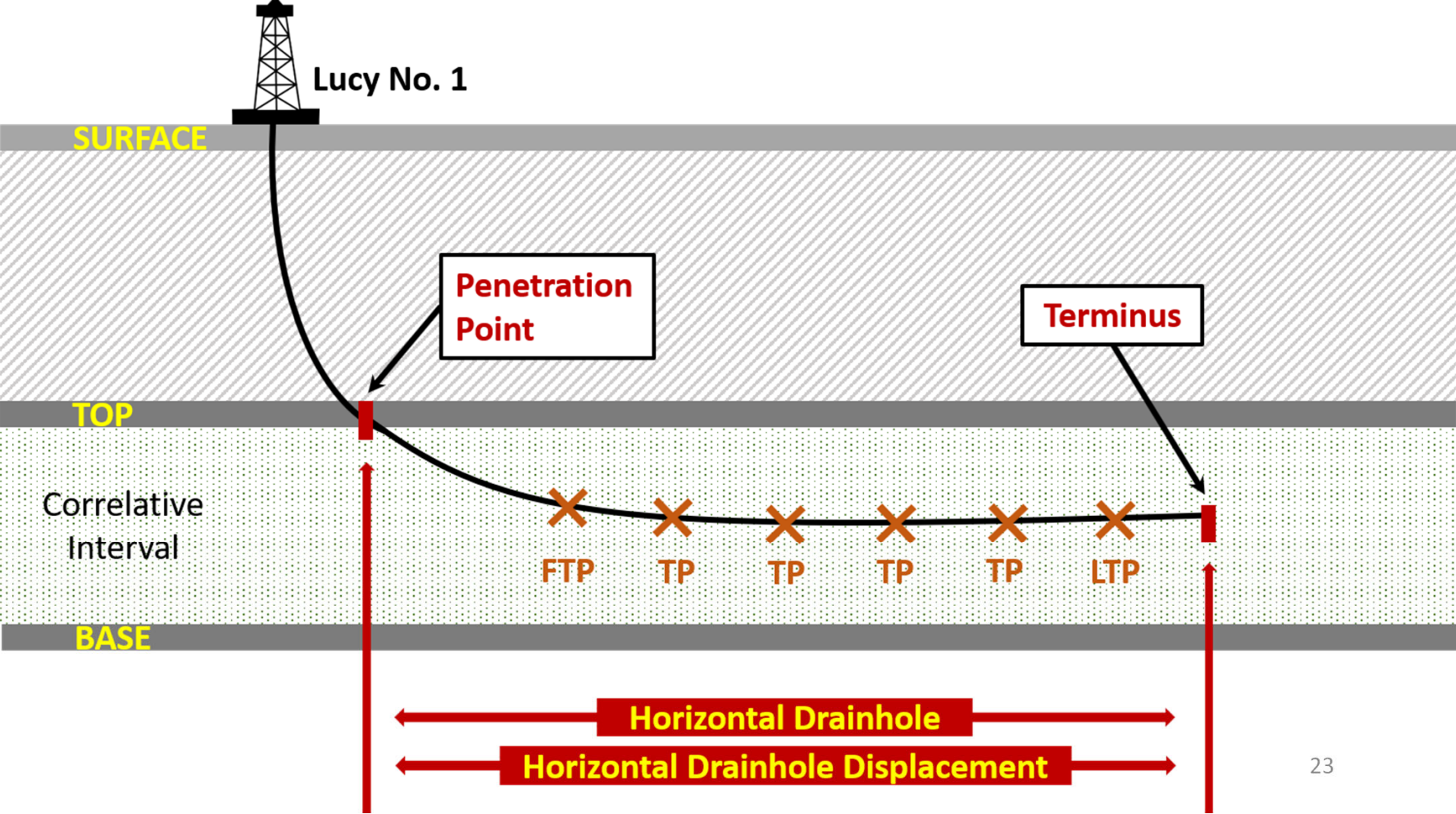


STATE RESPONSES

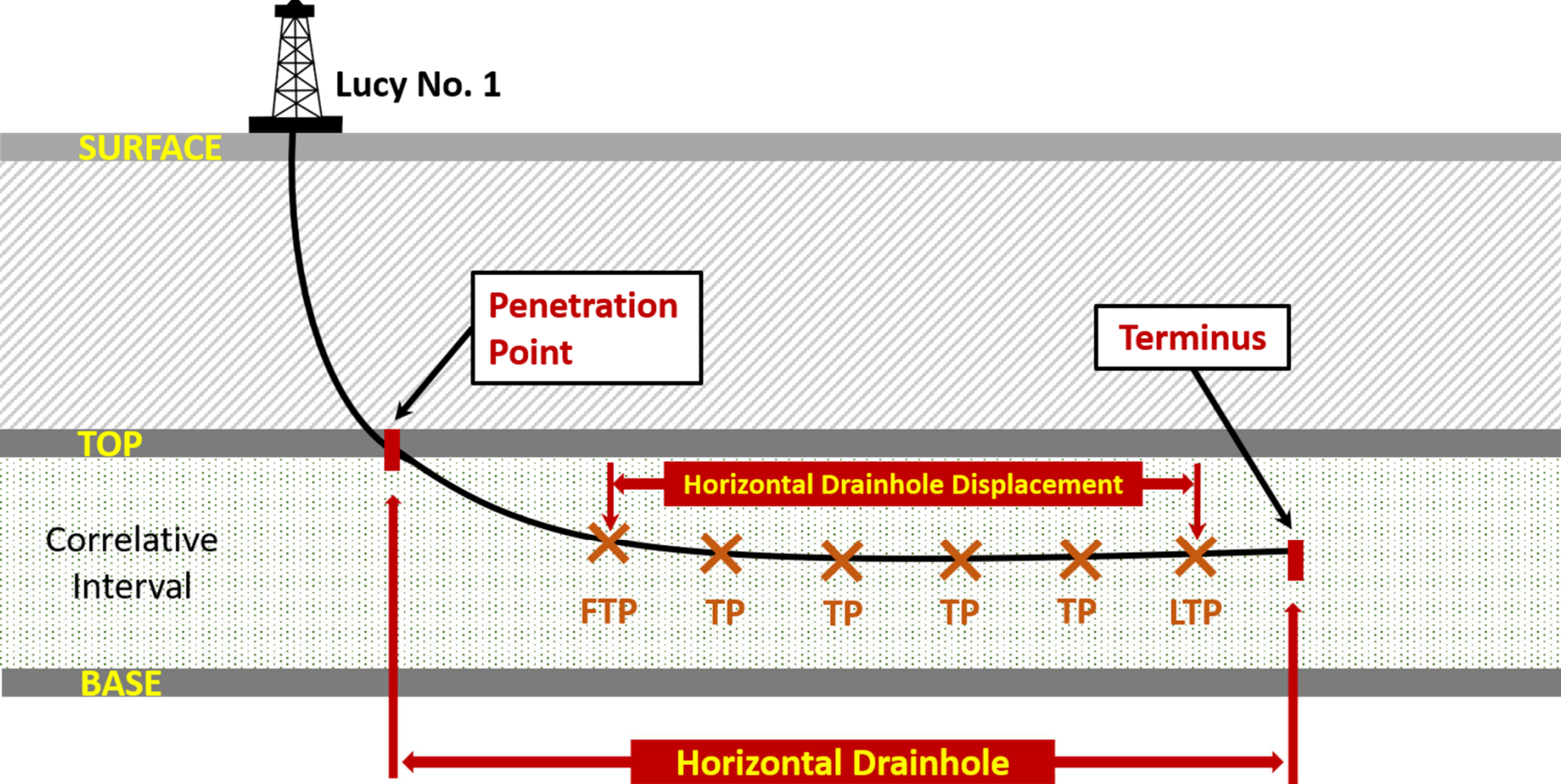
- Legislative
 - **Pennsylvania's** Private Pooling Statute
 - **Louisiana's** Change to Spacing Definition
- Administrative
 - **Colorado** Special Rules for the Greater Wattenberg Area
 - **Texas** Allocation Well Policy
- Private
 - Voluntary sharing of information – Permian Basin



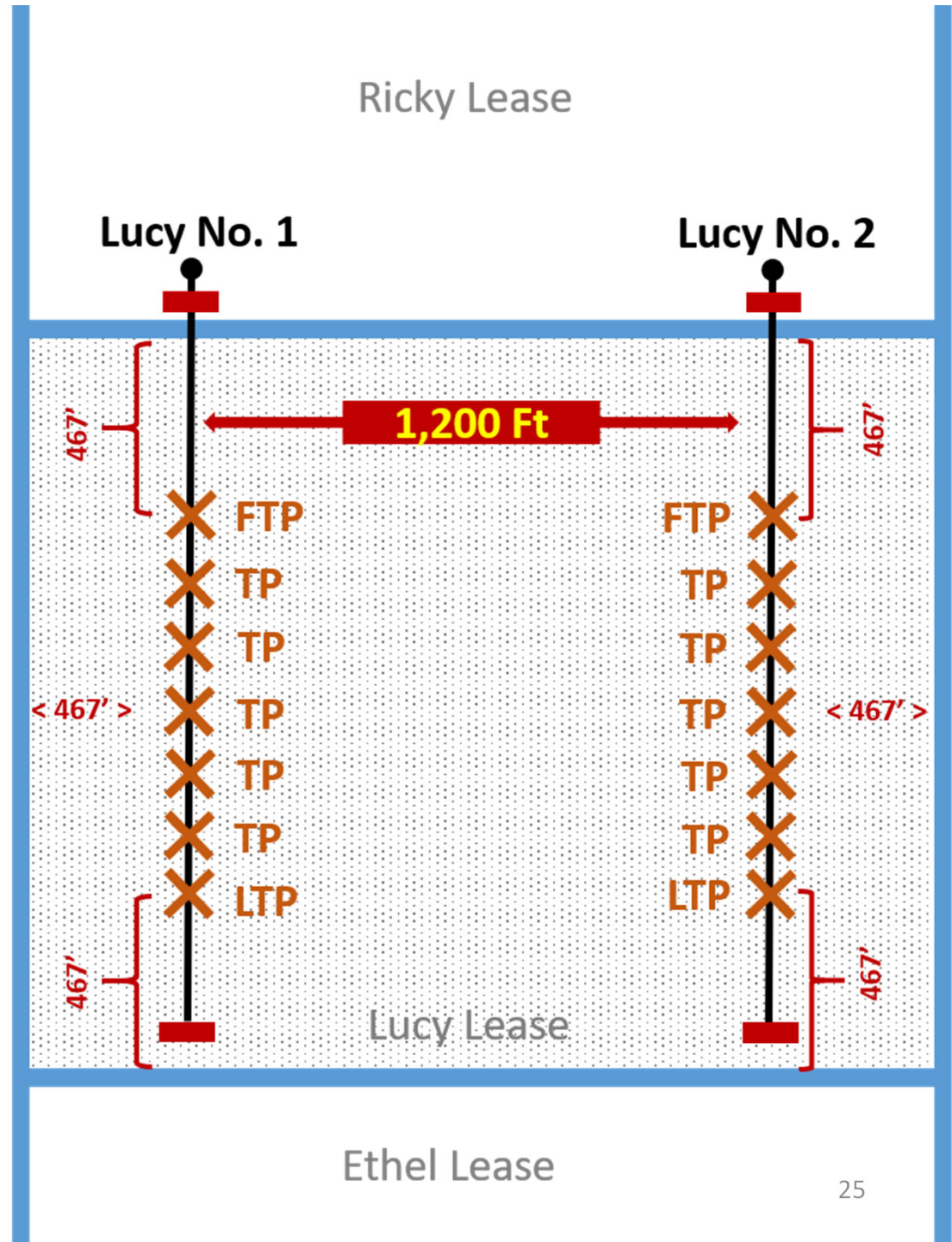
Horizontal Drainhole Displacement – “Before”



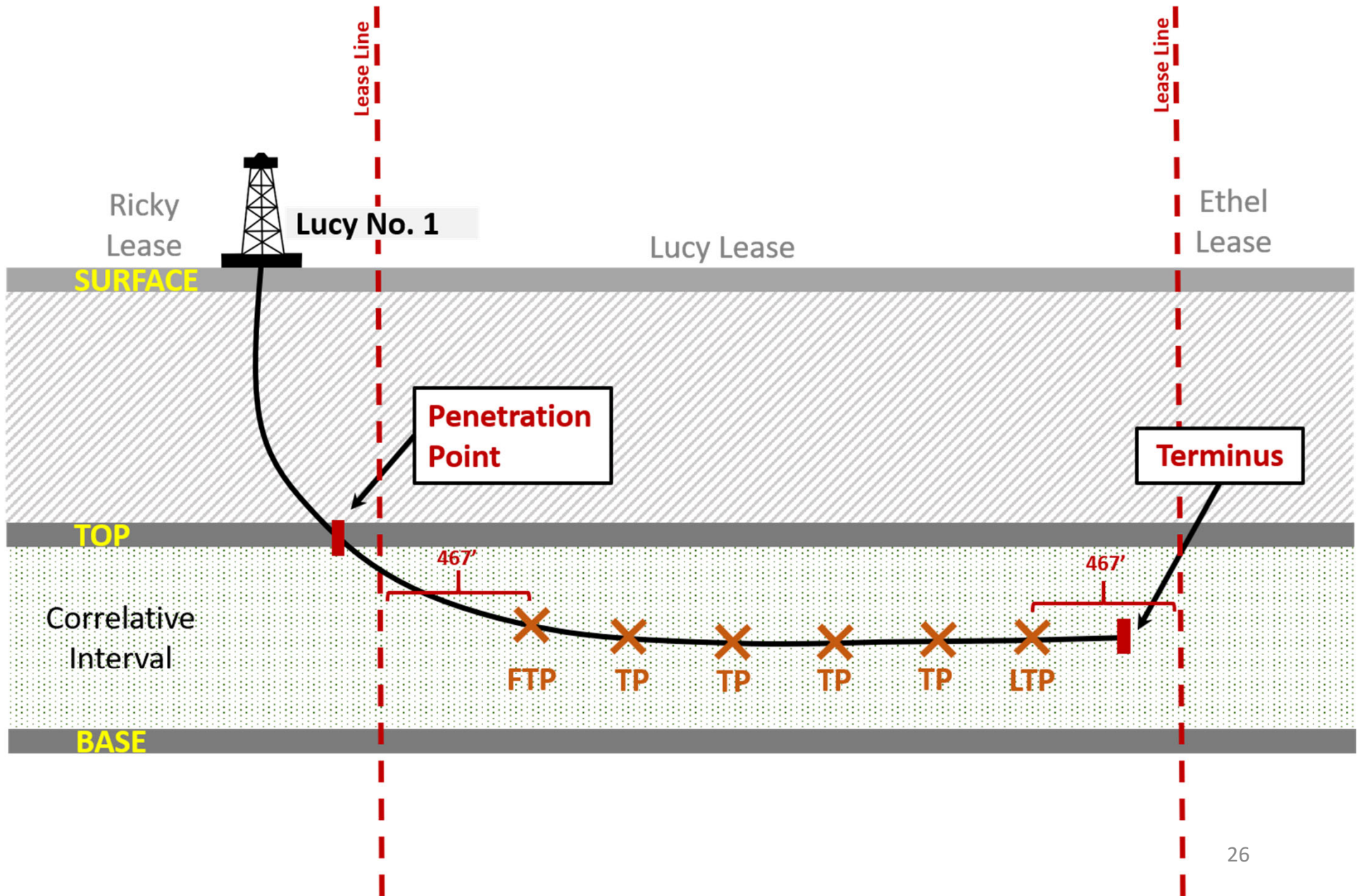
Horizontal Drainhole Displacement – “After”



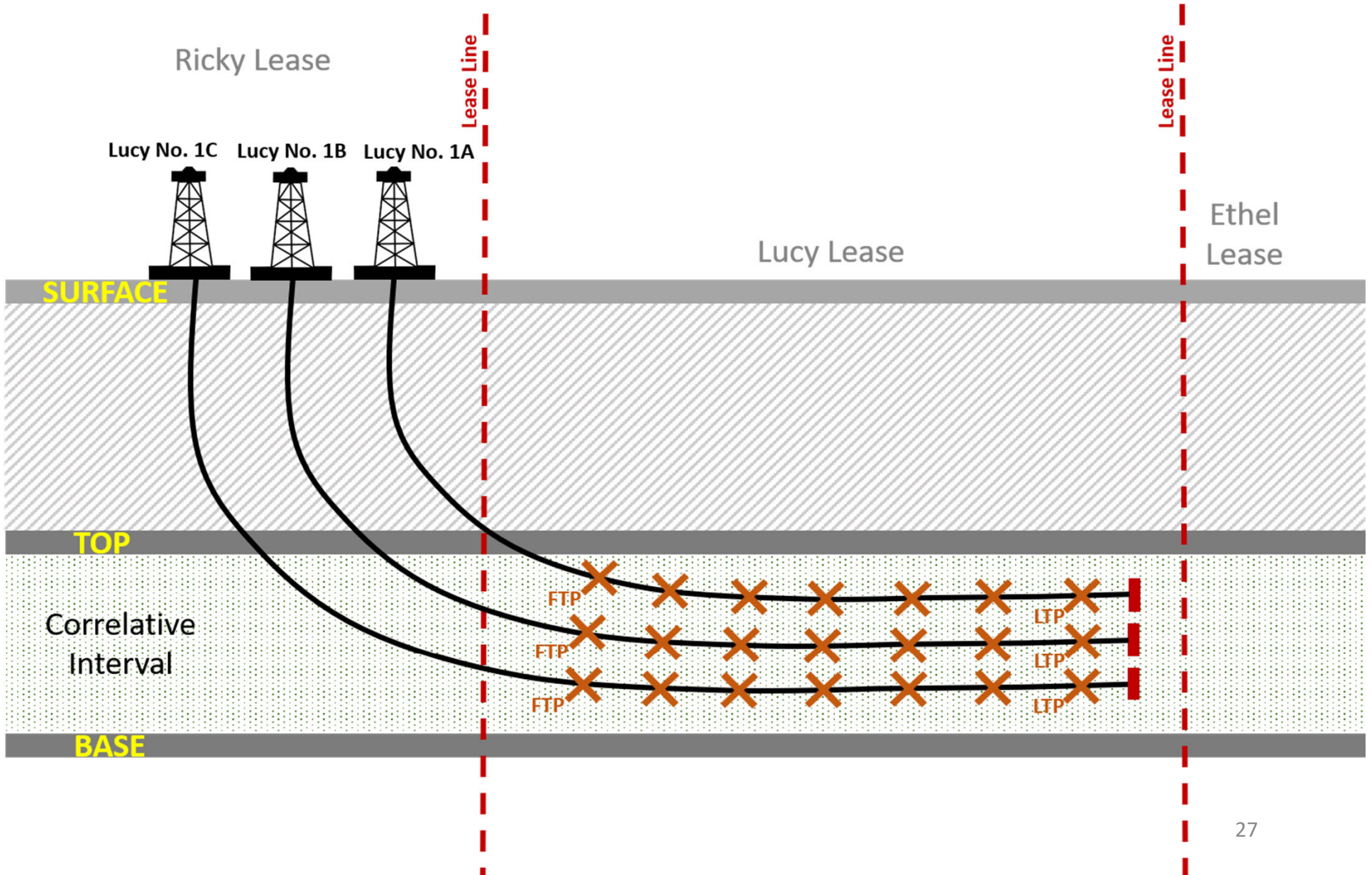
Take Point Spacing



Offsite Penetration Point

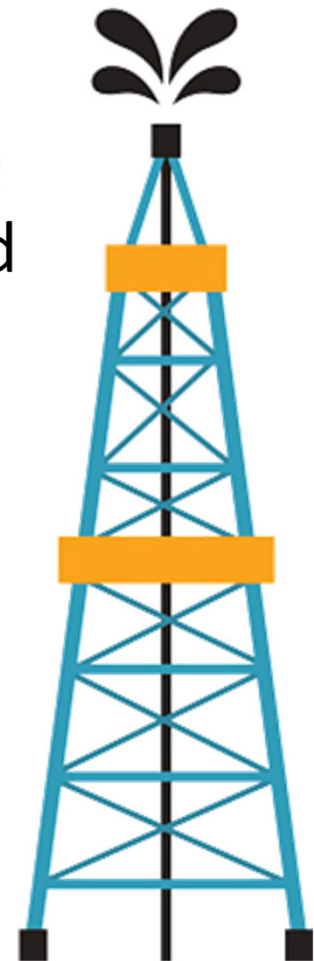


Stacked Laterals



Stacked Laterals – Rule 86

- Must be from different surface locations – Rule 86(f)1)
- Take points must be within 660' rectangle around one of the laterals called a “record well” – Rule 86(a)(10)
- No minimum or maximum setbacks or distance limitations between horizontal drainholes – Rule 86(f)(4)



OKLAHOMA

STATUTORY AND ADMINISTRATIVE CHANGES

- Drilling and Spacing Units – Okla. Stat. tit. 52, sec. 87.1; OAC 165:5-7-6
 - Concurrent units allows horizontal laterals to be placed in close proximity to vertical wells
 - Horizontal well units can be as large as 1280 acres as opposed to conventional gas units which are limited to 640 acres and conventional oil units which are limited to 160 acres
 - Horizontal units can overlie existing drilling and spacing units – Okla.Stat. tit. 53, sec. 87.1(g); OAC 165:5-7-6(g) - but horizontal unit applicant must get consent from extant unit working interest owners – Consent may be waived



OKLAHOMA

- Setback requirements from existing wellbores differ depending upon whether the extant conventional unit is inside or outside of the boundaries of the proposed horizontal well unit
 - See e.g., OAC 165:10-1-24; 165:10-3-28(f);
 - Special rules for Woodford Shale Formation
 - Where existing well is located within the proposed horizontal unit, the setback requirement is 300 feet from existing wellbore if formation is less than 2500 feet in true vertical depth or 600 feet if formation is at least 2500 feet in true vertical depth



COLORADO

LEGISLATIVE

- Senate Bill 18-230 enacted in June 2018
- Drilling units may include more than one well – Avoid the Gatti problem while recognizing multi-well horizontal units – Colo. Rev. Stat. 34-60-116(3)
- Changes the compulsory pooling procedures to provide better notice to non-consenting owners as well as specifying what must be in the voluntary offer to pool – Colo. Rev. Stat. 34-60-116(7)(d)

Administrative

- Interim Statewide Horizontal Offset Policy – Feb. 10, 2014
- Structured as a policy statement and not a formal rule
- Only applies to horizontal wells that will be hydraulically fractured.



FRAC HITS

TEXAS

- No state regulation of hydraulic fracturing operations – Well completion data, however, (Form W-2) asks whether hydraulic fracturing treatment performed
- Voluntary web-based disclosure system in place in portions of Permian Basin
- Provides completion schedule so adjacent operators can take steps to avoid issues



FRAC HITS

OKLAHOMA

- Public law/private law distinction – OCC may lack jx to deal with the results of frac hits because they involve common law tort issues
- OCC did develop a new form (FORM 4000 WIP) so that vertical well owners could report frac hits (well bashing) that allegedly caused damage
- Form 4000 WIP not widely used



FRAC HITS

TECHNICAL ISSUES

- Trent Jacobs, In the Battle Against Frac Hits, Shale Producers Go to New Extremes, Journal of Petroleum Technology – Aug. 1, 2018;
- Trent Jacobs, Well Spacing May be Too Tight, Completion Volumes Too Large, Journal of Petroleum Technology – Nov. 2017
- Evolving Technology



FRAC HITS

COMMON LAW ISSUES

- Trespass
- Negligence
- Correlative rights



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